

MAHARASHTRA STATE POWER GENERATION CO. LTD.



Office of Executive Director
ENVIRONMENT & SAFETY UNIT.
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ED/E&S/EE-1/Bhusawal Project/1x660MW/EC condition status/ 116

Date: 06 FEB 2023

To,
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. (July- 2022 to December 2022)

- 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,

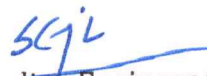
As per the Environmental Clearance condition no., B-General Condition (xiii) of the Environmental Clearances for said project, MAHAGENCO has to submit six monthly report on the status of Implementation of stipulated environmental clearance conditions to MoEF.

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.

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

Submitted for your kind consideration please.

Regards,


Superintending Engineer (E&S)

Compliance Status of Environmental Clearance Conditions for 1x660 MW Bhusawal Thermal Power Project for the Period of July 2022 to December 2022.

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/Nm³. Old ESP shall be accordingly replaced.

Compliance: -

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

b) U#3 ESP Augmentation-

1. Electrostatic Precipitators (ESP) system is provided with 20 Nos. of ESP fields & in order to keep ESP 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.
2. 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 that the work of 'ESP internal repair / replacement & computed flow modulation for equal distribution' has been planned & the said work will be carried out in upcoming overhaul of Unit 3 (210MW) BTPS, which is scheduled in July-Aug 2023. The proposal for the said work will be initiated shortly.
3. SPM limit for Unit No.3 (210MW) of Bhusawal TPS is 100 mg/Nm³ as per as per MoEFCC/MCPB/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 roof tops 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 is incorporated in EPC (BHEL) contract.

- 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 collected on dtd 15/03/2020 and

analysis carried out on dtd. 29/05/2020. The samples of coal, fly ash and bottom ash are again collected and tested on 02/06/2020. From both reports, it indicates that the measurement values of radionuclides in coal, fly ash and bottom ash samples are below the clearance level for radionuclides of natural origin in bulk solid material as per AERB directives 01/2010 (table 3) dated 26/11/2010.

- b) Regarding study on heavy metals content in coal, fly ash and bottom ash was done from M/s. Central Institute of Mining & Fuel Research, Dhanbad. Samples collected on dtd. 15/03/2020 and analysis is 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: - shall be observed.
- 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} & PM₁₀. 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/Nm³.
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% fly ash utilization from Unit-VI (660MW) the tender 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, unutilized fly ash will be disposed of in the existing ash pond of 2x500MW Project in slurry form. Heavy metals content in ground water around abandoned ash bund at Velhala village was conducted through M/s Institute of Chemical Technology Mumbai in April 2013. Also analysis of groundwater and ash sample in and around the ash bund at Velhala village was carried out through M/s Envirocare Lab. Pvt. Ltd. Thane in April 2013. Heavy metal analysis in ground water, Fly Ash & Bottom Ash in and around the ash bund was carried in 2013 & 2014.

- 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 and NABL accredited laboratory. Report enclosed as Annexure -I.
- 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 ash pond area 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: - Construction of new ETP for the treatment of waste water for 1x660 MW Project is included in the scope of EPC.

- 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: - Shall be ensured.
- 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 neighbouring villages. Special package with implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
Compliance: - Phase I CSR activities are under progress and Water ATM to the villages with no permanent source of drinking water & provision of water supply pipeline is included in CSR Phase II proposal which is under approval.
- 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: - Phase I CSR works are under progress and CSR Phase II proposal is under approval.
- 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: - Phase I CSR works are under progress and CSR Phase II proposal is under approval.
- 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 months along with road map for implementation.
Compliance: - CSR Phase-I works of Rs. 3.72 Crores are under process. CSR Phase II works of Rs. 7.63 Crs are under approval and balance works of Rs. 6.85 Crs will be taken up in phase III after receipt of Gram panchayat resolutions. CSR proposed are enclosed at Annexure II & III. .

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 atleast 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: - The treated effluents of ETP after confirming prescribed standards shall be reused within plant. Storm water drains shall 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 along with 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 SO₂, NO_x, PM_{2.5} & PM₁₀ 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 observed. Provision of four CAAQMS stations has already made to 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 letter no. CE(P)/BSL/Proj/1x660 MW/Environment/no. 0948 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 the 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 dtd.15/12/2012
b) DainikSakal, Jalgaon on dtd.15/12/2012
- x) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilha Parishad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions, if any, received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
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} & PM₁₀), SO₂, 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 along with the status of compliance of environmental clearance conditions and shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.
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 along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will upload the compliance status in their website and update the same from time to time at least six-monthly basis. Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the gate of the power plant.

Compliance: - Shall be complied.

xv) Separate funds shall be allocated for implementation of environmental protection measures along with item wise breakup. These costs shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.

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 by EPC contractor.

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 letter J-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 considered extended by one year i.e till 26/11/2023. The same has been informed to ministry vide this office letter no. ED/E&S/EE1/Bhusawal 1x660 MW TPP/EC validity/243, dtd. 10.03.2022.

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 SO₂ and NO_x respectively shall be installed.

