MAHARASHTRA STATE POWER GENERATION CO. LTD.

MAHAGENCO
Maharashtra State Power Generation Co. Ltd.
CIN: U40100MH2005SGC153648

Office of **Executive Director**
ENVIRONMENT & SAFETY UNIT.
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ED/E&S/EE-1/Bhusawal Project/1x660MW/EC condition status/763 Date: 11 AUG 2023

To,
Integrated Regional Officer,
Ministry of Environment & Forest and Climate Change,
Regional Office (West-Central Zone)
Ground Floor, Eastern Wing,
New Secretariat Building- Opposite Old V.C.A. Stadium,
Civil Lines, Nagpur- 440001.

Sub: 1x660 MW (Unit-VI) Supercritical Technology Bhusawal Coal based Thermal Power *Project at Village Pimpri-Sekam, Bhusawal Talula, in Jalgaon District, Maharashtra.*
Reg.: Updated status of Compliance of Environmental Clearance conditions to furnish six monthly report to MoEF. (January- 2023 to June 2023)

Ref.:1. Environment Clearance letter no.: J13012/75/2010-IA.II.(T), Dt. 27.11.2012.
2. EC Extension letter no.:J13012/75/2010-IA.II.(T), Dt.14.01.2020
3. EC Amendment letter no.:J13012/75/2010-IA.II.(T), Dt.11.09.2020

Dear Sir,

As per the Environmental Clearance condition no., B-General Condition (xiii) of the Environmental Clearances for said project, MAHAGENCO has to submit six monthly report on the status of Implementation of stipulated environmental clearance conditions to MoEF.

Ministry vide its letter under Ref. (2) & (3), has granted extension and required amendment of EC respectively along with additional conditions to be comply with. Accordingly this office is now submitting compliance status of EC conditions along with additional conditions sought for period of January- 2023 to June 2023. The issue of online submission of Environment Clearance Compliance on MoEFCC portal is taken up with Parivesh Portal team which yet to be resolved.

The related documents in this regards are enclosed herewith for ready reference and further needful please.

Submitted for your kind consideration please.

Regards,

SGJ

Superintending Engineer (E&S)

Copy To:
i. Central Pollution Control Board,
ii. Maharashtra Pollution Control Board

Compliance Status of Environmental Clearance Conditions for 1x660 MW Bhusawal Thermal Power Project for the Period of January 2023 to June 2023.

A. Specific Conditions: -

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 complies with 50 mg/Nm^3. Old ESP shall be accordingly replaced.

Compliance: -

a) Unit no. 2 is decommissioned w.e.f.01.04.2017.

b) Unit No. 3 (210MW): ESP system provided with 20 Nos. of ESP fields & in order to keep Electrostatic Precipitators in healthily conditions, regular monitoring of ESP fields is carried out & preventive measures are taken as per the schedules. Permanent AFGC (Ammonia Flue Gas Conditioning System) is already installed and is in service since 2005. By dosing Ammonia gas continuously to improve the efficiency of ESP so as to reduce SPM level as per MPCB specified norms.

According to the letter received from CEA regarding "Reconsideration of retirement of thermal units" i.e. letter No.CEA/Thermal/TPR&M/R&M/Misc./2022/713-715 Dtd.02.09.2022, the retirement schedule of Unit No. 3 (210MW) is extended up to 31.12.2025. In view of this the work of 'ESP internal repair / replacement & computed flow modulation for equal distribution' as been planned, work order for the same has been placed. The said work will be carried out in upcoming overhaul of Unit 3 (210 MW), BTPS.

Desired SPM limit for Unit No.3 (210MW) of Bhusawal TPS is 100 mg/Nm3 As per MoEF/MPCB/CPCB norms. Currently Bhusawal TPS has maintained SPM level below 100 mg/Nm3 of Unit- 3 (210MW). Regular Stack Emission Monitoring is carried out from MoEF & CC recognized laboratory and the results are within limit.

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 interim period until Machhakatta Coal mines becomes operational.

Compliance: – 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 of Machhakatta coal mine.

iii) Scheme for implementation for harnessing solar power within the premises of the plant particularly at available rooftops shall be formulated and status of implementation shall be submitted to the Regional Office of the Ministry from time to time.

Compliance: – 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.

iv) Space provision for installation of FGD shall be provided for future use.

Compliance:– FGD system incorporated in BHEL's contract & the erection work is in progress.

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 condition wherever necessary.

Compliance:- Shall be observed and any variation will be intimated. MoEF&CC notification dtd. 21/05/2020 has issued guidelines regarding use of coal without stipulations as regards to ash content or distance, shall be followed.

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 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.

Compliance:-

a. The study on radioactive substance in coal, fly ash and bottom ash was 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. From both reports, it indicates that the measurement values of radionuclide's in coal, fly ash and bottom ash samples are below the clearance level for radionuclide's of natural origin in bulk solid material as per AERB directives 01/2010 (table 3) dated 26/11/2010.

b. *For* long term study on 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 carried out on dtd. 02.07.2020.

c. There are no instruments available for inbuilt continuous monitoring. So, periodic sampling and study of heavy metals & Radioactivity shall be carried out.

vii) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land is affected, damage to any land.

Compliance: - Dust Extraction & water sprinkling system is proposed in EPC contract to control of fugitive emissions from plant area.

viii) Fly ash shall not be used for mine void filling or agricultural purpose.

Compliance: MSPGCL does not use fly ash for mine void filling or agricultural purpose.

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.

Compliance: - Ministry vide letter dtd 11.09.2020 has amended the said condition and compliance of the same is mentioned at Sr No D (i).

x) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm^3.

Compliance: - shall be complied.

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.

Compliance: - shall be complied.

xii) Utilization of 100% fly ash generated shall be made from day one of operation of Unit-VI (660 MW). Status 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.

Compliance: - For 100% utilization of fly ash generated from Unit -VI, and as per the provision laid down in new notification for fly ash utilization dtd.31.12.2021,this office will take necessary measures for the compliance of this condition. Also, the tender regarding the same will be floated before commissioning of the project.

xiii) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.

Compliance: -

Remote fly ash silo & HSCD silo is provided for collection of fly ash in dry form and unutilized fly ash will be disposed off in the existing ash pond of 2x500MW Project in slurry form.

Mercury and other heavy metals (As,Hg,Cr,Pb etc.) content monitoring in bottom ash, in water percolated from Ash Bund & Ground water around the 20 KMs periphery of BTPS is carried out regularly from MoEF&CC recognized agency.It is observed that the Mercury and other heavy metals content is not detected in water percolated from Ash Bund as well as in ground water around the 20 KMs periphery of BTPS.The recent analysis reports of the same are attached herewith.

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.

Compliance: - Natural growth of plantation of local species already developed on abandoned ash bund.

xv) Three tier green belts shall be developed all around Ash Pond-II over and over Green Belt around the plant boundary.

Compliance: - Shall be complied.

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.

Compliance: - No new ash pond required for proposed 1x660MW unit. Old ash pond will be utilized by raising of ash bund up to RL 270 meter in phased manner.

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.

Compliance: - Regular analysis of surface water and ground water is being carried out from MoEFCC approved & NABL accredited laboratory. Report enclosed as Annexure –III.

xviii) No ground water shall be extracted for use in operation of the power plant even in lean season.

Compliance: - No ground water will be extracted for use.

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.

Compliance: - No water bodies (including natural drainage system) in this area will be disturbed.

xx) COC of 5.0 shall be adopted.
Compliance: - shall be observed.

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.
Compliance: - Regular ground water monitoring around ash pond area is being carried out from NABL accredited agency.

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.
Compliance: - Regular surface water monitoring around is being carried out from NABL accredited agency.

xxiii) Waste water generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB.
Compliance: - For the treatment of wastewater generated at 1x660 MW Project work of erection of ETP is in progress.

xxiv) The project proponent shall undertake rain water harvesting measures and shall develop water storage for use in operation of the plant. Rain water harvesting system shall be put in place which shall comprise of rain water collection from the built up and open area in the plant premises. Action plan for implementation shall be submitted to the Regional Office of the Ministry.
Compliance: - Rain water harvesting system for this project is included in EPC contract. Implementation is under process.

xxv) It shall be ensured that the area drainage is not disturbed due to the proposed project.
Compliance: - It is ensured that the area drainage is not disturbed due to this project.

xxvi) The leveling 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.
Compliance: - No natural drainage or minor canal is passing through the proposed plant area.

xxvii) The project proponent shall also adequately contribute in the development of the neighboring 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.
Compliance: -

1. Phase-I CSR works are under progress.

2. Water ATMs to villages with no permanent source of drinking water and provision of water supply pipeline is considered in Phase-II CSR proposal which is under approval at Head Office. Annexure I and II attached herewith.

xxviii) As part of CSR, regular health check-up of villagers in the nearby villages shall to be carried out and records maintained.
Compliance: - Shall be complied.

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 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 company's website.
Compliance: -
1. Phase-I CSR works completed as per Grampanchayat Demands (As per Annex.)
2. Phase-II CSR various civil works proposal are under process of approval.
Annexure I and II attached herewith

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.
Compliance: - All villages covered under 5 km distance are considered in CSR phase- I & II works. Works shall be carried as per demands from Grampanchayat.

xxxi) An 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 monthsalong with road map for implementation.
Compliance: -
1. CSR Phase-I works of Rs.3.72Cr. are under progress
2. CSR Phase-II works of Rs.7.63Cr. are under approval.
3. Balance works of Rs.6.85Cr. will be taken up in Phase-III after receipt of Grampanchayat Resolutions from Villages. Annexure I and II attached herewith.

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%.
Compliance: - Plantation in available area will be taken as per the scope of EPC contract.

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 improvement / mitigation measures.
Compliance: - Shall be complied.

B) General Conditions:-

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.
Compliance: -Trade effluents are connected to CMB of ETP. All effluents will be treated at ETP & shall be reused within the plant premises. Storm water drains will be connected to rain water harvesting pond separately.

ii) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt plantation.
Compliance: -Provision of sewage treatment plant is included in scope of EPC contract and the treated sewage shall be used for raising greenbelt plantation.

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 alongwith location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.
Compliance: - Shall be observed as per the provisions of EPC Contract.

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.
Compliance: - Shall be observed.

v) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
Compliance: -First Aid and sanitation arrangements are made for the drivers and other contract workers during construction phase.

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 people working in the high noise area, requisite personal protective equipment like earplugs / ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy / less noisy areas.
Compliance: -Acoustic enclosures, silencers and mufflers, wherever required shall be provided for reducing the noise levels. Personal protective equipment shall be provided.

vii) Regular monitoring of ambient air ground level concentration of SO_2, NOx, $PM_{2.5}$ & PM_{10} and Hg shall be carried out in the impact zone and 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.
Compliance: -Shall be complied. Provision of four CAAQMS stations has already made for monitor ambient air quality for project area. A guidance regarding finalizing the three more locations for Ambient Air Quality Monitoring System (AAQMS) is requested from SRO, MPCB, Jalgaon vide dated 17/06/2020.

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.

Compliance: -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.

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 also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.

Compliance: -Advertised in newspapers.

a) Lokmat Times, Aurangabad on or before dtd.15/12/2012
b) DainikSakal, Jalgaon on or before dtd.15/12/2012

x) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZilhaParishad / 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.

Compliance: -Sent vide letter no. Dy.CE(C)/CCC/BSL/3116, dated 15/12/2012.

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.

