



File No: J-13012/127/2007-IA.II(T)
Government of India
Ministry of Environment, Forest and
Climate Change
IA Division



Date 28/02/2025



To,

Sh. Rajesh Malik
M/s NTPC LIMITED
NTPC Limited, NTPC Bhawan, SCOPE Complex, Institutional Area, Lodhi Road, New Delhi – 110003
E-mail: environment.ntpc@gmail.com

Subject: Expansion of existing 1980 MW (3x660 MW) Nabinagar Super Thermal Power Project by addition of 3x800 MW units (Stage-II) by M/s. NTPC Limited located at Village Majhiyan, Taluka Nabinagar, District Aurangabad, Bihar - Grant of Environmental Clearance – regarding.

Sir/Madam,

This is with reference to your proposal number IA/BR/THE/520111/2025 dated 29/01/2025 along with a written submission on dated 20.02.2025 seeking for grant of Environmental Clearance (EC) under the provision of the EIA Notification 2006 and as amended thereof for the proposed project mentioned above.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25A0601BR5449304N
(ii) File No.	J-13012/127/2007-IA.II(T)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(d) Thermal Power Plants
(vi) Sector	Thermal Projects
(vii) Name of Project	Nabinagar Super Thermal Power Project, Stage-II (3X800 MW)
(viii) Name of Company/Organization	M/s NTPC LIMITED
(ix) Location of Project (District, State)	AURANGABAD, BIHAR
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. M/s. NTPC Limited has made an online application vide proposal no. IA/BR/THE/520111/2025 dated 29/01/2025 along with copy of EIA/EMP report, CAF (Part A, B & C) and Certified compliance report seeking Environment Clearance (EC)

under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at item no. 1(d) Under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

4. The instant Proposal was considered by the EAC (Thermal) in its 19th meeting held on 11th February, 2025. The PP has submitted the written information on 20.02.2025. The MoM for the same may be seen using the following web link: <https://parivesh.nic.in>

Details submitted by the project proponent

5. The project of M/s. NTPC Limited is located at village Majhiyan, Taluka Nabinagar, District Aurangabad, Bihar is for enhancement/expansion of capacity by adding 2400 MW (3x800 MW) units (Stage-II) based on Ultra Super Critical Technology with Air Cooled Condenser (ACC) to existing capacity of 1980 MW (3x660 MW) units (Stage-I) based on Super Critical Technology with Water Cooled Condenser System. There is no involvement of forest land for the proposed Stage –II project.

6. The detail of the Terms of Reference (ToRs) obtained for the expansion project for undertaking EIA/EMP study is furnished as below:

Proposal No with date	Consideration	Details	Date of accord	ToR Validity
IA/BR/THE/462996/2024 Dated 16/02/2024	6 th meeting of EAC held on 27.02.2024	Terms of Reference	15.04.2024	14.04.2028

7. The existing project was granted environmental clearance for Stage-I: 1980 MW (3x660 MW) vide letter no. J-13012/127/2007-IA.II (T) dated 27.12.2010 and subsequent amendments dated 20/03/2018, 14/01/2020. In addition to this, another EC amendment application was submitted on 30/11/2024 vide proposal no. IA/BR/THE/509675/2024 for inclusion of 7.3875 Ha of Forest land. Proposal was discussed in 17th EAC meeting held on 30/12/2024. As per MOM uploaded on 07/01/2025, EAC has recommended the EC amendment proposal for inclusion of 7.3875 Ha of Forest Land. Stage-I forest clearance for Nabinagar STPP Phase-I was granted on 03/05/2019 and Stage-II forest clearance was granted on 15/11/2019.

Consent to Operate for the existing units 1980 MW (3x600 MW) Stage-I was accorded by Bihar State Pollution Control Board (BSPCB) vide consent no. 1839 & 1840 dated 15/06/2022. The validity of CTO is up to 14/06/2027.

S. No.	Details of Letter No.	Facility	Clearance	Date of issuance
1.	J-13012/127/2007-IA.II (T)	3x660 MW Super-Critical Technology Coal Based Nabinagar Thermal Power Plant	EC Valid up to 26.12.2017	27/12/2010
2.	J-13012/127/2007-IA.II (T)	3x660 MW Super-Critical Technology Coal Based Nabinagar Thermal Power Plant	EC validity extension valid up to 26.12.2019	20/03/2018
3.	J-13012/127/2007-IA.II (T)	3x660 MW Super-Critical Technology Coal Based Nabinagar Thermal Power Plant	EC validity extension valid up to 26.12.2020	14/01/2020
4.	IA/BR/THE/509675/2024	Land requirement shall be restricted to 1500 acres including ash pond and with inclusion of forest land 7.3875 Ha (18.25 acres)	EC amendment proposal recommended by EAC	17 th meeting of EAC held on 30/12/2024

8. The implementation status of the existing EC is given below:

S. No.	Configuration	Capacity (MW)	EC details	Implementation Status as on 15/10/2024	Production as per CTO
1.	3x660 MW	1980 MW (Stage- I)	EC dated 27.12.2010 and amendments dated 20/03/2018 & 14/01/2020	Project has been implemented and the unit is under operation	CTO renewal for the 1980 MW obtained and is valid up to 14/06/2027.

9. **Certified compliance report from Regional Office:** The status of compliance of earlier EC was obtained from MoEF&CC Regional Office, Ranchi, Jharkhand vide letter no. 105-36/ROR-2024 dated 14/01/2025. The Action taken report regarding the partially/non-complied condition was submitted to Regional office, MoEF&CC, Ranchi, Jharkhand vide letter no. 1086/NSTPS/Envnt.Mgt./12/2025/08 dated 22/01/2025. The said report has been deliberated by the EAC.

10. Environmental site settings:

S. No.	Particulars	Details				Remarks
1.	Total land	1202.88 Ha [Govt.: 24.04 Ha; Private: 1,171.45 Ha; Forest: 7.3875 Ha]				Land use: The land used for the proposed expansion is within existing TPP land area which is already under the possession of project proponent.
2.	Land use break up			Land break up (Ha)		--
		S. N.	Description	Existing 3x660 MW Stage-I	Proposed 3x800 MW Stage-II	Total (Stage-I&II)
		A	Main-Plant Facility			
		i	Main Plant (Ha): BTG, CTs/ACC, Coal Stockpile, WTP, Sw. Yard etc.	115.99	104.85	220.84
		ii	Other & Misc Make-up water corridor, Railways siding, Raw Water Reservoir, etc.	112.11	73.15	185.26
		iii	Township	58.74	0.00	58.74
		iv	Ash Dyke	199.24	110.00	309.24
		B	Green Belt	121.20	307.60	428.80
			Grand Total (A+B+C)	607.28	595.60	1202.88
3.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	The proposed expansion is within the existing plant premises area. The land is already under the possession with NTPC Limited.				
4.	Existence of habitation & involvement of R&R, if any.	Project site: Nil Study Area:				R&R is not required as land is already under possession of the proponent.
		S. No.	Habitation	Distance (Km)	Direction	
		1.	Kendriya Vidyalaya NPGC Nabinagar	0	Project Site	
		2.	Bal Bharti Public School NPGCL	0	Project Site	
		3.	Khaira Public School	0.5	E	
		4.	Madhe Sivanpur Janta High School Ankorha	0.1	SE	
		5.	Swatantra Public School	0.6	SSW	
5.	Latitude and Longitude	A. Plant site				--

S. No.	Particulars	Details				Remarks		
	of all corners of the project site.	Point		Latitude	Longitude			
		A		24°48'35.57"N	84°09'47.58"E			
		B		24°48'34.21"N	84°09'52.61"E			
		C		24°48'39.56"N	84°09'55.84"E			
		D		24°48'17.02"N	84°11'15.34"E			
		E		24°47'59.75"N	84°11'9.987"E			
		F		24°48'0.185"N	84°10'46.68"E			
		G		24°47'32.53"N	84°10'24.82"E			
		H		24°47'8.849"N	84°10'28.90"E			
		I		24°45'26.45"N	84°09'55.77"E			
		J		24°45'46.45"N	84°08'44.21"E			
		K		24°45'56.10"N	84°08'48.88"E			
		L		24°45'58.59"N	84°08'44.87"E			
		M		24°46'04.74"N	84°08'48.99"E			
		N		24°46'03.25"N	84°08'51.79"E			
		O		24°46'47.46"N	84°09'06.40"E			
		P		24°46'58.97"N	84°08'42.99"E			
		Q		24°47'0.578"N	84°08'44.19"E			
		R		24°46'47.69"N	84°09'08.26"E			
		S		24°48'14.60"N	84°09'37.91"E			
		B. Ash Pond: Existing						
		Point		Latitude			Longitude	
		A		24°48'41.85"N			84°9'49.884"E	
		B		24°48'17.20"N			84°11'15.29"E	
		C		24°47'59.98"N			84°11'09.72"E	
		D		24°47'58.59"N			84°10'44.66"E	
		E		24°48'17.15"N			84°09'39.59"E	
		C. Ash Pond: Proposed						
		Point		Latitude			Longitude	
		A		24°48'15.03"N			84°9'41.799"E	
		B		24°47'57.94"N			84°10'41.41"E	
		C		24°47'33.14"N			84°10'21.18"E	
		D		24°47'47.46"N			84°9'31.145"E	
6.	Elevation of the project site	140-145 m above mean sea level						
7.	Involvement of Forest land if any.	Nil. Proposed Nabinagar STPP Stage-II project does not involve any Forest Land, While Forest Land Parcel of 7.3875 Ha is involved in Nabinagar STPP Stage-I project. Stage-I forest clearance for Nabinagar STPP Phase-I was granted on 03/05/2019 and Stage-II forest clearance was granted on 15/11/2019.				There is no forest land involved in the proposed Nabinagar STPP Phase-II project.		
8.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	Project site: Nabinagar STPP Stage-II Study area: 10 km from the project area				Letter Ref. no. 1570 dated 31.12.2024		
		S.N.	Name	Distance (in Km)	Direction	The High Flood Level (HFL) in some River, Indrapuri, Sone Barrage is (+) 110.90 m, Approx. distance of 5.685 KM from TPP.		
		Water Bodies						
		1	Main Eastern Canal	0.30	NNW			
		2	Son River	0.80	WNW			
		3	Punpun Nadi	3.30	E			