Compliance: - Shall be complied.

iii. Technology selection for adoption of FGD for control of SO_x. In case of wet FGD, source of limestone, impact of transportation, handling, storage and disposal of Gypsum including land requirement.

Compliance: -

a) FGD Technology: Wet type Lime stone FGD technology is selected for control of SO_x. Wet Limestone FGD is the most suitable technology for the units of capacity > 500 MW. Wet Limestone FGD can handle large flue gas volumes and it can absorb variation in sulphur fluctuations. The sulphur removal efficiency of Wet Limestone FGD is high @99%. The operating cost of Wet Limestone FGD is less in comparison with other FGD technologies.

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 NO_x reduction.

Compliance: - Two types of technologies are available for NO_x 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 NO_x is reduced to Nitrogen (N₂) and Water (H₂O) abetted by passing over a metal catalyst bed typically containing Titanium oxide, Vanadium oxides, Molybdenum or Tungsten.

b) Selective Non-Catalytic Reduction Technology (SNCR): Nitrogenous reducing agent viz., Ammonia or Urea is injected into hot flue gas where it reacts with NO_x in gas stream and reducing it to Nitrogen (N₂) gas and Water (H₂O) vapor.

SCR technology is typically much more efficient at reducing NO_x 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/Nm³. 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



Ashwamedh Engineers & Consultants
 Survey No. 102, Plot No.26, Wadala Pathardi Road,
 Indira Nagar, Nashik - 422009, Maharashtra, India
 (Near Gurti Gobind Singh School, Near Pandav Nagar,
 Turn at Sai Mandir Chowk / Samrat Sweet Turning)
 sales@ashwamedh.com +91 253 2397225

ULR-TC550922000018415F

TEST REPORT

Sample ID : W/11/22/0438	Report No. W/11/22/0438	Report Date	01/12/2022
Name and address of Customer	Maharashtra State Power Generation Company Ltd. 2 x 500 Mw, Bhusawal Thermal Power Station, Deennadar Bhusawal, Dist. Jalgaon - 425 307, Maharashtra		
Sampling done by	Laboratory	Sample Description / Type	Water (Ground Water)
Sampling location	Well - Pokdoba Mandir (Velhale Ash Bund)	Date - Sampling	24/11/2022
Sample Quantity / Packing	5 L x 1 no. plastic can 250 ml x 1 no. sterile bottle	Date - Receipt of Sample	25/11/2022
Sampling Procedure	IS 1622:1991 & IS 3025(Part 1):1997 & APHA 23rd Ed.2017, 1060 B,1-40, 9060 A,9-36 & 9060 B,9-39 & ISO 19458:2006	Date - Start of Analysis	25/11/2022
Order Reference	P.O. No. BTPS/4550013585 dated 22.02.2022	Date - Completion of Analysis	30/11/2022

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	Hezen units	IS 3025 (Part 4):1983
2	pH value	8.35	6.5-8.5		IS 3025 (Part 1):1997
3	Turbidity	0.91	Max. 1.0	NTU	IS 3025 (Part 10):1994
4	Total Dissolved Solids	830	Max.500	mg/L	IS 3025 (Part 16):1984
General Parameters concerning substances undesirable in excessive amounts					
5	Calcium (as Ca)	75.3	Max.75	mg/L	IS 3025 (Part 40):1991
6	Chloride (as Cl)	136	Max. 250	mg/L	IS 3025 (Part 22):1988
7	Fluoride (as F)	0.9	Max. 1.0	mg/L	IS 3025 (Part 60):2009
8	Iron (as Fe)	0.158	Max. 1.0	mg/L	IS 3025 (Part 2): 2019 / ISO 18885: 2007
9	Magnesium (as Mg)	46.6	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 18885: 2007
11	Nitrate (as NO ₃)	0.49	Max.45	mg/L	APHA 23rd Ed. 4500-NO ₃ B 4-177
12	Phenolic compounds(as C ₆ H ₅ OH)	BLQ (LOQ:0.001)	Max. 0.001	mg/L	Clause 6 of IS 3025 (Part 43):1982
13	Selenium (as Se)	BLQ (LOQ:0.005)	Max. 0.01	mg/L	IS 3025 (Part 2): 2019 / ISO 18885: 2007
14	Sulphate (as SO ₄)	86.9	Max. 200	mg/L	IS 3025 (Part 24):1986
15	Total Hardness (as CaCO ₃)	380	Max. 200	mg/L	IS 3025 (Part 20):1983
Parameters Concerning Toxic Substances					
16	Cadmium (as Cd)	BLQ (LOQ:0.002)	Max. 0.003	mg/L	IS 3025 (Part 2): 2019 / ISO 18885: 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 18885: 2007
19	Mercury (as Hg)	BLQ (LOQ:0.0008)	Max. 0.001	mg/L	IS 3025 (Part 2): 2019 / ISO 18885: 2007

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 Technical Manager (Biological)
 Research & Development

