



सत्यमेव जयते

File No: J-13012/87/2007-IA.II(T)

Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Date 19/09/2024



To,

Sh. Nitin s Wagh
M/s Maharashtra State Power Generation Co. Ltd.
PRAKASHGAD, PLOT NO. G-9, ANANT KANEKAR MARG, BANDRA (EAST), MUMBAI
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MUMBAI 400051, Mumbai, MUMBAI, MAHARASHTRA, HDIL Towers, 4th floor, A wing , 400051
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Subject: **Proposed 2x660 MW Coal based Supercritical Thermal Power Plant within the existing premises of 2190 MW Koradi Power Plant at Koradi, Tahsil: Kamptee, District Nagpur, Maharashtra by M/s. Maharashtra State Power Generation Company Limited (MAHAGENCO) - Grant of Environmental Clearance – regarding**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/MH/THE/479793/2024 dated 07/08/2024 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.	EC24A0601MH5577140N
(ii) File No.	J-13012/87/2007-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	Proposed 2 x 660 MW Super Critical Thermal Power Project (Expansion) within the premises of 2400 MW Koradi Power Plant by MAHAGENCO
(viii) Name of Company/Organization	Maharashtra State Power Generation Co. Ltd.
(ix) Location of Project (District, State)	NAGPUR, MAHARASHTRA
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. M/s. Maharashtra State Power Generation Company Limited (MAHAGENCO) has made an online application vide proposal no. IA/MH/THE/479793/2024 dated 07/08/2024 along with copy of EIA/EMP report, Forms (Part A, B and C) and certified compliance report seeking environmental clearance under the provisions of EIA Notification, 2006 for the project mentioned above.

4. The proposed project activity is listed at item No. **1(d) – Thermal Power Plants under Category ‘A’** of the schedule of the EIA Notification, 2006 and appraised at the Central Level.

5. The instant Proposal was considered by the EAC (Thermal) in its 12th meeting held on 29.09.2024. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed at <https://parivesh.nic.in>.

6. The proposal is for Environmental Clearance (EC) for Proposed 2x660 MW Coal based Supercritical Thermal Power Plant within the existing premises of 2190 MW Koradi Power Plant at Koradi, Tahsil: Kamptee, District Nagpur, Maharashtra by M/s. Maharashtra State Power Generation Company Limited (MAHAGENCO). The ToR has been issued by Ministry vide letter dated 26.06.2020.

7. Environment clearance for 3x660 MW Koradi Plant obtained vide Letter No. J-13012/87/2007-IA.II(T) on 04/01/2010. EC extension obtained on 27/03/2015. EC amendment obtained on 23/03/2017 regarding installation of FGD and Change in coal source. Amendment in EC obtained on 29/05/2018 regarding transportation of Coal. Consent to Operate for the existing unit was accorded by Maharashtra State Pollution Control Board vide Ir. No. Format1.0/CAC/UANNo.MPCBCONSENT-0000187186/CR/2405000439 dated 07.05.2024. The validity of CTO is up to 31.12.2024. The implementation status of the existing EC is as below-

S. No.	Facilities	Units	Power generation capacity	Implementation Status as on 31.08.2024	Production as per CTO
1.	3x660	MW	3x660 MW (As per EC dated 04/01/2010)	3x660 MW	3x660 MW
2.	1x210	MW	1x210 MW (commissioned in 1982-83)	1x210 MW	1x210 MW

8. **Certified compliance report:** The Status of compliance of earlier EC was obtained from Regional Office, Nagpur vide letter dated 18th January 2024 in the name of M/s. Maharashtra State Power Generation Co. Ltd. The Action taken report regarding the partially/non-complied condition was submitted to Regional officer MoEF&CC, Nagpur vide letter dated 08.03.2024.

9. The proposed 2x660MW Supercritical Thermal Power Plant was considered in replacement of the following units at various locations in Maharashtra (under MAHAGENCO).

10. The proposed 2x660MW Supercritical Thermal Power Plant was considered in replacement of the following units at various locations in Maharashtra (under MAHAGENCO).

PROPOSED REPLACEMENT UNITS	NAME OF UNIT TO BE REPLACED	UNIT CAPACITY IN MW	RETIRED / RETIRING IN
Koradi (2x 660MW) Shall be considered as a replacement project of Supercritical technology	Parli Unit-4	210	30.11.2019
	Parli Unit-5	210	30.11.2019
	Koradi Unit-5	200	02.03.2017
	Chandrapur Unit-1	210	01.09.2015
	Chandrapur Unit-2	210	12.01.2016
	Bhusawal Unit-3	210	In service, 2030 Afterwards
	Total	1250	

11. Location of the project site:

Location of TPP	Koradi
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Village :	Kamptee		
Taluka :	Nagpur		
District :	Maharashtra		
State :	a) TPP site :		
Co-ordinates of all four corners:		Latitude	Longitude
Average height of (a) TPP site, (b) Ash pond site etc above MSL (m)	A	21°14'26.51"N	79° 5'20.09"E
	B	21°14'39.52"N	79° 5'36.73"E
	C	21°14'56.78"N	79° 5'33.93"E
	D	21°14'59.17"N	79° 5'40.86"E
	E	21°14'50.39"N	79° 5'45.13"E
	F	21°14'54.36"N	79° 6'1.13"E
	G	21°14'16.42"N	79° 5'57.85"E
	H	21°14'15.95"N	79° 5'49.29"E
	I	21°14'27.35"N	79° 5'46.96"E
	J	21°14'20.87"N	79° 5'19.60"E
	b) Ash pond site :		
	Latitude	Longitude	
Ash Bund 1			
P1	21°14'33.48"N	79° 6'4.44"E	
P2	21°14'48.97"N	79° 6'36.83"E	
P3	21°14'12.16"N	79° 6'53.50"E	
P4	21°13'53.81"N	79° 6'51.07"E	
P5	21°13'54.52"N	79° 6'6.50"E	
Ash Bund 2			
P1	21°13'40.95"N	79° 5'55.96"E	
P2	21°13'50.49"N	79° 6'48.22"E	
P3	21°12'47.59"N	79° 7'17.38"E	
P4	21°12'40.00"N	79° 7'15.51"E	
P5	21°13'34.36"N	79° 5'54.85"E	
c) Township etc. Existing			
Inter- state issue involved	No		
Seismic zone	Zone II		

