सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(Thermal Projects)
****

Minutes of 26th MEETING OF EXPERT APPRAISAL COMMITTEE (THERMAL SECTOR), SCHEDULED TO BE HELD DURING 20TH June 2025 THROUGH PHYSICAL MODE. meeting Thermal Projects held from 20/06/2025 to 20/06/2025 **Date:** 03/07/2025

MoM ID: EC/MOM/EAC/856734/6/2025

Agenda ID: EC/AGENDA/EAC/856734/6/2025

Meeting Venue: Narmada Hall, MOEF&CC, New Delhi

Meeting Mode: Physical

Date & Time:

20/06/2025	10:00 AM	05:30 PM

1. Opening remarks

2. Confirmation of the minutes of previous meeting

3. Details of proposals considered by the committee

Day 1 -20/06/2025

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Proposal for Revival of Environment Clearance (as more than 75% of TPP construction activities have been completed) of Expansion Project 1320 (2x660) MW Super Critical Coal Based Thermal Power Plant to the existing 600 (2x300) MW at Village Pathadi, District Korba, Chhattisgarh by Korba Power Limited. by **Adani Power Limited** located at **KORBA,CHHATTISGARH**

Proposal For		Fresh EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/CG/THE/532429/2025	J-13011/3/2009-IA.II(T)	02/06/2025	Thermal Power Plants (1(d))

3.1.2. Project Salient Features

Agenda No. 26.1

26.1: Expansion of existing 600 MW (2x300 MW) project by addition of 1320 MW (2x660 MW) Super Critical Coal Based Thermal Power Plant by **M/s. Korba Power Limited** located at Village Pathadi, District Korba, Chhattisgarh **– Environmental Clearance under S.O. 1247(E) dated 18.03.3021 – regarding.**

[Proposal No. IA/CG/THE/532429/2025; F. No. J-13011/3/2009-IA.II (T)]

Name of the EIA consultant: M/s Gaurang Environmental Solutions Pvt. Ltd. [S. No. 98 List of ACOs with their Certificate No. NABET/EIA/2326/RA 0338 Valid up to 07.12.2026].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

i. EC was accorded on 19/11/2004 in favor of M/s. Lanco Amarkantak Power Private Limited (LAPPL) for setting up 600 MW (2x300 MW) (Unit 1&2) coal-based Amarkantak Thermal Power Plant located at Village Pathadi, District Korba, Chhattisgarh.

ii. Expansion EC was accorded on 31/12/2007 in favor of M/s. LAPPL for setting up 1x600 MW (Expansion from 600 MW to 1200 MW) (Unit 3) coal-based Amarkantak Thermal Power Plant located at Village Pathadi, District Korba, Chhattisgarh and its subsequently amended for enhancing the capacity from 600 MW to 660 MW on 04/09/2008. Vide letter dated 19/02/2014, MoEF&CC extended the validity of EC up to 30/12/2017.

iii. Another expansion EC was accorded on 26/05/2010 in favour of M/s. Lanco Amarkantak Power Limited (LAPL) for setting up 1x660 MW (Unit 4) Super Critical Coal Based Thermal Power Plant located at Village Pathadi, District Korba, Chhattisgarh. Vide letters dated 22/06/2015 & 17/05/2018, MoEF&CC extended the validity of EC up to 30/12/2017 and 31/12/2018 respectively.

Facilities as per EC dated 19/11/2004, 31/12/2007 & 26/05/2010			**Present status of implementation**	**Remarks**
Facility	**Configuration/ Production Capacity**	**Date**		
Coal/Lignite based TPP	600 MW (2x300 MW) (Unit 1&2)	19/11/2004	Project has been implemented and the unit is under operation.	CTO renewal obtained on 15/04/2024 and is valid till 31/05/2027 for 600 MW (2x300 MW) (Unit 1&2). Name change of EC from M/s. LAPPL to M/s. Korba Power Limited was obtained from MoEF&CC on 28/11/2024.
	1x660 MW (Unit 3) & 1x660 MW (Unit 4)	31/12/2007 & 26/05/2010	(Unit 3&4) are in advanced stages of construction (about 77% of construction activities have been completed) and EC validity of (	With respect to unit no 3 & 4, proponent has not implemented the project within the prescribed EC validity period. The construction/erection work for unit 3 &4 are stalled/on

Facilities as per EC dated 19/11/2004, 31/12/2007 & 26/05/2010			Present status of implementation	Remarks
Facility	**Configuration/ Production Capacity**	**Date**		
			Unit 3&4) got expired as per EIA Notification 2006 and its subsequent amendments.	hold since July 2017 as M/s. Lanco Amarkantak Power Private Limited (LAPPL) was (Sick) admitted into NCLT for Corporate Insolvency Resolution Process (CIRP). In view of the above, transfer request for unit 3& 4 was rejected by the Ministry and proponent was asked apply for fresh EC under the provisions of EIA Notification, 2006 for unit 3 & 4.

26.1.4: The instant proposal of M/s Korba Power Limited is for seeking fresh Environmental clearance for unit no. 3 & 4 (2 x 660 MW) to complete the commissioning of the constructed facilities (as more than **75%** of TPP construction activities have been completed) as per MoEF&CC notification S.O. 1247 (E) dated 18/03/2021 under EIA, 2006.

26.1.5: Status of present level of construction of 2x660 MW (Unit 3 & 4)

Plant: Unit 3 (1x660 MW)	**Plant: Unit 4 (1x660 MW)**	**Common Facilities of Unit 3 & 4 (2x660 MW)**
● Boiler structure erection completed. ● Boiler Drainable/SH Circuit Hydrotest completed & under wet preservation. ● Steam Turbine Generator Boxed-up. ● Majority of ESP Erection Complete. ● Majority of Erection of TG auxiliaries, Bunker, Coal Mill, Fans and Ducting Completed. ● TG Aux piping, Miscellaneous Piping & support work in progress	● Majority of Boiler Structure erection complete. ● Pressure Part erection partly completed. ● TG Erection started. ● Erection of Bunker, Coal Mill, Fans and Ducting partly Completed.	● 270meter Chimney Shell completed. Erection of One flue can complete and 2nd in progress. ● Majority of RCC work completed for Water Treatment Plant & Cooling Water System. ● Equipment Erection yet to start. ● Unit #3 Cooling tower Civil work completed. ● Unit #4, Cooling tower 90% Civil work completed. ● Unit #3 Bottom Ash hopper structure erection completed. Balance AHP erection pending. ● CHP-Track hopper, Conveyor Gallery foundation and Structural Erection are completed. ● Crusher house Structural Erection par

		tly completed. ● 400 KV switchyard erection complete d

26.1.6: Certified compliance report from Regional Office: The certified compliance report of the previous accorded EC for 2x300 MW unit was obtained from Regional Office (RO), Raipur, MoEF&CC vide F. No. 4-7/2004(Env)/20 dated 5th May'2025 in the name of M/s. Korba Power Limited (formerly M/s. Lanco Amarkantak Power Pvt. Ltd.). The Action taken report regarding the partially/non-complied conditions was submitted to RO, MoEF&CC, Raipur vide letter No. APL/KPL/EC/ATR/ MoEFCC/246/2025 dated 08.05.2025.

S.No.	EC condition	MoEF&CC observation on C CR	Action taken report & pres ent compliance status
EC Letter No. J-13012/21/2004-IA. II(T) dated 19/11/2004.			
	Para 7 of the EC lett er dated 19/11/2004	Though the EC has been transfe rred from M/s Lanco Amarkanta k Power Pvt. Ltd. to M/s Korba Power Ltd., other mandatory sta tutory documents (CTO, Hazard ous Wastes Authorization, PLI Policy etc.) are still in the name of M/s Lanco Amarkantak Powe r Pvt. Ltd. Operation of the Unit without requisite name transfer i s in contravention to the Provisi ons of the Environment (Protecti on), Act, 1986 – para 7 of the E C letter dated 19/11/2004.	**Complied** The Consent to Operate (CT O) is transferred from M/s La nco Amarkantak Power Pvt. Ltd. to M/s Korba Power Ltd by CECB dated 15.04.2025. Copy of CTO is submitted. Government of Chhattisgarh, Energy Department has issue d a letter (393/F-21/66/2006/ 13/2) dated:10.02.2025 statin g that all liabilities of M/s La nco Amarkantak Power Limi ted shall stand transferred to M/s Korba Power Limited. Govt. of Chhattisgarh letter i s submitted.
	…	Details regarding public hearing commitments and its implement ation status have not been made available. Project Authority, whi le relying upon the documents & compliance of M/s Lanco Am arkantak Power Pvt. Ltd. in sup port of compliance of many stip ulated conditions of the EC, sur prisingly claims that compliance regarding public hearing commi tments and its implementation st atus is not appliable to them mer ely on the ground that the above project has been acquired throug h NCLT.	**Being Compiled** "The public hearing (PH) for M/s Lanco Amarkantak Pow er Pvt. Ltd. held 20 years ago i.e., in 2004 and prior to the publication of the EIA Notifi cations 2006, therefore, PH d ocuments are not available w ith us and on August 21, 202 4, Korba Power Limited (KP L) acquired Lanco Amarkant ak Power Limited (LAPL) th rough the National Company Law Tribunal (NCLT) due to LAPL's financial distress and admission into NCLT subseq uently, KPL has taken full o

S.No.	EC condition	MoEF&CC observation on C CR	Action taken report & pres ent compliance status
			wnership for operation of the TPP from October'2024. CSR activities are being exec uted in consultation with loca l authorities in the vicinity of TPP, focus area: 1. Infrastructure developmen t, 2. Sustainable Livelihood, 3. Education 4. Community Health 5. Promotion of Sports and Culture. Expenditure incurred for CS R activities in the last 3 years is submitted.
	…	Presently the project is in the na me of M/s Korba Power Ltd., w hereas name boards in the Powe r Plant are randomly displayed i n certain places as M/s Korba P ower Ltd. and in few places as M/s Adani Power Ltd. Further, Project Authority shall ensure th at declarations or documents sub mitted in respect of this project s hould be duly signed by the Occ upier i.e. M/s Korba Power Ltd. to avoid legal complications.	**Complied** Korba Power Limited is a ful ly owned subsidiary of Adani Power Limited. All the decla rations and documents have been submitted in the name o f Korba Power Limited by th e authorized signatory. The Authorized Signatory letter i s submitted.
	…	Though the construction activiti es for the Unit 3 & 4 were report edly halted since July, 2017, the Unit wise construction activities undertaken so far for the Unit 3 & 4 has not been made available by M/s Korba Power Ltd.	"M/s Development Consulta nts Pvt. Ltd. (DCPL) has pre pared the physical and constr uction progress report for the TPP. The report indicates tha t approximately 77% of the c onstruction activities are com plete. It also includes a unit-wise progress of these activit ies is submitted.
	All the conditions sti pulated by Chhattisg arh Environment Co nservation Board lett er no.3971/TS/CEC B/2004 dated 05.10. 2004 should be strict	Details are not made available r egarding the letter No.3971/TS/ CECB/2004 dated 05/10/2004 o f CECB and its compliance statu s – **specific condition No.(i)**.	**Complied.** The No-Objection certificate was issued by CECB for obta ining Environmental Cleranc e from MoEFCC. This "No Objection Certifica te" is issued only for the purp

S.No.	EC condition	MoEF&CC observation on CCR	Action taken report & present compliance status
	ly implemented.		ose of obtaining Environmental Clearance from Ministry of Environment & Forests, Government of India. This shall not be treated as consent under Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981. Industry shall obtain consent under above-mentioned Acts after obtaining Environmental Clearance from Ministry of Environment & Forests, Government of India. We have already obtained Environmental Clearance, CTE and CTO and all the stipulated conditions are being adhered.
	Coal requirement is estimated 9024 TPD having 45% ash content and 0.5% sulphur content.	From the coal consumption data for the month of January 2025, it has been observed that Coal requirement for the project has not been restricted within 9024 TPD as stipulated in the **specific condition No.(ii)**.	**Being Compiled** Coal, being heterogeneous in properties, makes it challenging to ensure a uniform quality supply. Considering daily coal consumption of 9024 TPD, The annual Coal requirement is 32.93 LMT. During the Financial Year 2024-2025 total coal consumption is 30.00 LMT which is well within the permitted quantity of 9024 TPD.
	As recommended by State Pollution Control Board greenbelt of 100-150 m in the portion where the state road runs parallel to the site and 50 m along the plant boundary should be developed covering an area of 85 Ha.	Project Authority informed about the practical difficulties involved in the effective implementation of the **specific condition No.(ix)** due to the land acquired for National Highway. In this regard, it is advised if there is any practical difficulties in the implementation of the stipulated conditions, the same shall be amended from the MoEF&CC by following the procedure. In the absence of amendment, Project Authority shall ensure effective compl	**Being Complied.** Greenbelt/ Plantation is already developed in area of about 85.21 ha (more than 33%). The National Highways Authority of India (NHAI) is currently undertaking the construction of the Korba-Champa Highway, which is located adjacent to the plant gate/boundary. The plant was established in 2004 and has been operational since 2010. Our efforts are being made to

S.No.	EC condition	MoEF&CC observation on CCR	Action taken report & present compliance status
		iance of the condition stipulated.	develop more greenery in & around the plant with a survival rate of more than 80%.
	For gaseous discharge two stacks of 220 m height shall be provided with continuous online monitoring system.	Though the CEMS have been installed, details are not made available regarding the real-time monitored data of stack emission linked with the servers of CPCB and CECB and its login credentials – **specific condition No.(xiii)**.	**Complied** The CEMS / online continuous emission monitoring system has already been installed and operational as well as connected with the CPCB & CECB Portal/Servers, Credential have been shared with CECB officials. The Login credentials as below: URL: http://cpdms.forbesmarshall.in:8080/enviroconnect/ User ID: LAPL1 Password: LAPL1
	Ash generation will be limited to 4060 TPD. Ash generated should be used in phased manner as per the provisions of the notification on Fly ash utilization issued by MoEFCC in Sept' 1999 and its subsequent amendments. By the end of 9th year full fly ash utilization should be ensured. Borough earth should not be taken from the ash pond area for construction of ash dyke etc.	Details are not made available regarding regular submission of fly ash returns / Annual Fly ash implementation reports to this Office. However, on perusal of the Annual Fly ash implementation report for the period April'2024 – March'2025, received in this Office, it has been observed that Project Authority has achieved 93.90% ash utilization and not achieved 100% ash utilization as mandated in the **specific condition No.(xv)**.	**Being Complied** The plant is acquired through NCLT which was financially stressed/sick since 2012. As per the Fly ash notification 2021, Ash utilization in FY 2021-22 was 75.45 % and so the first compliance Cycle to meet 100% Ash utilization is 4 Years (i.e., FY 2025 – 2026) and we assured to the MoEFCC that we will achieve 100% ash utilization.
	Regular monitoring of the air quality should be carried out in and around the power plant and records should be maintained. Six monthly reports on air quality monitoring should be submi	Though the CAAQM stations have been installed, the same has not been linked with the server of CPCB and CECB – **specific condition No.(xix)**.	**Complied** The CAAQMS system has already been installed and operational as well as connected with the CPCB & CECB Portal/Servers, Credential have been shared with CECB officials. The Login credentials as belo

S.No.	EC condition	MoEF&CC observation on C CR	Action taken report & pres ent compliance status
	tted to this Ministry.		w: URL: http://cpdms.forbesmarshall.in:8080/enviroconnect/ User ID: LAPL1 Password: LAPL1
	Half yearly report on the status of implem entation of condition s and environmental safeguards should be submitted to this Mi nistry, the Regional Office, CPCB and S PCB.	Details are not made available r egarding regular submission of s ix-monthly compliance report b y the M/s Lanco Amarkantak Po wer Pvt. Ltd. or M/s Korba Pow er Ltd. to the MoEF&CC and ot her regulatory authorities concer ned. Project is currently operatin g in the name of M/s Korba Pow er Ltd. and thus regular submissi on of six-monthly compliance re port should be ensured by the O ccupier (i.e. M/s Korba Power L td.) in consistent with the statuto ry documents – **specific conditi on No.(xxiv)**.	**Being Complied** The Six-monthly EC Compli ance report is being submitte d to the concerned authorities and also uploaded on Parives h Portal. The latest six-mont hly EC compliance report for the period of March'2024 to September'2024 submitted to MoEFCC/ CPCB/CECB vide letter no. APL/KPL/EC/MoE FCC/ 0549/24 dated 25.10.2 024.

26.1.7: The detail of the ToR is furnished as below:

Proposal No wi th date	Consideration	Date of a ccord	ToR Val idity	Remarks
IA/CG/THE/5033 57/2024 Dated – 29.10.202 4	21st meeting of EA C held on 27.02.20 25	05.03.20 25	01.03.20 29	PH was exempted by the EA C as per S.O. 1247(E) dated 18.03.3021

26.1.8: Environmental Site Setting

S. No.	Particulars	Details	Remarks
1.	Total land	505.58 ha [Govt. land]. No additional land is required for th e instant propsoal.	Land use: Indust rial (Chhattisgarh Go vt. Land provide d through CSID C in 2005 & 200 6)
2.	Land use break up	**Facilities** / **Area for unit 1 & 2 (In Hecta res)** / **Area for u nit 3 & 4 (In Hectare s)** / **Total Are a (In Ha)** Main Plant / 114.94 / 137.81 / 252.75	

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Coal Handling</td><td>7.01</td><td>7.40</td><td>14.41</td></tr>
<tr><td>Water System</td><td>10.52</td><td>0.00</td><td>10.52</td></tr>
<tr><td>Switch Yard</td><td colspan="3">Included in Main plant area</td></tr>
<tr><td>Green belt</td><td>85.21</td><td>84.07</td><td>169.28</td></tr>
<tr><td>Roads</td><td colspan="3">Included in Main plant area</td></tr>
<tr><td>Township</td><td>9.31</td><td>0.00</td><td>09.31</td></tr>
<tr><td>Ash pond</td><td>30.21</td><td>19.10</td><td>49.31</td></tr>
<tr><td>Railway Siding (inside Plant boundary)</td><td colspan="3">Included in Coal Handling System (Outside ROU)</td></tr>
<tr><td>Water Supply Pipeline (inside Plant boundary)</td><td colspan="3">Included in Water System (Outside ROU)</td></tr>
<tr><td>Ash Transport Pipeline</td><td colspan="3">Included in Main plant area</td></tr>
<tr><td>Others</td><td>--</td><td>--</td><td>--</td></tr>
<tr><td>Total</td><td colspan="3">505.58</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</td><td>The land is already in possession with TPP.</td><td>Land documents are submitted along with EC application.</td></tr>
<tr><td>4.</td><td>Existence of habitation & involvement of R&R, if any</td><td>
Project site: No R&R involved.
Study Area:
<table>
<tr><th>S. No.</th><th>Name of Villages</th><th>Distance in Km w.r.t TPP</th><th>Direction</th></tr>
<tr><td>1</td><td>Pathadi</td><td>1.51</td><td>East</td></tr>
<tr><td>2</td><td>Pahanda</td><td>1.57</td><td>East</td></tr>
<tr><td>3</td><td>Khoddle</td><td>1.06</td><td>West</td></tr>
<tr><td>4</td><td>Saragbundia</td><td>1.54</td><td>Southeast</td></tr>
<tr><td>5</td><td>Dhandani</td><td>2.23</td><td>South</td></tr>
<tr><td>6</td><td>Sandail</td><td>3.13</td><td>Southwest</td></tr>
<tr><td>7</td><td>Baridih</td><td>2.89</td><td>West</td></tr>
<tr><td>8</td><td>Katbitla</td><td>3.21</td><td>West</td></tr>
<tr><td>9</td><td>Urga</td><td>3.85</td><td>Northeast</td></tr>
</table>
Schools (within 5 kms)
<table>
<tr><th>S.No.</th><th>Name of schools</th><th>Distance (km)</th></tr>
<tr><td>1</td><td>Govt. Middle school, Khodal</td><td>1.09</td></tr>
<tr><td>2</td><td>Govt. Primary School, Darrabhata</td><td>1.48km</td></tr>
<tr><td>3</td><td>Govt. High schools, Sandail</td><td>2.82</td></tr>
<tr><td>4</td><td>Dhandhani Pratamik Shala</td><td>2.19</td></tr>
<tr><td>5</td><td>Govt. High schools, P</td><td>1.86</td></tr>
</table>
</td><td>Status of R&R. - Not applicable as R&R is not involved as the entire land of 505.58 Ha is under the possession of proponent.</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
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<tr><td></td><td>atadhi</td><td></td></tr>
</table>
Health care centres (within 5 kms)
<table>
<tr><th>S.No.</th><th>Heath centre</th><th>Distance (km)</th></tr>
<tr><td>1</td><td>Communty Health centre, Patadhi</td><td>1.77</td></tr>
<tr><td>2</td><td>Sub Health centre, Khoddal</td><td>1.10</td></tr>
<tr><td>3</td><td>Sub Health centre, Pahanda</td><td>2.44</td></tr>
<tr><td>4</td><td>Primary Health Centre, Saragbundia</td><td>1.744</td></tr>
<tr><td>5</td><td>Sub Health Centre, Baridih</td><td>2.87</td></tr>
</table>
Mitigation measures:
Air Quality Management:
• This includes regular maintenance of pollution control equipment. Electrostatic Precipitator (ESP), Low Nox Burner and Dust Extraction & Suppression System will be provided.
• Noise Pollution Control: Deploying sound insulation measures and strengthening noise reduction technologies to minimize noise pollution generated during the plant operations.
• Additionally, ensuring regular monitoring of noise levels and promptly implementing corrective actions as deemed necessary to address any deviations from acceptable thresholds.
• Plantation and Greenbelt will be developed in and around the plant periphery.
Water Quality Monitoring:
• Strengthening of comprehensive water quality monitoring programs to assess the impact of plant operations on local water bodies. Implementing measures to prevent water contamination and ensuring compliance with water quality standards.
• The ash pond is proposed to provide adequate HDPE lining to prevent any seepage into nearby water body. The plant is based on Zero Liquid Discharge (ZLD).
• Adequate storm water system will be provided close to the boundary & same will be connected to Water reservoir.
• Health Education and Awareness: Conducting health education and awareness programs for workers within the TPP and the local community to raise awareness about potential health risks associated with plant operations. Providing information on preventive measures and promoting healthy lifestyle practices.
• Organizing regular health camps that offer free medical check-ups, vaccinations, and screenings for common diseases, ensuring early detection and timely intervention</td><td></td></tr>
<tr><td>5.</td><td>Latitude and Longitude of all corners of the</td><td>A. Plant site
<table>
<tr><th>S.NO.</th><th>LATITUDE</th><th>LONGITUDE</th></tr>
</table></td><td></td></tr>
</table>

S. No.	Particulars	Details	Remarks
	project site.		

1	22°15'6.33"N	82°43'7.97"E
2	22°15'0.77"N	82°44'0.33"E
3	22°14'43.07"N	82°44'0.14"E
4	22°14'44.22"N	82°43'41.72"E
5	22°14'23.52"N	82°43'36.86"E
6	22°14'21.68"N	82°43'40.00"E
7	22°14'20.87"N	82°43'36.47"E
8	22°14'17.87"N	82°43'35.70"E
9	22°14'17.30"N	82°43'35.83"E
10	22°14'17.28"N	82°43'35.49"E
11	22°14'16.24"N	82°43'35.17"E
12	22°14'16.24"N	82°43'34.34"E
13	22°14'13.38"N	82°43'32.92"E
14	22°14'13.28"N	82°43'33.35"E
15	22°14'11.99"N	82°43'33.15"E
16	22°14'12.02"N	82°43'32.85"E
17	22°14'10.26"N	82°43'32.39"E
18	22°14'10.15"N	82°43'32.84"E
19	22°14'8.52"N	82°43'32.50"E
20	22°14'7.59"N	82°43'31.66"E
21	22°14'7.72"N	82°43'30.45"E
22	22°14'5.72"N	82°43'30.18"E
23	22°14'5.88"N	82°43'28.86"E
24	22°14'5.14"N	82°43'28.76"E
25	22°14'5.18"N	82°43'27.02"E
26	22°14'4.20"N	82°43'26.95"E
27	22°14'4.25"N	82°43'25.51"E
28	22°14'5.22"N	82°43'25.54"E
29	22°14'5.11"N	82°43'23.62"E
30	22°14'4.28"N	82°43'23.72"E
31	22°14'4.23"N	82°43'23.18"E
32	22°14'4.99"N	82°43'23.01"E
33	22°14'4.43"N	82°43'20.01"E
34	22°13'59.37"N	82°43'19.04"E
35	22°13'59.18"N	82°43'21.21"E
36	22°13'55.91"N	82°43'21.07"E
37	22°13'54.04"N	82°43'18.77"E
38	22°13'50.92"N	82°43'18.79"E
39	22°13'46.48"N	82°43'17.76"E
40	22°13'45.49"N	82°43'19.90"E
41	22°13'42.42"N	82°43'19.13"E
42	22°13'42.18"N	82°43'21.70"E
43	22°13'33.75"N	82°43'20.93"E
44	22°13'33.89"N	82°43'22.89"E
45	22°13'33.02"N	82°43'23.20"E

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>46</td><td>22°13'32.19"N</td><td>82°43'21.02"E</td></tr>
<tr><td>47</td><td>22°13'26.43"N</td><td>82°43'20.15"E</td></tr>
<tr><td>48</td><td>22°13'27.99"N</td><td>82°42'47.90"E</td></tr>
<tr><td>49</td><td>22°13'28.84"N</td><td>82°42'46.86"E</td></tr>
<tr><td>50</td><td>22°13'31.54"N</td><td>82°42'43.97"E</td></tr>
<tr><td>51</td><td>22°13'33.50"N</td><td>82°42'44.19"E</td></tr>
<tr><td>52</td><td>22°13'34.79"N</td><td>82°42'44.79"E</td></tr>
<tr><td>53</td><td>22°13'35.08"N</td><td>82°42'44.14"E</td></tr>
<tr><td>54</td><td>22°13'38.78"N</td><td>82°42'45.17"E</td></tr>
<tr><td>55</td><td>22°13'39.30"N</td><td>82°42'44.59"E</td></tr>
<tr><td>56</td><td>22°13'43.63"N</td><td>82°42'44.36"E</td></tr>
<tr><td>57</td><td>22°13'44.43"N</td><td>82°42'38.54"E</td></tr>
<tr><td>58</td><td>22°13'38.75"N</td><td>82°42'38.32"E</td></tr>
<tr><td>59</td><td>22°13'43.80"N</td><td>82°42'27.34"E</td></tr>
<tr><td>60</td><td>22°13'48.92"N</td><td>82°42'24.12"E</td></tr>
<tr><td>61</td><td>22°13'52.57"N</td><td>82°42'18.49"E</td></tr>
<tr><td>62</td><td>22°13'52.51"N</td><td>82°42'16.70"E</td></tr>
<tr><td>63</td><td>22°13'54.28"N</td><td>82°42'16.27"E</td></tr>
<tr><td>64</td><td>22°13'54.58"N</td><td>82°42'17.48"E</td></tr>
<tr><td>65</td><td>22°14'10.64"N</td><td>82°42'13.01"E</td></tr>
<tr><td>66</td><td>22°14'21.59"N</td><td>82°42'24.39"E</td></tr>
<tr><td>67</td><td>22°14'26.38"N</td><td>82°42'22.46"E</td></tr>
<tr><td>68</td><td>22°14'31.34"N</td><td>82°42'34.44"E</td></tr>
<tr><td>69</td><td>22°14'36.18"N</td><td>82°42'33.39"E</td></tr>
<tr><td>70</td><td>22°14'35.96"N</td><td>82°42'37.31"E</td></tr>
<tr><td>71</td><td>22°14'43.35"N</td><td>82°42'37.87"E</td></tr>
<tr><td>72</td><td>22°14'41.49"N</td><td>82°43'6.09"E</td></tr>
</table>
B. Ash Pond
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22°14'25.56"N</td><td>82°42'42.84"E</td></tr>
<tr><td>B</td><td>22°14'24.25"N</td><td>82°43'15.48"E</td></tr>
<tr><td>C</td><td>22°14'6.95"N</td><td>82°43'14.13"E</td></tr>
<tr><td>D</td><td>22°14'9.29"N</td><td>82°42'41.31"E</td></tr>
</table>
</td><td></td></tr>
<tr><td>6.</td><td>Elevation of the project site</td><td>280-309 M above mean sea level</td><td></td></tr>
<tr><td>7.</td><td>Involvement of Forest land if any.</td><td>Nil and Not applicable</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><u>Project site</u>
Name: Korba Power Limited
Study area:
<table>
<tr><th>Water body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Hasdeo River</td><td>2.4 km
(from Plant Boundary)</td><td>NW</td></tr>
</table>
</td><td>HFL of Hasdeo river is 271.60 m (letter of HFL is obtained from WRD Korba, vide letter dated 20.11.2024)</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>Highest HFL of Hasdeo river recorded is 271.60 m (MSL) while the plant is at an elevation of approx.280-309 m abo ve mean sea level. The project site is located at substantial higher elevation compared to the HFL of the river.</td><td></td></tr>
<tr><td>9.</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere r eserve/ tiger reserve/ e lephant reserve etc. if any within the study a rea</td><td>Study area : NA
List of Reserved and protected forests:
<table>
<tr><th>S. No.</th><th>Particulars</th><th>Distance (k m)</th><th>Direction</th></tr>
<tr><td>1</td><td>Barpall R. F.</td><td>2.2</td><td>SW</td></tr>
<tr><td>2</td><td>Kudri P.F.</td><td>6.5</td><td>NNE</td></tr>
<tr><td>3</td><td>Tuman P.F.</td><td>7.3</td><td>SE</td></tr>
<tr><td>4</td><td>Bathapara R. F.</td><td>7.6</td><td>ESE</td></tr>
<tr><td>5</td><td>Pondibahar P.F.</td><td>7.8</td><td>NNE</td></tr>
<tr><td>6</td><td>Ramapara P. F.</td><td>9.5</td><td>SE</td></tr>
<tr><td>7</td><td>Sakti R.F.</td><td>11</td><td>ESE</td></tr>
</table></td><td>NOC from Fore st Department, Korba has been obtained vide L etter no. 2810 d ated 13.05.2025 for No Protecte d Area in study area.</td></tr>
<tr><td>10.</td><td>Archaeological site s monuments/ hist orical temples, etc.</td><td>There are no Archaeological sites present within 10 km of t he study area.</td><td>--</td></tr>
<tr><td>11.</td><td>Facility envisaged in CRZ area</td><td>Not Applicable</td><td>--</td></tr>
<tr><td>12.</td><td>Involvement Of Critically Pollut ed Area/Severely P olluted area as per 2018 CEPI score</td><td>Not Applicable</td><td>There is no CP A/SPA declared by CPCB.</td></tr>
</table>

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

S. No.	Existing power plant configuration and ca pacity	Proposed power pla nt configuration and capacity	Total	Technology adopted
1	(2x300) 600 MW Sub Critical	1320 (2x660) MW Super Critical	1920 MW	Sub & Supe r Critical

26.1.10: The details of the coal requirement for the existing and proposed project along with its source and mode of transportation is given as below.

Details	Fuel requi rement (M TPA)	Source	Distanc e from site (K ms)	Mode of Transp ortation	Coal characte ristics (Worst case sce nario)	Linka ge doc umen t
Existi	3.30	SECL, Korb	Within 5	Rail	Ash<40 (%)	FSA an

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
ng TPP		a	0 Km		Sulphur <0.5 (%) Moisture-13 (%) GCV - 3200-3500 Kcal/Kg	d E-auction
Proposed TPP	5.24	Korba/Raigarh coal mines of Southeastern Coalfields (SECL) and e-auction.	Within 50 Km	Rail	Ash<40 (%) Sulphur <0.5 (%) Moisture-13 (%) GCV - 3200-4300 Kcal/Kg	FSA and E-auction

26.1.11: Water requirement: Existing Water requirement is 43835 m^3/day, water requirement is obtained from Hasdeo River and permission for the same has been obtained from WRD, Chhattisgarh vide letter no 5461/266/JS/TASA/02/ Raipur dated 17.11.2004. The water requirement for the proposed project is estimated as 104110 m^3 /day, out of which 104110 m^3/day of freshwater requirement which will be meet from the Hasdeo River. The permission for surface water is obtained from WRD on dated 03.12.2009, 14.02.2025 vide Lr. No. 918/TAK/MA. Korba power Ltd./2024-25 dated 19.03.2025. The water will be transported to the plant site through pipelines. The specific water consumption for the proposed power plant will be < 3.0 m^3/MWhr.

AAQ parameters at	$PM_{2.5}$: 52 µg/m^3 – 20.5 µg/m^3 PM_{10}: 68.1 µg/m^3 – 28.1 µg/m^3 SO_2: 19.6 µg/m^3 – 1.5 µg/m^3 NOx: 19.2 µg/m^3 – 2.1 µg/m^3
	PM_{10} = Max. GLC: 0.707 µg/m^3 SO_2 = Max GLC: 12.7 µg/m^3
	• Emission standards shall be as per MoEF&CC notification S.O. 3305(E) dated 7.12.2015, & its amendments. • To control the emission of particulates, High Efficiency 99.99 % electrostatic precipitators (ESPs) will be provided. • FGD as per the provision of MoEF&CC notification no. G.S.R 593 (E) dated 28/06/2018 related to FGD, as amended, and the outcome of the study by CPCB/MoEF&CC. • To control NOx emission, supercritical boilers having advanced “SOFA” Separated Over-Fire Air & low NOx generation system will be installed. • For the control of fugitive dust emission within and around the coal handling plant, coal dust extraction system with pulse jet bag filter and suppression systems will be provided.

<table>
<tr><td></td><td>•A Twin flue stack with a stack height of 275 m will be provided.
•Low NOx Burners</td></tr>
<tr><td></td><td>pH: 6.92 to 7.58, total Hardness (as CaCO3): 136mg/lit – 420 mg/lit; Chloride; 1 8 mg/lit to 138 mg/lit, Fluoride: 0.16 mg/lit to 0.22 mg/lit;</td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td>Noise levels Leq</td><td></td></tr>
<tr><td>Traffic assessment study findings</td><td>•Traffic study has been conducted for one month.
•Traffic study has been conducted at NH-149 B and NH 130 A which is approximately 0.02 Km (distance) and 4.4 km respectively connecting the plant site.
•Transportation of raw material will be done by road.
Existing PCU is 6,625.3 PCU/day and 6,186.5 PCU/day on NH-149 B and NH 130 A respectively and existing level of service (LOS) is A and B respectively.
<table>
<tr><th>Road</th><th>Volume (in PCU/Day)</th><th>Capacity (in PCU/Day)</th><th>Existing V/C Ratio</th><th>LOS</th><th>Performance</th></tr>
<tr><td>NH-149 B</td><td>6,625.3</td><td>35000</td><td>0.18</td><td>A</td><td>Excellent</td></tr>
<tr><td>NH-130 A</td><td>6,186.5</td><td>15000</td><td>0.4</td><td>B</td><td>Very Good</td></tr>
</table>
<table>
<tr><td rowspan="2">Road</td><td rowspan="2">Existing LOS</td><td colspan="4">Changed V/C and LOS after adding generated traffic from operational phase of proposed expansion project</td></tr>
<tr><td>V</td><td>C</td><td>V/C</td><td>Modified LOS</td></tr>
<tr><td>NH-149 B</td><td>A ‘Excellent’</td><td>6625.3 + 1218= 7843.3</td><td>35000</td><td>0.2</td><td>A ‘Excellent’</td></tr>
<tr><td>NH-130 A</td><td>B ‘Very Good’</td><td>6,186.5+1218=7404.5</td><td>15000</td><td>0.4</td><td>B ‘Very Good’</td></tr>
</table></td></tr>
<tr><td></td><td>pH range 7.45 to 7.65; Electrical conductivity (EC); 0.280 to 0.350µmhos/cm; calcium content: 84 to 138 mg/kg; potassium: 135 to 190 mg/kg; Phosphorous: 11.6 to 14.1 mg/kg; Magnesium: 42 to 62 mg/kg; Organic Matter: 0.82% to 0.96%</td></tr>
<tr><td></td><td>As per the revised categorization given in the Wildlife (Protection) Amendment Act, 2022, total 25 Schedule I Species found in the buffer zone during field survey and secondary sources. Out of 25 Schedule I Species, 8 are mammals, 11 are avifauna and 6 herpeto-fauna.
The List of Flora & Fauna is duly authenticated by DFO, Korba vide letter dated: 13.05.2025.
A Wildlife Conservation & Management Plan (WLCP) has been prepared and submitted to Principal Chief Conservator of Forest (Wildlife), Govt. of Chhattisgarh on dated 04.04.2025 for approval and the same is reported to be under process.</td></tr>
</table>

The action plan to address the recommendation of the **Hydrogeology report** and Watershed management plan are as below:

S. No.	NIT Recommendations	Action Plan	Consultant details:
1	Since, for some samples, the TDS value was found to be above the acceptable TDS limit, it is recommended to monitor the TDS levels to prevent problems due to scaling in the plant's operations.	Water quality monitoring shall be done once a month through NABL accredited laboratory to monitor TDS Level.	The hydrogeology study report has been **Vetted by NIT Delhi**
2	As the value of hardness as CaCO3 for some samples were close to the upper permissible limit (600 mg/l), it is suggested to ensure that the plant has a scheduled descaling and maintenance plan for equipment where scaling is a concern, particularly in heat exchangers and steam boilers.	Water quality monitoring shall be done once in a month engaging NABL accredited laboratory to track hardness as CaCO3 content and corrective/preventive actions will be taken based on findings in the report.	
3	By reviewing the report, it was found that the value of alkalinity for some sample exceeds the 'acceptable limit as per Indian Drinking Water Standards 10500:2012. It is recommended to suggest some preliminary treatment measures for ensuring operational efficiency of the plant.	Korba TPP will establish a periodic monitoring system through NABL accredited laboratory to regularly monitor the alkalinity levels and ensure they remain within the acceptable limits.	
4	As the drainage density in the area was found to be low, indicating that there might be a higher risk of flooding and soil erosion. It is recommended to incorporate possible erosion control measures in study in future to ensure effective	To address the low drainage density, the measures below shall be adopted: 1. Vegetative Cover: Planting vegetation such as grass, shrubs, and trees will help stabilize the soil and reduce erosion. The roots of these plants bind the soil particles together, making it less susceptible to erosion. 2. Terracing: Constructing terrac	

S. No.	NIT Recommendations	Action Plan	Consultant details:
	water resource management.	es on slopes will further slowdown water runoff and reduce soil erosion. Terraces act as barriers that break the flow of water, allowing it to infiltrate into the soil rather than washing it away. 3. Retention Basins: Building retention basins can help manage excess water during heavy rainfall. These basins temporarily store runoff water, reducing the risk of flooding and allowing sediment to settle before the water is released. 4. Riprap: Using riprap, which consists of large stones or concrete blocks, to protect soil from erosion in areas with high water flow to prevent soil erosion.	

Recommendations of study report:

- Restoring degraded landscapes, including grasslands and scrub forests, to provide suitable habitats.

Project specific risk assessment with respect to storage of LDO, furnace oil & coal storage and other hazardous chemicals is included in Final EIA-EMP Report. The appropriate preventive measures and necessary safeguards such as toxic and flammable gas detectors, alarm / interlock systems, breathing apparatus for working personnel, fire protection systems such as fire extinguishers, water curtain, fire water hydrants in place, the untoward consequences, and the major risk due to the same could be eradicated.

26.1.14: 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	Municipal Solid Waste	Plant Canteen	70	Collected; segregated using color coded waste bin, Organic waste converters (OWC)	Inorganic will be disposed via local municipal authorized vendor & Organic/Biodegradable waste by OWC.	-
2	E-waste	IT & Telecom Equipment	3.5 TPA	Collected; segregated	Registered Recycler vendor	

S. No.	Type of Waste	Source	Quantity generated (TPA)	Mode of Treatment	Disposal	Remarks
3	Battery waste from UPS	Automotive & Industrial	6.5 TPA	Collected; segregated	Authorized Vendor	
4	Bio medical waste	First aid center	0.1 TPA	Collected; segregated	Authorized vendor	
5	Hazardous Waste	Plant Operation	Empty Barrels/ Containers/ Contaminated Liners – 15 TPA, Used/ Spent Oil – 100 TPA, TPA, Waste or residues containing oil – 5.0 TPA		Registered Recyclers/Pre-processors with SPCB & Authorized Recyclers	

26.1.15: Public Consultation: Public hearing for the 2x660 MW (Phase - II) is exempted as per S.O. 1247(E) dated 18.03.3021. However, the budget allocated for CER activities to address the public needs highlighted during public hearing held on 25/07/2007 & 07/01/2009 for Unit 3 & 4 is as below:

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

S. No	Key Area Identification to address the Public needs highlighted during Public Hearing	Time bound (Year wise) expenditure (in Crores)			Budget (in Crores)
		1st	2nd	3rd	
A	**Educational Initiatives**				
	Modernization, Repair & construction/maintenance of identified **Primary / Higher Secondary School of nearby villages** of the project site in consultation with Local Government/School Authorities in villages Khoddle & Pathadi.	0.74	0.88	0.88	2.50
	Distribution of drinking water filters/Drinking water coolers in schools in Pathadi, Khoddle, Urga & other nearby villages.	0.25	0.50	0.50	1.25
	Program for skill improvements of teaching staffs in govt. school.	0.35	0.70	0.70	1.75

S. No	Key Area Identification to address the Public needs highlighted during Public Hearing	Time bound (Year wise) expenditure (in Crores)			Budget (in Crores)
		1st	2nd	3rd	
	Online courses for students in emerging technologies such as Artificial Intelligence, **Electric Vehicles, Renewable Energy etc**. to equip students with job-ready skills through **Adani Skill Development Centre (ASDC).**	0.10	0.20	0.20	0.50
	Sub Total	**1.44**	**2.28**	**2.28**	**6.00**
B	**Community Health Initiatives (PHC's and CHC's)**				
	Development of hospitals, strengthening of PHC's & CHC's, and improvement of health facilities in villages Pathadi, Khoddle & Sarangbundia.	0.65	1.00	1.00	2.65
	Rural Medical Camps through Medical Team of **Primary Health Centre** @ 4 Nos. of camps per month (@ 60 patients per camp), Safe Menstrual Hygiene Management Awareness, Mega Health Camp, Cataract Screening & Operation in Pathadi, Khoddle, Urga, Sarangbundia & other nearby villages. **Sanitary napkin vending & disposal machine, provision of Girls' Toilets with regular water supply facilities.**	0.75	0.75	0.75	2.25
	Promotion of awareness of malnutrition and anemia.	0.20	0.20	0.20	0.60
	Promotion of Poshan Vatika at backyard of villagers & Project Suposhan.	0.30	0.35	0.35	1.00
	Sub Total	**1.90**	**2.30**	**2.30**	**6.50**
C	**Skill Development, Sustainable Livelihood and Women Empowerment**				
	Adani Skill Development Centre (**ASDC/SDC**) to train the youth under different trades viz. Welding, Fitting, Masonry & Bar-bending, Electrical, industrial machine operating & digital literacy/smart classes.	0.75	1.00	1.00	2.75
	Development & Support for Drip irrigation, assistance for mushroom, vegetable cultivation and livestock management in core zone villages.	0.5	0.5	0.75	1.75

S. No	Key Area Identification to address the Public needs highlighted during Public Hearing	Time bound (Year wise) expenditure (in Crores)			Budget (in Crores)
		1st	2nd	3rd	
	Sub Total	**1.25**	**1.50**	**1.75**	**4.50**
D	**Community Infrastructure Development**				
	To provide facility for potable Drinking Water, RO Plants and water supply system through overhead tank in villages Pathadi, Sarangbundia & other nearby villages.	0.36	0.37	0.37	1.10
	Repairing, strengthening & Maintenance of Existing roads in consultation with Local Administration.	1.00	1.00	1.00	3.00
	Upgradation & Renovation of sanitation facilities such as toilets in schools & in nearby villages with priority for females.	0.35	0.90	0.90	2.15
	Provision of **Solar Power and Street** lighting/ panels in nearby schools, local health centers of nearby villages, green nurturing programs. Tree plantation in Govt. School and Community Health Centre in Pathadi, Sandail Khoddle, Sarangbundia & other nearby villages	0.15	0.50	0.50	1.15
	Sub Total	**1.86**	**2.77**	**2.77**	**7.40**
	Sports & Culture Development				
	Promotion of sports for youths and women.	0.15	0.10	0.10	0.35
	Cultural activities for villagers	0.05	0.10	0.10	0.25
	Sub Total	**0.20**	**0.20**	**0.20**	**0.60**
Total Budget		**6.65**	**9.05**	**9.30**	**25.00**

26.1.16: Cost of project: The existing capital cost of project was Rs. 2400 Crore. The capital cost of the proposed project is Rs. 8497 Crores and the capital cost for environmental protection measures is proposed as Rs. 973 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 58.98 Crores. The employment generation from the proposed project/expansion is 350 no. The details of cost for environmental protection measures as follows:

S.No.	Description of Item	Existing (Rs. In Crores)		Proposed (Rs. In Crores)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
1	Air Pollution Control	122.41	7.34	509.0	30.54
2	Noise Control	0.72	0.04	3.0	0.18
3	Water Pollution Control	51.22	3.07	213.0	12.78
4	Ash Management	50.5	3.03	210.0	12.6
5	Environmental Monitoring & Management	6.73	0.4	28.0	1.68
6	Green Belt Development	2.40	0.14	10.0	0.6
7	Addressal of Public Consultation issues	--	0.92	25.0	2.5

26.1.17: Green belt development: Existing green belt has been developed in 85.21 ha area which is about 33.13 % of the total project area of 257.20 ha with total sapling of 2,48,000 nos. trees. The proposed greenbelt will be developed in 84.07 Ha which is about 33.84% of the total proposed project area of 505.58 Ha. Thus, total of **169.28 ha** area (**33.48 % of total project area**) will be developed as greenbelt. A 10m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 458175 saplings will be planted and nurtured in 169.28 hectares in 5 years. The following five-year action plan for proposed plantation and Green belt development is submitted by PP.

Year				
			Saplings Cost Rs. 7.5 Cr	Maintenance Cost Rs. 2.10 Cr (Rs.100/Plant)
				Rs. 0.40 Cr.
*Local species will be preferred for plantation.				

