

Half Yearly Compliance Report of Environmental Clearance Conditions for Barh STPP Stage-I (3x660 MW)

No.J.13012/23/98-IA.II(T)
(October 2022 – March, 2023)

A. Compliance Status of Environmental Clearance Conditions for Stage-I (3x660 MW)

S. No.	Stipulation	Status of Implementation (As on 31.03.2023)										
I.	<p>The acquisition of land near Barh town should be restricted to 2564 acres with following break-up</p> <table style="margin-left: 40px;"> <tr> <td>Plant area</td> <td>625 acres</td> </tr> <tr> <td>Township</td> <td>250 acres</td> </tr> <tr> <td>Ash disposal</td> <td>1250 acres</td> </tr> <tr> <td>Greenbelt</td> <td>225 acres</td> </tr> <tr> <td>Total</td> <td>2564 acres</td> </tr> </table>	Plant area	625 acres	Township	250 acres	Ash disposal	1250 acres	Greenbelt	225 acres	Total	2564 acres	<p>The land requirements for Phase-I (3X660 MW) & Phase-II (2X660 MW) has been restricted to 3200 Acres by MOEF & CC vide their EC of Phase-II. The total land acquisition for Phase I & II is within 3200acres.</p>
Plant area	625 acres											
Township	250 acres											
Ash disposal	1250 acres											
Greenbelt	225 acres											
Total	2564 acres											
II	<p>Two stacks of height 275 m (one with two flues and another with single flue) should be installed with continuous on line monitoring system at the suction side of IDFan for smooth functioning. The exit velocity should be maintained as 24m/sec along with exit temperature of 125° C.</p>	<p>Two stacks of 275 m (one with two flues and another with single flue) have already been constructed. The online continuous monitoring system is being installed. Flue gas parameters as stipulated shall be complied with. The Flue gas parameter report attached as Annexure 1.</p>										
III	<p>Electrostatic Precipitator having efficiency of not less than 99.8% should be installed and it should be ensured that particulate emission would not exceed the prescribed limit of 100 mg/Nm³. Space should be provided for installation of FGD plant, if required in future.</p>	<p>ESP with 99.97 % efficiency installed to control particulate matter emissions. Space provision has been kept for FGD plant. The Emission report is attached as Annexure 1. FGD work is under progress.</p>										
IV	<p>Make up water for the project should be drawn from river Ganga @ 9185 m³/hr. The intake point should be in the downstream of the treated effluent discharge point in the river. The intake point should be selected in consultation with CWPRS. While designing the intake structure it should be ensured that proper care is taken to avoid trapping of dolphins and other important aquatic fauna.</p>	<p>Out of total make up water of 9185 m³/hr for phase- I (3X660 MW) Water is being drawn from the river Ganga for Unit # 1 as it is under operation only. The intake structures have been designed to avoid trapping of aquatic life including Dolphins. Presently no effluent is being discharged outside plant.</p>										

V	All effluents generated in various plant activities should be collected in the Central Effluent Plant/ Central Monitoring Basin and treated to ensure adherence to specified standards of usage.	Effluents generated is fully reused and no effluent is discharged outside the plant.
VI	Coal for the project from Amrapali Block of North Karanpura Coal fields should be used @ 35136 TPD having gross calorific value in the range of 3230-5430 Cal/kg and sulfur content not exceeding 0.54%. Fuel should be transported through railways over a distance of 250 km upto Barh Railway Station.	The Railway Board vide letter dated 09.01.2001 has accorded clearance for coal movement from Amarpali block of North Karanpura area of CCL to Barh STPP via Barakakana - Sitarampur - Barh. This route is approx. 450 km. Railway track in shorter route (approx. 330 km) i.e. Hazaribagh - Koderma - Tilaiya - Rajgir - Barh is under construction by Indian Railway. The GCV is 3525 Kcal/kg. The Sulphur content in Coal is in range of 0.48 -0.5%.
VII	Use of borrow earth for the project should be restricted to about 11 million cum for achieving the formation level of RL 46.2m for the plant area. The source of borrow earth in the river bed should be carefully identified for avoiding damage to habitats of aquatic fauna. Necessary permission for excavation of the fill material should be obtained from State Government as per legislation in vogue.	This activity has already been completed.
VIII	As the transportation of borrow earth will necessitate plying of large number of trucks to and from the project site, necessary transportation schedule should be drawn for avoiding traffic congestion on NH 31.	This activity has already been completed.
IX	Noise level should be limited to 75 dB (A) and regular maintenance of equipment be undertaken. For people working in the area of generator halls and other high noise areas of the plant personal protective equipment should be provided.	Ambient Noise level of 75 dB (A) is achieved at plant boundary through regular maintenance of equipment. People working in high noise areas are provided personal protective equipment. The Noise monitoring report is attached as Annexure 2