12. Total land available in Koradi Complex is 652.02 ha. Out of this 68.28 ha land will be utilized for 2X660 MW Proposed Plant excluding Ash Bund, railway siding. This 68.28 ha land is made available within Koradi Complex by decommissioning and demolition of old 1X200 MW and 4X120 MW power plant. The land break up is given as below:

Land Requirement:	Facilities	Area (In Acres)	Area (In Hectares)
a. TPP Site	Main Plant	40	16.19
b. Ash Pond	Coal Handling System	29.07	11.76
c. Township	Water System	16.06	6.5
d. Railway Siding & Others	Switch Yard	12.90	5.22
e. Raw Water Reservoir	Miscellaneous (BOP facilities, Stores)	12.25	4.96
f. Green Belt	Green belt	36.39	14.73
g. others	Roads	22.05	8.92
	Total	168.72	68.28
Status of Land Acquisition:	Acquired		
Break-Up of land-use of TPP site:	a. 168.75 acres (68.28 Ha) land (excluding ash bund, railway		

a. Total land required for project components	siding)
b. Private land	b. Nil
c. Government land	c. 168.75 acres (68.28 Ha)
Ash pond area	
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No, the project is not in the Critically Polluted Area (CPA) or within 10 km of CPA
CRZ Clearance	No CRZ Clearance required
Whether the project is in the Critically Polluted Area (CPA)/Severally Polluted Area (SPA) or within 10 km of CPA. If so, the details thereof:	No, the project is not in the Critically Polluted Area (CPA)/Severally Polluted Area (SPA) or within 10 km of CPA

13. Environmental sensitivity of the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Details of Certificate /letter /Remarks
Reserve Forest/Protected Forest Land	No	There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site.
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/historical temples etc	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites	Yes	Gorewada Zoo and Wildlife Rescue Center is located at 5.28 km in SW direction from project site. Boundary of Notified Protected Area of Pench National Park and Mansinghdeo Wildlife Sanctuary : 25.80 Km Boundary of Notified ESZ of Pench National Park and Mansinghdeo Wildlife Sanctuary : 22.66 Km vide Notification No 202.SO.3029(E) dated 13.09.2017
Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:		
Availability of Schedule-I species in study area	Yes	Schedule-I species observed in the study area: Indian Monitor Lizard, Jungle Cat & Common Mongoose
Additional information (if any)	None	

14. Salient features of the expansion proposal

A. Project description:

Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion 2 x660MW Coal based Supercritical Thermal Power Plant within the existing premises of 2190 MW Koradi Power Plant at Koradi, Tahsil: Kamptee, District Nagpur, Maharashtra by M/s. Maharashtra State Power Generation Company Limited (MAHAGENCO)
Cost of the Project	Cost of the proposed project is Rs. 13200 Crores.
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	The proposed project will generate permanent employment for 534 personnel and Temporary/contractual employment at around 2000 personnel. During employment, preference will be given to local people.
Benefits of the project (specify quantitative information)	Proposed project with an investment of about Rs.13200 crores in next 52 months will bring new employment, increased business, trade & commerce and service activities in the area to cater project needs. Reliable job prospects, increased income and consumption levels will enhance the demand for additional manpower, infrastructure and services in the area. Rs. 50 Crore will be allocated towards CER for betterment & development activities

	in near-by villages as per demands/needs activities will have a positive impact in betterment of socio economic status and quality of life in the area. · Improvement in living conditions of local population near the project, particularly in the areas of education, rural infrastructure, community health & sanitation, livelihood development and community environment
Status of other statutory clearances	Not Applicable
R&R details	Not Applicable
Power requirement	Power requirement (@7.5%) after expansion will be 263 MW (Existing: 164 MW + Proposed - 99 MW) and will be met from Own Power Generation Unit. Existing unit has four DG sets of 1500 KVA capacity & 3nos of 375 KVA capacity. Additionally, for proposed project 2 Nos. of 1500 KVA along with 1 no. 1500 KVA Standby DG sets are proposed as standby during power failure. Stack (height 30m) will be provided as per CPCB norms to the proposed DG sets.
Water requirement	Water consumption for thermal power plants as per MoEF&CC vide Notification S.O. 3305 (E) dated 07.12.2015 for all existing CT based plants reduce specific water consumption upto maximum of 3.5 m ³ /MWh and as per MoEF&CC stipulated norms vide Notification GSR 593 (E) dated 28.06.2018 water allocated to the thermal power plant is 3 m ³ /MWhr for new plants installed after the 1st January, 2017. The total water requirement for the project is 34.69 mm ³ /year, which will be well within the stipulated norms of Notification dated 07. 12.2015/28.06.2018 & 27 KLD fresh water for domestic use. 27KLD fresh water for domestic use purposed from Pench dam water will be used.

B. Electricity generation capacity:

Capacity & Unit Configurations:	2 x 660 MW Supercritical Power Plant
Generation of Electricity Annually	1320 MW