B. Hirewale
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 Page 2 of 2

ULR-TC550922000018415F

Sample ID: W/11/22/0438 Report No. W/11/22/0438 Report Date 01/12/2022

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 7) 2019 / ISO 18285:2007

Biological Testing; Group: Water

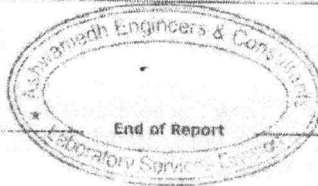
Bacteriological Parameters

21	<i>Escherichia coli</i>	<1.8	Not Detectable	MPN Index /100 ml	APHA 23rd Ed. 9271-G 9-80-2017
22	Total Coliforms	<1.8	Not specified	MPN Index /100 ml	APHA 23rd Ed. 9221-B 9-66-2017
23	Standard Plate Count (35°C, 48h)	30	Not specified	CFU/ml	APHA 23rd Ed. 9215-B 9-56-2017

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

Divya Sharma

Divya Sharma
Technical Manager (Biological)
Reviewed & Authorised by



Kavita Shewale

Kavita Shewale
Section In-charge (Chemical)
Reviewed & Authorised by



Note:

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



ANNEXURE II

1 X660 MW Bhusawal Project CSR Phase-I works Expenditure As on Date: 18/01/2023

Sr. No.	Name Of Village	Name of Work	Estimated Amount Phase-I	Status
1	Duskheda	Work for Concrete approach/internal roads & road side drain under CSR at Duskheda Tal.Raver at BTPS, Deepnagar.	2146162.00	Site Handed Over, Grampanchyat Tharav is recived. Work is start soon.
2	Fekari	Work for Concrete approach/internal roads & road side drain under CSR at Fekari Tal.Bhusawal at BTPS,Deepnagar.	2144371.00	Work completed.
3	Gahukheda	Work for Concrete approach/internal roads & road side drain under CSR at Gahukheda, Tal. Raver at BTPS, Deepnagar.	1917079.00	PO will be released after submission of PG
4	Jaadgaon	Work for Concrete approach/internal roads & road side drain under CSR at Jaadgaon Tal. Bhusawal.	2222861.00	Work is in progress 80 % 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	Work completed.
6	Kaswa	Work for Concrete approach/internal roads & road side drain Under CSR at Kaswa Tal.Bhusawal at BTPS,Deepnagar.	2365146.00	Work is in progress 90 % work completed.
7	Kathora - Budruk	Work for Concrete approach/internal roads & road side drain under CSR at Kathora Bk., Tal. Bhusawal.	1950509.00	Site Yet to be Handed Over, Work start Soon
8	Kathora - Khurd	Work for Concrete approach/internal roads & road side drain under CSR at Kathora Kh., Tal. Bhusawal at BTPS, Deepnagar	2349554.00	Site Yet to Handed Over, Work start Soon
9	Manyarkheda	Work for Concrete approach/internal roads & road side drain Under CSR at Manyarkhede Tal.Bhusawal at BTPS,Deepnagar.	2281520.00	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	Work completed.
11	Phulgaon	Work for Concrete approach/internal roads & road side drain under CSR at Phulgaon Tal.Bhusawal at BTPS,Deepnagar.	2249941.00	Work is in Progress 40 % Completed.
12	Raipur	Work for Concrete approach/internal roads & road side drain under CSR at Raipur Tal.Raver at BTPS,Deepnagar.	2653538.00	Site Handed Over, Grampanchyat Tharav is Received. Work start soon.
13	Rangaon	Work for Concrete approach/internal roads & road side drain under CSR at Rangaon., Tal. Raver.	1920697.00	Site Handed Over, 80% Work completed.
14	Sakari	Work for Concrete approach/internal roads & road side drain under CSR at Sakari.	2215019.00	Work completed.
15	Sudgaon	Work for Concrete approach/internal roads & road side drain under CSR at Sudgaon, Tal. Raver.	2249104.00	Site Handed Over, Work is in Progress.
16	Velhale	Work for Concrete approach/internal roads & road side drain under CSR at Velhala Tal. Bhusawal.	2303259.00	Work completed.
17	Pimprisekam	Work for Concrete approach/internal roads & road side drain under CSR at Pimprisekam.	1188032.00	Site Yet to be Handed Over, Grampanchyat Tharav is Awaited
			37240205.00	

ANNEXURE III

1 X660 MW Bhusawal Project CSR Phase II works Status				
Sr. No.	Name Of Village	Name of Works	Estimated Amount Phase-II	Status
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
7	Udali Kh.	1) Work for Concrete approach/internal roads & road side drain under CSR at Udali Kh., Tal. Bhusawal.	3432459.00	Proposal Send To HO For Approval
8	Tasakheda	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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
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	Proposal Send To HO For Approval
13	Pimprisekam	1) Work of raising height of existing hume pipe culvert over Bhogawati river crossing on road from NH-6 to village Pimprisekam. 2) Providing of interlocking paving blocks be a side main road at Pimprisekam.	4119944.00 1279994.00	Proposal Send To HO For Approval