Compliance: -Shall be complied.

xii) The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental clearance conditions and shall also be put on the website of the company alongwith the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.

Compliance: -Shall be complied by O&M after commissioning of unit.

xiii) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update

the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.
Compliance: -Submitted regularly.

xiv) 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 alongwith 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.
Compliance: -Shall be complied.

xv) Separate funds shall be allocated for implementation of environmental protection measures alongwith 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.
Compliance: -Separate funds shall be allocated for implementation of Environment protection measures.

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.
Compliance: -The date of financial closure of the project shall be informed. The land development work was started on 24/06/2019.

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.
Compliance: - Shall be complied.

6. The environmental clearance accorded shall be valid for a period of 5 years to start operations by the power plant.
Compliance: -The Ministry has extended the validity of Environmental Clearance upto 26/11/2022 vide its letterJ-13012/75/2010-IA.II (T), dated 14/01/2020. Also as per MoEF & CC Notification No S.O. 221 (E) dtd 18.01.2021 the validity of Environmental Clearance is further extended by one year i.e till 26/11/2023. Further, the EAC in its 43rd meeting of the Expert Appraisal Committee held on 19.06.23 at New Delhi, has recommended the proposal for extension of Environmental Clearance (EC) dtd. 27.11.2012, till 26.11.2024.MoM received.

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.
Compliance: -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.
Compliance: - Shall be observed and informed in case of any deviation.

The Ministry of Environment, Forests and Climate Change has extended the validity of Bhusawal 1x660 MW Project for further 03 years (w.e.f. 27/11/2019 till 26/11/2022) subject to the following conditions.

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.
Compliance: -Progress report attached herewith (Annexure-IV).

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 NOx respectively shall be installed.
Compliance: -Shall be complied.

iii. Technology selection for adoption of FGD for control of SOx. In case of wet FGD, source of limestone, impact of transportation, handling, storage and disposal of Gypsum including land requirement.
Compliance: -
   a) FGD Technology: Wet type Lime stone FGD technology is selected for control of SOx. 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.
   b) Source of Limestone: Balaji Limestones Mines. Gadchandur, Near Chandrapur.
   c) Impact of Transportation: Transportation cost for transportation of Lime shall be @ INR 2500 to 3000 per MT.
   d) Handling, Storage and Disposal of Gypsum including land requirement: The bi-product Gypsum shall be stored in Gypsum Storage Shed. From the storage Shed the Gypsum will be given to nearby Cement Manufacturers or the concerned requestors. The remaining Gypsum shall be used as Landfill in the Power Plant Area. Approximate Land Requirement for dumping the Gypsum from 1x660MW Unit shall be @ 2 Hectares for the span of 10 years.

iv. Alternate technology analysis and justification of Technology Selection for NOx reduction.
Compliance: -Two types of technologies are available for NOx reduction.
   a) Selective Catalytic Reduction Technology (SCR): It is an advanced active emissions control technology system that injects Ammonia vapors into the flue gas stream where the NOx 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.
   b) Selective Non-Catalytic Reduction Technology (SNCR): Nitrogenous reducing agent viz., Ammonia or Urea is injected into hot flue gas where it reacts with NOx in gas stream and reducing it to Nitrogen (N2) gas and Water (H2O) vapor.

      SCR technology is typically much more efficient at reducing NOx emissions upto 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.

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.
Compliance: - Shall be complied after commissioning.

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.
Compliance: - 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 ESP's to ensure that PM emissions will be below 50 mg/Nm^3. Status of this conditions shall be submitted.
Compliance: -Same as per Point A specific condition (i).

Additional condition sought by the Ministry of Environment, Forests and Climate Change 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.
Compliance: - Shall be complied.

ii) An interlocking arrangement shall be set up to shut down power plant when Flue-gas Desulphurization(FGD) is not functional.
Compliance: -Shall be complied.

iii) The transportation of coal shall be done by rail subject to ministry notification dated 21.05.2020.
Compliance: -Shall be complied.

iv)The ash content in the coal shall be in accordance with ministry's notification dated 21.05.2020 and subsequent amendment.
Compliance: -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.
Compliance: -Shall be complied.

Annexure-I

Annexure I

1 X660 MW Bhusawal Project CSR Phase-I works Status As on Date: 18/07/2023

Sr. No.	Name Of Village	Name of Work	Estimated Amount Phase-I	Remark
1	Duskheda	Work for Concrete approach/internal roads & road side drain under CSR at Duskheda Tal.Raver at BTPS, Deepnagar.	2146162.00	M/s. Shekhar Prabhakar Kasar **Work completed.**
2	Fekari	Work for Concrete approach/internal roads & road side drain under CSR at Fekari Tal.Bhusawal at BTPS,Deepnagar.	2144371.00	M/s. Shekhar Prabhakar Kasar **Work completed.**
3	Gahukheda	Work for Concrete approach/internal roads & road side drain under CSR at Gahukheda, Tal. Raver at BTPS, Deepnagar.	1917079.00	M/s. Shekhar Prabhakar Kasar Work copleted Final bill in Process
4	Jaadgaon	Work for Concrete approach/internal roads & road side drain under CSR at Jaadgaon Tal. Bhusawal.	2222861.00	M/s. Ravi Enterprises **Work completed.**
5	Kapil Nagar	Work for Concrete approach/internal roads & road side drain under CSR at Kaapil Nagar Tal.Bhusawal at BTPS,Deepnagar.	2540847.00	M/s. Dnyaneshwar Vitthal Amale **Work completed.**
6	Kaswa	Work for Concrete approach/internal roads & road side drain Under CSR at Kaswa Tal.Bhusawal at BTPS,Deepnagar.	2365146.00	M/s. Ravi Enterprises **Work completed.**
7	Kathora - Budruk	Work for Concrete approach/internal roads & road side drain under CSR at Kathora BK., Tal. Bhusawal.	1950509.00	M/s. Prabhakar B. Sonawane **Work completed.**
8	Kathora - Khurd	Work for Concrete approach/internal roads & road side drain under CSR at Kathora Kh., Tal. Bhusawal at BTPS, Deepnagar	2349554.00	M/s. Prabhakar B. Sonawane **Work completed.**
9	Manyarkheda	Work for Concrete approach/internal roads & road side drain Under CSR at Manyarkhede Tal.Bhusawal at BTPS,Deepnagar.	2281520.00	M/s. Ravi Enterprises **Work completed.**
10	Nimbhora Bk	Work for Concrete approach/internal roads & road side drain under CSR at Nimbhora Bk. Tal.Bhusawal at BTPS,Deepnagar	2542566.00	M/s. Prabhakar B. Sonawane **Work completed.**
11	Phulgaon	Work for Concrete approach/internal roads & road side drain under CSR at Phulgaon Tal.Bhusawal at BTPS,Deepnagar.	2249941.00	M/s. Dnyaneshwar Vitthal Amale **Work completed.**
12	Raipur	Work for Concrete approach/internal roads & road side drain under CSR at Raipur Tal.Raver at BTPS,Deepnagar	2653538.00	M/s. Ishwar conatruction and services **Work completed.**
13	Rangaon	Work for Concrete approach/internal roads & road side drain under CSR at Rangaon., Tal. Raver.	1920697.00	M/s. K. K. Patil **Work completed.**
14	Sakari	Work for Concrete approach/internal roads & road side drain under CSR at Sakari.	2215019.00	M/s. Dnyaneshwar Vitthal Amale **Work completed.**
15	Sudgaon	Work for Concrete approach/internal roads & road side drain under CSR at Sudgaon, Tal. Raver.	2249104.00	M/s. Shekhar Prabhakar Kasar **Work completed.**
16	Velhale	Work for Concrete approach/internal roads & road side drain under CSR at Velhala Tal. Bhusawal.	2303259.00	M/s. Dnyaneshwar Vitthal Amale **Work completed.**
17	Pimpriseksm	Work for Concrete road side drain under CSR at Pimpriseksm.	1188032.00	M/s. Dnyaneshwar Vitthal Amale **Work completed.**
			37240205.00	

Statement for status of CSR Phase-II works at 1x660 MW Project at Bhusawal

Sr. No.	Name Of Village	Name of Work	Estimated Amount Ph-II	Demand Ltr.	Remark
1	Velhala	1) Work for Concrete approach/internal roads & road side drain under CSR at Velhala Tal. Bhusawal. 2) Work for Construction of ESR capacity 100000 Liters under CSR at Velhala, Tal. Bhusawal. 3) Construction of hall & toilet block for primary health center at Velhala, Tal. Bhusawal. 4) Providing of interlocking paving blocks be a side main road at Velhala.	2764760.00 2373355.00 1136143.00 1277265.00	02-04-2022	Tenderization in progress
2	Manyarkheda	1) Work for Concrete approach/internal roads & road side drain Under CSR at Manyarkhede Tal.Bhusawal at BTPS,Deepnagar. 2) Providing drinking water ATM at Manyarkheda. 3)Providing of interlocking paving blocks be a side main road at Manyarkheda under CSR activity. . 4) Construction of hall & toilet block for primary health center at Manyarkheda, Tal. Bhusawal. 5) Work for Chain link fencing under CSR at Manyarkheda Tal. Bhusawal.	1311340.00 992752.00 1136143.00 1376637.00	19/5/2022	Tenderization in progress
3	Jadgaon	1)Work for Concrete approach/internal roads & road side drain under CSR at Jaadgaon Tal. Bhusawal. 2) Work for Construction of ESR capacity 100000 Liters under CSR at Jadgaon, Tal. Bhusawal. 3) Providing drinking water ATM at Jadgaon.	1449649.00 2373355.00 1311340.00	28/2/2022	Tenderization in progress
4	Kathora Bk.	1) Work for Concrete approach/internal roads & road side drain under CSR at Kathora BK., Tal. Bhusawal. 2) Providing of interlocking paving blocks be a side main road at Kathora Bk. 3) Work for Chain link fencing under CSR at Kathora Bk. Tal. Bhusawal at BTPS, Deepnagar. 4) Providing drinking water ATM at Kathora Bk.	3423378.00 825566.00 577045.00 1311340.00	31/1/2022	Tenderization in progress
5	Kathora Kh.	1) BTPS 1x660 MW Repl. Unit - Providing of interlocking paving blocks to village Kathora Kh., Tal. Bhusawal. 2) Work for Concrete approach/internal roads & road side drain under CSR at Kathora Kh., Tal. Bhusawal at BTPS, Deepnagar 3) Providing drinking water ATM at Kathora Kh.	937231.00 4134948.00 1311340.00	31/1/2022	Tenderization in progress
6	Rangaon	1) Work for Concrete approach/internal roads & road side drain under CSR at Rangaon., Tal. Bhusawal. 2) BTPS 1x660 MW Repl. Unit - Providing of interlocking paving blocks at village Rangaon Tal. Raver. 3) Providing drinking water ATM at Rangaon.	2677903.00 269990.00 1311340.00	22/3/2022	Tenderization in progress
7	Udali Kh.	1) Work for Concrete approach/internal roads & road side drain under CSR at Udali Kh., Tal. Bhusawal.	3432459.00	21/3/2022	Tenderization in progress