26.1.18: Ash management (for the last three years)

Year	Quantity generated (MTPA)	Quantity utilized (MTPA)	% of utilization	Balance quantity (MTPA)	No. of storage silos with capacity
FY 2022-23	1.03	1.46	141.74	…	3000 MT (2x15

Year	Quantity generated (MTPA)	Quantity utilized (MTPA)	% of utilization	Balance quantity (MTPA)	No. of storage silos with capacity
FY 2023-24	1.13	0.91	80.53	0.22	00 MT)
FY 2024-25	1.24	1.16	93.90	0.08	

A. Fly ash details for the last three years = 2.95 MTPA (Utilization)

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks
1.	Fly ash-based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	0.099	3.35	….
2.	Cement manufacturing	1.219	41.24	….
3.	Filling up of Stone Quarry /Void Mines/low lying area	1.638	55.41	NOC from CECB has been obtained
	Total	**2.95**	**100**	…

B. Bottom ash details for last three years = 0.57 MTPA (Utilization)

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks
1.	Construction of roads, road and fly over embankment	0.283	49.39	….
2.	Filling up of Stone Quarry /Void Mines/low lying area	0.29	50.61	NOC from CECB has been obtained
	Total	**0.57**	**100**	--

C. Legacy ash details**:** NIL

D. Ash Pond details**: -**

S. No.	Details of Ash Pond	Ash pond 1
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	Active
2.	Area (Ha)	30.21
3.	Dyke height (m)	28.5
4.	Volume (m^3)	86,09,850 m^3

S. No.	Details of Ash Pond	Ash pond 1
5.	Quantity of ash disposed (MT)	65,70,209 MT
6.	Available volume in percentage (per cent) and quantity of a sh can be further disposed (Metric Tons)	23.69 % & 2,039,641 MT
7.	Expected life of ash pond (number of years and months)	15 Years considering April 2025
8.	Type lining carried in ash pond: HDPE lining of LDPE linin g or clay lining or No lining	LDPE & HDPE
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	LCSD
10.	Ratio of ash: water in slurry mix (1:_):	1:4
11.	Ash water recycling system (AWRS) installed and function ing: Yes or No	Yes
12.	Quantity of wastewater from ash pond discharged into land o r water body (m^3)	00
13.	Last date when the dyke stability study was conducted and n ame of the organization who conducted the study:	March 2025 Visvesvaraya Nationa l Institute of Technolo gy (VNIT), Nagpur, Maharashtra
14.	Last date when the audit was conducted and name of the orga nization who conducted the audit:	November 2024, NIT Rourkela

E. Proposed ash utilization plan for expansion project

Detail s	Existing g eneration (Phase- 1) (MTPA)	Propose d genera tion (Phase- I I) (MTPA)	Tot al	Utilizat ion (M TPA)	% of ut ilizatio n	Balance quantit y (MTP A)	No. of storage silo s with capacity
Ash	1.31	2.10	3.4 1	3.41	100	…	Existing units-2x1 500 MT Proposed- 3x2200 MT

S. No.	Details of Ash Pond (Phase II)	Ash pond
1.	Area (Ha)	19.10

2.	Dyke height (m)	12 meter
3.	Volume (m^3)	--
4.	Quantity of ash to be disposed (Metric Tons)	2.30 million m etric ton
5.	Expected life of ash pond (number of years and months)	22 years
6.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay li ning or No lining	HDPE
7.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry ple ase specify whether HCSD or MCSD or LCSD)	HCSD
8.	Ratio of ash: water in slurry mix (1:_):	65:35
9.	Ash water recycling system (AWRS): Yes or No	Yes

26.1.19: Summary of violation under EIA, 2006/court case/ show cause/ direction if any, related to the project under consideration.

A. Summary of court cases: Nil. There are no cases pending with respect to environment related matters. However, there are 14 cases pending in different courts with respect to civil and labor laws related matter.

B. Summary of Show Cause Notices: There are no Show Cause Notices pertaining to Environment & Forest.

C. Summary of violation: There is no any violation case pertaining to the project under the Environment Protection Act, 1986; Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980; the Wildlife (Protection) Act, 1972.

26.1.20: Compliance to the observations of sub-committee site visit report.

The sub-committee visited Korba Power Limited on 5^{th}-6^{th} April 2025. PP submitted the following response for the observation made by the sub-committee.

26.1.21: Comments of CECB as per MoEF&CC O.M. dated 14/01/2025

Instant proposal was accorded ToR on 05/03/2025. It was apprised to the EAC that as per the Ministry's O.M. dated 14.01.2025, wherein it has been decided that MoEF&CC while granting Terms of Reference (ToR) shall forward the copy of ToR parallelly to the concerned SPCB with request to upload their comments for incorporating the CTE conditions in the EC itself. In this regard, for the instant proposal, the comments of CECB has been solicited. Accordingly, CECB provided the following comments:

1. Low-NOx burners should be installed in the proposed units to control NOx emissions.
2. Fly ash generated from the proposed units should be disposed of in accordance with the provisions of Fly Ash Notification 2021, as amended and the proposed ash dyke should also be established in accordance with the said notification.
3. Wastewater generated from the process and other sources such as ash dyke etc. should be treated and reused to ensure zero discharge.
4. 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.
5. With the establishment of the proposed expansion units, 02 nos. of additional CAAQMS should be installed.
6. Maximum trees as possible should be planted inside and outside the industrial premises as per availability of land and tree plantation should be encouraged in the surrounding areas through local bodies and administration.
7. Noise pollution control equipment such as acoustic enclosures etc. should be installed in turbines and other noise-generating areas.

In addition to the above, proponent paid a fee of Rs. 70.0 Lakhs towards CTE Fees online through CECB Portal on 31.05.2025.

26.1.22: Written submissions

The proponent vide letter dated 20th June 2025 has submitted the following written submission as suggested by the EAC during the meeting.

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

Observations and deliberation of the EAC

26.1.23: The Committee observed and noted the following:

Recommendations of the Committee:

26.1.24: In view of the foregoing and after detailed deliberations, the committee ***recommended*** the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to uploading of written submission on PARIVESH Portal and stipulation of the following specific conditions and general conditions based on project specific requirements

3.1.5. Recommendation of EAC

Recommended (Subject to submission of requisite information/ documents)

3.1.6. Details of Environment Conditions

3.1.6.1. Specific

[A] Environmental Management

1.	Project proponent shall ensure that 100% utilization of ash generated from unit no 3 & 4 (2x660MW) in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. Area for the additional ash pond proposed for unit no 3 & 4 (2x660MW) shall not exceed 19.10 Ha as committed.
2.	In addition to the existing 2 Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Project proponent shall install additional two continuous ambient air quality monitoring at suitable locations in and around project site in consultation with CECB within six months from the date of grant of EC as committed
3.	Project proponent shall comply with the recommendations made in the biodiversity assessment report and Hydrogeology report by NIT in a time bound manner. Compliance status in this regard shall be submitted to the Regional Office of MoEF&CC along with the six monthly compliance report.
4.	The water requirement for unit no. 3 & 4 is estimated as 104110 m3/day and the same shall be met from Hasdeo River. The specific water consumption for unit 3 & 4 shall be less than 3.0 m3/MWhr.
5.	The entire coal requirement for 4 units of TPP (2x300 MW & 2x660MW) shall be transported by rail network only and no road transportation is permitted.
6.	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.
7.	Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs. 973 crores 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.
8.	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.
9.	Project proponent shall ensure that diesel operated vehicles will be switched over to E-Vehicles 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 such non diesel vehicles deployed etc. in six monthly compliance report.
10.	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.
11.	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
12.	Effluent of 1296 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.
13.	PP shall implement the concurrent plantation plan in a time bound manner. Total of 169.28 ha area (33.5% of total plant area of 505.58 ha) will be developed as greenbelt. A 5 m - 50 m wide (min 25 m) 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 4 Ha by planting 10,000 trees per hectare i.e. approx. 40,000 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, 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.
14.	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.
15.	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.
16.	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.
17.	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.
18.	PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
19.	Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.
20.	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.
21.	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
22.	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.
23.	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.
24.	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.
2	PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the

5.	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	
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.	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.
3.	The budget proposed for PH is Rs. 25 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.
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.
[C] Miscellaneous	
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.
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.	All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

3.1.6.2. Standard

1(d)	**Thermal Power Plants**
Statutory compliance	
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.
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 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.

4.	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
5.	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
Ash content/mode of transporatation of coal	
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.
Air quality monitoring and Management	
1.	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.
2.	Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NOX 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.	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.
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, PM2.5, SO2, NOX within the plant area at four locations. 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.
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.
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.	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.
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.
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.	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.
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.
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.
7.	Wastewater generation of 1296 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.
8.	Sewage generation of 8 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).
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.
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.
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 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.
5.	Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method.
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.	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.
5.	The project proponent shall (Post-EC Monitoring): a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; b. upload the clearance letter on the web site of the company as a part of information to the general public. c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in. d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically; e. monitor the criteria pollutants level namely; PM (PM10& PM2.5incase 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.
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.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Expansion of Coal Based Thermal Power Plant (Phase-II) from 3x600 MW to 6x600 MW by M/s KSK Mahanadi Power Company Limited at Village Nariyara, Tehsil Akaltara, Dist. Janjgir-Champa (Chhattisgarh) by **KSK M AHANADI POWER COMPANY LIMITED** located at **JANJGIR-CHAMPA,CHHATTISGARH**			
Proposal For		Fresh EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/CG/THE/537557/2025	J-13012/44/2008 -IA.II(T)	03/06/2025	Thermal Power Plants (1(d))

3.2.2. Project Salient Features

Agenda No. 26.2

26.2 Expansion of existing 3x600 MW Coal Based Thermal Power Plant by addition of 3x600 MW by **M/s. KSK Mahanadi Power Company Limited** located at village Nariyara, Tehsil Akaltara, **District Janjgir-Champa District, Chhattisgarh – Environmental Clearance under S.O. 1247(E) dated 18.03.3021 – regarding.**[Proposal No; IA/CG/THE/537557/2025] F. No. J-13012/44/2008 – IA.II (T)]

Name of the EIA consultant: M/s. Greencindia Consulting Private Limited [**NABET/EIA/2326/RA 0297**, valid up to 22/02/2026]

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

Observations and deliberation of the EAC

26.2.2: The Committee observed and noted the following:

i. The project site mentioned above was originally accorded Environmental Clearance vide letter dated 19/10/2009 from MoEF&CC for setting up of 6x600 MW TPP at village Nariyara, Tehsil Akaltara, District Janjgir-Champa District, Chhattisgarh. Out of 6x600 MW, 3x600 MW (Unit-2, Unit-3 and Unit-4) coal based sub-critical thermal power plant was already commissioned during 2013 and 2018 and units are operational. However, remaining 3x600 MW (Unit-1, Unit-5, and Unit-6) coal based sub-critical thermal power plant are partially constructed. Proponent informed that the construction of balance three Units (U-1, 5, 6) was completed to the extent of 67.14% during the environmental clearance validity period i.e. before 18.10.2019.

ii. Instant proposal is for seeking fresh Environmental Clearance for 3x600 MW (unit no 1, 5 & 6) 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".

iii. During the meeting, neither the project proponent nor the EIA consultant was able to present the status of construction of 3x600 MW (Unit-1, Unit-5, and Unit-6) and salient features of the proposal under consideration. The documents circulated by the PP does not contain precise information about the proposal under consideration.

iv. The EIA Consultant/Proponent were unable to answer specifically to any of the questions of EAC members during the meeting. Besides, the project site is in close proximity (~1.17 Km) to the RFA, however, proponent has informed that there is no any forestland within 10 km of the project area. Further, no clarification was submitted on a specific condition of the previous EC amendment letter dated 13th August 2021 regarding the development of afforestation in 50 ha land beyond the 33% norms.

v. EAC found that the Proponent had no clarity on stack height that would be installed for 3x600 MW (Unit-1, Unit-5, and Unit-6). The concept of Miyawaki plantation was not clear to proponent. In presentation, proponent mentioned about the 3 tier plantations under the heading of Miyawaki plantation which is conceptually/scientifically not correct.

vi. The Committee noted that the resultant concentrations of all the ambient air quality monitoring parameters are exceeding the standard prescribed limit as per NAAQS, 2009. Further, different scenarios for AAQ modeling was mentioned in the presentation made before the EAC. Neither the proponent nor the consultant was able to justify the scenarios considered by the AAQ modeling with corresponding mitigation measures.

vii. It was also noted that an amount of Rs. 12 Crore has been kept for solar rooftop installation by the PP. Committee found that budget of Rs. 12 Crore for roof top installation is too low.

viii. Proponent has made available the adequacy certificate from the technology supplier regarding the structures already erected for 3x600 MW (Unit-1, Unit-5, and Unit-6) at the project site is safe and stable.

ix. EAC observed that project proponent as well as the M/s. GreenCIindia Consulting Private Limited Ghaziabad has submitted the application in a very casual manner. The consultant failed to provide the factual information during the EAC and EAC warned the consultant to avoid submitting such misleading information to the EAC. EAC opined that the PP should also have gone through the information being provided by the consultant. The EAC took serious note of the casual approach by the proponent as well as the EIA consultant.

Recommendations of the Committee

26.2.3: In view of the foregoing and after detailed deliberations, the EAC recommended to **return the proposal in its present form**. Project proponent and the EIA consultant has been advised to revise the EC application in totality by including all the relevant information with requisite supporting documents and submit the same for fresh consideration of the proposal.

3.2.5. Recommendation of EAC

Returned in present form

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

1X800MW NLC Talabira Thermal Power Project (NTTPP) Phase-II by **NLC INDIA LIMITED** located at **SAMBALPUR,ODISHA**	
Proposal For	Fresh ToR

Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/OR/THE/500872/2024	J-13012/14/2017-IA.I(T)	30/10/2024	Thermal Power Plants (1(d))

3.3.2. Project Salient Features

Agenda No. 26.3

26.3: Proposed expansion of 1x800 MW NLC Talabira Thermal Power Project NTTPP phase-II by **M/s NLC India Limited** within the premises of 3x800 MW (Phase – I) located at Tareikela & Kumbhari Village, **Jharsuguda District, Odisha – Prescribing of Terms of Reference – regarding.**

[Proposal No: IA/OR/THE/500872/2024, F. No. J-13012/14/2017-IA.I (T)]

Name of the EIA consultant: M/s. ABC Techno Labs India Private Limited (formerly known as ABC Environ Solutions Pvt. Ltd.) [NABET Certificate No.: NABET/EIA/2225/RA 0290, valid up to April 11, 2026].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

26.3.2: The existing project was accorded environmental clearance vide F no. J-13012/14/2017-IA.I(T) dated 02/02/2021 for setting up of 3x800 MW coal based thermal power plant at Tareikela & Kumbhari Village, Jharsuguda District, Odisha. Consent to Establish for the existing unit was accorded by Odisha State Pollution Control Board vide letter No. 8725 dated 02.05.2025. The validity of CTE is up to 01/05/2030.

S.No.	Configuration	Capacity (MW)	As per EC dated	CTE from OSPCB	Implementation Status a s on
1	Thermal power plant	(3x800) 2400	02/02/2021	Obtained on 02.05.2025	Notice to proceed (NTP) was issued on 27.11.2024 to M/s BHEL for commen cement of Phase- I EPC w ork. BHEL has already co mmenced the site works.

26.3.4: The instant proposal is for grant of Terms of Reference for undertaking EIA/EMP study for the proposed expansion of 1x800 MW NLC Talabira Thermal Power Project NTTPP phase-II by M/s NLC India Limited within the premises of 3x800 MW (Phase – I) located at Tareikela & Kumbhari Village, Jharsuguda District, Odisha. Total power generation after the proposed expansion will be 4x800 MW (3200 MW).

S.No	Particulars	Details	Remarks
1	Total land	686.03 ha. The proposed expansion will be carried out within the existing area of 686.03 ha acquired as part of EC dated 02/02/2021. No additional lan d is required for the proposed expansion.	Land use: Govern ment & Private la nd

<table>
<tr><th>S.No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>2</td><td>Land use break up</td><td>
<table>
<tr><th>Sl. NO</th><th>Area details</th><th>Land for Phase- I (3 x 800 MW) in Hectare</th><th>Additional Land requirement for Phase- II (1 x 800 MW) in Hectare</th><th>Remarks</th></tr>
<tr><td>1</td><td>Plant Area</td><td>243.621</td><td>-</td><td>For Phase-II , 27.92 Ha is required. 27.92 Ha vacant land is available within the 243.621 Ha acquired for Phase-I.</td></tr>
<tr><td>2</td><td>Reservoir area including bund</td><td>57.4654</td><td>-</td><td>To meet the plant water requirement during lean period of both Phase-I & II .</td></tr>
<tr><td>3</td><td>Green Belt</td><td>166.73 *</td><td>-</td><td></td></tr>
<tr><td></td><td>Sub total 1+2+3</td><td>467.816</td><td>-</td><td></td></tr>
<tr><td>4</td><td>Corridors for water, ash , transmission line rerouting , approach to site etc.</td><td>86.6027</td><td>-</td><td>Transmission line rerouting corridor and ash pipe line corridor for total project added.</td></tr>
<tr><td>5</td><td>Ash disposal area</td><td>70.82 **</td><td>-</td><td></td></tr>
<tr><td>6</td><td>Township</td><td>20.2343</td><td>-</td><td></td></tr>
<tr><td>7</td><td>Peripheral road</td><td>6.0702</td><td>-</td><td></td></tr>
<tr><td>8</td><td>River bund</td><td>34.1959 ***</td><td>-</td><td>Initially bund was assumed to be constructed on WRD land with ROW permission , However as per revenue records WRD do not hold this land . Hence the same is considered now.</td></tr>
<tr><td></td><td>Sub total (4+5+6+7+8)</td><td>217.9232</td><td></td><td></td></tr>
<tr><td></td><td>Grand total (1 to 8)</td><td>686.03</td><td>NIL</td><td></td></tr>
</table>
The greenbelt allotted area is 166.73 Ha (Plant area 243.621 Ha + reservoir 57.4654 Ha + ash dyke 70.82 Ha + Peripheral road 6.07 Ha + River bund 34.1959 Ha = Total 412.17 Ha, Green belt 412.17 * 0.4 = 164.86 taken as 166.73 Ha) which is above 40% green belt to comply the existing EC condition clause no 9 (xii).
** 137.59 Ha reduced to 70.82 Ha as per existing EC condition 9 (xii)
*** To construct Flood protection bund as per existing EC specific condition for compliance clause no 9 (viii)
</td><td></td></tr>
<tr><td>3</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>The entire area of 686.03 hectare is being acquired for the project by M/s IDCO of Odisha. The R&R activities are taken care under phase-I (3 x800MW) activities of NTTPP.
As per EC recommendation for Phase- I (3 x800MW), the R&R package is being implemented for the project displaced/affected families.
The EC vide F.No: J-13012/14/2017-IA.I(T) granted for the proposal of phase-I which includes R&R, thus no R&R would be applicable for phase-II (</td><td>The High-Level Clearance Authority (HLCA) chaired by Chief Minister of Odisha in its 17th meeting held on 02.06.2017 cleared NLCIL’s propo</td></tr>
</table>

S.No	Particulars	Details	Remarks
		1 x 800MW).	sal to set up a large capacity pit head type thermal power project (4X800 MW in two stages) near the Talabira II & III mine blocks allocated to NLCIL. M/s IPICOL vide letter dated 10.07.2017, communicated in principle approval of HLCA, for availability of land and water for 3200 MW capacity NLC Talabira Thermal Power Project. M/s IDCO accorded clearance for 585.58 ha. of land in favour of NLCIL. M/s IDCO accorded clearance for 686.03 ha. of land in favour of NLCIL for Phase-I, with this area itself Phase-II facilities will be accommodated.
4	Existence of habitation & involvement of R&R, if any.	Study Area: A.Habitation • Tareikela • Kumbhari B. Schools • My Kids - Preschool • Jharsuguda Engg. School – College • SNMT Govt. Girls College Jhunjhunu	Land acquisition (including phase I & II) is being carried out and it is progress. R&R plan is being implemented. Dist. Administration is consultation with NLCIL is planning to construct a new school at m

<table>
<tr><th>S.No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>• Padm Khumbharbandh College
• Lapanga High School
As per EC recommendation for Phase- I (3 x800MW), the R&R package is being implemented for the project displaced/affected families.</td><td>ouja hirma village situated outside the project site as a replacement of existing 2 schools situated within the project site.
The copy of communications between district administration and NTTPP for construction of school has been submitted.</td></tr>
<tr><td>5</td><td>Latitude and Longitude of all corners of the project site.</td><td>A. Plant Site
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>North Extreme</td><td>21° 46’ 56.11’’ N</td><td>83° 59’ 30.59’’ E</td></tr>
<tr><td>East Extreme</td><td>21° 46’ 52.95’’ N</td><td>84° 00’ 20.72’’ E</td></tr>
<tr><td>South Extreme</td><td>21° 45’ 16.80’’ N</td><td>83° 59’ 9.36’’ E</td></tr>
<tr><td>West Extreme</td><td>21° 46’ 34.18’’ N</td><td>83° 58’ 50.54’’ E</td></tr>
</table>
B. Ash Pond
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>North Extreme</td><td>21°45'58.02"N</td><td>84° 0'15.30"E</td></tr>
<tr><td>East Extreme</td><td>21°45'23.03"N</td><td>84° 0'22.34"E</td></tr>
<tr><td>South Extreme</td><td>21°45'26.08"N</td><td>83°59'55.58"E</td></tr>
<tr><td>West Extreme</td><td>21°44'55.49"N</td><td>83°59'56.88"E</td></tr>
</table></td><td></td></tr>
<tr><td>6</td><td>Elevation of the project site</td><td>202.5 M above mean sea level</td><td></td></tr>
<tr><td>7</td><td>Involvement of Forest land if any.</td><td>Nil and not applicable</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>Proposed expansion of 1 X 800 MW NLC Talabira Thermal Power Project NTTPP Phase-II” at Tareikela & Kumbhari Village, Jharsuguda District, Odisha
Study area
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Bhedan River</td><td>0.5 km</td><td>west</td></tr>
<tr><td>Hirakud Reservoir</td><td>3.34 km</td><td>south</td></tr>
</table></td><td>High Flood Level (HFL) of the Bedhan River near the National Highway Bridge (collected from WRD, Hirakud Reservoir) is RL 200.9m. Considering the above, the Finished Grade Level for the Mai</td></tr>
</table>

S.No	Particulars	Details	Remarks
			n Plant area is des igned. Bhedan river is lo cated 500m away from plant bound ary and Plant will be graded to RL 2 02.5 m and 202.0 m levels, which ar e above the predic ted high flood lev el of 200m and no plant facilities are planned below thi s level.
9	Archaeological si tes monuments/ Historical temple s etc.	Nil	-
10	Existence of ESZ/ ESA/ national park/ wildlife sanctuar y/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	There are no. national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wil dlife Corridors, etc. within 10 km distance from th e project site.	
11	Involvement of C ritically Polluted Area/ Severely P olluted area as per 2018 CEPI score	There is no additional land acquisition involved in the proposed expansion. Proposed Phase-II expans ion Project is adjacent to Phase-I and envisaged in the already acquired land for Phase-I, which is loc ated in “other polluted area” as per the Phase-1 E AC minutes dated 7th April, 2022. Also 40% green belt is envisaged as per Phase-I E C conditions. All the environmental protections sy stems are envisaged for Phase-II to comply with MoEF&CC notification. All APC control measures like FGD, ESP, Bag filt ers, Dry fog systems are in place for the proposed expansion. An also ETP is planned for the project. The details will be included in the EIA/EMP report.	-

26.3.6: 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.	(3x800) MW 2400 MW	(1x800) MW 800MW	3200MW	Supercritical thermal power plant

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP	11.37	Talabira II & III Captive mine	4	Belt / pipe conveyor	Ash - (45%) Sulphur - (0.33%) Moisture (6.1%) GCV -3400Kcal/Kg	submitted
Proposed TPP	3.50	Talabira II & III Captive mine	4	Belt / pipe conveyor	Ash - (45%) Sulphur - (0.33%) Moisture (6.1%) GCV -3700Kcal/Kg	Submitted

26.3.8: Water requirement: Existing Water requirement is 1,76,153 m^3/day, water requirement is obtained from Hirakud reservoir and permission for the same has been obtained from WRD, Odisha vide letter no. 19552 dated 4.09.2019. The water requirement for the proposed project is estimated as 57,600 m^3 /day water requirement is obtained from Hirakud reservoir and permission for the same has been obtained from WRD, Odisha vide letter no. 19552 dated 4.09.2019. The water will be transported to the plant site through pipeline. The specific water consumption for the power plant will be 3m^3/MWhr.

26.3.9: Power requirement: Existing power requirement of 167 MW is obtained from plant. The power requirement for the proposed project is estimated as out of which 56 MW will be obtained from the power plant.

26.3.10: Solid and hazardous waste Management: 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
1	Solid waste	Annual ash generated for expansion (1X800 MW)	1.26 million	-	High concentration slurry disposal
4	Glass Wool	Overhauling	< 0.5	TSDF site	Road
5	Waste oil	Maintenance	< 0.5	TSDF site	Road

26.3.11: Cost of project: Existing capital cost of project was Rs.16073.86 Crore. The capital cost of the proposed project is Rs. 7178.564 Crores and the capital cost for environmental protection measures is proposed as Rs. 1439 Crore. The annual recurring cost towards the environmental protection measures is proposed as Rs 14.39 Crore. The employment generation after expansion is about 350 nos.

26.3.12: Green Belt Development: Existing green belt has been developed in 101.981 ha which is about

40% of the total project area of 585.58 ha with total sapling of 203962 Trees. Proposed greenbelt will be developed in 64.819 ha which is about 40% of the total project area. Thus, total of 166.8 Ha area (40% of total project area) will be developed as greenbelt. A 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 333600 saplings will be planted and nurtured in 166.8 hectares in 5 years.

26.3.13: Ash management:

Ash will be the major solid waste generated from the power project. An ash management scheme will be implemented consisting of dry collection of fly ash, supply of ash to entrepreneurs for utilization and promoting fly ash utilization to maximum extent and safe disposal of unused ash.

Description	Ash Generation
Annual ash generated for expansion (1X800 MW)	1.26 million TPA
Annual Bottom ash generated	0.25 million TPA
Annual Fly ash generated	1.01 million TPA

26.3.14: Ash Pond details: The ash generated in the plant will be disposed in the Mine Voids / Emergency Ash Dyke. The details of emergency ash dyke are given below:

S. No.	Details of Ash Pond	Ash pond 1
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	To be constructed
2.	Area (Ha)	70.82
3.	Dyke height (m)	10
4.	Volume (m^3)	39,72,946
5.	Quantity of ash disposed (Metric Tons)	Yet to be started
6.	Available volume in percentage (percent) and quantity of ash can be further disposed (Metric Tons)	Full Capacity (100%) 55,62,124 MT
7.	Expected life of ash pond (number of years and months)	Design life of the pond is 30 years to cater the emergency needs
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HDPE
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD
10.	Ratio of ash: water in slurry mix (1:):	1: 0.6 weight by weight
11.	Ash water recycling system (AWRS) installed and functioning: Yes or No	Already envisaged and will be installed during construction stage of

S. No.	Details of Ash Pond	Ash pond 1
		Ash water handling system of the plant
12.	Quantity of wastewater from ash pond discharged into land or water body (m^3)	Not applicable
13.	Last date when the dyke stability study was conducted and nameof the organization who conducted the study:	Will be complied on completion of design and after construction
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	Will be complied after construction.

26.3.15: Baseline data: Baseline data were collected during March to May 2025

Attributes	Parameters	Sampling		Remarks
A. Air		**No. of stations**	**Frequency**	**Sampling period**
a. Meteorological parameter	Temperature, Relative Humidity, Wind Speed, Wind Direction & Rain fall	1	Hourly / Rainfall – Daily	3 months + 1 Month
b. AAQ parameters	PM_{10}, $PM_{2.5}$, SO_2, NO_2, CO, O_3, VOC, NMHC	12	24 hourly	Two days per week for 12 weeks
B. Noise	Leq day & Leq night	12	Once during study period	24 hourly
C. Water				
Surface water/Ground water quality parameters	As per IS:10500 – 2012 & Designated Best of Use Criteria by CPCB	GW 8+ SW 5 Locations	Once during study period	Grab sampling
D. Land				
Soil quality Land use	Soil profile & Chemical constituents Land use data based on recent satellite data	A.12	Once during study period	A. Composite sample
Biological	Flora and fauna	Study	Once in study	Field observatio

Attributes	Parameters	Sampling		Remarks
A. Air		**No. of stations**	**Frequency**	**Sampling period**
Aquatic Terrestrial		area	period	ns
F. Socio-economic parameters	Socio-economic profile	Study area	Based on data collected from secondary sources	

26.3.16: Status of Pending Litigation/court case: There is no pending litigation/court case against the proposed project.

26.3.17: ADS Information in chronology : M/s. NLC India Ltd made an online application vide proposal no IA/OR/THE/500872/2024 dated 17.10.2024. The proposal was initially considered in 15th EAC meeting of Reconstituted EAC (Thermal) held on 28.11.2024. Proposal was deferred for want of additional information. The observations and recommendation is given as below:
The proponent submitted 1st ADS reply vide letter dated 08.01.2025 and 2nd ADS reply dated 29.05.2025. Point-wise reply of ADS reply as uploaded on PARIVESH is given as below:

A. Ist ADS reply

S.NO	ADS	Reply / Response
a	The project proponent has not yet commence the project activity at the site with respect to the EC dated 2/2/2021 and applied for consent to establish to Odisha State Pollution Control Board. However, without implementing the project, proponent is again seeking for ToR for undertaking EIA study for addition of 1x800 MW TPP. No justification has been furnished by the proponent in this regard. Further, implementation status of existing EC with time frame for completion of the same has not been presented by the proponent.	LOA was issued to M/s BHEL on 12.01.2024. The land acquisition process is being carried out by IDCO, Government of Odisha and substantial land is handed over to NTTPP recently. And notice to proceed (NTP) was issued on 27.11.2024 to M/s BHEL for commencement of Phase- I EPC work. The works like topographical survey, Geotechnical investigation like drilling of boreholes and construction of boundary wall have been started at site. The demolition works have been taken up at site. The progress photographs have been submitted. As per the Minutes of the Meeting held under the Chairmanship of Hon'ble Minister of Power & NRE on 27.09.2023, due to the rapidly increasing demand for power in the country, there is an urgent need to add capacity quickly. In the meeting, it was directed to take up the NLC's brownfield capacity expansion at Talabira Phase-II (1x800 MW) STPS expansion, Sambalpur, Odisha. Also, it is submitted that no additional land is required for Phase-II. Notice to proceed (NTP) was issued on 27.11.2024 to M/s BHEL for commencement of Phase- I EPC work. BHEL has already commenced the site works. Phase-I (3 x 800 MW) Unit 1 schedule date of completion 52 months (March 2029) from the

S.NO	ADS	Reply / Response
		date of NTP with a phase gap of 6 months for uni t- 2 & 3. (September 2029 & March 2030).
b	During deliberations, the proponent info rmed that leveling of the project site nee ds to be undertaken at the project site be fore commencement of construction wor k. But proponent is unable to explain the site leveling details along with the detail s of the material to be used for leveling activity vis-à-vis site topography conditi ons.	The project site leveling work at the site is covere d in phase I (3 x 800 MW). The Project site will b e leveled to RL + 202 m level. The expansion (Phase-II) does not involve any lev eling activities.
c	There is a ambiguity with respect to the area of project site as the proponent has used Ha and acres terminology together in the application and the pre-feasibility report. Further, as per the KML file uploaded, t he area is mentioned as 186.37 Ha contr ary to the 585.58 Ha area mentioned in EC letter dated 02.02.2021 and 686.03H a area as mentioned in PPT submitted b y the PP. This needs to be clarified by th e proponent along with the requisite sup porting documents.	All the land extents are mentioned in Ha. Accordi ngly, PFR is corrected and submitted. Updated PF R has been submitted. The total land as mentioned in phase I (3 x 800 MW) EC condition no. 3, 585.58 Ha covers 243.6 2 Ha for main plant, 101.981 Ha for green belt, 13 7.593 Ha for ash pond, 35.612 Ha for reservoir ar ea and 20.234 ha for township. Further EC point no. 9 (xii) directs to reduce the P roject area from 585.5801 to 518.807 Ha after red ucing the ash pond area and directs for additional area acquisition to meeting 40 % green belt, River bund on both sides of river land added as per EC condition 9 (viii). Further as per 1st RPDAC meeting dated 27.01.2 021, it has been directed to acquire the land betwe en Bhedan river and Main plant (0 to 250 m from River). In view of this, the total land area 686.03 Ha arriv ed considering the above. Revised KML file is attached showing the Major project area of 572.43 + 70.82 (Ash dyke) = 643.2 5 Ha. Balance land 42.78 Ha identified for Trans mission line corridor, Raw water corridors and riv er bund on other side of river is yet to be handed o ver and the same is not shown in the present KM L.
d	Under the proposed ToR, project propon ent has mentioned only four AAQ para meters will be monitored at 8 locations. The number of monitoring stations and parameters proposed for AAQ monitori ng found to be not adequate. PP is requir ed revisit the proposed ToR by increasin g the number of monitoring stations and	The ToR have been proposed wherein 12 AAQ st ations are considered and the parameters are sugg ested as per NAAQ standards. The site-specific st udies such as hydrology & hydrogeology study, bi odiversity assessment study included in the propo sed ToR. The Bhedan river irrigation area will be studied and the impact if any on the crop yield du e to proposed NTTPP will be studied and will be

S.NO	ADS	Reply / Response
	all the parameters as per NAAQS needs to be monitored. Besides, the proposed ToR do not contain site specific studies such as hydrology & hydrogeology study, biodiversity assessment study for assessing the impact on aquatic flora and fauna,impact on crop yield and impact of project on Bhedan river etc are found to be missing. PP has been advised to revisit the proposed ToR by adequately incorporating the site-specific environmental concerns.	covered in Description of Environment and Impact analysis of Environmental Impact Assessment report.
e	As per decision support system (DSS), EAC noted that the project area falls in the severely polluted area (SPA), however, PP disclosed that the proposed project does not fall in SPA. PP needs to submit the factual information with documentary evidence from OSPCB.	The EAC minutes dated 07.04.2022 where in the specific details of SPA is deliberated in presence of OSPCB & CPCB members and it was concluded that the proposed expansion location falls in Jharsuguda PIA which is neither critically polluted area nor severely polluted area and identified as other polluted area.
f	A River (Bhedan) is flowing nearby the project area. PP needs to submit the HFL data with documentary evidence issued by the concerned State Water Resources Department (WRD). Project proponent shall confirm that project site is not located within Bhedan river flood plain corresponding to one in 25 years of flood as per Ministry's O.M. dated 14/02/2022.	Area drainage Study was conducted by NIH Roorkee. The one-day annual maximum rainfall for 25-year, 50 year and 100-year return periods is already considered In the report. The NIH Report has been submitted. The HFL data have been discussed in detail in the existing EC of NTTPP Phase-1 (3 x 800 MW) power plants and EC condition 9 (viii), proposed an embankment bund on both the banks of Bhedan river which is +1 m above HFL. RL of the of river bund top is minimum 202 m. Bunds will be constructed along with project execution.
g	As per decision support system (DSS), EAC noted that Ramsar site which is considered an important Environmental sensitive area is at around 3 km distance from the project site, however, PP submitted that there is no any Environmental sensitive area within 10 km of the study area. PP needs to furnish the factual information for the same and to conduct the biodiversity analysis of 10 km area by the reputed government institutes/organizations.	Hirakud reservoir wet land area was declared as Ramsar site on October 2021. The revised Environmental sensitive area map has been submitted. The biodiversity analysis of 10km will be conducted by reputed institute and the final report will be included in EIA report.
h	The EAC observed that the application made by the person is not in accordance	Authorization letter has been submitted.

S.NO	ADS	Reply / Response
	with the authorization letter as submitted by the PP.	
i	Expected life of the ash pond is mentioned as 1 year only which needs to be revisited by the PP.	As per EC condition point no. 9 (iv) the ash to be utilized within 3years. The proposed ash pond can accommodate to store ash generated in One year. The pond is meant for emergency purpose only of fly ash storage during any exigency situation. Otherwise, the fly ash and bottom ash will be 100 % utilized as per the MoEF & CC norms. However, the Design life of the pond is 30 years to cater the emergency needs. As per EC condition point no. 9 (ii) the safety and structural stability of the ash pond will be ascertained once in three years by reputed agency which has expertise in the field of geotechnical aspects.
j	The ash pond location is very close to Bhedan river. Proponent may re-examine the location of ash pond.	EC for Phase-I was accorded with the proposed Ash Pond location. As per Phase-I EC condition 9 (i), The ash pond will have all safety measures such as HDPE lining, high concentration slurry disposal system, ash water recycling, dyke stability measures and located away a minimum distance of 500 m from the river Bhedan. Also, as per EC condition point no. 9 (ii) the safety and structural stability of the ash pond will be ascertained once in three years by reputed agency which has expertise in the field of geotechnical aspects. There is no separate ash pond for Phase-II is envisaged.

B. 2nd ADS reply

S.No	Query	Reply
i	On perusal of the ADS reply, it is noted that incomplete response has been again submitted by the proponent. For instance, the EAC wanted status of CTE of OPCB. No reply has been furnished by the PP for reasons unknown.	Consent to establish (CTE) has been issued by OSPCB no 8725 dt 02.05.2025
ii	It the absence of requisite CTE, how the PP has fixed the time limit for completion of Phase I is not clear.	Notice to proceed (NTP) was issued on 27.11.2024 to M/s. BHEL and timeline for completion (52 weeks) is based on the NTP dated on 27.11.2024. Project activities are yet to be commenced. EPC contractor is engaged in engineering and placement of orders

		for supply items and work contractor etc.,
iii	It is once again requested to revisit the additional information sought by the EAC and submit proper reply to the said additional information for further consideration of the same.	As directed individual submissions have been revisited and the point wise answer are follow

3.3.3. Deliberations by the committee in previous meetings

Date of EAC 1 :28/11/2024

Deliberations of EAC 1 :

Observations and Deliberations of the Committee

15.2.18: The Committee noted the following:

Recommendations of the Committee

15.2.19: In view of the foregoing and after detailed deliberations, the Committee ***deferred*** the proposal and asked the proponent to submit additional information on the shortcomings as mentioned above. In addition to this, the Committee also recommended for a site visit by the sub-committee of EAC to ascertain the various environmental concerns pertaining to the instant project. On receipt of the above, the proposal shall be placed before the EAC for further consideration.

3.3.4. Deliberations by the EAC in current meetings

Observations and deliberation of the EAC

26.3.19: The Committee observed and noted the following:

i. Instant proposal is for seeking ToR for undertaking EIA/EMP study for expansion of 1x800 MW NLC Talabira Thermal Power Project NTTPP phase-II by M/s NLC India Limited within the premises of 3x800 MW (Phase – I) located at Tareikela & Kumbhari Village, Jharsuguda District, Odisha.

ii. The Phase – I (3 x 800) 2400 MW project was accorded Environmental Clearance vide letter dated 02.02.2021 from the Ministry of Environment & Forests. Consent to Establish (CTE) for the Phase-I has been accorded by Odisha State Pollution Control Board vide letter dated 02.05.2025 and the same is valid up to 01.05.2030.

iii. Total land required for the project is 686.03 ha, which is under possession of M/s. NLC India Limited (NLCIL). The proposed expansion (1 x 800 MW) shall be done within the existing total land available with M/s. NLC India Limited (NLCIL).

iv. No forest land is involved in the proposed project.

v. 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

vi. There is no ESZ, National parks, Wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site as ascertained from DSS.

vii. Bhedan river and Hirakud reservoir area located at 0.5 Km and 3.34 Km of the project boundary. Authenticated HFL data of the water body as per MoEF&CC O.M. dated 14/02/2022 shall be furnished. Although EAC noted that PP has furnished High Flood Level (HFL) of the Bedhan River near the National Highway Bridge from WRD, Hirakud

Reservoir is RL 200.9 m.
viii. The project site is located within Jharsuguda PIA, which is neither the Critically Polluted Area (CPA) nor Severally Polluted Area (SPA) as per CEPI assessment 2018 of CPCB and identified as other polluted area.
ix. Coal requirement of 11.37 MTPA and 3.5 MTPA will be met from Talabira II & III Captive mine through Belt / pipe conveyor for existing as well as proposed project, respectively. There will be no road transportation of coal for both projects.
x. The water requirement for the proposed project is estimated as 57,600 KLD and the same will be met from Hirakud reservoir and the permission for the same has been obtained from WRD, Odisha vide letter no. 19552 dated 04.09.2019. The water will be transported to the plant site through the existing pipeline. The specific water consumption for the power plant will be 3 m3/MWhr.
xi. The power requirement for the proposed project is estimated as 56 MW, which will be availed from the power plant.
xii. The capital cost of the proposed project is Rs. 7178.564 Crores and the capital cost for environmental protection measures is proposed as Rs. 1439 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 14.39 Crores. The employment generation after expansion is about 350.
xiii. Total of 166.8 Ha area (40% of total project area) will be developed as greenbelt. A 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. EAC directed Project Proponent to immediately start the greenbelt plantation of 30 m thickness with indigenous species all around the periphery of the project site.
xiv. The wastewater treatment and management plan will be developed with the prime approach of maximum recycling & reuse in order to achieve 'Zero liquid discharge' (ZLD for the proposed plant.
xv. The Committee deliberated on construction of bunds for ash pond and embankment of Bhedan River in order to reduce the possibility of mixing of leachate from ash dyke to river water. EAC noted that the levelling at RL + 202 m level of project site is covered under phase I (3 x 800 MW) and no levelling shall be done under expansion phase.
xvi. The committee also deliberated on the findings of the EAC sub-committee and directed the project proponent to adhere to the recommendations of the EAC sub-committee.
xvii. The baseline data were collected from March 2025 to May 2025.
xviii. 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 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
26.3.20: The EAC after detailed deliberations on the information submitted and as presented during the meeting **recommended** the proposal for grant of ToR for conducting an EIA study for the above project under the provisions of the EIA Notification, 2006, as amended along with the following specific ToR in addition to the generic ToRs.

3.3.5. Recommendation of EAC

Recommended

3.3.6. Details of Terms of Reference

3.3.6.1. Specific

[A] Environmental Management and Biodiversity Conservation	
1.	Bhedan river irrigation area shall be studied to ascertain the impact if any on the crop yield due to proposed NTTPP as well as construction of proposed river bund through NABET accredited consultant and report shall be submitted with a action plan to comply with the recommendations of the study report.
2.	Permission obtained from the competent authority of irrigation department of State Govt. of Odisha for construction of river bund around Bhedan river, laying of conveyor belt for the transportation of coal and emergency ash carrying pipeline (HCSD) pipeline passing over the river shall be submitted. Mitigation measures to be adopted in this regard shall be submitted.
3.	A Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 10-km radius of the proposed project shall be conducted and the same shall be included the in EIA/EMP report. Details of industrial units present in 10 Km radius of the power plant shall be earmarked in map and submitted.

4.	Certified compliance report containing compliance to the prescribed EC conditions for the 3x800 MW (Phase-I) as per the MoEF&CC O.M. dated 08/06/2022 shall be submitted.
5.	Certificate from concerned District Magistrate/Executive Engineer from the State Water Resources department (or) any officer authorized by the State Government in this regard shall be submitted stating that project site is not located within flood plain corresponding to one in 25 years of flood as per Ministry's O.M. dated 14/02/2022.
6.	All the parameters as mentioned in the National Ambient Air Quality Standards (NAAQS) shall be monitored by the project proponent.
7.	Project proponent shall also obtain recommendations from the State Forest department regarding the impact of project on the nearby Reserved Forests, if any, along with the mitigation measures to be followed.
8.	EIA/EMP study shall take in to consideration the different scenarios arising due to change of coal source, impact on environmental attributes due to change of coal source along with corresponding mitigation measures with EMP budget shall be submitted.
9.	Biodiversity analysis of the project site and study area shall be done through any NABET accredited consultant. The study report shall inter-alia include impact of release of cooling tower water on aquatic life and action plan for complying with the mitigation measures shall be submitted.
10.	Project proponent shall commission a study on Hydrology and Hydrogeology of the project site as well as the study area of the project site through a NABET accredited consultant. The study report along with the action plan for implementing the recommendations of the report shall be submitted along with the EIA/EMP report.
11.	Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, Cr, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given.
12.	PP should submit the detailed plan in tabular format (year-wise) for concurrent afforestation and green belt development in and around the project site covering 40 % of the project area. The PP should submit the number of saplings to be planted, names of native species, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided.
13.	Action plan for development of three-tier plantation programme (40 % of total project cover area) along the periphery of the project boundary and the coal transportation route shall be provided. PP shall submit concurrent plantation plan.
14.	Detailed action plan shall be prepared for maintenance of air pollution control equipment for proposed units and shall be incorporated in the EIA/EMP report.
15.	Details of Ash management plan as per MoEF&CC notification dated 31/12/2021 & its subsequent amendment for the proposed project shall be submitted. MoU signed for ash utilization with companies shall be submitted.
16.	Action plan for dry ash collection system (Bottom ash and Fly ash) shall be submitted.
17.	Action plan for disposal of ash through High Concentration Slurry Disposal (only in emergency conditions) shall be submitted.
18.	Proper protection measures like high-density polyethylene (HDPE) lining, appropriate height of bund and adequate distance between the proposed Ash pond and water body (minimum 60 meters) etc. shall be planned to reduce the possibility of mixing leachate with any freshwater body for ash pond. A high-density Slurry disposal plan shall be prepared.