S. No.	Particulars	Details				Remarks												
		4	Eastern Son High level canal	3.60	NNE													
		5	Ramrekha Nadi	4.50	SE													
		6	Barki Nala	5.20	E													
		7	Main western canal	5.80	NW													
		8	Western Son high level canal	9.80	NNW													
		9	Patna Canal	11.20	NE													
		10	Batane Nadi	13.10	ENE													
9.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/elephant reserve etc. if any within the study area	Study area: Nil Status of NBWL approval: Not Applicable List of Reserved and protected forests: <table><tr><th>S. N.</th><th>Name</th><th>Distance (in Km)</th><th>Direction</th></tr><tr><td>1</td><td>Protected forest n/v Surar</td><td>9.40</td><td>SSW</td></tr><tr><td>2</td><td>Protected forest n/v Koiridih</td><td>10.00</td><td>NW</td></tr></table>				S. N.	Name	Distance (in Km)	Direction	1	Protected forest n/v Surar	9.40	SSW	2	Protected forest n/v Koiridih	10.00	NW	--
S. N.	Name	Distance (in Km)	Direction															
1	Protected forest n/v Surar	9.40	SSW															
2	Protected forest n/v Koiridih	10.00	NW															
10.	Archaeological sites/monuments/ historical temples, etc.	Not present in 10 km radius w.r.t TPP. Hence Not Applicable				Not Applicable												
11.	Involvement of Critically Polluted Area/Severely Polluted area as per 2018 CEPI core	Nil				--												

11. The unit configuration and capacity of existing and proposed project is given as below:

S. N.	Existing power plant configuration and capacity	Proposed power plant configuration and capacity	Total	Technology
1.	3x660 MW (1980 MW)	3x800 MW (2400 MW)	4380 MW	Stage-I: Super Critical Technology with Water Cooled Condenser System Stage-II: Ultra Super Critical Technology with Air Cooled Condenser System

12. The details of the fuel requirement (Coal & LDO) for the existing and the proposed expansion project along with its source and mode of transportation is given as below:

• **Coal Characteristics:**

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal Characteristics (Worst case scenario)	Linkage document
Existing TPP (3x660 MW)	Coal: Stage-I 11.25 MTPA (90 % PLF)	CCL		By rail	Ash – 40.4 (%) Sulphur-0.48 (%) Moisture-17.76 % GCV-3995 Kcal/Kg	1. Fuel (Coal) supply agreement is available with CCL and
		BCCL	319-421 km	By rail	Ash – 40.79 (%) Sulphur -0.5 (%)	BCCL. 2. In case of

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal Characteristics (Worst case scenario)	Linkage document
					Moisture -16.6% GCV-4328 Kcal/Kg	exigency Coal from other sources (PBCMP, NCL, MCL, THDC, EC) will be used.
		PBCMP	259 km	By rail	Ash – 42.88 (%) Sulphur -0.47 (%) Moisture -15.87% GCV-4169 Kcal/Kg	
		NCL	265-268 km	By rail	Ash – 39.79 (%) Sulphur -0.52 (%) Moisture -18.22% GCV-3804 Kcal/Kg	
		MCL	600-650 km	By rail	Ash – 44.99 (%) Sulphur -0.46 (%) Moisture-17.81% GCV-3291 Kcal/Kg	
		THDC	300 km	By rail	Ash – 33.46 (%) Sulphur -0.51 (%) Moisture -17.14% GCV-4247 Kcal/Kg	
			360-380 km	By rail	Ash – 40.4 (%) Sulphur -0.48 (%) Moisture -13.35% GCV-3995 Kcal/Kg	
Proposed TPP (3x800 MW)	Coal: Stage- II 10.24 MTPA (85% PLF)			By rail	Ash -40.4 (%) Sulphur – 0.48(%) Moisture – 16% GCV -3995 Kcal/Kg	ECL BCCL MCL
			319-421 km	By rail	Ash – 40.79 (%) Sulphur -0.5 (%) Moisture -16.6% GCV - 4328 Kcal/Kg	
		MCL	600-650 km	By rail	Ash – 44.99 (%) Sulphur -0.46 (%) Moisture -17.81% GCV-3291 Kcal/Kg	

• LDO Characteristics:

Details	Fuel requirement (in KL PER ANNUM)	Source	Distance from site (Kms)	Mode of Transportation	LDO Characteristics	Linkage document
Existing TPP (3x660 MW)	7800	BPCL HPCL IOCL	Within 1000kms	By road	Density- 839.2 (kg/m ³) Sulphur-1.1 (%) Moisture-0.10 (%) Flash Point -85 (°C)	--
Proposed TPP (3x800 MW)	9500	BPCL HPCL IOCL	Within 1000kms	By road	Density- 839.2 (kg/m ³) Sulphur -1.1 (%) Moisture-0.10 (%) Flash Point -85 (°C)	--

13. **Water Requirement:** Existing Water requirement is 1,42,560 KLD, water requirement is obtained from Indrapuri Barrage on Sone River and permission for 3,05,821.95 KLD (125 Cusecs) has been obtained from WRD, Govt. of Bihar,

vide letter no Letter No-PMC-4(T)(A)4/2003-974, dated 06.06.2007. The water requirement for the proposed project is estimated as 72,000 KLD, Total Water Requirement of the project will be 2,14,560 KLD, which is well within the existing permission limit. For freshwater conservation Air Cooled Condenser System will be used in Nabinagar STPP Stage-II. The water will be transported to the plant site through pipeline. The present Specific water consumption is 2.5 m3/MWhr against the norm of 3.0 m3/MWhr and in Stage-II specific water consumption will be maintained within prescribed norms.

14. Power requirement: Existing power requirement of 1800 KVA is obtained from M/s. South Bihar Power Distribution Co Ltd. The power requirement for the proposed project is estimated as 6 MVA, out of which 6 MVA will be obtained from the M/s. South Bihar Power Distribution Company Ltd.

15. Baseline Environmental Studies:

Period	Pre- Monsoon Season (4 th March 2024 to 30 th May 2024)	
AAQ parameters at 10 Locations (min and max)	PM ₁₀ (µg/m ³)	54.9 – 92.4
	PM _{2.5} (µg/m ³)	26.0 – 54.8
	SO ₂ (µg/m ³)	8.6 – 22.6
	NO _x (µg/m ³)	7.7 – 36.2
	CO (mg/m ³)	0.69 – 0.97
Incremental level	<p>GLC Scenario: <u>With FGD & low NO_x burner</u> Stack height: 275 m. PM emission rate: 30 mg/Nm³. SO₂ emission rate: 100 mg/Nm³. NO_x emission rate: 100 mg/Nm³. PM = Max. GLC (2.96 µg/m³) SO₂ = Max. GLC (9.87 µg/m³) NO_x = Max. GLC (9.87 µg/m³) The Stage-II units (3x800 MW) will incorporate high-efficiency (with 99.99%) Electrostatic Precipitators (ESP) to control ash particle emissions. These ESPs will design to limit particulate emissions to 30 mg/Nm³. Additionally, a chimney of 275 m height, complying with MOEF&CC guidelines (dated 28.06.2018), will be erected to disperse emissions effectively. To mitigate fugitive dust emissions within and around the coal handling plant, systems for coal dust extraction and suppression will be implemented. Dust suppression systems will cover critical areas such as the Coal unloading area, Coal Handling Plant (CHP), coal stack yard, and ash handling facilities including silos and ash ponds, coal conveying systems and coal transfer points. The DE/ DS systems typically include Dry Fogging, dry extraction (with suction) and water sprinkling systems. Low NO_x burners are designed to minimize the formation of nitrogen oxides during the combustion process by controlling the air-fuel mixture and flame temperature. Additionally, combustion staging involves dividing the combustion process into multiple stages, which helps in reducing peak flame temperatures and hence lowering thermal NO_x generation thereby lowering NO_x emissions. This integrated approach will effectively mitigate NO_x emissions from the steam generator, ensuring compliance with environmental regulations and promoting cleaner air quality. A wet limestone-based flue gas desulphurization (FGD) system will be installed downstream of the electrostatic precipitator (ESP) at the tail end of the steam generator to limit SO₂ emissions to 100 mg/Nm³. This system is designed to capture SO₂ gas by reacting it with limestone slurry to produce gypsum. The FGD system will include a bypass system for operational flexibility.</p>	
Ground water quality at 6 locations	pH: 7.14 to 7.62, Total dissolved solids: 371.22 to 588.31 mg/l, Total Hardness (as CaCO ₃): 162.8 to 274.1 mg/l, Total Alkalinity: 210.63 to 356.72 mg/l, Chlorides: 20.6 to 72.62 mg/l, Fluoride: 0.22 to 0.62 mg/l. Dissolved Oxygen: 6.39 to 8.75 mg/l, Heavy metals like Iron: 0.12 to 0.42 mg/l, Zinc: 0.14 to 124 mg/l, As, Cd, Cr+6, Cu, Pb, Se, Hg are Below Detective Level (BDL)	
Surface water	pH: 7.11 to 7.58,	