Annexure-II

Sr. No.	Name Of Village	Name of Work	Estimated Amount Ph-II	Demand Ltr.	Remark
8	Taskheda	1)Work for Concrete approach/internal roads & road side drain under CSR at Taaskheda Tal. Raver 2) Providing drinking water ATM at Tasskheda	3871230.00 1311340.00	02-04-2022	Tenderization in progress
9	Gahukheda	1)Work for Concrete approach/internal roads & road side drain under CSR at Gahukheda, Tal. Raver at BTPS, Deepnagar. 2) Providing drinking water ATM at Tasskheda	2910267.00 1311340.00	03-04-2022	Tenderization in progress
10	Sudgaon	1) Work for Concrete approach/internal roads & road side drain under CSR at Sudgaon, Tal. Raver. 2) Providing drinking water ATM at Sudgaon	5198255.00 1311340.00	03-11-2022	Tenderization in progress
11	Fekari, Nimbhora Bk., Pimprisekam	1) Providing Ambulance for Group Grampanchayat Nimbhora Bk., Pimprisekam. 2) Providing services of driver for Ambulance.	1753523.00 928560.00	22/7/2022	Tenderization in progress
12	Sakari	1) Work for Concrete approach/internal roads & road side drain under CSR at Sakari. 2) Providing drinking water ATM at Sakari	5865687.00 1427310.00	24/1/2022	Tenderization in progress
13	Pimprisekam	1) Work for Concrete road side drain under CSR at Pimprisekam. 2) Work of raising height of existing hume pipe culvert over Bhogawati river crossing on road from NH-6 to village Pimprisekam. 3) Providing of interlocking paving blocks be a side main road at Pimprisekam.	4119944.00 1279994.00	22/9/2021	Tenderization in progress
14	Jadgaon Velhala	**(A)**Providing approches over ADP Line for farmers at Pestal No. P327 to P329 under CSR activity Tal. Bhusawal. **(B)** Providing approches over ADP Line for farmers at Pestal No. P361 to P363 under CSR activity Tal. Bhusawal. **(C)** Providing approches over ADP Line for farmers at Pestal No. P405 to P407 under CSR activity Tal. Bhusawal. **(D)** Providing approches over ADP Line for farmers at Pestal No. P891 to P893 under CSR activity Tal. Bhusawal. **(E)** Providing approches over ADP Line for farmers at Pestal No. P901 to P913 under CSR activity Tal. Bhusawal. **(F)** Providing approches over ADP Line for farmers at Pestal No. P922 to P924 under CSR activity Tal. Bhusawal. **(G)** Providing approches over ADP Line for farmers at Pestal No. P505 to P507 under CSR activity Tal. Bhusawal. **(A)** Providing approches over ADP Line for farmers at Pestal No. P847 to P854 under CSR activity Tal. Bhusawal. **(B)** Providing approches over ADP Line for farmers at Pestal No. P885 to P886 under CSR activity Tal. Bhusawal. **(C)** Providing approches over ADP Line for farmers at Pestal No. P745 to P747 under CSR activity Tal. Bhusawal. **(D)** Providing approches over ADP Line for farmers at Pestal No. P801 to P803 under CSR activity Tal. Bhusawal.	295900.00 295900.00 295900.00 295900.00 295900.00 295900.00 295900.00 659773.00 659773.00 659773.00 659773.00	20/6/2022	Tenderization in progress

Name of Work	Estimated Amount Ph-II	Demand Ltr.	Remark
pproach/internal roads & road side drain Under CSR at Kaswa S,Deepnagar. ater ATM at Kaswe.	1311340.00	31/5/2019	Tenderization in progress
pproach/internal roads & road side drain under CSR at Raipur S,Deepnagar. ater ATM at Raipur.	1311340.00	01-11-2019	Tenderization in progress
	76337141.00		

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Annexure-III

ULR-TC550923000011034F

TEST REPORT

Sample ID : W/06/23/0553	Report No. W/06/23/0553	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well -Khadka Village (Bhusawal Road)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.09**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**862**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**85**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**202**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.125**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**49**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.3**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**131**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**416**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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ULR-TC550923000011034F

Sample ID : W/06/23/0553	Report No. W/06/23/0553	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detactable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.					

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End of Report

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

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ULR-TC550923000011035F

TEST REPORT

Sample ID : W/06/23/0554	Report No. W/06/23/0554	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well (Mr. Pramod Barsu Warke, Sakari)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**6.91**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**788**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**83**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**162**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.106**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**45**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**3.5**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**98**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**396**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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ULR-TC550923000011035F

Sample ID : W/06/23/0554	Report No. W/06/23/0554	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detactable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.					

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ULR-TC550923000011036F

TEST REPORT

Sample ID : W/06/23/0555	Report No. W/06/23/0555	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell-Sakari Village (Buster Pump House Road)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.04**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**852**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**83**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**176**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.338**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**46**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**4.2**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**92.5**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**400**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0555	Report No. W/06/23/0555	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detactable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.					

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ULR-TC550923000011037F

TEST REPORT

Sample ID : W/06/23/0556	Report No. W/06/23/0556	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal,Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Well of Ash Bund No.1	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Unit	Method
Chemical Testing; Group: Water, Residues in Water				
Organoleptic and Physical Parameters				
1	Colour	**1**	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.01**	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**848**	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts				
5	Calcium (as Ca)	**88**	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**178**	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.359**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**50**	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**0.10**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**4**	mg/L	APHA.23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**139**	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**428**	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances				
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water				
Bacteriological Parameters				
21	*Escherichia coli*	**<1.8**	MPN Index /100 ml	APHA. 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	MPN Index /100 ml	APHA. 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	CFU/ml	APHA. 23rd Ed., 9215-B,9-56: 2017

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

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Sample ID : W/06/23/0556	Report No. W/06/23/0556	Report Date	29/06/2023

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ULR-TC550923000011038F

TEST REPORT

Sample ID : W/06/23/0557	Report No. W/06/23/0557	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal,Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Well of Ash Bund No.2	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Unit	Method
Chemical Testing; Group: Water, Residues in Water				
Organoleptic and Physical Parameters				
1	Colour	**1**	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.13**	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**854**	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts				
5	Calcium (as Ca)	**91**	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**188**	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.107**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**52**	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**4.18**	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**140**	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**444**	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances				
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water				
Bacteriological Parameters				
21	*Escherichia coli*	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017

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

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Sample ID : W/06/23/0557	Report No. W/06/23/0557	Report Date	29/06/2023

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ULR-TC550923000011039F

TEST REPORT

Sample ID : W/06/23/0558	Report No. W/06/23/0558	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal,Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Velhale Village-Overhead Tank	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Unit	Method
Chemical Testing; Group: Water, Residues in Water				
Organoleptic and Physical Parameters				
1	Colour	**1**	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.09**	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**856**	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts				
5	Calcium (as Ca)	**97.8**	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**224**	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**55**	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**4.80**	mg/L	APHA,23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**138**	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**472**	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances				
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water				
Bacteriological Parameters				
21	*Escherichia coli*	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017

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

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Sample ID : W/06/23/0558	Report No. W/06/23/0558	Report Date	29/06/2023

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ULR-TC550923000011040F

TEST REPORT

Sample ID : W/06/23/0559	Report No. W/06/23/0559	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well- Grampanchayat,Velhale	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.14**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**858**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**94**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**176**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.9**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.485**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**55**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.39**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**98**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**464**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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Sample ID : W/06/23/0559	Report No. W/06/23/0559	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**49**	Not Detactable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**79**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**2.1×10^2**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.					

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ULR-TC550923000011041F

TEST REPORT

Sample ID : W/06/23/0560	Report No. W/06/23/0560	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal,Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Well-Velhale Ash Bund	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Unit	Method
Chemical Testing; Group: Water, Residues in Water				
Organoleptic and Physical Parameters				
1	Colour	**1**	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.14**	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**854**	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts				
5	Calcium (as Ca)	**93**	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**230**	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.148**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**52**	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.43**	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**141**	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**448**	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances				
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water				
Bacteriological Parameters				
21	*Escherichia coli*	**14**	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**49**	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**60**	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017

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

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ULR-TC550923000011041F

Sample ID : W/06/23/0560	Report No. W/06/23/0560	Report Date	29/06/2023

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TEST REPORT

Sample ID : W/06/23/0561	Report No. W/06/23/0561	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well (Mr. Pankaj Subhash Bharambe, Sakari)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.15**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**852**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**91**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**214**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.076**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**53**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**4.89**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**180**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**448**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0561	Report No. W/06/23/0561	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detactable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69 :2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.					

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TEST REPORT

Sample ID : W/06/23/0562	Report No. W/06/23/0562	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well (Mr. Manohar Chaudhary, Sakari)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.18**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**856**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**89.7**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**172**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**51.5**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**4.2**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**86.8**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**436**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0562	Report No. W/06/23/0562	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**23**	Not Detactable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**49**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**60**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.					

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TEST REPORT

Sample ID : W/06/23/0563	Report No. W/06/23/0563	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well-Chlorination Plant	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.07**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**854**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**93**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**152**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.129**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**51**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.45**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**91**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**444**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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Sample ID : W/06/23/0563	Report No. W/06/23/0563	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing;					
Bacteriological Parameters					
21	*Escherichia coli*	**13**	Not Detactable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**22**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**28**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ: Below Limit of Quantification, LOQ: Limit of Quantification.					

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TEST REPORT

Sample ID : W/06/23/0564	Report No. W/06/23/0564	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal,Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well-STP Plant	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Unit	Method
Chemical Testing; Group: Water, Residues in Water				
Organoleptic and Physical Parameters				
1	Colour	**1**	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.16**	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**856**	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts				
5	Calcium (as Ca)	**94**	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**170**	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.9**	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.091**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**54**	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.38**	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**98**	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**460**	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances				
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water				
Bacteriological Parameters				
21	*Escherichia coli*	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-80:2017
22	Total Coliforms	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69 :2017
23	Standard Plate Count (35°C, 48h)	**<1**	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017

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Ashwamedh Engineers & Consultants
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ULR-TC550923000011045F

Sample ID : W/06/23/0564	Report No. W/06/23/0564	Report Date	29/06/2023

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End of Report

Kavita Shewale
Section In-charge (Chemical)
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ULR-TC550923000011022F

TEST REPORT

Sample ID : W/06/23/0541	Report No. W/06/23/0541	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell-Nimbhora Village	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.49**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**516**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**62**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**95**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.196**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**37**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**3.1**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**64**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**308**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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ULR-TC550923000011022F

Sample ID : W/06/23/0541	Report No. W/06/23/0541	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**13**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**23**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**3×10^2**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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End of Report

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TEST REPORT

Sample ID : W/06/23/0542	Report No. W/06/23/0542	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal,Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Mohamad Pure Nallah	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Unit	Method
Chemical Testing; Group: Water, Residues in Water				
Organoleptic and Physical Parameters				
1	Colour	**1**	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.77**	-	IS 3025 (Part 11): 1983
3	Turbidity	**3.60**	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**578**	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts				
5	Calcium (as Ca)	**53**	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**194**	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.284**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**29**	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**0.021**	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**2.19**	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**124**	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**252**	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances				
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water				
Bacteriological Parameters				
21	*Escherichia coli*	**7.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**23**	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**45**	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017

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

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Sample ID : W/06/23/0542	Report No. W/06/23/0542	Report Date	29/06/2023

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ULR-TC550923000011024F

TEST REPORT

Sample ID : W/06/23/0543	Report No. W/06/23/0543	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell (Mr. Dilip V. Varade,Fulgaon)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.84**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**2.54**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**586**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**57**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**196**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.9**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.238**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**34**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**2.2**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**108**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**284**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007

