



सत्यमेव जयते

File No: J-13012/11/2018-IA.I (T)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Date 17/07/2023



To,

Vijay Prakash
NTPC LIMITED
NTPC Limited, NTPC Bhawan, SCOPE Complex, Institutional Area, Lodhi Road, New Delhi – 110003
, Chhapora, RAIGARH, CHHATTISGARH, , 110003
environment.ntpc@gmail.com

Subject: Expansion of Coal Based Lara Super Thermal Power Project from capacity 1600 (2x800 MW) to 3200 MW by addition of 2x800 MW in an area of 1036.59 ha located at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh Tehsil Pussore District Raigarh (Chhattisgarh) by M/s NTPC Limited - Environmental Clearance - regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/CG/THE/428410/2023 dated for grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A0601CG5636268E
(ii) File No.	J-13012/11/2018-IA.I (T)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(d) Thermal Power Plants
(vi) Sector	Thermal Projects 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd
(vii) Name of Project	
(viii) Name of Company/Organization	NTPC LIMITED
(ix) Location of Project (District, State)	RAIGARH, CHHATTISGARH
(x) Issuing Authority	MoEF&CC

(xi) Applicability of General Conditions as per EIA Notification, 2006 No

1. In view of the particulars given in the Para 1 above, the project proposal inter-alia including Form-1(Part A, B and C)/ EIA & EMP Reports were submitted to the MoEF&CC for an appraisal by the EAC under the provision of EIA notification 2006 and its subsequent amendments.
2. The above-mentioned proposal has been considered by EAC in the meeting held on 12/05/2023. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above or through the following web link [click here](#).
3. The brief about configuration of products and byproducts as submitted by the Project Proponent in Form-1 (Part A, B and C)/ EIA & EMP Reports / presented during EAC are annexed to this EC as **Annexure**.
4. The EAC, in its meeting held on , based on information submitted viz: Form 1 (Part A, B and C), EIA/EMP report etc & clarifications provided by the project proponent and after detailed deliberations on all technical aspects and public hearing issues and compliance thereto furnished by the Project Proponent, recommended the proposal for grant of Environment Clearance under the provision of EIA Notification, 2006 and as amended thereof subject to compliance of Specific and Standard EC conditions as given in this letter.
5. The MoEF&CC has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the Expert Appraisal Committee hereby accords Environment Clearance to the instant proposal of M/s. Vijay Prakash under the provisions of EIA Notification, 2006 and as amended thereof subject to compliance of the Specific and Standard EC conditions as given in **Annexure 1**.
6. The Ministry reserves the right to stipulate additional conditions, if found necessary.
7. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
8. The Project Proponent is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.
9. Validity of EC is upto [EC_VValidity] to the start of production operations by the project or activity. Validity of EC becomes perpetual subject to the start of production operations by the project or activity on or before the In case the project proponent fails to start the production operations within the EC validity date, application for EC validity extension shall be submitted to the regulatory authority as per the provision contained in the Para 9.0 of EIA notification, 2006 and its amendment.
10. General Instructions:
 - (a) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.
 - (b) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (c) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.
 - (d) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during perational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

(e) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(f) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(g) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

11. The details of the project is at **Annexure 2**.

12. This issues with the approval of the Competent Authority

Annexure 1

Specific EC Conditions for (Thermal Power Plants)

1. Miscellaneous

Sr. No	EC Conditions
1.1	<p>xxxi.Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.</p> <p>xxxii.All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.</p>

2. Socio-economic

Sr. No	EC Conditions
2.1	<p>xxiv.Public grievance redressal system shall be established under supervision of project head. The functioning of the system shall be reviewed every month.</p> <p>xxv.A vision document comprising prospective plan for implementation of various CER activities, plantation programme outside the project cover area, rejuvenation and conservation of water bodies within 5km radius of the project cover area, creation of sacred groves etc. shall be prepared and submitted to the Regional Office of the Ministry within 6 months. Implementation status of the same shall be reported to the Regional office in 6 monthly compliance report.</p> <p>xxvi.Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in two year) through independent agency. Necessary measures shall be taken as per findings of study in consultation with district administration. Action taken report shall be submitted to the Regional Office of the Ministry.</p> <p>xxvii.The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of Environmental Clearance for undertaking the CER activities, committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.</p>

Sr. No	EC Conditions
	<p>xxviii.Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.</p> <p>xxix.As committed, a multi-specialty Hospital with 100 beds shall be established to cater the need of population living within 10 km.</p> <p>xxx.The establishment of a robust grievance redressal mechanism to address concerns and complaints from local communities regarding the power plant's operations, environmental impacts, or social issues shall be developed. A Senior Officer shall review the functioning</p>

3. Environmental Management

Sr. No	EC Conditions
3.1	<p>i.As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.</p> <p>ii.Peripheral Green belt (Three row plantation) with Miyawaki plantation technique of 15 m thickness along the plant boundary shall be developed with more than 90% survival rate of the plant species. It would be ensured that total 33% area of total project cover area is under green cover focusing on Ash Dyke area.</p> <p>iii.Extensive green cover within 2 km range of the plant boundary shall be developed. An action plan in this regard to be prepared in consultation with CPCB/expert institution and submitted before Regional Office of the Ministry within 3 months.</p> <p>iv.24X7 online monitoring system for ambient air quality shall be established with its connectivity with SPCB and CPCB server. Stack monitoring shall be done through 24X7 online monitoring system. The emission Standards for Municipal Solid Waste based Thermal Power Plants as per Municipal Solid Waste Rules, 2016 dated 8.4.2016 (S.O. 1357 (E)) shall be complied (Refer Part C of Schedule II of Municipal Solid Waste Rules, 2016 dated 8.4.2016 (S.O. 1357 (E))).</p> <p>v.Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as waste delivery points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system. Water Sprinkling on roads shall be done in every 6 hours in winter season and 3 hours in summer season of roads within 1 km range approaching the plant. A logbook shall be maintained for the activity and be in six-monthly compliance report.</p> <p>vi.LED display of air quality (Continuous Online monitoring) shall be installed on the roadside (within 1 km range) and nearby hotspots viz. residential colony, Schools Hospitals; maintenance of devices shall be done on regular basis.</p> <p>vii.Everyday cleaning of road/Paved roads within 1 km range of plant site shall be ensured throughout the year through vaccum based vehicle.</p> <p>viii.Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.</p> <p>ix.Project proponent shall explore the use of treated sewage water from the Sewage Treatment Plant of Municipality / local bodies/ similar organization located within 50km radius of the proposed</p>

