सत्यमेव जयते

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

Minutes of 02ND MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) meeting Thermal Projects held from 31/10/2023 to 01/11/2023

Date: 15/11/2023

MoM ID: EC/MOM/EAC/723942/10/2023

Agenda ID: EC/AGENDA/EAC/723942/10/2023

Meeting Venue: N/A

Meeting Mode: Virtual

Date & Time:

31/10/2023	11:00 AM	05:30 PM
01/11/2023	11:00 AM	05:30 PM

1. Opening remarks

The 2th Meeting of the re-constituted EAC (Thermal Power) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi was held on 31st October, 2023 and 01st November, 2023 through video conference under the Chairmanship of Dr. Sharad Singh Negi.

2. Confirmation of the minutes of previous meeting

The Minutes of the 01st EAC (Thermal Power) meeting held on 16th October, 2023 were confirmed in the meeting.

3. Details of proposals considered by the committee

Day 1 -31/10/2023

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW" at Village- Sahajbahal, Tehsil: Lakhanpur, Dist: Jharsuguda, State: Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.) by **IND BARATH ENERGY UTKAL LIMITED** located at **JHARSUGUDA,ODISHA**			
Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**

3.1.2. Project Salient Features

The proposal is for grant of Terms of Reference to the project for Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.)

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

1. M/s Ind-Barath Energy (Utkal) Limited (IBEUL), a subsidiary company of JSW Energy Ltd (JSWEL) planned to install 2x350 MW Coal based thermal power plant at village Sahajbahal, PO Charpali- Barpali, Via: Bandhbahal, Tehsil: Lakhanpur, Jharsuguda, Odisha. The latitude and longitude of centre of site are 21°39'39.02"N and 83°55'18.23"E, respectively.
2. The Environmental clearance was accorded by MoEF&CC vide F.No. J-13012/31/2008-IA.II (T) dated 30th Nov 2009. However, out of total 2x350 MW, power plant of capacity 1x350 MW was already commissioned in year 2016 and was operational as per CTO granted by OSPCB vide CTO no. 8024/IND-I-CON-6430 dated 09.06.2017 valid till 31.03.2018. Meanwhile, the unit became non-operational due to the financial crisis. Environmental Clearance expired on 31.12.2018.
3. Thereafter, the company (M/s Ind-Barath Energy (Utkal) Ltd) admitted into corporate insolvency resolution process ("CIRP") on 29th August 2018 ("Insolvency Commencement Date") on application made by its financial creditors. Resolution Plan for the Company has been approved by the NCLT (National Company Law Tribunal) vide the NCLT order dated 25.07.2022. JSW has recently acquired the power plant which was earlier under the ownership of IBEUL. CTO has been granted by OSPCB for Phase I (1x350 MW) vide letter no. 4856/IND-I-CON-6430 dated 28.03.2023.
4. The chronology of events in the establishment of existing unit and subsequently obtaining the appropriate approvals is given as under:

S. No.	Type of Approval	F. No./ Order No.	Production Capacity
1.	MoU with Govt. of Odisha	**MoU dtd. 7 Feb 2009**	2X350 MW Coal Based Thermal Power Plant
2.	Prior Environmental Clearance	F.No. J-13012/31/2008-IA.II (T) dated 30.11. 2009	2x350 MW Coal Based Thermal Power Plant
3.	Consent to Establish	Order No: 13374/Ind-II-NOC-5151 dated 13.08.2010	2x350 MW Coal Based Thermal Power Plant
4.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 04.02.2015	2x350 MW Coal Based Thermal Power Plant
5.	Consent to Operate	Order No: 16909/IND-I-CON-6430 dated 29.10.2015 valid up to 31.03.2016.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant
6.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 09.03.2016	2x350 MW Coal Based Thermal Power Plant
7.	Renewal of Consent to operate	Order No:5872/IND-I-CON-6430 dated 30.03.2016 valid up to 31.03.2017.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant

S. No.	Type of Approval	F. No./ Order No.	Production Capacity
8.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 03.03.2017	2x350 MW Coal Based Thermal Power Plant
9.	Consent to Establish	Order No: 4815/IND-II-NOC-5151dated 31.03.2017	2x350 MW Coal Based Thermal Power Plant
10.	Renewal of Consent to operate	Order No:8024/IND-I-CON-6430 dated 09.06.2017 valid up to 31.03.2018.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant
11.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 06.03.2018.	2x350 MW Coal Based Thermal Power Plant
12.	Plan Approval by the NCLT (National Company Law Tribunal) to JSW	IA.NO: 882 of 2019 dated 25.07.2022	-
13.	Latest Consent to Operate	4856/IND-I-CON-6430 dated 28.03.2023.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant

1. As per MoEF&CC Notification vide S.O. 1247 (E) dated 18.03.2021, projects where construction has been completed more than 50% within the earlier environmental clearance validity, project may be exempted for public hearing during grant of new environmental clearance. As more than 50% of project has been implemented at site, thus it is requested to exempt us from Public consultation.
2. Out of 240 hectares of project land, only 35.98 ha (88.92 acre) is revenue Forest land. The Forest Clearance for the said land was applied in 2010 and it is in advance stage of stage -I clearance. The PCCF Nodal office had recommended the proposal in 2014 and communication was made by PCCF to Principal Secy. Govt. of Odisha for consideration of proposal at ERO MoEF & CC in 2014. Details chronology of the events for forest clearance is as below:

- The Forest Clearance was applied in 2010 and it is in advance stage of stage -I clearance.
- There was PIL filed in Odisha high court in 2014.
- The PCCF Nodal office had recommended the proposal in 2014 and communication was made by PCCF to Principal Secy. Govt. of Odisha for consideration of proposal at ERO MoEF & CC in 2014.
- The MoEF and CC IRO had recommended the proposal in the REC meeting held in 2018 and pursue the court case and present the status to state Govt.
- The Odisha high court has given the order on 17.05.2023 and directed State Govt. to consider the proposal in accordance with law.
- Upon persuasion from State Govt. & PCCF Nodal, the MoEF IRO Bhubaneshwar conducted REC meeting on 13th June 2023 and discussed extensively on the pending proposal & further consideration in line with Hon'ble Odisha high court's direction dated. 17th May 2023. The REC recommended for regularization of area of forest land over which construction activities already done.
- In obedience to high court order dated. 17th May 2023 & compliance to MoEF IRO letter no. 5-ORC236/2015-BHU dated. 28th June 2023, the DFO Jharsuguda vide order no. dated. 136 dtd. 27thJune 2023, submitted report along with certification of area under violation.
- As part of process of regularization of proposal, the DFO sought the compliance report from PP IBEUL vide no. 4386 dtd. 2nd Aug 2023.
- Also, DFO Jharsuguda sought confirmation & certification of compensatory afforestation (CA) land from Tahsildar, Lakhanpur vide letter dtd. 2 Aug 2023. The PP IBEUL submitted pointwise compliance to DFO Jharsuguda on 7th Aug 2023.
- The Odisha High court has given order and extended the timeline by six months and accepted the regularization

proposal vide order dtd. 04.09.2023.

1. Earlier, the proposal no. IA/OR/THE/433320/2023 was appraised by the EAC in its 44th meeting held on 20.7.2023 and the project was returned with additional details, accordingly PP submitted point-wise reply on the same which is as under:

