

संदर्भसंख्या/Ref No:Ref:/BARAUNI TPS/EMG/2021-22/01

दिनांक/Date:06.12.2021

To,

Regional Office (East Central Zone), Ministry of Environment, Forest & Climate Change, Bungalow No. A2, Shyamil Colony, Ranchi – 834002 Email: ro.ranchi-mef@gov.in

Kind Attention Dr T H. Mahato, Scientist 'C'

Subject: Half Yearly Compliance Report of condition stipulated in Environmental Clearance of 2X250 MW Barauni (Extension) Thermal Power Station at village Barauni, District Begussarai & Patna, Bihar for the period of April,2021 to September,2021.

MOEF&CC Ref · EC letter no. J-13012/143/2008-IA.II(T) dated 08.05.2014 and 22.04.2020

Dear Sir

The present status of 2x250 MW Barauni TPS is as under

- 1. COD of Unit 8 is declared on 01.03.2020.
- 2. COD of Unit 9 is declared on 01.11.2021.
- 3. The status of various implented systems, under implementation/commissioning and under tendering for Environmental protection are mentioned in the compliance report.

Kindly find enclosed Half Yearly Compliance Report regarding compliance of conditions stipulated in Environmental Clearance accorded by MOE&CC vide letter no. J-13012/143/2008-IA.II(T) dated 08.05.2014 and 22.04.2020 for Barauni TPS Stage-II (2x250 MW) for the period 01.04.2021 to 30.09.2021.

This is for your kind information please.

Thanking You

Yours faithfully For & on behalf of Barauni TPS

(Raj Kishore Prasad) AGM (EMG & AU)

Encl As above

Copy to (i) Regional Office, Bihar Pollution Control Board, Barauni, Dist. BeguSarai.

(ii) Regional Director, CPCB, Kolkata

बरौनी थर्मल पावर स्टेशन, बीटीपीएस, बरौनी, जिला-बेगूसराय, 851116 (बिहार) Barauni Thermal Power Station, BTPS, Barauni, Distt-Begusarai-851116 (Bihar)

पंजीकृत कार्यालयः एनटीपीसी भवन, स्कोप कॉम्पलेक्स, ७ इन्टीट्यूशनल एरिया, लोदी रोड, नई दिल्ली'110003

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HALF-YEARLYCOMPLIANCE REPORT OF BARAUNI THERMAL POWER PLANT STAGE-II (2x250 MW) of NTPC LIMITED (April'2021 to September'2021)

COMPLIANCE STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS

Vide Letter No. J- 13012/143/2008-IA. II (T) Dated 08h May 2014

SI No	MoEF STIPULATION	STATUS AS ON 30.09.2021
A. Spec	cific Conditions:	
(i)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.	NTPC vide its letter dated 19.04.2019 has submitted a Project Vision Document to the Regional Office of Ministry of Environment and Forest & Climate Change (MoEF&CC) at Ranchi.
(ii)	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 periodically to the Regional Office of the Ministry from time to time.	900 KW roof top solar system is under tendering process. The status of implementation shall be submitted to the Regional Office of the Ministry from time to time. Solar road lights at various places in township has been installed.
(iii)	Sulphur and ash contents in the coal to be used in project shall not exceed 0.6% and 40.1% respectively at any given time. In case of variance of coal quality at any point of time fresh reference shall be made to the Ministry for suitable amendments to environmental clearanceCondition(S) wherever necessary.	Complied. In case of variance of coal quality at any point of time fresh reference shall be made to the Ministry for suitable amendments to environmental clearance Condition(S) wherever necessary. As per MoEF&CC Notification dated 21.05.2020, stipulations with regard to ash content in coal used by Thermal Power Plants are waived-off.