quality at 6 locations	Dissolved Oxygen: 5.20 to 6.20 mg/l, BOD: 6.0 to 16.92 mg/l, COD: 16.0 to 62.0 mg/l							
Effluent generation details and its treatment								
Noise levels Leq (Day and Night) at 10 locations	52.8 dB(A) to 66.5 dB(A) for the Day time and 40.8 dB(A) to 46.2 dB(A) for the Night time.							
Traffic assessment study findings	Traffic study has been conducted at Barun-Nabinagar road connecting road to NH-19 which is approximately 750 m from the plant site. · Transportation of raw material (coal) will be done 100 % by rail. · Existing PCU is 146 PCU/hr on Barun-Nabinagar road connecting road to NH-19 and existing level of service (LOS) is: B							
	Road	V (Volume PCU/hr.)	C (Capacity PCU/hr.)	Existing V/C Ratio	LOS			
	Barun-Nabinagar road connecting road to NH-19	146	625	0.23	B			
	Road	V (Volume PCU/hr.)	C (Capacity PCU/hr.)	Proposed V/C Ratio	LOS			
	Barun-Nabinagar road connecting road to NH-19	207	625	0.33	B			
	* Note: Capacity as per IRC-64:1990 Guidelines for capacity for roads. Conclusion: The level of service (LOS) will not change after including additional traffic due to the proposed project.							
Soil Quality at 10 Locations	pH range: 7.13 to 7.72, Electrical conductivity (EC): 540 to 920 µmhos/cm, Nitrogen: 27.20 to 314.80 mg/kg, Phosphorous: 4.05 to 6.72 mg/kg, Potassium: 177.20 to 204.60 mg/kg, Cation Exchange Capacity (CEC): 11.3 to 141 meq/100gm							
Flora and fauna	There are 12 Schedule-I species, 13 Species of mammals, 14 species of birds, 8 species of reptiles and amphibians recorded in the buffer area. The List of Flora & Fauna is duly authenticated by DFO, Aurangabad vide letter no. 2796 dated: 12.12.2024. The Wildlife Conservation Plan is Prepared and submitted for its approval from State Forest Department. Budget for wildlife conservation plan is Rs. 126 lakhs.							
Hydrogeology study	Hydrogeology Study carried out by M/s. Hydro Geo Solutions LLP, Gurgaon, Haryana, a CGWG accredited organization. Recommendations of the Hydrogeology report: Watershed Management Plan prepared by NABET Accredited EIA Consultant M/s. Greencindia Consulting (P) Ltd, Ghaziabad, Uttar Pradesh. Consultant details: M/s. Hydro Geo Solutions LLP, Gurgaon, Haryana. A CGWG accredited organization.							
Impact study on bio-diversity and aquatic ecology	Recommendations of study report: The study of biodiversity revealed that the adjacent forest area forms the habitat of some species which are listed in Schedule-I & Schedule-II of the Indian Wildlife (Protection) Act, 1972 and its subsequent amendments. There are 13 Species of mammals, 14 species of birds, 8 species of reptiles and amphibians recorded among faunal group.							
	Component	Items Proposed	Financial Outlay (in Lakhs)					Financial Outlay (in Lakhs)
			1 st Year	2 nd	3 rd Year	4 th Year	5 th Year	

			Year				
Component 01: Habitat Management							
1	Greenbelt Development/Plantation and Management	2	2	2	2	2	10
2	Water Management (maintenance of ponds/water bodies used by animals), Bird Baths	1	1	1	1	1	5
3	Grassland Management	2	2	2	2	2	10
4	Seed Balls Preparation	2	1	1	1	1	6
5	Sapling Procurement & Distribution	2	2	2	2	2	10
Componenet-02: Fire management							
1	Fire Management Squad	2	2	2	2	2	10
Componenet-03: Wildlife Management							
1	Setting up of animal rescue center, Prevention of Diseases in animals	4	4	4	4	4	20
2	Wildlife Monitoring	2	2	2	2	2	10
Component 04: Awareness Generation & Capacity Building							
1	Awareness Campaign, Garbage Bins, Distribution of Storage Containers to Villages,	2	2	2	2	2	10
2	Mitigation measures for Man Animal Conflict	2	2	2	2	2	10
3	Capacity Building through training	2	2	2	2	2	10
4	Infrastructure Building for the forest department	3	3	3	3	3	15
Total (One hundred Twenty-six lakhs)							126
Consultant details: NABET Accredited EIA Consultant M/s. Greencindia Consulting (P) Ltd, Ghaziabad, Uttar Pradesh.							
Risk assessment study	<p>For LDO an existing 3000 m³ tank (formerly for HFO) is used and two new 2000 KL tanks with containment dykes will be provided. A quantitative risk assessment for LDO has been carried out and provided in Chapter 7 of the Final EIA/EMP report.</p> <p>Risk associated with LDO has been assessed and is included in the Emergency Management Plan which inter-alia includes the following:</p> <ul style="list-style-type: none"> · The LDO storage shall be located at least 100 m away from coal storage area in view the predicted heat radiation contour distance. · Protective systems with high reliability and availability should be designed to ensure that these physical conditions are maintained. · Dyke shall be provided for LDO Storage Tanks · Co-ordination with local authorities such as fire, police, ambulance, district administration and nearby industries would be ensured to manage / control meet any eventuality. · To prevent the hazard of static electricity, the fill and recirculation lines to the Storage Tanks shall be located below the liquid level. · The following arrangements are suggested for LDO Storage Tanks: <ul style="list-style-type: none"> ü One independent high-level alarm and trip off liquid inlet-line. ü One low level alarm with trip off device. ü Provision of auto deluge Water Sprinkler system for each bulk Storage Tank. The auto deluge 						

	<p>Water Sprinkler would be set to start working at a temperature of 66°C.</p> <ul style="list-style-type: none"> · In case of any Tank on fire or fire in the vicinity, the cooling of adjoining tank shall be resorted promptly in addition to Tank on fire so that the affected tanks well as the neighbouring Tanks does not give away. · The night vision wind stocking be mounted on top of administrative building, main plant building and storage tanks is preferred so that people can move in upwind directions in the event of massive spillage from tank on fire. · Maintain compliance with the guidelines of MoEF&CC and other relevant bodies. <p>Consultant details; NABET Accredited EIA Consultant M/s Greencindia Consulting (P) Ltd, Ghaziabad, Uttar Pradesh.</p>
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16. The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S. N.	Type of Waste	Source	Quantity generated	Mode of Treatment	Disposal	Remarks
Hazardous Waste						
1	Used oil/Spent Oil	Main Plant	23.0 KL	--	Through Recycler	M/s. Unison lubricants Pvt Ltd.
2.	Plastic empty Barrels/ drums/containers	Main Plant	4.281 Ton	--	Through Recycler	M/s. Om Industries Rohtak
3.	Spent Resin	Main Plant	0.8 Ton	--	--	Stored in Hazardous Shed.
Non-Hazardous Waste						
1.	Ferrous (iron Steel Scrap)	Main Plant	1200 Ton	--	Through Recycler	Being sold through auctions
2.	Biodegradable waste	Town Ship	54.75 Ton	Vermi Composting	--	Used as a manure in Plantation.
3.	Plastic waste	Main plant /Township	19.00 Ton	--	Through Co-processor	M/s Dalmia DSP Banjari

17. Public Consultation:

Details of advertisement given	Navbihar Times & Hindustan Dated: 24.09.2024
Date of public consultation	13.11.2024
Venue	Nabinagar Super Thermal Power Project, Nabinagar, Aurangabad.
Presiding Officer	Sri Shrikant Shastree, District Magistrate, Aurangabad
Major issues raised	Employment, Air Pollution due to ash transportation, Health Care Facility, Tree Plantation, Pond construction, Renovation of Pond, Library, Free Power Supply, Street Light, Water sprinkling on Road, Rail Over Bridge, etc
No. of people attended	968 Nos

Action plan as per MoEF&CC O.M. dated 30/09/2020 to address the concerns of public consultation:

S.No.	Name/ Address.	Comments, Questions/ Objections and Suggestions from citizens/ members/ villagers	Response and comments from NTPC Nabinagar Project Proponent	Action Plan	Budget Rs in lakhs	Timeline
1.	Shri Bhola Yadav, Village: Lakhepur,	In the interest of local farmers, their basic	Irrigation facility - NTPC Nabinagar will approach to	Irrigation issue to be taken up	-- 25.00	6-12 months.