S.No.	ADS Point	Reply by the PP
1.	Revised layout restricting ash pond within the existing 240 Ha of land and provisions for maintaining 40% greenbelt.	• Total green belt proposed inside plant boundary is 189.44 Acres (about 32% of the total plot area). Additional land has been identified in nearby area for rest of the green belt development. • Land identified for greenbelt nearby plant boundary at Rampela village is about 45 Acres which is about 7.60% of the plot area. • Thus, total green belt to be developed will be about 234.44 Acres which is approx. 40 % of the total plot area. • Total area for ash pond proposed within the project area is estimated to be 37.74 acres. (14.4 acres (Existing) +23.31 acres (Proposed)).
1.	Green plantation status along with survival rate and species shall be submitted and granting of EC shall be subject to implementation 40 % area of green belt area of total plant boundary.	• Total green belt to be provided is 234.44 Acres (which is about 40 % of the total plot area). • Native species have been planted in the existing greenbelt. • Similarly, native species/fast growing tree species shall be planted in proposed greenbelt also. • Details of the greenbelt plantation status/ greenbelt plan along with tree species and proposed budget for plantation shall be provided in EIA report and presented before EAC during EC presentation.
1.	PP shall prepare a chart of existing air, water and soil characteristics	Submitted during the meeting.
1.	Arial view video of project site shall be recorded through drone and be submitted.	Submitted during the meeting.
1.	Detailed chronology of events along with orders passed in the PIL pending at High court Odisha shall be submitted.	• The Forest Clearance was applied in 2010 and it is in advance stage of stage -I clearance. There was PIL filed in Odisha high court in 2014. • The PCCF Nodal office had recommended

		the proposal in 2014 and communication was made by PCCF to Principal Secy. Govt. of Odisha for consideration of proposal at ERO MoEF & CC in 2014. • The MoEF&CC IRO had recommended the proposal in the REC meeting held in 2018 and pursue the court case and present the status to state Govt. • The Odisha high court has given the order on 17.05.2023 and directed state Govt. consider the proposal in accordance with law. • Upon persuasion from State Govt. & PCCF Nodal, the MoEF&CC IRO Bhubaneshwar conducted REC meeting on 13th June 2023 and discussed extensively on the pending proposal & further consideration in line with Hon'ble Odisha high court's direction dated 17th May 2023. The REC recommended for regularization of area of forest land over which construction activities already done. • In obedience to high court order dated. 17th May 2023 & compliance to MoEF IRO letter no. 5-ORC236/2015-BHU dated 28th June 2023, the DFO Jharsuguda vide order no. 136 dated 27th June 2023, submitted report along with certification of area under violation. • As part of process of regularization of proposal, the DFO sought the compliance report from PP IBEUL vide no. 4386 dated 2nd Aug 2023. • Also, DFO Jharsuguda sought confirmation & certification of compensatory afforestation (CA) land from Tahsildar, Lakhanpur vide letter dated 2nd Aug 2023. The PP IBEUL submitted pointwise compliance to DFO Jharsuguda on 7th Aug 2023. • The Odisha High court has given order and extended the timeline by six months and accepted the regularization proposal vide order dated 04.09.2023.
1.	The details of earlier ash pond location	• Earlier disposal of ash was proposed in 20-acre land with premises and rest to be disposed in MCL abandoned coal mines. • Now, IBUL has proposed 37.74 acres ((14.4 acres (Existing) +23.31 acres (Proposed)) of ash pond within the project boundary. Ash is proposed to be handled in dry form. JSW has an agreement with JSW cement plant for 100% disposal of fly ash. • Bottom ash will be disposed to ash pond and collected water will be recycled. • Proposed ash pond (23.31 acres) is located adjacent to old emergency ash pond (14.43 acre) with in the plant area. • The High concentrated slurry disposal system is adopted for ash disposal in the emergency