14	Jadgaon Velhala	(A) Providing approaches over ADP Line for farmers at Pestal No. P327 to P329 under CSR activity Tal. Bhusawal.	295900.00	Proposal Send To HO For Approval
		(B) Providing approaches over ADP Line for farmers at Pestal No. P361 to P363 under CSR activity Tal. Bhusawal.	295900.00	
		(C) Providing approaches over ADP Line for farmers at Pestal No. P405 to P407 under CSR activity Tal. Bhusawal.	295900.00	
		(D) Providing approaches over ADP Line for farmers at Pestal No. P891 to P893 under CSR activity Tal. Bhusawal.	295900.00	
		(E) Providing approaches over ADP Line for farmers at Pestal No. P901 to P913 under CSR activity Tal. Bhusawal.	295900.00	
		(F) Providing approaches over ADP Line for farmers at Pestal No. P922 to P924 under CSR activity Tal. Bhusawal.	295900.00	
		(G) Providing approaches over ADP Line for farmers at Pestal No. P505 to P507 under CSR activity Tal. Bhusawal.	295900.00	
		(A) Providing approaches over ADP Line for farmers at Pestal No. P847 to P854 under CSR activity Tal. Bhusawal.	659773.00	
		(B) Providing approaches over ADP Line for farmers at Pestal No. P885 to P886 under CSR activity Tal. Bhusawal.	659773.00	
		(C) Providing approaches over ADP Line for farmers at Pestal No. P745 to P747 under CSR activity Tal. Bhusawal.	659773.00	
(D) Providing approaches over ADP Line for farmers at Pestal No. P801 to P803 under CSR activity Tal. Bhusawal.	659773.00			
15	Kaswe	Work for Concrete approach/internal roads & road side drain Under CSR at Kaswa Tal. Bhusawal at BTPS, Deepnagar. Providing drinking water ATM at Kaswe.	1311340.00	Proposal Send To HO For Approval
16	Raipur	Work for Concrete approach/internal roads & road side drain under CSR at Raipur Tal. Bhusawal at BTPS, Deepnagar. Providing drinking water ATM at Raipur.	1311340.00	Proposal Send To HO For Approval
			76337141.00	

ANNEXURE - IV
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/ IMPLEMENTING AGENCY: Maharashtra State Power Generation Company Ltd, Mumbai.	
COMPLETE ADDRESS OF TPP: At Village Pimpri Sekam, Tal Bhusawal, Dist Jalgaon, Maharashtra, 425307.	
CONTACT DETAILS OF NODAL OFFICER, NAME, EMAIL, MOBILE NO: Mr. S.M. Dhamange, Suptd. Engineer (P&P), email: cgmppp@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	1x660MW	30/05/2019	Completed	91%	25/11/2019	Act: 15/11/2019
		STRUCTURAL WORKS		25/10/2019	Work in progress: 13527/17233.09MT		26/01/2022	Ant: April-2023
		PRESSURE PARTS COMPLETION		25/10/2019	Work in progress: 6779/7169MT.		22/05/2021	Ant: February-2023

BRIEF WRITEUP ABOUT CURRENT STATUS OF BOILER WORKS:

- HP Joints: 41422 nos. of joints out of 43346 nos. completed.
- P-91 Joints: 229 nos. of joints out 359 nos. completed.
- Total boiler structural erection (PG35) weight is 7634 MT out of 7947.51MT.
- Total Pressure part erection weight is 6779 MT out of 7169.00 MT
- Roof structure alignment work and roof sheeting work completed.
- Boiler DHT completed successfully on 04.11.2022.
- **First Pass-** All four-corner burner panel alignment completed HP joint work in progress. Bottom ring header tubes fin welding work in progress.
- Platen super heater, finish super heater & re-heater coils alignment & welding is in progress.
- Roof loose tubes alignment work completed.
- Separator safety valves 08 nos. erection & welding completed.
- Separator risers and links welding completed.
- Burner block erection is in progress.
- Spiral panel fin welding is in progress.
- Attachment welding work is in progress.
- Roof skin casing work is in progress.

- Burner alignment is in progress.
- Trim piping work is 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 hanger tube welding work in progress.
- LTRH Coil alignment in progress.
- HP Joints repair work is in progress.
- Economizer inlet, outlet, down comer links, HP joints work completed.
- Trim Piping Work in progress for NDHT Test.
- Preparation for NDHT.
- Buck stay corner support work is in progress.
- Insulation work is in progress in Second Pass.
- Corner welding work is in progress.
- Attachment/ Fin welding is in progress.

SCR

- SCR (LHS) structural erection work in progress.
- Erection: 484 MT out of 4161.81 MT completed.
- SCR (LHS) all 5-girder erection completed.
- SCR (LHS) erection work in progress.
- SCR (LHS) inlet duct pre-assembly & erection.

