

**HALF YEARLY COMPLIANCE REPORT AS ON 31.03.2022 REGARDING IMPLEMENTATION OF THE CONDITIONS STIPULATED IN ENVIRONMENTAL CLEARANCE LETTER OF MoEF J-13011/13/2007-IA.II(T) DTD. 05.02.2008**

S.No.	Terms & Conditions	Compliance Details
I.	No Land in excess of 508 ha. shall be acquired for any utilities/ facilities relating to this project.	For setting up 2x500 MW, MTTPS, Marwa, 486.47 ha. land has been utilized; hence, the condition is complied.
II.	Coal with ash content not exceeding 44% and sulphur not exceeding 0.4% shall be used.	In 2x500 MW, ABV, TPS, (previously MTTPS) the average ash content for period 01.10.2021 to 31.03.2022 in coal as fired is 40.7%. Average Sulphur content in coal samples of Marwa TPS is 0.52% (As Received Basis) as per analysis report of Mahabal Enviro Engineers pvt. Ltd Nagpur..
III.	Space provision shall be made for installation of FGD of requisite efficiency for removal of SO <sub>2</sub> , if required at later stage.	Space provision has been made beside the Stack for installation of FGD.
IV.	A bi-flue stack of 275 m height with exit velocity of at least 22 m/s shall be provided with continuous online monitoring system.	Bi-flue stack of 275 meter height is in service with exit velocity of 22 m/s or more. Opacity meters and flue gas analyzers are in service of both the units for continuous online monitoring and recording of SPM, SO <sub>2</sub> , and NO <sub>x</sub> . Continuous on line real time data transfer is also being done.
V.	High Efficiency ESP with 99.89% efficiency shall be installed so as to ensure that particulate emission do not exceed 100 mg/Nm <sup>3</sup> .	ESPs of both the units of ABV, TPS are in service with designed efficiency of 99.968%. Designed outlet dust concentration of electrostatic precipitator is well within the prescribed limit of EC condition.
VI.	Closed cycle cooling water system with Natural Draft Cooling Towers shall be provided.	Closed cycle Natural Draft Cooling Towers (NDCT) of 170 meter height each for both Unit No.1 & Unit No.2 are in service.
VII.	CoC not less than 5 shall be adopted.	Being complied.
VIII.	Treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. No effluents shall be discharged outside the project boundary.	Effluent Treatment Plant (ETP) is in operation for maintaining zero discharge. Oily waste and process waste water are treated through ETP and treated water is reutilized for various purposes in the premise. AWRS is in service and Real time data of EQMS is being monitored at AWRS and online data are transmitted to CPCB and CECB.
IX.	100% Fly ash shall be collected in dry form and its full utilization shall be achieved within 09 years in accordance with the Notification on fly ash utilization S.O. 763 (E) dtd 14th Sept 1999 and the amendments made therein from time to time.	100% fly ash is being collected in dry form and ABVTPS, CSPGCL has prepared the action plan to achieve the MoEF target. Best possible efforts are being practiced for maximum dry ash utilization.