S.No.	Name/ Address.	Comments, Questions/ Objections and Suggestions from citizens/ members/ villagers	Response and comments from NTPC Nabinagar Project Proponent	Action Plan	Budget Rs in lakhs	Timeline
	Aurangabad:	<p>facilities like irrigation facilities should be restored, during construction of national highways dust particles spread on the roads due to fly ash and its cleaning sprinkling facility should be provided on the roads. The employment of local citizens and the solution of family dispute should be found soon and the concerned should be given annuity benefits. This area should be connected to Employees State Insurance Corporation (ESIC) and arrangements for opening a hospital should be ensured.</p>	<p>Minor Irrigation Department, Govt. of Bihar to resolve the issue of irrigation of farmers land. NTPC Nabinagar has taken care to cover the ash while transporting through Hywa for construction of National Highway and arrangements have been made for continuous sprinkling of water through tankers and clearing of the route of transportation. Annuity to PAPs - As per decision taken with farmers (Project affected persons), annuity is being provided through LIC of India. So far, annuity is being paid to 1610 PAPs and the payment of annuity to 110 PAPs will started by Feb-March-2025.</p> <p>The project of NTPC Nabinagar is based on State-of-Art technology, hence the possibility of direct employment will be limited. However, during the construction of the project, maximum priority is being given to the locals residing in nearby villages through indirect employment.</p> <p>Presently, Aurangabad district is not notified under ESIC area. NTPC Nabinagar has requested the Regional Office of ESIC to notify Aurangabad district through letter No.0370/NSTPS/ER/01 -dtd.03.12.2024, so that</p>	<p>with irrigation department, Govt. of Bihar. Action taken for water sprinkling requirement every year. Under Implementation Under Implementation Under Implementation</p>	-- -- --	<p>On regular basis 2 months to 12 Months 0-5 years 0-1 year</p>

S.No.	Name/ Address.	Comments, Questions/ Objections and Suggestions from citizens/ members/ villagers	Response and comments from NTPC Nabinagar Project Proponent	Action Plan	Budget Rs in lakhs	Timeline
			the workers may get health benefits.			
2	Shri Mudrika Singh Yadav, Sheikhpora, Aurangabad	Employment should be provided to local unemployed children as per their qualification and the annuity benefit amount of the farmers should be paid as soon as possible.	2.1-Please refer reply given at Key Issue 1.4 Employment. 2.2 – NTPC will approaches the balance PAPs to submit the details and relevant documents to start the annuity benefits.	-- Under Implementation	-- --	-- 1-2 years
3	Shri Arun Kumar, Village: Madhe, Aurangabad	The labourers dependent on the land acquired under the proposed project should be identified and their 750 days minimum agricultural wage (MAW) should be paid as soon as possible. Village Health Centre in Ankorha, free electricity to villagers, increase in employment opportunities for youth, arrangement of sprinkling of water to prevent dust emission from fly ash, plantation of more and more trees, halting of trains at Ankorha station, arrangement of payment for 3.5 acres of land of Radhe Krishna temple of Madhe village should be ensured.	3.1 – The process of land acquisition for setting up the project was done in the year 2011-12, which is already completed. The list of dependent labourers has not been provided by the district administration. 3.2 – Health Centre at village Ankorha -around of plant. Additional primary Health Centre building has been completed in village Ankorha under CD scheme of NTPC. Action will be taken up with State health department to start in this year. 3.3 – Free electricity to local citizens. NTPC is not authorised to distribute electricity under the Electricity Act-2003. 3.4 - Please refer reply given at Key Issue 1.4 Employment. 3.5- Please refer reply given at Key Issue – 1.2 - Fugitive dust emission Till now, NTPC, Nabinagar has planted around 1,52,000 tree in a planned manner in the area around the plant and work of planting trees will be done regularly in future also so that the environment remains clean.	-- Under Implementation -- Additional Approx 7,00,000 Lakh Trees will be planted in-- Under Implementation	-- 94.00 -- 6767.00 --	-- 2-6 months -- 1-8 years 2-3 months 0-12 months

S.No.	Name/ Address.	Comments, Questions/ Objections and Suggestions from citizens/ members/ villagers	Response and comments from NTPC Nabinagar Project Proponent	Action Plan	Budget Rs in lakhs	Timeline
			3.6 – Stoppage of Train at Ankroha- NTPC management will request the higher level of railway administration for stoppage of trains at Ankroha railway station. 3.7 – The land compensation payment of Radhe Krishna temple will be taken up with district land acquisition department after receipt of required documents from claimants.			
4	Shri Rameshwar Singh, Village: Shivanpur, Aurangabad	Urged to stop trains at Ankroha station and provide employment to the children of farmers.	4.1 - Please refer reply given at Key Issue 3.6-- Stoppage of train at Ankroha railway station. 4.2 - Please refer reply given at Key Issue 1.1 Employment.	-- --	-- --	-- --
5	Shri Satish Singh, Village: Simaras Dusadh, Aurangabad:	Drew attention towards setting up of ROB in village Simara Dusadh. Construction of Surya Mandir Pond in village Kanker and Badem and maintenance of water reservoirs to make environment free from possible pollution.	5.1 - Key Issue ROB- ROB at Ankroha, Simar & Badki Salaiya - A request will be made at high level to the Railway Management for ROB in village Ankroha, Simra & Badki Salaiya. 5.2 – The work of renovation of pond in village Kanker and Badem will be done through NTPC Community Development Program / CSR. 5.3 Scientific study is being conducted for the maintenance of water bodies available in the area around NTPC project. Based on the recommendations of the study, proper arrangements will be made for the maintenance of water bodies.	Under Implementation (is being taken up with Indian Railways on deposit basis as per railway Norms) Renovation of pond in village Kanker and Badem is planned. Scientific Study	-- 80.00 16.00	-- 1-3 years 1-3 years
6	Shri Wakil Singh,	Added construction of	6.1 – If land is made	6.1 Library to be	40.00	3-4 years

S.No.	Name/ Address.	Comments, Questions/ Objections and Suggestions from citizens/ members/ villagers	Response and comments from NTPC Nabhinagar Project Proponent	Action Plan	Budget Rs in lakhs	Timeline
		community development and further development of the local area through CSR, construction of ROB at Ankorha and Salaiya and linking of ROB with Bharat Mala Project at Simra village.	11.2 – CSR & CD works –with railways regarding ROB The scheme is being implemented under the CSR policy of NTPC, in which most of the development works are being done in the surrounding villages. 11.3 –Details of implementation of ROB Please refer sl. No.5.1			
12	Shri Baleshwar Singh, Village: Khaira, Aurangabad:	Proposed irrigation facilities to farmers, employment opportunities to the unemployed, proposal of bulb corridor by railway and renovation of the big pond in Khaira by NTPC.	12.1 - Please refer reply given at Key Issue 1.1 Irrigation facility to farmers. 12.2 – The process related to land acquisition for construction of Bulb Corridor has been done by Indian Railways. 12.3 – The work of renovation of ponds and arrangement of Solar lights will be done through NTPC's Community Development / CSR.	-- -- Pond renovation in Khaira Village. Solar lights installation in Khaira village.	45.00 5.00	-- -- 1-2 years 1-2 Years
13	Shri Radhe Prasad Yadav, Village: Meh, Aurangabad:	A proposal was made to provide irrigation facilities to farmers, free electricity, benefits of CSR scheme to villagers on a general basis, beautification work in Amba and Meh and proper solution to the problem of ash into the surrounding area by NTPC Management.	13.1 - Please refer reply given at Key Issue 1.1 Irrigation facility to farmers. 13.2 – Please refer reply given at Sl.No.3.3 - Free electricity to local citizens. 13.3 – The benefit of CSR scheme is being provided to all the concerned villages. The CD work in Amba being taken under Community Development program. In village Meh, various CD works has already completed up like Construction of APHC, Village road and hand pumps. 13.4 - Please refer reply given at Key Issue 1.2 – Fugitive dust.	-- -- Community development activities already taken up in Amba for village road.	38.00	-- -- 1-2 Years
14	Shri Sunil Gupta,	Suggested for proper	14.1 – Sprinkling of water	--	--	--