19.	Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted. Baseline Study for Heavy metals in Groundwater, Surface water and soil to be carried out and incorporated in EIA/EMP report.
20.	Details pertaining to water source, treatment and discharge should be provided.
21.	PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
22.	PP shall provide the details of wastewater treatment facilities to be installed within its capacity, timeline and budget.
23.	Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
24.	An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution and incorporated in EIA/EMP report.
25.	PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total material handled) and steps to be taken for reduction of the same. The year-wise target for reduction in the specific diesel consumption needs to be submitted. PP shall also explore the possibility of using e-vehicles/LNG/CNG-based machinery and trucks for the operation and transportation of Coal and ash and submit an implementation strategy.
26.	PP shall provide the details of transportation of flyash from the plant, transportation route etc. Further, carry out a traffic study for at least one month and provide the impact of transportation along with the mitigation measures.
27.	PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.
28.	Details on renewable energy (solar plant) proposed to be installed as energy conservation measures shall be submitted.
29.	The input parameters for the AAQ modelling and the influence of various combinations of these on the AAQ must be reported in the EIA/EMP Report. In addition to the Wind Rose diagram collected for one season during the preparation of the E.I.A., wind rose diagram for all seasons must be provided using secondary data from sources such as IMD/CPCB etc.
30.	Project proponent shall take all necessary steps to control the Air Quality and take additional mitigation measures for proposed TPP to maintain the Ambient Air Quality values within the limits. The action plan regarding maintaining ambient quality standards (Time weighted average for 24 hours and Annual both) be submitted. Further, project proponent shall submit an undertaking to 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.
31.	PP shall carryout additional Air quality monitoring of three additional locations and the same shall be incorporated in the EIA/EMP report.
32.	Details of air pollution control devices to be installed in the proposed 1x800 MW TPP along with its maintenance schedule shall be incorporated in EIA/EMP report.
33.	Carbon emission due to TPP and allied carbon sequestration plan be submitted.
34.	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. An action plan in this regard shall be submitted.
[B] Disaster Management	
1.	A Disaster Management Plan shall be prepared and incorporated in the EIA/EMP report.
[C] Socio-economic Study	
1.	Public Health Action Plan including the provisions for drinking water supply for the local population shall be in the EIA/EMP Report. The status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the needs of the labour force and local populace.
2.	Public consultation (Public Hearing and Written submission) shall be conducted as per the provisions of EIA Notification, 2006 and as amended. As per the Ministry's OM dated 30.09.2020, to address the concern raised during the Public Hearing, the Project Proponent is required to submit the detailed activities proposed with year-wise budgetary provision (Capital and recurring) for 5 years. Activities proposed shall be part of EMP. Tentative no. of project affected families (if any) shall be identified and accordingly appropriate Rehabilitation &Resettlement plan shall be prepared. The recommendation Socio-economic study may also be considered while planning the activities & budget.
3.	A need based Social Impact Assessment Study shall also be carried out and an action plan on its recommendations may also be submitted with budgetary provisions.
4.	Demographic details and land use change details in 10 km area shall be submitted.
[D] Miscellaneous	
1.	Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study. The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind. A mathematical model shall be developed for the local site rather than using the standard model available in software for both air & water quality modelling.
2.	PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.
3.	PP shall submit the EIA/EMP report after the plagiarism check using authenticated plagiarism software.
4.	Detailed description of all the court cases along with its current status shall be submitted.
5.	PP should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. obtained for this project under various Acts, Rules and regulations shall be submitted. Further, all the permissions/MoUs obtained for this project shall be revalidated and submitted along with the EIA/EMP report.
6.	The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs, which will analyze the samples.
7.	PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of persons to be engaged for the implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.
8.	PP should submit the year-wise, activity wise and time-bound budget earmarked for EMP, occupational health surveillance, and activities proposed to address the issues raised during Public Hearing. The capital and recurring expenditure to be incurred needs to be submitted.

9.	Activities shall be prepared based on the issues arise during public hearing conducted and fresh written submission with defined timeline and budgetary provisions.
10.	Aerial view video of project site and coal transportation route proposed for this project shall be recorded through drone and be submitted.
11.	The PP should ensure that only NABET-accredited consultants shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA/EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.
12.	PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after the grant of EC.
13.	All the certificates viz. involvement of Forestland, distance from the protected area, and list of flora & fauna should be duly authenticated by the Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and dispatch number.
14.	The findings of the subcommittee report shall be incorporated in the final EIA/EMP report.

3.3.6.2. Standard

1(d)	**Thermal Power Plants**
Statutory compliance	
1.	The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.
2.	Vision document specifying prospective long term plan of the project shall be formulated and submitted.
3.	Latest compliance report duly certified by the Regional Office of MoEF&CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.
Details of the Project and Site	
1.	The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.
2.	Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
3.	Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
4.	The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.

5.	Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
6.	Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
7.	Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
8.	If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
9.	The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
10.	Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
11.	Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.
Ecology biodiversity and Environment	
1.	A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.
2.	Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.
3.	A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
4.	The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re- circulation of effluents.
5.	Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
6.	It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
7.	Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted

8.	Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
9.	Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
10.	Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.In addition, wherever ground water is drawn, PP shall submit detailed plan of Water charging activity to be undertaken.
11.	Feasibility of near zero discharge concept shall be critically examined and its details submitted.
12.	Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.
13.	Plan for recirculation of ash pond water and its implementation shall be submitted.
14.	Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
15.	Hazards Characterization: Past incidents of hazard events within 10km radius of project area with detailed analysis of causes and probability of reoccurrence
Environmental Baseline study and mitigation measures	
1.	One complete season (critical season) site specific meteorological and AAQ data (except monsoon season) as per latest MoEF&CC Notification shall be collected along with past three year's meteorological data for that particular season for wins speed analysisand the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM10, PM2.5, SO2, NOx, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
2.	In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
3.	A list of industries existing and proposed in the study area shall be furnished.
4.	Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
5.	Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.

6.	Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
7.	Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
Environmental Management Plan	
1.	EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
2.	A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be prepared. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Provision for mock drills shall be suitably incorporated to check the efficiency of the plans drawn.
3.	The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/ Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.
4.	Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash along with monitoring mechanism.
Green belt development	
1.	Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary not less than 2000 tree per ha with survival rate of more than 85%shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO2 and other gaseous pollutants and hence a stratified green belt should be developed.
2.	Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months
Socio-economic activities	
1.	Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
2.	Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
3.	If the area has tribal population, it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
4.	A detailed CER plan along with activities wise break up of financial commitment shall be prepared in terms of the provisions OM No. 22-65/2017-IA.III dated 30.09.2020.CER component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be

	identified.
5.	While formulating CER schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CERdetails done in the past should be clearly spelt out in case of expansion projects.
6.	R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
7.	Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
8.	Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.
Corporate Environment Policy	
1.	Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
2.	Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
3.	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
4.	Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
Miscellaneous	
1.	All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.
2.	Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.

3.4. Agenda Item No 4:

3.4.1. Details of the proposal

Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-ll) at village Kamalanga, in Odapada Taluk, Dhenkanal District, Odisha by **GMR KAMALANGA ENERGY LIMITED** located at **DHEN KANAL,ODISHA**

Proposal For		Fresh EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/OR/THE/529224/2025	J-13012/73/2011-IA. II (T)	16/05/2025	Thermal Power Plants (1(d))

3.4.2. Project Salient Features

Agenda No. 26.4

26.4: 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.**

[Proposal No. IA/OR/THE/529224/2025; F.No. J-13012/73/2011-IA. II (T)]

Name of the EIA consultant: M/s Enviro Infra Solutions Pvt. Ltd. [S. No. 71, List of ACOs with their Certificate Letter no. NABET/EIA/2225/RA 0300_Rev.01 valid up to 27 November 2025].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

26.4.1: 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.

26.4.2: 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.

26.4.3: Implementation status of the existing EC

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 M	(1x 350)	05.12.2	63.7%	Yet to be c

	W Coal based Thermal Power Plan t (Phase-II) at village Kamalanga, i n Odapada Taluk, Dhenkanal Distr ict, Odisha		011		ommission ed

26.4.4: 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.

26.4.5: **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 as given below:

S. No.	MoEF&CC, New Delhi, ATR points	References	Reply to MoEF&CC, Delhi
1	Coal transportation has been carried out by road against the condition (Specific condition: V)	Specify condition No- V of EC- II (1x350 MW)- "Coal transportation to plant site shall be undertaken by rail and no road transportation shall be permitted."	This condition pertains to the EC obtained in 2011 for 1X350 MW project (4th Unit of GKEL) which has not yet started the operation. As this Unit#4 could not be completed within EC timeframe of 10 years, GKEL has obtained the fresh TOR in Jan 2024 to conduct fresh EIA and obtain the EC for this unit.
2	Radioactive analysis data has not been furnished (Specific condition: VI)	Specific condition No- VII of EC- II (1x350 MW)- "A detailed study on chemical composition particularly heavy metal and radioactive contents shall be carried out through a reputed institute and the report shall be submitted to Regional Office of the Ministry. Only after ascertaining its radioactive level shall fly ash be utilized for brick manufacturing or supplied to brick manufacturers."	GKEL has obtained the radio activity analysis report for fly ash generated from existing operating 3x350 MW units under the EC in year 2008. This report has been submitted. As this condition pertains to the EC in 2011 for 4th Unit of 1X350 MW which has not been constructed fully and commissioned by GKEL by now, GKEL undertake to conduct the radio activity of flyash form the unit-4 after the flyash generation is started form unit-4.
3	Annual hydrology reviewed data has not been furnished. (Specific condition: XV)	Specific condition No-XV of EC- II (1x350 MW)- "Hydrogeology of the area shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case any deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry"	Hydrogeology study was conducted after receipt of the EC for 1x350 MW units in 2011. Ground water table and quality monitoring is being conducted on annual basis. Further, in line with the observation in Monitoring Report in Feb 2025 by Regional Office, MoEFCC, GKEL has initiated a "Hydro-geology study that will also cover the annual review" by institute of repute (like IIT Roorkee). This study will take 3-4 months starting from Feb 2025.
4	Annual social audit from government institute of rep	Specific condition No-XXXI of EC- II (1x350 MW)- "It shall be ensured that an in-built monit	This condition pertains to 1x350 MW unit EC in 2011 for which GKEL obtained a fresh TOR in Jan 2024 for fresh EIA a

	ute in the region has not been carried out. (Specific condition: XXXI)	oring mechanism for the CSR schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time. The achievements should be put on company's website	nd EC process. All conditions related CSR are complied with by GKEL as acknowledged by Regional Officer MOEFCC in its Monitoring Report dated 6th Feb 2025. Regional Officer MoEFCC has only observed a Partial Compliance on the point that "Annual social audit form government institute of repute is yet to be completed." GKEL submits that for compliance with Companies Act 2013 and CSR Rules 2014, GKEL has conducted the Impact Assessment of its CSR programs through designated institutes as per CSR Rules 2014. The recent CSR Program Impact Assessment was conducted by KIIT School of Rural Management, a nationally recognized institution of repute. GKEL has already completed the one-time (capital) expenditure towards CSR as per EC condition that is also acknowledged by Regional Officer MoEFCC in its Monitoring Report dared 6th Feb 2025. As GKEL is already in the process of reviving its EC for 4th Unit of 1x350 MW, it will submit request to MoEFCC that for annual CSR expenditure and impact assessment, the company may please be allowed to conduct CSR impact assessment through the agencies as per CSR Rules 2014 instead limiting to Govt institute for such studies. GEKL undertake to submit its CSR impact Assessment reports conducted as per CSR Rules 2014 to MoEF&CC also
5	Green belt of 100m width has not been developed all around plant as per the condition (Specific Condition: XXXII)	Specific condition No-XXXII of EC- II (1x350 MW)- "Green Belt consisting of 3 tiers of plantations of native species around plant and 100m width shall be raised. The density of trees shall not be less than 2500 per ha with survival rate not less than 80 %".	This condition of 100-meter width of green belt pertains to the EC for 4th Unit of 1x350 MW obtained in 2011 which is not fully constructed yet. As GKEL obtained the fresh TOR in Jan 2024 for EIA and EC for 4th unit addition, in fresh EIA GKEL will submit to MoEFCC that plot plan of the project 3X350 MW was already built in compliance to EC obtained in 2008. A 33% greenbelt compliance is done however the width of the greenbelt is not uniformly 100 meters around the periphery. The green belt is kept more towards the predominant downwind direction of the project. GKEL is presently conducting the EIA in compliance to TOR dated Jan 2024 for the 4th Unit and hereby submits that Greenbelt details for existing 3X350 MW and proposed 1X350 MW units plots and GLC projection shall be submitted to MoEFCC for a fresh review and revision of the

			condition for fix 100 meter with.
6	Average coal consumption has exceeded the specific limit as per the condition (Condition: III)	Condition No-III of EC- I (3x350 MW)- "The plant heat rate of around 2300 kcal/kwh shall be achieved and the coal consumption shall not exceed 660 tph."	Avg. Heat Rate – 2321.44 kcl/kwh is being achieved. Copy of compliance for April-Sept 2022, Oct-March 2023, April-Sep 2023 and Oct-March 2024 shows the coal consumption within 660 tph except 680 tph during the period April-September 2024 due to higher ash content in coal as the ash content limit in coal is amended for Pit head closed power plants in India after MoEF&CC notification S.O. 1561(E) 21st May, 2020.

In addition to the above, status of installation of Flue Gas Desulphurization shall be furnished as per the MoEF&CC Notification dated 05/09/2022:

- Installation of FGDs for existing 3 units of 350 MW each, would be according to the revised timeline for implementation i.e. Dec- 2028(the units being in Category B (as per the MoEF&CC notification "Environment (Protection) Third Amendment Rules, 2024" dated 30-Dec-24).
- The company has initiated necessary steps for regulatory approval and procurement process to meet the stipulations.
- As regards FGD for unit 4, Company would commission it along with its installation, in line with MoEF&CC notification.

26.4.6: **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

26.4.7: **Environment site Settings**

S. No.	Particular	Land	Remark
1	Total land	468.85 ha. The proposed expansion of 1x350 MW will be carried out within the existing land of 468.85 ha.	Land use: Industrial
2	Land use break up	**Description** / **Total Area (Ha)** Steam Turbine Generator & accessories, TG Building – 14.97 Switch Yard – 4.05 Cooling towers & CW pump house – 9.71	

<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>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&CCO.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 (3x 350) 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 and spraying on unpaved surfaces twice a day will improve the working c</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>onditions and minimize dust pollution.
• Water spraying during loading and unloading o perations to be carried out, where applicable
• The designated areas for roads and parking spac es shall be black topped at the earliest.
• Transportation to be carried out in covered truc ks.
• Transport vehicles shall be maintained leak pro of to avoid spillage of rubble and soil.
• Welding operations shall be carried out within c ordoned areas.
• Preventive maintenance of all trucks, earthmove rs and construction equipment to be done as p er manufacturers norms
Operational phase
• Keeping stack heights as per CPCB norms and a doption of efficiency electrostatic precipitator s in power plant.
• Necessary provision will be made in steam gene ration design to reduce NOx emission.
• Fugitive dust due to handling of raw materials, coal etc. will be controlled by sprinkling/hoo ds connected with bag filters or dry fogging s ystem at ground hoppers and transfer points o f conveyor system.
• Leakage from the equipment, ducts and transfer points shall be regularly checked and stoppe d.
• Coal will be stored in the coal yard and water sp rinkling will be done regularly over it. Windb reak with 65% efficiency will be installed on south side of stock yard besides establishmen t of green belt.
• The boiler/ steam generator bottom hoppers and ESP hoppers will be provided with a dense p hase ash handling system. The dust collected from these hoppers will be sent to an ash silo by pneumatic conveying system. The ash stor ed in the ash silo will be loaded in trucks/ bul kers and sent for reuse at brick and cement pl ants, back filling in mines, land leveling etc. or storage at designated ash disposal area wit hin 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></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>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>
<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 proje ct 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 a nd Stage- II forest clearance for 32.092 ha land h as been accorded vide letter No.- 5-ORC083/200 8/FCE dated 07.01.2011</td><td></td></tr>
<tr><td>8.</td><td>Water body (Rivers, La kes, Pond, Nala, Natur al Drainage, Canal et c.) exists within the pr oject 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>
</table>
</td><td>HFL of neare st water body Brahmani Riv er- (2.6 Km E ast from the P lant) is 58.24 m.</td></tr>
</table>

S. No.	Particular	Land	Remark
		Lingara Nadi | 8.8 km | S 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.	
9	Existence of ESZ/ESA/ national park/ wildlife sanctuary/biosphere reserve/ tiger reserve/ Elephant reserve etc. if any within the study area	There are no National parks, Wildlife Sanctuary, Biospheres reserves, ESA/ESZ and corridors within 10 km radius.	No such area in 10 Km Study Area
10	Archaeological sites monuments/ historical temples etc.	Not applicable	No such sites present in Study Area
11	Facility envisaged in CRZ area (Only for coastal power plant)	Not applicable	No such sites present in Study Area
12	Involvement of Critically Polluted Area / Severely Polluted area as per 2018 CEPI score	Nil	

26.4.8: 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) 3x350 MW	Capacity (MW) 1 x 350 MW	4x 350 MW	

26.4.9: 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 Requi re -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	--

26.4.10: **Water requirement**: Existing Water requirement is 48,931.40 m^3/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 m^3/day and for operation phase 32,000 m^3/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.

26.4.11: **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.

26.4.12: **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) SO_2 = 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 wa	pH: 7.06 to 7.65 .; DO: 4.3 to 6.3 mg/l and BOD: BLQ mg/l. COD from 1	

<table>
<tr><td>ter quality at 08 locations</td><td>0 to 20 mg/l.</td><td></td></tr>
<tr><td rowspan="4">Effluent generation details and its treatment</td><td>Effluent generation from TPP:</td><td>123 m^3/day</td></tr>
<tr><td>Mode of treatment & reuse: Effluents would be neutralized in a neutralizing pit where proper neutralizing arrangements for the effluent fluids would be provided</td><td></td></tr>
<tr><td>Domestic wastewater generation:</td><td>96m^3 /day</td></tr>
<tr><td>Mode of treatment & reuse: Shall be treated in STP and treated water shall be used for greenbelt development/ plantation and dust suppression.</td><td></td></tr>
<tr><td>Noise levels Leq (Day and Night)</td><td>53.8. to 56.7dB(A) for the day time and 43.2. to 44.6 dB(A) for the Night time.</td><td></td></tr>
<tr><td>Traffic assessment study findings</td><td>
<table>
<tr><th>S. No</th><th>Parameters</th><th colspan="4">Sampling Locations</th></tr>
<tr><th></th><th></th><th>TD1</th><th>TD2</th><th>TD3</th><th>TD4</th></tr>
<tr><td>1</td><td>Total Traffic/day</td><td>10012</td><td>8754</td><td>8542</td><td>9315</td></tr>
<tr><td>2</td><td>Average Traffic Flow/hr</td><td>417</td><td>364</td><td>355</td><td>388</td></tr>
<tr><td>3</td><td>Max Traffic Flow (Nos.)/hr</td><td>608</td><td>450</td><td>421</td><td>430</td></tr>
<tr><td>4</td><td>Min Traffic Flow (nos.)/hr</td><td>42</td><td>35</td><td>28</td><td>31</td></tr>
<tr><td>5</td><td>Max Traffic Flow (Time)</td><td>10.00 am-11.00 am</td><td>10.00 am-11.00 am</td><td>10.00 am-11.00 am</td><td>10.00 am-11.00 am</td></tr>
<tr><td>6</td><td>Min Traffic Flow (Time)</td><td>1.00 am-2.00am</td><td>2.00 am-3.00 am</td><td>2.00 am-3.00 am</td><td>2.00 am-3.00 am</td></tr>
</table>
<table>
<tr><th rowspan="3">S. no</th><th rowspan="3">Location Code</th><th colspan="9">Composition of Vehicles (%)</th></tr>
<tr><th colspan="3">Heavy Vehicles</th><th colspan="3">Medium Vehicles</th><th colspan="3">Light Vehicles</th></tr>
<tr><th>Day</th><th>Night</th><th>Total</th><th>Day</th><th>Night</th><th>Total</th><th>Day</th><th>Night</th><th>Total</th></tr>
<tr><td>1</td><td>TD1</td><td>42.1</td><td>2.2</td><td>44.3</td><td>27.7</td><td>3.2</td><td>30.9</td><td>22.4</td><td>2.4</td><td>24.8</td></tr>
<tr><td>2</td><td>TD2</td><td>39.8</td><td>1.5</td><td>41.3</td><td>32.6</td><td>2.9</td><td>35.5</td><td>21.3</td><td>1.9</td><td>23.2</td></tr>
<tr><td>3</td><td>TD3</td><td>38.9</td><td>1.3</td><td>40.2</td><td>31.8</td><td>2.6</td><td>34.4</td><td>24.1</td><td>1.3</td><td>25.4</td></tr>
</table>
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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 is attached as Annexure 9 of EIA and EMP report.	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.

26.4.13: 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.	--

26.4.14: **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 ESPs meeting below to national s	33.40	-	-	0.20	Shall be complied along with commissioning of 1 X 350 MW

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	
		tandard for emission and the same shall be practiced for the additional capacity 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 landoustees.	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 work	In coordination and consultation with local representatives lik					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	
	s.	e sarpanch, ward members and several youth club committees, village development activities taken up.					
10	Green belt development and avenue plantation programs are to be expedited	Green Belt: 3,99,353 Avenue Plantation: 8, 764 Nos. Road Side: 15, 542 Nos	20.00	0.75	0.75	0.75	Continuous Process
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 o	There is no land ouste es as per R&R Policy	-	-	-	-	-

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	
	ustees to avail all the facilities.	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 of plant) & (1550 Nos from within the state)	0.40	0.01	0.02	0.02	Water Supply from Plant. Employment to eligible Local youth.
	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:			**3.8**	**3.9**	**4.1**	

S N	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	
				8	0	1	

26.4.15: **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.

26.4.16: **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.

26.4.17: **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 boa rds or panels)	2340324	40.17
2	Cement manufacturing	1976302	33.92
3	Construction of roads, road and fly over e mbankment	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 em bankment	1900228	100
	Total	**1900228**	**100**

A. Legacy ash details = 296940 Tons

S. No.	Activity(as applicable)	Quantity	Percentage %	Remarks (Prior approval of SPCB det ails to be mentioned)
1.	Construction of roads, road a nd 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 / Exhauste d (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 Ton s)	Nil	Nil	
6.	Available volume in percentage (per cent) and quantity of ash can be furth er disposed (Metric Tons)	100 %	100 %	N.A.

S. No.	Details of Ash Pond	Ash pond 1	Ash pond 2	Total
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 audit:	03rd April '2025 NIT- Warangal		N.A.

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

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

26.4.19: **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.

26.4.20: **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 equip ment'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)		
			Incre m-ental GLC	Max. Base line obser ved at AAQS	Resul- tant GLC	Incr em-ent al GLC	Max. Base line obser ved at AAQS	Resu l- t an t GLC	Incr em-ent al GLC	Max. Base line obser ved at AAQS	Resu l -ta nt GLC	Incr e-me ntal GLC	Max. Base line obser ved at AAQS	Resul- tant 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: SO_2 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

S.No.	Particular	Distance	Direction
17	Manpur – School	0.800 m	SE
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 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, Chemicalstabilization
General construction	Wind speed reduction, Wet suppressionEarly 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 NO_2 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 SO_2, 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.

3.4.3. Deliberations by the committee in previous meetings

N/A

3.4.4. Deliberations by the EAC in current meetings

Observations and deliberation of the EAC

26.4.21: The Committee observed and noted the following:
Recommendations of the Committee:

26.4.22: In view of the foregoing and after detailed deliberations, the committee ***recommended*** the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to uploading of written submission on PARIVESH Portal and stipulation of the

following specific conditions and general conditions based on project specific requirements:

3.4.5. Recommendation of EAC

Recommended (Subject to submission of requisite information/ documents)

3.4.6. Details of Environment Conditions

3.4.6.1. Specific

[A] Environmental Management	
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.
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.
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.
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.
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.
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.
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.
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.
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.
10.	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.

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.
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, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and
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.
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.
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.
16.	PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
17.	Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.
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.
19.	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
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
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.
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.

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.
[B] Socio-economic	
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.	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.
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.
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.
[C] Miscellaneous	
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.
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.	All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

3.4.6.2. Standard

1(d)	**Thermal Power Plants**
Statutory compliance	
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.
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.	

4.	
5.	
Air quality monitoring and Management	
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.	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.
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.
4.	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
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.
6.	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
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.
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.
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.
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.	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.

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.
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.	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.
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.
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.
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.
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).
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.
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.
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.	Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method.
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.
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.	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.
5.	The project proponent shall (Post-EC Monitoring): a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; b. upload the clearance letter on the web site of the company as a part of information to the general public. c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in. d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically; e. monitor the criteria pollutants level namely; PM (PM10& PM2.5incase 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.
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.
Ash content/mode of transporatation of coal	
1.	MoEF&CC Notification issued vide S.O. 1561 (E) dated 21.05.2020 and as amended from time to time shall be complied which inter-alia include use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance of conditions prescribed under (1) Setting Up Technology Solution for emission norms, (2) Management of Ash Ponds and (3) Transportation.

3.5. Agenda Item No 5:

3.5.1. Details of the proposal

Amendment in EC of 4X600 MW Thermal Power Plant of M/s Jindal Power Ltd. at Village Tamnar, Taluk Gharghoda, District Raigarh (Chhattisgarh) by **JINDAL POWER LIMITED** located at **RAIGARH,CHHATTISGARH**

Proposal For		Amendment in EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/CG/THE/472414/2024	J-13012/117/2008-IA.II(T)	14/06/2024	Thermal Power Plants (1(d))

3.5.2. Project Salient Features

Agenda No. 26.5

26.5 4x600 MW Thermal Power Plant by **M/s. Jindal Power Limited (JPL)** at Villages Tamnar, Taluk Gharghoda, **District Raigarh, Chhattisgarh – Reconsideration for Amendment in Environmental Clearance based on ADS reply – reg.**

[Proposal No. IA/CG/THE/472414/2024; F. No. J-13012/117/2008-IA. II (T)]

26.5.1: M/s. Jindal Power Limited has made an online application vide proposal no. IA/CG/THE/472414/2024 dated 10.05.2024 seeking for amendment in Environmental Clearance dated 18.03.2011 and its subsequent amendment granted therein for the project namely "4x600 MW unit Coal based Thermal Power Plant located at Village Tamnar, Taluk Gharghoda, District Raigarh, Chhattisgarh" by M/s Jindal Power Limited (JPL) for utilization of existing ash dyke of 4x250 MW for 4x600 MW TPP.

The above proposal was earlier considered by the EAC – Thermal in its 11th meeting held on 27-28th June, 2024 and recommended for amendment in EC subject to stipulation of additional environmental safeguards. Subsequently, the proposal was again referred back to the EAC with an observation that whether EAC has taken into consideration scheduled action plan and asked for any inspection. Accordingly, the proposal was again considered by the EAC in its meeting held on 1/10/2024 wherein EAC deferred the proposal for want of additional information and also recommended for a site visit by the sub-committee of EAC – Thermal. The site visit by the sub-committee was completed during 3-4th January, 2025 and the proponent submitted the reply to the additional information through Parivesh on 06/02/2025. The said proposal was further placed before the 20th EAC meeting held on 24/02/2025, wherein the committee partially recommended for amendment in EC to use existing ash dyke of 4x250 MW for 4x600 MW TPP for 2 year i.e. till 30.06.2026 subject to stipulation of additional environmental safeguards. The proposal was again referred back to the EAC by the Ministry for further examination regarding adequacy of existing ash dyke of 4x250 MW. Accordingly, proposal was placed before the

EAC in its meeting held on 20/06/2025 for reconsideration.

26.5.2 Details of the EC for which amendment is sought:

S. No.	Units	EC date	COD	Status of implementation
1.	2x250 MW (Phase I)	24.09.1997	08.12.2007 & 15.06.2007	Fully implemented and the units are under operation
2.	2x250 MW (Phase II)	08.06.2006	16.04.2008 & 05.09.2008	
3.	2x600 MW (Units#1&2)	18.03.2011	27.08.2014 & 09.11.2014	
4.	2x600 MW (Units#3&4)	04.11.2011		

S No	Date of accord of EC amendment	Remarks
a.	10.01.2014	Amendment in EC w.r.t. transportation of coal, utilization of existing ash dyke of 4x250 MW for 4x600 MW TPP for 03 years.
b.	26.04.2017	Amendment in EC w.r.t. transportation of coal, utilization of existing ash dyke for 4x600 MW TPP for 02 more years till construction of new dyke & change in coal source from imported to domestic, change in location of proposed dyke.
c.	28.08.2020	Amendment in EC for extension of permission for transportation of coal, utilization of existing ash dyke for 4x600 MW TPP till October, 2021.
d.	28.10.2021	Amendment in EC for extension of permission utilization of existing ash dyke for 4x600 MW TPP till December, 2022.
e.	24.02.2023	Amendment in EC for extension of permission utilization of existing ash dyke for 4x600 MW TPP till June 2024.

Specific/General Condition No	Details of Conditions as per EC	Amendment Sought	Justification
Condition no. 3, 4 & 5 of the EC amendment dated 24.02.2023.	MoEF&CC has granted permission to use existing ash dyke of 4x250 MW for disposal of unutilized ash of 4x600 MW till June, 2024.	Permission to continue use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW permanently.	• To conserve the land and maximize ash utilization, the Company has planned to not construct the new ash dyke for 4X600 MW on an area of 236 hectares which was permitted by MoEF&CC. • As the Company is utilizing about 100% ash, the existing ash dyke volume will be adequate to continue bottom ash disposal from 4x250 MW and 4x600 MW TPPs.

S. No.	Case no.	Name of the Court	Brief Summary of the Case	Last date of Hearing	Next date of Hearing	Direction / Action taken by the PP
1.	Original Application No. 70/2023	NGT, Central Zone	News report published in the Newspaper named Indian Express, Daily News Paper dated 4th February, 2022, Kolkata, Late City Edition titled "Noncompliance of EC conditions by different units inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh.	08.11.2024	Disposed	As per NGT order dated 08.11.2024 Original Application No. 70/2023 stands disposed of with following directions: MoEF&CC is directed to periodically monitor the compliances of the environmental conditions and after scrutiny of the environmental conditions to take necessary / proper action in case of violation. The state is directed to strictly comply Rule 22 of the Chhattisgarh District Mineral Foundation Trust Rule, 2015 and Rule 10(1)(b)(1) Odisha District Mineral Foundation Trust Rule, 2015 which provides the expenditure from the trust fund of the District Mineral Foundation Trust for the overall development of the area affected by the Mining or mining is related operations in accordance with the annual action plan prepared by the Managing Committee and approved by the Governing Council of the Trust. The DMF

S. No.	Case no.	Name of the Court	Brief Summary of the Case	Last date of Hearing	Next date of Hearing	Direction / Action taken by the PP
						fund must be utilised in accordance with rules and for proper maintenance of the road and welfare for the public. The railway route must be completed by 01.04.2025 and MoEF&CC with the Railway Board will regularly monitor the progress of the completion of the railway route. The South East Central Railway (SECR) Bilaspur is directed to periodically monitor the progress of the railway construction and to ensure its completion before 01.04.2025.

B. Summary of Show Cause Notices: NIL

C. Summary of violation: NIL

Sl. No	EAC sub-committee recommendation	Compliance status
1.	The PP should ensure that the back filling of mine voids in combination with over burden material is carried out under care of environmental safe guards in compliance with the guidelines of DGMS and CPCB.	**Being complied** All out efforts are being made to utilize ash in accordance with the Fly ash utilization notification. Currently, JPL is utilizing the fly ash in back filling of mine along with OB in Gare Palma IV/1 and Gare Palma IV/2&3 coal mines owned by JPL, Tamnar as per approved mine plan and guidelines of DGMS & CPCB guidelines.
2.	PP should carry out regular monitoring of the area around back filling site to ensure there is no leaching or det	**Being complied** JPL has engaged IIT-Kharagpur and CIMFR, Dhanbad for monitoring of long-term impacts of dumping of fly ash and leaching of heavy metals on soil and water of study area.

Sl. No	EAC sub-committee recommendation	Compliance status
	erioration of any environmental parameter particularly w.r.t. Ground Water and Surface water sources.	There is no sign of deterioration of any environmental parameter w.r.t Ground water or surface water sources due to the backfilling.
3.	M/s JPL should present the findings and recommendations of the studies carried out by IIT, Kharagpur, CIMFR, Dhanbad and NIT Raipur w.r.t. the impact analysis of back filling of mine voids and slope stability of Ash Dyke.	The Conclusion of the studies carried out by IIT, Kharagpur, CIMFR, Dhanbad and NIT Raipur w.r.t. the impact analysis of back filling of mine voids and slope stability of ash dyke are as below: **Conclusion of NIT Raipur Report on Slope Stability of Ash dyke:** The ash dyke is analysed for steady seepage condition (normal) and steady seepage earthquake condition (seismic) for local and global stability analysis. Factor of Safety are obtained more than 1.5 to 1.0 for normal and seismic loading conditions, which fulfils the acceptance criteria for minimum factor of safety required as per IS 7894: 1975 (Reaffirmed 2002), "Code of practice for stability analysis of earth dams." Therefore, it can be concluded that: • Ash dyke with 4th stage raising is observed to be stable and safe with current existing (fly ash filling and water ponding) condition and expected to perform satisfactorily. • However, continuous inspection/ examination of the ash dyke is required periodically. **Conclusion of latest IIT Kharagpur study:** The following specific conclusions are derived: 1. The possibility of air quality degradation, due to the practice of fly ash-mixed dumping has not been observed, based on the air quality monitoring of the studied stations during the study period. 2. The heavy metal concentrations (in both surface and ground water samples) did not exceed the permissible limits, hence, heavy metal poisoning of surrounding flora, fauna and other aquatic lives are not seen to be imminent threats. 3. The geo-environmental contamination level due to current mining activities (including fly-ash mixed backfilling) has showed no significant evidence to impact the lives of flora, fauna and other aquatic lives in the surrounding areas. **Conclusion of latest CIMFR Dhanbad study:** No major impacts observed on the soil physicochemical parameters of the area due to mining activity. As per soil physical parameters reclaimed site with fly ash is well managed to develop vegetation and ecosystem which may be similar to natural forest. Overall all the physicochemical parameters for all sampling sites are similar to the samples from forest area. Quality assessment of groundwater for drinking purposes suggest that concentration of most of the analyzed parameters are within the recommended drinking water limits of BIS (2012).

Sl. No	EAC sub-committee recommendation	Compliance status
		All the analysed parameters of the surface water collected are well within the prescribed limits of surface water quality standards under class C of IS:2296 and can be used for drinking purposes after conventional treatment followed by disinfection. The analysis results of mine water collected from proposed mine voids shows that pH are within the recommended range of 5.5 - 9.0 for effluent discharge. Concentrations of F-, Cl-, SO42- and NO3- in the analysed mine water samples are below the specified limits for effluent discharge. All the measured metals like Fe, Mn, Pb, Zn, Cu, Cr, Cd, Ni, As and Hg are also observed below the recommended limits for effluent discharge in inland surface water. TCLP test and study of radioactivity of radionuclide in coal ash samples shows no major impacts on the water quality parameters of the area due to disposal of coal ash in mine voids. The data indicates that the air quality in these locations are within acceptable standards concerning heavy metal contamination, ensuring a safer environment for the residents. Regular monitoring is recommended to maintain these standards and to identify any potential changes in the concentrations of these metals over time.
4.	M/s JPL should also work to enhance the utilization of fly ash in areas such as Cement manufacturing, brick, and tiles and hollow block manufacturing and highways construction etc.	**Being complied** The Company is also supplying the ash to JSP cement plant and nearby brick plants as per their requirements. Further the company provides the ash for road/ highway construction as and when the requirement arises.
5.	For control of SO2 emissions PP should install FGD systems at the earliest as per the provisions of OM of date 30/12/2024 as issued by MoEF&CC.	JPL is committed for implementation of O.M. of date 30/12/2024 as issued by MoEF&CC. As per the MoEF&CC's Gazette Notification G.S.R.682 (E) dated 05.09.2024 read with the Gazette Notification G.S.R. 787(E) dated 30.12.2024, the timeline for installation of FGD by the power plant is upto 31st December, 2029.
6.	PP should make roadside plantation along the transport route of coal.	**Being complied** Avenue plantation along the route (both sides of the road) of coal transportation from is being done on continuous basis. The Company has already planted approx. 1 lakh sapling on the road side.
7.	Miyawaki plantation should also be done by PP in the plant area.	JPL has planned for Miyawaki plantation in upcoming monsoon season in the nearby area of plant.

ADS Information in chronology

26.5.5: The proposal was initially considered in 13th EAC meeting of Reconstituted EAC (Thermal) held on 01/10/2024. Proposal was deferred for want of following additional information. The observations and recommendation are given as below:

1. Present status of 236 Ha land along with photographs and intended purpose of the said land in place of new ash dyke.
2. Quantum of ash generation, disposal and utilization as per the ash utilization notification dated 31/12/2021 and its subsequent amendments shall be submitted. Further, the quantum of legacy ash utilization shall also be furnished.
3. Action plan for reduction in existing ash pond area shall be submitted.
4. Project proponent shall submit a certified compliance report from the concerned Regional Office of the Ministry regarding the compliance of all the stipulated conditions in the existing ECs and its subsequent amendments.
5. Compliance report from CECB regarding adherence to the terms and conditions by the proponent for disposal of ash in low lying area shall be submitted.
6. Action plan for adopting dry bottom ash collection system shall be submitted.
7. Detailed status of court case i.e., Original Application No.70/2023 pending before the NGT, CZ Bhopal regarding "Noncompliance of EC conditions by different units inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh shall be submitted.

26.5.6: Proponent uploaded the additional information on 06/02/2025 and the proposal was placed before the EAC for consideration in its 20th meeting held on 24/02/2025. The reply submitted with observations and recommendations of EAC are as below:

<table>
<tr><th>S. No.</th><th>ADS Point</th><th>Reply/Response of PP</th></tr>
<tr><td>1.</td><td>Present status of 236 Ha land along with photographs and intended purpose of the said land in place of new ash dyke.</td><td>The 236 ha land is located in two villages i.e. Dolesara and Uttar Regaon.
JPL has deposited Rs. 85.86 Crs. to Chhattisgarh State Industrial Development Corporation Limited (CSIIDC) for acquisition of 183.622 ha land located at Dolesara. The land has been acquired and the formal letter of possession is awaited.
Regarding the acquisition of balance land, the same is under consideration.
Appropriate utilisation of the area/ land available thereof is under the active consideration of the Company's management. Photograph of the land is submitted.</td></tr>
<tr><td>2.</td><td>Quantum of ash generation, disposal and utilization as per the ash utilization notification dated 31/12/2021 and its subsequent amendments shall be submitted. Further, the quantum of legacy ash utilization shall also be furnished.</td><td>The details of ash generation and utilization as per the ash utilization notification dated 31/12/2021for 4X250 MW TPP and 4X600 MW TPP is submitted.
MoEF&CC vide its notification no. S.O. 6169 (E) dated 30.12.2022 has added a proviso in the Fly ash Utilisation Notification:
"Provided that ash stored in all ash ponds or dykes other than operational ash pond or dyke designated for temporary storage of ash as specified in sub-para (6) shall constitute the legacy ash and either to be reclaimed or stabilised or utilised."
Thus as per the above proviso, it is submitted that JPL only has one ash dyke which is presently operational and thus the ash stored in the operational ash dyke does not constitute as Legacy Ash.
<table>
<tr><th colspan="8">YEAR-WISE FLY ASH UTILISATION FOR 4X600 MW TPP</th></tr>
<tr><th>Year</th><th>Total ash generation (MT)</th><th>Cement Plant (MT)</th><th>Low land Filling (MT)</th><th>Mines filling (MT)</th><th>Brick Making plants (MT)</th><th>Total ash utilized (MT)</th><th>% Utilisation</th></tr>
</table>
</td></tr>
</table>

S. No.	ADS Point	Reply/Response of PP

2024-25* (till Jan'25)	5362674	75003.21	0.00	4089871.84	122498.66	4287373.71	79.95
2023-24	5624741	121450	0	5439252	170347	5731049	101.89
2022-23	4581135	87019	7053	4401348	32728	4528148	98.84
2021-22	3568816	879	401829	2792858	2654	3198220	89.62

YEAR-WISE FLY ASH UTILISATION FOR 4X250 MW TPP

Year	Total ash generation (MT)	Cement Plant (MT)	Low land Filling (MT)	Mines filling (MT)	Brick Making plants (MT)	Total ash utilized (MT)	% Utilisation
2024-25* (till Jan'25)	2124048	0	0	1814952.28	0	1814952.28	85.45
2023-24	2396820	0	7749	2395837	0	2403585	100.28
2022-23	2163291	0	203144	1935851	1179	2140174	98.93
2021-22	1834909	189173	624953	740178	0	1554304	84.71

3.	Action plan for reduction in existing ash pond area shall be submitted.	In order to reduce the area of the existing dyke, JPL has planned to cap Lagoon 2-B of the existing ash dyke. The Company is considering to carry out greening of the area. The capping is planned to be completed by May, 2025. This will reduce the area of the existing ash dyke by 16.60 ha.
4.	Project proponent shall submit a certified compliance report from the concerned Regional Office of the Ministry regarding the compliance of all the stipulated conditions in the existing ECs and its subsequent amendments.	JPL vide letter dated 18.10.2024 has requested IRO, MoEF&CC, Raipur to provide the Certified Compliance Report with regular follow up with the concerned office. CCR is awaited from IRO, MoEF&CC.

S. No.	ADS Point	Reply/Response of PP
5.	Compliance report from CECB regarding adherence to the terms and conditions by the proponent for disposal of ash in low lying area shall be submitted.	CECB vide letter dated 26.11.2024 has provided the compliance report regarding adherence to the terms and conditions for disposal of ash in low lying area.
6.	Action plan for adopting dry bottom ash collection system shall be submitted.	JPL has engaged M/s Desein Private Limited for feasibility study for adopting dry bottom ash collection system. The report will form the basis of preparing the detailed action plan.
7.	Detailed status of court case i.e., Original Application No. 70/2023 pending before the NGT, CZ Bhopal regarding "Noncompliance of EC conditions by different units inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh shall be submitted.	As per NGT order dated 08.11.2024, O.A. No. 70/2023 stands disposed of with directions: MoEF&CC is directed to periodically monitor the compliances of the environmental conditions and after scrutiny of the environmental conditions to take necessary / proper action in case of violation. The state is directed to strictly comply Rule 22 of the Chhattisgarh District Mineral Foundation Trust Rule, 2015 and Rule 10(1)(b)(1) Odisha District Mineral Foundation Trust Rule, 2015 which provides the expenditure from the trust fund of the District Mineral Foundation Trust for the overall development of the area affected by the Mining or mining is related operations in accordance with the annual action plan prepared by the Managing Committee and approved by the Governing Council of the Trust. The DMF fund must be utilised in accordance with rules and for proper maintenance of the road and welfare for the public. The railway route must be completed by 01.04.2025 and MoEF&CC with the Railway Board will regularly monitor the progress of the completion of the railway route. The South East Central Railway (SECR) Bilaspur is directed to periodically monitor the progress of the railway construction and to ensure its completion before 01.04.2025.

Observations and deliberations of the Committee as per EAC held on 24/2/2025:

The EAC noted the following:

i. As per EC dated 18.03.2011, a separate ash dyke near Rodapali village was to be constructed for 4x 600 MW. However, the Ash dyke could not be constructed as the land for the proposed ash dyke area became part of a coal block. Based upon the request of JPL, MoEF&CC vide letter dated 26.04.2017 granted permission to construct the ash dyke on 236 ha land at an alternate location near village Dolesera. Consent to Establish (CTE) for the same was granted by Chhattisgarh Environment Conservation Board (CECB) vide letter dated 27.04.2022. The present proposal of project proponent is not to construct the ash dyke in the 236 Ha and use the existing ash dyke

developed for 4 x250 MW.

iii. The Committee noted that proponent has obtained amendment in the existing EC with respect to use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW on 10/01/2014, 26/04/2017, 28/08/2020, 28/10/2021 and 24/02/2023.

iv. With respect to ash utilization for the existing 3400 MW TPP, the Committee gone through the ash generation and utilization details.

v. The EAC also deliberated on the written submissions of the project proponent and found it satisfactory.

Recommendations of the Committee as per EAC held on 24/2/2025:
In view of the foregoing and after the detailed deliberations, the Committee ***partially recommended*** the instant proposal for grant of amendment in the ECs dated 18/03/2011 & 04/11/2011 and its subsequent amendment dated 24/02/2023 as detailed below **subject to stipulation of following additional specific conditions and uploading of written submissions on PARIVESH portal.** Other terms and conditions prescribed in EC dated 18/03/2011 & 04/11/2011 and its subsequent amendments shall remain unchanged:

Paragraphs of EC amendment letter dated 24/02/2023	**Details as per EC amendment dated 24/02/2023**	**Amendment sought by the project proponent**	**Recommendations of EAC as per MoM**
Para no 3, 4 & 5 of EC amendment dated 24.02.2023	Permission to use existing ash dyke of 4x250 MW for unutilized ash/ bottom ash of 4x600 MW has been granted till June 2024.	Permission to continue use existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW permanently	Permission to use existing ash dyke of 4x250 MW for 4x600 MW TPP for 2 year i.e. till 30.06.2026 subject to stipulation of following additional specific conditions:

26.5.9: Based on the above recommendation during 20th EAC meeting, proposal was processed. Ministry has referred the proposal back to EAC to examine the adequacy of existing ash dyke for disposal of ash from 4x600 MW forever on permanent basis. Proponent uploaded the additional information in this regard on 13/05/2025, 19.05.2025 and 26.05.2025 and the proposal was further placed before the EAC for consideration in its 26th meeting held on 20/06/2025. Point-wise reply of ADS is given as below:

<u>ADS reply dated 13.05.2025</u>

	ADS point and Reply/Response of PP
	ADS Point All the details pertaining to adequacy of existing ash dyke meant for 4 x250 MW, area, height of dyke, available volume, stability analysis due to the increased ash dyke height due to disposal from 4x600 MW etc.,
	Reply/Response of PP 1. The existing ash dyke is located in 198 ha area. 2. The dyke has four lagoons namely 1A, 1B, 2A and 2B.

3. The height of the existing ash dyke is 18 m from the Ground level. It is submitted that the height of the existing ash dyke will not be increased further.

Ash Dyke Details

S No.	Details	Lagoon 1 A	Lagoon 1B	Lagoon 2A	Lagoon 2B	Total
1.	Status of ash dyke (Active/ Exhausted- Yet to be reclaimed/ reclaimed)	Active	Active with Ash excavation in progress	Active	Capping is in progress	
2.	Area (ha) at the base/ bottom	52.6	68.8	42.7	33.9	198
3.	Area (ha) at the top of the dyke	44.2	53.1	29.5	16.6	143.4
4.	Dyke Height (m)	18 m				
5.	Volume (m3)	6680000	8120000	4440000	2360000	21600000
6.	Quantity of ash disposed (metric tons)	167.8 Lakh Metric Tons till 31st March 2025				
7.	Available volume in percentage and quantity of ash that can be further disposed. (Metric tons)	23.4% 1407722	11.4% 834368.67	7.28% 291026	0% 0	13% 2583118
8.	Expected Life of ash pond (number of years and months)	309 days	183 days	64 days	0	556 days
9.	Type lining carried in ash pond: HDPE lining or LDPE lining or clay lining or no lining	Clay, LDPE and PCC Lining				
10.	Mode of Disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Dry disposal for fly ash & wet disposal for bottom ash HCSD for 4X600 MW TPP & LCSD for 4X250 MW TPP				
11.	Ratio of ash: water in slurry mix	LCSD- 1:4 HCSD- 2.3:1				
12.	Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes				
13.	Quantity of wastewater from ash pond discharged into land or water body (m3)	Yes				
14.	Last date when the dyke stability study was conducted and name of the organization who conducted the study	01.01.2025 NIT, Raipur (Copy of the report is attached)				
15.	Last date when the audit was conducted and name of the organization who conducted t	Oct, 2024 VNIT, Nagpur				

	he audit.

4. The bottom ash (around 20% of the total ash generated) from the Power Plant has to be ev acuated in slurry form and disposed to the ash dyke before the same can be dried and utilised.
5. The Company is able to achieve the 100% ash utilisation by: (a) utilising the complete fly ash (which is 80% of the total ash generated) which is collected and evacuated in dry form, a nd (b) by excavating and subsequently using the dried ash (approx. 20% of the total ash gene rated) from the ash dyke.
6. Thus, the company has sufficient volume available in the ash dyke for disposal of bottom ash in the ash dyke.

