सत्यमेव जयते

File No: J-13012/73/2011-IA. II (T)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **23/07/2025**

To,

Sh. Manoj Kumar Mishra
M/s. GMR Kamalanga Energy Limited
Skip House, 25/1, Museum Road, Bangalore, Kamalanga, Dhenkanal, Odisha-560025
E-mail: susanta.sahoo@gmrgroup.in

Subject: **Expansion of existing 1050 MW (3x350 MW) project by addition of 1x350 MW Coal based Thermal Power Plant (Phase-II) by M/s. GMR Kamalanga Energy Limited located at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha - Environmental Clearance under S.O. 1247(E) dated 18.03.3021 - regarding.**

Sir/Madam,

This is with reference to your online application made vide proposal No. IA/OR/THE/529224/2025 dated 16/05/2025 along with written submission dated 04.07.2025 seeking for Environment Clearance under the provisions of the EIA Notification, 2006 for the project mentioned above.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25A0601OR5367026N
(ii) File No.	J-13012/73/2011-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	Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-ll) at village Kamalanga, in Odapada Taluk, Dhenkanal District, Odisha
(viii) Name of Company/Organization	M/s. GMR Kamalanga Energy Limited
(ix) Location of Project (District, State)	Dhenkanal, Odisha
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. M/s. GMR Kamalanga energy limited has made an online application vide proposal no. IA/OR/THE/529224/2025 dated 16/05/2025 along with copy of EIA/EMP report 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 do not attract general conditions.

4. The instant Proposal was considered by the EAC – Thermal in its 26th meeting held on 20th June, 2025. The proponent uploaded the written submission through PARIVESH portal on 04/07/2025. The MoM for the same may be seen using the web link: https://parivesh.nic.in.

Details submitted by the project proponent

5. The Environmental Clearance for 3 x 350 MW Thermal Power Plant (Phase-I) was granted by MoEF&CC vide letter No. J-13011/ 64/2007-IA. II(T) dated 05.02.2008 and the Environmental Clearance for 1 x 350 MW Thermal Power Plant (Phase-II) was granted by MoEF&CC vide letter No. J-13012/73/2011-IA. II (T) dated 05.12.2011, Amendment dated 11.01.2019 & Validity Extension dated 11.04.2019. The existing EC dated 05.12.2011 is valid up to 04.12.2022 including the time period (1 year) exempted due to Corona Pandemic. Again, the validity of EC was extended up to 03.12.2023 to commission the plant and start the operation of the project as per the capacity mentioned in the EC. However, the same could not be commissioned within the EC validity period. Consent to Operate for the Phase I (3x350MW) was accorded by Odisha State Pollution Control Board vide lr. No. 4739/IND-I-CON-6218 dated 27.03.2023. The validity of CTO is up to 31.03.2028.

6. **Implementation status of the existing ECs**

S. No.	Configuration	Capacity (MW)	As per EC dated	Implemen -tation Status	Production as per CTO
1.	The Phase I TPP has 3 nos. of 350 MW units in accordance to the EC granted from MoEF&CC at village Kamalanga, in Odapada Taluk in Dhenkanal District in Odisha by m/s GMR Kamalanga Energy Limited.	(3x 350)	05.02.2008	100%	1050 MW
2.	Expansion by addition of 1x350 MW Coal based Thermal Power Plant (Phase-II) at village Kamalanga, in Odapada Taluk, Dhenkanal District, Odisha	(1x 350)	05.12.2011	63.7%	Yet to be commissioned

7. The project of M/s GMR Kamalanga Energy Limited is located in Kamalanga Village, Dhenkanal District State Odisha is for Expansion by addition of 1x350 MW Coal based Thermal Power Plant (Phase-II)/ enhancement of power generation capacity from 3x350 MW to 4x350 MW.

8. **Certified compliance report from Regional Office**: The Status of compliance of earlier EC was obtained from Regional Office, Bhubaneswar vide letter no. 101-756/2022/EPE dated 06.02.2025 in the name of M/s GMR Energy Limited Located at Kamalanga, District Dhenkanal, Odisha. The Action taken report (ATR) regarding the partially/non-complied conditions was submitted to the Regional office, MoEF&CC, Bhubaneswar (RO) vide letter no. GKEL/ MOEF&CC/2024-25/8499 dated 08/03/2025.

9. **Details of ToR**: The detail of the ToR is furnished as below:

Proposal No with date	Consideration	Details	Date of accord	ToR Validity
IA/OR/THE/449476/2023 dated 19/10/2023	Proposal has been considered by Expert Appraisal Committee in its 02nd meeting of EAC Thermal held on 31st October 2023 and 01st November 2023	Expansion by addition of 1x350 MW Coal based Thermal Power Plant (Phase-ll)	06/01/2024	06/01/2028