C. Details of fuel and Ash disposal:

Fuel to be used:	Coal														
Quantity of Fuel required per Annum:	7.18 MMTPA														
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	The main fuel considered for the project is coal. Total coal required for 2x660MW Supercritical thermal power plant will be 7.18 MMTPA with consideration of worst coal of GCV 3200 Kcal/kg at BMCR at 85% PLF. Initially, it has been proposed to utilize coal from the existing coal linkages of those units which are either closed or going to be closed. Now, CEA has recommended long term linkage under SHAKTI para B (i) 7.079 MMTPA Coal. Recently, SLC (LT) also recommended the coal linkage in its meeting dated 21.02.2023. In future coal will be source from captive coal mines at Gare Palma II coal mine, Chhattisgarh allotted to MAHAGENCO.														
Details of mode of transportation of coal from coal source to the plant premises along with distances	By rail & closed pipe conveyor system														
Fly Ash Disposal System Proposed	High Concentration slurry disposal (HCSD) system														
Ash Pond / Dyke: (Area, Location & Co-ordinates) Average height of area above MSL (m) Space left in ash dyke area	Area: 103.2 Ha Location & Co-ordinates: <table><tr><td></td><td>Latitude</td><td>Longitude</td></tr><tr><td colspan="3">Ash Bund 1</td></tr><tr><td>P1</td><td>21°14'33.48"N</td><td>79° 6'4.44"E</td></tr><tr><td>P2</td><td>21°14'48.97"N</td><td>79° 6'36.83"E</td></tr></table>				Latitude	Longitude	Ash Bund 1			P1	21°14'33.48"N	79° 6'4.44"E	P2	21°14'48.97"N	79° 6'36.83"E
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	P2	21°13'50.49"N	79° 6'48.22"E
	P3	21°12'47.59"N	79° 7'17.38"E
	P4	21°12'40.00"N	79° 7'15.51"E
	P5	21°13'34.36"N	79° 5'54.85"E
	Balance capacity of Bund: 21.00 MM3 (For height 20 mtr)		
Quantity of	1.98 MMTPA		
a. Fly Ash to be generated	0.5 MMTPA		
b. Bottom Ash to be generated:			
Fly Ash utilisation percentage with details in last 5 years :	Ash Generation and Utilization for last five years at Koradi TPS		
	Financial Year	Ash Generation (MT)	Ash Utilization (MT) (%)
	F.Y. 2019-2020	28,24,811	12,16,957 43.08
	F.Y. 2020-2021	28,08,031	22,76,198 81.06
	F.Y. 2021-2022	29,57,945	23,99,743 81.13
	F.Y. 2022-2023	32,69,056	23,62,651 72.27
	F.Y. 2023-2024	35,81,436	25,32,227 70.70
Stack Height (m) & Type of Flue	Existing units: Ø For 3x660 MW Units Tri flue stacks with 3 flue can of 275 m is installed. (*Note: After installation of FGD to 3x660 MW, stack of 150 height one for each unit will be provided.) Ø For 1x210 MW stack of height 90 m is provided. Proposed Project: Ø For proposed 2x660 MW 1 no. Twin flue stack of 140 m with FGD is proposed.		

D. Water Requirement:

Source of Water:	Tertiary treated sewage water from Nagpur Municipal Corporation & Pench dam water for domestic use
Quantity of water requirement:	95040 KLD for industrial purpose & 27 KLD for domestic use
Distance of source of water from Plant:	11 Km STP of NMC and 22 Km Pench Dam
Whether barrage/ weir/ intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Pipeline
Status of water linkage:	Agreement has been signed between The Nagpur Municipal Council dt 29.12.2017 & Agreement has been signed between Pench Irrigation Division, Nagpur & The MSPGCL on 21.03.2013
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of:	Not Applicable
Cooling system	Natural draft

15. Baseline Environment Scenario:

Period	From March to June 2022
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AAQ parameters at 8 locations	PM₁₀ – 39.9 to 80.6 µg/m³. PM_{2.5} – 19.3-39.9 µg/m³ SO₂ – 9.6-38.1 µg/m³ NO_x – 13.9 – 38.7µg/m³ CO - 0.137 – 0.736 mg/m³. O₃ – 4.9 to 16.7 µg/m³ Benzene (C₆H₆): The average concentration of benzene at project site was 1.6 µg/m³ against a standard of 5 µg/m³. At all other locations it was Not Detectable. Mercury (Hg): The Hg concentration levels recorded were below detectable levels (less than 0.001 µg/m³)
Incremental GLC Level	PM = Max. GLC : 3.11 µg/m³ SO₂ = Max GLC: 7.96 µg/m³ NO_x = Max GLC: 2.91 µg/m³
River water samples (7 samples)	pH 7.1 to 7.6, Dissolved Oxygen: 2.8 to 5.8 mg/lit; Total Dissolved Solids: 164 to 682 mg/lit; Total Hardness (as CaCO₃):124 to 415 mg/lit & total Alkalinity (asCaCO₃): 126 to 489 mg/lit; Calcium (as Ca): 25.8 to 64.8 mg/lit; Magnesium (as Mg) : 13.1 to 72.3 mg/lit ; Oil and grease: BDL; Sulphate (as SO₄): 9.0 to 58.4 mg/lit , Nitrate (asNO₃) : BDL to 14.3 mg/lit; Chloride (as Cl) : 14.3 to 149 mg/lit; Iron (as Fe): BDL to 0.24 mg/lit; BOD <3 to 59.0 mg/lit; Heavy metals like Copper (as Cu): 0.01 to 0.061, Lead (as Pb): BDL, Cadmium(as Cd): BDL , Chromium (as Cr): BDL, Manganese (as Mn): 0.004 to 0.218 mg/l, Arsenic (as As) and Mercury(as Hg) : BDL
Pond water samples quality at 1 location	pH: 7.4; Dissolved Oxygen: 5.7 mg/lit; Total Dissolved Solids: 171 mg/lit; total Hardness (as CaCO₃): 89 mg/lit; Total Alkalinity(asCaCO₃): 107 mg/lit; Calcium (as Ca): 24.3 mg/lit; Magnesium (as Mg): 3.2 mg/lit; Oil and grease: BDL; Sulphate (asSO₄): 13.8 mg/lit, Nitrate (as NO₃): 0.40 mg/lit; Chloride (as Cl): 16.8 mg/lit; Iron (as Fe): 0.014 mg/lit; Heavy metals like Copper (as Cu): 0.01 mg/l, Lead (as Pb): BDL, Cadmium(as Cd): BDL, Chromium (as Cr): BDL, Manganese (as Mn): 0.012 mg/l, Arsenic (as As) and Mercury(as Hg) :BDL
Ground Water samples at 08 locations	pH: 7.0 to 8.0 ; Total Dissolved Solids: 352 to 1230 mg/lit; total Hardness (as CaCO₃): 257 to 621 mg/lit; Total Alkalinity(asCaCO₃): 182 to 437 mg/lit; Calcium (as Ca): 24.3 to 108.4 mg/lit; Magnesium (as Mg): 5.9 to 149.7 mg/lit; Oil and grease: BDL; Sulphate (asSO₄): 4.1 to 212.9 mg/lit, Nitrate (as NO₃): 6.8 to 35.8 mg/lit; Chloride (as Cl): 28.7 to 326.4 mg/lit; Iron (as Fe): BDL to 0.124 mg/lit; Heavy metals like Copper (as Cu): 0.007 to 0.017 mg/l, Lead (as Pb): BDL, Cadmium(as Cd): BDL to 0.01 mg/l, Chromium (as Cr): BDL, Manganese (as Mn): BDL to 0.028 mg/l, Arsenic (as As) and Mercury(as Hg) : BDL
Noise levels Leq (Day & Night) at 08 locations	The Leq values for day time was observed to be 36.8 to 76.2 dB(A) in residential area, while during night time 32.9 to 62.0 dB (A).
Soil Quality at 05 Locations	Bulk density: 1.35 to 1.9 gm/cm³; pH range 7.2 to 7.9; Electrical conductivity (EC); 0.115 to 0.275 mS/cm; calcium content: 10.3 to 115.4 mg/kg; potassium: 11.5 to 175.9 mg/kg; Nitrogen: 53.4 to 443 mg/kg; Phosphorous: 71.3 to 288 mg/kg; Magnesium: 7.8 to 88.9 mg/kg; Sulphate: 17.3 to 55.0 mg/kg; Organic Matter: 0.4 to 1.02%
Flora & Fauna	Schedule-I species observed in the study area as per revised list of April 2023 Indian Monitor Lizard, Jungle Cat & Common Mongoose