Details of already disposed/ stored ash

a. Quantity stored (in metric tons)- 167.8 Lakh Metric Tons

Action plan for excavation and use of already disposed ash.

Year	Ash planned to be excavated (Lakh Metric Tons)	Use of excavated ash
2025-26	17.1	For mine back filling
2026-27	17.25	
2027-28	17.25	
2028-29	17.25	
2029-30	17.25	
2030-31	17.25	
2031-32	17.25	
2032-33	17.25	
2033-34	17.25	
2034-35	17.25	

7. Thus, the concurrent excavation and utilisation of ash as per the above plan from the ash d yke will continually enhance the volume availability in the existing ash dyke. The expected l ife of ash dyke, basis the above-mentioned excavation and utilisation plan for 10 years, will i ncrease from 1.5 years to 12 years which will be sufficient for disposal of ash from the TPP s.

Stability analysis due to the increased ash dyke height:

The stability analysis of the dyke for the increased height has been recently carried out by re puted institute National Institute of Technology, Raipur. The report has been submitted by N IT Raipur on 01st January 2025

The dyke has been analyzed for the following conditions:

a. Steady Seepage Condition (Normal)

b. Earthquake condition (Pseudo static)

The minimum factor of safety required for different loading conditions as given in the IS 78 94- 1975 are as below:

Loading Condition	Minimum Factor of Safety required
Steady seepage condition	1.5
Earthquake condition	1.0

Environmental Parameters monitoring:

ADS reply dated 19.05.2025 & 26.05.2025

S. No.	ADS point and Reply/Response of PP
1.	**ADS Point** During the reply of ADS submission by the proponent, the ministry is in receipt of certified compliance report fr

om Regional Office of MoEF&CC for existing EC (copy enclosed). As per report, significant non-compliances h ave been reported by RO. The requirement of CCR also one of the ADS information sought by the EAC. In view of this, PP is requested to submit the Action Taken Report on the observed non-conformities for taking considere d view by the EAC in the matter.

Reply/Response of PP

Project proponent has submitted the Action Taken report to MoEF &CC dated on 17.05.2025.

Action Taken Report (ATR)

S No. as per IRO report	EC Condition no.	Observation of IRO, MoEF&CC	Response of JPL
1.	-	Project Authority relied upon the Ministry's Notification S. O. 1561(E) dated 21st May, 2 020. However, Hon'ble NGT vide order dated 15/02/2022 i n Original Application No.10 4/2018 in the matter of Shivp al Bhagat & Ors. vs UOI, rec ommended that Road transpo rt of coal shall be limited for those power plants operationa l in Raigarh. Accordingly, co al transport by road from coal mines or thermal power plants in these blocks was permitted only for a year, after which tr ansport must done by rail or c losed conveyor belt only. In v iew of the above. Project Aut hority shall get an appropriat e amendment on the conditio ns which are not applicable or repugnant to the statutory pro visions / Judicial Orders or M inistry may consider issuance of EC, superseding the existi ng ECs and amendments acc orded.	• Majority of the coal for the TPP is bei ng sourced from Gare Palma IV/1 coal mine and Gare Palma IV/2 & IV/3 coal mines of the Company. • The coal from these coal mines is tran sported through Cross Country Pi pe Conveyor (CCPC) from the mi nes to the TPP. • Only the coal being sourced under Fu el Supply Agreement (FSA) from Kulda mines of MCL has to be tra nsported by road which is being d one as per the Ministry's gazette notification S.O. 1561 (E) dated 2 1.05.2020. • It is pertinent to further mention that t he Hon'ble NGT in its judgment d ated 08.11.2024 in the O.A. no. 7 0/2023 has held that the construct ion of Railway line is delayed and the transportation of coal from Ku lda mines to JPL Tamnar has to b e done by the road. MoEFCC has mentioned in its EC amen dment dated 28.08.2020 that the permissi on for road transportation of coal till 20.0 5.2020 and from 21.05.2020 onward gov ern by the Ministry's gazette notification S.O. 1561 (E) dated 21.05.2020.
EC letter J-13011/15/93-II(T) dated 24.09.1997 for 2x250 MW (Phase I)			
2.	**Condition No. (i)** All the conditions stipulate d by Madhya Pradesh Poll ution Control Board vide t heir letter No. 2077/TS/E Z/MPPCB/96 dated 07/02/ 1997 should be strictly im plemented.	Though the Project Authorit y is having CTE and CTO fr om the CECB, details of the letter No. 2077/TS/EZ/MPP CB/96 dated 07/02/1997 of Madhya Pradesh Pollution Control Board and its compl iance have not been made a vailable.	• All the conditions stipulated by the M adhya Pradesh Pollution Control Board vide their letter No. 2077/T S/EZ/MPPCB/96 dated 07/02/199 7 have been implemented. • Copy of the letter and its compliance i s attached as **Annexure-1(A) and 1(B).** • It is pertinent to mention that this NO C was issued only for the purpose of obtaining Environmental site C learance from the Ministry of Env ironment & Forests, Govt. of Indi a, with the condition that the indus try shall adopt latest clean Techno logy so as to minimize the polluti

			on. • Further after the careful inspections and ascertaining compliance status of all the conditions, CECB has accorded the CTE & CTOs for the project. • Thus, the said condition is complied.
3.	**Condition no. (iv)** Closed Circuit Cooling Device should be provided and it should be ensured that only minimum water is drawn for makeup purposes. The requirement of water for the project will be met by constructing 18 mt high dam across Kurkut River involving a cost around Rs.48 crores. The forest area coming under submergence shall be identified and separate clearance under the Forest (Conservation) Act shall be obtained by the project authorities prior to commissioning the work on the project.	Though the Project Authority has deposited the amount towards compensatory afforestation, the status of implementation regarding Compensatory Afforestation and catchment area treatment plan and its implementation have not been made available.	• Forest Clearance for dam construction has been granted by MoEF vide letter no. 8- 93/2003-FC dated 08.08.2005. • The Company had deposited the amount towards CA to the forest department and has implemented the catchment area treatment plan. • It is submitted that the implementation of CA is carried out by the State Forest Department and accordingly, the Company has already complied with the condition of Compensatory Afforestation by depositing the amount.
4.	**Condition no. (ix)** A greenbelt of 100 m width will be created all along the plant boundary. Greenbelt will also be created along the ash disposal area. A norm of 1500 - 2000 trees per ha should be followed. A detailed proposal of green belt creation including aftercare, gap filling, monitoring etc. should be prepared along with financial requirements and submitted to the Ministry by 31st December, 1997.	Though the Project Authority has developed green belt, details are not made available regarding the detailed proposal of green belt development including aftercare, gap filling, monitoring etc. prepared along with financial requirements and its submission to the Ministry by 31st December, 1997.	• Approx. 4.6 lakhs samplings have been planted in the plant premises. • Green belt along the plant boundary has been developed and the same is being strengthened through gap plantation. • Greenbelt has also been created along the ash disposal area. • Saplings have been planted as per the CPCB guidelines. • Moreover the Company had engaged a third party for monitoring & evaluation of Green Belt/ plantation development and the report is submitted.
5.	**Condition no. (xii)** Provision shall be made for collection of fly ash in dry form. Close conveyor system with dust suppression mechanism shall be used for transport of coal from the mine and for carrying the ash to the disposal areas. Adequate provision should be made for sprinkling of water at strategic locations to ensure that fly ash does not get air borne.	Close conveyor system with dust suppression mechanism for transport of coal from the mines and for carrying the ash to the disposal areas are being complied partly and part of the coal is being transported by road.	• Coal from Gare Palma IV/1 and Gare Palma IV/2 & IV/3 coal mines is transported using existing Cross Country Pipe Conveyor (CCPC). • Only coal procured from MCL under Fuel Supply Agreement (FSA) is transported by road through tarpaulin covered trucks as per MoEF&CC notification dated 21.05.2020 till the availability of railway infrastructure.

6.	**Condition no. (xiv)** Fly ash generated will be f ully utilized within 10 year s starting with 20% utilizat ion from the year of operat ion of the project with the additional utilization of 1 0% every year.	**Project Authority has not achieved 100 percent fly as h utilization within 10 year s as stipulated.**	• Fly ash utilisation by Thermal Power Plants is regulated by the latest Fl y ash Utilisation notification, 202 1 notified by the MoEF&CC. • The Company has achieved the 100% compliance of three year cycle (i. e 2022-23, 2023-24 & 2024-25) a s per fly ash notification. • The latest Annual report of Fly ash uti lization submitted to the Regulato ry Authorities is submitted. • Thus it is submitted that the condition is complied.
7.	**Condition no. (xvi)** Project affected people sho uld be adequately compens ated and rehabilitated as pe r the State Govt. norms in consultation with the State authorities. The final R&R Programme and package s hould be submitted within six months. The project co lony should be located 6-8 kms away from the plant si te to avoid direct impact of the project.	PA claims that the condition have been complied with. Ho wever, details of the Project Affected People and the amo unt compensated to them hav e not been made available.	• All project affected families have bee n compensated as per directives o f the State Govt. of C.G. • It is submitted that no R&R issue is pen ding. Thus it is submitted that the condition i s complied.
8.	Monitoring Committee sho uld be constituted for revie wing the compliance to vari ous safeguard measures by involving recognized local NGOs, Pollution Control Boards, Institutions, Exper ts etc.	**Monitoring Committee has not been constituted even a fter the lapse of 28 years fr om the grant of the EC.**	• Letter requesting for formation of Mo nitoring Committee was submit ted to Chhattisgarh Environment Conservation Boar d, Regional Office vide letter No. JPL/EMD/RO/OCT-2010 dated 7/10/2010. • It is submitted that the Company will again take up the matter with CE CB for expediting formation of M onitoring Committee. • Meanwhile, it is submitted that the co mpany has engaged IIT, Kharagp ur for monitoring of compliance t o various safeguard measures. • The latest Environment Audit report i s submitted.
EC Letter no. J-13011/8/2006-IA.II(T) dated 08.06.2006 for 2x250 MW (Phase II)			
9.	**Condition no. (ii)** 100% fly ash utilization sh all be achieved within 9 ye ars in accordance with the notification on fly ash utili zation SO 763 (E) dated 1 4th September, 1999 and th e amendments made therei n from time to time.	**100% fly ash utilization has not been achieved wit hin 9 years**.	• Fly ash utilisation by Thermal Power Plants is regulated by the latest Fl y ash Utilisation notification, 202 1 notified by the MoEF&CC. • The Company has achieved the 100% compliance of three year cycle (i. e. 2022-23, 2023-24 & 2024-25) a s per fly ash notification. • The latest Annual report of Fly ash uti lization submitted to the Regulato ry Authorities is submitted. • Thus it is submitted that the condition is complied.

EC Amendment letter no. J-13012/8/2006-IA.II(I) dated 03.01.2019 (4x250 MW)			
10.	**Additional Condition no. 16(ii)** Alternate technology for fly ash utilization such as road making using geopolymer shall be explored with the institutes of national repute	**As stipulated in the additional condition, Project Authority should explore the alternate technology for fly ash utilization from the appropriate institutes.**	• The Company vide its letter dated 27.02.2017 had requested Director General, Council of Scientific and Industrial Research (CSIR), New Delhi to facilitate the company for use of alternate new technology to utilize dry fly ash. However, the Company did not receive any response in this regard. Copy of the letter is submitted. • However, it is submitted that the company has been using ash for road construction, brick & paver block manufacturing. • JPL has also supplied ash to the Public Works Department for utilization in the construction of road/ embankment as per requirement received. • The Company has achieved the 100% compliance of three year cycle (i.e. 2022-23, 2023-24 & 2024-25) as per the fly ash notification.
11.	**Additional condition no. 16 (iii)** The approved ash pond site at village Dolesara/ Road apalli in an area of 239 ha vide ministry's letter dated 26.4.2017 for disposal of ash generated from 4X600 MW Power Plant shall be operationalized within one year so that there should not be any necessity to further raise the existing dyke height.	**Project Authority ought to have amended the condition before raising the height of the ash dyke.**	1. JPL has undertaken ash dyke height raising pursuant to obtaining the EC amendments from MoEF&CC. 2. In this regard, the EC amendments granted by MoEF&CC vide letters dated 03.01.2019 and 13.08.2021 permitted JPL for ash dyke height raising. 3. It is submitted that no further height raising of the ash dyke will be undertaken.
EC Amendment letter no. J-13011/8/2006-IA.II(T) dated 13.08.2021 (4x250 MW)			
12.	**Additional Condition no. 11(ii)** 100% ash utilization shall be carried out throughout the year.	**100% ash utilization have not been achieved.**	• The Company has achieved the 100% compliance of three year cycle (i.e. 2022-23, 2023-24 & 2024-25) as per fly ash notification. • The latest Annual report of Fly ash utilization submitted to the Regulatory Authorities is submitted. • Thus, it is submitted that the condition is complied.
13.	**Additional Condition no. 11(ii)** Disaster management plan shall be finalized and implemented after discussion with local authority.	Details are not made available regarding disaster management plan finalized and its implementation. Though the revised onsite emergency plan has been prepared, appro	• JPL has updated and implemented on site emergency plan after the approval of the Directorate, Industrial Health & Safety, Raipur (C.G.). • The copy of the approval letter of the emergency plan is submitted.

		val of the same has not been made available	
4x600 MW Thermal Power Plant			
EC letter no. J-13012/117/2008-IA.II(T) dated 18.03.2011 for 2x600 MW (Unit#1 & Unit#2)			
14.	**Specific Condition no. (xvi)** Utilisation of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	**Project Authority has not achieved 100% fly ash utilization. Status of implementation report has not been regularly submitted to the Regional Office.**	• Fly ash utilisation by Thermal Power Plants is regularised by the latest Fly ash Utilisation notification, 2021 notified by the MoEF&CC. • The Company has achieved the 100% compliance of three year cycle (i.e. 2022-23, 2023-24 & 2024-25) as per fly ash notification. • The latest Annual report of Fly ash utilization submitted have also been submitted to IRO, MoEF&CC. • Further, JPL has been regularly submitted the fly ash utilization and its implementation report to IRO, MoEF&CC as Annexure to the six monthly compliance reports submitted. • The copy of the proof of submission of the same is submitted.
15.	**Specific Condition no. (xvii)** Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As,Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	**As part of re-handling ash from the ash pond is partly used for levelling of low-lying areas, which is inconsistent with the stipulated condition**	• Re-handling of ash from the ash dyke is done for utilising the same for backfilling of mine voids at Gare Palma IV/1 and Gare Palma IV/2 & IV/3 coal mines of JPL. • The re-handled ash is not being utilised for low lying area filling. • It is pertinent to note that the mine void backfilling is a different activity and low lying area filling is a complete different activity. As also mentioned in the notification dated 31.12.2021 at Para A(2) wherein filling up of low lying area filling and filling of mine voids are two different activities.
16.	**Specific Condition no. (xviii)** Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	For the Phase II project (4X600 MW Thermal Power Plant) no separate ash pond has been constructed rather existing ash dyke of 4x250 MW is being used for ash disposal and thus the condition needs to be Amended	The Company has submitted an online proposal (IA/CG/THE/472414/2024) for seeking permission for use of existing ash dyke of 4x250 MW as no separate ash pond will be constructed for 4x600 MW. The same is under appraisal of the Ministry.
17.	**Specific Condition no. (xix)** Disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be carried out only after obtaining permission from D	Details are not made available regarding the NOC obtained from the State Pollution Control Board for ash disposal in the mine voids and intimation submitted by the Project Authority to the CECB	• Fly ash is being utilised in backfilling of mine voids as per the provisions of the Fly ash Utilization Notification dated 31.12.2021 and amendments thereof which mandates for use of fly ash for backfilling in mine voids.

GMS and it shall be ensured that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.	before undertaking the activity	• The Company is utilising ash in backfilling of mine voids of Gare Palma IV/1 & Gare Palma IV/2 & IV/3 coal mines. • It is pertinent to mention that these mines are active and operational mines and are not the abandoned mines. • The condition pertains to disposal of ash in the abandoned mines. • JPL has informed CECB regarding the use of ash for backfilling of mine voids. • The latest Consent to Operate dated 27.12.2024 mandates to utilise ash as per the fly ash notification. • As per the notification & guidelines, separate NoC from CECB is not required for utilizing the fly ash in backfilling of the mine voids.
18.	**Specific Condition no. (xxi)** The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	If the said condition is not applicable as claimed by the Project Authority, the same shall be amended from the MoEF&CC.	• JPL under its CSR activities has been undertaking several community development programmes for the neighbouring villagers. • As per the Govt. PHE department survey, the neighbouring villages of project area are free from fluoride contaminated water. • However, the Company is supplying free potable drinking water to nearby villages as part of its CSR programme.
19.	**Specific Condition no. (xxi)** Further an amount of atleast 0.4% of the cost of the project (for 2x600 MW) shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently a recurring expenditure $1/5^{th}$ of the above per annum shall be earmarked till the operation of plant as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six month along with road map for implementation.	Details are not made available regarding an amount of at least 0.4% of the cost of the project (for 2x600 MW) earmarked as one- time capital cost for CSR. Details made available by the Project Authority regarding year wise expenditure incurred towards implementation of CSR activities during the past ten years is available.	The details of the capital expenditure incurred by JPL for undertaking CSR programs from 2011 to 2015 during the project phase of the 4x600 MW TPP is submitted.
20.	**Specific Condition no. (xxiii)** While identifying CSR activities it shall be ensured that need based assessment for the nearby villages wit	Though CSR activities are being reportedly implemented, details are not made available regarding need-based assessment undertaken for the nearby villages within study	It is submitted that the CSR plan is prepared and implemented based upon the need-based assessment. For the year 2025-26, CSR plan has been prepared and subsequently the work plans have been rolled out in the field. The activities are

	hin study area shall be conducted to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people shall be undertaken. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. Vocational training programme for possible self employment and jobs shall be imparted to identified villagers free of cost.	area to study economic measures with action plan which can help in upliftment of poor section of society	being implemented under the following thematic heads: • Health & Nutrition • Drinking water & Sanitation • Community Education • Entrepreneurship Development & Women empowerment • Environment • Agriculture Development • Sports, Arts and culture • Social inclusion • Rural infrastructure development
21.	**Specific Condition no. (xxiv)** It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	The annual social audit has not been carried out through Government institute.	1. The annual social audit has been carried out by engaging Xavier Institute of Social Service, Ranchi (XISS-Ranchi). 2. The institute is a well renowned, highly recognised and a prestigious institute in India. 3. The copy of the latest annual social audit report is submitted.
22.	**Specific Condition no. (xxv)** For the tribal families affected directly or indirectly (if any) by the proposed project, specific schemes for up- liftment of their sustainable livelihood shall be prepared with time bound implementation and in-built monitoring programme. The status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	Supporting documents are not made available regarding compliance	Schemes for the tribal families are being implemented. The status of activities is submitted.
23.	**General Condition no. (iii)** Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liqu	Disaster Management Plan, risk assessment & emergency response plan has not been prepared after the grant of EC. Project Authority relied upon the Disaster Management Plan, risk assessment & emergency response plan pre	• Onsite Emergency Plan has been prepared and approved by the Directorate, Industrial Health & Safety, Raipur (C.G.) and implemented in plant area. • The copy of approved Emergency plan is submitted.

	id fuel will not exceed 0. 5%. Disaster Management Plan shall be prepared to m eet any eventuality in case of an accident taking place due to storage of oil.	pared as part of final EIA re port. Project Authority shall amend the said EC conditio n from the MoEF&CC.	
EC Amendment Letter no. J-13012/117/2008.IA.II(T) dated 10.01.2014			
24.	**Additional Specific Cond ition no. 6 (A) (xxx)-** A long term study of radio activity and heavy metals c ontents on coal to be used shall be carried out throug h a reputed institute. There after mechanism for an in- built continuous monitorin g for radio activity and hea vy metals in coal and fly a sh (including bottom ash) s hall be put in place.	Details are not made availab le regarding in- built continu ous monitoring mechanism i n place for radio activity an d heavy metals in coal and f ly ash (including bottom as h). If the condition is not im plementable, which needs to be get amended from the M oEF&CC.	• The radioactivity in coal is analysed b y NABL accredited laboratory on regular basis for determination of Radioactivity in Coal and fly ash. • Study of heavy metals content in coal and fly ash from a reputed institut e/organization is carried out regul arly. • The radioactivity report for coal, fly a sh & bottom ash is submitted.
25.	**Additional Specific Cond ition no. 6 (A) (xxxiii)-** The existing ash dyke sha ll be utilized for the expan sion for an interim period n ot exceeding three years su bject to ash dyke having n ecessary capacity to handle additional ash on account of the expansion units. A new ash dyke shall be construct ed within three years to me et the requirement of subst antial quantity of ash tha t would be generated by the expansion plant.	Permission was accorded v ide Ministry's letter dated 24/02/2023 for using the existing ash dyke o f 4x250 MW for disposal of unutilized ash of 4x600 M W till June, 2024. So far no approval has been accorded f or extension of the same be yond June, 2024. It appears that Project Authority appli ed for an amendment in the E C Ministry may take appropri ate view.	The Company has submitted an online proposal (IA/CG/THE/472414/2024) for seeking permission for permanent use of existing ash dyke of 4x250 MW as no se parate ash pond will be constructed for 4 x600 MW. The same is under appraisal o f the Ministry.
EC Amendment letter no. J13012/117/2008-IA.II(T) dated 27.03.2015			
26.	**Additional Specific Cond ition no. (xxxvi)** Periodic maintenance of th e road for coal transportati on shall be done by the pro ject proponent at its own e xpenses and shall also facil itate the traffic control on t he road in consultation wit h the state Government Au thorities.	Details are not made availa ble regarding compliance.	• Periodic maintenance of the road used for coal transportation is being do ne by JPL on regular basis. • Presently JPL is in process of installin g road lights from the plant gate t o mine end. • Traffic marshals have also been deplo yed to control the traffic. Latest photographs of the road are s ubmitted.
EC Amendment letter no. J13012/117/2008-IA.II(T) dated 26.04.2017			
27.	**Additional Condition no. 3(v)** Details of coal characteristi	Details are not made availa ble regarding compliance of the condition.	• Majority of coal for the TPP is source d from Gare Palma IV/1 and Gare Palma IV/2 & IV/3 coal mines of

	cs, source & location of coal mine, traffic study shall be submitted to the Ministry after getting allocation of coal through forward e-auction or any other scheme notified by M/s Coal India Limited.		Jindal Power Limited. • Remaining coal is being sourced from MCL mine at Kulda under Fuel Supply Agreement (FSA). • Apart from the above, no coal is being sourced under any other scheme notified by M/s Coal India Limited.
28.	**Additional Condition no. 3(viii), (xiii)** (viii) Change in location of ash dyke from Rodapalli to near Dolesara village is allowed. (xiii) As proposed, ash pond shall be lined with HDPE liner.	Though the permission has been accorded, the same has not been implemented and thus the condition may be deleted/ amended. Project Authority submitted that new ash pond has not been constructed and thus the need for compliance of the condition does not arise. **In such circumstances, Project Authority shall amend the condition.**	MoEFCC has permitted to change the location of ash dyke from Rodapalli to near Dolesara village through EC amendment dated 26.04.2017. The new ash dyke has not been constructed yet and the Company has submitted an EC Amendment application to MoEF&CC for not constructing the ash dyke for 4x600 MW TPP.
EC Amendment letter no. J13012/117/2008-IA.II(T) dated 28.08.2020			
29.	**Additional Condition no. 19(ii)** The details of quantities of ash generation, utilization to various purposes such as brick manufacturing, construction , soil condition & cement	Details of quantities of ash generation, utilization to various purposes such as brick manufacturing, construction, soil condition & cement manufacturing and disposal has not been regularly provided in the six monthly compliance report. Further, project authority neither submitted Fly ash utilisation report & Annual Fly ash Audit Reports regularly to this office nor uploaded the same on the website of the company.	• JPL has been submitting fly ash generation and utilization details as part of the six monthly compliance reports regularly. As can be perused from the latest six monthly compliance report submitted, which pertains to the Fly ash utilization. • The copy of the latest six monthly compliance report is submitted. • Further it is submitted that the Annual Fly ash utilization reports are submitted to MoEF&CC. The copy of the latest Annual report is submitted. • The Annual ash utilization report and audit report have been uploaded on the Company's website. The URL of the website is as below: https://www.jindalpower.com/environment- reports.html
30.	**Additional Condition no. 19(iii)** As per the Ministry's fly ash amendment Notification vide S.O. 254 (E) dated 25.01.2016 , the company shall upload the details of stock of each type of ash generated/availabl	Details of stock of each type of ash generated/available from all the units have not been uploaded on the website of the company as stipulated.	• JPL has uploaded annual fly ash compliance report for both the units on regular basis. • The latest stock of fly ash has also been updated in company website. The URL of the website is as below: https://www.jindalpower.com/environment- reports.html

		e from all the units (4X250 MW and 4X600 MW) on t heir website and shall update the stock position re gularly.		
	31.	**Additional Condition no. 19(xii)** Water sprinkling o n the road shall be done d uring transportation along the routes.	Details are not made available regarding compliance.	Water sprinkling is being performed thr ough mobile water tankers and fog can non along the transportation route. **Latest photographs are submitted.**

PP has submitted the ATR to the RO-Raipur dated 22.05.2025 vide letter no. JPL/EMD/MoEF&CC/2024-25. However, closure Report from RO, Raipur is still awaited.

3.5.3. Deliberations by the committee in previous meetings

Date of EAC 1 :27/06/2024
Deliberations of EAC 1 :

Date of EAC 2 :01/10/2024

Deliberations of EAC 2 :

Observations and deliberations of the Committee:

13.3.5: The EAC noted the following:

i. As per EC dated 18.03.2011, a separate ash dyke near Rodapali village was to be constructed for 4x 600 MW. However, the Ash dyke could not be constructed as the land for the proposed ash dyke area became part of a coal block. Based upon the request of JPL, MoEF&CC vide letter dated 26.04.2017 granted permission to construct the ash dyke on 236 ha land at an alternate location near village Dolesera. Consent to Establish (CTE) for the same was granted by Chhattisgarh Environment Conservation Board (CECB) vide letter dated 27.04.2022. The present proposal of project proponent is not to construct the ash dyke in the 236 Ha and use the existing ash dyke developed for 4 x250 MW.

ii. The Committee noted that proponent has obtained amendment in the existing EC with respect to use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW on 10/01/2014, 26/04/2017, 28/08/2020, 28/10/2021 and 24/02/2023.

iii. With respect to ash utilization for the existing 3400 MW TPP, the Committee noted that the ash is being utilized for filling of low lying areas reportedly with prior permission from CECB. However, the quantity of ash disposal in low lying areas and compliance to the stipulated conditions have not made available by the project proponent.

iv. The committee opined that in order to take considered view in the matter, it is necessary ascertain the compliance status to the prescribed EC conditions inter-alia present generation, utilization and disposal of ash in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendments.

v. A court case is pending before the NGT, CZ Bhopal [No. Original Application No.70/2023(CZ)] arising out of News report published in the Newspaper named Indian Express, Daily News Paper dated 4th February, 2022, Kolkata, Late City Edition titled “Noncompliance of EC conditions by different units inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh.

Recommendations of the Committee:

13.3.6: In view of the foregoing and after detailed deliberations, the Committee **deferred** the proposal for amendment in EC and sought for following additional information for further consideration:

i. Present status of 236 Ha land along with photographs and intended purpose of the said land in place of new ash dyke.

ii. Quantum of ash generation, disposal and utilization as per the ash utilization notification dated 31/12/2021 and its subsequent amendments shall be submitted. Further, the quantum of legacy ash utilization shall also be furnished.

iii. Action plan for reduction in existing ash pond area shall be submitted.

iv. Project proponent shall submit a certified compliance report from the concerned Regional Office of the Ministry regarding the compliance of all the stipulated conditions in the existing ECs and its subsequent amendments.

v. Compliance report from CECB regarding adherence to the terms and conditions by the proponent for disposal of ash in low lying area shall be submitted.

vi. Action plan for adopting dry bottom ash collection system shall be submitted.

vii. Detailed status of court case i.e., Original Application No.70/2023 pending before the NGT, CZ Bhopal regarding “Noncompliance of EC conditions by different units inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh shall be submitted.

Date of EAC 3 :24/02/2025

Deliberations of EAC 3 :

Observations and deliberations of the Committee:

20.5.8: The EAC noted the following:

i. As per EC dated 18.03.2011, a separate ash dyke near Rodapali village was to be constructed for 4x 600 MW. However, the Ash dyke could not be constructed as the land for the proposed ash dyke area became part of a coal block. Based upon the request of JPL, MoEF&CC vide letter dated 26.04.2017 granted permission to construct the ash dyke on 236 ha land at an alternate location near village Dolesera. Consent to Establish (CTE) for the same was granted by Chhattisgarh Environment Conservation Board (CECB) vide letter dated 27.04.2022. The present proposal of project proponent is not to construct the ash dyke in the 236 Ha and use the existing ash dyke developed for 4 x250 MW.

iii. The Committee noted that proponent has obtained amendment in the existing EC with respect to use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW on 10/01/2014, 26/04/2017, 28/08/2020, 28/10/2021 and 24/02/2023.

iv. With respect to ash utilization for the existing 3400 MW TPP, the Committee gone through the ash generation and utilization details.

v. The EAC also deliberated on the written submissions of the project proponent and found it satisfactory.

Recommendations of the Committee:

20.5.9: In view of the foregoing and after the detailed deliberations, the Committee ***partially recommended*** the instant proposal for grant of amendment in the ECs dated 18/03/2011 & 04/11/2011 and its subsequent amendment dated 24/02/2023 as detailed below **subject to stipulation of following additional specific conditions and uploading of written submissions on PARIVESH portal.** Other terms and conditions prescribed in EC dated 18/03/2011 & 04/11/2011 and its subsequent amendments shall remain unchanged:

Paragraphs of EC amendment letter dated 24/02/2023	Details as per EC amendment dated 24/02/2023	Amendment sought by the project proponent	Recommendations of EAC as per MoM
Para no 3, 4 & 5 of EC amendment dated 24.02.2023	Permission to use existing ash dyke of 4x250 MW for unutilized ash/ bottom ash of 4x600 MW has been granted till June 2024.	Permission to continue use existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW permanently	Permission to use existing ash dyke of 4x250 MW for 4x600 MW TPP for 2 year i.e. till 30.06.2026 subject to stipulation of following additional specific conditions:

3.5.4. Deliberations by the EAC in current meetings

Observations and deliberations of the Committee (during 26th EAC meeting):

26.5.10: The EAC noted the following:

i. As per EC dated 18.03.2011, a separate ash dyke near Rodapali village was to be constructed for 4x 600 MW. However, the Ash dyke could not be constructed as the land for the proposed ash

dyke area became part of a coal block. Based upon the request of JPL, MoEF&CC vide letter dated 26.04.2017 granted permission to construct the ash dyke on 236 ha land at an alternate location near village Dolesera. Consent to Establish (CTE) for the same was granted by Chhattisgarh Environment Conservation Board (CECB) vide letter dated 27.04.2022. The present proposal of project proponent is not to construct the ash dyke in the 236 Ha and use the existing ash dyke developed for 4 x250 MW.

iii. The Committee noted that proponent has obtained amendment in the existing EC with respect to use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW on 10/01/2014, 26/04/2017, 28/08/2020, 28/10/2021 and 24/02/2023.

iv. **The adequacy of the ash dyke for 4x250 MW have been examined by EAC in detail and noted that factor of safety is 1.0, which is pretty low. In view of this, PP was advised to take adequate measures to ensure that ash dyke is more stable. It was also advised that proponent shall go for circular slip analysis for the ash dyke.**

v. EAC opined that height of the ash dyke shall not be increased beyond 18 meter and preferably fly ash shall not be utilized for filling up of low lying areas.

vi. **EAC deliberated upon the certified compliance report dated 25/04/2025 and observed that 31 non-compliances have been reported by the Regional Office including the non-compliance to the provisions contained under the ash utilization notification 2021 for the existing ash dyke of 4x250 MW which is presently under consideration before the EAC for amendment purpose.** The committee felt that proponent should take immediate action to the comply with non-compliances reported by the RO and obtain closure report.

Recommendations of the Committee:

26.5.11: In view of the foregoing and after the detailed deliberations, the Committee ***deferred*** the instant proposal and sought for a closure report against the 31 non-compliances as reported in the certified compliance report dated 25/04/2025 including the non-compliance to the provisions contained under the ash utilization notification 2021 for the existing ash dyke of 4x250 MW. Further, proponent shall also submit the circular slip analysis of the existing ash dyke to ensure the stability of the same as it has been proposed to be used for disposal of ash from 4x600 MW forever. Thereafter, the proposal shall be placed before the EAC for consideration for taking considered view on the amendment request of the project proponent.

3.5.5. Recommendation of EAC

Deferred for ADS

3.6. Agenda Item No 6:

3.6.1. Details of the proposal

Darlipali Super Thermal Power Project, Stage-II (1x800 MW) by **NTPC LIMITED** located at **SUNDARGARH,ODISHA**			
Proposal For		Application for amendment in ToR (for categories A & B1)/Amendment in EC (for category B2)- Form-3	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/OR/THE/539423/2025	J-13012/65/2008-IA.II(T)	30/05/2025	Thermal Power Plants (1(d))

3.6.2. Project Salient Features

Agenda No. 26.6

26.6.1: M/s. NTPC Limited has made an online application vide proposal no. IA/OR/THE/539423/2025 dated 30/05/2025 along with Form 3 and pre-feasibility report for the proposed 1x800 MW Darlipali Super Thermal Power plant and sought for amendment in the ToR dated 17/04/2023 accorded for the project mentioned above. 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.

				Implementation Status as on 05. 06.2025	**Production**
				Under Operation	

Para No	**As per the ToR dated 17/04/2023 for the configuration of 1 x800 MW**	**Amendment Sought in the ToR dated 17/04/2023 for the configuration of 1x800 MW**	**Justification**	
4 (ii)	**Water Requirement:** Quantity of water Requirement: 2400 m^3/hr Cooling System: Water Cooled condenser system	**Water Requirement:** Quantity of water Requirement: 930 m^3/hr Cooling System: Air Cooled condenser system	In view of anticipated scarcity of industrial water in future, NTPC pro-actively considered ACC in place of WCC to save water consumption for Darlipali Stage-II (1 x 800 MW) by 60% approximately. (Reduced the water requirement from 2400 m^3/hr to 930 m^3/hr). Reduction in water consumption will reduce water withdrawal and shall minimized the impact on local water resources and ecosystems.	
4 (ii)	**Land Area Breakup** **Description / Existing (Ha) / Proposed (Ha) / Total (Ha)** Main Plant / 322.534 / 45.3248 / 367.8588 Township / 62.3216 / 0 / 62.3216 Ash Pond / 160 / 80 / 240	**Land Area Breakup** Description / Existing (Ha) / Area Proposed / Total (Ha)	The area under Railway corridor, MGR, Reservoir, Make-up Water Pump House, Storm Water Drains, Peripheral Road and Stores etc., were not mentioned separately and	

Para No	As per the ToR dated 17/04/2023 for the configuration of 1 x800 MW	Amendment Sought in the ToR dated 17/04/2023 for the configuration of 1x800 MW	Justification	
	<table><tr><td>Railway siding, corridors etc.</td><td>54.035</td><td>0</td><td>54.035</td></tr><tr><td>Green Belt</td><td>76.89</td><td>34.587</td><td>111.4776</td></tr><tr><td>Total</td><td>675.78</td><td>159.9124</td><td>835.693</td></tr></table>	<table><tr><td></td><td></td><td>d (Ha)</td><td></td></tr><tr><td>Main Plant</td><td>98.340</td><td>46.592</td><td>144.932</td></tr><tr><td>Township</td><td>55.210</td><td>0</td><td>55.210</td></tr><tr><td>Ash Pond</td><td>160.000</td><td>80.000</td><td>240.000</td></tr><tr><td>Railway siding, MGR, Outside drains etc.</td><td>159.150</td><td>0</td><td>159.150</td></tr><tr><td>Raw water Reservoir</td><td>12.000</td><td>13.660</td><td>25.660</td></tr><tr><td>Others (Misc. areas in roads/periphery, office/Stores, make up water pump House etc.)</td><td>80.610</td><td>0</td><td>80.610</td></tr><tr><td>Green Belt</td><td>110.470</td><td>19.660</td><td>130.130</td></tr><tr><td>Total</td><td>675.780</td><td>159.912</td><td>835.692</td></tr></table>	were included under Main Plant area was inadvertently. Area wise breakup has been mentioned in the revised table.	
4 (i	Breakup of land use of TPP Site	Breakup of land use of TPP	Darlipali STPP Sta	

<table>
<tr><th>Para No</th><th>As per the ToR dated 17/04/2023 for the configuration of 1x800 MW</th><th>Amendment Sought in the ToR dated 17/04/2023 for the configuration of 1x800 MW</th><th>Justification</th><th></th></tr>
<tr><td>i)</td><td>
<table>
<tr><td>Nature of land Involved in (Ha)</td><td>Area Existing in Ha (X)</td><td>Additional Area Proposed in Ha (Y)</td><td>Total Area require after expansion in Ha (X+Y)</td></tr>
<tr><td>Non-Forest Land (A)</td><td>661.830</td><td>105.049</td><td>766.88</td></tr>
<tr><td>Forest Land (B)</td><td>13.950</td><td>54.863</td><td>68.813</td></tr>
<tr><td>Total (A+B)</td><td>675.780</td><td>159.912</td><td>835.693</td></tr>
</table>
</td><td>Site
<table>
<tr><td>Nature of land Involved in (Ha)</td><td>Area Existing in Ha (X)</td><td>Additional Area Proposed in Ha (Y)</td><td>Total Area require after expansion in Ha (X+Y)</td></tr>
<tr><td>Non-Forest Land (A)</td><td>622.700</td><td>94.611</td><td>717.311</td></tr>
<tr><td>Forest Land (B)</td><td>53.080</td><td>65.301</td><td>118.381</td></tr>
<tr><td>Total (A+B)</td><td>675.780</td><td>159.912</td><td>835.692</td></tr>
</table>
</td><td>ge-I: Total area was 675.780 Ha
•The land break up was mentioned as 661.830 Ha non-forest land and 13.95 Ha Forest land.
•However, actual land breakup of the same patch is 622.700 Ha and 53.080 Ha as non-forest and forest land respectively.
•The land break up was mentioned as 105.049 Ha. non-forest land and 54.863 Ha Forest land.
•Accordingly, FC proposal for the forest land involved i.e. 54.863 Ha was submitted at the time of ToR.
•Subsequently on verification by State Revenue and Forest Department, the type of land was found to be of forest land area of 65.301 Ha and non-forest land area of 94.611 Ha, without change in total land area involved in Stage-II expansion i. e. 159.912 Ha.
•Accordingly, the Forest diversion proposal for 65.301 Ha has been submitted.</td><td></td></tr>
</table>

A. Summary of court cases:

There are total 12 case related with Darlipali STPP Stage-I, out of these 03 cases are related with Land Acquisition, 04 Cases related to Civil, 01 Service law Matter, 01 Contempt of Court Cases, 01 Injunction Suit, 01 Commercial Suit & 01 case related with Environment Matter which is related with Orissa Human Rights Commission and its details are as given bellow:

S. N	Case No/ Title	Name of the Court	Brief summary of the case	Last Date of Hearing	Next date of Hearing	Direction / Action taken by the PP
1.	OHRC Case No. 3888 of 2024 (2952/OHRC, dated 18.02.2025)	Orissa Human Rights Commission	The complainant alleges that NTPC is violating human rights by polluting the environment in the Sundargarh district, causing health hazards due to emissions from vehicles and chimneys of the power plant. Complaint states that there is no development in the area since the establishment of project.	25. 04.2025	22.07.2025	Comprehensive Reply has been submitted by NTPC on all the issues raised by the complainant along with documentary evidence.

B. Summary of Show Cause Notices: Nil

Any violation case pertaining to the project following, i. The Environmental Protection Act, 1986 ii. Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 iii. The Wildlife (Protection) Act, 1972	Nil • Observations have been raised by the MOEF & CC, regarding taking up construction of Make-up Water Pipeline and the 132 KV Transmission line without obtaining Stage-II approval/ working permission for diversion of 25.56 ha of forest land. • It is submitted that the Stage-I approval was accorded on 01.11.2016 and after compliance of the conditions laid down under Stage-I approval, the final (Stage-II) approval, has been accorded by the MOEF &CC on 24th April 2025, vide letter no 5-ORC279/2016-BHU. Nil

3.6.3. Deliberations by the committee in previous meetings

N/A

3.6.4. Deliberations by the EAC in current meetings

Observations and Deliberations of the Committee

Recommendations of the Committee

3.6.5. Recommendation of EAC

Returned in present form

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Dr Santoshkumar Hampannavar	Member (EAC)	san**********@yahoo.com	Present
2	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	uka*******@rediffmail.com	Present
3	Shri K B Biswas	Member (EAC)	bis*********@gmail.com	Present
4	Shri Mahi Pal Singh	Member (EAC)	mps********@nic.in	Present
5	Sundar Ramanathan	Scientist - F	r.s*****@nic.in	Present
6	Sh Inder Pal Singh Matharu IFS	Chairman, EAC	mat********@gmail.com	Present
7	Sh Lalit Kapur	Member (EAC)	lka********@yahoo.com	Present
8	Sh Savalge Chandrasekhar	Member (EAC)	sav*****@gmail.com	Present
9	Prof Shyam Shanker Singh	Member (EAC)	sin********@gmail.com	Present
10	Dr Vinod Agrawal	Member (EAC)	vin*****@yahoo.com	Present
11	Prof R M Bhattacharjee	Member (EAC)	rmb**********@iitism.ac.in	Present
12	Shri Prasoon Gargava	Scientist 'F'	pra*********@nic.in	Present
13	Shri Harmeet Sahaney	Scientist E	har**********@gmail.com	Absent

Ministry of Environment, Forest and Climate Change
Impact Assessment Division
(Thermal sector)

Date of zero draft MoM sent to Chairman: 01/07/2025
Approval by Chairman: 03/07/2025
Uploading on PARIVESH: 03/07/2025

SUMMARY RECORD OF THE TWENTY-SIXTH (26TH) MEETING OF EXPERT APPRAISAL COMMITTEE (EAC) HELD ON 20th JUNE 2025 FOR ENVIRONMENT APPRAISAL OF THERMAL SECTOR PROJECTS THROUGH PHYSICAL MODE.

20TH June, 2025 [FRIDAY]

At the outset, Shri. Inder Pal Singh Matharu (I.F.S Retd.), Chairman, Expert Appraisal Committee (Thermal Power & Coal Mining) welcomed the Expert members & other participants and requested to start the proceeding as per the agenda listed for this meeting. The list of members who participated in the meeting is at **Annexure – I**. The Standard/Generic ToR conditions shall be system generated through the PARIVESH Portal.

Confirmation of the minutes of the 25th meeting of the EAC (Thermal): The minutes of the 25th meeting of the EAC (Thermal) held during 29/05/2025 has been confirmed by the EAC.

Agenda No. 26.1

26.1: Expansion of existing 600 MW (2x300 MW) project by addition of 1320 MW (2x660 MW) Super Critical Coal Based Thermal Power Plant by **M/s. Korba Power Limited** located at Village Pathadi, District Korba, Chhattisgarh **– Environmental Clearance under S.O. 1247(E) dated 18.03.3021 – regarding.**

[Proposal No. IA/CG/THE/532429/2025; F. No. J-13011/3/2009-IA.II (T)]

26.1.1: M/s. Korba Power Limited, (Formerly, Lanco Amarkantak Power Limited) a subsidiary of Adani Power Limited, has made an online application vide proposal no. IA/CG/THE/503357/2024 dated 05.05.2025 along with copy of EIA/EMP report, Form and certified compliance report seeking for Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at item no. 1(d) Under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level. The project do not attract the provisions of general condition of the EIA Notification, 2006.

Name of the EIA consultant: M/s Gaurang Environmental Solutions Pvt. Ltd. [S. No. 98 List of ACOs with their Certificate No. NABET/EIA/2326/RA 0338 Valid up to 07.12.2026].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

26.1.2: The project site mentioned above have obtained following Environmental Clearances from MoEF&CC:

i. EC was accorded on 19/11/2004 in favor of M/s. Lanco Amarkantak Power Private Limited (LAPPL) for setting up 600 MW (2x300 MW) (Unit 1&2) coal-based Amarkantak Thermal Power Plant located at Village Pathadi, District Korba, Chhattisgarh.

ii. Expansion EC was accorded on 31/12/2007 in favor of M/s. LAPPL for setting up 1x600 MW (Expansion from 600 MW to 1200 MW) (Unit 3) coal-based Amarkantak Thermal Power Plant located at Village Pathadi, District Korba, Chhattisgarh and its subsequently amended for enhancing the capacity from 600 MW to 660 MW on 04/09/2008. Vide letter dated 19/02/2014, MoEF&CC extended the validity of EC up to 30/12/2017.

iii. Another expansion EC was accorded on 26/05/2010 in favour of M/s. Lanco Amarkantak Power Limited (LAPL) for setting up 1x660 MW (Unit 4) Super Critical Coal Based Thermal Power Plant located at Village Pathadi, District Korba, Chhattisgarh. Vide letters dated 22/06/2015 & 17/05/2018, MoEF&CC extended the validity of EC up to 30/12/2017 and 31/12/2018 respectively.

26.1.3: Implementation status of the existing ECs

Facilities as per EC dated 19/11/2004, 31/12/2007 & 26/05/2010			**Present status of implementation**	**Remarks**
Facility	**Configuration/ Production Capacity**	**Date**		
Coal/Lignite based TPP	600 MW (2x300 MW) (Unit 1&2)	19/11/2004	Project has been implemented and the unit is under operation.	CTO renewal obtained on 15/04/2024 and is valid till 31/05/2027 for 600 MW (2x300 MW) (Unit 1&2). Name change of EC from M/s. LAPPL to M/s. Korba Power Limited was obtained from MoEF&CC on 28/11/2024.
	1x660 MW (Unit 3) & 1x660 MW (Unit 4)	31/12/2007 & 26/05/2010	(Unit 3&4) are in advanced stages of construction (about 77% of construction activities have been completed) and EC validity of (Unit 3&4) got expired as per EIA Notification 2006 and its subsequent amendments.	With respect to unit no 3 & 4, proponent has not implemented the project within the prescribed EC validity period. The construction/erection work for unit 3 &4 are stalled/on hold since July 2017 as M/s. Lanco Amarkantak Power Private Limited (LAPPL) was (Sick) admitted into NCLT for Corporate Insolvency Resolution

Facilities as per EC dated 19/11/2004, 31/12/2007 & 26/05/2010			Present status of implementation	Remarks
Facility	**Configuration/ Production Capacity**	**Date**		
				Process (CIRP). In view of the above, transfer request for unit 3&4 was rejected by the Ministry and proponent was asked apply for fresh EC under the provisions of EIA Notification, 2006 for unit 3 & 4.