		ash pond. • After completion of life of inhouse ash pond, bottom ash shall be dumped in a nearby private stone quarry located 5-10 km of TPP with prior approval from the state pollution control board. • The following agencies has been identified for 100 % disposal. The conditioned ash shall be transported in a closed dumper to a stone quarry. • M/s Padma • Ash Tech • Refex • The order shall be finalized with above mentioned agencies in Oct-Nov,2023.
1.	Submit proof of completion of 50% construction	• The overall completion of erection works of second unit is more than 50 %. • This assessment cum Technical Due-Diligence Report Project Management & Assessment Consultant cum LIE was carried out by M/s L&T – Sargent & Lundy Ltd in 2018 as per the advice of Consortium of Lenders. • The specific information pertaining to unit erection completion status of stage-II is more than 50%. • Unit-I (1x350MW) was commissioned, and CoD was done in 2016 and it was not in operation since then due to financial crisis • For Unit-II (1x350 MW) more than 50% construction was completed in 2016. Due to financial issues the construction work of Unit -II was stopped. The technical due diligence was carried out by L&T in 2018 by lenders to understand the status of the project • Railway line from IBEUL TPP to Telenpalli take off point is about 10 km length, and the construction work is completed & track is ready for transportation.
1.	The details of other court cases, if any and their status/outcomes.	Two cases are pending at Jharsguda Dist. Court. **Case-1:** Suresh Bag vs IBEUL (C.S. 165/2013 before the Court of the Civil Judge, Senior Divison, LR & LTV Jharsguda along with IA 24/2014). The present suit has been filed by a local Suresh Bag alleging that IBEUL has carried out illegal consruction over certain properties causing loses. Status: The aforementioned was disposed of by the Learned Judge on 21.01.2014 and order for maintaining status quo over the parcel of land bearing khata No. 191, 26 and 7, Mouza Adhapada, Jharsguda was passed until the disposal of the suit. No injuctive orders have been passed until the disposal of the suit. No injuctive orders have been passed against the IBEUL as regards the other properties which form part of the Scheduled Suit

		Properties. **Case-2:** Mahanadi Coal Fields Limited vs IBEUL (C.S. 126/2018 before the Court of the Civil Judge, Senior Division, Jharsguda) Status: The Plaintiff has claimed for payment of an amount of approximately INR 2 Crores towards outstanding payments for usage of railway sidings and land along its side for stacking, loading and transportation of coal. Since the Plaintiffs' claims were not admitted at the time of CIRP, hence the present claims cannot be raised at this stage, post approval of the NCLT resolution plan, would be difficult for the resolution applicant to run the business of the Corporate Debtor. The Supreme Court of India has held that the successful resolution applicant cannot be suddenly faced with undecided claims post the approval of the resolution plan.
1.	Transfer of existing EC from previous owner to present owner as the ownership has been changed	• Initially M/s Ind-Barath Energy (Utkal) Limited (Company) obtained Environmental Clearance for Thermal Power Plant. In Dec, 2022, JSW Energy Limited acquired the company through NCLT. • Now, Ind-Barath Energy (Utkal) Limited (IBEUL) is a subsidiary of JSW Energy Ltd (JSWEL) and continue in the name of Ind Barath Energy (Utkal) Ltd. • Therefore, Transfer of EC is not required.

1. The Salient features of the Project are as follows:

1. **Project details:**

Name of the Proposal	Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, District Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd
Proposal No.	IA/OR/THE/446926/2023
Location	Village Sahajbahal, Tehsil Lakhanpur, District Jharsuguda, Odisha
Company's Name	M/s Ind-Barath Energy (Utkal) Ltd
Accredited Consultant and certificate no.	1. M/s EQMS Global Pvt. Ltd. (NABET Accreditation Number: NABET/EIA/2225/RA 0303 valid till 23.11.2025)
Inter- state issue involved	Not Applicable
Seismic zone	Zone – III (Moderate Risk Zone)

1. **Category details:**

Category of the project	1 (d) Thermal Power Plants
Capacity	Unit -I (Phase-I): 1 x 350 MW Unit -II (Phase-II): 1 x 350 MW
Attracts the General Conditions (Yes/No)	Yes Project is in Severely polluted area (IB Valley)
Additional information (if any)	No