2	TG	CIVIL WORKS		30/05/2019	Completed	13/03/2022	Act: 11/01/2021
		STRUCTURAL WORKS	BHEL / Powermech				
		PRESSURE PARTS COMPLETION (Boiler feed line piping)	BHEL / Powermech BHEL/Indwell	30/05/2019 25/10/2019	8191/9000MT TOTAL 370/520 Joints	13/03/2022 02/01/2022	Ant: January- 2023 Ant: March- 2023
			1x660MW			87%	

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.
- DE bay - Air chiller shifted in chiller room.
- 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 tube oil cooler placement completed.
- Seal Oil Console placement completed.
- Vacuum Pump-6A & 6B placement completed.
- CPU vessels placed on foundation.
- CPU piping work is in progress.
- CEP pump foundation ring blue matching work is in progress. Canister placement work is in progress.
- Above ground earthing work completed.
- Cable tray & support structure erection work completed at 0 mtr cable vault.
- Cable spreader room: Fire fighting condenser TSP & stiffening rod welding work is in progress. Spray line erection in progress
- Flash Tank A & Flash Tank-B placed at 0mtr. TSP erection is in progress, Turbine side TSP alignment completed.
- Welding of condenser side wall completed.
- Condenser dome wall welding work is completed.
- TD-BFP-B & A lube oil piping is in progress.
- Welding of condenser internal & TSP completed.
- Tube insertion for condenser is in progress.

3.5mtr -

- ABC bay 1-3 grid RCC slab completed.
- HT Switch Boards Tie Ducts erection completed.
- HT Switch board numerical relay testing is in progress.
- LT switch boards erection completed.
- Above ground earthing work in progress.
- Cable laying started.
- Lightning conduit work is in progress.

8.5mtr -

- AB bay 1-13 grid slab completed & BC bay 1-14 grid RCC slab completed.
- Boiler feed suction, discharge & recirculation line erection work in progress.
- Primary water console grouted.
- Condensate piping erection in progress.
- LPH-2, 3 & 4: Erection completed.
- Cable tray & support structure erection work completed.
- 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 & 2nd set charging -discharging cycle completed.
- MDBFP-B & A grouting & alignment completed.
- A-B Bay 12-14 grid slab under progress.
- MDBFP-A motor placed & hydraulic coupling grouting completed.
- LPH 1 placed on floor.
- Oil module & centrifuge placed.
- Seal steam piping erection started.
- TDBFP A&B oil dump well piping work is in progress.
- HT/LT power cable laying started.

- Lightning conduit erection work is in progress.
- 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.
- Lightning conduit work is in progress.
- Cable laying started.

12mtr -

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.
- Lightning 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.
- Generator exciter placed.
- LPT side wall placed.
- HPH7 erection work completed.
- HPH-7 & 8 piping work is in progress.
- HPH-8 erection work completed.
- IPT final box up completed.
- Turbine side wall & front wall & rear wall LPT placed.
- ESV-1 & 2 erection completed.
- Generator box up completed.

17mtr PCR

- C& I Panel shifting & erection 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 under progress.

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 is in progress.

27.50mtr-

- Grid 4-10 grids slab completed
- LT switch boards erection completed.
- LT dry type transformer erection completed.
- Above ground earthing work completed.

32.5mtr –

- BC bay 1-14 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.
- APRDS header erection completed and piping erection in progress.
- Boiler feed suction, discharge & recirculation line erection work in progress.
- ECW (DMCW) tank placement completed.
- 2nd TG EOT crane girder & crab assembly placed & Aux. Hook & main hook rope wearing completed.
- AC- cooling tower work is in progress.

38mtr –

- AB bay grid 1-13 RCC 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.

50.00mtr

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

TG House Erection: 8191MT out of 9000MT.

3	ESP	**PASS STATUS	BHEL/Indwell	1x660MW	25/10/2019	9645/10034 MT	96%	25/03/2022	Ant: March-2023
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****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 is in progress.
- Total erection weight is 9645 MT out of 10527.20 MT.
- ESP Pass A, B & CLHS & RHS wall insulation completed.
- ESP Pass D, E & F- Insulation work in progress.

3A	FGD Plant (M/s Indwell)	CIVIL WORK	BHEL / Powermech/BJCL	1x660MW	30/05/2019	3015/4557M3	42%	10/06/2021	Ant: April-2023
		MATERIAL SUPPLY	BHEL		24/08/2019			24/03/2021	Ant: March-2023
		ERECTION WORK	BHEL/Indwell		31/12/2018			15/04/2022	Ant: Dec-2023

BRIEF WRITEUP ABOUT CURRENT STATUS OF FGD WORK:

1) Limestone Hopper & Silo:

- Excavation: In Progress.
- PCC of silo: 30 cum out of 50 cum completed.
- RCC: 420 cum out of 1000 cum completed.
- Silo columns & sump casting completed till plinth level.
- Work is standstill.

2) Limestone Crusher House:

- Excavation: completed.
- Concreting: 130 cum out of 400 cum completed.
- Work is standstill.

3) FGD -Tanks, absorber:

- Excavation: 1600 cum out of 5000 cum completed.
- PCC of silo: 119 cum out of 150 cum completed.
- RCC: 1194 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.
- Work is standstill.

4) FGD inlet/outlet duct:

- Excavation: Completed.
- Footing & column casting is in progress.