26.1.4: The instant proposal of M/s Korba Power Limited is for seeking fresh Environmental clearance for unit no. 3 & 4 (2 x 660 MW) to complete the commissioning of the constructed facilities (as more than **75%** of TPP construction activities have been completed) as per MoEF&CC notification S.O. 1247 (E) dated 18/03/2021 under EIA, 2006.

26.1.5: Status of present level of construction of 2x660 MW (Unit 3 & 4)

Plant: Unit 3 (1x660 MW)	Plant: Unit 4 (1x660 MW)	Common Facilities of Unit 3 & 4 (2x660 MW)
● Boiler structure erection completed. ● Boiler Drainable/SH Circuit Hydrotest completed & under wet preservation. ● Steam Turbine Generator Boxed-up. ● Majority of ESP Erection Complete. ● Majority of Erection of TG auxiliaries, Bunker, Coal Mill, Fans and Ducting Completed. ● TG Aux piping, Miscellaneous Piping & support work in progress	● Majority of Boiler Structure erection complete. ● Pressure Part erection partly completed. ● TG Erection started. ● Erection of Bunker, Coal Mill, Fans and Ducting partly Completed.	● 270meter Chimney Shell completed. Erection of One flue can complete and 2nd in progress. ● Majority of RCC work completed for Water Treatment Plant & Cooling Water System. ● Equipment Erection yet to start. ● Unit #3 Cooling tower Civil work completed. ● Unit #4, Cooling tower 90% Civil work completed. ● Unit #3 Bottom Ash hopper structure erection completed. Balance AHP erection pending. ● CHP-Track hopper, Conveyor Gallery foundation and Structural Erection are completed. ● Crusher house Structural Erection partly completed. ● 400 KV switchyard erection completed

26.1.6: Certified compliance report from Regional Office: The certified compliance report of the previous accorded EC for 2x300 MW unit was obtained from Regional Office (RO), Raipur, MoEF&CC vide F. No. 4-7/2004(Env)/20 dated 5th May'2025 in the name of M/s. Korba Power Limited (formerly M/s. Lanco Amarkantak Power Pvt. Ltd.). The Action taken report regarding the partially/non-complied conditions was submitted to RO, MoEF&CC, Raipur vide letter No. APL/KPL/EC/ATR/ MoEFCC/246/2025 dated 08.05.2025.

The details of the ATR submitted by PP on dated 08.05.2025 is given as below.

S.No.	EC condition	MoEF&CC observation on CCR	Action taken report & present compliance status
EC Letter No. J-13012/21/2004-IA. II(T) dated 19/11/2004.			
1.	Para 7 of the EC letter dated 19/11/2004	Though the EC has been transferred from M/s Lanco Amarkantak Power Pvt. Ltd. to M/s Korba Power Ltd., other mandatory statutory documents (CTO, Hazardous Wastes Authorization, PLI Policy etc.) are still in the name of M/s Lanco Amarkantak Power Pvt. Ltd. Operation of the Unit without requisite name transfer is in contravention to the Provisions of the Environment (Protection), Act, 1986 – para 7 of the EC letter dated 19/11/2004.	**Complied** The Consent to Operate (CTO) is transferred from M/s Lanco Amarkantak Power Pvt. Ltd. to M/s Korba Power Ltd by CECB dated 15.04.2025. Copy of CTO is submitted. Government of Chhattisgarh, Energy Department has issued a letter (393/F-21/66/2006/13/2) dated:10.02.2025 stating that all liabilities of M/s Lanco Amarkantak Power Limited shall stand transferred to M/s Korba Power Limited. Govt. of Chhattisgarh letter is submitted.
2.	…	Details regarding public hearing commitments and its implementation status have not been made available. Project Authority, while relying upon the documents & compliance of M/s Lanco Amarkantak Power Pvt. Ltd. in support of compliance of many stipulated conditions of the EC, surprisingly claims that compliance regarding public hearing commitments and its implementation status is not appliable to them merely on the ground that the	**Being Compiled** "The public hearing (PH) for M/s Lanco Amarkantak Power Pvt. Ltd. held 20 years ago i.e., in 2004 and prior to the publication of the EIA Notifications 2006, therefore, PH documents are not available with us and on August 21, 2024, Korba Power Limited (KPL) acquired Lanco Amarkantak Power Limited (LAPL) through the National Company Law Tribunal (NCLT) due to

S.No.	EC condition	MoEF&CC observation on CCR	Action taken report & present compliance status
		above project has been acquired through NCLT.	LAPL's financial distress and admission into NCLT subsequently, KPL has taken full ownership for operation of the TPP from October'2024. CSR activities are being executed in consultation with local authorities in the vicinity of TPP, focus area: 1. Infrastructure development, 2. Sustainable Livelihood, 3. Education 4. Community Health 5. Promotion of Sports and Culture. Expenditure incurred for CSR activities in the last 3 years is submitted.
3.	…	Presently the project is in the name of M/s Korba Power Ltd., whereas name boards in the Power Plant are randomly displayed in certain places as M/s Korba Power Ltd. and in few places as M/s Adani Power Ltd. Further, Project Authority shall ensure that declarations or documents submitted in respect of this project should be duly signed by the Occupier i.e. M/s Korba Power Ltd. to avoid legal complications.	**Complied** Korba Power Limited is a fully owned subsidiary of Adani Power Limited. All the declarations and documents have been submitted in the name of Korba Power Limited by the authorized signatory. The Authorized Signatory letter is submitted.
4.	…	Though the construction activities for the Unit 3 & 4 were reportedly halted since July, 2017, the Unit wise construction activities undertaken so far for the Unit 3 & 4 has not been made available by M/s Korba Power Ltd.	"M/s Development Consultants Pvt. Ltd. (DCPL) has prepared the physical and construction progress report for the TPP. The report indicates that approximately 77% of the construction activities are complete. It also includes a unit-wise progress of these activities is submitted.
5.	All the conditions	Details are not made	**Complied.**

S.No.	EC condition	MoEF&CC observation on CCR	Action taken report & present compliance status
	stipulated by Chhattisgarh Environment Conservation Board letter no.3971/TS/CECB/ 2004 dated 05.10.2004 should be strictly implemented.	available regarding the letter No.3971/TS/CECB/2004 dated 05/10/2004 of CECB and its compliance status – **specific condition No.(i)**.	The No-Objection certificate was issued by CECB for obtaining Environmental Clerance from MoEFCC. This "No Objection Certificate" is issued only for the purpose of obtaining Environmental Clearance from Ministry of Environment & Forests, Government of India. This shall not be treated as consent under Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981. Industry shall obtain consent under above-mentioned Acts after obtaining Environmental Clearance from Ministry of Environment & Forests, Government of India. We have already obtained Environmental Clearance, CTE and CTO and all the stipulated conditions are being adhered.
6.	Coal requirement is estimated 9024 TPD having 45% ash content and 0.5% sulphur content.	From the coal consumption data for the month of January 2025, it has been observed that Coal requirement for the project has not been restricted within 9024 TPD as stipulated in the **specific condition No.(ii)**.	**Being Compiled** Coal, being heterogeneous in properties, makes it challenging to ensure a uniform quality supply. Considering daily coal consumption of 9024 TPD, The annual Coal requirement is 32.93 LMT. During the Financial Year 2024-2025 total coal consumption is 30.00 LMT which is well within the permitted quantity of 9024 TPD.

S.No.	EC condition	MoEF&CC observation on CCR	Action taken report & present compliance status
7.	As recommended by State Pollution Control Board greenbelt of 100-150 m in the portion where the state road runs parallel to the site and 50 m along the plant boundary should be developed covering an area of 85 Ha.	Project Authority informed about the practical difficulties involved in the effective implementation of the **specific condition No.(ix)** due to the land acquired for National Highway. In this regard, it is advised if there is any practical difficulties in the implementation of the stipulated conditions, the same shall be amended from the MoEF&CC by following the procedure. In the absence of amendment, Project Authority shall ensure effective compliance of the condition stipulated.	**Being Complied.** Greenbelt/ Plantation is already developed in area of about 85.21 ha (more than 33%). The National Highways Authority of India (NHAI) is currently undertaking the construction of the Korba-Champa Highway, which is located adjacent to the plant gate/boundary. The plant was established in 2004 and has been operational since 2010. Our efforts are being made to develop more greenery in & around the plant with a survival rate of more than 80%.
8.	For gaseous discharge two stacks of 220 m height shall be provided with continuous online monitoring system.	Though the CEMS have been installed, details are not made available regarding the real-time monitored data of stack emission linked with the servers of CPCB and CECB and its login credentials – **specific condition No.(xiii)**.	**Complied** The CEMS / online continuous emission monitoring system has already been installed and operational as well as connected with the CPCB & CECB Portal/Servers, Credential have been shared with CECB officials. The Login credentials as below: URL: http://cpdms.forbesmarshall.in:8080/enviroconnect/ User ID: LAPL1 Password: LAPL1
9.	Ash generation will be limited to 4060 TPD. Ash generated should be used in phased manner as per the provisions of the notification on Fly ash utilization issued by MoEFCC	Details are not made available regarding regular submission of fly ash returns / Annual Fly ash implementation reports to this Office. However, on perusal of the Annual Fly ash implementation report for the period April'2024 – March'2025, received in this	**Being Complied** The plant is acquired through NCLT which was financially stressed/sick since 2012. As per the Fly ash notification 2021, Ash utilization in FY 2021-22 was 75.45 % and so the first compliance Cycle to

S.No.	EC condition	MoEF&CC observation on CCR	Action taken report & present compliance status
	in Sept' 1999 and its subsequent amendments. By the end of 9th year full fly ash utilization should be ensured. Borough earth should not be taken from the ash pond area for construction of ash dyke etc.	Office, it has been observed that Project Authority has achieved 93.90% ash utilization and not achieved 100% ash utilization as mandated in the **specific condition No.(xv)**.	meet 100% Ash utilization is 4 Years (i.e., FY 2025 – 2026) and we assured to the MoEFCC that we will achieve 100% ash utilization.
10.	Regular monitoring of the air quality should be carried out in and around the power plant and records should be maintained. Six monthly reports on air quality monitoring should be submitted to this Ministry.	Though the CAAQM stations have been installed, the same has not been linked with the server of CPCB and CECB – **specific condition No.(xix)**.	**Complied** The CAAQMS system has already been installed and operational as well as connected with the CPCB & CECB Portal/Servers, Credential have been shared with CECB officials. The Login credentials as below: URL: http://cpdms.forbesmarshall.in:8080/enviroconnect/ User ID: LAPL1 Password: LAPL1
11.	Half yearly report on the status of implementation of conditions and environmental safeguards should be submitted to this Ministry, the Regional Office, CPCB and SPCB.	Details are not made available regarding regular submission of six-monthly compliance report by the M/s Lanco Amarkantak Power Pvt. Ltd. or M/s Korba Power Ltd. to the MoEF&CC and other regulatory authorities concerned. Project is currently operating in the name of M/s Korba Power Ltd. and thus regular submission of six-monthly compliance report should be ensured by the Occupier (i.e. M/s Korba Power Ltd.) in consistent with the statutory documents – **specific condition No.(xxiv)**.	**Being Complied** The Six-monthly EC Compliance report is being submitted to the concerned authorities and also uploaded on Parivesh Portal. The latest six-monthly EC compliance report for the period of March'2024 to September'2024 submitted to MoEFCC/ CPCB/CECB vide letter no. APL/KPL/EC/MoEFCC/ 0549/24 dated 25.10.2024.

26.1.7: The detail of the ToR is furnished as below:

Proposal No with date	Consideration	Date of accord	ToR Validity	Remarks
IA/CG/THE/503357/2024 Dated – 29.10.2024	21st meeting of EAC held on 27.02.2025	05.03.2025	01.03.2029	PH was exempted by the EAC as per S.O. 1247(E) dated 18.03.3021

26.1.8: Environmental Site Setting

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>1.</td><td>Total land</td><td>505.58 ha [Govt. land]. No additional land is required for the instant propsoal.</td><td>Land use: Industrial (Chhattisgarh Govt. Land provided through CSIDC in 2005 & 2006)</td></tr>
<tr><td>2.</td><td>Land use break up</td><td>
<table>
<tr><th>Facilities</th><th>Area for unit 1 & 2 (In Hectares)</th><th>Area for unit 3 & 4 (In Hectares)</th><th>Total Area (In Ha)</th></tr>
<tr><td>Main Plant</td><td>114.94</td><td>137.81</td><td>252.75</td></tr>
<tr><td>Coal Handling</td><td>7.01</td><td>7.40</td><td>14.41</td></tr>
<tr><td>Water System</td><td>10.52</td><td>0.00</td><td>10.52</td></tr>
<tr><td>Switch Yard</td><td colspan="3">Included in Main plant area</td></tr>
<tr><td>Green belt</td><td>85.21</td><td>84.07</td><td>169.28</td></tr>
<tr><td>Roads</td><td colspan="3">Included in Main plant area</td></tr>
<tr><td>Township</td><td>9.31</td><td>0.00</td><td>09.31</td></tr>
<tr><td>Ash pond</td><td>30.21</td><td>19.10</td><td>49.31</td></tr>
<tr><td>Railway Siding (inside Plant boundary)</td><td colspan="3">Included in Coal Handling System (Outside ROU)</td></tr>
<tr><td>Water Supply Pipeline (inside Plant boundary)</td><td colspan="3">Included in Water System (Outside ROU)</td></tr>
<tr><td>Ash Transport Pipeline</td><td colspan="3">Included in Main plant area</td></tr>
<tr><td>Others</td><td>--</td><td>--</td><td>--</td></tr>
<tr><td>Total</td><td colspan="3">505.58</td></tr>
</table>
</td><td></td></tr>
<tr><td>3.</td><td>Land acquisition</td><td>The land is already in possession with TPP.</td><td>Land documents</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>details as per MoEF&CC O.M, dated 7/10/2014</td><td></td><td>are submitted along with EC application.</td></tr>
<tr><td>4.</td><td>Existence of habitation & involvement of R&R, if any</td><td>Project site: No R&R involved.

Study Area:
<table>
<tr><th>S. No.</th><th>Name of Villages</th><th>Distance in Km w.r.t TPP</th><th>Direction</th></tr>
<tr><td>1</td><td>Pathadi</td><td>1.51</td><td>East</td></tr>
<tr><td>2</td><td>Pahanda</td><td>1.57</td><td>East</td></tr>
<tr><td>3</td><td>Khoddle</td><td>1.06</td><td>West</td></tr>
<tr><td>4</td><td>Saragbundia</td><td>1.54</td><td>Southeast</td></tr>
<tr><td>5</td><td>Dhandani</td><td>2.23</td><td>South</td></tr>
<tr><td>6</td><td>Sandail</td><td>3.13</td><td>Southwest</td></tr>
<tr><td>7</td><td>Baridih</td><td>2.89</td><td>West</td></tr>
<tr><td>8</td><td>Katbitla</td><td>3.21</td><td>West</td></tr>
<tr><td>9</td><td>Urga</td><td>3.85</td><td>Northeast</td></tr>
</table>
Schools (within 5 kms)
<table>
<tr><th>S.No.</th><th>Name of schools</th><th>Distance (km)</th></tr>
<tr><td>1</td><td>Govt. Middle school, Khodal</td><td>1.09</td></tr>
<tr><td>2</td><td>Govt. Primary School, Darrabhata</td><td>1.48km</td></tr>
<tr><td>3</td><td>Govt. High schools, Sandail</td><td>2.82</td></tr>
<tr><td>4</td><td>Dhandhani Pratamik Shala</td><td>2.19</td></tr>
<tr><td>5</td><td>Govt. High schools, Patadhi</td><td>1.86</td></tr>
</table>
Health care centres (within 5 kms)
<table>
<tr><th>S.No.</th><th>Heath centre</th><th>Distance (km)</th></tr>
<tr><td>1</td><td>Communty Health centre, Patadhi</td><td>1.77</td></tr>
<tr><td>2</td><td>Sub Health centre, Khoddal</td><td>1.10</td></tr>
<tr><td>3</td><td>Sub Health centre, Pahanda</td><td>2.44</td></tr>
<tr><td>4</td><td>Primary Health Centre, Saragbundia</td><td>1.744</td></tr>
<tr><td>5</td><td>Sub Health Centre, Baridih</td><td>2.87</td></tr>
</table></td><td>Status of R&R. - Not applicable as R&R is not involved as the entire land of 505.58 Ha is under the possession of proponent.</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>Mitigation measures:
Air Quality Management:
• This includes regular maintenance of pollution control equipment. Electrostatic Precipitator (ESP), Low Nox Burner and Dust Extraction & Suppression System will be provided.
• Noise Pollution Control: Deploying sound insulation measures and strengthening noise reduction technologies to minimize noise pollution generated during the plant operations.
• Additionally, ensuring regular monitoring of noise levels and promptly implementing corrective actions as deemed necessary to address any deviations from acceptable thresholds.
• Plantation and Greenbelt will be developed in and around the plant periphery.

Water Quality Monitoring:
• Strengthening of comprehensive water quality monitoring programs to assess the impact of plant operations on local water bodies. Implementing measures to prevent water contamination and ensuring compliance with water quality standards.
• The ash pond is proposed to provide adequate HDPE lining to prevent any seepage into nearby water body. The plant is based on Zero Liquid Discharge (ZLD).
• Adequate storm water system will be provided close to the boundary & same will be connected to Water reservoir.
• Health Education and Awareness: Conducting health education and awareness programs for workers within the TPP and the local community to raise awareness about potential health risks associated with plant operations. Providing information on preventive measures and promoting healthy lifestyle practices.
• Organizing regular health camps that offer free medical check-ups, vaccinations, and screenings for common diseases, ensuring early detection and timely intervention</td><td></td></tr>
<tr><td>5.</td><td>Latitude and Longitude of all corners of the project site.</td><td>A. Plant site
<table>
<tr><th>S.NO.</th><th>LATITUDE</th><th>LONGITUDE</th></tr>
<tr><td>1</td><td>22°15'6.33"N</td><td>82°43'7.97"E</td></tr>
<tr><td>2</td><td>22°15'0.77"N</td><td>82°44'0.33"E</td></tr>
<tr><td>3</td><td>22°14'43.07"N</td><td>82°44'0.14"E</td></tr>
<tr><td>4</td><td>22°14'44.22"N</td><td>82°43'41.72"E</td></tr>
</table></td><td></td></tr>
</table>

S. No.	Particulars	Details			Remarks
		5	22°14'23.52"N	82°43'36.86"E	
		6	22°14'21.68"N	82°43'40.00"E	
		7	22°14'20.87"N	82°43'36.47"E	
		8	22°14'17.87"N	82°43'35.70"E	
		9	22°14'17.30"N	82°43'35.83"E	
		10	22°14'17.28"N	82°43'35.49"E	
		11	22°14'16.24"N	82°43'35.17"E	
		12	22°14'16.24"N	82°43'34.34"E	
		13	22°14'13.38"N	82°43'32.92"E	
		14	22°14'13.28"N	82°43'33.35"E	
		15	22°14'11.99"N	82°43'33.15"E	
		16	22°14'12.02"N	82°43'32.85"E	
		17	22°14'10.26"N	82°43'32.39"E	
		18	22°14'10.15"N	82°43'32.84"E	
		19	22°14'8.52"N	82°43'32.50"E	
		20	22°14'7.59"N	82°43'31.66"E	
		21	22°14'7.72"N	82°43'30.45"E	
		22	22°14'5.72"N	82°43'30.18"E	
		23	22°14'5.88"N	82°43'28.86"E	
		24	22°14'5.14"N	82°43'28.76"E	
		25	22°14'5.18"N	82°43'27.02"E	
		26	22°14'4.20"N	82°43'26.95"E	
		27	22°14'4.25"N	82°43'25.51"E	
		28	22°14'5.22"N	82°43'25.54"E	
		29	22°14'5.11"N	82°43'23.62"E	
		30	22°14'4.28"N	82°43'23.72"E	
		31	22°14'4.23"N	82°43'23.18"E	
		32	22°14'4.99"N	82°43'23.01"E	
		33	22°14'4.43"N	82°43'20.01"E	
		34	22°13'59.37"N	82°43'19.04"E	
		35	22°13'59.18"N	82°43'21.21"E	
		36	22°13'55.91"N	82°43'21.07"E	
		37	22°13'54.04"N	82°43'18.77"E	
		38	22°13'50.92"N	82°43'18.79"E	
		39	22°13'46.48"N	82°43'17.76"E	
		40	22°13'45.49"N	82°43'19.90"E	
		41	22°13'42.42"N	82°43'19.13"E	
		42	22°13'42.18"N	82°43'21.70"E	
		43	22°13'33.75"N	82°43'20.93"E	
		44	22°13'33.89"N	82°43'22.89"E	
		45	22°13'33.02"N	82°43'23.20"E	
		46	22°13'32.19"N	82°43'21.02"E	
		47	22°13'26.43"N	82°43'20.15"E	

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>48</td><td>22°13'27.99"N</td><td>82°42'47.90"E</td></tr>
<tr><td>49</td><td>22°13'28.84"N</td><td>82°42'46.86"E</td></tr>
<tr><td>50</td><td>22°13'31.54"N</td><td>82°42'43.97"E</td></tr>
<tr><td>51</td><td>22°13'33.50"N</td><td>82°42'44.19"E</td></tr>
<tr><td>52</td><td>22°13'34.79"N</td><td>82°42'44.79"E</td></tr>
<tr><td>53</td><td>22°13'35.08"N</td><td>82°42'44.14"E</td></tr>
<tr><td>54</td><td>22°13'38.78"N</td><td>82°42'45.17"E</td></tr>
<tr><td>55</td><td>22°13'39.30"N</td><td>82°42'44.59"E</td></tr>
<tr><td>56</td><td>22°13'43.63"N</td><td>82°42'44.36"E</td></tr>
<tr><td>57</td><td>22°13'44.43"N</td><td>82°42'38.54"E</td></tr>
<tr><td>58</td><td>22°13'38.75"N</td><td>82°42'38.32"E</td></tr>
<tr><td>59</td><td>22°13'43.80"N</td><td>82°42'27.34"E</td></tr>
<tr><td>60</td><td>22°13'48.92"N</td><td>82°42'24.12"E</td></tr>
<tr><td>61</td><td>22°13'52.57"N</td><td>82°42'18.49"E</td></tr>
<tr><td>62</td><td>22°13'52.51"N</td><td>82°42'16.70"E</td></tr>
<tr><td>63</td><td>22°13'54.28"N</td><td>82°42'16.27"E</td></tr>
<tr><td>64</td><td>22°13'54.58"N</td><td>82°42'17.48"E</td></tr>
<tr><td>65</td><td>22°14'10.64"N</td><td>82°42'13.01"E</td></tr>
<tr><td>66</td><td>22°14'21.59"N</td><td>82°42'24.39"E</td></tr>
<tr><td>67</td><td>22°14'26.38"N</td><td>82°42'22.46"E</td></tr>
<tr><td>68</td><td>22°14'31.34"N</td><td>82°42'34.44"E</td></tr>
<tr><td>69</td><td>22°14'36.18"N</td><td>82°42'33.39"E</td></tr>
<tr><td>70</td><td>22°14'35.96"N</td><td>82°42'37.31"E</td></tr>
<tr><td>71</td><td>22°14'43.35"N</td><td>82°42'37.87"E</td></tr>
<tr><td>72</td><td>22°14'41.49"N</td><td>82°43'6.09"E</td></tr>
</table>
B. Ash Pond
<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>22°14'25.56"N</td><td>82°42'42.84"E</td></tr>
<tr><td>B</td><td>22°14'24.25"N</td><td>82°43'15.48"E</td></tr>
<tr><td>C</td><td>22°14'6.95"N</td><td>82°43'14.13"E</td></tr>
<tr><td>D</td><td>22°14'9.29"N</td><td>82°42'41.31"E</td></tr>
</table>
</td><td></td></tr>
<tr><td>6.</td><td>Elevation of the project site</td><td>280-309 M above mean sea level</td><td></td></tr>
<tr><td>7.</td><td>Involvement of Forestland if any.</td><td>Nil and Not applicable</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><u>Project site</u>
Name: Korba Power Limited
Study area:
<table>
<tr><th>Water body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Hasdeo River</td><td>2.4 km (from Plant Boundary)</td><td>NW</td></tr>
</table>
Highest HFL of Hasdeo river recorded is 271.60 m (MSL) while the plant is at an elevation of approx.280-309 m above mean sea level. The project</td><td>HFL of Hasdeo river is 271.60 m (letter of HFL is obtained from WRD Korba, vide letter dated 20.11.2024)</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>site is located at substantial higher elevation compared to the HFL of the river.</td><td></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>Study area : NA
List of Reserved and protected forests:<table><tr><th>S. No.</th><th>Particulars</th><th>Distance (km)</th><th>Direction</th></tr><tr><td>1</td><td>Barpall R. F.</td><td>2.2</td><td>SW</td></tr><tr><td>2</td><td>Kudri P.F.</td><td>6.5</td><td>NNE</td></tr><tr><td>3</td><td>Tuman P.F.</td><td>7.3</td><td>SE</td></tr><tr><td>4</td><td>Bathapara R. F.</td><td>7.6</td><td>ESE</td></tr><tr><td>5</td><td>Pondibahar P.F.</td><td>7.8</td><td>NNE</td></tr><tr><td>6</td><td>Ramapara P. F.</td><td>9.5</td><td>SE</td></tr><tr><td>7</td><td>Sakti R.F.</td><td>11</td><td>ESE</td></tr></table></td><td>NOC from Forest Department, Korba has been obtained vide Letter no. 2810 dated 13.05.2025 for No Protected Area in study area.</td></tr>
<tr><td>10.</td><td>Archaeological sites monuments/ historical temples, etc.</td><td>There are no Archaeological sites present within 10 km of the study area.</td><td>--</td></tr>
<tr><td>11.</td><td>Facility envisaged in CRZ area</td><td>Not Applicable</td><td>--</td></tr>
<tr><td>12.</td><td>Involvement Of Critically Polluted Area/Severely Polluted area as per 2018 CEPI score</td><td>Not Applicable</td><td>There is no CPA/SPA declared by CPCB.</td></tr>
</table>

26.1.9: 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	(2x300) 600 MW Sub Critical	1320 (2x660) MW Super Critical	1920 MW	Sub & Super Critical

26.1.10: The details of the coal requirement for the existing and proposed project along with its source and mode of transportation is given as below.

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP	3.30	SECL, Korba	Within 50 Km	Rail	Ash<40 (%) Sulphur <0.5 (%) Moisture-13 (%) GCV - 3200-3500 Kcal/Kg	FSA and E-auction
Proposed TPP	5.24	Korba/Raigarh coal mines of Southeastern Coalfields (SECL) and e-auction.	Within 50 Km	Rail	Ash<40 (%) Sulphur <0.5 (%) Moisture-13 (%) GCV - 3200-4300 Kcal/Kg	FSA and E-auction

26.1.11: Water requirement: Existing Water requirement is 43835 m^3/day, water requirement is obtained from Hasdeo River and permission for the same has been obtained from WRD, Chhattisgarh vide letter no 5461/266/JS/TASA/02/ Raipur dated 17.11.2004. The water requirement for the proposed project is estimated as 104110 m^3 /day, out of which 104110 m^3/day of freshwater requirement which will be meet from the Hasdeo River. The permission for surface water is obtained from WRD on dated 03.12.2009, 14.02.2025 vide Lr. No. 918/TAK/MA. Korba power Ltd./2024-25 dated 19.03.2025. The water will be transported to the plant site through pipelines. The specific water consumption for the proposed power plant will be < 3.0 m^3/MWhr.

26.1.12: Power requirement: Existing power requirement of 42 MW is obtained from own Thermal Plant i.e, AUX consumption. The power requirement for the proposed project is estimated as 106 MW, and will be obtained from the own plant, i.e, AUX consumption.

26.1.13: Base line Environment Studies:

Period	October 2024 to December 2024
AAQ parameters at 11 Locations (min and max)	$PM_{2.5}$: 52 μg/m^3 – 20.5 μg/m^3 PM_{10}: 68.1 μg/m^3 – 28.1 μg/m^3 SO_2: 19.6 μg/m^3 – 1.5 μg/m^3 NOx: 19.2 μg/m^3 – 2.1 μg/m^3 CO: 0.22 mg/m3 – 0.04mg/m^3
Incremental GLC level	PM_{10} = Max. GLC: 0.707 μg/m^3 SO_2 = Max GLC: 12.7 μg/m^3 NOx = Max GLC: 6.36 μg/m^3
Air pollution control measures	• Emission standards shall be as per MoEF&CC notification S.O. 3305(E) dated 7.12.2015, & its amendments. • To control the emission of particulates, High Efficiency 99.99 % electrostatic precipitators (ESPs) will be provided. • FGD as per the provision of MoEF&CC notification no. G.S.R 593 (E) dated 28/06/2018 related to FGD, as amended, and the outcome of the study by CPCB/MoEF&CC. • To control NOx emission, supercritical boilers having advanced "SOFA" Separated Over-Fire Air & low NOx generation system will be installed. • For the control of fugitive dust emission within and around the coal handling plant, coal dust extraction system with pulse jet bag filter and suppression systems will be provided. • A Twin flue stack with a stack height of 275 m will be provided. • Low NOx Burners
Ground water quality at 15 locations	pH: 6.92 to 7.58, total Hardness (as CaCO3): 136mg/lit – 420 mg/lit; Chloride; 18 mg/lit to 138 mg/lit, Fluoride: 0.16 mg/lit to 0.22 mg/lit; Heavy metals like Copper (as Cu) - BLQ(LOQ-0.01), Lead (as Pb) - BLQ(LOQ- 0.005), Cadmium (as Cd) - BLQ(LOQ-0.002), Chromium (as Cr) - BLQ(LOQ-0.02), Arsenic (as As)- BLQ(LOQ-0.005) and Mercury (as Hg)- BLQ(LOQ-0.001).
Surface water quality at 08 location	pH 6.88 to 7.53, Dissolved Oxygen: 5.0 to 6.0 mg/lit; BOD; BLQ (2.0 to 6 mg/lit; COD: from 6 to 29 mg/lit.
Effluent generation details and its treatment	• Various effluent streams (1296 KLD) will be collected in CMB. ETP (1440 KLD) is proposed comprising of pH correction followed by PSF, UF & RO etc. to make suitable for reuse in DM Plant makeup / CW (Cooling Water) make-up. • Domestic wastewater generation – Domestic wastewater of 8 KLD will be treated through STP of 10 KLD capacity through latest MBBR Technology. • Mode of treatment & reuse - Treated water will be utilized for greenbelt and plantation purpose. • The plant is based on Zero Liquid Discharge (ZLD) concept.
Noise levels Leq (Day and Night) at 11 locations	The Leq values for daytime was observed to be 48.7 to 44.9 dB (A), while during nighttime 39.3 to 36.3 dB (A).

<table>
<tr><td>Traffic assessment study findings</td><td>

Traffic study has been conducted for one month.
Traffic study has been conducted at NH-149 B and NH 130 A which is approximately 0.02 Km (distance) and 4.4 km respectively connecting the plant site.
Transportation of raw material will be done by road.

Existing PCU is 6,625.3 PCU/day and 6,186.5 PCU/day on NH-149 B and NH 130 A respectively and existing level of service (LOS) is A and B respectively.
<table>
<tr><th>Road</th><th>Volume (in PCU/Day)</th><th>Capacity (in PCU/Day)</th><th>Existing V/C Ratio</th><th>LOS</th><th>Performance</th></tr>
<tr><td>NH-149 B</td><td>6,625.3</td><td>35000</td><td>0.18</td><td>A</td><td>Excellent</td></tr>
<tr><td>NH-130 A</td><td>6,186.5</td><td>15000</td><td>0.4</td><td>B</td><td>Very Good</td></tr>
</table>
PCU load after proposed expansion project:
<table>
<tr><td rowspan="2">Road</td><td rowspan="2">Existing LOS</td><td colspan="4">Changed V/C and LOS after adding generated traffic from operational phase of proposed expansion project</td></tr>
<tr><td>V</td><td>C</td><td>V/C</td><td>Modified LOS</td></tr>
<tr><td>NH-149 B</td><td>A ‘Excellent’</td><td>6625.3 + 1218= 7843.3</td><td>35000</td><td>0.2</td><td>A ‘Excellent’</td></tr>
<tr><td>NH-130 A</td><td>B ‘Very Good’</td><td>6,186.5+1218=7404.5</td><td>15000</td><td>0.4</td><td>B ‘Very Good’</td></tr>
</table>
Conclusion: The level of service will be A and B after including additional traffic due to the proposed expansion project.
</td></tr>
<tr><td>Soil Quality at 11 Locations</td><td>pH range 7.45 to 7.65; Electrical conductivity (EC); 0.280 to 0.350µmhos/cm; calcium content: 84 to 138 mg/kg; potassium: 135 to 190 mg/kg; Phosphorous: 11.6 to 14.1 mg/kg; Magnesium: 42 to 62 mg/kg; Organic Matter: 0.82% to 0.96%</td></tr>
<tr><td>Flora and fauna</td><td>As per the revised categorization given in the Wildlife (Protection) Amendment Act, 2022, total 25 Schedule I Species found in the buffer zone during field survey and secondary sources. Out of 25 Schedule I Species, 8 are mammals, 11 are avifauna and 6 herpeto-fauna.
The List of Flora & Fauna is duly authenticated by DFO, Korba vide letter dated:13.05.2025.
A Wildlife Conservation & Management Plan (WLCP) has been prepared and submitted to Principal Chief Conservator of Forest (Wildlife), Govt. of Chhattisgarh on dated 04.04.2025 for approval and the same is reported to be under process.</td></tr>
</table>

Hydrogeology study

The action plan to address the recommendation of the **Hydrogeology report** and Watershed management plan are as below:

S. No.	NIT Recommendations	Action Plan	Consultant details:
1	Since, for some samples, the TDS value was found to be above the acceptable TDS limit, it is recommended to monitor the TDS levels to prevent problems due to scaling in the plant's operations.	Water quality monitoring shall be done once a month through NABL accredited laboratory to monitor TDS Level.	The hydrogeology study report has been **Vetted by NIT Delhi**
2	As the value of hardness as CaCO3 for some samples were close to the upper permissible limit (600 mg/l), it is suggested to ensure that the plant has a scheduled descaling and maintenance plan for equipment where scaling is a concern, particularly in heat exchangers and steam boilers.	Water quality monitoring shall be done once in a month engaging NABL accredited laboratory to track hardness as CaCO3 content and corrective/preventive actions will be taken based on findings in the report.	
3	By reviewing the report, it was found that the value of alkalinity for some sample exceeds the 'acceptable limit as per Indian Drinking Water Standards 10500:2012. It is recommended to suggest some preliminary treatment measures for ensuring operational	Korba TPP will establish a periodic monitoring system through NABL accredited laboratory to regularly monitor the alkalinity levels and ensure they remain within the acceptable limits.	

		efficiency of the plant.		
	4	As the drainage density in the area was found to be low, indicating that there might be a higher risk of flooding and soil erosion. It is recommended to incorporate possible erosion control measures in study in future to ensure effective water resource management.	To address the low drainage density, the measures below shall be adopted: 1. Vegetative Cover: Planting vegetation such as grass, shrubs, and trees will help stabilize the soil and reduce erosion. The roots of these plants bind the soil particles together, making it less susceptible to erosion. 2. Terracing: Constructing terraces on slopes will further slowdown water runoff and reduce soil erosion. Terraces act as barriers that break the flow of water, allowing it to infiltrate into the soil rather than washing it away. 3. Retention Basins: Building retention basins can help manage excess water during heavy rainfall. These basins temporarily store runoff water, reducing the risk of flooding and allowing sediment to settle before the water is released. 4. Riprap: Using riprap, which consists of large stones or concrete blocks, to protect soil from erosion in areas with high water flow to prevent soil erosion.	
Ecological Assessment and Wildlife Conservation & Management Plan for Phase II Expansion of Korba TPP	**Recommendations of study report**: • Restoring degraded landscapes, including grasslands and scrub forests, to provide suitable habitats. • Mitigating Human-Wildlife Conflict by protection measures such as predator proof enclosures. • Using Camera traps, GPS collars, to track movement and behaviour of wildlife.			

Risk Assessment Study	Project specific risk assessment with respect to storage of LDO, furnace oil & coal storage and other hazardous chemicals is included in Final EIA-EMP Report. The appropriate preventive measures and necessary safeguards such as toxic and flammable gas detectors, alarm / interlock systems, breathing apparatus for working personnel, fire protection systems such as fire extinguishers, water curtain, fire water hydrants in place, the untoward consequences, and the major risk due to the same could be eradicated.

26.1.14: 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	Municipal Solid Waste	Plant Canteen	70	Collected; segregated using color coded waste bin, Organic waste converters (OWC)	Inorganic will be disposed via local municipal authorized vendor & Organic/Biodegradable waste by OWC.	-
2	E-waste	IT & Telecom Equipment	3.5 TPA	Collected; segregated	Registered Recycler vendor	
3	Battery waste from UPS	Automotive & Industrial	6.5 TPA	Collected; segregated	Authorized Vendor	
4	Bio medical waste	First aid center	0.1 TPA	Collected; segregated	Authorized vendor	
5	Hazardous Waste	Plant Operation	Empty Barrels/ Containers/ Contaminated Liners – 15 TPA, Used/ Spent Oil – 100 TPA, TPA, Waste or residues containing oil – 5.0 TPA		Registered Recyclers/Pre-processors with SPCB & Authorized Recyclers	

26.1.15: Public Consultation: Public hearing for the 2x660 MW (Phase - II) is exempted as per S.O. 1247(E) dated 18.03.3021. However, the budget allocated for CER activities to address the public needs highlighted during public hearing held on 25/07/2007 & 07/01/2009 for Unit 3 & 4 is as below:

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

S. No	Key Area Identification to address the Public needs highlighted during Public Hearing	Time bound (Year wise) expenditure (in Crores)			Budget (in Crores)
		1st	2nd	3rd	
A	**Educational Initiatives**				
	Modernization, Repair & construction/maintenance of identified **Primary / Higher Secondary School of nearby villages** of the project site in consultation with Local Government/School Authorities in villages Khoddle & Pathadi.	0.74	0.88	0.88	2.50
	Distribution of drinking water filters/Drinking water coolers in schools in Pathadi, Khoddle, Urga & other nearby villages.	0.25	0.50	0.50	1.25
	Program for skill improvements of teaching staffs in govt. school.	0.35	0.70	0.70	1.75
	Online courses for students in emerging technologies such as Artificial Intelligence, **Electric Vehicles, Renewable Energy etc**. to equip students with job-ready skills through **Adani Skill Development Centre (ASDC).**	0.10	0.20	0.20	0.50
	Sub Total	**1.44**	**2.28**	**2.28**	**6.00**
B	**Community Health Initiatives (PHC's and CHC's)**				
	Development of hospitals, strengthening of PHC's & CHC's, and improvement of health facilities in villages Pathadi, Khoddle & Sarangbundia.	0.65	1.00	1.00	2.65
	Rural Medical Camps through Medical Team of **Primary Health Centre** @ 4 Nos. of camps per month (@ 60 patients per camp), Safe Menstrual Hygiene Management Awareness, Mega Health Camp, Cataract Screening & Operation in Pathadi, Khoddle, Urga, Sarangbundia & other nearby villages. **Sanitary napkin vending & disposal machine, provision of Girls' Toilets with regular water supply facilities.**	0.75	0.75	0.75	2.25
	Promotion of awareness of malnutrition and anemia.	0.20	0.20	0.20	0.60
	Promotion of Poshan Vatika at backyard of villagers & Project Suposhan.	0.30	0.35	0.35	1.00
	Sub Total	**1.90**	**2.30**	**2.30**	**6.50**
C	**Skill Development, Sustainable Livelihood and Women Empowerment**				
	Adani Skill Development Centre (**ASDC/SDC**) to train the youth under different trades viz. Welding, Fitting, Masonry & Bar-bending, Electrical,	0.75	1.00	1.00	2.75

S. No	Key Area Identification to address the Public needs highlighted during Public Hearing	Time bound (Year wise) expenditure (in Crores)			Budget (in Crores)
		1st	2nd	3rd	
	industrial machine operating & digital literacy/smart classes.				
	Development & Support for Drip irrigation, assistance for mushroom, vegetable cultivation and livestock management in core zone villages.	0.5	0.5	0.75	1.75
	Sub Total	**1.25**	**1.50**	**1.75**	**4.50**
D	**Community Infrastructure Development**				
	To provide facility for potable Drinking Water, RO Plants and water supply system through overhead tank in villages Pathadi, Sarangbundia & other nearby villages.	0.36	0.37	0.37	1.10
	Repairing, strengthening & Maintenance of Existing roads in consultation with Local Administration.	1.00	1.00	1.00	3.00
	Upgradation & Renovation of sanitation facilities such as toilets in schools & in nearby villages with priority for females.	0.35	0.90	0.90	2.15
	Provision of **Solar Power and Street** lighting/panels in nearby schools, local health centers of nearby villages, green nurturing programs. Tree plantation in Govt. School and Community Health Centre in Pathadi, Sandail Khoddle, Sarangbundia & other nearby villages	0.15	0.50	0.50	1.15
	Sub Total	**1.86**	**2.77**	**2.77**	**7.40**
	Sports & Culture Development				
	Promotion of sports for youths and women.	0.15	0.10	0.10	0.35
	Cultural activities for villagers	0.05	0.10	0.10	0.25
	Sub Total	**0.20**	**0.20**	**0.20**	**0.60**
Total Budget		**6.65**	**9.05**	**9.30**	**25.00**

26.1.16: Cost of project: The existing capital cost of project was Rs. 2400 Crore. The capital cost of the proposed project is Rs. 8497 Crores and the capital cost for environmental protection measures is proposed as Rs. 973 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 58.98 Crores. The employment generation from the proposed project/expansion is 350 no. The details of cost for environmental protection measures as follows:

S.No.	Description of Item	Existing (Rs. In Crores)		Proposed (Rs. In Crores)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost

S.No.	Description of Item	Existing (Rs. In Crores)		Proposed (Rs. In Crores)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
1	Air Pollution Control	122.41	7.34	509.0	30.54
2	Noise Control	0.72	0.04	3.0	0.18
3	Water Pollution Control	51.22	3.07	213.0	12.78
4	Ash Management	50.5	3.03	210.0	12.6
5	Environmental Monitoring & Management	6.73	0.4	28.0	1.68
6	Green Belt Development	2.40	0.14	10.0	0.6
7	Addressal of Public Consultation issues	--	0.92	25.0	2.5

26.1.17: Green belt development: Existing green belt has been developed in 85.21 ha area which is about 33.13 % of the total project area of 257.20 ha with total sapling of 2,48,000 nos. trees. The proposed greenbelt will be developed in 84.07 Ha which is about 33.84% of the total proposed project area of 505.58 Ha. Thus, total of **169.28 ha** area (**33.48 % of total project area**) will be developed as greenbelt. A 10m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 458175 saplings will be planted and nurtured in 169.28 hectares in 5 years. The following five-year action plan for proposed plantation and Green belt development is submitted by PP.

Year	Plantation area		Cost of saplings with maintenance	
	rea (ha)	lantation target	Capital cost	Recurring cost/Annum
2025-26	15	37500	Saplings Cost Rs. 7.5 Cr (Cost of sapling Rs.350/Plant)	Maintenance Cost Rs. 2.10 Cr (Rs.100/Plant)
2026-27	20	50000		
2027-28	24	60000		
2028-29	25	62675		
2029-30	Maintenance & Casual replacement			Rs. 0.40 Cr.
Total	84.07	2,10,175	7.5 crore	2.5 crore
*Local species will be preferred for plantation.				

26.1.18: Ash management (for the last three years)

Year	Quantity generated (MTPA)	Quantity utilized (MTPA)	% of utilization	Balance quantity (MTPA)	No. of storage silos with capacity
FY 2022-23	1.03	1.46	141.74	…	3000 MT (2x1500 MT)
FY 2023-24	1.13	0.91	80.53	0.22	
FY 2024-25	1.24	1.16	93.90	0.08	

A. Fly ash details for the last three years = 2.95 MTPA (Utilization)

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks
1.	Fly ash-based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	0.099	3.35	….
2.	Cement manufacturing	1.219	41.24	….
3.	Filling up of Stone Quarry /Voide Mines/low lying area	1.638	55.41	NOC from CECB has been obtained
	Total	**2.95**	**100**	…

B. Bottom ash details for last three years = 0.57 MTPA (Utilization)

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks
1.	Construction of roads, road and fly over embankment	0.283	49.39	….
2.	Filling up of Stone Quarry /Void Mines/low lying area	0.29	50.61	NOC from CECB has been obtained
	Total	**0.57**	**100**	--

C. Legacy ash details**:** NIL

D. Ash Pond details**: -**

S. No.	Details of Ash Pond	Ash pond 1
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	Active
2.	Area (Ha)	30.21
3.	Dyke height (m)	28.5
4.	Volume (m^3)	86,09,850 m^3
5.	Quantity of ash disposed (MT)	65,70,209 MT
6.	Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons)	23.69 % & 2,039,641 MT
7.	Expected life of ash pond (number of years and months)	15 Years considering April 2025
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	LDPE & HDPE
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	LCSD
10.	Ratio of ash: water in slurry mix (1:___):	1:4

S. No.	Details of Ash Pond	Ash pond 1
11.	Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes
12.	Quantity of wastewater from ash pond discharged into land or water body (m^3)	00
13.	Last date when the dyke stability study was conducted and name of the organization who conducted the study:	March 2025 Visvesvaraya National Institute of Technology (VNIT), Nagpur, Maharashtra
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	November 2024, NIT Rourkela

E. Proposed ash utilization plan for expansion project

Details	Existing generation (Phase- 1) (MTPA)	Proposed generation (Phase- II) (MTPA)	Total	Utilization (MTPA)	% of utilization	Balance quantity (MTPA)	No. of storage silos with capacity
Ash	1.31	2.10	3.41	3.41	100	…	Existing units- 2x1500 MT Proposed- 3x2200 MT

Ash pond details: Proposed ash pond for Unit 3 & 4 is given as below:

S. No.	Details of Ash Pond (Phase II)	Ash pond
1.	Area (Ha)	19.10
2.	Dyke height (m)	12 meter
3.	Volume (m^3)	--
4.	Quantity of ash to be disposed (Metric Tons)	2.30 million metric ton
5.	Expected life of ash pond (number of years and months)	22 years
6.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HDPE
7.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD
8.	Ratio of ash: water in slurry mix (1:___):	65:35
9.	Ash water recycling system (AWRS): Yes or No	Yes

26.1.19: Summary of violation under EIA, 2006/court case/ show cause/ direction if any, related to the project under consideration.