10. **Environment site Settings**

<table>
<tr><th>S. No.</th><th>Particular</th><th>Land</th><th>Remark</th></tr>
<tr><td>1</td><td>Total land</td><td>468.85 ha. The proposed expansion of 1x350 MW will be carried out within the existing land of 468.85 ha.</td><td>Land use: Industrial</td></tr>
<tr><td>2</td><td>Land use break up</td><td><table>
<tr><th>Description</th><th>Total Area (Ha)</th></tr>
<tr><td>Steam Turbine Generator & accessories, TG Building</td><td>14.97</td></tr>
<tr><td>Switch Yard</td><td>4.05</td></tr>
<tr><td>Cooling towers & CW pump house</td><td>9.71</td></tr>
<tr><td>River water pump house & pipeline</td><td>2.43</td></tr>
<tr><td>Water Treatment Plant & Accessories</td><td>7.28</td></tr>
<tr><td>Ash Disposal Area</td><td>159.08</td></tr>
<tr><td>Coal Handling Plant</td><td>55.45</td></tr>
<tr><td>Fuel Handling System</td><td>1.62</td></tr>
<tr><td>Fire Fighting System</td><td>0.40</td></tr>
<tr><td>Ash Handling System & Silos</td><td>2.02</td></tr>
<tr><td>Misc. Non-Plant Building</td><td>3.24</td></tr>
<tr><td>Reservoir & pump house</td><td>20.64</td></tr>
<tr><td>Green Belt around periphery of the plant</td><td>129.50</td></tr>
<tr><td>Left-Out Plots inside Plant Boundary</td><td>12.63</td></tr>
<tr><td>Green belt developed on both side of Direct Approach Road to the plant</td><td>9.87</td></tr>
<tr><td>Others plant area</td><td>12.55</td></tr>
<tr><td>Merry Go Round Railway Line connectivity outside plant boundary</td><td>12.46</td></tr>
<tr><td>Permissive possession of Govt. Land inside the Plant Boundary</td><td>7.99</td></tr>
<tr><td>Periphery development at Outside of the Plant boundary</td><td>2.97</td></tr>
<tr><td>Total Area</td><td>468.85</td></tr>
</table></td><td></td></tr>
<tr><td>3</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014 & 20/02/2025</td><td>The project site is now industrial land as proposed unit shall be in vicinity of already operation units and construction of 4th unit has already been reached to approximately 63.7 %.</td><td>Total - 1400 (4x350) MW
Under Operation - 1050 (3x350) MW
Under Construction - 350 (1x350) MW</td></tr>
<tr><td>4.</td><td>Existence of habitation& involvement of R&R, if any.</td><td><u>Project site</u>: NA
<u>Study Area</u>: within the 10 km from the project site.
<table>
<tr><td>Habitation</td><td>Distance (Km)</td></tr>
<tr><td>Manpur</td><td>0.8</td></tr>
<tr><td>Bhagabatpur</td><td>1.0</td></tr>
<tr><td>Tentulihata</td><td>1.6</td></tr>
<tr><td>Bhudapanka</td><td>1.5</td></tr>
<tr><td>Kusupanga</td><td>2.0</td></tr>
</table>Mitigation measures
Construction phase:
· Water spraying on material to be handled before beginning work</td><td>No R&R</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particular</th><th>Land</th><th>Remark</th></tr>
<tr><td></td><td></td><td>and spraying on unpaved surfaces twice a day will improve the working conditions and minimize dust pollution.
· Water spraying during loading and unloading operations to be carried out, where applicable
· The designated areas for roads and parking spaces shall be black topped at the earliest.
· Transportation to be carried out in covered trucks.
· Transport vehicles shall be maintained leak proof to avoid spillage of rubble and soil.
· Welding operations shall be carried out within cordoned areas.
· Preventive maintenance of all trucks, earthmovers and construction equipment to be done as per manufacturers norms
Operational phase
· Keeping stack heights as per CPCB norms and adoption of efficiency electrostatic precipitators in power plant.
· Necessary provision will be made in steam generation design to reduce NOx emission.
· Fugitive dust due to handling of raw materials, coal etc. will be controlled by sprinkling/hoods connected with bag filters or dry fogging system at ground hoppers and transfer points of conveyor system.
· Leakage from the equipment, ducts and transfer points shall be regularly checked and stopped.
· Coal will be stored in the coal yard and water sprinkling will be done regularly over it. Windbreak with 65% efficiency will be installed on south side of stock yard besides establishment of green belt.
· The boiler/ steam generator bottom hoppers and ESP hoppers will be provided with a dense phase ash handling system. The dust collected from these hoppers will be sent to an ash silo by pneumatic conveying system. The ash stored in the ash silo will be loaded in trucks/ bulkers and sent for reuse at brick and cement plants, back filling in mines, land leveling etc. or storage at designated ash disposal area within plant site.</td><td></td></tr>
<tr><td>5</td><td>Latitude & Longitude of all the corners</td><td>A. Plant site.
<table>
<tr><th>S.No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1</td><td>20°52'34.14"N</td><td>85°15'32.20"E</td></tr>
<tr><td>2</td><td>20°52'32.48"N</td><td>85°16'10.12"E</td></tr>
<tr><td>3</td><td>20°52'20.81"N</td><td>85°16'14.57"E</td></tr>
<tr><td>4</td><td>20°52'18.16"N</td><td>85°16'23.31"E</td></tr>
<tr><td>5</td><td>20°51'50.53"N</td><td>85°16'28.51"E</td></tr>
<tr><td>6</td><td>20°51'21.25"N</td><td>85°16'9.39"E</td></tr>
<tr><td>7</td><td>20°51'20.81"N</td><td>85°16'5.88"E</td></tr>
<tr><td>8</td><td>20°51'13.10"N</td><td>85°15'59.57"E</td></tr>
<tr><td>9</td><td>20°51'12.76"N</td><td>85°15'48.41"E</td></tr>
<tr><td>10</td><td>20°51'33.93"N</td><td>85°15'22.98"E</td></tr>
<tr><td>11</td><td>20°51'40.78"N</td><td>85°15'23.40"E</td></tr>
<tr><td>12</td><td>20°51'45.88"N</td><td>85°15'22.01"E</td></tr>
<tr><td>13</td><td>20°51'50.99"N</td><td>85°15'29.28"E</td></tr>
<tr><td>14</td><td>20°51'53.21"N</td><td>85°15'23.21"E</td></tr>
</table></td><td></td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particular</th><th>Land</th><th>Remark</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>15</td><td>20°52'26.59"N</td><td>85°15'25.86"E</td></tr>
</table>
B. Ash pond
<table>
<tr><th>S. No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1.</td><td>20°52'10.41"N</td><td>85°15'36.34"E</td></tr>
<tr><td>2</td><td>20°51'46.03"N</td><td>85°15'48.59"E</td></tr>
<tr><td>3</td><td>20°51'21.97"N</td><td>85°15'47.98"E</td></tr>
<tr><td>4</td><td>20°51'32.02"N</td><td>85°15'29.63"E</td></tr>
<tr><td>5</td><td>20°51'46.78"N</td><td>85°15'27.23"E</td></tr>
<tr><td>6</td><td>20°51'50.56"N</td><td>85°15'31.26"E</td></tr>
<tr><td>7</td><td>20°51'59.29"N</td><td>85°15'30.44"E</td></tr>
</table>
</td><td></td></tr>
<tr><td>6</td><td>Elevation of the project site</td><td>79m – 97m AMSL</td><td></td></tr>
<tr><td>7</td><td>Involvement of Forest land if any.</td><td>The forest land was involved in phase I project and Stage- II forest clearance for 32.092 ha land has been accorded vide letter No.- 5-ORC083/2008/FCE dated 07.01.2011</td><td></td></tr>
<tr><td>8.</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as
study area</td><td>Project site: No
Study area: 10 km of the project boundary
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Brahmani River</td><td>2.6 km</td><td>E</td></tr>
<tr><td>Balarama Prasad Branch Canal</td><td>10.1 km</td><td>WSW</td></tr>
<tr><td>Nandira Jor</td><td>1.9 km</td><td>WNW</td></tr>
<tr><td>Talcher Left Main Canal</td><td>9.1 km</td><td>NE</td></tr>
<tr><td>Ghorhadian Nala</td><td>4.1 km</td><td>NE</td></tr>
<tr><td>Baularnala Jharana</td><td>7.1 km</td><td>ESE</td></tr>
<tr><td>Ria Jor</td><td>8.7 km</td><td>ESE</td></tr>
<tr><td>Rengali Right Main Canal</td><td>2.7 km</td><td>SSE</td></tr>
<tr><td>Kisinda Jor</td><td>4.8 km</td><td>SSE</td></tr>
<tr><td>Lingara Nadi</td><td>8.8 km</td><td>S</td></tr>
</table>
Highest HFL of Brahmani River recorded is 58.24 m (MSL) while plant is at an elevation of approx.79-97m above mean sea level. The project site is located at substantial higher elevation compared to the HFL of the river.</td><td>HFL of nearest water body Brahmani River-(2.6 Km East from the Plant) is 58.24 m.</td></tr>
<tr><td>9</td><td>Existence of ESZ/ESA/ national park/ wildlife sanctuary/biosphere reserve/ tiger reserve/
Elephant reserve etc. if any within the study area</td><td>There are no National parks, Wildlife Sanctuary, Biospheres reserves, ESA/ESZ and corridors within 10 km radius.</td><td>No such area in 10 Km Study Area</td></tr>
<tr><td>10</td><td>Archaeological sites monuments/ historical temples etc.</td><td>Not applicable</td><td>No such sites present in Study Area</td></tr>
<tr><td>11</td><td>Facility envisaged in CRZ area (Only for coastal power plant)</td><td>Not applicable</td><td>No such sites present in Study Area</td></tr>
<tr><td>12</td><td>Involvement of Critically Polluted Area / Severely Polluted area as per 2018 CEPI score</td><td>Nil</td><td></td></tr>
</table>