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Sample ID : W/06/23/0543	Report No. W/06/23/0543	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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ULR-TC550923000011025F

TEST REPORT

Sample ID : W/06/23/0544	Report No. W/06/23/0544	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Borewell (Mr. Suklal Ramdas Patil,Varangaon)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.86**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**3.42**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**574**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**56**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**186**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**32**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**2.19**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**134**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**272**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0544	Report No. W/06/23/0544	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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ULR-TC550923000011026F

TEST REPORT

Sample ID : W/06/23/0545	Report No. W/06/23/0545	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well-Asara Temple (Susari)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.88**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**2.46**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**576**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**53**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**176**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**30**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**2.1**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**112**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**256**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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ULR-TC550923000011026F

Sample ID : W/06/23/0545	Report No. W/06/23/0545	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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TEST REPORT

Sample ID : W/06/23/0546	Report No. W/06/23/0546	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well (Mr. Dinkar Khema Patil, Susari)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.93**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**3.61**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**582**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**57.7**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**180**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**32**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.48**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**114**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**276**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0546	Report No. W/06/23/0546	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**22**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**49**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**7×10^2**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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ULR-TC550923000011028F

TEST REPORT

Sample ID : W/06/23/0547	Report No. W/06/23/0547	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well (Mr. Pundalik Patil, Susari)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.90**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**3.11**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**588**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**59**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**198**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**32**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.47**	Max.45	mg/L	APHA.23rd Ed..4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**124**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**280**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0547	Report No. W/06/23/0547	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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TEST REPORT

Sample ID : W/06/23/0548	Report No. W/06/23/0548	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well (Mr. Vasudev Vaman Patil,Velhale)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.89**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**3.59**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**582**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**61**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**208**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.9**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**33**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.48**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**123**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**288**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0548	Report No. W/06/23/0548	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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TEST REPORT

Sample ID : W/06/23/0549	Report No. W/06/23/0549	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well (Mr. Dagdu Vasudev Talele, Velhale)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.19**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**840**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**97.8**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**184**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.9**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**55**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.48**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**112**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**472**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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ULR-TC550923000011030F

Sample ID : W/06/23/0549	Report No. W/06/23/0549	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**7.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**34**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**2.5×10^2**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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ULR-TC550923000011031F

TEST REPORT

Sample ID : W/06/23/0550	Report No. W/06/23/0550	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well-Rokdoba Mandir (Velhale Ash Bund)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.09**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**854**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**91**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**186**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.8**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**BLQ (LOQ:0.06)**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**51**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.48**	Max.45	mg/L	APHA.23rd Ed.,4500-NO3.B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**118**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**440**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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ULR-TC550923000011031F

Sample ID : W/06/23/0550	Report No. W/06/23/0550	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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ULR-TC550923000011032F

TEST REPORT

Sample ID : W/06/23/0551	Report No. W/06/23/0551	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal,Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Surface Water
Sampling Location	Velhale Village Nallah	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Unit	Method
Chemical Testing; Group: Water, Residues in Water				
Organoleptic and Physical Parameters				
1	Colour	**1**	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.02**	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**854**	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts				
5	Calcium (as Ca)	**91**	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**188**	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.9**	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.128**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**53**	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.38**	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**138**	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**448**	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances				
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water				
Bacteriological Parameters				
21	*Escherichia coli*	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017

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

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ULR-TC550923000011032F

Sample ID : W/06/23/0551	Report No. W/06/23/0551	Report Date	29/06/2023

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ULR-TC550923000011033F

TEST REPORT

Sample ID : W/06/23/0552	Report No. W/06/23/0552	Report Date	29/06/2023
Name and address of Customer	**Maharashtra State Power Generation Company Ltd.** 2 x 500 MW, Bhusawal Thermal Power Station, Deepnagar, Bhusawal, Dist. Jalgaon-425307,Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Ground Water
Sampling Location	Well - (Mr. Dilip Pandit Patil, Velhale)	Date - Sampling	22/06/2023
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	23/06/2023
Sampling Procedure	IS 1622:1981 & IS 3025(Part I):1987 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	23/06/2023
Order Reference	P.O. No. BTPS/4500124232 dated 24.03.2023	Date - Completion of Analysis	28/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
Chemical Testing; Group: Water, Residues in Water					
Organoleptic and Physical Parameters					
1	Colour	**1**	Max.5	Hazen units	IS 3025 (Part 4):1983
2	pH value (at 25°C)	**7.03**	6.5-8.5	-	IS 3025 (Part 11): 1983
3	Turbidity	**BLQ (LOQ:0.2)**	Max. 1.0	NTU	IS 3025 (Part 10):1984
4	Total Dissolved Solids	**860**	Max.500	mg/L	IS 3025 (Part 16): 1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	**99.4**	Max.75	mg/L	IS 3025 (Part 40): 1991
6	Chloride (as Cl)	**188**	Max. 250	mg/L	IS 3025 (Part 32):1988
7	Fluoride (as F)	**0.9**	Max.1.0	mg/L	IS 3025 (Part 60):2008
8	Iron (as Fe)	**0.157**	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
9	Magnesium (as Mg)	**55**	Max.30	mg/L	IS 3025 (Part 46): 1994
10	Manganese (as Mn)	**BLQ (LOQ:0.02)**	Max. 0.1	mg/l	IS 3025 (Part 2): 2019 / ISO 11885:2007
11	Nitrate (as NO_3)	**0.48**	Max.45	mg/L	APHA,23rd Ed.,4500-NO3,B-4-127
12	Phenolic compounds(as C_6H_5OH)	**BLQ (LOQ:0.001)**	Max. 0.001	mg/L	Clause 6 of IS 3025(Part 43):1992
13	Selenium (as Se)	**BLQ (LOQ:0.005)**	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
14	Sulphate (as SO_4)	**114**	Max. 200	mg/L	IS 3025 (Part 24)
15	Total Hardness (as $CaCO_3$)	**476**	Max. 200	mg/L	IS 3025 (Part 21):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	**BLQ (LOQ:0.002)**	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 11885:2007
17	Cyanide (as CN)	**BLQ (LOQ:0.001)**	Max. 0.05	mg/L	Clause 2 of IS 3025 (Part 27):1986
18	Lead (as Pb)	**BLQ (LOQ:0.008)**	Max .0.01	mg/L	IS 3025 (Part 2): 2019/ ISO 11885:2007

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Sample ID : W/06/23/0552	Report No. W/06/23/0552	Report Date	29/06/2023

Sr.No.	Parameter	Result	Acceptable Limit as per IS 10500:2012	Unit	Method
19	Mercury (as Hg)	**BLQ (LOQ:0.0008)**	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
20	Arsenic (as As)	**BLQ (LOQ:0.005)**	Max 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 11885: 2007
Biological Testing; Group: Water					
Bacteriological Parameters					
21	*Escherichia coli*	**<1.8**	Not Detectable	MPN Index /100 ml	APHA, 23rd Ed., 9221-G, 9-80:2017
22	Total Coliforms	**<1.8**	Not specified	MPN Index /100 ml	APHA, 23rd Ed., 9221-B, 9-69: 2017
23	Standard Plate Count (35°C, 48h)	**<1**	Not specified	CFU/ml	APHA, 23rd Ed., 9215-B,9-56: 2017
BLQ:Below Limit of Quantification, LOQ:Limit of Quantification					

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Ref: - CE (P)/1x660 MW/BSL/PMG/CEA-Corres/No. 01679 **Dated**: 13th July 2023

(As on 30.06.2023)

PHYSICAL PROGRESS REPORT - PERFORMA 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/ IMPLEMETING 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: cgmgpp@mahagenco.in, 8828502488.

E-GEN PORTAL REGISTRATION STATUS- YES/NO, If Yes Registration No (Unit wise):-Yes Reg no. 1200002450

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	95%	25/11/2019	Act: 15/11/2019
		STRUCTURAL WORKS	BHEL/Indwell		25/10/2019	Work in progress: 14733/17233.09MT		26/01/2022	Ant: October-2023
		PRESSURE PARTS COMPLETION	BHEL/Indwell		25/10/2019	Work in progress: 6938/7169MT.		22/05/2021	Ant: July-2023

Annexure-IV

BRIEF WRITEUP ABOUT CURRENT STATUS OF BOILER WORKS:

- HP Joints: 43796 nos. of joints out of 43796 nos. completed.
- P-91 Joints: 290 nos. of joints out 359 nos. completed.
- Total boiler structural erection (PG35) weight is 7706MT out of 7947.51MT.
- Total Pressure part erection weight is 6938MT out of 7169.00 MT
- Roof structure alignment work and roof sheeting work completed.
- Boiler DHT completed successfully on 04.11.2022.
- Non drainable hydraulic test- 28.03.2023
- Roof loose tubes alignment work completed.
- Separator safety valves 08 nos. erection & welding completed.
- Separator risers and links welding completed.
- Burner block erection completed.
- Roof skin casing work is in progress.
- Burner alignment completed.
- Trim piping work is in progress.
- Pent house structure erection work is in progress.
- Insulation work is in progress in W/w Panel & Pent house.

- LRSB & wall blower erection is in progress.
- Refractory work in roof (First Pass) in progress.
- MS J23 spool piece cutting work completed.
- S/V & ERV welding completed.
- CD elevation readiness is in progress.
- BCW pump flange (dummy) removed
- Refractory work in seal boxes is in progress.
- Buck stay corner link work is in progress.
- Readiness for chemical cleaning is in progress.
- Duct joints repair work is in progress.
- Hopper insulation work is in progress.
- Rear arch insulation work is in progress.
- Bottom ring header, Intermediate header, Separator insulation work is in progress.
- Burner wings, links & hopper panel corner link plate welding is in progress.
- Boiler chemical cleaning completed on 29.06.2023
- Roof skin casing work is in progress.
- Wall & LRS blower erection & alignment in progress.
- Ist pass inside fin welding in progress.
- Flash & drain tank vent pipe erection & welding in progress.
- CD, EF & GH floor readiness in progress.
- Pressure parts insulation work in progress.
- **Second Pass-**All four walls erected up to bottom ring header. All four bottom ring header erected. Alignment completed. Economizer Inlet header erected. All Economizer Coils erection completed and HP joints welding work completed. Hanger tubes and Economizer outlet header HP joint welding completed.
- Economizer outlet line alignment & permanent support work in progress.
- LTRH Coil alignment in progress.
- Economizer inlet, outlet, down comer links, HP joints work completed.
- Buck stay corner support work is in progress.
- Insulation work is in progress in Second Pass.
- Roof structure skin casing work is in progress.
- Work of bal corner link is in progress.
- IInd pass roof (LTRH coil) area refractory work in progress.
- Cable tray erection, cabling work is in progress.
- Lighting conduiting work is in progress.
- BCW motor & its inlet, outlet MOV electrically ready.
- Eco, LTRH coil alignment in progress.
- R/H outlet repair, rewelding & re-SR work is in progress.

SCR

- Erection: 1382 MT out of 4161.81 MT completed.
- SCR (LHS) all 5-girder erection completed.
- Structural erection & alignment work is in progress.
- SCR (LHS) outlet duct module 03 nos. pre-assembly is in progress.
- SCR reactor hopper erection completed.
- Structural erection work is in progress.
- SCR reactor bottom part pre-assembly is in progress.
- SCR RHS column & girder erection work is in progress.
- Structural & duct erection work is in progress at SCR LHS & RHS.
- SCR LHS- ducts & reactor erection in progress.
- SCR LHS- Reactor module Lo3 & Lo2 pre-assembly is in progress.
- SCR RHS- Structural erection & alignment welding is in progress.