A. Summary of court cases: Nil. There are no cases pending with respect to environment related matters. However, there are 14 cases pending in different courts with respect to civil and labor laws related matter.

B. Summary of Show Cause Notices: There are no Show Cause Notices pertaining to

Environment & Forest.

C. Summary of violation: There is no any violation case pertaining to the project under the Environment Protection Act, 1986; Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980; the Wildlife (Protection) Act, 1972.

26.1.20: Compliance to the observations of sub-committee site visit report.

The sub-committee visited Korba Power Limited on 5th-6th April 2025. PP submitted the following response for the observation made by the sub-committee.

Finding of Sub-Committee	Response submitted by proponent
The actual area in Korba TPP premises is 505.8 ha and the PP has already developed greenbelt/ plantation of 85.21 ha within the plant premises. Further 84.o7 ha area is proposed for Greenbelt/Plantation under Stage II which leads to total of 33.48% of the total area. The subcommittee visited the plantation site and found the satisfactory plantation and green belt development has been done. The PP was instructed to do plantation along the boundary of the project area and also in vacant area within the plant with suitable plant species in consultation with the Agriculture/ Horticulture/ Forest Department. A phase wise plantation program for next 5 years is needed.	**Noted and agreed**. KPL has proposed 84.07 ha area for green belt /Plantation under Phase II. Phase wise plantation plan for next 5 years is prepared and same will be implemented in consultation with the Agriculture/ Horticulture/ Forest Department. Fund for Green belt/Plantation is approx. 10.0 crore.
FGD was constructed for the Phase-I however, 2 (Two) FGDs are proposed for the Phase-II project.	The space provision has already considered and as per the MoEF&CC notification vide dated 07.12.2015 and as amended vide G.S.R 593(E) dated 28.06.2018 and GSR 787(E) dated 30.12.2024, KPL will comply all directives/notification of MoEF&CC regarding installation of FGD.
Active ash pond of 30.21 ha areas is present related to Phase I project. For the phase-II expansion project, additional land of 19.10 ha will be utilised for ash pond. The subcommittee visited the ash pond site and suggested the PP to do fencing all around the ash pond dyke and provide water sprinkling at then loading site of the fly ash. Further, construction of the concrete toe-drain with adequate capacity is required to accommodate flow off rainwater from the slopes of the ash dyke during the rainy season and also the leakage or seepage of	**Noted and compliance assured**. Fencing, toe drain, and water sprinklers will be implemented in phased manner.

Finding of Sub-Committee	Response submitted by proponent
water from the ash pond.	
It has been noted that 91.3% ash utilization was done during the year 2024-25. The PP should prepare a phase wise plan for 100% utilization of fly ash (including legacy ash) within three years.	**Being complied** As per the fly ash notification 2021, Ash utilization in FY 2021-22 was 75.45% so KPL falls under 4 years compliance cycle and will achieve 100% ash utilization by FY 2025-26
PP has informed that two numbers of CAAQMS installed and two more are proposed for expansion project. Subcommittee physically visited one of the CAAQMS one located within the plant premises and noted the regarding of PM10 which was found to be well within the permissible limits. The PP should properly maintain the CAAQMS and also regularly monitor the air quality.	**Noted** The CAAQMS operation and maintenance is being maintained in proper manner on regular basis.
Some common facilities i.e, railway siding, Ash dyke, STP will be used for Stage II also. STP was very small in size/capacity and non-functional, which needs to be rectified and expanded.	The common facilities will be developed along with the phase II construction phase with adequate capacities.
Piezometer was not installed. PP needs to install the same.	The piezometer has already been installed and operational. Additional Piezometer will be installed under Phase II**.**
Under CSR activity, emphasis shall be on the skill development training to the unemployed youth and women residing in the nearby villages. Also, the PP shall join hands in training with National Skill Development Corporation (NSDC) for greater good and outreach.	**Noted and agreed**. CSR activities are being executed in consultation with local authorities in the vicinity of TPP on the need based and Adani Foundation has already developed a dedicated cell. Adani Skill Development Centre which provides Vocational trainings based on skill to youth and women residing in the nearby villages.

26.1.21: Comments of CECB as per MoEF&CC O.M. dated 14/01/2025

Instant proposal was accorded ToR on 05/03/2025. It was apprised to the EAC that as per the Ministry's O.M. dated 14.01.2025, wherein it has been decided that MoEF&CC while granting Terms of Reference (ToR) shall forward the copy of ToR parallelly to the concerned SPCB with request to upload their comments for incorporating the CTE conditions in the EC itself. In this regard, for the instant proposal, the comments of CECB has been solicited. Accordingly, CECB provided the following comments:

1. Low-NOx burners should be installed in the proposed units to control NOx emissions.

2. Fly ash generated from the proposed units should be disposed of in accordance with the provisions of Fly Ash Notification 2021, as amended and the proposed ash dyke should also be established in accordance with the said notification.
3. Wastewater generated from the process and other sources such as ash dyke etc. should be treated and reused to ensure zero discharge.
4. 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.
5. With the establishment of the proposed expansion units, 02 nos. of additional CAAQMS should be installed.
6. Maximum trees as possible should be planted inside and outside the industrial premises as per availability of land and tree plantation should be encouraged in the surrounding areas through local bodies and administration.
7. Noise pollution control equipment such as acoustic enclosures etc. should be installed in turbines and other noise-generating areas.

In addition to the above, proponent paid a fee of Rs. 70.0 Lakhs towards CTE Fees online through CECB Portal on 31.05.2025.

26.1.22: Written submissions

The proponent vide letter dated 20th June 2025 has submitted the following written submission as suggested by the EAC during the meeting.

1) The Plantation/Greenbelt will be developed along the periphery of the TPP in available land area and in about 4 Hectares, Greenbelt will be developed over the span of 2 years through Miyawaki Plantation and about 10,000 trees per hectare i.e. approx. 40,000 native tree saplings will be planted.
2) The Latest Emission norms for PM, SO_2, NO_x will be complied and followed in accordance with MoEFCC time-to-time directives and notification dated 07.12.2015 and subsequent amendments. Plant is based on ZLD, wastewater parameters will be complied as per MoEF&CC/CPCB/SPCB prescribed standard.
3) Korba Power Limited will follow the Ash Notification 2021 and its subsequent amendments for Fly Ash utilization, MoU with Adani Group Cement companies as ACC Limited, Ambuja Cement Limited, etc. and SECL for Mine void filling is submitted.
4) Manual stack monitoring with CO & CO_2 in Flue Gas is already being carried out.
5) Compliance and adherence to the findings/observation suggested by the EAC subcommittee during the site visit.
6) Assurance for Compliance and adherence to suggestions/comments provided by Chhattisgarh Environment Conservation Board (CECB) in compliance of MOEFCC OM dated 14.01.2025.

Observations and deliberation of the EAC

26.1.23: The Committee observed and noted the following:

i. Instant proposal is for seeking fresh Environmental Clearance for 2x660 MW (unit no 3 & 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 study conducted by the M/s Development Consultants Pvt. Limited, the physical progress report of 2x660 MW TPP (Unit No. 3 & 4) is reported to be about 77%.

iii. The existing project was accorded Environmental clearance vide letter dated 19.11.2004 and EC transfer from Lanco Amarkantak Power Limited to Korba Power Limited was accorded vide letter dated 13.01.2025. The EC was granted for Unit 3 (1x660) MW vide letter dated 31.12.2007 and subsequently amended on 04.09.2008 followed by validity extension on 19.02.2014. The EC for Unit 4 (1x660) MW was accorded vide letter dated 26.05.2010 and validity extension on 22.06.2015 and 17.05.2018. Consent to Operate for the existing unit (2x300 MW) was accorded by State Pollution Control Board (CECB) vide letter dated 15.04.2024. The validity of CTO is up to 31.05.2027.

iv. Unit 1 &2 are operational with a valid CTO up to 31.05.2027. Unit 3&4 is under construction and more than 75% of TPP construction activities have been completed. Further, Project proponent has submitted an adequacy certificate from the technology supplier regarding the structures already erected for 2x660 MW (unit 3 & 4) at the project site. M/s. Simcon Technology Pvt. Ltd. has conducted Structural Condition/Stability Assessment of already erected buildings, Systems & their foundation of Unit 3 & 4 of Korba TPP and found to be safe and stable as per the design requirements.

v. 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 portal.

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

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

viii. The Status of compliance of EC (for unit 2×300MW) was obtained from Regional Office, Raipur, MoEF&CC on 05.05.2025 by RO, Raipur. The Action taken report regarding the partially/non-complied conditions has been submitted to RO, MoEF&CC, Raipur vide letter dated 08.05.2025. The report has been deliberated by the committee and found it satisfactory.

ix. ToR was granted vide letter dated 05.03.2025. PH was exempted by the EAC as per S.O. 1247(E) dated 18.03.3021. However, the budget of Rs. 25 Cr has been allocated to address the public needs highlighted during public hearing for Unit 3 & 4 held on 25/07/2007 & 07/01/2009 respectively.

x. Total land of 505.58 ha is required for the project including 114.94 ha for existing units 1 & 2 and 137.81 ha for unit 3 &4. The land is already under the possession of M/s Korba Power Limited. Out of total project area of 505.58ha, an area of 169.28 Ha land is for green belt. Overall, the proposed expansion is within the plant premises area and no additional land acquisition is envisaged for the

proposed expansion project.

xi. There is no involvement of forestland. There are Reserve Forest and Protected Forest within 10 km distance from the project site as ascertained from DSS. PP has obtained No Objection Certificate from Forest department Korba vide letter no. 2810 dated 13.05.2025.

xii. As per the revised categorization given in the Wildlife (Protection) Amendment Act, 2022, total 25 Schedule I Species found in the buffer zone during field survey and secondary sources. The List of Flora & Fauna is duly authenticated by DFO, Korba vide letter dated:13.05.2025. A Wildlife Conservation & Management Plan (WLCP) has been prepared and submitted to Principal Chief Conservator of Forest (Wildlife), Govt. of Chhattisgarh on dated 04.04.2025 for approval and the same is under process.

xiii. Hasdeo River is located at 2.4 km from the project boundary. Water Resource Department vide letter dated 20/11/2024 has given certificate regarding HFL level of Hasdeo River at Gadarwara, which is 271.60m. Highest HFL of Hasdeo river recorded is 271.60 m (MSL) while the plant is at an elevation of approx.280-309 m above mean sea level. The project site is located at substantial higher elevation compared to the HFL of the river.

xiv. The water requirement for the proposed project is estimated as 104110 m^3 /day which will be met from the Hasdeo River. The permission for surface water is obtained from WRD on dated 03.12.2009 and 14.02.2025. The water will be transported to the plant site through pipelines.

xv. Existing power requirement of 42 MW is obtained from own TPP, i.e, AUX consumption. The power requirement for the proposed project is estimated as 106 MW, and shall be obtained from the own TPP, i.e, AUX consumption.

xvi. Existing green belt has been developed in 85.21 ha area which is about 33.13 % of the total project area of 257.20 ha with total sapling of 2,48,000 nos. The proposed greenbelt will be developed in 84.07 Ha which is about 33.84% of the total proposed project area. Thus, total of 169.28 ha area (33.48 % of total project area) will be developed as greenbelt. A 10 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 458175 saplings will be planted and nurtured in 169.28 hectares in 5 years. EAC also suggested to complete the 75% plantation by the end of Sept., 2025 for development of Green belt.

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

xviii. The Fly Ash will be collected in dry form in silos for further utilization/transportation through rail wagons / closed trucks to adjacent Cement Plants. 100% Ash will be utilised in Cement Industries, reclamation of abandoned mines, manufacturing of bricks, road construction, and aggregate replacement in concrete, etc. as per Fly Ash Notification, 31st December'2021. Provision will be made for disposal of un-utilized ash in high concentration slurry form to ash dyke.

xix. The Existing capital cost of project was Rs.2400 Crore. The capital cost of the proposed project is Rs.8497 Crores and the capital cost for environmental protection measures is proposed as Rs.973 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs.58.98 Crores.

xx. The Committee deliberated on the baseline data and incremental GLC due to the proposed project. The committee noted that the proponent is providing Electrostatic Precipitator (ESP), Low Nox Burner, SOFA technology and Dust Extraction & Suppression System to control the emission of Particulate matter and NOx and also stack with a height of 275 m will be provided to control & regulate the air emission from the proposed project. Besides, FGD also envisaged to control the SO_2 emission.

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

xxii. The committee noted that with respect to water pollution control, proponent shall use Sewage treatment plant and treated sewage water shall be utilized for horticulture purpose. Effluent will be treated in ETP. There will be no effluent discharge from the premises, hence the ZLD will be maintained. Along with this, the water from the cooling towers will be recirculated. A state-of-the-art roof top rain water harvesting system will be provided to collect the run -off for ground water recharging.

xxiii. 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.

xxiv. No court cases and show cause notices related to Environment are pending against the proposed project.

xxv. The Sub-committee visited Korba Power Limited on 06.04.2025. and suggested for Strengthening of Plantation & Greenbelt development, FGD for Phase I & II, Fencing around Ash Pond, construction of Toe-drain, 100% Ash utilization and Ash transportation, operation & maintenance of CAAQMS, proper maintenance as well as water sprinkling system in Railway/ CHP/ AHP, Skill Development programs under CSR activities. The committee deliberated on the response of the proponent to the recommendations of site visit report and found it satisfactory.

xxvi. The Committee also deliberated on the comments of CECB and opined to incorporate the same in the EC conditions.

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

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:

26.1.24: In view of the foregoing and after detailed deliberations, the committee ***recommended*** the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to uploading of written submission on PARIVESH Portal and stipulation of the following specific conditions and general conditions based on project specific requirements:

A. Specific conditions

[A] Environmental Management

1) Project proponent shall ensure that 100% utilization of ash generated from unit no 3 & 4 (2x660MW) in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. Area for the additional ash pond proposed for unit no 3 & 4 (2x660MW) shall not exceed 19.10 Ha as committed.
2) In addition to the existing 2 Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Project proponent shall install additional two continuous ambient air quality monitoring at suitable locations in and around project site in consultation with CECB within six months from the date of grant of EC as committed.
3) Project proponent shall comply with the recommendations made in the biodiversity assessment report and Hydrogeology report by NIT in a time bound manner. Compliance status in this regard shall be submitted to the Regional Office of MoEF&CC along with the six monthly compliance report.
4) The water requirement for unit no. 3 & 4 is estimated as 104110 m^3/day and the same shall be met from Hasdeo River. The specific water consumption for unit 3 & 4 shall be less than 3.0 m^3/MWhr.
5) The entire coal requirement for 4 units of TPP (2x300 MW & 2x660MW) shall be transported by rail network only and no road transportation is permitted.
6) 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.
7) Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs. 973 crores 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.
8) 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.
9) Project proponent shall ensure that diesel operated vehicles will be switched over to E-Vehicles 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 such non diesel vehicles deployed etc. in six monthly compliance report.
10) 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.
11) Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
12) Effluent of 1296 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.

13) PP shall implement the concurrent plantation plan in a time bound manner. Total of 169.28 ha area (33.5% of total plant area of 505.58 ha) will be developed as greenbelt. A 5 m - 50 m wide (min 25 m) 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 4 Ha by planting 10,000 trees per hectare i.e. approx. 40,000 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, 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.
14) 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..
15) 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.
16) 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.
17) 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.
18) PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
19) Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.
20) 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.
21) Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
22) 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

23) 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.
24) 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.
25) 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

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. 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.
3. The budget proposed for PH is Rs. 25 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.
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.

[C] Miscellaneous

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.

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. 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 (E) dated 7.12.2015, G.S.R.593 (E) 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 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.
4. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
5. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

B. Ash content/ mode of transportation of coal:

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.

C. Air quality monitoring and Management:

1. 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.
2. Low NO_X Burners with Over Fire Air (OFA) system shall be installed to achieve NO_X emission standard of 100 mg/Nm^3.
3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm^3.
4. Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO_2, 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 PM_{10}, $PM_{2.5}$, SO_2, NO_X within the plant area at four locations. 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 Occupational health 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. 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.

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.
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. 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.
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.
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.
7. Wastewater generation of 1296 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.

8. Sewage generation of 8 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).

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 plant area 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 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.
5. Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method.

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. 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.
5. The project proponent shall (Post-EC Monitoring):
    a. Send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
    b. Upload the clearance letter on the web site of the company as a part of information to the general public.
    c. Inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in.
    d. Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
    e. Monitor the criteria pollutants level namely; PM (PM10 & PM2.5 in case of ambient AAQ), 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.

Agenda No. 26.2

26.2 Expansion of existing 3x600 MW Coal Based Thermal Power Plant by addition of 3x600 MW by **M/s. KSK Mahanadi Power Company Limited** located at village Nariyara, Tehsil Akaltara, **District Janjgir-Champa District, Chhattisgarh – Environmental Clearance under S.O. 1247(E) dated 18.03.3021 – regarding.**

[Proposal No; IA/CG/THE/537557/2025] F. No. J-13012/44/2008 – IA.II (T)]

26.2.1: M/s. KSK Mahanadi Power Company Limited has made an online application vide proposal no. IA/CG/THE/537557/2025 dated 17/05/2025 along with the application in prescribed format (CAF, Part A & B), 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 appraised at Central Level.

Name of the EIA consultant: M/s. Greencindia Consulting Private Limited [**NABET/EIA/2326/RA 0297**, valid up to 22/02/2026]

Observations and deliberation of the EAC

26.2.2: The Committee observed and noted the following:

i. The project site mentioned above was originally accorded Environmental Clearance vide letter dated 19/10/2009 from MoEF&CC for setting up of 6x600 MW TPP at village Nariyara, Tehsil Akaltara, District Janjgir-Champa District, Chhattisgarh. Out of 6x600 MW, 3x600 MW (Unit-2, Unit-3 and Unit-4) coal based sub-critical thermal power plant was already commissioned during 2013 and 2018 and units are operational. However, remaining 3x600 MW (Unit-1, Unit-5, and Unit-6) coal based sub-critical thermal power plant are partially constructed. Proponent informed that the construction of balance three Units (U-1, 5, 6) was completed to the extent of 67.14% during the environmental clearance validity period i.e. before 18.10.2019.

ii. Instant proposal is for seeking fresh Environmental Clearance for 3x600 MW (unit no 1, 5 & 6) 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".***

iii. During the meeting, neither the project proponent nor the EIA consultant was able to present the status of construction of 3x600 MW (Unit-1, Unit-5, and Unit-6) and salient features of the proposal under consideration. The documents circulated by the PP does not contain precise information about the proposal under consideration.

iv. The EIA Consultant/Proponent were unable to answer specifically to any of the questions of EAC members during the meeting. Besides, the project site is in close

proximity (~1.17 Km) to the RFA, however, proponent has informed that there is no any forestland within 10 km of the project area. Further, no clarification was submitted on a specific condition of the previous EC amendment letter dated 13th August 2021 regarding the development of afforestation in 50 ha land beyond the 33% norms.

v. EAC found that the Proponent had no clarity on stack height that would be installed for 3x600 MW (Unit-1, Unit-5, and Unit-6). The concept of Miyawaki plantation was not clear to proponent. In presentation, proponent mentioned about the 3 tier plantations under the heading of Miyawaki plantation which is conceptually/scientifically not correct.

vi. The Committee noted that the resultant concentrations of all the ambient air quality monitoring parameters are exceeding the standard prescribed limit as per NAAQS, 2009. Further, different scenarios for AAQ modeling was mentioned in the presentation made before the EAC. Neither the proponent nor the consultant was able to justify the scenarios considered by the AAQ modeling with corresponding mitigation measures.

vii. It was also noted that an amount of Rs. 12 Crore has been kept for solar rooftop installation by the PP. Committee found that budget of Rs. 12 Crore for roof top installation is too low.

viii. Proponent has made available the adequacy certificate from the technology supplier regarding the structures already erected for 3x600 MW (Unit-1, Unit-5, and Unit-6) at the project site is safe and stable.

ix. EAC observed that project proponent as well as the M/s. GreenCIindia Consulting Private Limited Ghaziabad has submitted the application in a very casual manner. The consultant failed to provide the factual information during the EAC and EAC warned the consultant to avoid submitting such misleading information to the EAC. EAC opined that the PP should also have gone through the information being provided by the consultant. The EAC took serious note of the casual approach by the proponent as well as the EIA consultant.

Recommendations of the Committee

26.2.3: In view of the foregoing and after detailed deliberations, the EAC recommended to **return the proposal in its present form**. Project proponent and the EIA consultant has been advised to revise the EC application in totality by including all the relevant information with requisite supporting documents and submit the same for fresh consideration of the proposal.

Agenda No. 26.3

26.3: Proposed expansion of 1x800 MW NLC Talabira Thermal Power Project NTTPP phase-II by **M/s NLC India Limited** within the premises of 3x800 MW (Phase – I) located at Tareikela & Kumbhari Village, **Jharsuguda District, Odisha – Prescribing of Terms of Reference – regarding.**

[Proposal No: IA/OR/THE/500872/2024, F. No. J-13012/14/2017-IA.I (T)]

26.3.1: M/s. NLC India Ltd. has made an application online vide proposal no. IA/OR/THE/500872/2024 dated 17/10/2024 along with the application in prescribed format (CAF, Form – I Part A & B), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned

above. The proposed project activity is listed at item no. 1(d) under Category 'A' of the schedule of the EIA Notification, 2006 and appraised at Central Level. Further, project does not attract the General Condition of the EIA Notification, 2006.

Name of the EIA consultant: M/s. ABC Techno Labs India Private Limited (formerly known as ABC Environ Solutions Pvt. Ltd.) [NABET Certificate No.: NABET/EIA/2225/RA 0290, valid up to April 11, 2026].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

26.3.2: The existing project was accorded environmental clearance vide F no. J-13012/14/2017-IA.I(T) dated 02/02/2021 for setting up of 3x800 MW coal based thermal power plant at Tareikela & Kumbhari Village, Jharsuguda District, Odisha. Consent to Establish for the existing unit was accorded by Odisha State Pollution Control Board vide letter No. 8725 dated 02.05.2025. The validity of CTE is up to 01/05/2030.

26.3.3: The implementation status of the existing EC dated 02/02/2021is given as below:

S.No.	Configuration	Capacity (MW)	As per EC dated	CTE from OSPCB	Implementation Status as on
1	Thermal power plant	(3x800) 2400	02/02/2021	Obtained on 02.05.2025	Notice to proceed (NTP) was issued on 27.11.2024 to M/s BHEL for commencement of Phase-I EPC work. BHEL has already commenced the site works.

26.3.4: The instant proposal is for grant of Terms of Reference for undertaking EIA/EMP study for the proposed expansion of 1x800 MW NLC Talabira Thermal Power Project NTTPP phase-II by M/s NLC India Limited within the premises of 3x800 MW (Phase – I) located at Tareikela & Kumbhari Village, Jharsuguda District, Odisha. Total power generation after the proposed expansion will be 4x800 MW (3200 MW).

26.3.5: Environmental site settings:

<table>
<tr><th>S.No</th><th>Particulars</th><th colspan="5">Details</th><th>Remarks</th></tr>
<tr><td>1</td><td>Total land</td><td colspan="5">686.03 ha. The proposed expansion will be carried out within the existing area of 686.03 ha acquired as part of EC dated 02/02/2021. No additional land is required for the proposed expansion.</td><td>Land use: Government & Private land</td></tr>
<tr><td>2</td><td>Land use break up</td><td colspan="5"><table>
<tr><th>Sl.NO</th><th>Area details</th><th>Land for Phase- I (3 x 800 MW) in Hectare</th><th>Additional Land requirement for Phase-II (1 x 800 MW) in Hectare</th><th>Remarks</th></tr>
<tr><td>1</td><td>Plant Area</td><td>243.621</td><td>-</td><td>For Phase-II , 27.92 Ha is required.</td></tr>
</table></td><td></td></tr>
</table>

<table>
<tr><th>S.No</th><th>Particulars</th><th colspan="2">Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td colspan="2">
<table>
<tr><td></td><td></td><td></td><td></td><td>27.92 Ha vacant land is available within the 243.621 Ha acquired for Phase-I.</td></tr>
<tr><td>2</td><td>Reservoir area including bund</td><td>57.4654</td><td>-</td><td>To meet the plant water requirement during lean period of both Phase-I & II .</td></tr>
<tr><td>3</td><td>Green Belt</td><td>166.73 *</td><td>-</td><td></td></tr>
<tr><td></td><td>Sub total 1+2+3</td><td>467.816</td><td>-</td><td></td></tr>
<tr><td>4</td><td>Corridors for water, ash , transmission line rerouting , approach to site etc.</td><td>86.6027</td><td>-</td><td>Transmission line rerouting corridor and ash pipe line corridor for total project added.</td></tr>
<tr><td>5</td><td>Ash disposal area</td><td>70.82 **</td><td>-</td><td></td></tr>
<tr><td>6</td><td>Township</td><td>20.2343</td><td>-</td><td></td></tr>
<tr><td>7</td><td>Peripheral road</td><td>6.0702</td><td>-</td><td></td></tr>
<tr><td>8</td><td>River bund</td><td>34.1959 ***</td><td>-</td><td>Initially bund was assumed to be constructed on WRD land with ROW permission , However as per revenue records WRD do not hold this land . Hence the same is considered now.</td></tr>
<tr><td></td><td>Sub total (4+5+6+7+8)</td><td>217.9232</td><td></td><td></td></tr>
<tr><td></td><td>Grand total (1 to 8)</td><td>686.03</td><td>NIL</td><td></td></tr>
</table>
The greenbelt allotted area is 166.73 Ha (Plant area 243.621 Ha + reservoir 57.4654 Ha + ash dyke 70.82 Ha + Peripheral road 6.07 Ha + River bund 34.1959 Ha = Total 412.17 Ha, Green belt 412.17 * 0.4 = 164.86 taken as 166.73 Ha) which is above 40% green belt to comply the existing EC condition clause no 9 (xii).
** 137.59 Ha reduced to 70.82 Ha as per existing EC condition 9 (xii)
*** To construct Flood protection bund as per existing EC specific condition for compliance clause no 9 (viii)
</td><td></td></tr>
<tr><td>3</td><td>Land acquisition details as per MoEF&CC</td><td colspan="2">The entire area of 686.03 hectare is being acquired for the project by M/s IDCO of Odisha. The R&R activities are taken care under phase-I (3 x800MW) activities of NTTPP.</td><td>The High-Level Clearance Authority (HLCA) chaired</td></tr>
</table>

S.No	Particulars	Details	Remarks
	O.M. dated 7/10/2014	As per EC recommendation for Phase- I (3 x800MW), the R&R package is being implemented for the project displaced/affected families. The EC vide F.No: J-13012/14/2017-IA.I(T) granted for the proposal of phase-I which includes R&R, thus no R&R would be applicable for phase-II (1 x 800MW).	by Chief Minister of Odisha in its 17th meeting held on 02.06.2017 cleared NLCIL's proposal to set up a large capacity pit head type thermal power project (4X800 MW in two stages) near the Talabira II & III mine blocks allocated to NLCIL. M/s IPICOL vide letter dated 10.07.2017, communicated in principle approval of HLCA, for availability of land and water for 3200 MW capacity NLC Talabira Thermal Power Project. M/s IDCO accorded clearance for 585.58 ha. of land in favour of NLCIL. M/s IDCO accorded clearance for 686.03 ha. of land in favour of NLCIL for Phase-I, with this area itself Phase-II

S.No	Particulars	Details	Remarks
			facilities will be accommodated.
4	Existence of habitation & involvement of R&R, if any.	Study Area: A.Habitation • Tareikela • Kumbhari B. Schools • My Kids - Preschool • Jharsuguda Engg. School – College • SNMT Govt. Girls College Jhunjhunu • Padm Khumbharbandh College • Lapanga High School As per EC recommendation for Phase- I (3 x800MW), the R&R package is being implemented for the project displaced/affected families.	Land acquisition (including phase I & II) is being carried out and it is progress. R&R plan is being implemented. Dist. Administration is consultation with NLCIL is planning to construct a new school at mouja hirma village situated outside the project site as a replacement of existing 2 schools situated within the project site. The copy of communications between district administration and NTTPP for construction of school has been submitted.

<table>
<tr><th>S.No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>5</td><td>Latitude and Longitude of all corners of the project site.</td><td>A. Plant Site

<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>North Extreme</td><td>21° 46’ 56.11’’ N</td><td>83° 59’ 30.59’’ E</td></tr>
<tr><td>East Extreme</td><td>21° 46’ 52.95’’ N</td><td>84° 00’ 20.72’’ E</td></tr>
<tr><td>South Extreme</td><td>21° 45’ 16.80’’ N</td><td>83° 59’ 9.36’’ E</td></tr>
<tr><td>West Extreme</td><td>21° 46’ 34.18’’ N</td><td>83° 58’ 50.54’’ E</td></tr>
</table>
B. Ash Pond

<table>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>North Extreme</td><td>21°45'58.02"N</td><td>84° 0'15.30"E</td></tr>
<tr><td>East Extreme</td><td>21°45'23.03"N</td><td>84° 0'22.34"E</td></tr>
<tr><td>South Extreme</td><td>21°45'26.08"N</td><td>83°59'55.58"E</td></tr>
<tr><td>West Extreme</td><td>21°44'55.49"N</td><td>83°59'56.88"E</td></tr>
</table></td><td></td></tr>
<tr><td>6</td><td>Elevation of the project site</td><td>202.5 M above mean sea level</td><td></td></tr>
<tr><td>7</td><td>Involvement of Forest land if any.</td><td>Nil and not applicable</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>Proposed expansion of 1 X 800 MW NLC Talabira Thermal Power Project NTTPP Phase-II” at Tareikela & Kumbhari Village, Jharsuguda District, Odisha

Study area

<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Bhedan River</td><td>0.5 km</td><td>west</td></tr>
<tr><td>Hirakud Reservoir</td><td>3.34 km</td><td>south</td></tr>
</table></td><td>High Flood Level (HFL) of the Bedhan River near the National Highway Bridge (collected from WRD, Hirakud Reservoir) is RL 200.9m. Considering the above, the Finished Grade Level for the Main Plant area is designed.
Bhedan river is located 500m away from plant boundary and Plant will be graded to RL 202.5 m and 202.0 m levels, which are above</td></tr>
</table>

S.No	Particulars	Details	Remarks
			the predicted high flood level of 200m and no plant facilities are planned below this level.
9	Archaeological sites monuments/ Historical temples etc.	Nil	-
10	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	There are no. national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors, etc. within 10 km distance from the project site.	
11	Involvement of Critically Polluted Area/ Severely Polluted area as per 2018 CEPI score	There is no additional land acquisition involved in the proposed expansion. Proposed Phase-II expansion Project is adjacent to Phase-I and envisaged in the already acquired land for Phase-I, which is located in "other polluted area" as per the Phase-1 EAC minutes dated 7th April, 2022. Also 40% green belt is envisaged as per Phase-I EC conditions. All the environmental protections systems are envisaged for Phase-II to comply with MoEF&CC notification. All APC control measures like FGD, ESP, Bag filters, Dry fog systems are in place for the proposed expansion. An also ETP is planned for the project. The details will be included in the EIA/EMP report.	-

26.3.6: 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.	(3x800) MW 2400 MW	(1x800) MW 800MW	3200MW	Supercritical thermal power plant

26.3.7: Details of fuel requirement: 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 requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP	11.37	Talabira II & III Captive mine	4	Belt / pipe conveyor	Ash - (45%) Sulphur - (0.33%) Moisture (6.1%) GCV - 3400Kcal/Kg	submitted
Proposed TPP	3.50	Talabira II & III Captive mine	4	Belt / pipe conveyor	Ash - (45%) Sulphur - (0.33%) Moisture (6.1%) GCV - 3700Kcal/Kg	Submitted

26.3.8: Water requirement: Existing Water requirement is 1,76,153 m^3/day, water requirement is obtained from Hirakud reservoir and permission for the same has been obtained from WRD, Odisha vide letter no. 19552 dated 4.09.2019. The water requirement for the proposed project is estimated as 57,600 m^3 /day water requirement is obtained from Hirakud reservoir and permission for the same has been obtained from WRD, Odisha vide letter no. 19552 dated 4.09.2019. The water will be transported to the plant site through pipeline. The specific water consumption for the power plant will be 3m^3/MWhr.

26.3.9: Power requirement: Existing power requirement of 167 MW is obtained from plant. The power requirement for the proposed project is estimated as out of which 56 MW will be obtained from the power plant.

26.3.10: Solid and hazardous waste Management: 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
1	Solid waste	Annual ash generated for expansion (1X800 MW)	1.26 million	-	High concentration slurry disposal
4	Glass Wool	Overhauling	< 0.5	TSDF site	Road
5	Waste oil	Maintenance	< 0.5	TSDF site	Road

26.3.11: Cost of project: Existing capital cost of project was Rs.16073.86 Crore. The capital cost of the proposed project is Rs. 7178.564 Crores and the capital cost for environmental protection measures is proposed as Rs. 1439 Crore. The annual recurring cost towards the

environmental protection measures is proposed as Rs 14.39 Crore. The employment generation after expansion is about 350 nos.

26.3.12: Green Belt Development: Existing green belt has been developed in 101.981 ha which is about 40% of the total project area of 585.58 ha with total sapling of 203962 Trees. Proposed greenbelt will be developed in 64.819 ha which is about 40% of the total project area. Thus, total of 166.8 Ha area (40% of total project area) will be developed as greenbelt. A 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 333600 saplings will be planted and nurtured in 166.8 hectares in 5 years.

26.3.13: Ash management:
Ash will be the major solid waste generated from the power project. An ash management scheme will be implemented consisting of dry collection of fly ash, supply of ash to entrepreneurs for utilization and promoting fly ash utilization to maximum extent and safe disposal of unused ash.

Description	Ash Generation
Annual ash generated for expansion (1X800 MW)	1.26 million TPA
Annual Bottom ash generated	0.25 million TPA
Annual Fly ash generated	1.01 million TPA

26.3.14: Ash Pond details: The ash generated in the plant will be disposed in the Mine Voids / Emergency Ash Dyke. The details of emergency ash dyke are given below:

S. No.	Details of Ash Pond	Ash pond 1
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	To be constructed
2.	Area (Ha)	70.82
3.	Dyke height (m)	10
4.	Volume (m^3)	39,72,946
5.	Quantity of ash disposed (Metric Tons)	Yet to be started
6.	Available volume in percentage (percent) and quantity of ash can be further disposed (Metric	Full Capacity (100%) 55,62,124 MT
7.	Expected life of ash pond (number of years and months)	Design life of the pond is 30 years to cater the emergency needs
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HDPE
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD
10.	Ratio of ash: water in slurry mix (1:):	1: 0.6 weight by weight

S. No.	Details of Ash Pond	Ash pond 1
11.	Ash water recycling system (AWRS) installed and functioning: Yes or No	Already envisaged and will be installed during construction stage of Ash water handling system of the plant
12.	Quantity of wastewater from ash pond discharged into land or water body (m^3)	Not applicable
13.	Last date when the dyke stability study was conducted and nameof the organization who conducted the study:	Will be complied on completion of design and after construction
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	Will be complied after construction.

26.3.15: Baseline data: Baseline data were collected during March to May 2025

Attributes	Parameters	Sampling		Remarks
A. Air		**No. of stations**	**Frequency**	**Sampling period**
a. Meteorological parameter	Temperature, Relative Humidity, Wind Speed, Wind Direction & Rain fall	1	Hourly / Rainfall – Daily	3 months + 1 Month
b. AAQ parameters	PM_{10}, $PM_{2.5}$, SO_2, NO_2, CO, O_3, VOC, NMHC	12	24 hourly	Two days per week for 12 weeks
B. Noise	Leq day & Leq night	12	Once during study period	24 hourly
C. Water				
Surface water/Ground water quality parameters	As per IS:10500 – 2012 & Designated Best of Use Criteria by CPCB	GW 8+ SW 5 Locations	Once during study period	Grab sampling
D. Land				
Soil quality Land use	Soil profile & Chemical constituents Land use data based on recent satellite data	A.12	Once during study period	A. Composite sample
Biological Aquatic Terrestrial	Flora and fauna	Study area	Once in study period	Field observations
F. Socio-economic parameters	Socio-economic profile	Study area	Based on data collected from secondary sources	

26.3.16: Status of Pending Litigation/court case: There is no pending litigation/court case against the proposed project.

26.3.17: ADS Information in chronology : M/s. NLC India Ltd made an online application vide proposal no IA/OR/THE/500872/2024 dated 17.10.2024. The proposal was initially considered in 15th EAC meeting of Reconstituted EAC (Thermal) held on 28.11.2024. Proposal was deferred for want of additional information. The observations and recommendation is given as below:
The proponent submitted 1st ADS reply vide letter dated 08.01.2025 and 2nd ADS reply dated 29.05.2025. Point-wise reply of ADS reply as uploaded on PARIVESH is given as below:

A. Ist ADS reply

S.NO	ADS	Reply / Response
a	The project proponent has not yet commence the project activity at the site with respect to the EC dated 2/2/2021 and applied for consent to establish to Odisha State Pollution Control Board. However, without implementing the project, proponent is again seeking for ToR for undertaking EIA study for addition of 1x800 MW TPP. No justification has been furnished by the proponent in this regard. Further, implementation status of existing EC with time frame for completion of the same has not been presented by the proponent.	LOA was issued to M/s BHEL on 12.01.2024. The land acquisition process is being carried out by IDCO, Government of Odisha and substantial land is handed over to NTTPP recently. And notice to proceed (NTP) was issued on 27.11.2024 to M/s BHEL for commencement of Phase- I EPC work. The works like topographical survey, Geotechnical investigation like drilling of boreholes and construction of boundary wall have been started at site. The demolition works have been taken up at site. The progress photographs have been submitted. As per the Minutes of the Meeting held under the Chairmanship of Hon'ble Minister of Power & NRE on 27.09.2023, due to the rapidly increasing demand for power in the country, there is an urgent need to add capacity quickly. In the meeting, it was directed to take up the NLC's brownfield capacity expansion at Talabira Phase-II (1x800 MW) STPS expansion, Sambalpur, Odisha. Also, it is submitted that no additional land is required for Phase-II. Notice to proceed (NTP) was issued on 27.11.2024 to M/s BHEL for commencement of Phase- I EPC work. BHEL has already commenced the site works. Phase-I (3 x 800 MW) Unit 1 schedule date of completion 52 months (March 2029) from the date of NTP with a phase gap of 6 months for unit- 2 & 3. (September 2029 & March 2030).
b	During deliberations, the proponent informed that leveling of the project site needs to be undertaken at the project site before commencement of construction work. But proponent is unable to explain the site leveling	The project site leveling work at the site is covered in phase I (3 x 800 MW). The Project site will be leveled to RL + 202 m level. The expansion (Phase-II) does not involve any leveling activities.

S.NO	ADS	Reply / Response
	details along with the details of the material to be used for leveling activity vis-à-vis site topography conditions.	
c	There is a ambiguity with respect to the area of project site as the proponent has used Ha and acres terminology together in the application and the pre-feasibility report. Further, as per the KML file uploaded, the area is mentioned as 186.37 Ha contrary to the 585.58 Ha area mentioned in EC letter dated 02.02.2021 and 686.03Ha area as mentioned in PPT submitted by the PP. This needs to be clarified by the proponent along with the requisite supporting documents.	All the land extents are mentioned in Ha. Accordingly, PFR is corrected and submitted. Updated PFR has been submitted**.** The total land as mentioned in phase I (3 x 800 MW) EC condition no. 3, 585.58 Ha covers 243.62 Ha for main plant, 101.981 Ha for green belt, 137.593 Ha for ash pond, 35.612 Ha for reservoir area and 20.234 ha for township. Further EC point no. 9 (xii) directs to reduce the Project area from 585.5801 to 518.807 Ha after reducing the ash pond area and directs for additional area acquisition to meeting 40 % green belt, River bund on both sides of river land added as per EC condition 9 (viii). Further as per 1st RPDAC meeting dated 27.01.2021, it has been directed to acquire the land between Bhedan river and Main plant (0 to 250 m from River). In view of this, the total land area 686.03 Ha arrived considering the above. Revised KML file is attached showing the Major project area of 572.43 + 70.82 (Ash dyke) = 643.25 Ha. Balance land 42.78 Ha identified for Transmission line corridor, Raw water corridors and river bund on other side of river is yet to be handed over and the same is not shown in the present KML.
d	Under the proposed ToR, project proponent has mentioned only four AAQ parameters will be monitored at 8 locations. The number of monitoring stations and parameters proposed for AAQ monitoring found to be not adequate. PP is required revisit the proposed ToR by increasing the number of monitoring stations and all the parameters as per NAAQS needs to be monitored. Besides, the proposed ToR do not	The ToR have been proposed wherein 12 AAQ stations are considered and the parameters are suggested as per NAAQ standards. The site-specific studies such as hydrology & hydrogeology study, biodiversity assessment study included in the proposed ToR. The Bhedan river irrigation area will be studied and the impact if any on the crop yield due to proposed NTTPP will be studied and will be covered in Description of Environment and Impact analysis of Environmental Impact Assessment report.

S.NO	ADS	Reply / Response
	contain site specific studies such as hydrology & hydrogeology study, biodiversity assessment study for assessing the impact on aquatic flora and fauna,impact on crop yield and impact of project on Bhedan river etc are found to be missing. PP has been advised to revisit the proposed ToR by adequately incorporating the site-specific environmental concerns.	
e	As per decision support system (DSS), EAC noted that the project area falls in the severely polluted area (SPA), however, PP disclosed that the proposed project does not fall in SPA. PP needs to submit the factual information with documentary evidence from OSPCB.	The EAC minutes dated 07.04.2022 where in the specific details of SPA is deliberated in presence of OSPCB & CPCB members and it was concluded that the proposed expansion location falls in Jharsuguda PIA which is neither critically polluted area nor severely polluted area and identified as other polluted area.
f	A River (Bhedan) is flowing nearby the project area. PP needs to submit the HFL data with documentary evidence issued by the concerned State Water Resources Department (WRD). Project proponent shall confirm that project site is not located within Bhedan river flood plain corresponding to one in 25 years of flood as per Ministry's O.M. dated 14/02/2022.	Area drainage Study was conducted by NIH Roorkee. The one-day annual maximum rainfall for 25-year, 50 year and 100-year return periods is already considered In the report. The NIH Report has been submitted. The HFL data have been discussed in detail in the existing EC of NTTPP Phase-1 (3 x 800 MW) power plants and EC condition 9 (viii), proposed an embankment bund on both the banks of Bhedan river which is +1 m above HFL. RL of the of river bund top is minimum 202 m. Bunds will be constructed along with project execution.
g	As per decision support system (DSS), EAC noted that Ramsar site which is considered an important Environmental sensitive area is at around 3 km distance from the project site, however, PP submitted that there is no any Environmental sensitive area within 10 km of the study area. PP needs to furnish the factual information for the same and to conduct the biodiversity analysis of 10 km area by the reputed government institutes/organizations.	Hirakud reservoir wet land area was declared as Ramsar site on October 2021. The revised Environmental sensitive area map has been submitted. The biodiversity analysis of 10km will be conducted by reputed institute and the final report will be included in EIA report.
h	The EAC observed that the application made by the person is not in accordance with the authorization letter as submitted by the PP.	Authorization letter has been submitted.

S.NO	ADS	Reply / Response
i	Expected life of the ash pond is mentioned as 1 year only which needs to be revisited by the PP.	As per EC condition point no. 9 (iv) the ash to be utilized within 3years. The proposed ash pond can accommodate to store ash generated in One year. The pond is meant for emergency purpose only of fly ash storage during any exigency situation. Otherwise, the fly ash and bottom ash will be 100 % utilized as per the MoEF & CC norms. However, the Design life of the pond is 30 years to cater the emergency needs. As per EC condition point no. 9 (ii) the safety and structural stability of the ash pond will be ascertained once in three years by reputed agency which has expertise in the field of geotechnical aspects.
j	The ash pond location is very close to Bhedan river. Proponent may re-examine the location of ash pond.	EC for Phase-I was accorded with the proposed Ash Pond location. As per Phase-I EC condition 9 (i), The ash pond will have all safety measures such as HDPE lining, high concentration slurry disposal system, ash water recycling, dyke stability measures and located away a minimum distance of 500 m from the river Bhedan. Also, as per EC condition point no. 9 (ii) the safety and structural stability of the ash pond will be ascertained once in three years by reputed agency which has expertise in the field of geotechnical aspects. There is no separate ash pond for Phase-II is envisaged.