16. Public Hearing

Advertisement for PH with date	1) Lokmat (Marathi) (Advt. on 27.04.2023)
Date of PH	29.05.2023, at 12.30 PM
Venue	At Project Site, Generation Construction Office, Koradi Project, Koradi, Nagpur
Chaired by	District Magistrate
Main issues raised during PH	The main issues raised during the public hearing are related to location of the proposed plant, non-compliances of existing EC conditions and disposal of

	fly ash from existing plant, Employment, Environmental Pollution & Development of nearby villages.
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Action plan as per MoEF&CC O.M. dated 30/09/2020

S. No.	Village name	Fund in Crores	Works major heads
1.	Khairy	2.00	Water supply Scheme, drainage arrangements, STPs, internal WBM / Tar / Concrete roads, drinking water RO arrangement, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Construction of bridge on Khairy nallah
2.	Bhilgaon	2.00	STPs, internal WBM / Tar / Concrete roads / bridges, Water supply Scheme, drainage arrangements, drinking water RO arrangement, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat.
3.	Masala	2.00	Construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, STPs, Water supply Scheme, drainage arrangements, drinking water RO arrangement, internal WBM / Tar / Concrete roads / bridges,
4.	Khasala	2.00	Beautification, compound wall & shed at crematorium, Construction of hall & compound wall at Datta Mandir, Construction of Samaj Bhawan / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Construction of concrete road & underground drain at CKB Nagar ward No.3, STPs, Water supply Scheme, drainage arrangements, drinking water RO arrangement, internal WBM / Tar / Concrete roads / bridges, Area development & beautification, compound wall & tree plantation at Bindisau Hanuman Mandir
5.	Waregaon	2.00	Water supply Scheme, drinking water RO arrangement, Construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, STPs, internal WBM / Tar / Concrete roads / bridges, drainage arrangements,
6.	Suradevi	2.00	Internal WBM / Tar / Concrete roads, drinking water RO arrangement, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Water supply Scheme, drainage arrangements, STPs,
7.	Bokhara	3.00	Drinking water RO arrangement, drainage arrangements, STPs, Internal WBM / Tar / Concrete roads, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Water supply Scheme,
8.	Koradi	15.00	Tensile roof at the entrance of Mahalaxmi temple, top of museum building & balance portion on periphery of Mandir, Drinking water RO arrangement, Library for Sugat Sarvajanic Vachanalaaya, drainage arrangements, STPs, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Water supply Scheme, Construction of all internal drains & main drains for village Koradi, Construction of all internal BT roads, Solar power plant & back side Bhawan's Khaperkheda road construction & street lights on both side of

S. No.	Village name	Fund in Crores	Works major heads
			road.
9.	Mahadulla	5.00	Drinking water RO arrangement, STP's, drainage arrangements, Internal WBM / Tar / Concrete roads, Water supply Scheme, construction of Samaj Bhawan/compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
10.	Nari	2.00	STP's, drainage arrangements, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme, construction of Samaj Bhawan/compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
11.	Khapri	1.00	Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's, drainage arrangements, Drinking water RO arrangement, construction of Sama; Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
12.	Ghogli	1.00	Work of construction of compound wall for crematorium shed, Work of construction of structural steel shed for rest and crematorium, Work of construction of RCC road, Work of construction of flooring with paver block for crematorium shed, Providing potable water through drinking water ATM, Work of supply, erection, testing & commission of 16 mtr Highmast and any other work as per requirement of Grampanchayat,.
13.	Gumthi	1.00	Drainage arrangements, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
14.	Babulkheda	1.00	Construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Drainage arrangements, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's,
15.	Tandulwani	0.50	Construction of compound wall / Samaj Bhawan / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Drainage arrangements, Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's,
16.	Chicholi	0.50	STP's, Construction of crematorium development / Samaj Bhawan / compound wall / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Drainage arrangements, Internal WBM / Tar / Concrete roads, Water supply Scheme,
17.	Khapa	1.00	Drainage arrangements, STP's, Construction of plantation / landscaping / gardening / crematorium development / Samaj Bhawan / compound wall / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme,
18.	Lonkhairy	1.00	Drinking water RO arrangement, Water supply Scheme, Drainage arrangements, STP's, Construction of crematorium development/ plantation / landscaping / gardening / Samaj Bhawan / compound wall / / any other work as per