2	TG	CIVIL WORKS	BHEL / Powermech	1x660MW	30/05/2019	Completed	94%	13/03/2022	Act: 11/01/2021
		STRUCTURAL WORKS	BHEL / Powermech		30/05/2019	8318/9000MT		13/03/2022	Ant: July- 2023
		PRESSURE PARTS COMPLETION (Boiler feed line piping)	BHEL/Indwell		25/10/2019	TOTAL 460/505 Joints		02/01/2022	Ant: July- 2023

BRIEF WRITEUP ABOUT CURRENT STATUS OF TG WORKS:

0.0mtr –

- AB bay G1-G12 completed, RCC grade slab completed, B-C bay 1-14 grid slab completed.
- Condenser erection started on 30.03.2022.
- Condenser Water chamber & side wall erection completed.
- DMCW Pumps (5 nos.) & PHE (5 nos.) erection completed.
- DMCW piping erection work in progress.
- Self-cleaning filter erection completed.
- ACW piping branching work is in progress.
- Condensate piping erection work in progress.
- AC- Air chiller piping & pump erection work is in progress.
- COT and DOT placement completed.
- Unit Flash Tank placement completed.
- TDBFP-6A &6B LOP Console placement completed
- Drain cooler placement completed.
- MDBFP-6A & 6B: Working oil and lube oil cooler placement completed.
- Seal Oil Console placement completed.
- Vacuum Pump-6A & 6B placement completed.
- CPU piping erection work completed.
- Above ground earthing work completed.
- Cable tray& support structure erection work completed at 0 mtr cable vault.
- Cabling to auxiliaries work is in progress.

- Flash Tank A & Flash Tank-B placed at 0mtr.
- Condenser dome wall welding work is completed.
- TD-BFP-B lub oil piping completed.
- Welding of condenser internal & TSP completed.
- Tube insertion for condenser completed.
- Hydrazine dosing & oxygen dosing skid erection complete, Motor no load trial completed.
- Condenser tube flaring work completed.
- Condenser water chamber erection work completed.
- Hydrotest of condenser completed.
- CEP A,B,C motor decouple trial done.
- TDBFP LOP A& B, DC LOP motor decouple trial done.
- DC starter panels for TDBFP completed.
- DC starter panel for SOP erection is in progress.
- CW butterfly valve, RE joint & debris filter erection work in progress.
- DMCW-B pump trial completed & DMCW line charged up to MDBFP working oil & lub oil coolers.
- Seal oil piping work completed & oil flushing is in progress.

3.5mtr –

- ABC bay 1-3 grid RCC slab completed.
- HT Switch board numerical relay testing is completed.
- LT switch boards charged.
- Above ground earthing work in progress.
- Cable laying work is in progress.
- Lighting conduit work, wiring work & fixtures installation completed.
- 6BB charged on 16.05.2023. Hence, All HT switchboards are charged.
- All LT switchboards except air washer MCC are charged.
- All LDB's (Lighting Distribution Boards) charged-03Nos.

8.5mtr –

- AB bay 1-13grid slab completed &BC bay1-14 grid RCC slab completed.
- Boiler feed suction, discharge & recirculation line erection work in progress.
- Primary water console grouted.
- Condensate piping erection in progress.
- LPH-1, 2,3& 4: Erection completed.
- Cable tray &support structure erection work Completed in cable gallery.
- Cable spreader room: Fire fighting Spray line erection in progress
- Above ground earthing work completed.
- Battery room: Battery wooden stand fabrication completed. Battery erection completed.
- 220V DC Battery 1st& 2ndset charging –discharging cycle completed commissioned.
- MDBFP-B & A grouting & alignment completed.
- A-B Bay 12-14 grid slab under progress.
- MDBFP-A motor placed & hydraulic coupling grouting completed. Oil flushing is in progress.
- Oil module & centrifuge placed & erection completed. Oil flushing is in progress.
- Seal steam piping erection in progress.
- TDBFP A&B oil dump well piping work is in progress.

- TDBFP LDP motor cabling work is in progress.
- HT/LT power cable laying is in progress.
- Lighting conduit erection work is in progress.
- TDBFP LDO motor cabling work is in progress.
- LP bypass valve erection completed.
- Lub oil cooler piping erection work inside MOT room is completed.
- Primary water pump motor-A bump trial completed.
- Cable tray erection for turning motor is in progress.
- (DC starter for DC-JOP, EOP A&B panel) erection is in progress.
- NGT, SPVT & Excitation transformer is shifted to floor. Placement is pending.
- IPBD welding is in progress.
- Condenser neck joint completed.
- MDBFP-B motor trial completed.
- MDBFP-A&B oil flushing completed.
- Primary water piping completed.
- Overload valve erected.

12mtr –

- AB bay 1-3 RCC slab completed.
- 220VDC Battery Charger 1st set erection testing & commissioning completed.
- 220V DC Battery charger 2nd set erection & testing commissioning work completed.
- Cable laying started.
- Above ground earthing work completed.
- Air ventilation duct erection work completed.
- Illumination work almost completed.
- Only one LT boards pending for charging Remaining are charged. (i.e service building MCC)
- All LT switchboard at 12mtr are charged.
- All 03 nos. of (LDB's) charged.

13.5mtr –

- BC bay 1-4 grid, CDEF bay (1-3 grid) RCC slab completed.
- Cable tray &support structure erection work completed.
- Above ground earthing work completed.
- Lighting conduit erection work is in progress.
- Cable laying work started.

17mtr–

- TG deck casting completed on 11.01.2021
- TG erection started on 03.03.2022
- HPT placed on 19.07.2022
- AB bay 1-12 grid RCC slab completed. Alignment is in progress.
- BC bay 1-14 grid, CDEF bay (1-3 grid) RCC slab completed.
- Boiler feed discharge line erection work in progress.
- Above ground earthing work completed.
- De-superheater & HPH-6 placement completed.

- TG bearing pedestal grouting & alignment completed.
- Generator stator lifting completed on 04.06.2022.
- Generator rotor insertion completed on 10.09.2022.
- TDBFP-A& B booster pump and turbine placement completed.
- Terminal box erection work of Generator is completed.
- LPT side & end wall welding completed.
- LPT rotor preliminary alignment work completed.
- IPT IV valve placement work completed.
- Turbine final alignment is in progress.
- Oil canal piping erection work completed.
- Above ground earthing completed.
- Illumination work completed (LP charging pending)
- A- Row side ventilation duct erection work is in progress.
- HPH7 erection work completed.
- HPH-7 & 8 piping work is in progress.
- HPH-8 erection work completed.
- IPT final box up completed.
- ESV-1 & 2 erection completed.
- Generator box up completed.
- Highway lighting work is in progress.
- LPT box up completed.
- LPT outer casing erection work is in progress.
- Turbine rimming & honing work is in progress.
- Exciter alignment completed.
- Generator sole plate grouting completed.
- Generator & excitor bolt elongation work completed.
- Turbine box up completed on 10.04.2023
- LPT outer casing erection work is in progress.
- Turbine rimming & honing work is completed.
- Erection of cross over piping work is in progress.
- Floating of MS line completed.
- Oil flushing for pedestal is in progress.

17mtr PCR

- C&I-

A) BTG-

- Remote trial of ID (6A), Air heater (motor 1& 2) with LOP's. LDO P/H motor trial for BLU taken.
- AB elevation 4 nos. corner valves i.e AANV, LONV, Scavenge valve, LOTV, LOFCV, LOPCV remote trial taken along with ID, FD blade pitch control.
- Boiler light up on 30.03.2023 with FSSS in service.
- C& I Panel shifting & erection is in progress.
- BoP Electrical & FSSS panels charged with 24VDC.
- Remote trials of HT switch breakers is in process.
- Control cables to HW switch, Boiler ID fan, FD Fan, APH is in progress.
- 24VDC charger along with battery commissioned for SG/TG, BoP & TG Siemens.

- 150KVA UPS-1&2 commissioned along with batteries.
- Instrument calibration work is in progress.
- Remote signal hookup with DCS is in progress.
- Illumination work is in progress. Conduit, wiring completed. Fixtures installation work is in progress.
- Remote trial of Boiler fill pump, FD fan 6A, Compressor-6B taken from DCS, CCR.
- False ceiling work is in progress.
- Control Desk installed at CCR.
- ACP work is in progress.
- AGP work is in progress.
- TG Siemen's DCS panels erection work completed. Commissioning is in progress.
- Boiler BCW pump C&I readiness is completed.
- MTM, separator level instruments DCS hookup is in progress.
- GRP panel testing is in progress.
- DAVR erection completed. Duct erection work is in progress.

B) BoP –

- DCS panels erection work completed for DM plant, Air compressor, CPU, Raw water, CW/ACW, HVAC system FOPPH, PT Plant & Raw water intake pump house.
- UPS & battery erection work at DM Plant, Air compressor, CPU, Raw water, ACW/CW, & Raw water intake pump house completed.
- Cable laying & termination at DCS end & filed is in progress at DM, Raw water, Air compressor etc.
- Instruments, Solenoid valves pressure switches, gauges, transmitter etc erection & commissioning is in progress.
- Station transformer relay panel (STRP) & testing work completed.
- AC ventilation duct erection work in progress
- IGES piping erection work completed except nozzle fittings.
- PCR lighting cable and conduit erection completed.
- Vitrified tile flooring completed.
- BTS panel erection work started.
- Above ground earthing work completed.
- DCS panels charged with 230VAC of following system
  a) Raw water Pump House.
  b) Instrument & service Air compressor
  c) DM Plant
  d) CW /ACW Pump House.
  e) CPU system.

Works-

- DCS system commissioning is in progress.

1. DM Plant
2. Raw water
3. Air compressor
4. HVAC
5. FOPH

24mtr –

- BC bay 1-14 grid, CDEF bay (1-3 grid) RCC slab completed.
- Cable tray &support structure erection work completed.
- Above ground earthing work completed.
- AC duct erection work is in progress.
- RE fan erection completed.
- HVAC cooling tower erection completed, AHU in progress.
- Chilled water & cooling water piping work is in progress.
- Illumination work is in progress.

27.50mtr-

- Grid 4-10gridslab completed
- LT switch boards erection completed.
- LT dry type transformer erection completed.
- Above ground earthing work completed.
- Cabling work is in progress.
- DTT testing completed, Boiler PMCC board charged.
- Illumination work is in progress.
- All LT boards are in charged condition.
- Welding MCC charged.
- 6DB702 (Boiler service MCC transformer-02) charged on dtd.16.06.2023

32.5mtr –

- BC bay1-14 slab completed.
- 1st TG EOT Crane: Erection & commissioning work completed on 16.03.2022.
- APRDS tapping from existing 500 MW (Bhusawal TPS premises) interconnecting header work completed.
- Boiler feed suction, discharge &recirculation line erection work in progress.
- ECW (DMCW) tank placement completed.
- 2nd TG EOT erection completed& commissioned.
- Makeup water & expansion tank placement completed.
- Expansion tank of AC erected.
- Make up line to chilled water & condenser water line is in progress.

38mtr –

- AB bay grid 1-13RCC slab completed, B-C bay 3-14 RCC slab completed.
- FST and Deaerator erection completed.
- Grouting work of Deaerator is completed.
- Boiler feed suction, discharge &recirculation line erection work in progress.
- Service Water and Portable Water Tank: placement completed.
- Flushing of PRDS system is in progress.
- FST & deaerator hydrotest completed.