B. 2nd ADS reply

S.No	Query	Reply
i	On perusal of the ADS reply, it is noted that incomplete response has been again submitted by the proponent. For instance, the EAC wanted status of CTE of OPCB. No reply has been furnished by the PP for reasons unknown.	Consent to establish (CTE) has been issued by OSPCB no 8725 dt 02.05.2025
ii	It the absence of requisite CTE, how the PP has fixed the time limit for completion of Phase I is not clear.	Notice to proceed (NTP) was issued on 27.11.2024 to M/s. BHEL and timeline for completion (52 weeks) is based on the NTP dated on 27.11.2024. Project activities are yet to be commenced. EPC

		contractor is engaged in engineering and placement of orders for supply items and work contractor etc.,
iii	It is once again requested to revisit the additional information sought by the EAC and submit proper reply to the said additional information for further consideration of the same.	As directed individual submissions have been revisited and the point wise answer are follow

26.3.18: Compliance to the observations of sub-committee site visit report – EAC Sub-committee visited on 6th to 7th February 2025. Action Plan in response to report of the site visit by EAC Sub- Committee is given as below:

S.no	Finding of Sub-Committee	Compliance status
1	To reduce the quantity of water , dry bottom ash and fly ash handling system be adopted	Bottom ash (BA) will be conveyed in wet form to dewatering bins. Ash and water will be separated in the dewatering bins and collected water will be pumped back to system for reuse. The fly ash (FA) will be conveyed in dry form the hoppers of ESP will be taken to buffer hoppers for its onwards transportation in dry form to storage silos for utilization
2	The study report on carbon / green house emission and carbon sequestration be submitted	Will be complied in EIA/EMP report
3	The rain water harvesting plan be submitted	Will be complied in EIA/EMP report
4	The project plan showing the alignment of water supply pipeline and the ash disposal pipeline be submitted	Will be complied in EIA/EMP report
5	On the proposed project plan, all the existing roads and water bodies observing on recent KML file be shown	complied
6	The conveyor belt for the transportation of coal and emergency ash carrying pipeline (HCSD) pipeline passing over the river. The permission from competent authority is needed. The PP should assure no leakage of coal / ash into the river / water bodies	Will be complied
7	The PP has proposed that part of the fly ash will be disposed of in the mine void of nearby captive coal mine, Talabira II. The sub-committee has suggested that necessary permission / approval from competent authorities should be obtained by the PP prior to ash disposal in the mine voids.	Will be complied

Observations and deliberation of the EAC

26.3.19: The Committee observed and noted the following:

i. Instant proposal is for seeking ToR for undertaking EIA/EMP study for expansion of 1x800 MW NLC Talabira Thermal Power Project NTTPP phase-II by M/s NLC India Limited within the premises of 3x800 MW (Phase – I) located at Tareikela & Kumbhari Village, Jharsuguda District, Odisha.

ii. The Phase – I (3 x 800) 2400 MW project was accorded Environmental Clearance vide letter dated 02.02.2021 from the Ministry of Environment & Forests. Consent to Establish (CTE) for the Phase-I has been accorded by Odisha State Pollution Control Board vide letter dated 02.05.2025 and the same is valid up to 01.05.2030.

iii. Total land required for the project is 686.03 ha, which is under possession of M/s. NLC India Limited (NLCIL). The proposed expansion (1 x 800 MW) shall be done within the existing total land available with M/s. NLC India Limited (NLCIL).

iv. No forest land is involved in the proposed project.

v. 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

vi. There is no ESZ, National parks, Wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site as ascertained from DSS.

vii. Bhedan river and Hirakud reservoir area located at 0.5 Km and 3.34 Km of the project boundary. Authenticated HFL data of the water body as per MoEF&CC O.M. dated 14/02/2022 shall be furnished. Although EAC noted that PP has furnished High Flood Level (HFL) of the Bedhan River near the National Highway Bridge from WRD, Hirakud Reservoir is RL 200.9 m.

viii. The project site is located within Jharsuguda PIA, which is neither the Critically Polluted Area (CPA) nor Severally Polluted Area (SPA) as per CEPI assessment 2018 of CPCB and identified as other polluted area.

ix. Coal requirement of 11.37 MTPA and 3.5 MTPA will be met from Talabira II & III Captive mine through Belt / pipe conveyor for existing as well as proposed project, respectively. There will be no road transportation of coal for both projects.

x. The water requirement for the proposed project is estimated as 57,600 KLD and the same will be met from Hirakud reservoir and the permission for the same has been obtained from WRD, Odisha vide letter no. 19552 dated 04.09.2019. The water will be transported to the plant site through the existing pipeline. The specific water consumption for the power plant will be 3 m^3/MWhr.

xi. The power requirement for the proposed project is estimated as 56 MW, which will be availed from the power plant.

xii. The capital cost of the proposed project is Rs. 7178.564 Crores and the capital cost for environmental protection measures is proposed as Rs. 1439 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 14.39 Crores. The employment generation after expansion is about 350.

xiii. Total of 166.8 Ha area (40% of total project area) will be developed as greenbelt. A

50 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. EAC directed Project Proponent to immediately start the greenbelt plantation of 30 m thickness with indigenous species all around the periphery of the project site.

xiv. The wastewater treatment and management plan will be developed with the prime approach of maximum recycling & reuse in order to achieve 'Zero liquid discharge' (ZLD for the proposed plant.

xv. The Committee deliberated on construction of bunds for ash pond and embankment of Bhedan River in order to reduce the possibility of mixing of leachate from ash dyke to river water. EAC noted that the levelling at RL + 202 m level of project site is covered under phase I (3 x 800 MW) and no levelling shall be done under expansion phase.

xvi. The committee also deliberated on the findings of the EAC sub-committee and directed the project proponent to adhere to the recommendations of the EAC sub-committee.

xvii. The baseline data were collected from March 2025 to May 2025.

xviii. 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 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

26.3.20: The EAC after detailed deliberations on the information submitted and as presented during the meeting ***recommended*** the proposal for grant of ToR for conducting an EIA study for the above project under the provisions of the EIA Notification, 2006, as amended along with the following specific ToR in addition to the generic ToRs.

[A] Environmental Management and Biodiversity Conservation

i. Bhedan river irrigation area shall be studied to ascertain the impact if any on the crop yield due to proposed NTTPP as well as construction of proposed river bund through NABET accredited consultant and report shall be submitted with a action plan to comply with the recommendations of the study report.

ii. Permission obtained from the competent authority of irrigation department of State Govt. of Odisha for construction of river bund around Bhedan river, laying of conveyor belt for the transportation of coal and emergency ash carrying pipeline (HCSD) pipeline passing over the river shall be submitted. Mitigation measures to be adopted in this regard shall be submitted.

iii. A Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 10-km radius of the proposed project shall be conducted and the same shall be included the in EIA/EMP report. Details of industrial units present in 10 Km radius of the power plant shall be earmarked in map and submitted.

iv. Certified compliance report containing compliance to the prescribed EC conditions for the 3x800 MW (Phase-I) as per the MoEF&CC O.M. dated 08/06/2022 shall be submitted.

v. Certificate from concerned District Magistrate/Executive Engineer from the State Water Resources department (or) any officer authorized by the State Government in this regard shall be submitted stating that project site is not located within flood plain corresponding to one in 25 years of flood as per Ministry's O.M. dated 14/02/2022.

vi. All the parameters as mentioned in the National Ambient Air Quality Standards (NAAQS) shall be monitored by the project proponent.

vii. Project proponent shall also obtain recommendations from the State Forest department regarding the impact of project on the nearby Reserved Forests, if any, along with the mitigation measures to be followed.

viii. EIA/EMP study shall take in to consideration the different scenarios arising due to change of coal source, impact on environmental attributes due to change of coal source along with corresponding mitigation measures with EMP budget shall be submitted.

ix. Biodiversity analysis of the project site and study area shall be done through any NABET accredited consultant. The study report shall inter-alia include impact of release of cooling tower water on aquatic life and action plan for complying with the mitigation measures shall be submitted.

x. Project proponent shall commission a study on Hydrology and Hydrogeology of the project site as well as the study area of the project site through a NABET accredited consultant. The study report along with the action plan for implementing the recommendations of the report shall be submitted along with the EIA/EMP report.

xi. Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, Cr, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given.

xii. PP should submit the detailed plan in tabular format (year-wise) for concurrent afforestation and green belt development in and around the project site covering 40 % of the project area. The PP should submit the number of saplings to be planted, names of native species, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided.

xiii. Action plan for development of three-tier plantation programme (40 % of total project cover area) along the periphery of the project boundary and the coal transportation route shall be provided. PP shall submit concurrent plantation plan.

xiv. Detailed action plan shall be prepared for maintenance of air pollution control equipment for proposed units and shall be incorporated in the EIA/EMP report.

xv. Details of Ash management plan as per MoEF&CC notification dated 31/12/2021 & its subsequent amendment for the proposed project shall be submitted. MoU signed for ash utilization with companies shall be submitted.

xvi. Action plan for dry ash collection system (Bottom ash and Fly ash) shall be submitted.

xvii. Action plan for disposal of ash through High Concentration Slurry Disposal (only in emergency conditions) shall be submitted.

xviii. Proper protection measures like high-density polyethylene (HDPE) lining, appropriate height of bund and adequate distance between the proposed Ash pond and water body (minimum 60 meters) etc. shall be planned to reduce the possibility of mixing leachate with any freshwater body for ash pond. A high-density Slurry disposal plan shall be prepared.

xix. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted. Baseline Study for Heavy metals in Groundwater, Surface water and soil to be carried out and incorporated in EIA/EMP report.

xx. Details pertaining to water source, treatment and discharge should be provided.

xxi. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.

xxii. PP shall provide the details of wastewater treatment facilities to be installed within its capacity, timeline and budget.

xxiii. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report.

xxiv. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution and incorporated in EIA/EMP report.

xxv. PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total material handled) and steps to be taken for reduction of the same. The year-wise target for reduction in the specific diesel consumption needs to be submitted. PP shall also explore the possibility of using e-vehicles/LNG/CNG-based machinery and trucks for the operation and transportation of Coal and ash and submit an implementation strategy.

xxvi. PP shall provide the details of transportation of flyash from the plant, transportation route etc. Further, carry out a traffic study for at least one month and provide the impact of transportation along with the mitigation measures.

xxvii. PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.

xxviii. Details on renewable energy (solar plant) proposed to be installed as energy conservation measures shall be submitted.

xxix. The input parameters for the AAQ modelling and the influence of various combinations of these on the AAQ must be reported in the EIA/EMP Report. In addition to the Wind Rose diagram collected for one season during the preparation of the E.I.A., wind rose diagram for all seasons must be provided using secondary data from sources such as IMD/CPCB etc.

xxx. Project proponent shall take all necessary steps to control the Air Quality and take additional mitigation measures for proposed TPP to maintain the Ambient Air Quality values within the limits. The action plan regarding maintaining ambient quality standards (Time weighted average for 24 hours and Annual both) be

submitted. Further, project proponent shall submit an undertaking to 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.

xxxi. PP shall carryout additional Air quality monitoring of three additional locations and the same shall be incorporated in the EIA/EMP report.

xxxii. Details of air pollution control devices to be installed in the proposed 1x800 MW TPP along with its maintenance schedule shall be incorporated in EIA/EMP report.

xxxiii. Carbon emission due to TPP and allied carbon sequestration plan be submitted.

xxxiv. 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. An action plan in this regard shall be submitted.

[B] Disaster Management

i. A Disaster Management Plan shall be prepared and incorporated in the EIA/EMP report.

[C] Socio-economic Study

i. Public Health Action Plan including the provisions for drinking water supply for the local population shall be in the EIA/EMP Report. The status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the needs of the labour force and local populace.

ii. Public consultation (Public Hearing and Written submission) shall be conducted as per the provisions of EIA Notification, 2006 and as amended. As per the Ministry's OM dated 30.09.2020, to address the concern raised during the Public Hearing, the Project Proponent is required to submit the detailed activities proposed with year-wise budgetary provision (Capital and recurring) for 5 years. Activities proposed shall be part of EMP. Tentative no. of project affected families (if any) shall be identified and accordingly appropriate Rehabilitation &Resettlement plan shall be prepared. The recommendation Socio-economic study may also be considered while planning the activities & budget.

iii. A need based Social Impact Assessment Study shall also be carried out and an action plan on its recommendations may also be submitted with budgetary provisions.

iv. Demographic details and land use change details in 10 km area shall be submitted.

[D] Miscellaneous

i. Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study. The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind. A mathematical model shall be developed for the local site rather than using the standard model available in software for both air & water quality modelling.

ii. PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to

the EAC.

iii. PP shall submit the EIA/EMP report after the plagiarism check using authenticated plagiarism software.

iv. Detailed description of all the court cases along with its current status shall be submitted.

v. PP should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. obtained for this project under various Acts, Rules and regulations shall be submitted. Further, all the permissions/MoUs obtained for this project shall be revalidated and submitted along with the EIA/EMP report.

vi. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs, which will analyze the samples.

vii. PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of persons to be engaged for the implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

viii. PP should submit the year-wise, activity wise and time-bound budget earmarked for EMP, occupational health surveillance, and activities proposed to address the issues raised during Public Hearing. The capital and recurring expenditure to be incurred needs to be submitted.

ix. Activities shall be prepared based on the issues arise during public hearing conducted and fresh written submission with defined timeline and budgetary provisions.

x. Aerial view video of project site and coal transportation route proposed for this project shall be recorded through drone and be submitted.

xi. The PP should ensure that only NABET-accredited consultants shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA/EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.

xii. PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after the grant of EC.

xiii. All the certificates viz. involvement of Forestland, distance from the protected area, and list of flora & fauna should be duly authenticated by the Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and dispatch number.

xiv. The findings of the subcommittee report shall be incorporated in the final EIA/EMP report.

Agenda No. 26.4

26.4: 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.**

[Proposal No. IA/OR/THE/529224/2025; F.No. J-13012/73/2011-IA. II (T)]

Name of the EIA consultant: M/s Enviro Infra Solutions Pvt. Ltd. [S. No. 71, List of ACOs with their Certificate Letter no. NABET/EIA/2225/RA 0300_Rev.01 valid up to 27 November 2025].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

26.4.1: 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.

26.4.2: 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.

26.4.3: Implementation status of the existing EC

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

26.4.4: 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.

26.4.5: **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 as given below:

S. No.	MoEF&CC, New Delhi, ATR points	References	Reply to MoEF&CC, Delhi
1	Coal transportation has been carried out by road against the condition (Specific condition: V)	Specify condition No- V of EC- II (1x350 MW)- "Coal transportation to plant site shall be undertaken by rail and no road transportation shall be permitted."	This condition pertains to the EC obtained in 2011 for 1X350 MW project (4th Unit of GKEL) which has not yet started the operation. As this Unit#4 could not be completed within EC timeframe of 10 years, GKEL has obtained the fresh TOR in Jan 2024 to conduct fresh EIA and obtain the EC for this unit.
2	Radioactive analysis data has not been furnished (Specific condition: VI)	Specific condition No- VII of EC- II (1x350 MW)- "A detailed study on chemical composition particularly heavy metal and radioactive contents shall be carried out through a reputed institute and the report shall be submitted to Regional Office of the Ministry. Only after ascertaining its radioactive level shall fly ash be utilized for brick manufacturing or supplied to brick manufacturers."	GKEL has obtained the radio activity analysis report for fly ash generated from existing operating 3x350 MW units under the EC in year 2008. This report has been submitted. As this condition pertains to the EC in 2011 for 4th Unit of 1X350 MW which has not been constructed fully and commissioned by GKEL by now, GKEL undertake to conduct the radio activity of flyash form the unit-4 after the flyash generation is started form unit-4.

S. No.	MoEF&CC, New Delhi, ATR points	References	Reply to MoEF&CC, Delhi
3	Annual hydrology reviewed data has not been furnished. (Specific condition: XV)	Specific condition No-XV of EC- II (1x350 MW)- "Hydrogeology of the area shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case any deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry"	Hydrogeology study was conducted after receipt of the EC for 1x350 MW units in 2011. Ground water table and quality monitoring is being conducted on annual basis. Further, in line with the observation in Monitoring Report in Feb 2025 by Regional Office, MoEFCC, GKEL has initiated a "Hydro-geology study that will also cover the annual review" by institute of repute (like IIT Roorkee). This study will take 3-4 months starting from Feb 2025.
4	Annual social audit from government institute of repute in the region has not been carried out. (Specific condition: XXXI)	Specific condition No-XXXI of EC-II (1x350 MW)- "It shall be ensured that an in-built monitoring mechanism for the CSR schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall	This condition pertains to 1x350 MW unit EC in 2011 for which GKEL obtained a fresh TOR in Jan 2024 for fresh EIA and EC process. All conditions related CSR are complied with by GKEL as acknowledged by Regional Officer MOEFCC in its Monitoring Report dated 6th Feb 2025. Regional Officer MoEFCC has only observed a Partial Compliance on the point that "Annual social audit form government institute of repute is yet to be completed." GKEL submits that for compliance with Companies Act 2013 and CSR Rules 2014, GKEL has conducted the Impact Assessment of its CSR programs through designated institutes as per CSR Rules 2014. The recent CSR Program Impact Assessment was conducted by KIIT

S. No.	MoEF&CC, New Delhi, ATR points	References	Reply to MoEF&CC, Delhi
		also submit the status of implementation of the scheme from time to time. The achievements should be put on company's website."	School of Rural Management, a nationally recognized institution of repute. GKEL has already completed the one-time (capital) expenditure towards CSR as per EC condition that is also acknowledged by Regional Officer MoEFCC in its Monitoring Report dared 6th Feb 2025. As GKEL is already in the process of reviving its EC for 4th Unit of 1x350 MW, it will submit request to MoEFCC that for annual CSR expenditure and impact assessment, the company may please be allowed to conduct CSR impact assessment through the agencies as per CSR Rules 2014 instead limiting to Govt institute for such studies. GEKL undertake to submit its CSR impact Assessment reports conducted as per CSR Rules 2014 to MoEF&CC also.
5	Green belt of 100m width has not been developed all around plant as per the condition (Specific Condition: XXXII)	Specific condition No-XXXII of EC-II (1x350 MW)- "Green Belt consisting of 3 tiers of plantations of native species around plant and 100m width shall be raised. The density of trees shall not be less than 2500 per ha with survival rate not less than 80 %".	This condition of 100-meter width of green belt pertains to the EC for 4th Unit of 1x350 MW obtained in 2011 which is not fully constructed yet. As GKEL obtained the fresh TOR in Jan 2024 for EIA and EC for 4th unit addition, in fresh EIA GKEL will submit to MoEFCC that plot plan of the project 3X350 MW was already built in compliance to EC obtained in 2008. A 33% greenbelt compliance is done however the width of the greenbelt is not uniformly 100 meters around the periphery. The green belt is kept more towards the predominant downwind direction of the project. GKEL is presently conducting the EIA in compliance to TOR dated Jan 2024 for the 4th Unit and hereby submits that Greenbelt details for existing 3X350 MW and proposed 1X350 MW units plots and GLC projection shall be submitted to MoEFCC for a fresh review and revision of the condition for fix 100 meter with.

S. No.	MoEF&CC, New Delhi, ATR points	References	Reply to MoEF&CC, Delhi
6	i. Average coal consumption has exceeded the specific limit as per the condition (Condition: III)	Condition No-III of EC- I (3x350 MW)- "The plant heat rate of around 2300 kcal/kwh shall be achieved and the coal consumption shall not exceed 660 tph."	Avg. Heat Rate – 2321.44 kcl/kwh is being achieved. Copy of compliance for April-Sept 2022, Oct-March 2023, April-Sep 2023 and Oct-March 2024 shows the coal consumption within 660 tph except 680 tph during the period April-September 2024 due to higher ash content in coal as the ash content limit in coal is amended for Pit head closed power plants in India after MoEF&CC notification S.O. 1561(E) 21st May, 2020.

In addition to the above, status of installation of Flue Gas Desulphurization shall be furnished as per the MoEF&CC Notification dated 05/09/2022:

- Installation of FGDs for existing 3 units of 350 MW each, would be according to the revised timeline for implementation i.e. Dec- 2028(the units being in Category B (as per the MoEF&CC notification "Environment (Protection) Third Amendment Rules, 2024" dated 30-Dec-24).
- The company has initiated necessary steps for regulatory approval and procurement process to meet the stipulations.
- As regards FGD for unit 4, Company would commission it along with its installation, in line with MoEF&CC notification.

26.4.6: **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

26.4.7: **Environment site Settings**

S. No.	Particular	Land	Remark
1	Total land	468.85 ha. The proposed expansion of 1x350 MW will be carried out within the existing land of 468.85 ha.	Land use: Industrial

<table>
<tr><th>S. No.</th><th>Particular</th><th>Land</th><th>Remark</th></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&CCO.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>
</table>
</td><td>No R&R</td></tr>
</table>

S. No.	Particular	Land	Remark

Manpur	0.8
Bhagabatpur	1.0
Tentulihata	1.6
Bhudapanka	1.5
Kusupanga	2.0

Mitigation measures

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

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.

<table>
<tr><th>S. No.</th><th>Particular</th><th>Land</th><th>Remark</th></tr>
<tr><td></td><td></td><td>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><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>
</table>

<table>
<tr><th>S. No.</th><th>Particular</th><th>Land</th><th>Remark</th></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</td><td>Nil</td><td></td></tr>
</table>

S. No.	Particular	Land	Remark
	CEPI score		

26.4.8: 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	

26.4.9: 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	--

26.4.10: **Water requirement**: Existing Water requirement is 48,931.40 m^3/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 m^3/day and for operation phase 32,000 m^3/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.

26.4.11: **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.

26.4.12: **Baseline Environmental Studies**

<table>
<tr><td>Period</td><td>October 2024 to December 2024</td><td>Additional study (if any)</td></tr>
<tr><td>AAQ parameters at 12 Locations (min and max)</td><td>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</td><td></td></tr>
<tr><td>Incremental GLC level</td><td>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)</td><td></td></tr>
<tr><td>round water quality at 08 locations</td><td>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.</td><td></td></tr>
<tr><td>Surface water quality at 08 locations</td><td>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.</td><td></td></tr>
<tr><td rowspan="4">Effluent generation details and its treatment</td><td>Effluent generation from TPP:</td><td>123 m^3/day</td></tr>
<tr><td>Mode of treatment & reuse: Effluents would be neutralized in a neutralizing pit where proper neutralizing arrangements for the effluent fluids would be provided</td><td></td></tr>
<tr><td>Domestic wastewater generation:</td><td>96m^3 /day</td></tr>
<tr><td>Mode of treatment & reuse: Shall be treated in STP and treated water shall be used for greenbelt development/ plantation and dust suppression.</td><td></td></tr>
<tr><td>Noise levels Leq (Day and Night)</td><td>53.8. to 56.7dB(A) for the day time and 43.2. to 44.6 dB(A) for the Night time.</td><td></td></tr>
<tr><td>Traffic assessment study findings</td><td>• Traffic study has been conducted at NH-149 and NH -55. Which is approximately 5.5 km (distance) from the plant site.
• Transportation of raw material will be done - by rail/ road.
• Existing PCU is 15000 PCU/hr on (NH/SH/MDR) and existing level of service (LOS) is:
<table>
<tr><th rowspan="2">S. No</th><th rowspan="2">Parameters</th><th colspan="4">Sampling Locations</th></tr>
<tr><th>TD1</th><th>TD2</th><th>TD3</th><th>TD4</th></tr>
<tr><td>1</td><td>Total Traffic/day</td><td>10012</td><td>8754</td><td>8542</td><td>9315</td></tr>
</table></td><td></td></tr>
</table>

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 is attached as Annexure 9 of EIA and EMP report.			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.

26.4.13: 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.	--

26.4.14: **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 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	Shall be complied along with commissioning of 1 X 350 MW conforming to latest emission norms.

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	
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

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	
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. Road Side: 15, 542 Nos	20.00	0.75	0.75	0.75	Continuous Process
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

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	
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	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	
		the Payrolls GMR. Apart from with agencies 763 nos (within 10 KM 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**	

26.4.15: **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.

26.4.16: **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.

26.4.17: **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.

S. No.	Details of Ash Pond	Ash pond 1	Ash pond 2	Total
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	03rd April '2025 NIT- Warangal		N.A.

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

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

26.4.19: **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.

26.4.20: **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**			

S. No.	Particulars	No. of equipment's	Unit Cost (INR Lakhs)	Capital cost (INR Lakhs)
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)		
			Incre m-ental GLC	Max. Baselin e observe d at AAQS	Resul-tant GLC	Increm - ental GLC	Max. Baselin e observe d at AAQS	Resul - tant GLC	Increm - ental GLC	Max. Baselin e observe d at AAQS	Resul -tant GLC	Incre-mental GLC	Max. Baselin e observe d at AAQS	Resul-tant 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: SO_2 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

S.No.	Particular	Distance	Direction
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
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, Chemicalstabilization
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 NO_2 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 SO_2, 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

26.4.21: 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 m^3/day (Construction Phase) and 32,000 m^3/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/Nm^3. 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 SO_2 gas shall be captured in limestone slurry (to limit SO_2 emission below 100 mg/Nm^3) 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:

26.4.22: In view of the foregoing and after detailed deliberations, the committee ***recommended*** the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to uploading of written submission on PARIVESH Portal and stipulation of the following specific conditions and general conditions based on project specific requirements:

A. Specific conditions

[A] Environmental Management

1) 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.

2) 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.

3) The water requirement for the proposed project work (Construction Phase) is estimated as 3669 m^3/day and for operation phase 32,000 m^3/day of fresh water that will be obtained from the Samal Barrage on Bramhani River.

4) 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.

5) 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.

6) 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.

7) 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.

8) 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.

9) Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.

10) 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.

11) 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, 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.

12) 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.

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.

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.

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.

16) PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.

17) Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.

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.

19) Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.

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

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.

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.

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.

[B] Socio-economic

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. 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.
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.
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.

[C] Miscellaneous

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.
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. 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 (E) dated 7.12.2015, G.S.R.593 (E) 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 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.
4. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
5. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

B. Ash content/ mode of transportation of coal:

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.

D. Air quality monitoring and Management:

1. 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.
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/Nm^3.
3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm^3.
4. Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO_2, 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 PM_{10}, $PM_{2.5}$, SO_2, NO_X within the plant area at four locations. 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.

E. 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 Occupational health 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. 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.

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.
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. 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.
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.

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.
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.
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).

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 plant area 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 (E) dated 30.12.2021, S.O.05 (E) dated 01.01.2024 and amendment thereto.
5. Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method.

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. 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.
5. The project proponent shall (Post-EC Monitoring):
    a. Send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
    b. Upload the clearance letter on the web site of the company as a part of information to the general public.
    c. Inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in.
    d. Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
    e. Monitor the criteria pollutants level namely; PM (PM10 & PM2.5 in case of ambient AAQ), 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.

Agenda No. 26.5

26.5 4x600 MW Thermal Power Plant by **M/s. Jindal Power Limited (JPL)** at Villages Tamnar, Taluk Gharghoda, **District Raigarh, Chhattisgarh – Reconsideration for Amendment in Environmental Clearance based on ADS reply – reg.**

[Proposal No. IA/CG/THE/472414/2024; F. No. J-13012/117/2008-IA. II (T)]

26.5.1: M/s. Jindal Power Limited has made an online application vide proposal no. IA/CG/THE/472414/2024 dated 10.05.2024 seeking for amendment in Environmental Clearance dated 18.03.2011 and its subsequent amendment granted therein for the project namely "4x600 MW unit Coal based Thermal Power Plant located at Village Tamnar, Taluk Gharghoda, District Raigarh, Chhattisgarh" by M/s Jindal Power Limited (JPL) for utilization of existing ash dyke of 4x250 MW for 4x600 MW TPP.

The above proposal was earlier considered by the EAC – Thermal in its 11th meeting held on 27-28th June, 2024 and recommended for amendment in EC subject to stipulation of additional environmental safeguards. Subsequently, the proposal was again referred back to the EAC with an observation that whether EAC has taken into consideration scheduled action plan and asked for any inspection. Accordingly, the proposal was again considered by the EAC in its meeting held on 1/10/2024 wherein EAC deferred the proposal for want of additional information and also recommended for a site visit by the sub-committee of EAC – Thermal. The site visit by the sub-committee was completed during 3-4th January, 2025 and the proponent submitted the reply to the additional information through Parivesh on 06/02/2025. The said proposal was further placed before the 20th EAC meeting held on 24/02/2025, wherein the committee partially recommended for amendment in EC to use existing ash dyke of 4x250 MW for 4x600 MW TPP for 2 year i.e. till 30.06.2026 subject to stipulation of additional environmental safeguards. The proposal was again referred back to the EAC by the Ministry for further examination regarding adequacy of existing ash dyke of 4x250 MW. Accordingly, proposal was placed before the EAC in its meeting held on

20/06/2025 for reconsideration.

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

26.5.2 Details of the EC for which amendment is sought:

i. Jindal Power Ltd. (JPL) is operating 1000 MW (4x250 MW) & 2400 MW (4x600 MW) thermal power plants located at village Tamnar, District Raigarh, Chhattisgarh. Details of the EC obtained is summarized as below:

S. No.	Units	EC date	COD	Status of implementation
1.	2x250 MW (Phase I)	24.09.1997	08.12.2007 & 15.06.2007	Fully implemented and the units are under operation
2.	2x250 MW (Phase II)	08.06.2006	16.04.2008 & 05.09.2008	
3.	2x600 MW (Units#1&2)	18.03.2011	27.08.2014 & 09.11.2014	
4.	2x600 MW (Units#3&4)	04.11.2011	15.01.2015 2.12.2016	

ii. The 1000 MW plant was constructed in two phases. Phase – I and Phase –II, each comprising of two units of 250 MW.

iii. Existing ash dyke for 4x250 MW has been constructed in an area of 198 Ha.

iv. The 4x600 MW (2400 MW) units were granted EC in two parts i.e. on 18.03.2011 (Unit # 1 &2) and on 04.11.2011 (Unit # 3 & 4).

v. The proposal is for amendment in Environmental Clearance of 4x600 MW Thermal Power Plant for utilization of existing ash dyke of 4x250 MW for 4x600 MW TPP.

vi. Chronology of permission for use of existing ash dyke of 4x250 MW for 4x600 MW.

S No	Date of accord of EC amendment	Remarks
a.	10.01.2014	Amendment in EC w.r.t. transportation of coal, utilization of existing ash dyke of 4x250 MW for 4x600 MW TPP for 03 years.
b.	26.04.2017	Amendment in EC w.r.t. transportation of coal, utilization of existing ash dyke for 4x600 MW TPP for 02 more years till construction of new dyke & change in coal source from imported to domestic, change in location of proposed dyke.
c.	28.08.2020	Amendment in EC for extension of permission for transportation of coal, utilization of existing ash dyke

S No	Date of accord of EC amendment	Remarks
		for 4x600 MW TPP till October, 2021.
d.	28.10.2021	Amendment in EC for extension of permission utilization of existing ash dyke for 4x600 MW TPP till December, 2022.
e.	24.02.2023	Amendment in EC for extension of permission utilization of existing ash dyke for 4x600 MW TPP till June 2024.

vii. Justification for the utilization of existing ash dyke: As per EC dated 18.03.2011, a separate ash dyke near Rodapali village was to be constructed for 4x600 MW. However, the Ash dyke could not be constructed as the land for the proposed ash dyke area became part of a coal block. Based upon the request of JPL, MoEF&CC vide letter dated 26.04.2017 granted permission to construct the ash dyke on 236 Ha land at an alternate location near village Dolesera. However, the Consent to Establish (CTE) for the same was granted by Chhattisgarh Environment Conservation Board (CECB) vide letter dated 27.04.2022. Now, and to conserve the land, JPL has planned to not construct the new ash dyke for 4x600 MW on an area of 236 ha which was permitted by MoEF&CC.

vii. The present amendment sought by the proponent is summarized as below:

Specific/General Condition No	Details of Conditions as per EC	Amendment Sought	Justification
Condition no. 3, 4 & 5 of the EC amendment dated 24.02.2023.	MoEF&CC has granted permission to use existing ash dyke of 4x250 MW for disposal of unutilized ash of 4x600 MW till June, 2024.	Permission to continue use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW permanently.	• To conserve the land and maximize ash utilization, the Company has planned to not construct the new ash dyke for 4X600 MW on an area of 236 hectares which was permitted by MoEF&CC. • As the Company is utilizing about 100% ash, the existing ash dyke volume will be adequate to continue bottom ash disposal from 4x250 MW and 4x600 MW TPPs.

26.5.3: Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration shall be furnished;

A. Summary of Court Cases: NIL

Details of NGT court case

S. No.	Case no.	Name of the Court	Brief Summary of the Case	Last date of Hearing	Next date of Hearing	Direction / Action taken by the PP
1.	Original Application No. 70/2023	NGT, Central Zone	News report published in the Newspaper named Indian Express, Daily News Paper dated 4th February, 2022, Kolkata, Late City Edition titled "Noncompliance of EC conditions by different units inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh.	08.11.2024	Disposed	As per NGT order dated 08.11.2024 Original Application No. 70/2023 stands disposed of with following directions: MoEF&CC is directed to periodically monitor the compliances of the environmental conditions and after scrutiny of the environmental conditions to take necessary / proper action in case of violation. The state is directed to strictly comply Rule 22 of the Chhattisgarh District Mineral Foundation Trust Rule, 2015 and Rule 10(1)(b)(1) Odisha District Mineral Foundation Trust Rule, 2015 which provides the expenditure from the trust fund of the District Mineral Foundation Trust for the overall development of the area affected by the Mining or mining is related operations in accordance with the annual action plan prepared by the Managing Committee and approved by the Governing Council of the Trust. The DMF fund must be utilised in accordance with rules and for proper maintenance of the road and welfare for the public. The railway route must be completed by 01.04.2025 and MoEF&CC with the Railway Board will regularly monitor the progress of the completion of the railway route. The South East Central Railway (SECR) Bilaspur is directed to periodically monitor the progress of the railway

S. No.	Case no.	Name of the Court	Brief Summary of the Case	Last date of Hearing	Next date of Hearing	Direction / Action taken by the PP
						construction and to ensure its completion before 01.04.2025.

B. Summary of Show Cause Notices: NIL
C. Summary of violation: NIL

26.5.4: Compliance to the observations of sub-committee site visit report: The Subcommittee of EAC – Thermal visited the project site on 03rd Jan to 04th Jan 2025. The recommendations of the Subcommittee of EAC – Thermal and its compliance status by the proponent are as below:

Sl. No	EAC sub-committee recommendation	Compliance status
1.	The PP should ensure that the back filling of mine voids in combination with over burden material is carried out under care of environmental safe guards in compliance with the guidelines of DGMS and CPCB.	**Being complied** All out efforts are being made to utilize ash in accordance with the Fly ash utilization notification. Currently, JPL is utilizing the fly ash in back filling of mine along with OB in Gare Palma IV/1 and Gare Palma IV/2&3 coal mines owned by JPL, Tamnar as per approved mine plan and guidelines of DGMS & CPCB guidelines.
2.	PP should carry out regular monitoring of the area around back filling site to ensure there is no leaching or deterioration of any environmental parameter particularly w.r.t. Ground Water and Surface water sources.	**Being complied** JPL has engaged IIT-Kharagpur and CIMFR, Dhanbad for monitoring of long-term impacts of dumping of fly ash and leaching of heavy metals on soil and water of study area. There is no sign of deterioration of any environmental parameter w.r.t Ground water or surface water sources due to the backfilling.
3.	M/s JPL should present the findings and recommendations of the studies carried out by IIT, Kharagpur, CIMFR, Dhanbad and NIT Raipur w.r.t. the impact analysis of back filling of mine voids and slope stability of Ash Dyke.	The Conclusion of the studies carried out by IIT, Kharagpur, CIMFR, Dhanbad and NIT Raipur w.r.t. the impact analysis of back filling of mine voids and slope stability of ash dyke are as below: **Conclusion of NIT Raipur Report on Slope Stability of Ash dyke:** The ash dyke is analysed for steady seepage condition (normal) and steady seepage earthquake condition (seismic) for local and global stability analysis. Factor of Safety are obtained more than 1.5 to 1.0 for normal and seismic loading conditions, which fulfils the acceptance criteria for minimum factor of safety required as per IS 7894: 1975 (Reaffirmed 2002), "Code of practice for stability analysis of earth dams." Therefore, it can be concluded that:

Sl. No	EAC sub-committee recommendation	Compliance status
		• Ash dyke with 4th stage raising is observed to be stable and safe with current existing (fly ash filling and water ponding) condition and expected to perform satisfactorily. • However, continuous inspection/ examination of the ash dyke is required periodically. **Conclusion of latest IIT Kharagpur study:** The following specific conclusions are derived: 1. The possibility of air quality degradation, due to the practice of fly ash-mixed dumping has not been observed, based on the air quality monitoring of the studied stations during the study period. 2. The heavy metal concentrations (in both surface and ground water samples) did not exceed the permissible limits, hence, heavy metal poisoning of surrounding flora, fauna and other aquatic lives are not seen to be imminent threats. 3. The geo-environmental contamination level due to current mining activities (including fly-ash mixed backfilling) has showed no significant evidence to impact the lives of flora, fauna and other aquatic lives in the surrounding areas. **Conclusion of latest CIMFR Dhanbad study:** **1. Soil Sampling and Physicochemical Parameter Analysis** No major impacts observed on the soil physicochemical parameters of the area due to mining activity. As per soil physical parameters reclaimed site with fly ash is well managed to develop vegetation and ecosystem which may be similar to natural forest. Overall all the physicochemical parameters for all sampling sites are similar to the samples from forest area. **2. Water and Fly Ash Sampling and Physicochemical Parameters-** Quality assessment of groundwater for drinking purposes suggest that concentration of most of the analyzed parameters are within the recommended drinking water limits of BIS (2012). All the analysed parameters of the surface water collected are well within the prescribed limits of surface water quality standards under class C of IS:2296 and can be used for drinking purposes after conventional treatment followed by disinfection. The analysis results of mine water collected from proposed mine voids shows that pH are within the recommended range of 5.5 - 9.0 for effluent discharge. Concentrations of F-, Cl-, SO42- and NO3- in the analysed mine water samples are below the specified limits for effluent

Sl. No	EAC sub-committee recommendation	Compliance status
		discharge. All the measured metals like Fe, Mn, Pb, Zn, Cu, Cr, Cd, Ni, As and Hg are also observed below the recommended limits for effluent discharge in inland surface water. **3. TCLP test:** TCLP test and study of radioactivity of radionuclide in coal ash samples shows no major impacts on the water quality parameters of the area due to disposal of coal ash in mine voids. **4. Air Quality Monitoring** The data indicates that the air quality in these locations are within acceptable standards concerning heavy metal contamination, ensuring a safer environment for the residents. Regular monitoring is recommended to maintain these standards and to identify any potential changes in the concentrations of these metals over time.
4.	M/s JPL should also work to enhance the utilization of fly ash in areas such as Cement manufacturing, brick, and tiles and hollow block manufacturing and highways construction etc.	**Being complied** The Company is also supplying the ash to JSP cement plant and nearby brick plants as per their requirements. Further the company provides the ash for road/ highway construction as and when the requirement arises.
5.	For control of SO2 emissions PP should install FGD systems at the earliest as per the provisions of OM of date 30/12/2024 as issued by MoEF&CC.	JPL is committed for implementation of O.M. of date 30/12/2024 as issued by MoEF&CC. As per the MoEF&CC's Gazette Notification G.S.R.682 (E) dated 05.09.2024 read with the Gazette Notification G.S.R. 787(E) dated 30.12.2024, the timeline for installation of FGD by the power plant is upto 31st December, 2029.
6.	PP should make roadside plantation along the transport route of coal.	**Being complied** Avenue plantation along the route (both sides of the road) of coal transportation from is being done on continuous basis. The Company has already planted approx. 1 lakh sapling on the road side.
7.	Miyawaki plantation should also be done by PP in the plant area.	JPL has planned for Miyawaki plantation in upcoming monsoon season in the nearby area of plant.

ADS Information in chronology

26.5.5: The proposal was initially considered in 13th EAC meeting of Reconstituted EAC (Thermal) held on 01/10/2024. Proposal was deferred for want of following additional information. The observations and recommendation are given as below:

1. Present status of 236 Ha land along with photographs and intended purpose of the said land in place of new ash dyke.
2. Quantum of ash generation, disposal and utilization as per the ash utilization notification dated 31/12/2021 and its subsequent amendments shall be submitted. Further, the quantum of legacy ash utilization shall also be furnished.
3. Action plan for reduction in existing ash pond area shall be submitted.
4. Project proponent shall submit a certified compliance report from the concerned Regional Office of the Ministry regarding the compliance of all the stipulated conditions in the existing ECs and its subsequent amendments.
5. Compliance report from CECB regarding adherence to the terms and conditions by the proponent for disposal of ash in low lying area shall be submitted.
6. Action plan for adopting dry bottom ash collection system shall be submitted.
7. Detailed status of court case i.e., Original Application No.70/2023 pending before the NGT, CZ Bhopal regarding "Noncompliance of EC conditions by different units inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh shall be submitted.

26.5.6: Proponent uploaded the additional information on 06/02/2025 and the proposal was placed before the EAC for consideration in its 20th meeting held on 24/02/2025. The reply submitted with observations and recommendations of EAC are as below:

S. No.	ADS Point	Reply/Response of PP
1.	Present status of 236 Ha land along with photographs and intended purpose of the said land in place of new ash dyke.	The 236 ha land is located in two villages i.e. Dolesara and Uttar Regaon. JPL has deposited Rs. 85.86 Crs. to Chhattisgarh State Industrial Development Corporation Limited (CSIIDC) for acquisition of 183.622 ha land located at Dolesara. The land has been acquired and the formal letter of possession is awaited. Regarding the acquisition of balance land, the same is under consideration. Appropriate utilisation of the area/ land available thereof is under the active consideration of the Company's management. Photograph of the land is submitted.
2.	Quantum of ash generation, disposal and utilization as per the ash utilization notification dated 31/12/2021 and its subsequent amendments shall be submitted. Further, the	The details of ash generation and utilization as per the ash utilization notification dated 31/12/2021for 4X250 MW TPP and 4X600 MW TPP is submitted. MoEF&CC vide its notification no. S.O. 6169 (E) dated 30.12.2022 has added a proviso in the Fly ash Utilisation Notification: "Provided that ash stored in all ash ponds or dykes other than operational ash pond or dyke designated for temporary storage of ash as specified in sub-para (6) shall constitute the legacy ash and either to be reclaimed or stabilised or utilised." Thus as per the above proviso, it is submitted that JPL only has one ash dyke which is presently operational and thus the ash stored in the operational ash dyke does not constitute as Legacy Ash. YEAR-WISE FLY ASH UTILISATION FOR 4X600 MW TPP

<table>
<tr><th>S. No.</th><th>ADS Point</th><th>Reply/Response of PP</th></tr>
<tr><td></td><td>quantum of legacy ash utilization shall also be furnished.</td><td>
<table>
<tr><th>Year</th><th>Total ash generation (MT)</th><th>Cement Plant (MT)</th><th>Low land Filling (MT)</th><th>Mines filling (MT)</th><th>Brick Making plants (MT)</th><th>Total ash utilized (MT)</th><th>% Utilisation</th></tr>
<tr><td>2024-25* (till Jan’25)</td><td>5362674</td><td>75003.21</td><td>0.00</td><td>4089871.84</td><td>122498.66</td><td>4287373.71</td><td>79.95</td></tr>
<tr><td>2023-24</td><td>5624741</td><td>121450</td><td>0</td><td>5439252</td><td>170347</td><td>5731049</td><td>101.89</td></tr>
<tr><td>2022-23</td><td>4581135</td><td>87019</td><td>7053</td><td>4401348</td><td>32728</td><td>4528148</td><td>98.84</td></tr>
<tr><td>2021-22</td><td>3568816</td><td>879</td><td>401829</td><td>2792858</td><td>2654</td><td>3198220</td><td>89.62</td></tr>
</table>
<table>
<tr><td colspan="8">YEAR-WISE FLY ASH UTILISATION FOR 4X250 MW TPP</td></tr>
<tr><td>Year</td><td>Total ash generation (MT)</td><td>Cement Plant (MT)</td><td>Low land Filling (MT)</td><td>Mines filling (MT)</td><td>Brick Making plants (MT)</td><td>Total ash utilized (MT)</td><td>% Utilisation</td></tr>
<tr><td>2024-25* (till Jan’25)</td><td>2124048</td><td>0</td><td>0</td><td>1814952.28</td><td>0</td><td>1814952.28</td><td>85.45</td></tr>
<tr><td>2023-24</td><td>2396820</td><td>0</td><td>7749</td><td>2395837</td><td>0</td><td>2403585</td><td>100.28</td></tr>
<tr><td>2022-23</td><td>2163291</td><td>0</td><td>203144</td><td>1935851</td><td>1179</td><td>2140174</td><td>98.93</td></tr>
<tr><td>2021-22</td><td>1834909</td><td>189173</td><td>624953</td><td>740178</td><td>0</td><td>1554304</td><td>84.71</td></tr>
</table>
</td></tr>
<tr><td>3.</td><td>Action plan for reduction in existing ash pond area shall be submitted.</td><td>In order to reduce the area of the existing dyke, JPL has planned to cap Lagoon 2-B of the existing ash dyke.
The Company is considering to carry out greening of the area.
The capping is planned to be completed by May, 2025.
This will reduce the area of the existing ash dyke by 16.60 ha.</td></tr>
<tr><td>4.</td><td>Project proponent shall submit a certified compliance report from</td><td>JPL vide letter dated 18.10.2024 has requested IRO, MoEF&CC, Raipur to provide the Certified Compliance Report with regular follow up with the concerned office.
CCR is awaited from IRO, MoEF&CC.</td></tr>
</table>

S. No.	ADS Point	Reply/Response of PP
	the concerned Regional Office of the Ministry regarding the compliance of all the stipulated conditions in the existing ECs and its subsequent amendments.	
5.	Compliance report from CECB regarding adherence to the terms and conditions by the proponent for disposal of ash in low lying area shall be submitted.	CECB vide letter dated 26.11.2024 has provided the compliance report regarding adherence to the terms and conditions for disposal of ash in low lying area.
6.	Action plan for adopting dry bottom ash collection system shall be submitted.	JPL has engaged M/s Desein Private Limited for feasibility study for adopting dry bottom ash collection system. The report will form the basis of preparing the detailed action plan.
7.	Detailed status of court case i.e., Original Application No.70/2023 pending before the NGT, CZ Bhopal regarding "Noncompliance of EC conditions by different units	As per NGT order dated 08.11.2024, O.A. No. 70/2023 stands disposed of with directions: MoEF&CC is directed to periodically monitor the compliances of the environmental conditions and after scrutiny of the environmental conditions to take necessary / proper action in case of violation. The state is directed to strictly comply Rule 22 of the Chhattisgarh District Mineral Foundation Trust Rule, 2015 and Rule 10(1)(b)(1) Odisha District Mineral Foundation Trust Rule, 2015 which provides the expenditure from the trust fund of the District Mineral Foundation Trust for the overall development of the area affected by the Mining or mining is related operations in accordance with the annual action plan prepared by the Managing Committee and approved by the Governing Council of the Trust. The DMF fund must be utilised in accordance with rules and for proper maintenance of the road and welfare for the public.

S. No.	ADS Point	Reply/Response of PP
	inter-alia Tamnar Thermal Plant of M/s. Jindal Power Limited, Chhattisgarh shall be submitted.	The railway route must be completed by 01.04.2025 and MoEF&CC with the Railway Board will regularly monitor the progress of the completion of the railway route. The South East Central Railway (SECR) Bilaspur is directed to periodically monitor the progress of the railway construction and to ensure its completion before 01.04.2025.

Observations and deliberations of the Committee as per EAC held on 24/2/2025:

The EAC noted the following:

i. As per EC dated 18.03.2011, a separate ash dyke near Rodapali village was to be constructed for 4x 600 MW. However, the Ash dyke could not be constructed as the land for the proposed ash dyke area became part of a coal block. Based upon the request of JPL, MoEF&CC vide letter dated 26.04.2017 granted permission to construct the ash dyke on 236 ha land at an alternate location near village Dolesera. Consent to Establish (CTE) for the same was granted by Chhattisgarh Environment Conservation Board (CECB) vide letter dated 27.04.2022. The present proposal of project proponent is not to construct the ash dyke in the 236 Ha and use the existing ash dyke developed for 4 x250 MW.

ii. The Company's management intends to use the land acquired for ash dyke for developing the Solar Power Generation Plant only.

iii. The Committee noted that proponent has obtained amendment in the existing EC with respect to use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW on 10/01/2014, 26/04/2017, 28/08/2020, 28/10/2021 and 24/02/2023.

iv. With respect to ash utilization for the existing 3400 MW TPP, the Committee gone through the ash generation and utilization details.

v. The EAC also deliberated on the written submissions of the project proponent and found it satisfactory.