5) FGD CR Building:

- Excavation: 2178 cum out of 3500 cum completed.
- PCC of silo: 73 cum out of 80 cum completed.
- RCC: 949 cum out of 2117 cum completed.
- Work is standstill.

6) Gypsum Dewatering Building:

- Excavation: 206 cum out of 2300 cum completed.
- PCC of silo: 8 cum out of 25 cum completed.
- RCC: 44 cum out of 98 cum completed.
- Work is standstill.

FGD Erection: : 251 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: April- 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	61%	30/04/2022	Ant: April- 2023
		BHEL / Macawber Beekay Pvt Ltd. (Conveyor Package-Mechanical)	27/05/2019	Work in Progress			
2	Coal Handling Plant	BHEL / BJCL/ Place Maker (Wagon Tripler-Civil & Structure)	24/08/2019 23/12/2021	Work in Progress	43%	30/04/2022	Ant:31 May 2023
		BHEL / Promac (Wagon Tripler-mechanical)	28/05/2019	Work in Progress			
		BHEL / BJCL/ (Stacker Reclaimer-Civil)	24/08/2019	Work in Progress			
3	Ash Handling Plant	BHEL / Promac (Stacker Reclaimer)	28/05/2019	Work in Progress	60%	30/04/2022	Ant: February- 2023
		BHEL / BJCL/ Place Maker (Civil)	24/08/2019 23/12/2021	Work in Progress			
3	Ash Handling Plant	BHEL / Macawber Beekay Pvt Ltd. (Mechanical)	27/05/2019	Work in Progress	58%	31/03/2022	Ant: April- 2023
		BHEL / PMPL (Civil)	30/05/2019	Work in Progress			
4	Fuel Oil System	BHEL / New Fire Engineers Pvt Ltd.	19/09/2019	Work in Progress	94%	21/11/2021 21/11/2021	Ant: February- 2023 Ant: February 2023
5	Cooling Towers	BHEL/Hayagrev civil engineering Pvt Ltd/ PCTL	01/11/2019 05/03/2022	Work in Progress	81%	31/03/2022	Ant:30 May 2023
6	CW Pump house	BHEL/Alphapowerengineering services Pvt Ltd	29/01/2021	Work in Progress	94%	28/02/2022	Ant: February- 2023
7	CW Piping	BHEL/G&J Pvt Ltd.	03/08/2020	Work in Progress	52%	18/02/2022	Ant:January-2023
8	PT Plant	BHEL/Clear Water company	17/02/2020	Work in Progress		12/12/2021	Ant: March-2023
9	DM Plant	BHEL/Wipro Enterprises Pvt Ltd	14/01/2020	Work in Progress	92%	30/11/2021	Ant: March-2023
10	Air Compressor	BHEL/Elgiequipment Ltd.	24/08/2020	Work in Progress	86%	04/11/2021	Ant: February- 2023
11	Fire Protection pump house	BHEL / Alpha power engineering services Pvt Ltd	29/01/2021	Work in Progress	91%	20/05/2021	Ant:- January-2023
12	Fire Protection piping	BHEL/ G&J Pvt Ltd.	03/08/2020	Work in Progress	23%	28/08/2021	Ant: March-2023
13	Switch Yard	MSETCL/BNC Power Projects Ltd	15/02/2021	Work in Progress	93%	28/02/2022	Ant: January-2023

14	Station Transformers	BHEL	17/01/2018	Work in Progress		08/07/2021	Ant: January-2023
15	Unit Transformers	BHEL	17/01/2018	Work in Progress	50%	20/01/2022	Ant: March-2023
16	Railway siding	BHEL/ISC Projects	02/01/2021	Work in Progress	65%	31/03/2022	Ant: June-2023
17	Power Evacuation	MSETCL/BNC Power Projects Ltd	15/02/2021	Work in Progress	93%	28/02/2022	Ant: June 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 started from 28.03.2022.
- Flue CAN fabrication: 945 MT/1122 MT.
- Flue CAN erection: 944MT/1122 MT completed.
- Chimney outer platform casting completed.
- Chimney flue can segments erection completed.
- Alignment/resting erection will be done after flue duct erection by M/s. Indwell.
- Outside painting work is in progress.

2) CHP:

(a) Conveyor package

TPs & Trestles:

- RCC- 2705 cum out of 3000 cum completed.
- **TP-2 (Total height- 34 mtr):**
All RCC slab casting completed. Balance erection work is in progress. Cantilever bracing balance. Vertical bracing welding balance. Side runner erection balance. Monorail fabrication & erection balance.10% work balance of handrail staircase welding / rectification required. Below ground earthing work is in progress.
- **TP-3 (Total height- 52mtr):**
Vertical bracing balance in some areas. Chq. Plate erection completed, alignment & welding balance. Staircase handrail completed, floor handrail balance. Monorail fabrication & erection balance. Huge amount of welding balance in whole TP due to non- availability of manpower no work progress at site. All floor structural erection completed. Deck sheet work is in- progress 25mtr, 33mtr, 38mtr, 48mtr.
- **TP-4 (Total height- 83mtr):**
All tier column erection completed. Main beam erection completed, secondary beam erection balance. Staircase erection not done as per drawing. Further inspection cannot be done without staircase. Side runner erection balance. Bracing erection work is in progress. Staircase Stub column assembly work is in progress.