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

S. No.	Existing power plant configuration and capacity	Proposed power plant configuration and capacity	Total	Technology adopted
1.	Boilers: 3 nos.	Boilers: 1 nos	Boilers: 4 nos.	Direct Solid Combustion i.e. Conventional Pulverized Coal (PC) combustion
2.	Capacity (MW) 3x 350 MW	Capacity (MW) 1x 350 MW	4x 350 MW	

12. The details of the coal requirement for the proposed project/ expansion cum proposed project along with its source and mode of transportation is given as below:

Details	Fuel Require -ment (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristic (Worst case scenario)	Linkage document
Existing TPP	Coal – 5.54 Lakhs	Mahanadi Coalfeild Talcher	40	By rail/road	Ash – 40(%); Sulphur- 0.50(%) Moisture (%)-13.30; GCV- 3200 Kcal/Kg	--
Proposed TPP	Coal- 1.93 lakh	Mahanadi Talcher, Odisha	40	By rail/road	Ash –40(%); Sulphur– 0.5 (%); Moisture (%)-13.30; GCV:3200 Kcal/Kg	--

13. **Water requirement**: Existing Water requirement is 48,931.40 m3/day. Water requirement is obtained from Samal Barrage on Bramhani River and permission for the same has been obtained from Department of Water Resources vides letter no. 14362 dated 07.05.2007. The water requirement for the proposed project work (Construction Phase) is estimated as 3669 m3/day and for operation phase 32,000 m3/day of freshwater requirement will be obtained from the Samal Barrage on Bramhani River. The permission for drawl of surface water is obtained from Department of Water Resources vide letter no. 14362, dated 07.05.2007. The water will be transported to the plant site through dedicated river water intake pipeline.

14. **Power requirement**: Existing power requirement of 1.5 MW is obtained from GRID/ Internal Source. The power requirement for the proposed project is estimated as 1.5 MW, the same will be obtained from the Internal Source.

15. **Baseline Environmental Studies**

Period	October 2024 to December 2024	Additional study (if any)
AAQ parameters at 12 Locations (min and max)	$PM_{2.5}$ =1.4 to 28.4 µg/m^3 PM_{10} = 5.6 to 78.5µg/m^3 SO_2 = 6.3 to 10.8 µg/m^3 Nox = 13.9 to 30.0 µg/m^3 CO = 1.12 to 1.65 mg/m^3	
Incremental GLC level	PM_{10} = 1.8 µg/m^3 (Level at 800 m in south East Direction) SO2 = 3.2 µg/m^3 (Level at 800 m. in South East Direction) Nox = 2.4 µg/m^3 (Level at 800 m in South East Direction)	
round water quality at 08 locations	pH: 7.07.to 7.61., Total Hardness: 124 to 174 mg/l, Chlorides: 36 to 116. mg/l Fluoride 0.23 to 0.54 mg/l. Heavy metals 0.18 to 0.86 mg/l.	
Surface water quality at 08 locations	pH: 7.06 to 7.65 .; DO: 4.3 to 6.3 mg/l and BOD: BLQ mg/l. COD from 10 to 20 mg/l.	
Effluent generation details and its treatment	Effluent generation from TPP:	123 m^3/day
	Mode of treatment & reuse: Effluents would be neutralized in a neutralizing pit where proper neutralizing arrangements for the effluent fluids would be provided	
	Domestic wastewater generation:	96m^3 /day

	Mode of treatment & reuse: Shall be treated in STP and treated water shall be used for greenbelt development/ plantation and dust suppression.
Noise levels Leq (Day and Night)	53.8. to 56.7dB(A) for the day time and 43.2. to 44.6 dB(A) for the Night time.

Traffic assessment study findings

S. No	Parameters	Sampling Locations			
		TD1	TD2	TD3	TD4
1	Total Traffic/day	10012	8754	8542	9315
2	Average Traffic Flow/hr	417	364	355	388
3	Max Traffic Flow (Nos.)/hr	608	450	421	430
4	Min Traffic Flow (nos.)/hr	42	35	28	31
5	Max Traffic Flow (Time)	10.00 am-11.00 am	10.00 am-11.00 am	10.00 am-11.00 am	10.00 am-11.00 am
6	Min Traffic Flow (Time)	1.00 am-2.00am	2.00 am-3.00 am	2.00 am-3.00 am	2.00 am-3.00 am

S.no	Location Code	Composition of Vehicles (%)								
		Heavy Vehicles			Medium Vehicles			Light Vehicles		
		Day	Night	Total	Day	Night	Total	Day	Night	Total
1	TD1	42.1	2.2	44.3	27.7	3.2	30.9	22.4	2.4	24.8
2	TD2	39.8	1.5	41.3	32.6	2.9	35.5	21.3	1.9	23.2
3	TD3	38.9	1.3	40.2	31.8	2.6	34.4	24.1	1.3	25.4
4	TD4	38.8	1.1	39.9	35.5	2.2	37.7	21.2	1.2	22.4

Soil Quality at -- Locations	Bulk density: 1088 to 1193 gm/cm^3; pH range 5.52 to 8.34; calcium content: 1847 to 3764 mg/kg; potassium: 114 to 704 mg/kg; Nitrogen: 3.6 to 10.6 mg/kg; Magnesium: 408 to 1341 mg/kg; Organic Matter: -0.22 to 1.78 % By Mass.
Flora and fauna	List of schedule I fauna and endangered Flora: Site specific wildlife management plan prepared by Forest Department is attached as Annexure 9 of EIA and EMP report

S No	Common Name	Scientific Name
1	Blue Bull (Nilagiri)	*Boselaphus tragocamelus*
2	Common Palm Civet	*Paradoxurus hermaphroditus*
3	Four horned antilope	*Tetracerus quadricornis*
4	Hyaena	Hyaena hyaena
5	Indian Elephant	Elephas maximus
6	Indian Fox	*Vulpesbengalensis*
7	Indian Porcupine	*Hystrix indica*
8	Jackal	*Canis aureus*
9	Otter	*Lutra perspicillata*
10	Ratel or Honey Badger	*Mellivora capensis*
11	Sloth Bear	*Melursus ursinus*
12	Crested Serpent Eagle	*Spilornis cheela*
13	Common peafowl	*Pavo cristatus*
14	Shikra	*Accipiter badius*
15	Spotted Owlet	*Athene blewitti*
16	Banded Krait	*Bungarus fasciatus*
17	Binocellate Cobra	*Naja naja*
18	Checkered Keelback	*Fowlea piscator*
19	Common Indian Rat Snake	*Ptyas mucosus*

	20	Common Krait	*Bungarus coerulens*	
	21	Python	*Python molurus*	
	22	Russel's Viper	*Daboia russelii*	
	23	Turtle (Land)	*Testudo elegans*	
	24	Yellow Monitor Lizard	*Varanus flavescens*	
Hydrogeology study	Recommendations of Hydrogeology study: The water availability from the River during lean period id quite assured and reliable and will meet the demand of the proposed power plant.			Deep Water Explorers
Impact study on bio-diversity and aquatic ecology	Recommendations of study report: Site specific wildlife management plan prepared by Forest Department on 27/05/2025.			Forest Department Odisha
Risk assessment Study	Recommendations of Risk assessment report with mitigation measures: · Smoke/thermal sensors with alarm to be installed in the storage area. · Storages for Chlorine should be at a distance from main tank farm. · A caustic pit to be made to attend heavy Chlorine cylinder leakage.			Enviro Infra Solutions Pvt. Ltd.