Recommendations of the Committee as per EAC held on 24/2/2025:

In view of the foregoing and after the detailed deliberations, the Committee ***partially recommended*** the instant proposal for grant of amendment in the ECs dated 18/03/2011 & 04/11/2011 and its subsequent amendment dated 24/02/2023 as detailed below **subject to stipulation of following additional specific conditions and uploading of written submissions on PARIVESH portal.** Other terms and conditions prescribed in EC dated

18/03/2011 & 04/11/2011 and its subsequent amendments shall remain unchanged:

Paragraphs of EC amendment letter dated 24/02/2023	**Details as per EC amendment dated 24/02/2023**	**Amendment sought by the project proponent**	**Recommendations of EAC as per MoM**
Para no 3, 4 & 5 of EC amendment dated 24.02.2023	Permission to use existing ash dyke of 4x250 MW for unutilized ash/ bottom ash of 4x600 MW has been granted till June 2024.	Permission to continue use existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW permanently	Permission to use existing ash dyke of 4x250 MW for 4x600 MW TPP for 2 year i.e. till 30.06.2026 subject to stipulation of following additional specific conditions: i. 236 Ha of additional land acquired for ash dyke for 4x600 MW shall be utilized only for developing the Solar Power Generation Plant. No other activity is permitted in the said land. Compliance status in this regard shall be submitted to the Regional Office in this regard along with the six monthly compliance report. ii. Ash dyke stability study for the 4x250 MW shall be conducted through reputed government organisation once in six months and the recommendations of the study report shall be duly complied with. iii. PP shall expedite the planation activities and plantation shall be done in this monsoon as per the action plan at para no. 20.5.7. iv. PP shall expedite to start construction of nearby roads, geo-tagged pictures of before and after construction of the road shall be submitted. v. PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM. Sprinkling on the road side shall be carried out regularly (twice in a day) and data shall be maintained mentioning about its functionality. vi. 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.

Paragraphs of EC amendment letter dated 24/02/2023	Details as per EC amendment dated 24/02/2023	Amendment sought by the project proponent	Recommendations of EAC as per MoM
			This plantation drive is other than Green belt development. An action plan in this regard shall be submitted to concerned RO.

26.5.9: Based on the above recommendation during 20th EAC meeting, proposal was processed. Ministry has referred the proposal back to EAC to examine the adequacy of existing ash dyke for disposal of ash from 4x600 MW forever on permanent basis. Proponent uploaded the additional information in this regard on 13/05/2025, 19.05.2025 and 26.05.2025 and the proposal was further placed before the EAC for consideration in its 26th meeting held on 20/06/2025. Point-wise reply of ADS is given as below:

ADS reply dated 13.05.2025

No.	ADS point and Reply/Response of PP
1.	**ADS Point** All the details pertaining to adequacy of existing ash dyke meant for 4 x250 MW, area, height of dyke, available volume, stability analysis due to the increased ash dyke height due to disposal from 4x600 MW etc.,
	Reply/Response of PP 1. The existing ash dyke is located in 198 ha area. 2. The dyke has four lagoons namely 1A, 1B, 2A and 2B. 3. The height of the existing ash dyke is 18 m from the Ground level. It is submitted that the height of the existing ash dyke will not be increased further.

Ash Dyke Details

S No.	Details	Lagoon 1A	Lagoon 1B	Lagoon 2A	Lagoon 2B	Total
1.	Status of ash dyke (Active/ Exhausted- Yet to be reclaimed/ reclaimed)	Active	Active with Ash excavation in progress	Active	Capping is in progress	
2.	Area (ha) at the base/ bottom	52.6	68.8	42.7	33.9	198
3.	Area (ha) at the top of the dyke	44.2	53.1	29.5	16.6	143.4
4.	Dyke Height (m)	18 m				
5.	Volume (m3)	6680000	8120000	4440000	2360000	21600000
6.	Quantity of ash disposed (metric tons)	167.8 Lakh Metric Tons till 31st March 2025				
7.	Available volume in percentage and quantity of ash that can be further	23.4% 1407722	11.4% 834368.67	7.28% 291026	0% 0	13% 2583118

	disposed. (Metric tons)					
8.	Expected Life of ash pond (number of years and months)	309 days	183 days	64 days	0	556 days
9.	Type lining carried in ash pond: HDPE lining or LDPE lining or clay lining or no lining	Clay, LDPE and PCC Lining				
10.	Mode of Disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Dry disposal for fly ash & wet disposal for bottom ash HCSD for 4X600 MW TPP & LCSD for 4X250 MW TPP				
11.	Ratio of ash: water in slurry mix	LCSD- 1:4 HCSD- 2.3:1				
12.	Ash water recycling system (AWRS) installed and functioning: Yes or No	Yes				
13.	Quantity of wastewater from ash pond discharged into land or water body (m3)	Yes				
14.	Last date when the dyke stability study was conducted and name of the organization who conducted the study	01.01.2025 NIT, Raipur (Copy of the report is attached)				
15.	Last date when the audit was conducted and name of the organization who conducted the audit.	Oct, 2024 VNIT, Nagpur				

4. The bottom ash (around 20% of the total ash generated) from the Power Plant has to be evacuated in slurry form and disposed to the ash dyke before the same can be dried and utilised.

5. The Company is able to achieve the 100% ash utilisation by: (a) utilising the complete fly ash (which is 80% of the total ash generated) which is collected and evacuated in dry form, and (b) by excavating and subsequently using the dried ash (approx. 20% of the total ash generated) from the ash dyke.

6. Thus, the company has sufficient volume available in the ash dyke for disposal of bottom ash in the ash dyke.

Details of already disposed/ stored ash

a. Quantity stored (in metric tons)- 167.8 Lakh Metric Tons

Action plan for excavation and use of already disposed ash.

Year	Ash planned to be excavated (Lakh Metric Tons)	Use of excavated ash
2025-26	17.1	For mine back filling
2026-27	17.25	
2027-28	17.25	
2028-29	17.25	
2029-30	17.25	
2030-31	17.25	
2031-32	17.25	
2032-33	17.25	
2033-34	17.25	
2034-35	17.25	

7. Thus, the concurrent excavation and utilisation of ash as per the above plan from the ash dyke will continually enhance the volume availability in the existing ash dyke. The expected life of ash dyke, basis the above-mentioned excavation and utilisation plan for 10 years, will increase from 1.5 years to 12 years which will be sufficient for disposal of ash from the TPPs.

Stability analysis due to the increased ash dyke height:

The stability analysis of the dyke for the increased height has been recently carried out by reputed institute National Institute of Technology, Raipur. The report has been submitted by NIT Raipur on 01st January 2025

The dyke has been analyzed for the following conditions:

a. Steady Seepage Condition (Normal)
b. Earthquake condition (Pseudo static)

The minimum factor of safety required for different loading conditions as given in the IS 7894- 1975 are as below:

Loading Condition	Minimum Factor of Safety required
Steady seepage condition	1.5
Earthquake condition	1.0

The conclusion and recommendations of the report is:

a. "The ash dyke is analysed for steady seepage condition (normal) and steady seepage earthquake condition (seismic) for local and global stability analysis. **Factor of Safety are obtained more than 1.5 to 1.0 for normal and seismic loading conditions**, which fulfils the acceptance criteria for minimum factor of safety required as per IS 7894: 1975 (Reaffirmed 2002), "Code of practice for stability analysis of earth dams." Therefore, it can be concluded that **Ash dyke with 4th stage raising is observed to be stable and safe with current existing (fly ash filling and water ponding) condition and expected to perform satisfactorily.**

b. However, continuous inspection/ examination of the ash dyke is required periodically."

Environmental Parameters monitoring:

	1. 04 nos. piezometers have been installed around the ash dyke area. 2. Ground water quality monitoring is regularly conducted by the accredited laboratory around the ash dyke. 3. The ground water quality at all four locations is within the permissible limits. 4. The latest monitoring reports are also submitted by PP.

ADS reply dated 19.05.2025 & 26.05.2025

<table>
<tr><th>S. No.</th><th>ADS point and Reply/Response of PP</th></tr>
<tr><td>1.</td><td>
ADS Point
During the reply of ADS submission by the proponent, the ministry is in receipt of certified compliance report from Regional Office of MoEF&CC for existing EC (copy enclosed). As per report, significant non-compliances have been reported by RO. The requirement of CCR also one of the ADS information sought by the EAC. In view of this, PP is requested to submit the Action Taken Report on the observed non-conformities for taking considered view by the EAC in the matter.

Reply/Response of PP
Project proponent has submitted the Action Taken report to MoEF &CC dated on 17.05.2025.
Action Taken Report (ATR)
<table>
<tr><th>S No. as per IRO report</th><th>EC Condition no.</th><th>Observation of IRO, MoEF&CC</th><th>Response of JPL</th></tr>
<tr><td>1.</td><td>-</td><td>Project Authority relied upon the Ministry’s Notification S.O. 1561(E) dated 21st May, 2020. However, Hon’ble NGT vide order dated 15/02/2022 in Original Application No.104/2018 in the matter of Shivpal Bhagat & Ors. vs UOI, recommended that Road transport of coal shall be limited for those power plants operational in Raigarh. Accordingly, coal transport by road from coal mines or thermal power plants in these blocks was permitted only for a year, after which transport must done by rail or closed conveyor belt only. In view of the above. Project Authority shall get an appropriate amendment on the conditions which are not applicable or repugnant to the statutory provisions / Judicial Orders or Ministry may consider issuance of EC, superseding the existing ECs and amendments accorded.</td><td>• Majority of the coal for the TPP is being sourced from Gare Palma IV/1 coal mine and Gare Palma IV/2 & IV/3 coal mines of the Company.
• The coal from these coal mines is transported through Cross Country Pipe Conveyor (CCPC) from the mines to the TPP.
• Only the coal being sourced under Fuel Supply Agreement (FSA) from Kulda mines of MCL has to be transported by road which is being done as per the Ministry’s gazette notification S.O. 1561 (E) dated 21.05.2020.
• It is pertinent to further mention that the Hon’ble NGT in its judgment dated 08.11.2024 in the O.A. no. 70/2023 has held that the construction of Railway line is delayed and the transportation of coal from Kulda mines to JPL Tamnar has to be done by the road.
MoEFCC has mentioned in its EC amendment dated 28.08.2020 that the permission for road transportation of coal till 20.05.2020 and from 21.05.2020 onward govern by the Ministry’s gazette notification S.O. 1561 (E) dated 21.05.2020.</td></tr>
<tr><td colspan="4"><u>EC letter J-13011/15/93-II(T) dated 24.09.1997 for 2x250 MW (Phase I)</u></td></tr>
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	2.	**Condition No. (i)** All the conditions stipulated by Madhya Pradesh Pollution Control Board vide their letter No. 2077/TS/EZ/MPPCB/96	Though the Project Authority is having CTE and CTO from the CECB, details of the letter No. 2077/TS/EZ/MPPCB/96 dated 07/02/1997 of Madhya Pradesh Pollution Control Board and its compliance have not been made available.	• All the conditions stipulated by the Madhya Pradesh Pollution Control Board vide their letter No. 2077/TS/EZ/MPPCB/96 dated 07/02/1997 have been implemented. • Copy of the letter and its compliance is attached as **Annexure-1(A) and 1(B).** • It is pertinent to mention that this NOC was issued only for the purpose of obtaining Environmental site Clearance from the Ministry of Environment & Forests, Govt. of India, with the condition that the industry shall adopt latest clean Technology so as to minimize the pollution. • Further after the careful inspections and ascertaining compliance status of all the conditions, CECB has accorded the CTE & CTOs for the project. • Thus, the said condition is complied.
	3.	**Condition no. (iv)** Closed Circuit Cooling Device should be provided and it should be ensured that only minimum water is drawn for makeup purposes. The requirement of water for the project will be met by constructing 18 mt high dam across Kurkut River involving a cost around Rs.48 crores. The forest area coming under submergence shall be identified and separate clearance under the Forest (Conservation) Act shall be obtained by the project authorities prior to commissioning the work on the project.	Though the Project Authority has deposited the amount towards compensatory afforestation, the status of implementation regarding Compensatory Afforestation and catchment area treatment plan and its implementation have not been made available.	• Forest Clearance for dam construction has been granted by MoEF vide letter no. 8- 93/2003-FC dated 08.08.2005. • The Company had deposited the amount towards CA to the forest department and has implemented the catchment area treatment plan. • It is submitted that the implementation of CA is carried out by the State Forest Department and accordingly, the Company has already complied with the condition of Compensatory Afforestation by depositing the amount.

	4.	**Condition no. (ix)** A greenbelt of 100 m width will be created all along the plant boundary. Greenbelt will also be created along the ash disposal area. A norm of 1500 - 2000 trees per ha should be followed. A detailed proposal of green belt creation including aftercare, gap filling, monitoring etc. should be prepared along with financial requirements and submitted to the Ministry by 31st December, 1997.	Though the Project Authority has developed green belt, details are not made available regarding the detailed proposal of green belt development including aftercare, gap filling, monitoring etc. prepared along with financial requirements and its submission to the Ministry by 31st December, 1997.	• Approx. 4.6 lakhs samplings have been planted in the plant premises. • Green belt along the plant boundary has been developed and the same is being strengthened through gap plantation. • Greenbelt has also been created along the ash disposal area. • Saplings have been planted as per the CPCB guidelines. • Moreover the Company had engaged a third party for monitoring & evaluation of Green Belt/ plantation development and the report is submitted.
	5.	**Condition no. (xii)** Provision shall be made for collection of fly ash in dry form. Close conveyor system with dust suppression mechanism shall be used for transport of coal from the mine and for carrying the ash to the disposal areas. Adequate provision should be made for sprinkling of water at strategic locations to ensure that fly ash does not get air borne.	Close conveyor system with dust suppression mechanism for transport of coal from the mines and for carrying the ash to the disposal areas are being complied partly and part of the coal is being transported by road.	• Coal from Gare Palma IV/1 and Gare Palma IV/2 & IV/3 coal mines is transported using existing Cross Country Pipe Conveyor (CCPC). • Only coal procured from MCL under Fuel Supply Agreement (FSA) is transported by road through tarpaulin covered trucks as per MoEF&CC notification dated 21.05.2020 till the availability of railway infrastructure.
	6.	**Condition no. (xiv)** Fly ash generated will be fully utilized within 10 years starting with 20% utilization from the year of operation of the project with the additional utilization of 10% every year.	**Project Authority has not achieved 100 percent fly ash utilization within 10 years as stipulated.**	• Fly ash utilisation by Thermal Power Plants is regulated by the latest Fly ash Utilisation notification, 2021 notified by the MoEF&CC. • The Company has achieved the 100% compliance of three year cycle (i.e 2022-23, 2023-24 & 2024-25) as per fly ash notification. • The latest Annual report of Fly ash utilization submitted to the Regulatory Authorities is submitted. • Thus it is submitted that the condition is complied.

	7.	**Condition no. (xvi)** Project affected people should be adequately compensated and rehabilitated as per the State Govt. norms in consultation with the State authorities. The final R&R Programme and package should be submitted within six months. The project colony should be located 6-8 kms away from the plant site to avoid direct impact of the project.	PA claims that the condition have been complied with. However, details of the Project Affected People and the amount compensated to them have not been made available.	• All project affected families have been compensated as per directives of the State Govt. of C.G. • It is submitted that no R&R issue is pending. Thus it is submitted that the condition is complied.
	8.	Monitoring Committee should be constituted for reviewing the compliance to various safeguard measures by involving recognized local NGOs, Pollution Control Boards, Institutions, Experts etc.	**Monitoring Committee has not been constituted even after the lapse of 28 years from the grant of the EC.**	• Letter requesting for formation of Monitoring Committee was submitted to Chhattisgarh Environment Conservation Board, Regional Office vide letter No. JPL/EMD/RO/OCT-2010 dated 7/10/2010. • It is submitted that the Company will again take up the matter with CECB for expediting formation of Monitoring Committee. • Meanwhile, it is submitted that the company has engaged IIT, Kharagpur for monitoring of compliance to various safeguard measures. • The latest Environment Audit report is submitted.
	EC Letter no. J-13011/8/2006-IA.II(T) dated 08.06.2006 for 2x250 MW (Phase II)			
	9.	**Condition no. (ii)** 100% fly ash utilization shall be achieved within 9 years in accordance with the notification on fly ash utilization SO 763 (E) dated 14th September, 1999 and the amendments made therein from time to time.	**100% fly ash utilization has not been achieved within 9 years**.	• Fly ash utilisation by Thermal Power Plants is regulated by the latest Fly ash Utilisation notification, 2021 notified by the MoEF&CC. • The Company has achieved the 100% compliance of three year cycle (i.e. 2022-23, 2023-24 & 2024-25) as per fly ash notification. • The latest Annual report of Fly ash utilization submitted to the Regulatory Authorities is submitted. • Thus it is submitted that the condition is complied.
	EC Amendment letter no. J-13012/8/2006-IA.II(I) dated 03.01.2019 (4x250 MW)			

	10.	**Additional Condition no. 16(ii)** Alternate technology for fly ash utilization such as road making using geopolymer shall be explored with the institutes of national repute	**As stipulated in the additional condition, Project Authority should explore the alternate technology for fly ash utilization from the appropriate institutes.**	• The Company vide its letter dated 27.02.2017 had requested Director General, Council of Scientific and Industrial Research (CSIR), New Delhi to facilitate the company for use of alternate new technology to utilize dry fly ash. However, the Company did not receive any response in this regard. Copy of the letter is submitted. • However, it is submitted that the company has been using ash for road construction, brick & paver block manufacturing. • JPL has also supplied ash to the Public Works Department for utilization in the construction of road/ embankment as per requirement received. • The Company has achieved the 100% compliance of three year cycle (i.e. 2022-23, 2023-24 & 2024-25) as per the fly ash notification.
	11.	**Additional condition no. 16 (iii)** The approved ash pond site at village Dolesara/ Roadapalli in an area of 239 ha vide ministry's letter dated 26.4.2017 for disposal of ash generated from 4X600 MW Power Plant shall be operationalized within one year so that there should not be any necessity to further raise the existing dyke height.	**Project Authority ought to have amended the condition before raising the height of the ash dyke.**	1. JPL has undertaken ash dyke height raising pursuant to obtaining the EC amendments from MoEF&CC. 2. In this regard, the EC amendments granted by MoEF&CC vide letters dated 03.01.2019 and 13.08.2021 permitted JPL for ash dyke height raising. 3. It is submitted that no further height raising of the ash dyke will be undertaken.
	EC Amendment letter no. J-13011/8/2006-IA.II(T) dated 13.08.2021 (4x250 MW)			
	12.	**Additional Condition no. 11(ii)** 100% ash utilization shall be carried out throughout the year.	**100% ash utilization have not been achieved.**	• The Company has achieved the 100% compliance of three year cycle (i.e. 2022-23, 2023-24 & 2024-25) as per fly ash notification. • The latest Annual report of Fly ash utilization submitted to the Regulatory Authorities is submitted. • Thus, it is submitted that the condition is complied.
	13.	**Additional Condition no. 11(ii)** Disaster management plan shall be finalized and implemented after discussion with local authority.	Details are not made available regarding disaster management plan finalized and its implementation. Though the revised onsite emergency plan has been prepared, approval of the same has not been made available	• JPL has updated and implemented on site emergency plan after the approval of the Directorate, Industrial Health & Safety, Raipur (C.G.). • The copy of the approval letter of the emergency plan is submitted.

	4x600 MW Thermal Power Plant			
	EC letter no. J-13012/117/2008-IA.II(T) dated 18.03.2011 for 2x600 MW (Unit#1 & Unit#2)			
	14.	**Specific Condition no. (xvi)** Utilisation of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	**Project Authority has not achieved 100% fly ash utilization. Status of implementation report has not been regularly submitted to the Regional Office.**	• Fly ash utilisation by Thermal Power Plants is regularised by the latest Fly ash Utilisation notification, 2021 notified by the MoEF&CC. • The Company has achieved the 100% compliance of three year cycle (i.e. 2022-23, 2023-24 & 2024-25) as per fly ash notification. • The latest Annual report of Fly ash utilization submitted have also been submitted to IRO, MoEF&CC. • Further, JPL has been regularly submitted the fly ash utilization and its implementation report to IRO, MoEF&CC as Annexure to the six monthly compliance reports submitted. • The copy of the proof of submission of the same is submitted.
	15.	**Specific Condition no. (xvii)** Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As,Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	**As part of re-handling ash from the ash pond is partly used for levelling of low-lying areas, which is inconsistent with the stipulated condition**	• Re-handling of ash from the ash dyke is done for utilising the same for backfilling of mine voids at Gare Palma IV/1 and Gare Palma IV/2 & IV/3 coal mines of JPL. • The re-handled ash is not being utilised for low lying area filling. • It is pertinent to note that the mine void backfilling is a different activity and low lying area filling is a complete different activity. As also mentioned in the notification dated 31.12.2021 at Para A(2) wherein filling up of low lying area filling and filling of mine voids are two different activities.
	16.	**Specific Condition no. (xviii)** Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	For the Phase II project (4X600 MW Thermal Power Plant) no separate ash pond has been constructed rather existing ash dyke of 4x250 MW is being used for ash disposal and thus the condition needs to be Amended	The Company has submitted an online proposal (IA/CG/THE/472414/2024) for seeking permission for use of existing ash dyke of 4x250 MW as no separate ash pond will be constructed for 4x600 MW. The same is under appraisal of the Ministry.

	17.	**Specific Condition no. (xix)** Disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be carried out only after obtaining permission from DGMS and it shall be ensured that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.	Details are not made available regarding the NOC obtained from the State Pollution Control Board for ash disposal in the mine voids and intimation submitted by the Project Authority to the CECB before undertaking the activity	• Fly ash is being utilised in backfilling of mine voids as per the provisions of the Fly ash Utilization Notification dated 31.12.2021 and amendments thereof which mandates for use of fly ash for backfilling in mine voids. • The Company is utilising ash in backfilling of mine voids of Gare Palma IV/1 & Gare Palma IV/2 & IV/3 coal mines. • It is pertinent to mention that these mines are active and operational mines and are not the abandoned mines. • The condition pertains to disposal of ash in the abandoned mines. • JPL has informed CECB regarding the use of ash for backfilling of mine voids. • The latest Consent to Operate dated 27.12.2024 mandates to utilise ash as per the fly ash notification. • As per the notification & guidelines, separate NoC from CECB is not required for utilizing the fly ash in backfilling of the mine voids.
	18.	**Specific Condition no. (xxi)** The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing fluoride free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	If the said condition is not applicable as claimed by the Project Authority, the same shall be amended from the MoEF&CC.	• JPL under its CSR activities has been undertaking several community development programmes for the neighbouring villagers. • As per the Govt. PHE department survey, the neighbouring villages of project area are free from fluoride contaminated water. • However, the Company is supplying free potable drinking water to nearby villages as part of its CSR programme.

	19.	**Specific Condition no. (xxii)** Further an amount of atleast 0.4% of the cost of the project (for 2x600 MW) shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently a recurring expenditure 1/5th of the above per annum shall be earmarked till the operation of plant as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six month along with road map for implementation.	Details are not made available regarding an amount of at least 0.4% of the cost of the project (for 2x600 MW) earmarked as one- time capital cost for CSR. Details made available by the Project Authority regarding year wise expenditure incurred towards implementation of CSR activities during the past ten years is available.	The details of the capital expenditure incurred by JPL for undertaking CSR programs from 2011 to 2015 during the project phase of the 4x600 MW TPP is submitted.
	20.	**Specific Condition no. (xxiii)** While identifying CSR activities it shall be ensured that need based assessment for the nearby villages within study area shall be conducted to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people shall be undertaken. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. Vocational training programme for possible self employment and jobs shall be imparted to identified villagers free of cost.	Though CSR activities are being reportedly implemented, details are not made available regarding need-based assessment undertaken for the nearby villages within study area to study economic measures with action plan which can help in upliftment of poor section of society	It is submitted that the CSR plan is prepared and implemented based upon the need-based assessment. For the year 2025-26, CSR plan has been prepared and subsequently the work plans have been rolled out in the field. The activities are being implemented under the following thematic heads: • Health & Nutrition • Drinking water & Sanitation • Community Education • Entrepreneurship Development & Women empowerment • Environment • Agriculture Development • Sports, Arts and culture • Social inclusion • Rural infrastructure development

	21.	**Specific Condition no. (xxiv)** It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	The annual social audit has not been carried out through Government institute.	1. The annual social audit has been carried out by engaging Xavier Institute of Social Service, Ranchi (XISS-Ranchi). 2. The institute is a well renowned, highly recognised and a prestigious institute in India. 3. The copy of the latest annual social audit report is submitted.
	22.	**Specific Condition no. (xxv)** For the tribal families affected directly or indirectly (if any) by the proposed project, specific schemes for up- liftment of their sustainable livelihood shall be prepared with time bound implementation and in-built monitoring programme. The status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	Supporting documents are not made available regarding compliance	Schemes for the tribal families are being implemented. The status of activities is submitted.
	23.	**General Condition no. (iii)** Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	Disaster Management Plan, risk assessment & emergency response plan has not been prepared after the grant of EC. Project Authority relied upon the Disaster Management Plan, risk assessment & emergency response plan prepared as part of final EIA report. Project Authority shall amend the said EC condition from the MoEF&CC.	• Onsite Emergency Plan has been prepared and approved by the Directorate, Industrial Health & Safety, Raipur (C.G.) and implemented in plant area. • The copy of approved Emergency plan is submitted.
	EC Amendment Letter no. J-13012/117/2008.IA.II(T) dated 10.01.2014			

	24.	**Additional Specific Condition no. 6 (A) (xxx)-** A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Details are not made available regarding in- built continuous monitoring mechanism in place for radio activity and heavy metals in coal and fly ash (including bottom ash). If the condition is not implementable, which needs to be get amended from the MoEF&CC.	• The radioactivity in coal is analysed by NABL accredited laboratory on regular basis for determination of Radioactivity in Coal and fly ash. • Study of heavy metals content in coal and fly ash from a reputed institute/organization is carried out regularly. • The radioactivity report for coal, fly ash & bottom ash is submitted.
	25.	**Additional Specific Condition no. 6 (A) (xxxiii)-** The existing ash dyke shall be utilized for the expansion for an interim period not exceeding three years subject to ash dyke having necessary capacity to handle additional ash on account of the expansion units. A new ash dyke shall be constructed within three years to meet the requirement of substantial quantity of ash that would be generated by the expansion plant.	Permission was accorded vide Ministry's letter dated 24/02/2023 for using the existing ash dyke of 4x250 MW for disposal of unutilized ash of 4x600 MW till June, 2024. So far no approval has been accorded for extension of the same beyond June, 2024. It appears that Project Authority applied for an amendment in the EC Ministry may take appropriate view.	The Company has submitted an online proposal (IA/CG/THE/472414/2024) for seeking permission for permanent use of existing ash dyke of 4x250 MW as no separate ash pond will be constructed for 4x600 MW. The same is under appraisal of the Ministry.
	EC Amendment letter no. J13012/117/2008-IA.II(T) dated 27.03.2015			
	26.	**Additional Specific Condition no. (xxxvi)** Periodic maintenance of the road for coal transportation shall be done by the project proponent at its own expenses and shall also facilitate the traffic control on the road in consultation with the state Government Authorities.	Details are not made available regarding compliance.	• Periodic maintenance of the road used for coal transportation is being done by JPL on regular basis. • Presently JPL is in process of installing road lights from the plant gate to mine end. • Traffic marshals have also been deployed to control the traffic. Latest photographs of the road are submitted.
	EC Amendment letter no. J13012/117/2008-IA.II(T) dated 26.04.2017			

	27.	**Additional Condition no. 3(v)** Details of coal characteristics, source & location of coal mine, traffic study shall be submitted to the Ministry after getting allocation of coal through forward e-auction or any other scheme notified by M/s Coal India Limited.	Details are not made available regarding compliance of the condition.	• Majority of coal for the TPP is sourced from Gare Palma IV/1 and Gare Palma IV/2 & IV/3 coal mines of Jindal Power Limited. • Remaining coal is being sourced from MCL mine at Kulda under Fuel Supply Agreement (FSA). • Apart from the above, no coal is being sourced under any other scheme notified by M/s Coal India Limited.
	28.	**Additional Condition no. 3(viii), (xiii)** (viii) Change in location of ash dyke from Rodapalli to near Dolesara village is allowed. (xiii) As proposed, ash pond shall be lined with HDPE liner.	Though the permission has been accorded, the same has not been implemented and thus the condition may be deleted/ amended. Project Authority submitted that new ash pond has not been constructed and thus the need for compliance of the condition does not arise. **In such circumstances, Project Authority shall amend the condition.**	MoEFCC has permitted to change the location of ash dyke from Rodapalli to near Dolesara village through EC amendment dated 26.04.2017. The new ash dyke has not been constructed yet and the Company has submitted an EC Amendment application to MoEF&CC for not constructing the ash dyke for 4x600 MW TPP.
	EC Amendment letter no. J13012/117/2008-IA.II(T) dated 28.08.2020			
	29.	**Additional Condition no. 19(ii)** The details of quantities of ash generation, utilization to various purposes such as brick manufacturing, construction , soil condition & cement	Details of quantities of ash generation, utilization to various purposes such as brick manufacturing, construction, soil condition & cement manufacturing and disposal has not been regularly provided in the six monthly compliance report. Further, project authority neither submitted Fly ash utilisation report & Annual Fly ash Audit Reports regularly to this office nor uploaded the same on the website of the company.	• JPL has been submitting fly ash generation and utilization details as part of the six monthly compliance reports regularly. As can be perused from the latest six monthly compliance report submitted, which pertains to the Fly ash utilization. • The copy of the latest six monthly compliance report is submitted. • Further it is submitted that the Annual Fly ash utilization reports are submitted to MoEF&CC. The copy of the latest Annual report is submitted. • The Annual ash utilization report and audit report have been uploaded on the Company's website. The URL of the website is as below: https://www.jindalpower.com/environment-reports.html

	30.	**Additional Condition no. 19(iii)** As per the Ministry's fly ash amendment Notification vide S.O. 254 (E) dated 25.01.2016 , the company shall upload the details of stock of each type of ash generated/available from all the units (4X250 MW and 4X600 MW) on their website and shall update the stock position regularly.	Details of stock of each type of ash generated/available from all the units have not been uploaded on the website of the company as stipulated.	• JPL has uploaded annual fly ash compliance report for both the units on regular basis. • The latest stock of fly ash has also been updated in company website. The URL of the website is as below: https://www.jindalpower.com/environment-reports.html
	31.	**Additional Condition no. 19(xii)** Water sprinkling on the road shall be done during transportation along the routes.	Details are not made available regarding compliance.	Water sprinkling is being performed through mobile water tankers and fog cannon along the transportation route. **Latest photographs are submitted.**

PP has submitted the ATR to the RO-Raipur dated 22.05.2025 vide letter no. JPL/EMD/MoEF&CC/2024-25. However, closure Report from RO, Raipur is still awaited.

Observations and deliberations of the Committee (during 26th EAC meeting):

26.5.10: The EAC noted the following:

i. As per EC dated 18.03.2011, a separate ash dyke near Rodapali village was to be constructed for 4x 600 MW. However, the Ash dyke could not be constructed as the land for the proposed ash dyke area became part of a coal block. Based upon the request of JPL, MoEF&CC vide letter dated 26.04.2017 granted permission to construct the ash dyke on 236 ha land at an alternate location near village Dolesera. Consent to Establish (CTE) for the same was granted by Chhattisgarh Environment Conservation Board (CECB) vide letter dated 27.04.2022. The present proposal of project proponent is not to construct the ash dyke in the 236 Ha and use the existing ash dyke developed for 4 x250 MW.

ii. The Company's management intends to use the land acquired for ash dyke for developing the Solar Power Generation Plant only.

iii. The Committee noted that proponent has obtained amendment in the existing EC with respect to use of existing ash dyke of 4x250 MW for unutilized ash of 4x600 MW on 10/01/2014, 26/04/2017, 28/08/2020, 28/10/2021 and 24/02/2023.

iv. **The adequacy of the ash dyke for 4x250 MW have been examined by EAC in detail and noted that factor of safety is 1.0, which is pretty low. In view of this,**

PP was advised to take adequate measures to ensure that ash dyke is more stable. It was also advised that proponent shall go for circular slip analysis for the ash dyke.

v. EAC opined that height of the ash dyke shall not be increased beyond 18 meter and preferably fly ash shall not be utilized for filling up of low lying areas.

vi. **EAC deliberated upon the certified compliance report dated 25/04/2025 and observed that 31 non-compliances have been reported by the Regional Office including the non-compliance to the provisions contained under the ash utilization notification 2021 for the existing ash dyke of 4x250 MW which is presently under consideration before the EAC for amendment purpose.** The committee felt that proponent should take immediate action to the comply with non-compliances reported by the RO and obtain closure report.

Recommendations of the Committee:

26.5.11: In view of the foregoing and after the detailed deliberations, the Committee ***deferred*** the instant proposal and sought for a closure report against the 31 non-compliances as reported in the certified compliance report dated 25/04/2025 including the non-compliance to the provisions contained under the ash utilization notification 2021 for the existing ash dyke of 4x250 MW. Further, proponent shall also submit the circular slip analysis of the existing ash dyke to ensure the stability of the same as it has been proposed to be used for disposal of ash from 4x600 MW forever. Thereafter, the proposal shall be placed before the EAC for consideration for taking considered view on the amendment request of the project proponent.

Agenda No. 26.6

26.6: Expansion of Darlipali Super Coal Based Thermal Power Project by installing 1x800 MW (Stage-II) project in existing project (2x800 MW) **by M/s NTPC Limited** located at village Darlipali, Taluk Lephripara, **District Sundergarh, Odisha - Amendment in Terms of Reference - regarding.**

[Proposal No.: IA/OR/THE/539423/2025, F.No. J-13012/65/2008-IA. II(T)]

26.6.1: M/s. NTPC Limited has made an online application vide proposal no. IA/OR/THE/539423/2025 dated 30/05/2025 along with Form 3 and pre-feasibility report for the proposed 1x800 MW Darlipali Super Thermal Power plant and sought for amendment in the ToR dated 17/04/2023 accorded for the project mentioned above. 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.

Name of the EIA consultant: M/s Mantec Consultants Pvt Ltd, Noida. [S. No. 136. List of ACOs with their Certificate No.: NABET/EIA/23-26/RA 0305_Rev.01 (Valid up to 20 April 2026)].

Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

26.6.2: Environmental Clearance for existing 2x800 MW (1600 MW) unit was accorded by the Ministry of Environment, Forest and Climate Change (MoEF&CC) vide letter No. J-13012/65/2008. IA. II (T), dated 17.02.2014 for setting up of Thermal Power Plant. Presently, the power plant is under operation and has a valid CTO upto 31.03.2026 accorded by Odisha State Pollution Control board on 28.03.2025 vide letter no. 6565.

26.6.3: Implementation status of the existing EC

S. N.	Configuration	Capacity (MW)	As per EC dated 17.02.2014	Implementation Status as on 05.06.2025	Production as per CTO
1	(2x800 MW)	1600 MW	2x800 MW (Stage-I) Darlipali Supercritical Coal Based Thermal Power Plant at village Darlipali, in Lephripara Taluk, in Sundergarh Distt., in Orissa	Under Operation	1600 MW

26.6.4: Terms of Reference (TOR) for expansion of M/s. Darlipali Super Thermal Power Plant by adding 1x800 MW unit to existing 2x800 MW (1600 MW) unit was accorded by MoEF&CC on dated 17.04.2023 for undertaking EIA/EMP study. Subsequently, the ToR was amended on 13/11/2023. The proposed expansion is from 1600MW (2x800 MW) to 2400 MW (with addition of a 1x800 MW unit).

26.6.5: Details of the condition for which amendment is sought: The details of the amendment sought by the proponent in the ToR dated 17/04/2023 are summarized as below:

Para No	As per the ToR dated 17/04/2023 for the configuration of 1x800 MW	Amendment Sought in the ToR dated 17/04/2023 for the configuration of 1x800 MW	Justification
4 (ii)	**Water Requirement:** Quantity of water Requirement: 2400 m^3/hr Cooling System: Water Cooled condenser system	**Water Requirement:** Quantity of water Requirement: 930 m^3/hr Cooling System: Air Cooled condenser system	In view of anticipated scarcity of industrial water in future, NTPC pro-actively considered ACC in place of WCC to save water consumption for Darlipali Stage-II (1 x 800 MW) by 60% approximately. (Reduced the water requirement from 2400 m^3/hr to 930

<table>
<tr><th>Para No</th><th>As per the ToR dated 17/04/2023 for the configuration of 1x800 MW</th><th>Amendment Sought in the ToR dated 17/04/2023 for the configuration of 1x800 MW</th><th>Justification</th></tr>
<tr><td></td><td></td><td></td><td>m^3/hr). Reduction in water consumption will reduce water withdrawal and shall minimized the impact on local water resources and ecosystems.</td></tr>
<tr><td>4 (ii)</td><td>Land Area Breakup
<table>
<tr><th>Description</th><th>Existing (Ha)</th><th>Proposed (Ha)</th><th>Total (Ha)</th></tr>
<tr><td>Main Plant</td><td>322.534</td><td>45.3248</td><td>367.8588</td></tr>
<tr><td>Township</td><td>62.3216</td><td>0</td><td>62.3216</td></tr>
<tr><td>Ash Pond</td><td>160</td><td>80</td><td>240</td></tr>
<tr><td>Railway siding, corridors etc.</td><td>54.035</td><td>0</td><td>54.035</td></tr>
<tr><td>Green Belt</td><td>76.89</td><td>34.587</td><td>111.4776</td></tr>
<tr><td>Total</td><td>675.78</td><td>159.9124</td><td>835.693</td></tr>
</table></td><td>Land Area Breakup
<table>
<tr><td>Description</td><td>Existing (Ha)</td><td>Area Proposed (Ha)</td><td>Total (Ha)</td></tr>
<tr><td>Main Plant</td><td>98.340</td><td>46.592</td><td>144.932</td></tr>
<tr><td>Township</td><td>55.210</td><td>0</td><td>55.210</td></tr>
<tr><td>Ash Pond</td><td>160.000</td><td>80.000</td><td>240.000</td></tr>
<tr><td>Railway siding, MGR, Outside drains etc.</td><td>159.150</td><td>0</td><td>159.150</td></tr>
<tr><td>Raw water Reservoir</td><td>12.000</td><td>13.660</td><td>25.660</td></tr>
<tr><td>Others (Misc. areas in roads/periphery, office/Stores, make up water pump House etc.)</td><td>80.610</td><td>0</td><td>80.610</td></tr>
<tr><td>Green Belt</td><td>110.470</td><td>19.660</td><td>130.130</td></tr>
<tr><td>Total</td><td>675.780</td><td>159.912</td><td>835.692</td></tr>
</table></td><td>The area under Railway corridor, MGR, Reservoir, Make-up Water Pump House, Storm Water Drains, Peripheral Road and Stores etc., were not mentioned separately and were included under Main Plant area was inadvertently. Area wise breakup has been mentioned in the revised table.</td></tr>
</table>

<table>
<tr><th>Para No</th><th>As per the ToR dated 17/04/2023 for the configuration of 1x800 MW</th><th>Amendment Sought in the ToR dated 17/04/2023 for the configuration of 1x800 MW</th><th>Justification</th></tr>
<tr><td>4 (ii)</td><td>Breakup of land use of TPP Site
<table>
<tr><th>Nature of land Involved in (Ha)</th><th>Area Existing in Ha (X)</th><th>Additional Area Proposed in Ha (Y)</th><th>Total Area require after expansion in Ha (X+Y)</th></tr>
<tr><td>Non-Forest Land (A)</td><td>661.830</td><td>105.049</td><td>766.88</td></tr>
<tr><td>Forest Land (B)</td><td>13.950</td><td>54.863</td><td>68.813</td></tr>
<tr><td>Total (A+B)</td><td>675.780</td><td>159.912</td><td>835.693</td></tr>
</table></td><td>Breakup of land use of TPP Site
<table>
<tr><th>Nature of land Involved in (Ha)</th><th>Area Existing in Ha (X)</th><th>Additional Area Proposed in Ha (Y)</th><th>Total Area require after expansion in Ha (X+Y)</th></tr>
<tr><td>Non-Forest Land (A)</td><td>622.700</td><td>94.611</td><td>717.311</td></tr>
<tr><td>Forest Land (B)</td><td>53.080</td><td>65.301</td><td>118.381</td></tr>
<tr><td>Total (A+B)</td><td>675.780</td><td>159.912</td><td>835.692</td></tr>
</table></td><td>Darlipali STPP Stage-I: Total area was 675.780 Ha
• The land break up was mentioned as 661.830 Ha non-forest land and 13.95 Ha Forest land.
• However, actual land breakup of the same patch is 622.700 Ha and 53.080 Ha as non-forest and forest land respectively.

• Darlipali STPS proposed Stage-II expansion: Total area: 159.912 Ha
• The land break up was mentioned as 105.049 Ha. non-forest land and 54.863 Ha Forest land.
• Accordingly, FC</td></tr>
</table>

Para No	As per the ToR dated 17/04/2023 for the configuration of 1x800 MW	Amendment Sought in the ToR dated 17/04/2023 for the configuration of 1x800 MW	Justification
			proposal for the forest land involved i.e. 54.863 Ha was submitted at the time of ToR. • Subsequently on verification by State Revenue and Forest Department, the type of land was found to be of forest land area of 65.301 Ha and non-forest land area of 94.611 Ha, without change in total land area involved in Stage-II expansion i.e. 159.912 Ha. • Accordingly, the Forest diversion proposal for 65.301 Ha has been submitted.

26.6.6: Baseline data: Proponent informed that baseline data collection for the project is to be collected.

26.6.7: Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration.

A. Summary of court cases:

There are total 12 case related with Darlipali STPP Stage-I, out of these 03 cases are related with Land Acquisition, 04 Cases related to Civil, 01 Service law Matter, 01 Contempt of Court Cases, 01 Injunction Suit, 01 Commercial Suit & 01 case related with Environment Matter which is related with Orissa Human Rights Commission and its details are as given bellow:

S. N	Case No/ Title	Name of the Court	Brief summary of the case	Last Date of Hearing	Next date of Hearing	Direction / Action taken by the PP
1.	OHRC Case No. 3888 of 2024 (2952/OHRC, dated 18.02.2025)	Orissa Human Rights Commission	The complainant alleges that NTPC is violating human rights by polluting the environment in the Sundargarh district, causing health hazards due to emissions from vehicles and chimneys of the power plant. Complaint states that there is no development in the area since the establishment of project.	25. 04.2025	22.07.2025	Comprehensive Reply has been submitted by NTPC on all the issues raised by the complainant along with documentary evidence.

B. Summary of Show Cause Notices: Nil

C. Summary of violation

Any violation case pertaining to the project following, i. The Environmental Protection Act, 1986 ii. Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980	Nil • Observations have been raised by the MOEF & CC, regarding taking up construction of Make-up Water Pipeline and the 132 KV Transmission line without obtaining Stage-II approval/ working permission for diversion of 25.56 ha of forest land.

	• It is submitted that the Stage-I approval was accorded on 01.11.2016 and after compliance of the conditions laid down under Stage-I approval, the final (Stage-II) approval, has been accorded by the MOEF &CC on 24th April 2025, vide letter no 5-ORC279/2016-BHU.
iii. The Wildlife (Protection) Act, 1972	Nil

Observations and Deliberations of the Committee

26.6.8: The Committee noted the following:

i. Instant proposal is for amendment in the ToR dated 17/04/2023 and its amendment dated 13/11/2023 for including Air Cooled Condenser in place of water cooled condenser and its related amendment. Further, amendment also been sought land use break up for the project site as well as TPP.

ii. As per the ToR & its amendment accorded by MoEF&CC, project site falls under village Darlipali, Taluk Lephripara, District Sundergarh ,Orissa whereas as per the application submitted project site falls in two districts namely Sundergarh and Jharsuguda. No clarity has been provided regarding the facilities to be set up in Jharsuguda district.

iii. Land use break of project site and TPP do not contain any information regarding the village, tehsil and districts where the facilities will be situated as the project site is reported to be falls under two districts.

iv. With respect to baseline data collection, it has been mentioned in the application that data collection is going on from April to June, 2025 and in the brief summary it is stated that data collection is yet to be done.

v. EAC observed that data made by the proponent in the application, brief summary and presentation are different from each other. Besides, the proponent has no efforts to amend the ToR as well as its amendment regarding the location of the project facilities in two districts namely Sundergarh and Jharsuguda.

Recommendations of the Committee

26.6.9: In view of the foregoing and after detailed deliberations, the EAC recommended to **return the proposal in its present form**. Project proponent and the EIA consultant has been advised to revise the ToR amendment application in totality by including all the relevant information with requisite supporting documents and submit the same for fresh consideration by the EAC.

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ANNEXURE-I

LIST OF PARTICIPANTS OF EAC (THERMAL) IN 26th MEETING HELD ON 20TH JUNE, 2025 THROUGH PHYSICAL MODE

S. No.	Name & Address	Role	Remarks
1.	Shri Inder Pal Singh Matharu, (I.F.S. Retd.)	Chairman	Present
2.	Shri Lalit Kapur	Member	Present
3.	Dr. Umesh Jagannathrao Kahalekar	Member	Present
4.	Dr. Santosh Kumar Hampannavar	Member	Present
5.	Shri Savalge Chandrasekhar	Member	Present
6.	Shri K. B. Biswas	Member	Present
7.	Prof. Shyam Shanker Singh	Member	Present
8.	Dr. Vinod Agrawal	Member	Present
10.	Shri Mahi Pal Singh, Chief Engineer	Representative of Central Electricity Authority (CEA)	Present
11.	Shri Harmeet Sawhney, Scientist 'E'	Representative of Indian Meteorological Department (IMD)	Absent
12.	Prof. R M Bhattacharjee	Representative of IIT/ISM Dhanbad	Present
13.	Shri Prasoon Gargava, Scientist 'F'	Representative of Central Pollution Control Board	Present
13.	Shri Sundar Ramanathan	Scientist 'F' & Member Secretary	Present
14.	Dr. Rajesh Prasad Rastogi	Scientist 'D'	Present

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ANNEXURE-II

APPROVAL OF CHAIRMAN – EAC

Re: Final MoM of 26th EAC (Thermal sector) meeting held on 20th June, 2025

Inderpal Singh Matharu
1:31 PM INBOX
Sundar Ramanathan , RAJESH PRASAD RASTOGI

Warning: Possible spam
The email has been sent from an external organization. Be alert when clicking any links, downloading attachments or sending sensitive information to this sender.

Dear Sundar ji,
I have gone through the final draft MoM of the 26th EAC- Thermal held on 20/06/2025 sent by you. In this all the points have been incorporated including the amendments done in Zero draft of it. I agree with the above Final draft of MoM. Hence I approve the MoM of the 26th EAC- Thermal .

Sincerely yours

Inder Pal Singh Matharu
Chairman
EAC Coal mining and Thermal power
MoEF&CC
GoI