S.No.	Name/ Address.	Comments, Questions/ Objections and Suggestions from citizens/ members/ villagers	Response and comments from NTPC Nabinagar Project Proponent	Action Plan	Budget Rs in lakhs	Timeline
		related cases in Gaya transfer of cases from Could should be Gaya court to Aurangabad brought to Aurangabad is jurisdiction of the Court and the amount competent court. should be paid on the basis of verification of records.				
17	Shri Vijay Kumar Singh, Village: Madar, Aurangabad	Arrangements should be made for drainage of water logging in Madar village during rains season and suggested construction of culvert.	17.1 - The construction of culvert in village Marar will be done under CSR scheme.	Construction of culvert in Madar Village. Under progress.	13.00	6 months
18	Shri Birendra Kumar Singh, Village: Madhe, Aurangabad	Suggested that the benefits related to displaced persons should be given to the landowners and their sons also.	18.1 - Benefits are being provided to the family of farmers under the Rehabilitation & Resettlement policy of NTPC.	--	--	On regular basis.
19	Shri Sanjay Giri, Village: Ankorha Panchyat, Aurangabad	Suggested to provide employment to local poor families, children of displaced and affected families and to stop the trains at Ankorha Station.	19.1 - Please refer reply given at Sl.No.1.4 Employment. 19.2 - Please refer reply given at Sl. No.3.6 - Stoppage of Train.	-- -- --	-- -- --	-- -- --
Total amount in lakhs					Rs. 7325	

18. Cost of project: Existing capital cost of project was Rs. 19,412.52 Crores. The capital cost of the proposed project is Rs. 29,947.91 Crores and the capital cost for environmental protection measures is proposed as Rs. 2745.99 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 61.42 Crores. The employment generation from the proposed project / expansion is 216 nos. The details of cost for environmental protection measures is as follows:

S. No.	Description of Item	Existing (Rs. In Lakhs)		Proposed (Rs. In Lakhs)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
1	Electrostatic Precipitator	10296.00	308.88	52481.92	1049.64
2	Chimney	9545.50	286.36	16488.50	329.77
3	Auxiliary Cooling Towers including Civil works	16432.30	492.95	2856.50	57.13
4	Ash handling Including AWRS	26,758.90	802.76	90397.04	1807.94
5	Ash Dyke	15881.60	476.45	15000.00	300.00
6	Dust Extraction and suppression System	266.70	8.00	750.00	15.00
7	DM Plant Waste treatment systems.	150.00	4.5 0	600.00	12.00
8	Sewerage collection, collection treatment and disposal	100.00	3.0 0	150.00	3.00
9	Rainwater Harvesting	14.23	0.43	35.00	0.70
10	Green Belt, Afforestation and land scaping	600.00	18.00	6590.00	131.8
11	FGD And CHP	83900.00	2517	79394.76	1587.90
12	Solar Power Harnessing	300.00		688.63	13.77
13	Environmental lab Equipment	100.00	3.00	50.00	1.00
14	CEMS and AAQMS	500.00	15.00	640.00	12.80

S. No.	Description of Item	Existing (Rs. In Lakhs)		Proposed (Rs. In Lakhs)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
15	CER/CD/CSR Cost	6053.00	400.00	8400.00	800.50
16	Additional Green belt cost	--	--	977.00	19.54
	Total (In Lakhs)	1,70,898.23	5336.33	275499.35	6142.49

19. Greenbelt Development: Green belt of 1,73,049 Trees has already been developed in 98.38 ha area till 2023-24 which is about 8.17 % of the total project area. It is proposed to develop additional 330.42 ha (remaining 22.82 ha from 121.20 ha+ 307.60 ha proposed) under greenbelt of the total project area. Thus, total of 428.80 ha area (35.65 % of total project area) will be developed as greenbelt. The remaining 4.35% (35.65%-40%) of green belt development will be done in nearby area as land is not available within the plant, with the help of State Forest Dept. Local and native species will be planted for development of greenbelt. A 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare will be planted in a time frame of five years.

Green Belt Budget					
S. no	Financial Year	Green Belt done/proposed in (Ha)	Trees to be planted (2500 nos./Ha)	Tentative budget In Crores	Remarks
1	Till 2023-24	98.38	1,73,049	-	Plantation already completed
2	2024-25	2	5000	1.77	Effort shall be made for achieving 40 % plantation in consultation with State Forest Deptt.
3	2025-26	45	112500	10.13	
4	2026-27	80	200000	18	
5	2027-28	90	225000	20.25	
6	2028-29	50	125000	11.25	
7	2029-30	63.42	158550	14.27	
	Total	428.8	9,99,099	75.67	

20. Proposed ash utilization plan for expansion project:

Details	Existing generation (LMT)	Proposed generation (LMT)	Total (LMT)	Utili -zation (LMT)	% Utili -zation	Balance quantity (LMT)	No. of storage silos with capacity
1.	32	43	75	75	100	0	As per Specification 1. Fly Ash Storage Silos: Seven nos. each of capacity 2000MT 2.Dry Bottom Ash Storage Silos: Two nos., each of capacity 2000MT

Ash pond details: New Ash Pond details for Stage-II (Proposed)

S. N.	Details of New Ash Pond	Proposed	Optimised
1.	Area (Ha)	141.64	110.00
2.	Dyke height (m)	7.5 m	8.5m
3.	Volume (m3)	64,00,000	54,60,000
4.	Quantity of ash to be disposed (Metric Tons)	76,80,000	65,52,000
5.	Expected life of ash pond (number of years and months)	1.5 years (However after utilisation of 100 % ash, the expected life of the dyke will be same as of the Plant).	Expected Life of ash pond will be 3.15 years with 02 nos. of raising.
6.	Type lining carried in ash pond:	Suitable impervious lining as per actual site conditions meeting the	

S. N.	Details of New Ash Pond	Proposed	Optimised
	HDPE lining of LDPE lining or clay lining or No lining	imperviousness requirements as per “CEA and CPCB Guidelines for Design, Construction, O&M and Annual certification of Coal Ash Ponds-June 2023”.	
7.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	For Bottom ash, Lean slurry Disposal system with Dewatering Bins for recovery of water is provided in case Bottom ash is utilised from Bins. In case of non-utilisation, Bottom ash shall be disposed to Dyke for utilisation at dyke end., where in water shall be recovered through AWRS. Alternatively, option of Dry bottom ash is also provided. Fly ash shall be utilised from Rail/Road loading silos. In case of non-utilisation, shall be disposed through HCSD system for utilisation at dyke end.	
8.	Ratio of ash: water in slurry mix	Maximum 25% ash on dry ash basis, rest is water for LCSD Slurry. 55% to 65% (Average - 60%) of ash on dry ash basis for HCSD slurry.	
9.	Ash water recycling system (AWRS): Yes or No	Yes	
10.	Quantity of wastewater from ash pond to be discharged into land or water body (m ³)	Nil	
11.	Details regarding dyke stability study and name of the organization who conducted the study:	As already done in all past ash dyke stability design, this will also be done by NTPC, (in-house design) in line with “CEA and CPCB Guidelines for Design, Construction, O&M and Annual certification of Coal Ash Ponds”.	

Written Submission:

21. Project proponent has submitted the following written information during the meeting:

S. No.	Information clarification sought during EAC meeting	Written submissions by PP					
1.	PP shall furnish the Solar Plant Details – Within Project Site & Villages	A. Within Project Site					
		S. NO	Capacity (MW)	Cost (Rupees in CR)	Status of Proposal	Target Completion	
		1.	0.58	2.86	Awarded.	Mar' 2026	
		2.	1.5	5.66	Under Tendering Stage with BOP Packages Stage-II	Award By May'2025	
		3.	2.08	8.52			
		B. Solar light under installation in nearby villages:					
		S. NO	Villages	Description of Fitting	Power Capacity	Status of proposal	Target Completion
		1.	20 nos. nearby Villages	21 nos. of 8m high Mast solar lights	2100 W	Under Award.	FY 2025-26
		2.	Nearby villages	20 nos. Street light	240 W	Awarded.	FY 2025-26
		2.	PP shall submit the Green Belt Action Plan.	Green belt of 1,73,049 Trees has already been developed in 98.38 ha area till 2023-24 which is about 8.17 % of the total project area. It is proposed to develop additional 347.2 ha under greenbelt. Thus, total of 445.6 ha area (37% of total project area) will be developed as greenbelt. Local and native species will be planted for development of greenbelt.			
Sl. no	Financial Year			Green Belt	Trees to be	Tentative	Remarks