S. No.	Village name	Fund in Crores	Works major heads
			requirement of Grampanchayat, Internal WBM / Tar / Concrete roads,
19.	Nara	1.00	Construction of crematorium development / plantation / landscaping / gardening / Samaj Bhawan / compound wall / / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Water supply Scheme, Drainage arrangements, STP's, Internal WBM / Tar / Concrete roads,
20.	Nanda-Koradi	5.00	Construction of crematorium development / plantation / landscaping / gardening / Samaj Bhawan / compound wall / / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Water supply Scheme, Drainage arrangements, STP's, Internal WBM / Tar / Concrete roads, Kolar River Ghat Construction
Total		50 Cr	

17. Environment Management Plan: The capital cost for environmental protection measures is proposed as Rs.1820 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs.37.5 Crores per annum. The proposed project will generate permanent employment for 534 personnel and Temporary/contractual employment at around 2000 personnel. Existing green belt has been developed in 103.72 ha area which is about 15.98% of the total project area of 652.02 ha. Proposed greenbelt will be developed in 111.3 ha which is about 17.07% of the total project area. Thus total of 215.02 ha area (33.08% of total project area) will be developed as greenbelt. Local and native species will be planted with a density of 2500 trees per hectare. The details of cost for environmental protection measures is as follows:

S. No	Component	Description	Capital Cost Rs. In Crores	Recurring Cost Rs. In Crores/Annum
1.	Air Pollution Control	DeNOx system, FGD system, ESP	1596	15.00
2.	Water Pollution Control	ETP & STP	41	4.0
3.	Green Belt	Plantation	3	0.5
4.	other	Monitoring equipment, dust suppression, control of fire, ash disposal	180	18.0
Total			1820	37.5

18. Summary of court cases:

a. High Court of Bombay, Nagpur Bench, Case No. PIL/51/2023 dated 23.08.2023 filed by Vidarbha Connect & Ors.

A Public Interest Litigation (PIL) 51 of 2023 has been filed before Hon. High Court of Bombay, Nagpur Bench on 23.08.2023 by Vidarbha Connect, Social organization challenging the Public Hearing held on 29.05.2023 for proposed 2x660 MW Koradi Project and also noted certain Environmental noncompliance by existing Koradi TPS. The Hon. High court vide order dated 20.09.2023 directed to issue notices to respondents and asked to answer prayer clause (i) & (iv) within 4 weeks. Prayer Clauses i to iv enclosed herewith as follows,

i. Quash and set aside the "environmental public hearing" held on 29/05/2023 held by MAHAGENO and MPCB regarding expansion of 2 x 660 MW expansion of Koradi Thermal Power Plant at Nagpur by holding that the same is illegal and ultra vires to the EIA Notification dated 14.09.2006 and violative of article 14, 19, 21 47, 48A of Constitution of India.

ii. To grant interim injunction restraining the respondent no:-01, their subordinates, servants and agents from carrying out the process of granting of environmental clearance as per EIA Notification dated 14.09.2006 to MAHAGENO for expansion of 2 x 660 MW expansion of Koradi Thermal Power Plant at Nagpur pending present PIL.

iii. Direct respondents no:-01, 02, 03, 04 not to permit/propose/ start any new power plant in the Region of Vidarbha as the Vidarbha is already having surplus power generation than its consumption in order to save the environment in Vidarbha Region and safeguard the health of the citizens in Vidarbha under article 21 of Constitution of India.

iv. Direct the MPCB to immediately start the process of initiating action against the officials of MAHAGENO under section 15 of E.P Act 1986 in pursuance with the "show cause" dated 03-12-2021, 27-01-2022, 18-07- 2022, 21-07-2023

In response to above PIL MAHAGENO submitted the reply on dated 30.11.2023. Further matter heard multiple times wherein Hon. High Court directed MHAGENO submit the affidavit regarding installation of FGD and copy of Agreement with contractor. Also, R3 i.e MPCB & R1 i.e MoEF filed their submission before High court. Mahagenco has filed reply in response to submission of R3 & R1.

Matter was last heard on 14.02.2024 and thereon stand over thrice. Last listed on 17.04.2024. Next date not published.

b. An original application OA 62/2021 is filed by Krishi Vigyan Aarogya Sanstha & Ors at National Green Tribunal (NGT), WZ, Pune on 17.08.2021 against 3x660 MW Koradi Power station.

Original Application 62/2021 (WZ) "Krishi Vigyan Arogya Sanstha & Ors. Vs. Maharashtra State Power Generation Company Ltd. & Ors." was first time heard by the Hon'ble National Green Tribunal on 31/08/2021. After that, so many arguments have been submitted by all parties. Based on these arguments this matter was considered for the final hearing on 09/01/2023 but after that due to some written submissions, Affidavit and rejoinder, this matter was rescheduled for final hearing on 18/07/2024. Again on 18/07/2024, Hon'ble NGT rescheduled this matter on 27/11/2024.

A case/petition was filed by three petitioners mentioned above against four respondents. The matter was regarding non-compliance of EC conditions granted to 3x660MW Koradi on dtd. 04.01.2010. Also specific points were mentioned regarding non compliances viz:

- a) MAHAGENCO has shifted its permitted location about 2.5 kms towards highly populated Nagpur city b) It has failed to install FGD thereby failing to maintain AAQ standards
- c) Not complied with mandatory 100% fly ash utilization as statutory required.
- d) Dumping fly ash into bund without any HDPE /LDPE lining in violation of the statutory requirement.
- e) It has failed to utilize sewage water & increased utilization of fresh water for its operation.

The first hearing carried out through video conferencing.

Final hearing Date extended upto 27.11.2024 by Hon'ble NGT.

19. Summary of show cause notices issued by MoEF&CC and MPCB:

a. MoEF & CC SCN dated 29.01.2020

Show Cause Notice was issued to 3x660 MW Koradi Thermal Power Plant, Maharashtra State Power Generation Company Limited (MSPGCL) on 29.01.2020. The show cause was issued for not installation of FGD to Koradi units, exceeding the emission standards, Non-functioning of ETP & Ash water recirculation unit & Installation of Piezometric wells.