50.00mtr

- BC bay 4-10 slab completed.
- RCC: 16451 cum out of 16500 cum completed.

TG House Erection: 8278 MT out of 9000MT.

3	ESP	**PASS STATUS	BHEL/Indwell	1x660MW	25/10/2019	9820/10034 MT	98%	25/03/2022	Ant: July-2023

****BRIEF WRITEUP ABOUT CURRENT STATUS OF ESP WORKS:**

- All pass outlet funnel erection work completed.
- All pass ESP inlet funnel erection completed.
- All pass ESP collecting electrode erection work completed.
- ESP A, B, C, D, E &F pass hopper erection completed.
- ESP A,B, C, D & F pass emitting electrode erection work completed.
- ESP E pass emitting electrode erection work is in progress.
- ESP All pass ATT completed.
- ESP all pass outer roof erection completed.
- ESP all pass rectifier transformer erection work completed.
- ESP A, C, D Pass emitting motor-gear box erection work completed. B&F work is in progress.
- Total erection weight is 9820 MT out of 10527.20 MT.
- ESP Pass A, B, C& E LHS & RHS wall insulation completed. D& F pass wall insulation work is in progress.
- ESP A, C &D pass collecting motor- gear box erection completed.
- ESP A,C, D & E Pass GD rapping motor gear box erection completed.
- ESP A, C & D pass emitting hammer erection work completed.
- ESP A, C &D pass collecting hammer erection work completed.
- Cable tray erection & cabling work is in progress.
- ESP A pass hopper outside stich welding work is in progress.
- ESP A & C Pass both emitting & collecting gear box trial taken found ok. ESP D pass gear box trial is in progress.
- ESP LT switchboard numerical relay testing is in progress.
- ESP main cable tray support erection work is in progress.

3A	FGD Plant (M/s Indwell)	CIVIL WORK	BHEL / Powermech/BJCL	1x660MW	30/05/2019 24/08/2019	3531/4657M3	52%	10/06/2021	Ant: September -2023
		MATERIAL SUPPLY	BHEL		31/12/2018	3420/4800 MT		24/03/2021	Ant: October -2023
		ERECTION WORK	BHEL/Indwell		25/10/2019	532/5922MT		15/04/2022	Ant: Dec-2023

BRIEF WRITEUP ABOUT CURRENT STATUS OF FGD WORK:

1) Limestone Hopper & Silo:

- Excavation: Progress at hopper area.
- RCC: 674 cum out of 1300 cum completed.

- Silo columns & sump casting completed till lintel level. Columns above is in progress.
- Work is resumed.
- Wet ball mill footing casting is in progress.

2) Limestone Crusher House:

- Excavation: completed.
- Concreting: 130 cum out of 400 cum completed.
- Work in progress.

3) FGD -Tanks, absorber:

- Excavation: 1600 cum out of 5000 cum completed.
- PCC of silo: 119 cum out of 150 cum completed.
- RCC: 1333 cum out of 1648 cum completed.
- Absorber base plate erection completed & welding work is in progress.
- Absorber shell plate erection work is in progress.
- Absorber structure column & tie beam erection work is in progress.
- RC Pump foundation completed.
- RC pump 3/4 erected. Motor erection work is in progress.

4) FGD inlet/outlet duct:

- Excavation: Completed.
- Footing & column casting completed.
- FGD bypass damper erection done.
- FGD inlet gate pre-assembly & erection work completed.
- Absorber inlet duct structure pre-assembly work is in progress.
- FGD inlet duct pre-assembly work is in progress.

5) FGD CR Building:

- Excavation PCC: 73 cum out of 80 cum completed.
- RCC: 1422 cum out of 2117 cum completed.
- Work is resumed.
- 1st floor slab casting completed.
- 2nd floor column work is in progress.

6) Gypsum Dewatering Building:

- Excavation PCC of silo: 8 cum out of 25 cum completed.
- RCC: 91 cum out of 98 cum completed.

- Work is in progress.

7) FGD RC Pump House & Blower room:

- Excavation: Completed.
- PCC: Completed.
- RCC: 466 cum out of 500 cum Completed.
- Pump pedestal casting completed.
- Pump house footing & column completed.
  Blower foundation completed

FGD Erection: 532 MT out of 5863.80 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	Work in Progress	99%	28/02/2022	Ant:August- 2023
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	70%	30/04/2022	Ant: July- 2023
		BHEL / Macawber Beekay Pvt Ltd. (Conveyor Package-Mechanical)	27/05/2019	Work in Progress			
		BHEL / BJCL/ Place Maker (Wagon Tripler-Civil & Structure)	24/08/2019 23/12/2021	Work in Progress	50%	30/04/2022	Ant: September- 2023
		BHEL / Promac (Wagon Tripler-mechanical)	28/05/2019	Work in Progress			
		BHEL / BJCL/ (Stacker Reclaimer-Civil)	24/08/2019	Work in Progress	69%	30/04/2022	Ant: July- 2023
		BHEL / Promac (Stacker Reclaimer)	28/05/2019	Work in Progress			
3	Ash Handling Plant	BHEL / BJCL/ Place Maker (Civil)	24/08/2019 23/12/2021	Work in Progress	65%	31/03/2022	Ant: September- 2023
		BHEL / Macawber Beekay Pvt Ltd. (Mechanical)	27/05/2019	Work in Progress			
4	Fuel Oil System	BHEL / PMPL (Civil)	30/05/2019	Work in Progress	96%	21/11/2021	Ant: July- 2023
		BHEL / New Fire Engineers Pvt Ltd.	19/09/2019			21/11/2021	Ant: August -2023
5	Cooling Towers	BHEL/Hayagrev civil engineering Pvt Ltd/ PCTL	01/11/2019 05/03/2022	Work in Progress	97%	31/03/2022	Ant:September- 2023
6	CW Pump house	BHEL/Alphapower engineering services Pvt Ltd	29/01/2021	Work in Progress	73%	28/02/2022	Ant: July- 2023
7	CW Piping	BHEL/G&J Pvt Ltd.	03/08/2020	Work in Progress		18/02/2022	Ant: July -2023
8	PT Plant	BHEL/Clear Water company	17/02/2020	Work in Progress	49%	12/12/2021	Ant: August-2023
9	DM Plant	BHEL/Wipro Enterprises Pvt Ltd	14/01/2020	Work in Progress	97%	30/11/2021	Ant: August -2023
10	Air Compressor	BHEL/Elgi equipment Ltd.	24/08/2020	Work in Progress	99%	04/11/2021	Act.: March - 2023
11	Fire Protection pump house	BHEL / Alpha power engineering services Pvt Ltd	29/01/2021	Work in Progress	96%	20/05/2021	Ant:- July -2023
12	Fire Protection piping	BHEL/ G&J Pvt Ltd.	03/08/2020	Work in Progress	43%	28/08/2021	Ant: August-2023
13	Switch Yard	MSETCL/BNC Power Projects Ltd	15/02/2021	Completed	100%	28/02/2022	Act: 25/01/2023

14	Station Transformers	BHEL	17/01/2018	Work in Progress	100%	08/07/2021	Act: 25/01/2023
15	Unit Transformers	BHEL	17/01/2018	Work in Progress	80%	20/01/2022	Ant: July -2023
16	Railway siding	BHEL/ISC Projects	02/01/2021	Work in Progress	84%	31/03/2022	Ant: August -2023
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:

- Chimney raft casting works completed on 01/12/2019.
- Chimney Shell casting started on 21.09.2020.
- Chimney shell casting completed on 20.08.2021.
- Chimney main beam erection is in progress.
- Chimney flue CAN erection completed.
- Flue CAN fabrication: 945 MT/1122 MT.
- Flue CAN erection: 944MT/1122 MT completed.
- Chimney outer platform casting completed.
- Alignment/resting erection will be done after flue duct erection by M/s. Indwell.
- Outside painting work is in progress.
- Staircase fabrication is in progress.
- Borosilicate lining material received at site.
- Grinding of flue can is in progress.
- Liquid collector yet to receive at site.

2) CHP:

(a) Conveyor package

TPs & Trestles:

- RCC- 2934 cum out of 3000 cum completed.

- **TP-2 (Total height- 34 mtr)**:
  All RCC slab casting completed. Balance erection work is in progress Cross bracing welding balance. Siderunner erection balance. Monorail fabrication & erection balance. 10% work balance of handrail staircase welding / rectification required. Below ground earthing work is in progress. Illumination conducting work is in progress for all TP & conveyor.

- **TP-3 (Total height- 52mtr)**:
  Cross bracing balance at some locations. All slab casting completed. Grade slab work is in progress. Staircase & handrail erection completed. Monorail fabrication & erection balance

- **TP-4 (Total height- 83mtr)**:

All Column erection completed. Al floor beam erection completed. Staircase erection completed. Monorail fabrication & erection balance. Side runner balance. All slab casting completed except roof. Cable tray erection work is in progress.

- **TP-5 (Total height- 78mtr)**:
- All tier column erection completed. Bracing erection of welding balance. All slab casting completed except roof. Staircase erection balance. Handrail erection balance.

- **2AB**- Handrail rectification required. Side runner, walkway, handrail balance in GR-1. Monkey ladder balance. Nut- bolting balance at TR to gallery portal connection. Cable tray support erection work is in progress. Below ground earthing work is in progress. All Galleries erection completed & handed over to technological erection GP1 walkway balance. Nut- bolting balance at TR to gallery portal connection. Technological erection from head end to pent house gallery is completed (like short post stringer, idler & frame). Also, 2AB motor, Gear box high speed coupling, Discharge chute & R&P gate, head end pulley erection completed, Alignment work is in progress. VGTU erection work is in progress. Erection 284MT out of 288 MT completed. Cable tray erection work is in progress.

- **3AB**- Monkey ladder balance. Nut- bolting balance at TR to gallery portal connection. Handrail balance. Cable tray support erection work is in progress. Below ground earthing work is in progress. All galleries erection completed & mechanical erection of technological structure head end like (short post, stringer, idler, frame) is completed & alignment is done. Nut-bolting balance at TR to gallery portal connection. Handrail balance. Erection 383 MT out of 394 MT completed. From TP-2 to crusher (head end) gallery mechanical erection of technological structure is completed. VTGU erection is in progress.

- **4AB**- Nut- bolting balance at TR to gallery portal connection. 20% handrail balance. All galleries erection completed & handed over for technological erection.GP-1 & GP-2 Purlin connections balance.GP-1 & GP-2 alignment balance but grouting completed. Cable tray support erection work is in progress. Below ground earthing work is in progress.
- Mechanical erection of technological structures uptoTR-7 building completed (like stringer post/ stringer idler & frame). Alignments of conv. 4AB discharge chute & head pulley frame is completed. Tail pulley erection is in progress. Erection 469 MT out of 481 MT completed.
- 4AB flap gate fitting is completed.
- Roofing & sheeting work is in progress.
- Coal sampling unit erection is in progress.

- **5AB**- handrail in progress. Nut- bolting balance at TR to gallery portal connection. Cable tray support erection work is in progress. Below ground earthing work is in progress. Erection 1120 MT out of 1140MT completed. From Gallery 1 to Gallery 6 mechanical erection is completed. The short post & stringer return idler, frame, carrying idler erection is completed. Tail Pulley & frame erection work completed. From gallery 7 to TP-4 erection of technological structure & mechanical equipment is in progress.