16. The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

S. No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
1.	Fly ash	Thermal power plant	0.85	Will be reused as per the Ash Utilization Notification 2021.	Ash Disposal Area.	--

17. **Public Consultation**: The public hearing (PH) of the project has been exempted by MoEF&CC in line with the notification of No. SO 1247 E dated 18.03.2021. However, PP has submitted action plan for the PH conducted earlier on 30.08.2011 as part of original EC for 1x350 MW Coal based Thermal Power Plant (Phase-ll)

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

SN	Issues	Present Compliance Status	Expenditure incurred till date (in Cr.) (March 2025)	Proposed /estimated expenditure (Rs. in Cr.)			Targets
				25-26	26-27	27-28	
1	The industry should supply the drinking water through supply.	This is being supplied to Mangalpur Gram Panchayat since 2018.	0.40	0.01	0.02	0.02	Continuous Process
2	The industry should repair, widen and maintain the road from Mangalpur to Kantabania.	The road had been repaired, widen after obtaining permission from State RWD and being maintained by State RWD for the road from Mangalpur to Kantabania.	1.50	-	-	-	Activity Completed
3	The Industry should also ensure that the ambulance should be frequently moved.	One Medical Mobile Unit, One Ambulance and one lifesaving ambulance (3) are available for community as and when required	1.50	0.20	0.20	0.20	Activity Completed. (1 MMU & 1 Nos Ambulance owned by Company) One Ambulance Hired
3	A better performed ESP should be installed.	The earlier 3 units of 350 MW are equipped with	33.40	-	-	0.20	Shall be complied along with

SN	Issues	Present Compliance Status	Expenditure incurred till date (in Cr.) (March 2025)	Proposed /estimated expenditure (Rs. in Cr.)			Targets
				25-26	26-27	27-28	
		ESPs meeting below to national standard for emission and the same shall be practiced for the additional capacity of 1 x 350 MW.					commissioning of 1 X 350 MW conforming to latest emission norms.
4	The industry also gives priority for development of SC & ST communities like providing better road communication, employment, constructing dwelling houses for them etc. similar facilities should also be provided to land oustees.	The industry is providing livelihood support and capability building to youth of the neighboring villages and PAFs which also comprises of SC & ST populations	9.41	0.70	0.70	0.70	Continuous Process
5	The industry should try to provide permanent employment to local youth as far as possible	36 nos (within 10 KM of plant) & (169 Nos from within the state) numbers of local population have been provided on the Payrolls GMR	-	-	-	-	Employment provided. Continuous Process
6	The local SGO's in each block should be provided funds. The poor brilliant students, diploma holders and engineering graduates of the locality should be provided with stipend.	Numbers: 20 Nos (ave: 10 Members) Number: 20 students (Average: 1000/ each)	1.0 0.36	0.05 0.02	0.06 0.02	0.07 0.02	Continuous Process
7	The industry should take necessary measures to check noise pollution.	Greenbelt development completed inside plant premises with particular emphasis in canopy and density for reduction in noise level and fugitive dust.	20.00	0.75	0.75	0.75	Continuous Process. Company has planted : 3,99,353 Nos
8	The industry has proposed for no discharge of waste water outside in the plant premises.	The plant has installed ZLD facility.	7.83	0.40	0.40	0.40	Activity Completed
9	A village committee should be formed to carry out all the developmental works.	In coordination and consultation with local representatives like sarpanch, ward members and several youth club committees, village development activities taken up.					Continuous Process
10	Green belt development and avenue plantation programs are to be expedited	Green Belt: 3,99,353 Avenue Plantation: 8, 764 Nos.	20.00	0.75	0.75	0.75	Continuous Process

SN	Issues	Present Compliance Status	Expenditure incurred till date (in Cr.) (March 2025)	Proposed /estimated expenditure (Rs. in Cr.)			Targets
				25-26	26-27	27-28	
		Road Side: 15, 542 Nos					
11	The road connecting Bhushan gate to Kamalanga should be repaired and maintained	The road had been repaired, widen after obtaining permission from State RWD and being maintained by State RWD.	23.00	0.10	0.10	0.10	Activity Completed
12	The rehabilitation program and providing employment to the locals should carried by the industry on priority basis.	GKEL has taken livelihood restoration plan for all the PAFs and provides employment based on the education qualification, skill sets and GKEL's requirement.	10.10	0.4	0.4	0.40	Continuous process
13	To control the dengue, the industry has not provided fogging machine in the area.	Fogging and other measures This activity is a continuous process	0.50	0.04	0.04	0.04	Continuous process
14	The Kantabania-Kamalanga road of 12 Km is now damaged due to movement of heavy vehicle of the industry.	The road had been repaired, widen after obtaining permission from State RWD and being maintained by State RWD.	23.00	0.10	0.10	0.10	Activity Completed
15	Even if the industry has planted trees along this 12 Km road, the survival rate is poor. So unemployed youth of the area should be engaged for avenue plantation.	The plantation activity in the vicinity is a continuous process in consultation with local youth club.	0.35	0.01	0.01	0.01	
15	The industry should provide identity card to land oustees to avail all the facilities.	There is no land oustees as per R&R Policy of Govt. of Odisha.	-	-	-	-	-
17	Safe drinking water should be supplied to the villagers. Local ITI, diploma and Engineering graduates should be engaged permanently in the industry	Safe Drinking is being supplied by tankers earlier, now the same activity is managed by RWSS through the overhead / underground tanks constructed by GKEL. 36 nos (within 10 KM of plant) & (133 Nos from within the state) numbers of local population have been provided on the Payrolls GMR. Apart from with agencies 763 nos (within 10 KM	0.40	0.01	0.02	0.02	Water Supply from Plant. Employment to eligible Local youth.