Sr. No	EC Conditions
	<p>power project to minimize the water drawl from surface water bodies.</p> <p>x.A detailed action plan regarding leachate handling shall be prepared and implemented in consultation with SPCB and the same shall be submitted to the Regional Office of the Ministry. Zero liquid discharge shall be adopted. Leachate shall be treated and reused. No treated leachate shall be discharged in any circumstances. Characteristics of Leachate and the treated leachate shall be monitored once in quarter and records shall be maintained.</p> <p>xi.Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.</p> <p>xii.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.</p> <p>xiii.Fly ash handling shall be done strictly as per extent rules/regulations of the Ministry/CPCB issued from time to time including Ministry's Notification No. S.O.5481(E) dated 31st December, 2021. No coal shall be transported through road shall be allowed.</p> <p>xiv.Monitoring of surface water quality and Ground Water 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.</p> <p>xv.A well designed rain-water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.</p> <p>xvi.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. A list of all small and large water bodies shall be prepared after physical survey within 10 km radius of the project. A detailed conservation plan for all these water bodies shall be prepared and submitted before the Regional Office of the Ministry within 3 months. Implementation status of conservation plan be submitted in 6 monthly compliance report.</p> <p>xvii.Watershed development plan shall be prepared and implemented focusing on micro watershed development within 10 km radius of the project. Action taken report in this regard be submitted before regional office of the Ministry in 6 monthly compliance report.</p> <p>xviii.A detailed ecological monitoring and survey covering forestry, fisheries, wildlife and its habitat shall be done once in two years to assess the impacts of project on the local environment and ecology. Monitoring report shall be uploaded on the Parivesh Portal and a copy of the same be submitted to the regional office of MoEF&CC.</p> <p>xix.For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.</p> <p>xx.An Environmental Cell headed by the Environment Manger with postgraduate qualification in environmental science/environmental engineering, shall be created. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for</p>

Sr. No	EC Conditions
	<p>implementation of environmental regulations and social impact improvement/mitigation measures.</p> <p>xxi.The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.</p> <p>xxii.The energy sources for lighting purposes shall preferably be LED based.</p> <p>xxiii.Explore desulphurization from biotechnological method.</p>

Standard EC Conditions for (Thermal Power Plants)

1 Statutory compliance

Sr. No	EC Conditions
1.1	Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
1.2	Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
1.3	MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 as amended time to time regarding use of raw or blended or beneficiated/washed coal with ash content not exceeding 34% shall be complied with, as applicable.
1.4	MoEF&CC Notifications on Fly Ash Utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804(E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 as amended from time to time shall be complied.
1.5	Thermal Power Plants other than the power plants located on coast and using sea water for cooling purposes, shall achieve specific water consumption of 2.5 m3/MWh and Zero effluent discharge.
1.6	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
1.7	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
1.8	Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

2 Ash content/mode of transportation of coal

Sr. No	EC Conditions
2.1	EC is given on the basis of assumption of ____% of ash content and ____km distance of transportation in rail/road/conveyor/any other mode. Any increase of %ash content by more than 1 percent, and/or any change in transportation mode or increase in the transport distance (except for rail) require application for modifications of EC conditions after conducting the 'incremental impact

Sr. No	EC Conditions
	assessment' and proposal for mitigation measures.

3 Air quality monitoring and Management

Sr. No	EC Conditions
3.1	Flue Gas Desulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO ₂ emissions standard of 100 mg/Nm ³ .
3.2	Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NOX emission standard of 100 mg/Nm ³ .
3.3	High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm ³ .
3.4	Stacks of prescribed height ____m shall be provided with continuous online monitoring instruments for SOX, NOx and Particulate Matter as per extant rules.
3.5	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
3.6	Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM ₁₀ , PM _{2.5} , SO ₂ , NOX within the plant area at least at one location. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
3.7	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
3.8	Appropriate Air Pollution Control measures (DEs/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

4 Noise pollution and its control measures

Sr. No	EC Conditions
4.1	The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
4.2	Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
4.3	Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

5 Human Health Environment

Sr. No	EC Conditions
5.1	Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
5.2	Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.
5.3	Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.
5.4	Sewage Treatment Plant shall be provided for domestic wastewater.

6 Water quality monitoring and Management

Sr. No	EC Conditions
6.1	Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m ³ /MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea water.
6.2	In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
6.3	Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
6.4	Rainwater harvesting in and around the plant area be taken up to reduce drawl of fresh water. If possible, recharge of groundwater to be undertaken to improve the ground water table in the area.
6.5	Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
6.6	The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
6.7	Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of

Sr. No	EC Conditions
	the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
6.8	Based on the commitment made by the Project Proponent, Sewage Treatment Plants within the radius of 50 km from proposed project, the treated sewage ofKLD from STP (name) shall be used as an alternative to the fresh water source to minimize the fresh water drawl from surface water bodies.
6.9	Wastewater generation ofKLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l;
6.10	Sewage generation ofKLD will be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/l; Total Suspended Solids: 100 mg/l; Fecal Coliforms (Most Probable Number):<1000 per 100 ml.

7 Risk Mitigation and Disaster Management

Sr. No	EC Conditions
7.1	Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
7.2	Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
7.3	Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
7.4	Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
7.5	Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

8 Green belt and Biodiversity conservation

Sr. No	EC Conditions
8.1	Green belt shall be developed in an area of 33% of the total project with indigenous native tree species in accordance with CPCB guidelines. The green belt shall inter-alia cover an entire periphery of the plant.
8.2	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.

Sr. No	EC Conditions
8.3	Suitable screens shall be placed across the intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, etc., during extraction of seawater.

9 Waste management

Sr. No	EC Conditions
9.1	Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
9.2	Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
9.3	Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
9.4	Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry and amendment thereto. By the end of 4th year, 100% fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry. 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. Flyash utilization details shall be submitted to concerned Regional Office along with the six-monthly compliance reports and utilization data shall be published on company's website.
9.5	Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry/Medium Concentration Slurry/Lean Concentration Slurry method. Ash water recycling system shall be set up to recover supernatant water.
9.6	In case of waste-to-energy plant, major problems related with environment are fire smog in MSW dump site, foul smell and impacts to the surrounding populations. Therefore, the following measures are required to be taken up: i) Water hydrant at all the dumpsites of MSW area to be provided so that the fire and smog could be controlled. ii) Sprayer like microbial consortia may be provided for arresting the foul smell emanating from MSW area.

10 Monitoring of compliance

Sr. No	EC Conditions
10.1	Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
10.2	Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
10.3	Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.

Sr. No	EC Conditions
10.4	Monitoring of Carbon Emissions from the existing power plant as well as for the proposed power project shall be carried out annually from a reputed institute and report be submitted to the Ministry's Regional Office.
10.5	Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
10.6	Environment Cell (EC) shall be constituted by taking members from different divisions, headed by a qualified person on the subject, who shall be reporting directly to the Head of the Project.
10.7	The project proponent shall (Post-EC Monitoring): a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; b. upload the clearance letter on the web site of the company as a part of information to the general public. c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in . d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically; e. monitor the criteria pollutants level namely; PM (PM10& PM2.5) in case of ambient AAQ), SO ₂ , NO _x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company; f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB; g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company; h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work.

11 Corporate Environmental Responsibility (CER) activities

Sr. No	EC Conditions
11.1	CER activities will be carried out as per OM No. 22-65/2017-IA.III dated 30.9.2020 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed schedule of implementation with appropriate budgeting.