Maharashtra State Power Generation Company Limited has replied to the same vide Letter No. MAHAGENCO/E&S/Koradi/3x660 MW/SCN Reply/91 dated 07.02.2020.

The work of installation of FGD of 210 MW unit is in progress and overall work progress is about 85%. The letter of Award (LoA) for erection and commissioning of FGD to 3x660 MW unit is also placed on 16.11.2023 and work is in process, the work will be completed in 26-30 months from issue of LoA. ETP is fully functional and operational. Three nos. of piezometer were installed at near Khasara ash bund area.

b. MoEF & CC SCN dated 14.08.2023

Show Cause Notice was issued to 3x660 MW Koradi Thermal Power Station, Maharashtra State Power Generation Company Limited (MSPGCL) on 14.08.2023. The show cause was issued for non-submission of action taken report w.r.t non-compliances observed for the 3 x 660 MW Koradi Project observed by IRO in monitoring report dated 29.12.2021.

Maharashtra State Power Generation Company Limited has replied to the SCN vide Letter No. KTPS/CE (O&M)/CHE.DIV./ENV/FL-06/ No 07162 dated 28th August 2023. It is informed that, the action taken report was already submitted with the copy of letter to IRO MoEF & CC Nagpur vide Letter dated 16.02.2022.

c. MPCB SCN dated 1/08/2024

Show Cause has been issued by Maharashtra Pollution Control Board on 1.08.2024 on following issues:

1. Corrective Measures are not taken during handling of ash & ash is mixed in pond no. 3 which is used for water storage reservoir.
2. Not complied the consent condition for setting up Technology Solution for emission norms, Management of Ash Ponds and Coal Transportation.
3. Not complied the condition of Environmental Clearance dated 04.01.2010 (Regarding installation of FGD).
4. Domestic effluent from nearby area discharged through local nallah into pond no. 3
5. Runoffs coming from coal stock yard was entering pond no. 3.
6. Five sewage treatment plants were not in operation.
7. Corrective measures to control water hyacinth not taken.
8. Legacy ash not disposed properly as per Fly Ash Notification
9. Bank Guarantee not submitted.
10. Compliance of show cause notice dated 12.12.2022 & direction issued dated 03.03.2023 not made.

Maharashtra State Power Generation Company Limited has submitted their reply to the MPCB vide Letter No.

Deliberations by the Committee

20. The EAC in its meeting held on 29th August 2024, inter alia deliberated the following:

- i. Instant proposal of MAHAGENCO is for setting up of coal based 1320 MW (2 x 660 MW) power plant within the existing premises of 2190 MW Koradi Power Plant at Koradi, Tahsil: Kamptee, District Nagpur, Maharashtra.
- ii. 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.
- iii. Total land available in Koradi Complex is 652.02 ha. Out of this 68.28 ha land will be utilized for 2X660 MW Proposed Plant excluding Ash Bund, railway siding. The project does not involve any forest land. The project is not located within 10 km of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/tiger corridor/elephant corridor etc. Gorewada Zoo and Wildlife Rescue Center is located at 5.28 km in SW direction from project site.
- iv. Total coal required for 2x660MW Supercritical thermal power plant will be 7.18 MMTPA with consideration of worst coal of GCV 3200 Kcal/kg at BMCR at 85% PLF.
- v. Total water requirement is 95040 KLD for industrial purpose & 27 KLD for domestic use. Water for the project is sourced from Tertiary treated sewage water from Nagpur Municipal Corporation & Pench dam water for domestic use.
- vi. There are three schedule I species namely Indian Monitor Lizard, Jungle Cat & Common Mongoose within the study area and approval of Wildlife Conservation Plan is under process.
- vii. The Committee deliberated on the certified compliance report of Regional Office along with the action taken report of the project proponent and found it satisfactory.
- viii. The Committee deliberated on the baseline data and incremental GLC due to the proposed project due to the proposed project within NAAQS.
- ix. Public hearing for the project was held on 29/05/2023. 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.
- x. 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.
- xi. Following are the two court cases pending with respect to the proposal under consideration:
 - a. High Court of Bombay, Nagpur Bench , Case No. PIL/51/2023 dated 23.08.2023 filed by Vidarbh Connect & Ors challenging the Public Hearing held on 29.05.2023 for proposed 2x660 MW Koradi Project and also noted certain Environmental noncompliance by existing Koradi TPS.
 - b. Original application OA 62/2021 is filed by Krishi Vigyan Aarogya Sanstha & Ors at National Green Tribunal (NGT), WZ, Pune on 17.08.2021 against 3x660 MW Koradi Power station Environmental noncompliance by existing Koradi TPS.
- xii. There are three show cause notices pending against the existing project of MAHAGENCO.
- xiii. 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.

Recommendations of the Committee

21. The EAC after detailed deliberation on the information submitted and as presented during the meeting **recommended** for grant of Environmental Clearance to **M/s. Maharashtra State Power Generation Company Limited** for Proposed 2x660 MW Coal based Supercritical Thermal Power Plant within the existing premises of 2190 MW Koradi Power Plant at Koradi, Tahsil: Kamptee, District Nagpur, Maharashtra subject to stipulation of Specific Conditions (SC) and General conditions based on project specific requirements as enclosed as **Annexure 1** of the EC letter.

22. 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. Maharashtra State Power Generation Company Limited for “Proposed 2x660 MW Coal based Supercritical Thermal Power Plant within the existing premises of 2190 MW Koradi Power Plant at Koradi, Tahsil: Kamptee, District Nagpur, Maharashtra” subject to compliance of the Specific/General environmental conditions (**Annexure 1**).

23. 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.

24. 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.

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

26. 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.

27. 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.

28. 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.