1. **Project Details:**

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	**S. No.** **Type of Approval** **F. No./ Order No.** **Details** 1. MoU with Govt. of Odisha for establishment of 2X350 MW TPP MoU dated. 7 Feb 2009 Applied for renewal and is under approval

	2 Water allocation for the project from dept. of water resources, Odisha --- Water allocation Committee approved on 22.09.2023. 3. Environmental Clearance F. No. J-13012/31/2008-IA.II (T) dated 30.11. 2009 2X350 MW Coal Based Thermal Power Plant 4. Consent to Establish Order No: 13374/Ind-II-NOC-5151 dated 13.08.2010 2X350 MW Coal Based Thermal Power Plant 5. Extension of validity of Environment Clearance File no: J-13012/31/2008-IA.II (T) dated 04.02.2015 2X350 MW Coal Based Thermal Power Plant 6. Consent to Operate Order No: 16909/IND-I-CON-6430 dated 29.10.2015 valid up to 31.03.2016. For Unit - I 1 X 350 MW Coal based Thermal Power Plant 7. Extension of validity of Environment Clearance File no: J-13012/31/2008-IA.II (T) dated 09.03.2016 2X350 MW Coal Based Thermal Power Plant 8. Renewal of Consent to operate Order No:5872/IND-I-CON-6430 dated 30.03.2016 valid up to 31.03.2017. For Unit - I 1 x 350 MW Coal based Thermal Power Plant 9.

	Extension of validity of Environment Clearance File no: J-13012/31/2008-IA.II (T) dated 03.03.2017 2x350 MW Coal Based Thermal Power Plant 10. Consent to Establish Order No: 4815/IND-II-NOC-5151dated 31.03.2017 2x350 MW Coal Based Thermal Power Plant 11. Renewal of Consent to operate Order No:8024/IND-I-CON-6430 dated 09.06.2017 valid up to 31.03.2018. For Unit - I 1 x 350 MW Coal based Thermal Power Plant 12. Extension of validity of Environment Clearance File no: J-13012/31/2008-IA.II (T) dated 06.03.2018. 2x350 MW Coal Based Thermal Power Plant 13. Resolution plan approval by the NCLT (National Company Law Tribunal) IA.NO: 882 of 2019 dated 25.07.2022 --- 14. Consent to Operate 4856/IND-I-CON-6430 dated 28.03.2023. with validity up to 31 March 2024 and renewable for three years For Unit - I 1 x 350 MW Coal based Thermal Power Plant
Amendments granted, if Yes details	No
Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion
If expansion, the date of latest monitoring done by the Regional Office (R.O)	Shall be taken after grant of TOR.

of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/information.	-
Co-ordinates of all four corners OF TPP Site:	**A:** 21°40'41.38"N , 83°55'17.56"E **B:** 21°40'23.60"N , 83°55'45.24"E **C:** 21°39'36.72"N , 83°55'45.97"E **D:** 21°39'10.28"N , 83°55'17.04"E **E:** 21°39'35.37"N , 83°54'55.54"E **F:** 21°40'0.11"N , 83°54'48.77"E
Average height of: (a) TPP site, (b) Ash pond site etc. above MSL	(a) 218 amsl (b) 206 amsl
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	Yes, project is within severely polluted area (IB Valley)
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Cost of the Project (As per EC): Rs 3200 (Crores) Revised Cost: Rs. 2700 after NCLT
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	**During construction phase**: 700 no's of employees will be hired. **During Operation Phase**: 525 no. employees are already working in the unit.
Benefits of the project (specify quantitative information)	• It will fulfil the demand supply gap of power. • It will generate employment