12 Marine facilities

Sr. No	EC Conditions
12.1	As the seawater intake systems are required for the plant fall in CRZ area, recommendations from State Coastal Zone Management Authority (SCZMA) as per CRZ Notification shall be implemented.

Sr. No	EC Conditions
12.2	Marine intake and outfall pipelines shall be located as per the recommendations State Coastal Zone Management Authority (SCZMA).

13 Sea Water Intake

Sr. No	EC Conditions
13.1	Seawater intake system shall be so designed and constructed to ensure sufficient sweater in terms of quantity and quality.
13.2	The withdrawal of seawater shall be preferably through a pipeline with a riser equipped with a velocity cap arrangement and bar screen to arrest the impingement of large marine organisms.
13.3	In all tide conditions (particularly at spring low tides) the riser head must be flooded with the required submergence of seawater above its top.

14 Effluent Release

Sr. No	EC Conditions
14.1	At the effluent release point, maximum temperature of the discharge water shall not be more than 5oC and salinity shall not exceed 50 ppt with respect to that of the ambient seawater.
14.2	Use of antifouling agents like chlorine / hypochlorite, shall be carefully controlled. The chlorine concentration shall not exceed 0.2 ppm at the effluent release point.
14.3	The effluent when released at the selected location shall attain sufficient dilution so that near ambient water quality (particularly temperature and salinity) is attained within 500 m from the release location, at low tide.
14.4	The location of the diffuser shall be marked with a solar lighted buoy to avoid accidents.
14.5	The site selected based on mathematical modeling shall ensure absence of recirculation of the effluent plume in the seawater intake area under all tidal conditions.
14.6	The effluent shall be released through a properly designed multiport diffuser above the seabed to facilitate its efficient initial mixing with the receiving seawater.
14.7	Efficacy of the diffuser shall be ascertained at least once in 2 years through scientific studies and corrective actions such as cleaning of the diffuser from marine growth, removal of silt deposits, etc. shall be taken up, if warranted.
14.8	Continuous online monitoring system for Temperature and Salinity shall be installed to monitor the quality of effluent.

15 Common to intake and effluent

Sr. No	EC Conditions
15.1	The pipeline shall be buried below the seabed at a depth to ensure its stability under rough sea conditions particularly during cyclone / tsunami. The depth of burial will depend on the seafloor strata but normally the top of the pipeline shall be at least 1 m below the bed level. In the surf and intertidal zones, the pipeline shall be buried below the maximum scour level.
15.2	In case of open channel, the channel shall be constructed as per the recommendations of State Coastal Zone Management Authority (SCZMA).
15.3	If the substratum is rocky the pipeline may be anchored to the rock provided the geology of the area satisfactorily supports the structure which shall be ascertained through geo-technical investigations.
15.4	Exposed pipeline section and riser shall be protected by armour stone from waves, boats anchoring, fishing activities etc.
15.5	The location of the riser & diffuser shall be marked with a solar lighted buoy to avoid accidents from boats.
15.6	Marine / Sea water quality shall be monitored at effluent release location at the center. Parameters to be monitored shall be as follows: a. Physico-chemical: Temperature, Salinity, pH and Dissolved Oxygen. b. Biological: Primary Productivity, Phytoplankton (Chlorophyll a, Phaeophytin, Population, Species), Zooplankton (Biomass, Population, Species) and Benthos (Biomass, Population, Species).
15.7	In case of Coastal Power Plants, the Mangrove plantation shall be taken up in an area ofha, along the coast/ on the banks of Estuary.

Annexure 2

Details of the Project

Sr. No.	Particulars	Details
a.	Details of the Project	2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhiltigar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd
b.	Latitude and Longitude of the project site	21.74827894207115,83.42562799179946 21.77284640110912,83.46278100305149
c.	Land Requirement (in Ha) of the project or activity	Nature of Land involved
		Area in Ha
		Non-Forest Land (A) 526.348

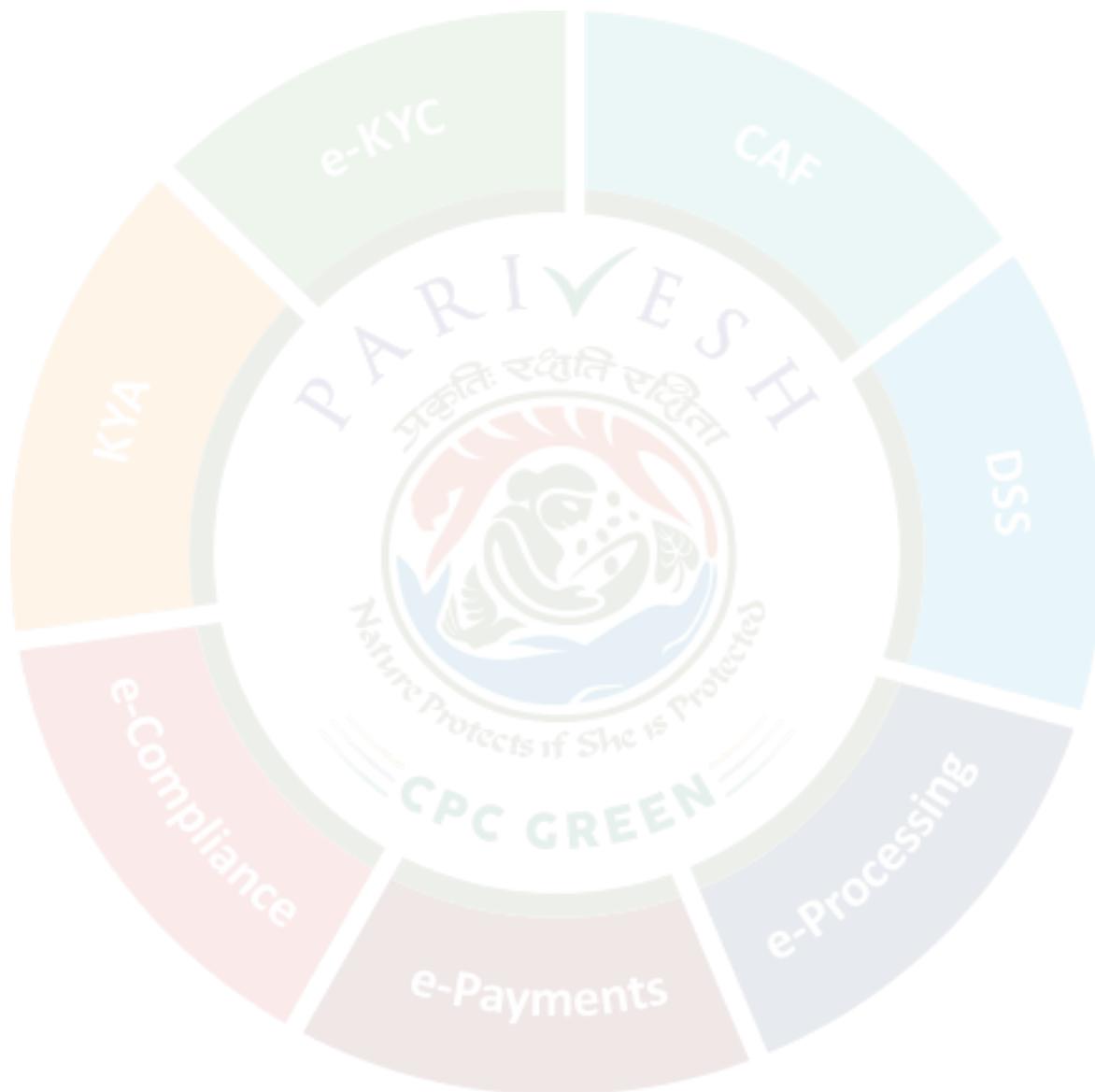
Sr. No.	Particulars	Details	
		Nature of Land involved	Area in Ha
		Forest Land (B)	151.762
		Total Land (A+B)	678.11
d.	Date of Public Consultation	Public consultation for the project was held on 2023-02-20	
e.	Rehabilitation and Resettlement (R&R) involvement	NO	
f.	Project Cost	3177945	
g.	EMP Cost	173741	
h.	Employment Details	construction phase - 4000-5000 during peak deployment, operation phase - 112 and 405	