x.	The unutilized fly ash shall be disposed in the ash pond through HCSD system and unutilized bottom ash through medium slurry mode. Ash pond shall be lined with clay lining.	Unutilized fly ash is being disposed in to Ash Pond with 3 No. HCSD pumps and Bottom ash is being disposed with 12 No. ash slurry disposal pumps. Clay lining has been done in the Ash Ponds.
xi.	Rainwater harvesting shall be practiced.	Installation of Rain Water Harvesting System has been completed in CSPGCL colony and main building of this Power House.
xii.	Regular monitoring of ground water quality including heavy metals shall be undertaken around ash dyke and project area to ascertain the change in water quality due to leaching of contaminants, if any, from ash disposal area. Periodic report shall be submitted to the Regional Office at Bhopal.	As per EC condition, ground water samples are being analyzed and analysis reports are submitted to Integrated Regional Office (IRO), MoEF&CC, Raipur(C.G).
xiii.	Leq of Noise level shall be limited to 75 dBA and regular maintenance of equipments should be undertaken. For people working in high noise areas, personal protection devices should be provided.	Regular monitoring of noise level is being done. To take care of high sound level at some places and to minimize its ill effect, locations have been identified and marked distinctly and displayed with clear caution to use PPE, when working in that area. As per requirement; acoustic enclosures have been provided around the machine, sound proof chambers have also been provided for working staff. Enclosures of Turbines have been provided to control the noise level and personal protective equipments have been provided to personnel. Instruction & Sign Boards are displayed at high noise area for awareness to workers.
xiv.	First Aid and sanitation arrangement shall be made for drivers and other construction workers during the construction phase.	Occupational Health Centre is functional inside the Power Plant. First Aid boxes are made available in all the operation & maintenance sites. Sanitary arrangement for drivers and other workers have been made inside the Power House.
xv.	Green belt shall be developed around the plant boundary with tree density around 1500-2000 trees per ha covering at least 174 ha area.	Total 303998 plants have been planted against the target 261000 plants by this TPS till 04.05.2022. Plantation target has been achieved as per EC compliance.
xvi.	Regular monitoring of air quality shall be carried out in and around the plant boundary and record to be maintained. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with State Pollution Control Board. Periodic reports shall be submitted to the Regional Office of this Ministry at Bhopal.	Ambient air quality levels are being monitored regularly in Power House premise in all the four directions of the stack on daily basis. Air quality is also being monitored in CSPGCL residential colony, nearby villages of Power House & ash dyke area. Reports are being submitted to Chhattisgarh Environment Conservation Board/CPCB/MoEF&CC.

XVII.	Dust Extraction and suppression system with water sprinklers shall be provided for controlling the fugitive dust during coal transportation, in coal storage & handling area and other vulnerable areas of the plant.	04 No. dust extraction system, 06 No. dust suppression system and 06 No. dust suppression system with dry fog are in operation at CHP area. Water sprinkling system to control fugitive dust in coal unloading, handling & storage areas are also in operation.
XVIII.	The project proponent shall advertise in at least two local news papers widely circulated in the region around the project, informing that project has been accorded EC and copies of clearance letter available with C.E.C.B.	Complied.
XIX.	A separate Environment Management Cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Environmental Management Cell has been established with posting of Environment Expert having qualification in Environment Science for Marwa Thermal Power Station.
XX.	Half yearly report on status of implementation of stipulated conditions and environmental safeguards shall be submitted to this Ministry, the Regional Office and the CPCB/SPCB.	Half yearly report with updated status of EC condition is being submitted to Integrated Regional Office, MoEF, Raipur (C.G) and CPCB/CECB on regular basis.
XXI.	Regional Office, of the MoEF at Bhopal 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 other information submitted from time to time shall be forwarded to Regional office for their use during monitoring.	Earlier half yearly reports were submitted to Regional Office, MoEF, Bhopal. However, in compliance to letter No. 2016-17/Vol-I/ENV-NGP/904, dtd 12.09.2016 from the Scientist 'D', MoEF, Regional Office, Bhopal, half yearly report are being submitted to the MoEF, Regional Office, Nagpur.
XXII.	Allotment of separate fund for implementation of Environmental protection measures.	As per MoEF&CC environment clearance letter, it is mentioned that for Environment Protection measures Rs 169.78 Crore shall be earmarked. However, during project implementation CSPGCL has earmarked Rs 527.71 crore for Environmental safeguards.
XXIII.	Full cooperation shall be extended to Scientists/officers from the Ministry/Regional office during monitoring of environmental status.	Agreed.




Asst. Manager (Env.)  
2X500 MW, ABVTPS, Marwa

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EC VIDE LETTER No. MoEF J-13011/13/2007-IA.II (T) Dtd. 31.03.2016**