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(iv)	A stack of 275 m height shall be provided with continuous online monitoring equipment for Sox, NOx, and PM2.5 & PM.10. Exit velocity of flue raises shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.	Complied. Equipment for continuous online monitoring of PM _{2.5} & PM ₁₀ in stack emissions is not available in market. However, flue gas velocity is more than 22 m/sec and Mercury emissions from stack are being monitored periodically.
(v)	High Efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm ³ .	Complied.
(vi)	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.	Dust suppression has been commissioned in coal handling area including coal stock yard area and ash handling points for control of fugitive dust emissions. Dust suppression system is being commissioned for conveyor belts and transfer points. Water sprinkling is being done on roads to minimize dust emissions. Dust extraction system is being commissioned.
(vii)	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate timing 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 from an institute of repute and adequate clay lining area shall be ascertained by the State Pollution Control Board and implementation done in close coordination with the State Control Board.	



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(viii)	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 pond, No ash shall be disposed off in low lying area. Ash pond shall be lined with HDPE/LDPE or any other suitable impenetrable media so that no leachate takes place at any point of time. A strong embankment shall be constructed shall be constructed around the ash dyke and TPP to prevent any flood water entering the site. The stability of these embankment shall be studied by reputed institutes like CWPRS, Pune and the recommendations of the institute shall be accordingly implemented.	Complied. Two Number of Ash Silos of 1300 MT capacity commissioned and under operation for storing and evacuation of fly ash. Contract has been awarded for heavy metal monitoring in Bottom ash pond. 100% ash is being lifted by Cement Industries, ash brick industries and NHAI road projects. The 56 Acre contingency dyke has two lagoons. HDPE lining work in Lagoon-I & II has been completed and Lagoon-II in operation. Embankment is being constructed by Water Resources Department Govt. of Bihar along the south boundary of plant periphery as deposit work awarded by earlier Project Proponent BSPGCL. The stability of the ash dyke embankment was studied by IIT Roorkee and recommendation given by them are being followed. The construction of 290 Acre permanent ash dyke is under
		suspended state. The new dyke is being constructed using state of the art technologies.
(x)	Fugitive emission of fly ash (Dry or wet system) shall be controlled such that no agricultural or non agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.	Complied. Regular water sprinkling is being done. No agriculture/Non-agriculture land is affected due to ash handling.



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(xi)	A long term study of heavy metal and radioactivity contents on coal shall be carried out through a reputed institute and results thereof analyzed every two years and reported along with monitoring reports. Thereafter mechanism for in built continuous monitoring of radio activity and heavy metals in coal and fly ash(including bottom ash) will be put in place.	Report of Radio activity analysis of Coal and Ash by BARC attached as Annexure-I. Heavy metal testing in coal, ash, and water is being done. Equipment for continuous monitoring of heavy metals in coal and ash is not available in market.
(xii)		diverted/disturbed for installation
(xiii)	COC of 5.0 shall be adopted.	Complied.
(xiv)	A well designed rain water harvesting system will be put in place within six months, which shall comprise of rain water collection from built up and open area in the plant premises and detailed record of quantity of water collected and its use. Action plan and road map for its implementation shall be submitted to regional office of Ministry.	12 no of rainwater harvesting pits are constructed.
(xv)	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	



SI No	MoEF STIPULATION	STATUS AS ON 30.09.2021
(xvi)	Monitoring surface water quality 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.	Report of Surface water and groundwater analysis are attached as Annexure-II.
(xvii)	Wastewater generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB.	An effluent management scheme (ETP, STP and Coal Settling pit) has been implemented.
(xviii)	No discharge in the River is permitted except if the quality of the effluent is of the quality or better as that of River.	Complied.
(xix)	Additional soil for levelling of the proposed site shall be generated within the sites (to the extend possible) so that natural drainage system of the area is protected and improved.	·
(xx)	Green Belt consisting of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall	16,000 tree plantations has been done in green belt. 27,500tree plantations has been done under "Jal Jeevan Hariyali Scheme" of Govt. of Bihar by Forest Division, Begusarai on deposit work by NTPC Barauni.
(xxi)	The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools	Being Complied.