SN	Issues	Present Compliance Status	Expenditure incurred till date (in Cr.) (March 2025)	Proposed /estimated expenditure (Rs. in Cr.)			Targets
				25-26	26-27	27-28	
		of plant) & (1550 Nos from within the state)					
	The health facility provided by industry should be improved.	One ten bedded hospitals along with One Medical Mobile Unit, Telemedicine facility, Health Expenses Reimbursement etc One Ambulance and one Advance life saving ambulance (3) are available for community as and when required.	15.5	1.10	1.10	1.10	Continuous process
	The industry should ensure for better performance of ESP and regular water sprinkling on roads.	The earlier 3 units of 350 MW are equipped with ESPs meeting below to national standard for emission and the same shall be practiced for the additional capacity of 1 x 350 MW.	33.40	-	-	0.20	
	The approach road to the industry should be repaired and maintained	The approach road is repaired and maintained By GKEL.	25.00	0.20	0.20	0.20	
	Total:			**3.88**	**3.90**	**4.11**	

18. **Cost of Project**: The capital cost of the proposed project is Rs 1600 Crores and the capital cost for environmental protection measures is proposed as Rs 427 Crores. The annual recurring cost towards the environmental protection measure is proposed as Rs 39.3 Crores. The employment generation from the proposed project 620 (Construction phase = 500, Operation phase = 120). The details of cost for environmental protection measures is as follows:

S.No.	Description of Item	Proposed (Rs. In Crores/lakhs)	
		Capital Cost	Recurring Cost
(i).	Air Pollution Control	280	24
(iii).	Water Pollution Control	20	3
(iv).	Ash management	110	6.5
(v).	Environmental Monitoring and Management	0.92	0.26
(vi).	Green Belt Development	13.1	5.24
(vi).	Addressal of Public Consultation issues	Exempted	Exempted.

19. **Green belt Development**: Existing green belt has been developed in 154.72 ha area which is about 33% of the total project area of 468.85 ha with total sapling of 3,99,353 nos. A 20 m wide greenbelt, consisting of at least 3 tiers around plant boundary are already developed as greenbelt and green cover as per CPCB guidelines. Local and native species are planted with a density of 2500 trees per hectare.

20. **Ash management for last three years**

Year	Quantity generated (MT)	Quantity utilized (MT)	% of utilization	Balance quantity (MTP)	No of storage silos with capacity
2024-25	2719829	2719829	100.00	0	4

2023-24	2490142	2490142	100.00	0	4
2022-23	2219282	2516221	113.38	0	4

Fly ash Details for last three years = 4047281 Tons

S. No	Activity (as applicable)	Quantity	Percentage
1	Fly ash-based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	2340324	40.17
2	Cement manufacturing	1976302	33.92
3	Construction of roads, road and fly over embankment	1208455	20.74
4	Filling up of low-lying area	3932	0
	Total	**4047281**	**100**

Bottom ash generation for last three years = 1900228 Tons

S. No.	Activity (as applicable)	Quantity	Percentage%
1	Construction of roads, road and fly over embankment	1900228	100
	Total	**1900228**	**100**

A. Legacy ash details = 296940 Tons

S. No.	Activity(as applicable)	Quantity	Percentage %	Remarks (Prior approval of SPCB details to be mentioned)
1.	Construction of roads, road and fly over embankment	296952	5.10	--
	Total	**296952**	**5.10**	--

B. Ash Pond details

S. No.	Details of Ash Pond	Ash pond 1	Ash pond 2	Total
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	Active	Active	N.A.
2.	Area (Ha)	38.46	36.44	74.9
3.	Dyke height (m)	6.0	11.0	N.A.
4.	Volume (m^3)	958333.33	1563166.67	2521500
5.	Quantity of ash disposed (Metric Tons)	Nil	Nil	
6.	Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons)	100 %	100 %	N.A.
7.	Expected life of ash pond (number of years and months)	25 years		N.A.
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HDPE	HDPE	N.A.
9	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Wet slurry disposal through HCSD system		N.A.
10.	Ratio of ash: water in slurry mix (1:):	1:0.5	1:0.5	N.A.
11	Ash water recycling system (AWRS) installed and functioning: Yes or No	YES, Ash water recycling system installed & it's under operation		
12	Quantity of wastewater from ash pond discharged into land or water body (m^3)	Nil	Nil	N. A
13.	Last date when the dyke stability study was conducted and name of the organization who conducted the study:	19th March' 2024 V Engineering Consultants		N.A.
14.	Last date when the audit was conducted and name of the organization who conducted the	03rd April '2025 NIT- Warangal		N.A.

S. No.	Details of Ash Pond	Ash pond 1	Ash pond 2	Total
	audit:			

C. Proposed ash utilization plan for expansion project

Details	Existing generation (MTPA)	Proposed generation (MTPA)	Total	Utilization (MTPA)	% of utilization	Balance quantity (MTPA)	No of storage silos with capacity
Ash (Fly& Bottom)	2.71	0.85	3.56	3.56	100	Nil	4x1600 MT

21. **Ash Pond details**: Exiting Ash Pond is to be utilized. No new ash pond is to be created.

22. **Summary of violation under EIA, 2006/court case/ show cause/ direction if any, related to the project under consideration** : No court case / show cause/ direction are pending against the proposed project. There is no violation case pertaining to the project under the Environment Protection Act, 1986; Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980; the Wildlife (Protection) Act, 1972.

23. **Written submission**: Project proponent submitted the following written submissions during the meeting

1. Revised Environmental monitoring equipment cost (322.80 Lakhs)

S. No.	Particulars	No. of equipment's	Unit Cost (INR Lakhs)	Capital cost (INR Lakhs)
1	**Air Pollution Monitoring**			
a	PM2.5 sampler	1	2.00	2.00
b	Respirable dust sampler	1	2.00	2.00
c	CAAQMS with Micro-meteorological station (Auto)	1	80.00	80.00
d	Online Stack Monitoring Systems	2	90.00	180.00
	Sub Total	**5**	**174.00**	**264.00**
2	**Water Pollution Monitoring**			
a	Water sampling kit	1	0.40	0.40
b	TDS meter (portable)	1	0.20	0.20
c	Conductivity meter (portable)	1	0.20	0.20
d	TSS (portable)	1	2.00	2.00
e	pH meter (portable)	1	0.20	0.20
f	Continuous Effluent Monitoring System (CEMS)	1	50.00	50.00
g	Camera	1	5.00	5.00
	Sub Total	**7.0**	**58.00**	**58.00**
3	**Noise Pollution Monitoring**			
a	Noise meter	1	0.80	0.80
	Sub Total			**0.80**
	Grand Total			**322.80**

2. Cumulative impact due to proposed project from the stack: Proponent had submitted the cumulative impact due to proposed project from stack, which depicted that all the air quality parameters were under the permissible limit.