X	<p>For controlling fugitive dust, regular sprinkling of water in coal handling and other vulnerable areas of the plant should be ensured.</p>	<p>Regular sprinkling is being done through water tanker to control fugitive dust generated due to plant activities. Dust Suppression & Extraction System has been provisioned in coal handling area for controlling Fugitive emission.</p>
XI	<p>With 45% average ash content in coal and at 80% PLF annual ash production should not exceed 4.5 million cum.</p> <p>As per MoEF Notification of September 1999, 100% ash utilization should be ensured within 9 years of commissioning of the plant.</p> <p>The use of ash disposal area accordingly should be restricted to only 1250 acres including 250 acres required for stocking.</p>	<p>For FY 2022-23, the ash utilization is 161.13%.</p> <p>Being complied.</p>
XII	<p>The ash disposal area is proposed in Tal belt which has predominant agricultural activities. The fly ash management plan, therefore, should be so drawn as to avoid increase in fugitive dust and contamination of ground water by lining.</p>	<p>The fugitive emission from ash dyke is restricted by maintaining water cover in ash dyke. As per findings of geo-technical investigation of the ash disposal area, the possibility of ground water contamination is very rare. Ground water around the ash dyke is being monitored periodically for its contamination if any. The Ground Water Quality Around the Ash dyke is attached as Annexure 3.</p>
XIII	<p>Detailed socio-economic survey should be undertaken for the area proposed to be acquired for the project for preparation of Rehabilitation Plan. The plan should be got approved from District Collector and submitted to the Ministry within one year. As submitted in the EIA Report, there should be no displacement of people due to the acquisition of land.</p>	<p>A detailed socio-economic survey has been conducted through Xavier Institute of Social Sciences, Ranchi. Based upon the report, a detailed R&R Plan has been drawn in consultation with State Govt. and VDAC. The approved RAP has been submitted to MOEF&CC vide letter dated 23rd June, 2005. There is no displacement of people due to acquisition of land.</p>

XIV	<p>An area of 214 acres should be earmarked for creation of greenbelt of average width of 100 m along the plant boundary. In addition, extensive afforestation should be undertaken in vacant places available in other plant area, township and along ash pond. A norm of 1500-2000 trees per ha should be followed for afforestation programme.</p> <p>As discussed in the Expert Committee meeting, the green belt and the drainage channel should not be combined. A revised layout plan, therefore, should be submitted indicating separately the drainage and greenbelt. Financial requirement for afforestation activity should be worked out and included in the cost for the project. Detailed proposal in this regard should be submitted to the Ministry within 3 months.</p>	<p>Systematic Plantation is done every year through DFO, Patna.</p> <p>Financial provision for afforestation has been made in FR. (In total 2,19,300 trees have been planted till March' 2023).</p>
XV	<p>A detailed Area Drainage Plan based on findings of the study undertaken by CWPRS, Pune should be prepared and submitted to the Ministry within 3 months. Special thrust should be given to avoid further flooding of Tal area due to construction of ash dyke over 1250 acres of land.</p> <p>Adequate financial provisions should be made for implementation of measures such as providing additional drainage, widening of existing drains, plant area protection etc.</p>	<p>Area Drainage Plan based on the study undertaken by CWPRS has been submitted to MOEF&CC on 11.12.2001.</p> <p>A copy of the said report has also been submitted to the regional office MOEF&CC, Ranchi vide letter dated 02.03.2019.</p> <p>This activity has already been completed.</p>
XVI	<p>The sensitive areas should be avoided for borrow earth and a detailed scheme of work including transportation component should be worked out and submitted to the Ministry before actually initiating excavation of borrow earth. The conditions of environmental clearance should be reflected in contractual negotiations and should be strictly monitored during the entire period.</p>	<p>This activity has already been completed.</p>

XVII	NTPC should confirm after in depth study of Tal area in consultation with recognized institutions, that it will not destroy the micro-habitat of migratory birds.	A study report on migratory birds in Tal area carried by Salim Ali Center of Ornithology has been submitted to MoEF&CC on 11 th Sep., 2003. A copy of the said report has been submitted to the regional office, MoEF&CC, Ranchi vide letter dated 02.03.2019.
XVIII	The turbidity in river Ganga should not increase above the existing level due to discharge of treated effluents from the project and that NTPC should adhere to stipulated standards of treated wastewater discharge for Thermal Power Plants.	Presently, no treated effluent is discharged in the Ganga River. The Report on Ganga water quality is attached as Annexure 4.
XIX	NTPC should establish special Environmental Cell at site for this project for consultation on day-to-day basis during project planning and implementation of the project.	An Environmental Cell has been constituted titled Environment Management Group (EMG). The details are attached as Annexure 5.
XX	Regular monitoring for SPM, SO ₂ and NO _x around the power plant may be carried out and records maintained. Monitoring Stations should be established in consultation with the State Pollution Control Board.	Regular monitoring of air pollutants at 04 locations (after consultation with SPCB, Bihar) in and around the plant is being carried out, and the same being submitted to Ministry. The monitoring data of the current period (Oct'22 to March'23) is enclosed at Annexure-6.
XXI	The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment & Forests at http://www.envfor.nic.in . The advertisement should be made within 7 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Region Office.	Advertisement as per the requirement has been published. This activity has already been completed.

XXII	A monitoring committee should be constituted for reviewing the compliance of various safeguard measures by involving recognized local NGOs, Pollution Control Board, Institutions, Experts etc.	State Pollution Control Board has constituted a monitoring committee.
XXIII	The Project Authorities should inform the Region Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work	Final approval of the project & date of start of land development work has been intimated to regional office & Ministry.
XXIV	Full cooperation should be extended to the Scientists / Officers from the Regional Office of the Ministry at Bhubaneswar the CPCB / the SPCB who would be monitoring the compliance of environmental status. Complete set of impact assessment report and the Management Plans should be forwarded to the Regional Office for their use during monitoring.	Full cooperation is being extended to the Scientists / Officers from the Regional Office of the Ministry
XXV	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	
XXVI	In case of any deviation or alteration in the project proposed 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, if any.	Shall be complied if any deviation or alteration in the project is proposed.
XXVII	The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 1989, the Public Liability Insurance Act, 1991, the Impact Assessment Notification of January, 1994 and its amendments.	