- **6AB-**65% fabrication complete. Both trussle 1st past erection completed.

- **7AB**- 95% Fabrication work completed. Tripper car erection work, Stringer post/ stringer & rail erection tripper trolley, Discharge chute of 7A/B Both trestle erection completed. 70% erection completed.

- **Con 7A-** Tripper car erection done like rail, stringer post, idler & frame. Drive foundation casting is pending.

- **Con 7B-** Tripper car erection done like rail, stringer post, idler frame pulleys, chute. Drive foundation casting is pending.

- **Conv 8-** Mechanical erection of technological structure like short post stringer frame, idler erection up to 180mtr. From tail end is completed. Alignment done. HGTU tower erection is completed. Alignment of conv 8 drive is in progress. Mechanical erection of technological structure in crusher house is in progress.

- **Conv 9-** Motor, fluid coupling, gear box head end pulley, discharge pulley erection done. Alignment work completed.

Crusher House (Total Height -53mtr):

- Excavation is completed.
- PCC: Completed
- RCC: 2511 cum out of 2600 cum completed.
- 46 nos. out of 46 nos. columns erection completed till full height.
- Staircase landing platform work is in progress.
- Bracing & floor beam erection is in progress.
- All floor slab casting completed.
- 29.80 mtr stools placing & welding is in progress.
- Structural Erection: 1650MT out of 1681MT completed.
- Fabrication: 1655 MT out of 1681 MT completed.
- Crusher and base frame alignment done.
- Vibrating grizzly feeder alignment is in progress.
- Erection of bag filter & cyclone is in progress.
- 3AB to VGF & VGF to crusher chute erection is in progress.
- Crusher 10 RBF & RBF to 4AB, Conv 8 chute erection is in progress.

Wagon Tippler

- Excavation: Completed.
- PCC: Completed.
- RCC: 9802 cum out of 11931 cum completed.
- Wagon Tippler-1: Apron Feeder-I raft completed. Wall 2nd lift completed. Hopper slab completed. Wall above is in progress.
- Side arm charger column & beam casting is in progress.
- WT-1 Handed over for mechanical erection.
- WT-1 pivot stool & pinion stool placement done.
- WT-1 Both end disk , fixed beam, movable beam, clamp, clamp cylinder, rail table erection done .
- AF-I erection is in progress.
- Wagon Tippler-2: Apron feeder-II raft casting completed. Wall 1st lift completed. Hopper slab casting completed.
- WT-2 end disk, fixed beam erection done.
- 1 AB Tunnel, Completed. Pedestal casting completed.
- 2 AB Tunnel: Pedestal casting is in progress.
- WT-2 & Tunnel 1AB connection completed.
- Backfilling, water proofing& bituminous painting in progress.
- Side arm charger column & beam is in progress.
- WT-2 – wall above hopper floor completed.

(b) Stacker Reclaimer& Coal Stock Pile:

- Excavation: Completed.
- Concreting: 7434 cum out of 8225 cum completed.
- Mechanical erection started on 26.03.2022.
- Mechanical erection of double wheel bogie,
  primary racer arm, secondary rocker arm &equalizer beam completed, under carriage structure, slew bearing & slew deck erection and horizontal mast, vertical mast & E- house platform, tripper car structural, intermediate conveyor & Boom conveyor, Boom conveyor idler frame is completed. Walkway platform erection is completed. Counter weight structure assembly, walkway platform, Tie rod & bucket wheel assembly erection completed. Ballast for counter weight completed, staircase to stacker is in progress. Modification of lifting SCR by 70mm is completed.
- Stock pile pavement casting is in progress.
- Below ground earthing work is in progress.
- Electrical work started. Cable laying is in progress.
- E house assembly done panel placement is completed. Transformer placement completed. Hydraulic piping work is in progress.
- JB's & instrument switches erection is in progress.
- Intermediate conveyor & boom conveyor motor erection completed.
- Luffing motor trial completed.
- MCC panels & transformer erection completed.
- Transformer testing completed.
- MCC panel testing is in progress.

3) Ash Handling Plant

(a) Ash slurry pump house:

- completed.
- PCC: 74 cum out of 150 cum completed.
- RCC: 942 cum out of 1100cum completed.
- 26Equipment foundation completed out of 26 nos.
- A-series-Pump ST-1 pump motor foundation frame with pump erection done. ST-2,3,4 & 5 frame erection done. Only 4thstage pumps erection balance. All pocket grouting done.
- B- series – Pump motor Stage 1 foundation frame with pump erection done. From ST-2 to 5 Pump & motor foundation frame erection done & pocket grount done up to ST-1 to 4. All pocket grouting done.
- Bottom ash & Fly ash H.P water pump alignment & pocket grouting completed.
- HCSD LP water pump alignment & pocket grouting completed.
- Brick work is in progress.
- A series pump ST-1 to ST-5 all motor erection on its frame completed. Coupling fitting work is in progress. Coupling fitting work completed.
- B-series pump ST-1 to ST-5 all motor erection on its frame completed. Coupling fitting work is in progress. Coupling fitting work completed.
- Bottom ash fly ash HP pumps motors erection on its frame completed.
- HCSD LP water pumps, seal pumps, refractory cooling pump motors erection on its frame completed. Coupling fitting work is in progress.
- One series stage -I pump gear box fluid coupling motor alignment work completed & 2nd series work is in progress.
- A & B series pump- motor stage-1 to 5 alignment & grouting completed.
- All water pumps- motor alignment & grouting completed except LP seal water pump-1, its alignment balance.
- Internal pipe work is in progress.

- 2nd series stage-I pump gear box fluid coupling motor alignment work completed.

(b) AHP MCC & Compressor:

- Excavation: 6604 cum out of 6800 cum completed.
- PCC: 86 cum out of 106 cum completed
- RCC: 2233 cum out of 2250cum completed.
- Cable tray erection is in progress with support.
- Ground level & first floor above ground earthing is in progress.
- Conveying & transport air compressor erection completed.
- Above ground earthing work is in progress.
- Instrument air compressor foundation work is in progress.
- Conveying air dryer fitting on its foundation completed (3nos.)
- Conveying air compressor piping work is in progress.
- Compressor & air dryer piping erection fit-up /welding work is in progress.
- DM tank bottom plate fit-up/welding work is in progress & 1st cell fabrication work is in progress. 4th shell fabrication work is in progress.
- Internal pipe work is in progress.
- Illumination conduiting work is in progress.
- Floor earth flat erection completed.
- Cable tray erection is in progress.
- 11KV panel erection completed.
- 3.3KV Panel erection is in progress.
- DCS Panel erection completed. Cabling work is in progress.

(c) Bottom Ash Hopper:

- All columns-20 nos. Erection completed.
- Hopper 1- completed.
- Hopper 2-completed.
- Hopper 3- completed.
- BAH- Left- 4 cone plate erection done welding work completed.
- BAH- Middle- 3 cone plate erection done & 1 cone plate erection & welding work completed..
- BAH- Right- 3 cone plate erection done & 1cone plate erection & welding work completed.
- BAH wall plate front side WP-2 erection done.
- BAH wall plate front side WP-2 erection done & rear side WP-1 erection work in progress & WP-3 welding work completed..
- Seal through filling done.
- Seal through erection completed with modification Hopper A,B & C Hydro test done.
- Refractory cooling box erection completed.
- BAH- A, B & C refractory work completed.
- BAH-1,2 &3 to slurry pump house water piping erection/ fit-up & welding work in progress.
- 6 nos. of clinker grinder erection done.

(d) HCSD Silo:

- Excavation: 3241 cum out of 3250 cum completed.
- PCC: 58 cum out of 60 cum completed.
- RCC: 1547 cum out of 1650cum completed.

- 4 nos. Of MD pumps kept in silo-1.
- 4 nos. Of MD pumps kept in silo-2.
- HCSD silo-1 & silo-2 – Air mixer & screw conveyor erection done.
- Piping connection between silo-1 to silo-2 completed.
- Fluidising/pad piping & its interconnection of pipe is completed in silo-1 & silo-2.
- D-Pump adapter erection & welding work at silo-1 & 2 completed.

(e) HCSD Building:

- Excavation: 1394 cum out of 1500 cum completed.
- PCC: 9 cum out of 50 cum completed.
- RCC: 459 cum out of 500 cum completed.
- Equipment foundations completed.
- Brick work is in progress.

(f) Ash Disposal Pipeline:

- Excavation: 707 cum out of 3000 cum completed.
- PCC: 84 cum out of 150 cum completed.
- RCC: 2099 cum out of 2679 cum completed.
- Erection- 5400 meter/48000-meter erection completed.
- ESP-A, B, C, D, E & F pass MD pump and ash vessel erection completed.
- Water line for wet ash removal system completed.
- HCSD pump placed on foundation.
- BAH-18 nos. columns erection completed.
- All MD pumps (6 Nos.) and Ash vessels (12 Nos.) erection done.
- MD pumps and Ash vessels, ash conveying line and discharge line erection done. AB discharge line is balance due to not availability of floor level (civil).
- Conveying airline main header and its branch header completed.
- Fluidising line branch header completed. Sub-header tapping balance.
- Air receiver tank erection done with outlet and inlet piping erection done.
- Wet ash system completed with water connection
  up to 'A'-pass (Discharge box, feeder ejector, Knife gate valve) fluidising pad.
- ADPL erection/ welding work is in progress.

(g) Fly Ash Silo:

- Excavation: 2004 cum out of 3000 cum completed.
- PCC: 14 cum out of 16 cum completed.
- RCC: 656 cum out of 700 cum completed.
- Earth grid erection completed.

4) Fuel Oil Handling System

(a) FOPPH:

- Excavation: 850 cum out of 1170cum completed.

- PCC: 28 cum out of 30 cum completed.
- RCC: 576 cum out of 600 cum completed.
- LDO & HFO pumps skid erection completed and piping work in progress.
- LDO pump discharge line up to boiler station completed. Hydro test completed.
- LDO pump started & up to Boiler AB elevation LDO line charged. Boiler Light up done on 30.03.2023
- Single DTT & LT board charged.
- 2nd DTT shifted to FOPPH

(b) FOTPH:

- Excavation completed.
- PCC: 38cum out of 40cumcompleted.
- RCC: 256cum out of 313 cum completed.
- Erection of LDO & HFO pumps completed.
- Erection of LDO pump suction pipeline work completed &erection of HFO pump suction pipeline work completed.
- PR-17 pedestal civil work completed & erection work completed.
- HFO pipeline erection on pipe rack from FOTPH to one day tank work in progress.
- Electrical panel, DTT completed. Charged on 13.03.2023.
- LDO line from FOTPH pump up to day tank & day tank to FOPPH LDO pump suction LDO line completed.
- LDO pipeline from FOTPH to one day tank completed.
- HFO pipeline from FOTPH to one day tank erection/ fit up/ welding work is completed. Hydraulic test completed.
- Steam pipeline erection from FOTPH to FOPPH work is completed & Hydraulic test completed.
- Plinth protection work is in progress.
- Steam stressing line work is completed from 500MW oil tank to FOTPH & from FOTPH to FOPPH work is in progress.

(c) HFO/LDO Tanks:

- Excavation: 250cum out of 500cum completed.
- PCC: 8out of 15cum completed.
- RCC: 627cum out of 650cum completed.
- HFO Tank: NDT completed and insulation pad welding completed.
- LDO Tank: Copper Slag blasting completed. Painting work completed.
- HFO & LDO tank works completed.
- LDO tank fire fighting spray piping erection work completed.
- Work of dyke wall is completed.
- Dyke wall area staircase work is in progress.
- 01/02 staircase completed.