• **TP-5 (Total height- 78mtr):**

All tier column erection completed. Main beam erection completed, secondary beam erection balance. Staircase erection completed up to 50mtr only. Further inspection cannot be done without staircase. Presently no work in progress at site.

• **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 erection completed head end pulley & VGTU erection work is in progress. Erection 280MT out of 288 MT completed.

• **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 & handed over for technological erection up to gallery 5. Nut- bolting balance at TR to gallery portal connection. Handrail balance. Erection 381 MT out of 394 MT completed. From TP-2 to crusher (head end) gallery mechanical erection of technological structure is completed.

• **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 upto TR-7 building completed (like stringer post/ stringer idler & frame). Erection 469 MT out of 481 MT completed.

• **5AB-**handrail 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. Erection completed up to TR-10. GR-11 Ready to erect but the contractor is unable to perform the work as there is no place for crane movement. Erection 1080 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.

• **6AB-** 25% fabrication complete.

• **7AB-** 80% Fabrication work completed. Tripper car erection work is in progress. Stringer post/ stringer & rail erection is in progress.

Crusher House(Total Height -53mtr):

- Excavation is completed.
- PCC: 158cum out of 160 cum completed
- RCC: 2176 cum out of 2400 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.
- 8.5mtr slab casting completed.
- 17 mtr slab work is in progress.
- 14mtrslab & 17.65 mtr roof casting completed.
- 41mtrwelding work in progress.
- 23mtr, 29 mtr. Floor deck sheet work in progress.
- Structural Erection: 1570MT out of 1681MT completed.
- Fabrication: 1641MT out of 1681 MT completed.

Wagon Tippler

- Excavation: Completed.
- PCC: Completed.
- RCC: 7952 cum out of 11000 cum completed.
- Wagon Tippler-1: Apron Feeder-I raft completed. Wall 2nd lift completed. Hopper work is in progress.
- Side arm charger footing & column casting is in progress.
- Wagon Tippler-2: Apron feeder-II raft casting completed. Wall 1st lift completed.
- 1 AB Tunnel, Completed. Pedestal casting is in progress.
- 2 AB Tunnel: Sand filling pedestal casting & grade slab casting balance.
- WT-2 & Tunnel 1AB connection completed.
- Backfilling, water proofing & bituminous painting in progress.
- Side arm charger footing & column casting completed.

(b) Stacker Reclaimer & Coal Stock Pile:

- Excavation: Completed.
- Concreting: 3887 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 erection completed.
- Simultaneously, counter weight structure assembly, walkway platform, Tie rod & bucket wheel assembly erection is in progress.
- Stock pile pavement casting is in progress.
- Below ground earthing work is in progress.

3) Ash Handling Plant

(a) Ash slurry pump house:

- Excavation: 1250 cum out of 2000 cum completed.
- PCC: 74 cum out of 150 cum completed.
- RCC: 720 cum out of 890 cum completed.
- 26 Equipment 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 4th stage 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 ground done up to ST-1 to 4. Only stage 5 pocket grouting done.

(b) AHP MCC & Compressor:

- Excavation: 6604 cum out of 6800 cum completed.
- PCC: 86 cum out of 106 cum completed
- RCC: 1300 cum out of 1831 cum 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.

(c) Bottom Ash Hopper:

- All columns-20 nos. Erection completed.
- Hopper 1- completed.
- Hopper-2 inside welding is in progress.
- Hopper 3 inside & outside work is in progress.
- BAH- Left- 4 cone plate erection done welding work is in progress.
- BAH- Middle- 3 cone plate erection done & 1 cone plate erection & welding work is in progress.
- BAH- Right- 3 cone plate erection done & 1 cone plate erection & welding work is in progress.
- 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 is in progress.

(d) HCSD Silo:

- Excavation: 3241 cum out of 3250 cum completed.
- PCC: 58 cum out of 60 cum completed.
- RCC: 1102 cum out of 4500 cum completed.
- 4 nos. Of MD pumps kept in silo-1.
- 4 nos. Of MD pumps kept in silo-2.

(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.
- Two nos. of equipment foundations completed

(f) Ash Disposal Pipeline:

- Excavation: 707 cum out of 3000 cum completed.
- PCC: 84 cum out of 150 cum completed.
- RCC: 879 cum out of 2500 cum completed.
- Erection- 4000 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 upto 'A' -pass (Discharge box, feeder ejector, Knife gate valve) fluidising pad.

(g) Fly Ash Silo:

- Excavation: 2004 cum out of 3000 cum completed.
- PCC: 14 cum out of 16 cum completed.
- RCC: 435 cum out of 2000 cum completed.

4) Fuel Oil Handling System

(a) FOPPH:

- Excavation: 850 cum out of 1170cum completed.
- PCC: 28 cum out of 30 cum completed.
- RCC: 568 cum out of 600 cum completed.