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	shall be undertaken in a time bound manner.	
(xxii)	21.996 Crores as one time capital investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be RS. 3.66 rores per annum or as per CSR guidelines of Govt of India, whichever is more till the life of the plant.	A meeting was conducted with District magistrate for Community development and plan for development has been approved by District Magistrate, Begusarai. Hence development work under progress as per approved plan.
(xxiii)	committee or a suitable credible	implementation of CSR/CD schemes, A dedicated CSR department is in place and it is functioning under HR dept of Barauni.
(xxiv)	implemented in consultation with the village panchayat and the District Administration starting from the development of project itself. As part of CSR prior	finalized as per recommendation of DM Begusarai. The scheme was approved by DM, Begusarai vide letter dated 12.06.2020 and copy of same has been submitted along with half yearly compliance to R.O., MOEF&CC vide letter dated 30.12.2020.
(xxv)	An Environmental Cell comprising of at least one expert in environmental science / engineering occupational health	Environment Cell is headed by an Additional General Manager level Executive Which directly report to head of Plant. One Manager level executive is



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	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 directly report to the head of the organization who would be accountable for implementation of environmental regulation and social impact improvement mitigation measures.	&Engg.	in E	nvironmental	Sc.

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B. Gene	eral Conditions	
(i)	The treated effluents conforming to the prescribed standards only shall be recirculated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	Complied.
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising green belt/plantation.	Complied. An STP in plant has been installed.
(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.	entire power station including all the auxiliaries and buildings in the plant area has been commissioned. Key plan for fire protection



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(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 duetostorage of oil.	Complied. A detailed Disaster Management Plan has been prepared and submitted to Chief Inspector of factories Bihar for approval. On approval DMP will be submitted.
(v)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied.
(vi)	Noise levels emanating from turbines shall be limited to 85 dB (A) from source. For people working in the high noise area, requisite personal protective equipment like ear plugs/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.	Personal protective equipment has been arranged through contractors/safety department during construction phase. The operators working in turbine area compressor etc. or high noisy area are provided ear plugs/ ear muffs by contractors/safety Department. Periodic examination of operators are being done for operators working in Turbine area, air compressors etc. for Operational Unit.



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(vii)	Regular monitoring of ambient air ground level concentration of SO2, NOx, PM _{2.5} & PM ₁₀ and Hg shall be carried out in the impact zone and record 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	Regular monitoring of AAQ is being done during the operation of the plant. The AAQMS have been Implemented in 3 locations. Ambient air quality data is attached as Annexure-IV. AAQ data are enclosed in this half yearly compliance and same shall be uploaded on NTPC website.
	reports shall be submitted to the Regional office of this Ministry. The data shall also be put on the website of the company.	
(viii)	Provision shall be made for the housing of construction labor (as applicable) within the 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	constructed labour shed with required facilities within the site. Infrastructure facilities such as sanitation, medical facilities, drinking water has been made available to workers. Canteen facilities provided to all persons working in plant.
(ix)	The project proponent shall advertise in at least two local news papers widely circulated in the region around the project, one of which shall bein the vernacular language of the locality concerned within seven days from the date of this 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	The information regarding Environmental Clearance was published by previous project proponent i.e. BSPGCL. However, detail of only one advertisement has been forwarded to NTPC which was submitted to Ranchi office vide our letter dated 19.02.2020. NTPC is project proponent of Barauni Thermal Power Station since 15.12.2018.



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	may be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in	
(x)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila parishad/Municipal Corporation, urban local body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	A copy of the clearance letter has been sent to District Collector, Begusarai dated 14.05.2014 and Mukhiya Malhipur Panchyat, Mukhia Kasha Diyara Panchyat and Adhyaska Nagar Parisad, Mokama vide dated 13.05.2014 by earlier project proponent BSPGCL. The Environmental Clearance (EC) copy is available on NTPC website.
(xi)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM _{2.5} & PM ₁₀), SO ₂ , NO _x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.	The latest Half Yearly Compliance (HYC) status report of the stipulated environmental clearance conditions is being submitted to the Regional Office of MOEF&CC at Ranchi and monitoring data are enclosed with this half yearly compliance and available on NTPC website. The Arrangement for display of ambient air quality for PM ₁₀ , PM _{2.5} , SO ₂ and NOx is being commissioned near Plant main gate.