1. **Electricity generation capacity:**

Capacity & Unit Configurations:	Unit -I (Phase-I): 1 x 350. MW

	Unit -II (Phase-II): 1 x 350 MW
Generation of Electricity Annually	5212200 MW

1. **Details of fuel and Ash disposal**

Fuel to be used:	Coal
Quantity of Fuel required per Annum:	14700 TPD for 2X350 MW TPP, 7350 TPD for 1X350 MW
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Quantity: 14700 TPD **Name of Block & Linkage:** The previous FSA is being re-validating through MCL authorities. **The method of obtaining remaining coal:** Coal sourced through Shakti coal scheme E auction from MCL (Belpahar, LOCM etc.) coal fields to plant coal bunker through BOBR wagons through dedicated railway system and track hopper for unloading of coal. Till the coal transportation system is established, the coal will be transported by road using trucks. The railway line from IBEUL TPP to Telenpalli take off point is about 10 km length and the construction work is in the advanced stage of completion. Ash content in coal: 45% Sulphur in coal: 0.5% Moisture: 15% GCV in coal: 4039 Kcal/Kg
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of transportation: Rail Distance from Source: 14 km from mines Source of coal: Mahanadi Coal Field L Belpahar coal fields
Fly Ash Disposal System Proposed	Yes (Fly ash shall be utilized for cement & brick making)
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Ash Pond: JSWIBUL has proposed total area for ash pond 37.74 acres i.e., within the project boundary. The proposed ash pond is for emergency disposal only. Co-ordinate: 21°39'18.09"N & 83°55'9.68"E 21°39'18.16"N & 83°55'15.19"E Average height of area above MSL (m): 214 amsl **ASH POND CASE – 1** (By considering 100% Bottom ash disposal only) Coal consumption/hr 300 tonnes Total running hr

	24 hrs Total coal/day 7200 tonnes Total ash/day/unit 3168 tonnes Ash/unit/PLF-85% 2693 tonnes Land 37.7 acre Ash pond area 37.7 acre Ash pond area 152728 m2 Depth 15 m Capacity 2749113 tonnes Ash dumping/day/Unit 539 tonnes Ash dumping /year/Unit 196574 tonnes

	Ash dumping /year/2 units 393149 tonnes Ash dumping @ 100% /2 units 7 Year **ASH POND CASE – 2** (By considering 100% Bottom ash and 10% Fly ash dumping in Ash pond during emergencies.) Coal consumption/hr 300 tonnes Total running hr 24 hrs Total coal/day 7200 tonnes Total ash/day/unit 3168 tonnes Ash/unit/PLF-85% 2693 tonnes **Land 37.7 acre** Ash pond area 37.7 acre Ash pond area 152728

	m2 Depth 15 m Capacity 2749113 tonnes Ash dumping/day/Unit 539 tonnes Ash dumping /year/Unit 196574 tonnes *Ash dumping /year/2 units 550408 tonnes Ash dumping @ 100% /2 units 5 Year 1.
Quantity of a. Fly Ash to be generated. b. Bottom Ash to be generated:	Quantity of a. Fly Ash to be generated: 5290 MTPA. b. Bottom Ash to be generated: 1324 MTPA
Fly Ash utilization (details)	It shall be sent to Cement Manufacturer.
Stack Height (m) & Type of Flue	Stack Height: 275 m Type of Flue: Concrete outer shell and steel flue inside

1. **Water Requirement:**

Source of Water:	Hirakud Dam back water Reservoir
Quantity of water requirement:	54792 KLD

Distance of source of water from Plant:	1.50 Km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Pipeline
Status of water linkage:	Obtained
(If source is Sea water) Desalination Plant	No
Mode / Management of Brine:	Not Applicable
Cooling system	Induced Draft