29. This issue with an approval of the Competent Authority

Yours faithfully,

(Sundar Ramanathan)
Scientist 'E'/Additonal Director
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 Principal Secretary, Department of environment, Government of Maharashtra-15th Floor, New Admin Bldg, Madam Cama Road, Mantralaya, Mumbai-32 (Maharashtra).
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Director General of Forest, Ministry of Environment, Forest and Climate Change, New Delhi.
5. The Deputy Director General of Forests (C), Integrated Regional Office Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur- 440001, Ministry of Environment, Forest and Climate Change.
6. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32.
7. The Chairman, Maharashtra State Pollution Control Board, Kalapataru Point, 3rd & 4th Floors, Sion, Matunga Scheme Road No 8, Opp. Cine Planet Cinema, Near Sion circle, Sion (E) Mumbai-2.
8. The Member Secretary, Central Ground Water Authority (CGWA),18/11Jamnagar House, Man Singh Road, New
9. The District Collector, Nagpur, Maharashtra.
10. PARIVESH Portal.

Specific Conditions:**[A] Environmental Management**

- i. The project proponent shall abide by all orders and judicial pronouncements, made from time to time by the Hon'ble High Court of Bombay, Nagpur Bench, Case No. PIL No. 51 of 2023 and original application OA No. 62/2021 filed before Hon'ble National Green Tribunal (NGT), Western Zone, Pune.
- ii. The PP adopt 100% utilization of ash generated as a result of the expansion project. No additional ash pond is permitted for the expansion project. In case of exigencies, fly ash from the silos shall be disposed to existing ash bund 1 & 2 through high concentration slurry disposal (HCSD) system.
- iii. Total water requirement is 95040 KLD for industrial purpose & 27 KLD for domestic use. Water for the project is sourced from Tertiary treated sewage water from Nagpur Municipal Corporation & Pench dam water for domestic use. No fresh water consumption is permitted for the project.
- iv. PP shall explore the possibility of use of rainwater as drinking water in consultation with Public Health Engineering Department Maharashtra, respective Gram Panchayat and District administration wherever feasible. PP shall store ground water 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 rain water and its supply system. PP shall get the water audit done every year to optimize the water requirement.
- v. PP shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs 1820 Crores (Capital) and Rs 37.5 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. In addition to this, PP shall install two continuous ambient air quality monitoring station near ash pond area at suitable locations preferably the village side in consultation of MPCB within 1 year from the date of grant of EC.
- vi. PP shall install and commission the FGD for the existing 3x660 MW and 1 x210 MW on (or) before 31st December, 2026 and report in this regard shall be submitted to RO, MoEF&CC.
- vii. Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.
- viii. PP shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
- ix. PP shall install solar power plant on roof top and also road side poles within the project site will be lighting through solar power. Implementation status of solar plant shall be specifically submit in six monthly compliance report.
- x. Effluent of 28800 KLD will be treated through Effluent Treatment Plant. As committed by the PP Zero liquid discharge shall be adopted.

- xi. PP shall ensure that diesel operated vehicles will be switched over to E-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 like Bulkers for ash transportation for short distance subject to availability of such E-vehicle and 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.
- xii. PP shall implement the concurrent plantation plan in a time bound manner. The gap plantation shall be completed in the identified 103.72 Ha land within Plant, residential and administrative areas and around Ash Pond by the planting 1.0 Lakh saplings during 2024-2025. Further, three tier green belt shall be developed in an area of 111.3 ha in a time frame of 18 months from the date of grant of EC in consultation with Forest department/ Gram Panchayat/District Administration. 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.
- xiii. 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.
- xiv. 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 real time data so generated from CAQMS shall be uploaded on company website and linked it with website of CPCB &SPCB. Further, LED display of air quality (Continuous Online monitoring) shall be installed 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.
- xv. 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 inside the plant area/ administrative/ residential areas and outside the plant area at least for 2KM on a regular basis to control the air pollution. A logbook shall be maintained for the activity and be in six-monthly compliance report.
- xvi. PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
- xvii. Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.

- xviii. 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.
- xix. Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
- xx. 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
- xxi. 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.
- xxii. 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 being submitted by PP.
- xxiii. 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.

[B] Socio-economic

- i. The coal rakes shall be moved upto Nagpur on the Kolkata-Mumbai main line and then to Kalamna on the Nagpur-Ramtek (BG) section by a dedicated railway siding facility and closed pipe conveyor. No road transportation of coal is permitted.
- ii. 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 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.
- iii. 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.

- iv. The budget proposed for PH is Rs 50 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 2 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.

S. No.	Village name	Fund in Crores	Works major heads
1.	Khairy	2.00	Water supply Scheme, drainage arrangements, STPs, internal WBM / Tar / Concrete roads, drinking water RO arrangement, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Construction of bridge on Khairy nallah
2.	Bhilgaon	2.00	STPs, internal WBM / Tar / Concrete roads / bridges, Water supply Scheme, drainage arrangements, drinking water RO arrangement, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat.
3.	Masala	2.00	Construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, STPs, Water supply Scheme, drainage arrangements, drinking water RO arrangement, internal WBM / Tar / Concrete roads / bridges,
4.	Khasala	2.00	Beautification, compound wall & shed at crematorium, Construction of hall & compound wall at Datta Mandir, Construction of Samaj Bhawan / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Construction of concrete road & underground drain at CKB Nagar ward No.3, STPs, Water supply Scheme, drainage arrangements, drinking water RO arrangement, internal WBM / Tar / Concrete roads / bridges, Area development & beautification, compound wall & tree plantation at Bindisau Hanuman Mandir
5.	Waregaon	2.00	Water supply Scheme, drinking water RO arrangement, Construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, STPs, internal WBM / Tar / Concrete roads / bridges, drainage arrangements,
6.	Suradevi	2.00	Internal WBM / Tar / Concrete roads, drinking water RO arrangement, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Water supply Scheme, drainage arrangements, STPs,