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(xii)	The environment statement for each financial year ending 31stMarch 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 sent to the respective Regional Offices of the Ministry by email.	
(xiii)	The project proponent shall submit six monthly reports on the status of the implementations 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 email to Regional office, Ministry of Environment and Forests.	The latest Half Yearly Compliance (HYC) status report of the stipulated environmental clearance conditions is being submitted to the Regional Office of MOEF&CC at Ranchi & other
(xiv)	Regional office of the Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and	A Copy of EIA/EMP has been submitted to the Regional Office of MoEF&CC at Ranchi. Half yearly Compliance status has been uploaded on NTPC website.



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	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 up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.	The Arrangement for display of ambient air quality for PM ₁₀ , PM _{2.5} , SO ₂ and NOx is being commissioned near main gate.
(xv)	Separate funds shall be allocated for implementation of environmental protection measures along with item wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purpose and year-wise expenditure should be reported to the ministry.	concentrations below 50



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		/pit. 3.Zero liquid discharge system.(60 Lakhs) 5. Dust extraction system and dust suppression system being commissioned at transfer points of conveyor system. 6. 27500 trees are being planted in Begusarai District through DFO with expenditure of 2.2 Crores from CSR/CD expenses. Systems under tendering 1.Provision of low NO _X burners in the boilers is under Combustion modification. Estimated cost 12 Crore. Tendering done and it will be implemented in next overhauling. 2.Implementation of FGD System. Estimated cost 350 Crore. 3.Roof Top Solar. Estimated cost 3 Crore.
(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.	2015 with PFC. Commercial operation declaration of Unit # 8 Barauni Stage-II was done w.e.f 01.03.2020.
(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.	extended to the Scientists/ officers from the Ministry / Regional Office of the Ministry at Ranchi/ the CPCB / the SPCB



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6.	The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions of modify the existing ones, if necessary.	Noted.
7.	The environmental clearance accorded shall be valid for a period of 5 years from the date of issue of this letter to start operations by the power plant.	Noted.
8.	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection)Act, 1986.	Noted.
9.	In case of any deviation or alteration 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 condition(s) imposed and to add additional environmental protection measures required, if any.	Noted.
10.	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 and rules there under, Hazardous Wastes (Noted.



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	Management, Handling & Transboundary Movement) Rules, 2008 and its amendments, the public Liability Insurance Act,1991 and its amendments.	
11.	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
	r Observation	
(i)	, <u> </u>	
(ii)	PP should ensure 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 of BTPS stage I Plant. PP should also furnish up to date status to the ministry in the matter (Specific condition vi)	Dust suppression has been commissioned in coal handling area including coal stock yard area, ash handling points for control of fugitive dust emissions. Dust suppression system is being commissioned for conveyor belts and transfer points. Dust extraction system is being commissioned.

COMPLIANCE STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS

Vide Letter No. J-13012/143/2008-IA.II(T) dated 22.04.2020

	VIUE LELLEI IVU. J-13012/143/2006-1A.	.11(1) dated 22.01.2020
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Additio	nal Condition	
(i)	The necessary pollution control measures shall be implemented to comply with revised emission norms and specific water consumption as per the Ministery's Notifications S.O.3305(E) dated 07.12.2015 and GSR 593(E) dated 28.06.2018. The progress of its implementation (physical and Financial) and extensions	control measures has been implemented to comply new emission norms. ii. Installation of ESPs of 99.78 % efficiency to limit the RSPM concentrations below 50



done and it will be implemented in next overhauling.
. FGD System is under tendering process.
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