S.No.	Additional Condition	Compliance Status
I.	The standards stipulated by the Ministry vide Notification dated 07.12.2015 for Thermal Power Plants shall be duly complied.	(i) ESPs are in service in both the units of this Power Plant and PM emission level is well within the prescribed limit. (ii) Vide CPCB letter No.B-33014/07/2017-18/IPC-II/TPP/15852, dtd. 11.12.2017 directives have been issued for Marwa TPS to install FGD for Unit No.-1 & 2 by 30.06.2021 and 31.03.2021 respectively. Vide letter No-03-04/FGD/T-59/529, Raipur dtd.25.10.2019 NIT has been issue for FGD installation, but due to technical issue (change in coal properties) existing bid has been cancelled and fresh draft DPR has been submitted by M/s NTPC for procurement process of FGD installation in ABVTPS, Marwa (NIT in progress). DeNOx system: NIT has been issued for installation of DeNOx technology in ABVTPS, Marwa.
II.	Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half-yearly monitoring report.	Order has been placed to M/s Chhattisgarh State Renewal Energy Development Agency(CREDA) Raigarh (C.G) for installation of Roof Top Solar panels at 2x500 MW ABVTPS, CSPGCL, Marwa.
III.	A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. 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.	M/s Board of Radiation & Isotope Technology (Dept. of Atomic Energy, Govt. of India), Navi Mumbai carried out the Radioactive analysis of coal samples being used in Marwa, TPS. Result conveyed by BRIT vide letter No. BRIT/RAL/D/510-41/MISC/455-86/21-22, dtd. 30.09.2021 and M/s Mahabal Enviro Engineers Nagpur carried out the Heavy metals analysis of coal samples being used in Marwa, TPS. Result conveyed by M/s Mahabal Enviro, Nagpur, vide test report no. ME-NGO4872-220416-SA-ABVTPS-Marwa dtd.16.04.2022.

IV.	Fugitive emissions shall be controlled to prevent impact on agricultural or non- agricultural land. In case of any proven damage to agricultural land/crop, necessary compensation shall be paid by the PP.	Dust extraction & suppression system are in service. Apart from this water sprinkling and plantation have been done to arrest & mitigate fugitive dust.
V.	Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.	(1)Surface and ground water quality monitoring is being done for standard and additional parameters and reports are being submitted on regular basis. Last sampling was done on 11.02.2022. (2) Being zero discharge TPS, no discharge is sent out of the Plant. (3) Surface water quantity of nearby nallah is being monitored. (4) Heavy metals in ground water samples are being monitored & analyzed and analysis reports are being submitted to Integrated Regional Office, MoEF&CC, Raipur on regular basis.
VI.	No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up/operation of the power plant.	No water a body including natural drainage system in the area has been disturbed due to activities associated with the setting up/operation of the Marwa Power Plant.
VII.	No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.	Presently, No mine is being used by ABVTPS, Marwa.
VIII.	Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.	20684 plants have been planted around ash dyke to till date.
IX.	An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably 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 Plant who would be accountable for implementation of environmental regulations and social impact improvement/ mitigation measures.	Environmental Management Cell has been established with posting of Environment Expert having qualification in Environment Science for Marwa Thermal Power Station.

X.	<p>The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.</p>	<p>Corporate Environment Policy has been formulated in which responsibility has been delegated to officers at all levels for compliance of environment norms and the policy has been circulated to all concerned vide letter No.15-01/ED (Gen.)/MTTPP/1191 dtd.19.05.2017 with endorsement to Regional office (WCZ), MoEF, Nagpur also.</p>
XI.	<p>CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.</p>	<p>CSR works in the affected villages are taken up as per directives of the District Collector, Janjgir in consultation with the Gram Panchayats. Work to the tune of Rs. 261.58 lacs have been executed by CSPGCL and fund worth Rs 1239.47 lacs have been provided to the Collector for execution of CSR works. Thus an expenditure of Rs 1501.05 lacs has been done so far on CSR activities upto 31.03.2022 (2009 to 2022 upto 31.03.2022). CSPGCL is committed to execute / fund for CSR activities as per directives of district administration in future also.</p>
XII.	<p>For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.</p>	<p>Most of the CSR activities of CSPGCL are being carried out/decided through the District Administration and required funds are provided by CSPGCL to District Administration. As per the scope of work stipulated in the EC condition, CSPGCL has signed a MOU on 23.08.2017 with Guru Ghasidas Vishvidyalaya (GGV), Bilaspur which is a Central University. With this MOU, CSPGCL, has engaged GGV for proper monitoring and evaluation of CSR works being undertaken by Marwa TPS. Also under the MoU, CSPGCL and GGV shall identify need based activities for Project affected villages/area for future CSR works in consultation with District Administration. CSR Audit has been carried out by Guru Ghasidas Vishvidyalaya (GGV), Bilaspur and submitted draft audit report to ABVTPS, Marwa.</p>

  
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