5) Cooling Towers (NDCT)

- Excavation completed.
- PCC: 2181 cum out of 2200 cum completed.
- RCC: 32361 cum out of 34000 cum completed.
- Raker Columns: 88/88 completed.
- Grillage Columns (Total: 593 nos):529nos completed up to 10.3 mtr & 383 nos. Completed up to 13.45 mtr.
- Shell completed.

- Outer platform completed.
- Duct work & grillage work is in progress.

6) CW Pump house

- Excavation: Completed.
- PCC: Completed.
- RCC: Completed.
- EOT charged.
- ACW pump erection completed. Motor testing, cabling work completed & no-load trial taken on 05.04.2023.
- Cleaning work is in progress.
- Brickwork & plastering is in progress.
- ACW butterfly valves erected.
- Both CW pump handed over for mechanical erection
- CW A & B pump sole plate blue matching completed.
- CW Pump – A placement completed & allied work is in progress.
- CW Pump-A butterfly valve erected.

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

- Excavation: Completed
- PCC: Completed
- RCC: Completed.
- Cleaning work is in progress.

(b) CW electrical Annex. Building:

- Excavation: Completed.
- PCC: Completed
- RCC: Completed.
- Brick work & plastering is in progress.
- Flooring is in progress.
- Cooling water MCC#OSB-LT switchboard is charged.

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.
- Placements of CW supply pipeline 400/400mtr completed.
- Placements of CW return pipeline 450/450mtr completed.
- Backfilling clearance for 850mtr CW pipeline provided.
- CW Recirculation pipeline erection work in progress.
- NDCT Bypass line erection work is in progress.
- CW piping erection-1727 MT out of 1966 MT completed.

(a) ACW Pipeline:

- Placement & hydraulic test of ACW pipeline 362/400mtr completed.
- ACW line erection 400/400 mtr. completed.
- ACW recirculation piping work completed

8) PT Plant

- Excavation: Completed.
- PCC & RCC: 4539 cum out of 4756 cum completed.
- Cascade aerator to DM clarifier piping work completed.
- Man hole-2 to sludge sump piping completed.
- 600mm control station butterfly valve 3 nos. erections done.
- NDM clarifier sludge chamber to manhole- piping erection completed.
- Cascade aerator stilling chamber channel shutters erection completed.
- DM & Non- DM clarifier tank filling completed.
- Gravity sand filter to NDM filter water storage tank piping & valve station work is in progress.
- Gravity filter Building final slab completed.
- Backwash tank RCC is completed.
- GSF outlet valve erection work is in progress.
- PT Plant LT MCC#OSD is charged.
- Thickener bridge erection is in progress.
  Backwash pipeline & airline work is in progress. DM GSF air scoring pipes work completed

9) DM Plant

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

- Excavation: 5180cum out of 6000 cum completed.
- PCC: 229cum out of 250 cum completed.
- RCC: 4150 cum out of 4150 cum completed.
- DM tank 1, DM tank 2 & CS tank water filled test and painting completed.
- Degasser Tank -1: Water fill test completed and Copper Slagblasting, outside painting & inside rubber lining completed.
- Degasser Tank -2: Water fill test completed and Copper Slag blasting, outside painting completed & inside rubber lining completed.
- Ultra-filtration Tank 1& Tank 2: Water fill test completed and Copper Slag blasting, outside painting & inside rubber lining completed.
- Resin transverse vessel (RTV) tank (1no.)erection completed.
- Air blower pump with motor (8 nos.) erection completed.
- Acid measuring tank for mixed bed (1 no.)erection completed.
- Instrument air receiver tank (1 no.)erection completed.
- SS heating tank (1 no.)erection completed.
- Activated carbon filter tank for alkaline (1 no.)erection completed.
- Bulk acid storage tank (1 no.)foundation erection pending.
- Bulk Alkali storage tank (2 nos.)erection completed.
- DM Plant feed water pumps erection completed.
- Feed water piping completed.
- DM Plant alkali & acid unloading both pumps erection work completed.
- Brine preparations tank for alkaline (1 no.) erection completed.

- Cation exchange bed (CEB-1) for mixed bed dosing tank (1 no.) erection completed.
- UF CIP tank (1 no.) erection completed.
- UF CIP feed pump (2 nos.) erection completed.
- UF CIP backwash pump (2 nos.) erection completed.
- CO2 breather for UF-1 and UF-2 erection completed.
- Cable tray erection work completed.
- 415 V AC LT switchboard erection completed & testing work is in progress.
- DMF (Dual Media Filter)- 1 & 2 media filling completed.
- Dual media filter DMP tank- 1nos.
- Activated carbon filters ACF tank- 01 nos. + 1 nos. Completed.
- Layered bed cation LBC tank- 01 nos. + 1 nos.erection completed. Media filling balance.
- Layered bed anion LBA tank- 01 nos. + 1 nos. erection completed. Media filling balance.
- Mixed bed exchanger MB tank- 02 nos. erection completed.
- Acid measuring tank for LBC- 02 nos. erection completed.
- Alkali measuring tank for MB-02 nos. erection completed.
- DG air blower 1/2/3/4- 04 nos. erection completed.
- Agitator for UF CIP tank-01 nos. erection completed.
- Agitator for CEB-1 (Dosing tank) -01 nos. erection completed.
- Agitator for Alkali brine (Preparation tank) -01nos. erection completed.
- Agitator for alkali measuring tank -01 nos. erection completed.
- Agitator for alkali measuring tank for MB-01 nos. erection completed.
- Basket filter for UF-1/2/3/4- 04 nos. erection completed.
- DMF arc blower- 02 nos. erection completed.
- Motor for DMF blower- 02 nos. erection completed
- Motor for degassed air blower-1/2/3/4- 04 nos. erection completed.
- Acid & alkali unloading pumps- 02 each. Alkali pump piping completed. Acid tank- 1 piping completed.
- DM Plant PMCC LT switchboard erection completed and testing is in progress.
- DM Plant DTT erection completed- Charged.
- DM Plant cable vault tray erection completed.
- Lightning conduit erection work is in progress.
- N-Pit pumps (02) erection done & discharge piping work is in progress.
- 2nd BAST erection done on 10.03.2023.
- Ultra filter membrane fixing work is completed.
- NRV (12 nos.) fitting done.
- N-pit AMT (Acid measuring tank) & CMT (caustic measuring tank) erection completed & its piping erection done.
- DMP LT board charged LT motor trials is in progress.
- DM Plant various pumps dial gauge alignment work is completed.
- Commissioning activities started.
  a) DMF-1&2 open back wash done.
- External Painting is in progress.
- Alkali tank-1- filling done.
- Alkali tank-1 & 2 50% filling done.
- Acid storage tank 50% filled in both tank.
- Door's fixing is in progress.

(b) CST/DM Transfer PH

- Excavation: 1500cum out of 1500 cum completed.
- PCC: 20 cum out of 20 cum completed.
- RCC: 199 cum out of 199 cum completed.
- Boiler fill pump, Hot well makeup pump & DM transfer pump erection work completed.
- Boiler fill pipeline erection work is in progress.
- Boiler fill pump motor trial completed.
- External Painting is in progress.

10) Air compressor building:

- Excavation: 1020 cum out of 1020 cum completed.
- PCC-50 cum out of 50 cum completed
- RCC- 800 cum out of 800cum completed.
- Placement of air receiver tanks for instrument air compressor completed.
- Placement of 3 out of 3 nos. of instrument air compressor placement completed & 3 out of 3 service air compressor placements completed.
- 3.3KV HT Switchboard erection work completed & Board charged
- Both- 2MVA oil filled SAT transformer charged.
- OCA 3.3KV switchboard is charged.
- Air dryers placed (3nos.) & alignment completed.
- Alignment of compressors completed.
- Compressor internal piping work is in progress.
- Duct erection is in progress.
- MAR erection is in progress.
- IAC-A,B, C commissioning completed.
- SAC-6A, 6B, 6C commissioning completed.
- Cable tray & its support erection completed.
- Above ground & below ground earthing completed.

11) Fire Water Pump House:

- Excavation: Completed.
- PCC- Completed.
- RCC- Completed.
- Erection of 3nos. Hydrant pumps (2Motor Driven+1Engine Driven), 2nos. Spray pump(1Motor Driven +1Engine Driven) and 2nos. Jockey Pump completed.
- Erection of 600 NB pipeline from raw water reservoir to FWPH completed.
- Piping inside FWPH is in progress. Suction & discharge header erection completed.
- Hydro pneumatic tank placement completed.
- Engine driven hydrant pump, engine driven spray pump & 2 Nos. Jockey pump grounding work completed.
- Trial of diesel operating hydrant & spray pump completed.
- Motor operated spray pump trial completed.
- All pumps trial completed.
- Placement of compressed computed & piping is in progress.

12)Transformer Yard (Station / Generator/Unit Transformer):

- Excavation completed.

- PCC: completed.
- RCC: 4450cum out of4500 cum completed.
- Station transformer 6B SPBD (modified) erection completed. Station Transformer- 6B erection work completed.
- Gantry erection is completed.
- Station transformer 6A SPBD support structure erection work completed.
- Above ground earthing work for ST 6B completed.
- STRP to switchyard cable trench cable tray work completed.
- ST6B-Firefighting spray line erection completed.
- 3 GT's placed on foundation.
- GT-Y, GT-B, GT-R, erection work is in progress.
- Station transformer 6B charged on 25.01.2023 for 24 Hrs. & made off. Again charged on 07.02.2023.
- IPBD erection is in progress.
- ST 6A reached at site. Erection is in progress.
- UT erection is in progress.
- SPBD erected for all transformers.
- GT 6R, 6Y internal inspection completed.

13) Railway Siding:

- Formation cutting: Completed.
- Murum Blanketing: 32900 cum out 35000 cum completed.
- Rail laying- 4.76 km completed out of 10.1 km.

(a)Minor Bridges & Buildings:

- Excavation: Completed.
- Concreting: 2646 cum out of 3025 cum completed.

(**b) ROB:**

- Excavation: In progress.
- Concreting: 1253 cum out of 1362 cum completed.
- RE Panel: 6058 sqm out of 6235 sqm completed.

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	Ant: July-2023	
10	STEAM BLOWING COMPLETION	19/02/2022	Ant: August-2023	
11	HP PIPING ERECTION START	11/05/2021	Act: 22/03/2021	
12	HP PIPING ERECTION COMPLETION	25/04/2022	Ant: July- 2023	
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	Ant: August -2023	
18	FULL LOAD	30/04/2022	Ant: October-2023	
19	TRIAL RUN	31/05/2022	Ant: October -2023	
20	COD	30/06/2022	Ant: October -2023	
21	PG TEST START AND COMPLETION	30/06/2022	Ant: November-2023	
Other Details				
TOTAL EXPENDITURE UPTO June 2023 from inception :3542.62 Cr				
EXPENDITURE OF CURRENT MONTH (FOR WHICH PROGRESS DATA IS BEING PROVIDED): 41.84 Cr				
TOTAL EXPENDITURE TILL DATE (From Inception): 3542.62 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 heavily3) Unresolved issue of demand of price variation to civil & mechanical subcontractors by M/s. BHEL thereby frequent stoppage of works by them.				
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				