S. No.	AAQS No.	Name	PM_{10} (µg/m^3)			$PM_{2.5}$ (µg/m^3)			SO_2 (µg/m^3)			NO_2 (µg/m^3)		
			Incremental GLC	Max. Baseline observed at AAQS	Resultant GLC	Incremental GLC	Max. Baseline observed at AAQS	Resultant GLC	Incremental GLC	Max. Baseline observed at AAQS	Resultant GLC	Incremental GLC	Max. Baseline observed at AAQS	Resultant GLC

1	A1	Near Rain Water pump house pit	1.4	78.5	79.9	0.9	28.4	29.3	2.6	10.6	13.2	1.9	26.8	28.7
2	A2	Near Security Watch Tower 3	0.2	55.3	55.5	0.1	21.7	21.8	0.3	10	10.3	0.2	27.2	27.4
3	A3	Near Budhapanka Material	0.2	59.3	59.5	0.1	25.5	25.6	0.3	10.8	11.1	0.2	30	30.2
4	A4	Mangalpur	0.4	59.3	59.7	0.2	21.2	21.4	0.6	10	10.6	0.5	23.8	24.3
5	A5	Kamalanga	0.4	64.9	65.3	0.2	27.9	28.1	0.6	9.8	10.4	0.5	28.2	28.7
6	A6	Budhapanka	0.2	50.2	50.4	0.1	19.8	19.9	0.3	10.7	11	0.2	30	30.2
7	A7	Maniabeda (Near Security Watch Tower 4)	0.5	64.7	65.2	0.4	25.8	26.2	0.7	10.4	11.1	0.5	28.6	29.1
8	A8	Bhogamunda	0.2	50.2	50.4	0.1	21.3	21.4	0.3	10.1	10.4	0.2	28.3	28.5
9	A9	Hatatota	0	50.3	50.3	0	20.1	20.1	0	10.7	10.7	0	27.6	27.6
10	A10	Achalapur	0	48.9	48.9	0	18.6	18.6	0	10.8	10.8	0	25.2	25.2
11	A11	Banarpal	0.2	49.7	49.9	0.1	20.7	20.8	0.3	10.5	10.8	0.2	26.7	26.9
12	A12	Kharagaprasad	0	65.1	65.1	0	24.6	24.6	0	9.9	9.9	0	25.2	25.2

3. Stack height calculation formula to be revised: Proponent has submitted the correct Stack height calculation formula as mentioned below-

H=14(Q)0.3 ; Where, H: Stack height in m; Q: SO2 emission rate in kg/hr

4. Identifying nearby schools, hospital, forest, river and other sensitive area nearby project site and along with their distance and direction: Proponent has submitted the list of sensitive area along with an environmental management plan for the same.

List of Sensitivity near the project site

S.No.	Particular	Distance	Direction
	Forest		
1	Genguta RF	7.5 km	WSW
2	Khalpal RF	6.1 km	NNE
3	Ganthigarhi PF	5.8 km	SW
	Major water body		
4	Brahmani River	2.6	E
5	Balarama Prasad Branch Canal	10.1 km	WSW
6	Nandira Jor	1.9 km	WNW
7	Talcher Left Main Canal	9.1 km	NE
8	Ghorhadian Nala	4.1 km	NE
9	Baularnala Jharana	7.1 km	ESE
10	Ria Jor	8.7 km	ESE
11	Rengali Right Main Canal	2.7 km	SSE
12	Kisinda Jor	4.8 km	SSE
13	Lingara Nadi	8.8 km	S
	School/Hospitals		
14	Primary school, Bhagamunda	0.225 km	N
15	Govt.school Durgapur	0.660 km	N
16	Pandrabharania – School	1.0 km	W
17	Manpur – School	0.800 m	SE

S.No.	Particular	Distance	Direction
18	Kamalang High School	1.5 km	N
19	Asha Hospital (GMR School)	0.100 m	E

Environmental Management Plan

a) Ambient Air Quality:

Construction phase

• Water spraying on material to be handled before beginning work and spraying on unpaved surfaces twice a day will improve the working conditions and minimize dust pollution.
• Water spraying during loading and unloading operations to be carried out, where applicable
• The designated areas for roads and parking spaces shall be black topped at the earliest.
• Transportation to be carried out in covered trucks.
• Transport vehicles shall be maintained leak proof to avoid spillage of rubble and soil.
• Welding operations shall be carried out within cordoned areas.
• Preventive maintenance of all trucks, earthmovers and construction equipment to be done as per manufacturers norms

As per AP-42 of US EPA, the recommended measures for various activities during construction phase are summarized in Table below.

Recommended Measures for Control of Fugitive Emissions during Construction

Emission Source	Recommended Control Method(s)
Debris handling	Wind speed reduction, Wet suppression#
Truck transport##	Wet suppression, Paving
Bulldozers	Wet suppression^
Pan scrapers	Wet suppression of travel routes
Cut/fill material handling	Wind speed reduction, Wet suppression
Cut/fill haulage	Wet suppression, Paving, Chemical stabilization
General construction	Wind speed reduction, Wet suppression Early paving of permanent roads

Dust control plans should contain precautions against watering programs that confound track out problems.
Loads could be covered to avoid loss of material in transport, especially if material is transported offsite.
^ Excavated materials may already be moist and not require additional wetting. Furthermore, most soils are associated with “optimum moisture" for compaction.

Operation phase:

Following control measures shall be adopted:

• Keeping stack heights as per CPCB norms.
• Use of high efficiency electrostatic precipitators in power plant.
• To reduce the NOX emission from the boiler/ steam generator necessary provisions in the Steam Generator design and fuel firing system, is being made.
• Controlled combustion air supply, controlled combustion temperature and use of Ultra low NOx burners will control NO2 formation in power plant. Provision and space for FGD is being kept as well as additional NOx control technology to comply with SO 3305(E) dated 07.12.2015.
• Regular monitoring and awareness among workers will help in minimising impact of air pollution on workers.

Fugitive dust control management:

• Fugitive dust due to handling of raw materials, coal etc. will be controlled by sprinkling/hoods connected with bag filters or dry fogging system at ground hoppers and transfer points of conveyor system.
• Leakage from the equipment, ducts and transfer points shall be regularly checked and stopped.
• For heat dissipation in the work zones arising from boiler/ steam generators adequate ventilation will be ensured.
• Coal will be stored in the coal yard and water sprinkling will be done regularly over it. Windbreak with 65% efficiency will be installed on south side of stock yard besides establishment of green belt.
• Tyre wash at gate shall be provided

• Water sprinkling on roads within the plant is being carried out periodically.
• In order to prevent the spread of fugitive dust, green belt of adequate width is being developed along the plant boundary.

Control of emissions
• High efficiency electrostatic precipitator has been provided for separation of dust from the flue gas.
• For dispersal of SO2, a stack of 275 m height is provided. Space provision has been kept for flue gas desulphurisation (FGD) to comply to S.O. 3305(E) dated 07.12.2015.
• Controlled combustion air supply, controlled combustion temperature and use of low NOx burners will control NO2 formation in power plant. Provision shall be kept for additional NOx control technology, such as SCR, to comply to SO 3305(E) dated 07.12.2015.
• Provision has been left for Selective Catalytic Reduction (SCR) in the plant. In SCR reactor, a reagent (usually aqueous ammonia, anhydrous ammonia or urea) is injected into the exhaust stream which is maintained at a specific temperature depending on the catalyst used. The nitrogen oxides react with vaporised ammonia and are reduced to diatomic nitrogen, water and molecular nitrogen in presence of catalyst. This is most useful for applications that require a high NOx reduction level as it provides a reduction rate up to 95%.
• The boiler/ steam generator bottom hoppers and ESP hoppers has been provided with a dense phase ash handling system. The dust collected from these hoppers sent to an ash silo by pneumatic conveying system. The ash stored in the ash silo is loaded in trucks/ bulkers and sent for reuse at brick and cement plants, back filling in mines, land leveling etc. or storage at designated ash disposal area within plant site.

b) Noise pollution control measures

Construction phase:
• Modern and well maintained machinery will be used for construction activities of project so that noise levels will be minimized at source itself.
• The equipment will be kept in good condition to keep noise level well below limits at work place.
• The onsite workers exposed to high noise equipment and noisy area will be provided with protective devices like ear muffs/plugs.
• Also traffic will be monitored, vehicles will have PUC certificates and the heavy vehicles carrying construction material will not be allowed during peak traffic hours.
• Noise and fugitive dust curtains/ barriers will be erected around the areas under construction.