Details of Products & By-products

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission
Electricity	Product	1600	1600	3200	Mega Watt (MW)	Transmission Line
Gypsum	By-Product	18000	18000	36000	Tons per Annum (TPA)	Combination of two or three modes
Fly Ash	By-Product	3200000	2240000	5440000	Tons per Annum (TPA)	Combination of two or three modes

Copy To

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi -110 001.
2. The Principal Secretary, Forests & Climate Change Department, Govt. of Chhattisgarh
3. Deputy Director General of Forests (C), Integrated Regional Office, RAIPUR, Ground Floor, Aranya Bhawan, North Block, Sector- 19,Naya Raipur, Atal Nagar, Chhattisgarh – 492002The Government of Chhattisgarh, Mahanadi Bhawan, Mantralaya, Naya Raipur-492002
4. The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhawan, North Block Sector-19, Atal Nagar Dist- Raipur(C.G.)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, **New Delhi** – 3
6. District Magistrate, District Raigarh (Chhattisgarh)
7. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun



Annexure

The Project Proponent and the accredited Consultant M/s. Mantec Consultants Pvt. Ltd., Noida made a detailed presentation on the salient features of the project and informed that:

- (i) The proposal is for environmental clearance to the project for Expansion of Coal Based Lara Super Thermal Power Project from capacity 1600 (2x800 MW) to 3200 MW by addition of 2x800 MW in an area of 1036.59 ha located at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhulgitar and Kandagarh Tehsil Pussore District Raigarh (Chhattisgarh) by M/s NTPC Limited.
- (ii) The project proposal was considered by the Expert Appraisal Committee (Thermal/ Hydro River Valley Sector) in its 20th meeting held during 30.08.2018 and recommended for grant of Terms of References (ToRs) for the Project. The ToR has been issued by Ministry vide letter No.J-13012/11/2018-IA.I(T); dated 29.10.2018.
- (iii) All Thermal Power Plants (>500 MW) are listed at S.N. 1(d) of the Schedule to the Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).
- (iv) Ministry had issued EC earlier vide letter no. J-13012/79/2007-IA.II (T); dated 13.12.2012 to the existing project 2x800 MW Coal Based Lara Super Thermal Power Project in favour of M/s. NTPC Limited.
- (v) Existing land area is 678.11 ha. additional 358.48 ha land will be used for proposed expansion. Industry has will develop greenbelt in an area of 33% i.e., 33,15,956.61 m² (within and outside the project boundary) out of total area of the project.
- (vi) The estimated project cost is Rs.31,779.5 Crores including existing investment of Rs.17,779.5 Crores. Total capital cost earmarked towards environmental pollution control measures is Rs.1737.41 Crores and the Recurring cost (operation and maintenance) will be about Rs.34.74 Crores per annum.
- (vii) Total Employment under Stage-II will be as direct 112 persons & 4000-5000 indirect (During Construction) and direct 405 persons and 1500 indirect (During Operation) after expansion. Industry proposes to allocate Rs. 7.39 Crore @ of 0.05 % of Project Cost towards CER.
- (viii) There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River/ water body Kelo is flowing at a distance of 1.4 km in east direction.
- (ix) Ambient air quality monitoring was carried out at 12 locations during March-2022 to May-2022 and the baseline data indicates the ranges of concentrations as: PM10 (40-58 mg/m³), PM2.5 (24-35 µg/m³), SO₂ (6-20

µg/m³) and NO₂ (15-28 µg/m³). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 59.06 µg/m³, 23.52 µg/m³ and 31.52 µg/m³ with respect to PM₁₀, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

- (x) Total water requirement is 4770 m³/day of which freshwater requirement of 4770 m³/day will be met from Saradih Barrage. Permission for allocation of water obtained vide letter dated 06.12.2022 from Water Resources Dept. Govt of Chhattisgarh for the 68 MCM quantity.
- (xi) Effluent of 55 M³/hr quantity will be treated through Tube settler and Neutralization sumps. The plant will be based on Zero Liquid discharge system (if applicable).
- (xii) Power requirement after expansion will be 7.2% of Generation Capacity (Auxiliary Power requirement to be met from main plant). Existing unit has 2 DG sets of 2000 kVA each (+1 standby), used as standby during power failure. Stage-II units will have 2 DG of 2000 kVA each (+1 standby) for main plant and 1 DG set of 500 kVA (+01 standby) for FGD. Stack (height 30m) will be provided as per CPCB norms to the proposed DG sets.
- (xiii) Existing unit has 2550 TPH coal fired boiler. Additionally, 2580 TPH coal fired boiler will be installed under Stage-II. High Efficiency ESP, FGD & NO_x control with a stack height of 150/220m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boilers (Applicable for thermal sector projects).
- (xiv) Details of Solid waste/ Hazardous waste generation and its management:

Sl. No.	Waste	Quantity, TPA
1	Fly Ash	22,40,000
2	Gypsum	18,000

Similar to Stage-I, following wastes are expected to be generated during operation of Stage-II.