				proposed in (Ha)	planted (2500 nos./Ha)	budget In Crores	
		1	Till 2023-24	98.38	1,73,049	-	Plantation already completed
		2	2024-25	2	5000	1.77	Effort shall be made for achieving 40 % plantation in consultation with State Forest Deptt.
		3	2025-26	45	1,12,500	10.12	
		4	2026-27	89.2	2,23,000	20.07	
		5	2027-28	96.8	2,42,000	21.78	
		6	2028-29	50	1,25,000	11.25	
		7	2029-30	64.22	1,60,550	14.45	
			Total	445.6	8,68,050	79.44	
3.	PP shall furnish the Ash Transportation Routes And Fugitive Dust Mitigation Measures.	As per DSS; Distance from Plant to NH-19 : 15 Km Villages enroute: Sasna, Narari Kalan, Narari Khurd, Shelkhpura, Karamkila and Barun					
		S.No	Activity planned for controlling fugitive emission			Proposed Budget in lakhs	
		1.	Mechanical vacuum cleaning system may be in place to clean all RCC roads on regular basis			(Already covered under action plan on Joint committee recommendations)	
		2.	Water Sprinkling through Tankers			On Regular basis	
		3.	Tree Plantation along Roadside			30	
4.	PP shall submit the Optimised Ash Pond details of NPGCL-II (3x800MW).	Details are given above.					
5.	PP shall furnish the Action Plan for Ambient Air Quality Management.	<p>The following are the action plan & mitigation measures to reduce the Ambient air quality impacts due to the existing plant and proposed plant operations.</p> <p>Provision of Electrostatic Precipitator (ESP) for Particulate Matter (PM) Control</p> <p>Installation of ESP: To control particulate matter emissions from the stacks, an Electrostatic Precipitator (ESP) will be installed. The ESP will effectively capture and remove fine particulate matter before it is released into the atmosphere.</p> <p>Regular Maintenance and Monitoring: Routine inspection and maintenance of the ESP will ensure optimal performance and minimal emissions, with continuous monitoring of particulate emissions to adhere to regulatory standards. This will ensure meeting the particulate emissions <30mg/Nm3</p> <p>Efficient Dust Collection: The ESP will be designed to handle high-efficiency dust collection, ensuring that particulate emissions are kept well within the legal limits set by regulatory bodies.</p> <p>Fly Ash Silo Bag Filter</p> <p>To prevent particulate emissions from the fly ash silos, bag filters will be installed. These filters will effectively capture and contain fine particles of fly ash that may otherwise be released into the atmosphere.</p> <p>Regular maintenance and performance checks of the bag filters will be conducted to ensure their proper functioning and minimize fly ash emissions.</p> <p>Installation of Flue Gas Desulphurization (FGD) for SO2 Control</p> <p>Flue Gas Desulphurization (FGD) system with lime scrubbing will be implemented to control sulphur dioxide (SO2) emissions. The FGD process will absorb SO2 from the flue gases before they are released into the atmosphere.</p> <p>Compliance with SO2 Limits: The FGD system will be designed to meet the stringent SO2 emission limits of 100 mg/Nm3 and will be regularly monitored to ensure consistent and effective operation.</p> <p>Provision of Low NOx Burners for Nitrogen Oxides (NOx) Control</p>					

		<p>To reduce the formation of nitrogen oxides (NOx) during combustion, low NOx burners will be installed in the boilers. These burners will ensure that NOx emissions are minimized by optimizing combustion conditions.</p> <p>Operational Adjustments for Efficiency: The low NOx burners will be calibrated for maximum efficiency, and periodic checks will be conducted to ensure that NOx emissions remain well below the permissible limits.</p> <p>Height of Stack</p> <p>275-m stack height has been considered even though installation of FGD allows 100-m stack. The high stack height will ensure better dispersion and low ground level concentration.</p> <p>Dust Suppression at Railway Siding and Coal Handling Plant</p> <p>Dust suppression systems, including water sprinkling will be employed in the railway siding and coal handling plant to minimize fugitive dust emissions during coal unloading and transportation.</p> <p>Regular monitoring and maintenance of dust suppression equipment to ensure their effectiveness in reducing particulate matter release into the environment.</p> <p>To control fugitive emissions during coal transportation, the top surface of coal wagons will be adequately sprinkled with water to minimize dust during transit.</p> <p>Provision of Dry Fog Dust Suppression System (DFDS) at transfer points (TP's) to control Fugitive emission.</p> <p>Provision of water sprinkling system at Coal Stock Yard.</p> <p>Dust Control Measures at Ash Dyke and Ash Transportation</p> <p>Ponding and provision of water sprinkling network in Ash Dyke.</p> <p>Transportation of ash in bulkers / covered vehicles.</p> <p>Provision of Wind Barriers, plantation in the available area.</p> <p>Regular Sweeping of roads and Water sprinkling.</p> <p>Regular Housekeeping and Maintenance</p> <p>Deployment of mechanised sweeping system for cleaning of roads.</p> <p>Regular housekeeping will be carried out at plant roads, platforms, and storage areas to prevent the accumulation of dust and debris</p>					
6.	PP shall submit the Environment Management Cost Provisions.	Details are given above.					
7.	PP shall submit the Environment Monitoring Cost.	Component	Locations	Frequency	Total no. of samples annually	Cost per Sample (Rs)	Recurring cost (Rs)
		Air	10	Once in two weeks	104*10	5000	52,00,000
		Air	Continuous online monitoring station	Continuous	-	-	240000
		Source Emissions monitoring	3	Monthly	36	8000	288000
Environment Monitoring Program during Operation Phase							
		S. No.	Aspect	Parameter	Location	Monitoring Frequency	Responsible Person/ Organization
		1	Ambient Air Quality	PM10, PM2.5, SO2, NO2, CO	04 nos. Continuous	Continuous on-line monitoring	Environmental Management

				& other parameters as per AAQ Standard within and outside the plant area at least at four locations (one within and three outside the plant area)	Ambient Air Quality Monitoring Station within plant site (at already installed location)	connected to Bihar SPCB	Group (EMG)
					05 nos. nearby locations (offline)	Twice in a week as per NAAQS Norms	MoEF&CC / NABL Accredited laboratory co-ordinated by EMG
		2.	Process Stack	PM10, SO2, NOX The project proponent shall install a 24x7 continuous emission monitoring system at main process stacks to monitor stack emission concerning standards prescribed in Environment (Protection) Rules 1986 and connected to Bihar SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification. Hg emission Monitoring	All Process Stacks	Continuous on-line monitoring Monthly Offline Hg monitoring	MoEF&CC / NABL Accredited laboratory coordinated by EMG
8.	PP submit the details of Environment	Some of the available instruments are as below: pH meter Conductivity meter					

	Laboratory Equipment available at Nabinagar.	Turbidity meter ION CHROMATOGRAPH BOD Analyser COD Analyser Spectrophotometer BOD INCUBATOR Oven Stack Monitoring Kit for Emission monitoring High Volume Sampler for Ambient air quality monitoring Portable Flue Gas analyser- Sox, NOx, CO and CO2 Multi gas analyser for O2 % dB Meter Metrological equipment-Dry and Wet Bulb, Rain Gauge TSS Asipratator TDS analyser Multi gas Analyser													
9.	PP shall submit the details of Environment Management Team of NSTPP.	<table><tr><td>Name of Person</td><td>Designation</td></tr><tr><td>Sh. Brijendra Agarwal</td><td>HOD , AGM (EMG)</td></tr><tr><td>Sh. Gopi Challawar</td><td>Sr. Manager (EMG)</td></tr><tr><td>Sh. Ashok Kumar</td><td>Asst . Manager (EMG)</td></tr><tr><td>Sh A. K .Singh</td><td>Sr Mgr. (Chemistry)</td></tr><tr><td>Sh A.K Nayak</td><td>Sr Mgr. (Chemistry)</td></tr></table> <p>HOD- EMG reports to HOP, Nabinagar</p> <p>Sh. Gopi Challawar Sr. Manager (EMG) is M.Tech in Environment Engineering and Management</p> <p>The Environment Lab is managed by qualified & experienced executives.</p>		Name of Person	Designation	Sh. Brijendra Agarwal	HOD , AGM (EMG)	Sh. Gopi Challawar	Sr. Manager (EMG)	Sh. Ashok Kumar	Asst . Manager (EMG)	Sh A. K .Singh	Sr Mgr. (Chemistry)	Sh A.K Nayak	Sr Mgr. (Chemistry)
Name of Person	Designation														
Sh. Brijendra Agarwal	HOD , AGM (EMG)														
Sh. Gopi Challawar	Sr. Manager (EMG)														
Sh. Ashok Kumar	Asst . Manager (EMG)														
Sh A. K .Singh	Sr Mgr. (Chemistry)														
Sh A.K Nayak	Sr Mgr. (Chemistry)														
10.	PP shall submit the Action plan of Recommendation of Joint Committee of NGT Order 976/2024 dated 29.11.2024.	Details are mentioned at under the court cases.													