Operation phase:
• The following measures are being and will be taken up to keep the noise levels within permissible limits:
• Existing green belt has been developed in 154.72 ha area which is about 33% of the total project area of 468.85 ha with total sapling of 3,99,353 Trees. A 20 m wide greenbelt, consisting of at least 3 tiers around plant boundary are already developed as greenbelt and green cover as per CPCB guidelines.
• Periodic maintenance of noise generating machinery including transportation vehicles
• The noise generation will be reduced at source by erecting noise dampening enclosures or acoustic enclosures and by maintaining the machines and greasing them regularly.
• Provision shall be made for special vibration dampners, rubber packing etc. to prevent propagation of noise and vibration to surrounding areas.
• Provision of air silencers to reduce the noise generated by the machines/ equipment/ vehicles.
• All the workers engaged at and around high noise generating sources will be provided with ear protection devices like ear mufflers/plugs. Their place of attending the work will be changed regularly so as to reduce their exposure duration to high levels. They will be regularly subjected to medical check-up for detecting any adverse impact on the ears.
• The Factories Act to reduce hearing loss, stipulates the noise levels up to 85 dB(A) as acceptable limits for 8 hour working shift per day. Noise levels may, however, exceed the prescribed limits in certain work places. At these work places, workers will be posted for shorter durations only.

Observations and deliberation of the EAC

24. The Committee observed and noted the following:

i. Instant proposal is for seeking fresh Environmental Clearance for 1x350 MW (unit no 4) to complete the commissioning

of the constructed facilities as per MoEF&CC notification S.O. 1247 (E) dated 18/03/2021 which states that "where construction and commissioning of proposed activities have not been completed within the validity period of the Environmental Clearance (EC) and a fresh application for EC has been submitted due to expiry of the said period of the EC, the concerned Expert Appraisal Committee or State Level Expert Committee, as the case may be, may exempt the requirement of public hearing subject to the condition that the project has been implemented not less than fifty percentage in its physical form or construction".

ii. As per the records made available, the physical progress report of 1x350 MW TPP (Unit No. 4) is reported to be about 63.7%.

iii. The Environmental Clearance for 3 x 350 MW Thermal Power Plant (Phase-I) was granted by MoEF&CC vide letter No. J-13011/ 64/2007-IA. II(T) dated 05.02.2008 and the Environmental Clearance for 1 x 350 MW Thermal Power Plant (Phase-II) was granted by MoEF&CC vide letter No. J-13012/73/2011-IA. II (T) dated 05.12.2011, Amendment dated 11.01.2019 & Validity Extension dated 11.04.2019. The existing EC dated 05.12.2011 is valid up to 04.12.2022 including the time period (1 year) exempted due to Corona Pandemic. Again, the validity of EC was extended up to 03.12.2023 to commission the plant and start the operation of the project as per the capacity mentioned in the EC. However, the same could not be commissioned within the EC validity period. Consent to Operate for the Phase I (3x350MW) was accorded by Odisha State Pollution Control Board vide lr. No. 4739/IND-I-CON-6218 dated 27.03.2023. The validity of CTO is up to 31.03.2028.

iv. The Status of compliance of earlier EC was obtained from Regional Office, Bhubaneswar vide letter no. 101-756/2022/EPE dated 06.02.2025 in the name of M/s GMR Energy Limited Located at Kamalanga, District Dhenkanal, Orrisa. The Action taken report regarding the partially/non-complied conditions was submitted to Regional office, MoEF&CC, Bhubaneswar (RO) vide letter no. GKEL/ MOEF&CC/2024-25/8499 Dated 08/03/2025. The report has been deliberated by the committee and found it satisfactory.

v. ToR was granted by the Ministry on 06.01.2024.

vi. Total 468.85 ha. Land (Private: 383.64 ha + Govt.: 53.63 ha + Forest land: 31.58 ha) has already been acquired by GKEL. Phase II expansion (1x350 MW unit) is within the existing premises. All facilities of the Phase-II project will be accommodated within the land available under acquisition. The project site is now industrial land as proposed unit shall be located in vicinity of already operation units and construction of 4th unit has already been reached to approximately 63.7%.

vii. Installation of FGDs for existing 3x350 MW Unit, would be as per the revised timeline of implementation i.e. Dec-2028 and for proposed unit the installation will be in line with MoEF&CC notification.

viii. The water requirement for the proposed project work estimated as 3669 m3/day (Construction Phase) and 32,000 m3/day (operation phase) of freshwater will be obtained from the Samal Barrage on Bramhani River. The permission for drawl of surface water is obtained from Department of Water Resources vide letter dated 07.05.2007. The water will be transported to the plant site through dedicated river water intake pipeline.

ix. Existing power requirement of 1.5 MW is obtained from GRID/ Internal Source. The power requirement for the proposed project is estimated as 1.5 MW, out of which 1.50 MW will be obtained from the Internal Source.

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

xi. Brahmani River is present at 2.6 km from the plant site has HFL of 58.24 m above mean sea level, however Plant site is above the HFL at 79-97 m above mean sea level.

xii. The proponent has obtained Stage- II forest clearance for 32.092 ha forest land vide letter 07.01.2011.

xiii. There are no National parks, Wildlife Sanctuary, Biospheres reserves, ESA/ESZ and wild life corridors within 10 km radius of the project site.

xiv. There is no involvement of Critically Polluted Area / Severely Polluted area as per 2018 CEPI score.

xv. Coal requirement for Stage-I (3x350 MW) & Stage II (1x350 MW) project will be met through Rail. There will be no road transportation of coal for Stage- I & II. The coal unloading shall be done through Wagon Tippler/ Track Hopper.

xvi. The Stage-II units (1x350 MW) will incorporate high-efficiency (with 99.99%) Electrostatic Precipitators (ESP) to control ash particle emissions. These ESPs will design to limit particulate emissions < 30 mg/Nm3. A wet limestone based Flue Gas Desulphurization (FGD) system will be installed behind ESP, at the tail end of the steam generator downstream in which SO2 gas shall be captured in limestone slurry (to limit SO2 emission below 100 mg/Nm3) to produce gypsum. Besides, Ultra Low NOx Burner, Over Fire Air, Dust Extraction and Dust Suppression system shall be implemented to minimize the pollution.

xvii. Zero Liquid Discharge system is envisaged for the proposed expansion project. No wastewater discharge is proposed.

xviii. Schedule I Species has been reported in the buffer zone. Wildlife Conservation & Management Plan (WLCP) has been prepared and submitted to Principal Chief Conservator of Forest (Wildlife), Govt. of Odisha for the approval.

xix. Committee deliberated on the action plan of Hydrogeology study; Bio-diversity/aquatic ecology study and Risk assessment study and found it satisfactory.

xx. The public hearing for the project has been exempted by MoEF&CC in line with its Notification No. S.O. 1247 (E) dated 18.03.2021.