S. No.	Village name	Fund in Crores	Works major heads
7.	Bokhara	3.00	Drinking water RO arrangement, drainage arrangements, STPs, Internal WBM / Tar / Concrete roads, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Water supply Scheme,
8.	Koradi	15.00	Tensile roof at the entrance of Mahalaxmi temple, top of museum building & balance portion on periphery of Mandir, Drinking water RO arrangement, Library for Sugat Sarvajanic Vachanalaya, drainage arrangements, STPs, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Water supply Scheme, Construction of all internal drains & main drains for village Koradi, Construction of all internal BT roads, Solar power plant & back side Bhawan's Khaperkheda road construction & street lights on both side of road.
9.	Mahadulla	5.00	Drinking water RO arrangement, STP's, drainage arrangements, Internal WBM / Tar / Concrete roads, Water supply Scheme, construction of Samaj Bhawan/compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
10.	Nari	2.00	STP's, drainage arrangements, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme, construction of Samaj Bhawan/compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
11.	Khapri	1.00	Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's, drainage arrangements, Drinking water RO arrangement, construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
12.	Ghogli	1.00	Work of construction of compound wall for crematorium shed, Work of construction of structural steel shed for rest and crematorium, Work of construction of RCC road, Work of construction of flooring with paver block for crematorium shed, Providing potable water through drinking water ATM, Work of supply, erection, testing & commission of 16 mtr Highmast and any other work as per requirement of Grampanchayat,.
13.	Gumthi	1.00	Drainage arrangements, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's, construction of Samaj Bhawan / compound wall / crematorium development /

S. No.	Village name	Fund in Crores	Works major heads
			plantation / landscaping / gardening / any other work as per requirement of Grampanchayat,
14.	Babulkheda	1.00	Construction of Samaj Bhawan / compound wall / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Drainage arrangements, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's,
15.	Tandulwani	0.50	Construction of compound wall / Samaj Bhawan / crematorium development / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Drainage arrangements, Internal WBM / Tar / Concrete roads, Water supply Scheme, STP's,
16.	Chicholi	0.50	STP's, Construction of crematorium development / Samaj Bhawan / compound wall / plantation / landscaping / gardening / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Drainage arrangements, Internal WBM / Tar / Concrete roads, Water supply Scheme,
17.	Khapa	1.00	Drainage arrangements, STP's, Construction of plantation / landscaping / gardening / crematorium development / Samaj Bhawan / compound wall / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Internal WBM / Tar / Concrete roads, Water supply Scheme,
18.	Lonkhairy	1.00	Drinking water RO arrangement, Water supply Scheme, Drainage arrangements, STP's, Construction of crematorium development/ plantation / landscaping / gardening / Samaj Bhawan / compound wall / / any other work as per requirement of Grampanchayat, Internal WBM / Tar / Concrete roads,
19.	Nara	1.00	Construction of crematorium development / plantation / landscaping / gardening / Samaj Bhawan / compound wall / / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Water supply Scheme, Drainage arrangements, STP's, Internal WBM / Tar / Concrete roads,
20.	Nanda-Koradi	5.00	Construction of crematorium development / plantation / landscaping / gardening / Samaj Bhawan / compound wall / / any other work as per requirement of Grampanchayat, Drinking water RO arrangement, Water supply Scheme, Drainage arrangements, STP's, Internal WBM / Tar / Concrete roads, Kolar River Ghat Construction

- v. PP shall provide the health services and organize medical camps for residents of the surrounding villages as committed during the meeting. PP shall carry out the analysis

of the data of medical camp and take all necessary steps so as to cover maximum number of persons.

- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- vii. 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, or social issues shall be developed. A Senior Officer shall review the functioning of the mechanism twice in a month.

[C] Miscellaneous

- i. An Environmental Cell headed by the Environment Manager 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.
- ii. 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.
- iii. All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

B. General conditions

A. Statutory compliance:

- 1. Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305€ dated 7.12.2015, G.S.R.593€ dated 28.6.2018 and as amended from time to time shall be complied.
- 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.
- 3. MoEF&CC Notification G.S.R 02€ 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.
- 4. MoEF&CC Notifications on Ash Utilization S.O. 5481€ dated 31/12/2021 as amended from time to time shall be complied.
- 5. MoEF&CC Notifications on Water Consumption vide Notification No. S.O. 3305€ dated 07.12.2015 read with G.S.R 593 € dated 28.6.2018 as amended from time to time shall be complied.
- 6. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
- 7. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
- 8. Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

B. Ash content/ mode of transportation of coal:

1. MoEF&CC Notification issued vide S.O. 1561 € 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.

C. Air quality monitoring and Management:

1. Flue Gas Desulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO₂ emissions standard as per G.S.R. 243€ dated 31.03.2021 read with G.S.R. 682€ dated 05.09.2022 and amended from time to time.
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 NO_x emission standard of 100 mg/Nm³.
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/Nm³.
4. Stacks of prescribed height 150 m shall be provided with continuous online monitoring instruments for SOX, Nox and Particulate Matter as per extant rules.
5. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
6. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM₁₀, PM_{2.5}, SO₂, 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.
7. Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
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.

D. Noise pollution and its control measures:

1. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
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.

E. Human Health Environment:

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.
2. Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.
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.
4. Sewage Treatment Plant shall be provided for domestic wastewater.

F. Water quality monitoring and Management:

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 m³/MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5.
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.
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.
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.
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. 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.
7. 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.
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 of 95040 KLD from STP of Nagpur Municipal Corporation shall be used as an alternative to the fresh water source to minimize the fresh water drawl from surface water bodies.
9. Wastewater generation of 28800 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;

10. Sewage generation of 22 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.

G. Risk Mitigation and Disaster Management:

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.
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%.
3. Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4. Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
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.

H. Green belt and Biodiversity conservation:

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.
2. In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.

I. Waste management:

1. Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
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.
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.
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 dated 30.12.2021, S.O. 5 dated 01.01.2024 and amendment thereto.
5. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry method. Ash water recycling system shall be set up to recover supernatant water.
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.

J. Monitoring of compliance:

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.
2. Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
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.
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.
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.
6. 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.
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& PM_{2.5} incase of ambient AAQ), SO₂, Nox (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.

K. Corporate Environmental Responsibility (CER) activities:

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.