Sl. No.	Waste	Quantity, TPA	Mode of disposal
1	Municipal Solid Waste	328	Composting, Reuse, disposal through recyclers
2	Plastic Packaging waste	5	Reuse & Disposal through recyclers
3	Computer, Electrical & Electronic waste	5	Disposal through authorized recyclers
4	Used Batteries	5	Disposal through authorized recyclers
5	Biomedical Waste	2	Disposal by authorized agencies

6	Used or spent oil	100	Disposal through authorized recyclers
7	Empty barrels/ containers/ liners contaminated with	60	Sale to authorized recyclers
8	Spent Ion exchange resin containing toxic metals	2	Sale to authorized recyclers
9	Asbestos	0.1	Disposal through TSDF
10	Waste or residue containing oil	10	Sale to authorized recyclers, Disposal through TSDF

- (xv) Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 20.02.2023. The main issues raised during the public hearing are related to Job & Employment, Pollution, Violation of TOR Condition, Education & Health Services, Provision of free Electricity, delay in conducting public hearing, water supply in nearby villages inclusion of additional villages in CSR Program, existence of villages of Odisha within 10 km, Climate change & global/local warming. All the issues have been properly addressed in EIA Report. Some of the issues were raised due to lack of information with participants.
- (xvi) Details of Certified compliance report submitted by RO, MoEF&CC. Latest Monitoring done by the IRO of MOEF&CC on 28.12.2022 & 29.12.2022. There was no non-compliance reported. The additional data sought was submitted vide letter dated 05.04.2023.
- (xvii) Status of Litigation Pending against the proposal, if any: No Court cases regarding Environment issue, However, there are other Court Cases regarding land issue.
- (xviii) The silent features of the project are as under:-

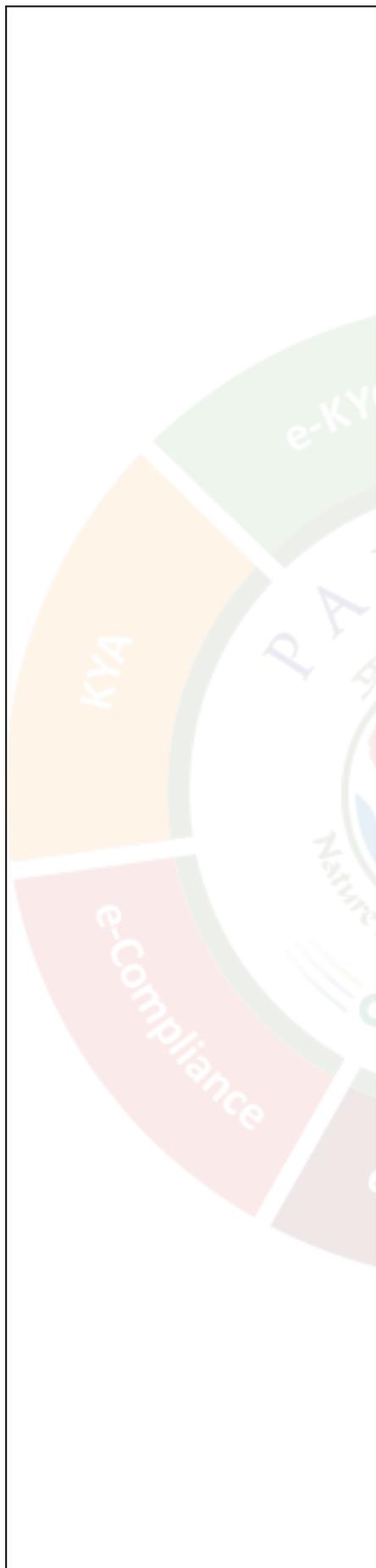
Name of the Proposal	2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, jhlgitar and Kandagarh in Taluk Pussore, in District Raigarh, in Chhattisgarh
Location (Including coordinates)	Lara Super Thermal Power Project Village – Chhapora Taluk – Pussore District – Raigarh State - Chhattisgarh PIN - 496440

	<p>(a) Main Plant Co-ordinates: Latitudes: 21°44'57"N to 21°46'19"N, Longitudes: 83°25'37"E to 83°27'56"E</p> <p>(b) Ash Dyke Co-ordinates: Latitudes: 21°43'7"N to 21°44'27"N Longitudes: 83°27'37"E to 83°29'4"E</p>		
Inter- state issue involved	No		
Seismic zone	Zone-II		
Capacity / Cultural command area (CCA)	1600 MW (2X800MW)		
Attracts the General Conditions (Yes/No)	Yes		
Powerhouse Installed Capacity	2x800 MW		
Generation of Electricity Annually	11.91 Billion Units @85% PLF		
No. of Units	Two		
Cost of project	Estimated Cost of Stage-II of Project: Rs. 14,000 Crores		
Total area of Project	Acres		
	Stage-I Acres	Stage-II Acres	Future Expansion Acres
Main Plant	390	267	170
Green Belt	35	56	Included in Stage-I & II
Reservoir	135	287	Included in Stage-II
Township	151	NA	NA
Peripheral Road (Public)	57	NA	NA
Ash Dyke	491	Nil	
Green Belt in Ash Dyke	45		
Ash Corridors	49		
Rly Siding & MGR	53	27	
Miscellaneous/ Unutilised Space due to Irregular Shape	270		
Total	1676	637	170
Grand Total			2483

	<table border="1"> <thead> <tr> <th></th> <th>Already Acquired (Acres)</th> <th>Left Out Land (acres)</th> </tr> </thead> <tbody> <tr> <td>Private</td> <td>1929.17</td> <td>78.14</td> </tr> <tr> <td>Govt.</td> <td>179.11</td> <td></td> </tr> <tr> <td>Forest</td> <td>375.01</td> <td></td> </tr> <tr> <td>Total</td> <td>2483.29</td> <td>78.14</td> </tr> <tr> <td></td> <td>Grand Total</td> <td>2561.43</td> </tr> </tbody> </table>		Already Acquired (Acres)	Left Out Land (acres)	Private	1929.17	78.14	Govt.	179.11		Forest	375.01		Total	2483.29	78.14		Grand Total	2561.43
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Total	2483.29	78.14																	
	Grand Total	2561.43																	
Details of consultant and status of accreditation	<p>Mantec Consultants Pvt. Ltd., Noida D- 36, Sector-6, Noida- 201301 NABET/EIA/2124/SA0146</p> <p>Status of Accreditation: Valid till 19 July 2023</p>																		
Project Benefits	<ul style="list-style-type: none"> Proposed Lara STPP Stage-II (2x800 MW) will have State of Art Ultra Super Critical Technology which has better efficiency and less carbon emissions in comparison to sub-critical technology. Installation of High efficiency ESP, FGD and De-Nox System will comply the new emission norms of MOEF&CC. The setting up of the proposed project will lead to direct and indirect benefits to the overall socio-economic development of the region. <p>These will also benefit the local population. NTPC has taken up several community welfare and community development activities under Corporate Social Responsibility and this will be strengthened during commissioning of Lara STPP</p>																		