Observations and deliberation of the EAC

22. The Committee observed and noted the following:

- i. Instant proposal is for expansion of existing 1980 MW (3x660 MW) Nabinagar Super Thermal Power Project by addition of 3x800 MW units (Stage-II) by M/s. NTPC Limited at Village Majhiyan, Taluka Nabinagar, District Aurangabad, Bihar.
- ii. The existing project was granted environmental clearance for Stage-I: 1980 MW (3x660 MW) on 27.12.2010 and subsequently amended on 20/03/2018, 14/01/2020. Consent to Operate for the existing units 1980 MW (3x600 MW) Stage-I was accorded by Bihar State Pollution Control Board (BSPCB) vide consent no. 1839 & 1840 dated 15/06/2022. The validity of CTO is up to 14/06/2027.
- iii. Committee deliberated on the certified compliance report of the existing units along with the action taken of the proponent and found it satisfactory.
- iv. ToR for the proposed expansion project was obtained on 15/04/2024.
- v. Total land under possession of M/s. NTPC Limited is 1202.88 Ha including existing unit. A total area of 595.60 Ha will be required for the proposed expansion, which is within the existing project boundary of 1202.88 Ha. Forest land involved

in Stage-I is 7.39 Ha. No additional land is proposed to be acquired. No R&R issues are involved as the entire land is under the possession of the project proponent.

vi. Proposal involves forestland is 7.39 Ha. Stage-I forest clearance for Nabinagar STPP Phase-I was granted on 03/05/2019 and Stage-II forest clearance was granted on 15/11/2019.

vii. The EAC also took into consideration the drone survey of the project site and KML file on the Google Earth presented by the project proponent along with DSS of the project site on PARIVESH.

viii. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site as ascertained from DSS.

ix. The project site is not located within the Critically Polluted Area (CPA) / Severally Polluted Area (SPA) as per CEPI assessment 2018 of CPCB.

x. Coal requirement for Stage-I project is being met through rail. Nabinagar STPP is linked to the Indian Railway network via Barkisalaiya and Ankorah railway stations. The railway siding is located within the project site, and coal is transported to the CHP through wagon tippler. There will be no road transportation of coal for Stage- I & II.

xi. Existing Water requirement is 1,42,560 KLD, water requirement is obtained from Indrapuri Barrage on Sone River and permission for 3,05,821.95 KLD (125 Cusecs) has been obtained from WRD, Govt. of Bihar, vide letter no Letter No-PMC-4(T)(A)4/2003-974, dated 06.06.2007. The water requirement for the proposed project is estimated as 72,000 KLD, Total Water Requirement of the project will be 2,14,560 KLD, which is well within the existing permission limit. For freshwater conservation Air Cooled Condenser System will be used in Nabinagar STPP Stage-II.

xii. The power requirement for the proposed project is estimated as 6 MVA, out of which 6 MVA will be obtained from the M/s. South Bihar Power Distribution Co Ltd.

xiii. The Committee deliberated on the baseline data and incremental GLC due to the proposed project and observed that AAQ levels are within NAAQS.

xiv. The Stage-II units (3x800 MW) will incorporate high-efficiency (with 99.99%) Electrostatic Precipitators (ESP) to control ash particle emissions. These ESPs will design to limit particulate emissions to 30 mg/Nm³. Additionally, a chimney of 275-m height, complying with MOEF&CC guidelines (dated 28.06.2018), will be erected to disperse emissions effectively.

xv. Total wastewater generation from the existing and expansion project is 2300 KLD. The Nabinagar Super Thermal Power Project (STPP) has an existing Effluent Treatment Plant (ETP) with a capacity of 3600 KLD and a Sewage Treatment Plant (STP) with a capacity of 3000 KLD.

xvi. There are 12 Schedule I Species found in the buffer zone and a Wildlife Conservation & Management Plan (WLCP) has been prepared and submitted to Principal Chief Conservator of Forest (Wildlife), Govt. of Bihar for the approval.

xvii. Committee deliberated on the action plan arising out of Hydrogeology study and bio-diversity and found it satisfactory.

xviii. Public hearing for the project was held on 13/11/2024. The Committee looked in to the videography of the public hearing proceedings, deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory. The committee advised the PP to implement the PH action plan in a time bound manner.

xix. Committee deliberated on the existing ash management and observed that percentage of ash utilization for the year 2024-25 is observed to be only 87.68%. Committee asked the proponent to achieve 100 % ash utilization. Further, with respect to the proposed new ash pond, the committee asked the proponent to optimize the land area. Accordingly, PP optimized the area from 141.64 Ha to 110 Ha.

xx. Existing capital cost of project was Rs. 19,412.52 Crores. The capital cost of the proposed project is Rs. 29,947.91 Crores and the capital cost for environmental protection measures is proposed as Rs. 2745.99 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 61.42 Crores. The employment generation from the proposed project / expansion is 216 nos.

xxi. The committee noted that there are two court cases with respect to the existing project before the Hon'ble NGT. In, OA No. 976 of 2024 , Hon'ble NGT, Principal Bench, New Delhi vide its judgement dated 29/11/2024 directed the proponent to comply with the several directions inter-alia installation of wheel washing system, 100 % ash utilization and adherence to ZLD etc., within the time frame of three months. In this regard, proponent has furnished the action plan and EAC advised the proponent to comply with the directions of Hon'ble NGT.

xxii. The Committee noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components.

xxiii. The EAC also deliberated on the written submission of the project proponent and found it satisfactory.

xxiv. The committee is also of the view that a sub-committee of EAC shall visit the site after grant of EC (preferably after 4 months) for a review.

xxv. The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

23. Recommendations of the Committee: The EAC after detailed deliberations on the information submitted and as presented during the meeting recommended for grant of Environmental Clearance to the proposed "Expansion of existing 1980 MW (3x660 MW) Nabinagar Super Thermal Power Project by addition of 3x800 MW units (Stage-II) by M/s. NTPC Limited located at Village Majhiyan, Taluka Nabinagar, District Aurangabad, Bihar", under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and standard/general conditions (**Annexure 1**).

24. 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 EAC hereby accords Environmental Clearance to **M/s. NTPC Limited** for "Expansion of existing 1980 MW (3x660 MW) Nabinagar Super Thermal Power Project by addition of 3x800 MW units (Stage-II), located at Village Majhiyan, Taluka Nabinagar, District Aurangabad, Bihar" subject to compliance of the Specific/General environmental conditions (**Annexure 1**).

25. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

26. 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.

27. The PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

28. Any appeal against this environmental clearance 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.

29. General Instructions:

(i) 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 website where it is displayed.

(ii) 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 must display the same for 30 days from the date of receipt.

(iii) 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.

(iv) 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 operational 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.

(v) 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.

(vi) The Regional Office of this MoEF&CC 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.

(vii) Validity of EC is as per the provision of EIA Notification, 2006 and its subsequent amendment.

30. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

31. This issue with an approval of the Competent Authority

Yours faithfully,

(Sundar Ramanathan)
Scientist 'F'
Tel: 011- 20819378
Email- r.sundar@nic.in

Copy To

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary, Department of Environment & Forests, Government of Bihar, Patna.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office, 2nd Floor, Headquarter- Jharkhand State Housing Board, Harmu Chowk, Ranchi, Jharkhand – 834 002.
5. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
6. The Chairman, Bihar State Pollution Control Board, Parivesh Bhawan, plot no. NS-B/2, Paliputra Industrial area, Patliputra, Patna (Bihar) - 800 010.

7. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32.
8. The Member Secretary, Bihar State Pollution Control Board, Parivesh Bhawan, plot no. NS-B/2, Paliputra Industrial area, Patliputra, Patna (Bihar) - 800 010.
9. The Regional Director, Central Ground Water Board, Mid-Eastern Region, 6th& 7th Floor, Lok Nayak Jai Prakash Bhawan, Frazer Road, Dak Banglow, Patna- 800011, Bihar.
10. The District Collector, Buxur, Government of Bihar.
11. PARIVESH Portal.

Annexure 1

Specific EC Conditions for (Thermal Power Plants)

1. [A] Environmental Management

S. No	EC Conditions																																						
1.1	Project proponent shall comply with all the directions passed by the Hon’ble National Green Tribunal vide its judgement dated 29/11/2024 in OA No. 976 of 2024 titled as Vijay Kumar Singh Urf Dablu Singh vs State of Bihar. Compliance status in this regard shall be submitted to the concerned Regional Office of the MoEF&CC along with the six monthly compliance report.																																						
1.2	Project proponent shall abide by all orders and judicial pronouncements, made from time to time by the Hon’ble National Green Tribunal in OA No. 327 of 2022 titled as Amaravati Fly Ash Bricks Manufacturers Association Vs Union of India & Ors.																																						
1.3	Project proponent shall adopt 100% utilization of ash generated as a result of the expansion project in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. Area for the additional ash pond proposed under the expansion project shall not exceed 110 Ha as committed.																																						
1.4	<div>Project proponent shall comply with the following with respect to solar energy installation as committed.</div> <div>a. Within Project Site:</div> <table><thead><tr><th>S. No.</th><th>Capacity (MW)</th><th>Cost (Rupees in CR)</th><th>Status of Proposal</th><th>Target Completion</th></tr></thead><tbody><tr><td>1.</td><td>0.58</td><td>2.86</td><td>Awarded</td><td>Mar’ 2026</td></tr><tr><td>2.</td><td>1.5</td><td>5.66</td><td>Under Tendering Stage with BOP Award Packages Stage-II</td><td>By May’2025</td></tr><tr><td>Total</td><td>2.08</td><td>8.52</td><td></td><td></td></tr></tbody></table> <div>b. Solar light under installation in nearby villages:</div> <table><thead><tr><th>S. No.</th><th>Villages</th><th>Description of Fitting</th><th>Power Capacity</th><th>Status of Proposal</th><th>of Target Completion</th></tr></thead><tbody><tr><td>1.</td><td>20 nos. nearby Villages</td><td>21 nos. of 8m high Mast solar lights</td><td>2100 W</td><td>Under Award</td><td>FY 2025-26</td></tr><tr><td>2.</td><td>Nearby villages</td><td>20 nos. Street light</td><td>240 W</td><td>Awarded</td><td>FY 2025-26</td></tr></tbody></table>	S. No.	Capacity (MW)	Cost (Rupees in CR)	Status of Proposal	Target Completion	1.	0.58	2.86	Awarded	Mar’ 2026	2.	1.5	5.66	Under Tendering Stage with BOP Award Packages Stage-II	By May’2025	Total	2.08	8.52			S. No.	Villages	Description of Fitting	Power Capacity	Status of Proposal	of Target Completion	1.	20 nos. nearby Villages	21 nos. of 8m high Mast solar lights	2100 W	Under Award	FY 2025-26	2.	Nearby villages	20 nos. Street light	240 W	Awarded	FY 2025-26
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1.5	In addition to the existing 4 Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Project proponent shall install additional one continuous ambient air quality monitoring at suitable																																						