xxi. The capital cost of the proposed project is Rs 1600 Crores and the capital cost for environmental protection measures is proposed as Rs 427.07 Crores. The annual recurring cost towards the environmental protection measure is proposed as Rs 39.3 Crores. The employment generation from the proposed project 620 (Construction phase = 500, Operation phase = 120).

xxii. Existing green belt has been developed in 154.72 ha area, which is about 33% of the total project area of 468.85 ha with total sapling of 3,99,353 Trees. A 20 m wide greenbelt, consisting of at least 3 tiers around plant boundary are already developed as greenbelt and green cover as per CPCB guidelines. Local and native species are planted with a density of 2500 trees per hectare.

xxiii. Committee deliberated on the existing ash management and observed that percentage of ash utilization for the year 2024-25 is 100% and Committee also observed that the PP will use ash in cement making, brick making, block making, aggregate making, road making, mine backfilling, low lying area filling in future.

xxiv. Committee deliberated on noise level status in residential area and found the values were close to permissible limit. Committee asked the PP to take some mitigation measure for controlling the noise level.

xxv. There are no litigations/ court cases pending against the project related to Environment (Protection) Act, 1986, Air (Prevention and Control of Pollution) Act, 1981 or Water (Prevention and Control of Pollution) Act, 1974.

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

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

xxviii. 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:

25. 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 1050 MW (3x350 MW) project by addition of 1x350 MW Coal based Thermal Power Plant (Phase-II) by M/s. GMR Kamalanga Energy Limited located at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha", under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and standard/general conditions (**Annexure 1**).

26. 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.GMR Kamalanga Energy Limited for "*Expansion of existing 1050 MW (3x350 MW) project by addition of 1x350 MW Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha*" subject to compliance of the Specific/General environmental conditions (**Annexure 1**).

27. 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.

28. 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.

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

30. 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.

31. 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.

32. 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.

33. 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 Orissa, Secretariat, Bhubaneswar (Odisha).
3. The Deputy Director General of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandershekharpur, Bhubaneswar- 751023 (Odisha).
4. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneshwar - 751012 (Odisha).
7. The Regional Director, Central Ground Water Board, South Eastern Region Bhujal Bhawan, Khandagiri, Bhubaneshwar, Pin- 751030 (Odisha).
8. The Chairman, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar,Unit – VIII, Bhubaneswar – 751012, Odisha.
9. The Member Secretary, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar,Unit – VIII, Bhubaneswar – 751012, Odisha.
10. District Collector, Dhenkanal, Government of Odisha.
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 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 (sanitary napkin vending machines) and shall also develop green belt around the nearby schools. Further, PP shall organize quarterly awareness programs for school students to educate them on the significance and preservation of trees.
1.2	Project proponent shall ensure that 100% utilization of ash generated from unit no 4 (1x350MW) in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. No additional ash pond for unit no 4 (1x350MW) is permitted.

S. No	EC Conditions
1.3	Project proponent shall install 01 CAAQMS with micrometeorological station (Auto) at suitable location within the project site in consultation with State Pollution Control Board Odisha as committed.
1.4	The water requirement for the proposed project work (Construction Phase) is estimated as 3669 m3/day and for operation phase 32,000 m3/day of fresh water that will be obtained from the Samal Barrage on Bramhani River.
1.5	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.
1.6	Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs. 427 Crores and 39.3 Crore (recurring) 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.
1.7	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.
1.8	Electric vehicles should be used as much as possible for transportation by industry and energy for domestic purposes as well other general use should be supplied through renewable energy sources such as solar energy etc. Action plan in this regard shall be submitted to the Regional Office of the MoEF&CC and CECB within 6 months from the date of grant of EC.
1.9	The Project Proponent shall provide stack of 275 meters height and also incorporate space provision for installation of FGD in the Plant layout. Further, project proponent shall abide by the provisions of the notification number G.S.R 593 (E) dated 28/06/2018 related to FGD, as amended, and any subsequent amendment thereof pursuant to the outcome of study carried out by CPCB in this regard.
1.10	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
1.11	Effluent of 123 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.
1.12	PP shall implement the concurrent plantation plan in a time bound manner. Total of 154.72 ha area (33.10% of total plant area of 468.86 ha) will be developed as greenbelt. A 5m - 50m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. PP shall also adopt Miyawaki plantation technique and plantation with minimum 2 m height of the saplings in upcoming monsoon season in an area of 2 Ha by planting 10,000 trees per hectare i.e. approx. 20,000 native tree saplings. The budget earmarked for the green belt plantation including 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,

S. No	EC Conditions
	survival rate, density of plantation etc. to the Regional Office of MoEF&CC and
1.13	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 a government account.
1.14	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.
1.15	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.
1.16	PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
1.17	Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.
1.18	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.
1.19	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
1.20	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
1.21	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.
1.22	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.

S. No	EC Conditions
1.23	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. 11.89 Crores. The budget proposed shall be kept in a separate account and audited annually. Project proponent shall implement the action plan to address the issues raised during public hearing within a time frame of 3 years from the date of grant of EC. In addition to this, 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.
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, 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 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.
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.

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 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
1.4	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
1.5	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

2. Air Quality Monitoring And Management

S. No	EC Conditions
2.1	Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NOX emission standard of 100 mg/Nm3.
2.2	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.
2.3	Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO2, Nox and Particulate Matter as per extant rules.
2.4	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
2.5	Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM10, PM2.5, SO2, NOXwithin 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.
2.6	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
2.7	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.

S. No	EC Conditions
2.8	Project proponent shall abide by the provisions of the notification number G.S.R 593 (E) dated 28/06/2018 related to FGD, as amended, and any subsequent amendment thereof pursuant to the outcome of study carried out by CPCB in this regard.

3. Noise Pollution And Its Control Measures

S. No	EC Conditions
3.1	The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
3.2	Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3.3	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.

4. Human Health Environment

S. No	EC Conditions
4.1	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.
4.2	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.

5. Water Quality Monitoring And Management

S. No	EC Conditions
5.1	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.
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.
5.3	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.
5.4	Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond

S. No	EC Conditions
	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.
5.5	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 Rules.
5.6	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.
5.7	Wastewater generation of 6509 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.
5.8	Sewage generation of 96 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).

6. Risk Mitigation And Disaster Management

S. No	EC Conditions
6.1	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.
6.2	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%.
6.3	Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
6.4	Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
6.5	Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

7. Green Belt And Biodiversity Conservation

S. No	EC Conditions
7.1	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.
7.2	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.

8. Waste Management

S. No	EC Conditions
8.1	Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
8.2	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.
8.3	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.
8.4	Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method.
8.5	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. Monitoring Of Compliance

S. No	EC Conditions
9.1	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.
9.2	Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
9.3	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.
9.4	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.
9.5	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;

S. No	EC Conditions
	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& PM2.5incase 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.

10. Corporate Environmental Responsibility (Cer) Activities

S. No	EC Conditions
10.1	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.

11. Ash Content/mode Of Transporatation Of Coal

S. No	EC Conditions
11.1	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.

Additional EC Conditions

N/A

Signature Not Verified

Digitally Signed by : Sundar Ramanathan
Member Secretary, MoEFCC (EC)

Date: 23/07/2025