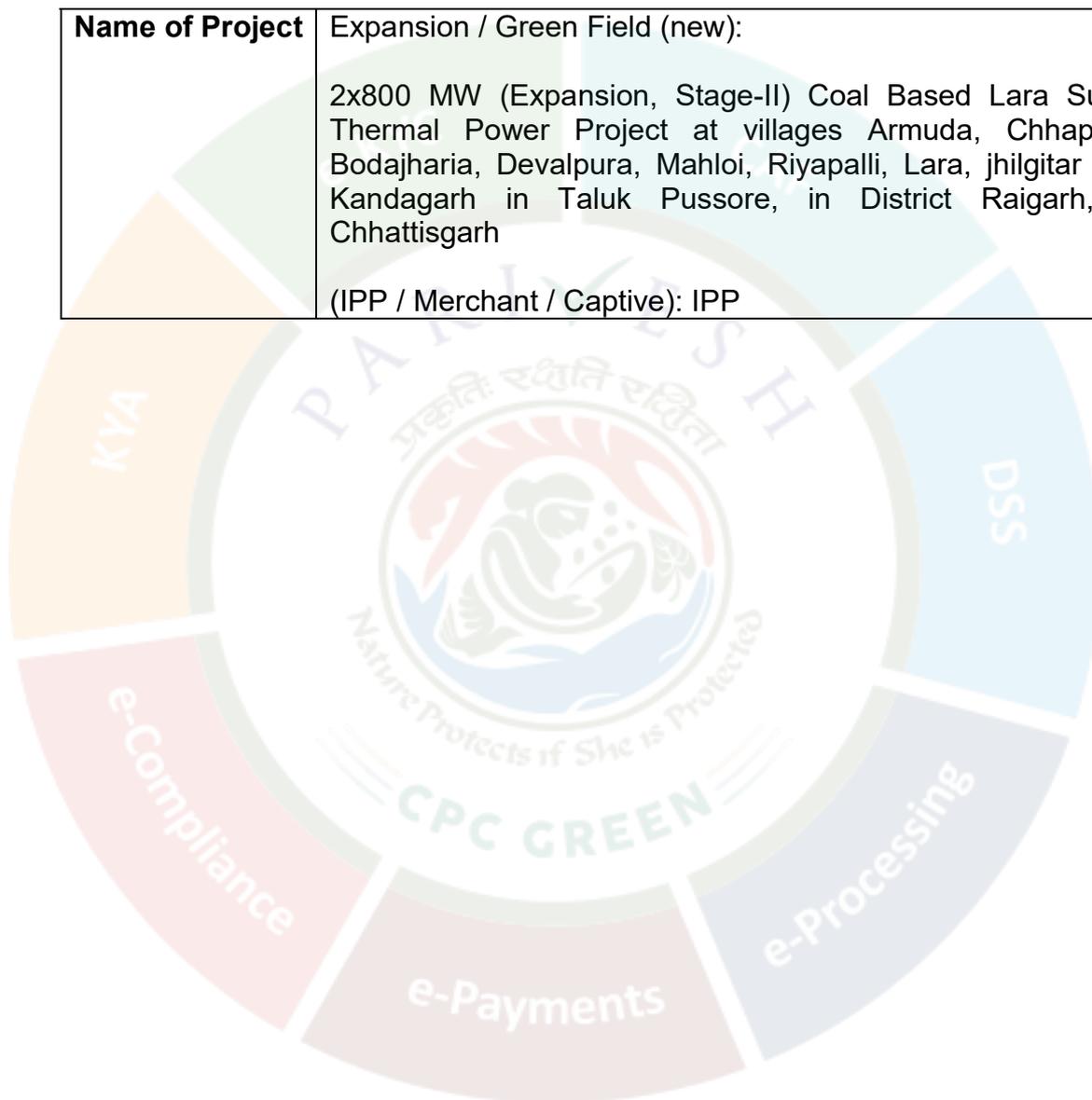
	Stage-II.
Status of other statutory clearances	1) FC/WLC/CRZ not Applicable 2) AAI Clearance for Chimney available dated 18.5.2022 3) Water Commitment dated 12.06.2013 & 06.12.2022
R&R details	N/A
Any litigation/Court case pertaining to the project	No Court cases regarding Environment issue, However there are other Court Cases regarding land issue.
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Certified EC compliance report (if applicable)	Latest Monitoring done by the IRO of MOEF&CC on 28.12.2022 & 29.12.2022. There was no non-compliance reported. The additional data sought was submitted vide letter dated 05.04.2023
Status of Stage- I FC	The site involves 151.762 ha of forest land for which Stage-II clearance is already obtained vide letter no F.NO.8-12/2012-FC dated 12.05.2014.
Additional detail (If any)	Nil
Is FRA (2006) done for FC-I	No
Advertisement for PH with date	The Advertisement for Public Hearing for Lara STPP Stage-II (2x800 MW) was published in three local newspapers Times of India, Nava Barath and Kelo Prawha on 18.01.2023.
Date of PH	Date: 20.02.2023
Venue	The ground near Government Higher Secondary School, Village Mahloi, Tehsil, Pussore, District, Raigarh
Chaired by	Sri Rajiv Kumar Pandey, ADM, Raigarh
Main issues raised during PH	The main issues raised during Public Hearing were Job & Employment, Pollution, Violation of TOR Condition, Education & Health Services, Provision of free Electricity, delay in conducting public hearing, water supply in nearby villages inclusion of additional villages in CSR Program, existence of villages of Odisha within 10 km, Climate change & global/local warming. All the issues have been properly addressed in EIA Report. Some of the issues were raised due to lack of information with participants.
No. of people attended	400-500

Fuel to be used:	Coal
Quantity of Fuel required per Annum:	6.6 MTPA corresponding to 85% PLF
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	<p>Talaipali Coal Block Mining Project (TLCMP) of NTPC Limited is linked to cater the coal requirement for Lara STPP.</p> <p>EC & FC for TLCMP has already been accorded by MoEF&CC as follows:</p> <ul style="list-style-type: none"> • EC: Letter no. J-11015/279/2009-IA.II (M) dated 02.01.2013 • FC: Stage-I & Stage-II F.No.8-18/2012-FC dated 05.11.2012 & 28.01.2014 respectively
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of coal transportation from the coal mines to the power plant shall be MGR and Indian Railways. Total distance is 58 Km from Mines to Plant premises
Fly Ash Disposal System Proposed	<p>The bottom ash shall be extracted and disposed off in wet form. The fly ash shall be conveyed in dry form from the electrostatic precipitator hoppers. This dry fly ash is taken to buffer hoppers for its onward transportation in dry form to storage silos near plant boundary for utilization. In case of non-utilization, fly ash shall be taken to HCSD system, where in it shall be mixed with water in agitator tanks for its ultimate disposal in high concentration slurry form to ash disposal area.</p> <p>The ash management scheme for fly ash and bottom ash involves dry collection of fly ash, supply of ash to entrepreneurs for utilisation, promoting ash utilisation and safe disposal of unused ash. NTPC shall make maximum efforts to utilise the fly ash for various purposes. Unused fly ash and bottom ash shall be disposed off in the ash pond.</p>
<p>Ash Pond/ Dyke (Area, Location & Co-ordinates)</p> <p>Average height of area above MSL (m)</p>	<p>Area: 491 Acres(Lara STPP, Stage-I) (No Additional Ash dyke proposed for Lara STPP Stage-II)</p> <p>Co-ordinates: Latitudes: 21°43'7"N to 21°44'27"N Longitudes: 83°27'37"E to 83°29'4"E</p> <p>220-242 m</p>
<p>Quantity of</p> <p>a. Fly Ash to be generated</p> <p>b. Bottom Ash to be generated:</p>	<p>1.792 MTPA</p> <p>0.448 MTPA</p>
Fly Ash utilization (details)	The Ash Utilisation shall be done as per Ministry