S. No	EC Conditions
	location within the project site in consultation with JSPCB as committed.
1.6	The water requirement for the proposed project is estimated as 72,000 KLD and the same shall be met from Indrapuri Barrage on Sone River. Air Cooled Condenser System shall be used in Nabinagar STPP Stage-II as committed.
1.7	Project proponent shall store harvested rainwater in the project boundary and utilize the same for plantation, recharging water in the pond and domestic utilization in colonies. A record shall be maintained of water collected through rainwater and its supply system. PP shall get the water audit done every year to optimize the water requirement.
1.8	Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs. 2745.99 Crores (Capital) and Rs. 61.42 crores (recurring) and should be kept in separate accounts and audited annually. The implementation status along with the amount spent with documentary proof shall be submitted to the concerned Regional Office for the activities carried out during the previous year.
1.9	Project proponent shall assess the carbon footprint of the project and develop carbon sink/carbon sequestration resources using modern technologies. The implementation report shall be submitted to the concerned Regional Office of the MoEF&CC.
1.10	Project proponent shall install and commission the FGD for the existing 3x660 MW & and proposed 3x800 MW unit as per the Ministry's notification dated 05/09/2022 and its subsequent amendments.
1.11	Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.
1.12	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
1.13	Effluent of 2300 KLD will be treated through Effluent Treatment Plant. As committed by the Project proponent, Zero liquid discharge shall be adopted for the existing and the proposed plant. No wastewater will be discharged outside the project site.
1.14	PP shall ensure that diesel operated vehicles will be switched over to E-Vehicles/CNG/LNG vehicles in a time bound manner, replace the passenger vehicles to E-vehicle in phased manner. Further, for local movement of officials Contract of Vehicles deployment shall be awarded to project affected people and all efforts for adopting heavy E-vehicles/LNG/CNG like Bulklers for ash transportation for short distance subject to availability of such E-vehicle/facility and requisite adequate charging infrastructure in the surrounding area shall be provided. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), number of e-vehicles deployed etc. in six monthly compliance report.
1.15	PP shall implement the concurrent plantation plan in a time bound manner. The gap plantation shall be completed in the identified 98.38 Ha land area within Plant, residential and administrative areas and around Further, three tier green belt shall be developed in an area of 330.42 ha in a time frame of 6 years from the date of grant of EC in consultation with Forest department/ Gram Panchayat/District Administration all along the periphery of the project and coal transportation route. Thus, total of 428.80 ha area (35.65 % of total project area) will be developed as greenbelt.

S. No	EC Conditions
	<p>The remaining 4.35% (35.65%-40%) of green belt development will be done in nearby area as land is not available within the plant, with the help of State Forest Dept. PP shall also adopt Miyawaki plantation technique and plantation with minimum 5m height of the saplings in upcoming monsoon season. The budget earmarked for the green belt, plantation inside and outside the plant area, along the transportation route and Miyawaki Plantation area shall be kept in a separate account and audited annually. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geolocation date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year.</p>
1.16	<p>Project proponent shall carry out community plantation with incentive scheme by distributing 50,000 saplings per year for a period of five years. Further, PP shall provide basic facilities to the nearby schools such as drinking water, sanitation facilities and shall also develop green belt around the nearby schools. Regular watering of saplings planted in the nearby schools will be carried out by Project Proponent to mitigate the air and noise pollution. Further, PP shall organize quarterly awareness programs for school students to educate them on the significance and preservation of trees.</p>
1.17	<p>PP shall strengthen the existing Primary Health Center (PHC) & Community Health Center (CHC) in the study area for better public health as committed. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC.</p>
1.18	<p>Wildlife conservation plan as approved by the competent authority shall be implemented. Additional, budget shall be added in the plan, in case additional measures suggested by state wildlife department. The final Wildlife conservation plan duly approved by the CWLW shall be submitted to RO, MoEF&CC within a time frame of three months from the date of grant of EC and the budget approved by the concerned authority shall be deposited in government account.</p>
1.19	<p>Project proponent shall install LED display of air quality (Continuous AAQ monitoring) and stack emission (Continuous emission monitoring) at prominent locations preferably outside the plant's main entrance for public viewing and in administrative complex and maintenance of devices shall be done regularly.</p>
1.20	<p>Project proponent shall carry out Water Sprinkling on roads inside the plant area/ administrative/ residential areas and outside the plant area at least for 2 KM on a regular basis to control the air pollution. A logbook shall be maintained for the activity and be in six-monthly compliance report.</p>
1.21	<p>PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.</p>
1.22	<p>Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.</p>
1.23	<p>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. 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>

S. No	EC Conditions
1.24	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
1.25	Monitoring of surface water quality and Ground Water quality shall also be regularly conducted in and around the project site and records to be maintained. 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. The monitored data shall be submitted regularly on PARIVESH portal as part of Half Yearly compliance report.
1.26	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.
1.27	PP shall ensure that all types of plastic waste generated from the plant shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016 (as amended). In pursuant to the Ministry's OM dated 18/07/2022. PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic (SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall also be included in the six monthly compliance report submitted by PP.
1.28	PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.

2. [B] Socio-economic

S. No	EC Conditions
2.1	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 5 km radius of the project cover area 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.
2.2	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.
2.3	The budget proposed for PH is Rs. 73.25 Crores. The budget proposed shall be kept in a separate account and audited annually. Project proponent shall implement the following action plan to address the issues raised during public hearing within a time frame of 3 years from the date of grant of EC. PP shall submit the progress report regarding the implementation of action plan to concerned RO along with the six monthly compliance report.
2.4	The establishment of a robust public grievance redressal mechanism to address concerns and complaints from local communities regarding the power plant's operations, environmental impacts,

S. No	EC Conditions
	or social issues shall be developed. A Senior Officer shall review the functioning of the mechanism twice in a month.

3. [C] Miscellaneous

S. No	EC Conditions
3.1	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 implementation of environmental regulations and social impact improvement/mitigation measures.
3.2	Consent 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.
3.3	All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.
3.4	A sub Committee of the EAC shall visit the site post EC to recommend any further mitigation measures.

Standard EC Conditions for (Thermal Power Plants)

1. Statutory Compliance

S. 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 Notifications on Ash Utilization S.O. 5481 (E) dated 31/12/2021 as amended from time to time shall be complied.
1.4	MoEF&CC Notifications on Water Consumption vide Notification No. S.O. 3305 (E) dated 07.12.2015 read with G.S.R 593 (E) dated 28.6.2018 as amended from time to time shall be complied.
1.5	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
1.6	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

2. Ash Content/mode Of Transportation Of Coal

S. No	EC Conditions
2.1	MoEF&CC Notification issued vide S.O. 1561 (E) dated 21.05.2020 and as amended from time to time shall be complied which inter-alia include use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance of conditions prescribed under (1) Setting Up Technology Solution for emission norms, (2) Management of Ash Ponds and (3) Transportation.

3. Air Quality Monitoring And Management

S. 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 as per G.S.R. 243 (E) dated 31.03.2021 read with G.S.R. 682 (E) dated 05.09.2022 and amended from time to time.
3.2	Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NO _x Burners with Over Fire Air (OFA) system shall be installed to achieve NO _x 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 275 m shall be provided with continuous online monitoring instruments for SO ₂ , 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 , NO _x 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

S. 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

S. 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	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.

6. Water Quality Monitoring And Management

S. 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 3.0 m ³ /MWhr.
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	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.
6.5	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

S. No	EC Conditions
	Rules.
6.6	Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
6.7	Wastewater generation of 2300 KLD 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;
6.8	Sewage generation of 100 KLD 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

S. 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

S. No	EC Conditions
8.1	Green belt shall be developed in an area of 40% 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.

9. Waste Management

S. 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 S.O. 5481 dated 31.12.2021, S.O.6169 (E) dated 30.12.2021, S.O.05 (E) dated 01.01.2024 and amendment thereto.
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.

10. Monitoring Of Compliance

S. 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.
10.4	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.
10.5	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

S. No	EC Conditions
	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

S. No	EC Conditions
11.1	CER activities will be carried out as per Ministry's OM F.No.22- 65/2017- IA.III dated 30th September, 2020 and 22-65/2017- IA.III dated 25.02.2021 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the shall be submitted.