(b) FOTPH:

- Excavation completed.
- PCC: 38cum out of 40cumcompleted.
- RCC: 253 cum 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.

(c) HFO/LDO Tanks:

- Excavation: 250cum out of 500cum completed.
- PCC: 8out of 15cum completed.
- RCC: 593 cum out of 603 cum completed.
- HFO Tank: NDT completed and insulation pad welding completed.
- LDO Tank: Copper Slag blasting completed. Painting work completed.
- HFO & LDO tank works completed.
- Work of dyke wall is in progress.

5) Cooling Towers (NDCT)

- Excavation completed.
- PCC: 2181 cum out of 2200 cum completed.
- RCC: 27430 cum out of 34000 cum completed.
- Raker Columns: 88/88 completed.
- Grillage Columns (Total: 593 nos): 510 nos completed up to 10.3 mtr& 197 nos. Completed up to 13.45 mtr.
- Shell up to 77th lift completed. 78th lift is in progress.

6) CW Pump house

- Excavation: 18020cum out of 18500 cum completed.
- PCC: 151 cum out of 160 cum completed.

- RCC: 2568 cum out of 2815 cum completed.
- EOT placement work completed & commissioning is in progress.
- ACW pump erection is in progress.

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

- Excavation: 10560 cum out of 12000 cum completed.
- PCC: 66 cum out of 80 cum completed.
- RCC: 1308 cum out of 1350 cum completed.

(b) CW electrical Annex. Building:

- Excavation: 850cum out of 1000 cum completed.
- PCC: 18cum out of 20 cum completed.
- RCC: 205 cum out of 333 cum completed.

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.
- 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 380/400 mtr completed.
- ACW recirculation piping work is in progress.

8) PT Plant

- Excavation: Completed.
- PCC: 316cum out of 350 cum completed.
- RCC: 3938cum out of 4336 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.

9) DM Plant

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

- Excavation: 5180 cum out of 6000 cum completed.

- PCC: 229cum out of 250 cum completed.
- RCC: 4150cum 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.
- 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) -01 nos. 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 pending.
- DM Plant PMCC LT switchboard erection completed and testing is in progress.
- DM Plant DTT erection completed.

- DM Plant cable vault tray erection completed.
- Lightning conduit erection work is in progress.

(b) CST/DM Transfer PH

- Excavation: 1500cum out of 1500 cum completed.
- PCC: 20 cum out of 20 cum completed.
- RCC: 148 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.

10) Air compressor building:

- Excavation: 1020 cum out of 1020 cum completed.
- PCC-50 cum out of 50 cum completed
- RCC- 791cum 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& testing work is in progress.
- 2MVA oil filled SAT transformer placed on foundation & erection work is in progress.
- Air dryers placed (3nos.)& alignment completed.
- Alignment of compressors completed.
- Compressor internal piping work is in progress.
- 2 MVA transformer oil filtration completed.
- Duct erection is in progress.
- MAR erection is in progress.

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.

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

- Excavation completed.
- PCC: 175cum out of 180 cum completed.
- RCC: 4450cum out of 4500 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.
- Fire fighting spray line erection in progress.

13) Railway Siding:

- Formation cutting: Completed.
- Murum Blanketing: 26980cum out 35000 cum completed.

(a) Minor Bridges & Buildings:

- Excavation: Completed.
- Concreting: 2237cum out of 3400 cum completed.

(b) ROB:

- Excavation: In progress.
- Concreting: 1176 cum out of 1131 cum completed.
- RE Panel: 4799 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	Ant: February-2023	
7	BOILER LIGHT UP	30/11/2021	Ant: March-2023	
8	CHEMICAL CLEANING COMPLETION	20/12/2021	Ant:February-2023	
9	STEAM BLOWING START	24/01/2022	Ant: March -2023	
10	STEAM BLOWING COMPLETION	19/02/2022	Ant: March -2023	
11	HP PIPING ERECTION START	11/05/2021	Act: 22/03/2021	
12	HP PIPING ERECTION COMPLETION	25/04/2022	Ant: January -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	Ant: January -2023	
16	START OF OIL FLUSHING	04/12/2021	Ant: March -2023	
17	ROLLING & SYNC.	31/03/2022	Ant: May -2023	
18	FULL LOAD	30/04/2022	Ant: May -2023	
19	TRIAL RUN	31/05/2022	Ant: June-2023	
20	COD	30/06/2022	Ant: June-2023	
21	PG TEST START AND COMPLETION	30/06/2022	Ant: June-2023	
Other Details				
TOTAL EXPENDITURE UPTO FY(2021-22) from inception :3459.35 Cr				
EXPENDITURE OF CURRENT MONTH (FOR WHICH PROGRESS DATA IS BEING PROVIDED): 73.12 Cr				
TOTAL EXPENDITURE TILL DATE (From Inception): 3900.36 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): Due to Covid-19 pandemic.				
CRITICAL AREA/ ASSISTANCE 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.				