	<p>of Environment, Forests and Climate Change Notification dated 31-12-2021 as amended on 31.12.2022. To utilize ash and also to comply the stipulations of MoEF&CC's Gazette Notification on fly ash dated 31-12-2021 following actions would be taken up by NTPC:</p> <ul style="list-style-type: none"> • NTPC shall provide a system for 100% extraction of dry fly ash along with dedicated dry ash silos for storage of at least sixteen hours of ash based on installed capacity having separate access roads so as to ease the delivery of fly ash. Provision shall also be kept for segregation of coarse and fine ash, loading this ash to closed/ open trucks and also for loading fly ash into rail wagons. This will ensure availability of dry fly ash required for manufacture of Fly Ash based Portland Pozzolana Cement (FAPPC) for cement plants and Ready Mix Concrete plants. • NTPC shall also promote, adopt and set up the ash based product manufacturing facilities within its premises & fly ash brick thus produced shall be utilized in in-house construction works as well as for supply in the market on price. • NTPC shall make efforts to motivate and encourage entrepreneurs to set up ash based building products such as fly ash bricks, blocks tiles, fly ash based aggregate etc. in the vicinity of proposed power plant. • To promote use of ash in agriculture/low lying areas/wasteland development-show case project shall be taken up in the vicinity of proposed thermal power station. • NTPC shall make efforts with authorities of coal mines and other minerals mines for use of ash in reclamation of mines located within 300 km of proposed power station. • All government/ private agencies responsible for construction/ design of buildings, road embankment, flyover bridges and reclamation/ development of low lying areas within 300 km of the plant areas shall be persuaded to use ash and ash based products in compliance of MoEF&CC's Gazette Notification on fly ash. • With all the efforts mentioned above, it is expected that fly ash generated at proposed thermal power station shall be utilized in the areas of cement, concrete & building products
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	manufacturing, road embankment construction, land development, mine filling, shoreline protection structure, agriculture etc.
Stack Height (m) & Type of Flue	Two single flue stacks of 150 m or one bi-flue stack of 220 m height will be provided (to be decided during detailed design)

Name of Project	Expansion / Green Field (new): 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, jhlgitar and Kandagarh in Taluk Pussore, in District Raigarh, in Chhattisgarh (IPP / Merchant / Captive): IPP
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	<p>If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.</p> <ul style="list-style-type: none"> • Ministry of Environment, Forests and Climate Change (MoEF&CC) had accorded Environmental Clearance (EC) for 2x800 MW Coal Based Lara Super Thermal Power Project vide letter no. J-13012/79/2007.IA.II (T) on 13.12.2012 and • EC amendment on 26.04.2017 for “Temporary permission for transport of 6,913 MT/ day of coal through road from Lakhanpur Coal Block to NTPC Lara Power Plant for a period of one year”, • EC amendment on 15.11.2018 for “Permission for transportation of coal of 9,000 Tons/Day by road except through Route Nos. 5 & 7, i.e. from Kotarliya Railway siding and Dulanga Mines (NTPC, for a temporary period of one-year” • Extension of EC Validity on 14.01.2020 for a period of one year(w.e.f 13.12.2019 till 12.12.2020) and extension of permission dated 15.11.2018 for transport coal by road with the quantity of 9,000 TPD for a period of one year (w.e.f. 15.11.2019 till 14.11.2020) on 14.01.2020 • EC Amendment on 21.10.2020 regarding (i) Deletion of condition regarding CSR expenditure, (ii) Modification in condition regarding provision of online continuous monitoring equipments for SOx, NOx, & PM instead of SOx, NOx, PM2.5 & PM10 in Stack (iii) Modification of condition of Continuous Online Monitoring Radio activity and heavy metals contents in coal and fly ash (including bottom ash)
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Salient Features	
Date of the ToR, extension of validity and amendment, if any.	(i) TOR: MoEF&CC vide letter No J-13012/11/2018-IA.I (T) dated 29.10.2018 (ii) TOR Amendment: MoEF&CC vide letter No J-13012/11/2018-IA.I(T) dated 29.08.2022
Capacity & Unit Configurations:	Under Operation Stage-I: 1600 MW (2x800 MW) Proposed Expansion Stage-II: 1600 MW(2x800 MW)
Status of Land acquisition:	A total of 2483.29 acres of land has been acquired under Stage-I for the ultimate capacity of project (Private Land – 1929.17 Acres, Govt. Land. – 179.11 Acres and Forest Land – 375.01 Acres). Stage-I and Stage-II Forest Clearances have already

	<p>been obtained for forest land involved. However, land acquisition of about 78.14 acres of left out patches of private land is till in progress, thereby making total land requirement of the project as 2561.43 acres. Stage-I facilities are constructed in 1676 acres and out of the above while 637 acres is proposed to be utilized for Stage-II units. A provision of 170 acres has been kept for future expansion.</p>																		
<p>Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.</p> <p>If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.</p>	<p>Construction of Lara STPP Stage-II shall start after accord of Environmental Clearance of the Project</p>																		
<p>Break-Up of Land-Use of TPP site:</p>	<table border="1"> <thead> <tr> <th></th> <th>Already Acquired (Acres)</th> <th>Left Out Land (acres)</th> </tr> </thead> <tbody> <tr> <td>Private</td> <td>1929.17</td> <td>78.14</td> </tr> <tr> <td>Govt.</td> <td>179.11</td> <td></td> </tr> <tr> <td>Forest</td> <td>375.01</td> <td></td> </tr> <tr> <td>Total</td> <td>2483.29</td> <td>78.14</td> </tr> <tr> <td></td> <td>Grand Total</td> <td>2561.43</td> </tr> </tbody> </table> <p>No additional land shall be acquired for the proposed project of Stage-II</p>		Already Acquired (Acres)	Left Out Land (acres)	Private	1929.17	78.14	Govt.	179.11		Forest	375.01		Total	2483.29	78.14		Grand Total	2561.43
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<p>Fuel to be used:</p>	<p>Coal</p>																		
<p>Quantity of Fuel Required per Annum:</p>	<p>6.6 MTPA corresponding to 85% PLF</p>																		
<p>Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)</p>	<p>Talaipali Coal Block Mining Project (TLCMP) of NTPC Limited is linked to cater the coal requirement for Lara STPP. EC & FC for TLCMP has already been accorded by MoEF&CC as follows:</p> <ul style="list-style-type: none"> • EC: Letter no. J-11015/279/2009-IA.II (M) dated 02.01.2013 • FC: Stage-I & Stage-II F.No.8-18/2012-FC 																		

	<p>dated 05.11.2012 & 28.01.2014 respectively</p> <p>Ash content in coal: 40(%) Sulphur in coal: 0.5(%) Max Moisture: 15(%) GCV in coal:3000-3500 Kcal/Kg</p>
Details of mode of transportation of coal from coal source to the plant premises along with distances.	Mode of coal transportation from the coal mines to the power plant shall be MGR and Indian Railways. Total distance is 58 Km from Mines to Plant premises
Fly Ash Disposal System proposed:	<p>The bottom ash shall be extracted and disposed off in wet form. The fly ash shall be conveyed in dry form from the electrostatic precipitator hoppers. This dry fly ash is taken to buffer hoppers for its onward transportation in dry form to storage silos near plant boundary for utilization. In case of non-utilization, fly ash shall be taken to HCSD system, where in it shall be mixed with water in agitator tanks for its ultimate disposal in high concentration slurry form to ash disposal area.</p> <p>The ash management scheme for fly ash and bottom ash involves dry collection of fly ash, supply of ash to entrepreneurs for utilisation, promoting ash utilisation and safe disposal of unused ash. NTPC shall make maximum efforts to utilise the fly ash for various purposes. Unused fly ash and bottom ash shall be disposed off in the ash pond.</p>
Ash Pond / Dyke: (Area, Location & Co-ordinates)	<p>Area: 491 Acres(Lara STPP, Stage-I) (No Additional Ash dyke proposed for Lara STPP Stage-II) Co-ordinates: Latitudes: 21°43'7"N to 21°44'27"N Longitudes: 83°27'37"E to 83°29'4"E</p>
Average height of area above MSL (m)	220-242 m
Quantity of Fly Ash to be Generated:	1.792 MTPA
Quantity of Bottom Ash to be Generated:	0.448 MTPA
Fly Ash utilisation percentage	The Ash Utilisation shall be done as per

with details :

Ministry of Environment, Forests and Climate Change Notification dated 31-12-2021 as amended on 31.12.2022. To utilize ash and also to comply the stipulations of MoEF&CC's Gazette Notification on fly ash dated 31-12-2021 following actions would be taken up by NTPC:

- NTPC shall provide a system for 100% extraction of dry fly ash along with dedicated dry ash silos for storage of at least sixteen hours of ash based on installed capacity having separate access roads so as to ease the delivery of fly ash. Provision shall also be kept for segregation of coarse and fine ash, loading this ash to closed/ open trucks and also for loading fly ash into rail wagons. This will ensure availability of dry fly ash required for manufacture of Fly Ash based Portland Pozzolana Cement (FAPPC) for cement plants and Ready Mix Concrete plants.
- NTPC shall also promote, adopt and set up the ash based product manufacturing facilities within its premises & fly ash brick thus produced shall be utilized in in-house construction works as well as for supply in the market on price.
- NTPC shall make efforts to motivate and encourage entrepreneurs to set up ash based building products such as fly ash bricks, blocks tiles, fly ash based aggregate etc. in the vicinity of proposed power plant.
- To promote use of ash in agriculture/low lying areas/wasteland development-show case project shall be taken up in the vicinity of proposed thermal power station.
- NTPC shall make efforts with authorities of coal mines and other minerals mines for use of ash in reclamation of mines located within 300 km of proposed power station.
- All government/ private agencies responsible for construction/ design of buildings, road embankment, flyover bridges and reclamation/ development of low lying areas within 300 km of the plant areas shall be persuaded to use ash and ash based products in compliance of MoEF&CC's Gazette Notification on fly ash.
- With all the efforts mentioned above, it is expected that fly ash generated at proposed thermal power station shall be utilized in the

	areas of cement, concrete & building products manufacturing, road embankment construction, land development, mine filling, shoreline protection structure, agriculture etc.
Stack Height (m) & Type of Flue	Two single flue stacks of 150 m or one bi-flue stack of 220 m height will be provided(to be decided during detailed design)
Source of Water:	Saradih barrage on River Mahanadi
Quantity of water requirement:	Make up water requirement for Lara-II (2 x 800 MW) project would be 4800 m3/hr.
Distance of source of water from Plant:	45 km (Route Length)/34 km (Aerial)
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Yes, Intake structure shall be constructed
Mode of conveyance of water:	Pipeline
Status of water linkage:	Water Resource Department (WRD), Government of Chhattisgarh dated 06.12.2022 have accorded water availability confirmation of 45 MCM (5137 m3/hr) for stage-I (2 x 800 MW) power project and 68 MCM (7763 m3/hr) for stage-II for Lara STPP from Saradih barrage on River Mahanadi.
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	Water Cooled Condenser System
CRZ Clearance	Not Applicable
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	No National parks, Wildlife sanctuaries, Biosphere reserves, Archaeological Heritage sites exists within 10 Km radius
Any litigation/Court case pertaining to the project:	No Court cases regarding Environment issue, However there are other Court Cases regarding land issue.
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Cost of the Project (As per EC	<ul style="list-style-type: none"> As per EC Project Cost of Stage-I is Rs.

<p>and revised): Cost of the proposed activity in the amendment:</p>	<p>9568.27 Crores</p> <ul style="list-style-type: none"> • Approved Cost of Stage-I of Project: Rs. 17,779.45 Crores • Estimated Cost of Stage-II of Project: Rs. 14,000 Crores
<p>Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).</p>	<ul style="list-style-type: none"> • Current employment at existing power plant (Lara STPP Stage-I)-1773 (Permanent-273 & Temporary-1500) • The estimated employment generation from the proposed project (Stage-II) <ul style="list-style-type: none"> (a) During Construction- 4000-5000 (Permanent-112 & Temporary-4000-5000; depending on the construction phase of the project) (b) During Operation- 1905 (Permanent-405 & Temporary-1500) <p>However, the manpower shall be optimised and the exact number of manpower shall be decided during the construction/ operation phases of the project.</p>
<p>Benefits of the project (specify quantitative information)</p>	<ul style="list-style-type: none"> • Proposed Lara STPP Stage-II (2x800 MW) will have State of Art Ultra Super Critical Technology which has better efficiency and less carbon emissions in comparison to sub-critical technology. Installation of High efficiency ESP, FGD and De-Nox System will comply the new emission norms of MOEF&CC. • On CER Activities: Rs. 7.39 Crores (For three years) • The setting up of the proposed project will lead to direct and indirect benefits to the overall socio-economic development of the region. • On CSR Activities: Rs. 20 Crores & recurring Rs.6.0 Crores (For Both Stage-I&II) <p>These will also benefit the local population. NTPC has taken up several community welfare and community development activities under Corporate Social Responsibility and this will be strengthened during commissioning of Lara STPP Stage-II.</p>
<p>Any other declaration</p>	<p>---</p>