1. **Land Area Breakup:**

Land Requirement: a) TPP Site b) Ash Pond c) Township d) Railway Siding & Others e) Raw Water Reservoir f) Green Belt g) others Total (if expansion state additional land requirement)	The total land area is **240 ha.** **Particulars** **Area in hectare** Plant and utility 36 Water system and treatment system 15 Coal handling, ash handling, rail, road 50 Green belt for power plant* 76.66 Proposed Ash pond 9.43 Existing ash pond 5.83 Township 2.36 New projects 44.72 Total 240 *Green belt provision: In addition to 189.4 Acres land, 45 Acres of additional land is

	identified near to the plant area.
Status of Land Acquisition:	Acquired
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.	1. Phase I (1x350 MW) has been completed and has valid Consent to Operate. 2. Partial work of Phase II is completed. Status of construction is given below **Sl. No.** **Items** **Current status of construction work / % work completed** 1 Rail Network system Construction work Status 70 2 Status of Boiler Installation work 75 3 Status of Turbine and generator Installation work 70 4 Status ESP and Ducting System 40 5 Status of Ash Handling System 60 6 Water treatment facility 90 7 Status of Coal Handling Plant 90 8

	Water Compressor and Pump House 90 9 Stack (Twin flue) 100 1. IBEUL had planned to install 2x350 MW Coal based thermal power plant at village Sahajbahal, PO Charpali- Barpali, Via: Bandhbahal, Tehsil: Lakhanpur, Jharsuguda, Odisha. Prior Environmental clearance was taken from MoEF&CC vide F.No. J-13012/31/2008-IA. II (T) dated 30th Nov 2009. However, out of total 2x350 MW, power plant of capacity 1x350 MW was already commissioned in year 2016 and was operational as per CTO granted by OSPCB vide CTO no. 8024/IND-I-CON-6430 dated 09.06.2017 valid till 31.03.2018. Meanwhile, the unit became non-operational due to the financial crisis. Environmental clearance expired on 31.12.2018. 2. Thereafter, the company (M/s Ind-Barath Energy (Utkal) Ltd) admitted into corporate insolvency resolution process ("CIRP") on 29th August 2018 ("Insolvency Commencement Date") on application made by its financial creditors. Once the company was admitted into CIRP on account of financial stress, all project related works came to a standstill on account of lack of financial resources with the company. Thus, JSW Energy Limited ("JSW") submitted a resolution plan dated 03.10.2019 ("Resolution Plan"). Thereafter, after undergoing the CIRP as per the provisions of Insolvency and Bankruptcy Code, 2016, Resolution Plan for the Company has been approved by the NCLT (National Company Law Tribunal) vide the NCLT order dated 25.07.2022. JSW has recently acquired the power plant which was earlier under the ownership of IBEUL. CTO has been granted by OSPCB for Phase I (1x350 MW) vide letter no. 4856/IND-I-CON-6430 dated 28.03.2023.
Break-Up of land-use of TPP site: a. Total land required for project components. b. Private land c. Government land d. Forest Land	Break-Up of land-use of TPP site: a. Total land required for project components: **240 ha** b. Private land: **204.02 ha** c. Government land: 0 ha d. Forest Land: **35.98 ha**

1. **Presence of Environmentally Sensitive areas in the study area**

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Remark
Reserve Forest/Protected	Yes	• Arhaparha Reserved Forest (4.84 Km, NW) • Maulabhanja Reserved Forest (5.26 Km, NE) • Reserved forest (6.78 Km, NW) • Reserved forest (9.19 Km, NW) • Reserved forest (5.19 Km, SW) • Reserved forest (7.29 Km, SW)
Forest Land	Yes	35.98 ha
National Park	No	-
Wildlife Sanctuary	No	-
Archaeological sites monuments/historical temples etc.	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	Yes	• Arhaparha Reserved Forest (4.84 Km, NW) • Maulabhanja Reserved Forest (5.26 Km, NE) • Reserved forest (6.78 Km, NW) • Reserved forest (9.19 Km, NW) • Reserved forest (5.19 Km, SW) • Reserved forest (7.29 Km, SW)
Additional information (if any)	No	

1. **Court case details:**

Any litigation/ Court Case pertaining to the project	Two cases are pending at Jharsuguda District Court 1. Suresh Bag vs IBEUL (C.S. 165/2013 before the court of Civil Judge, senior Division, LR &LTV, Jharsuguda) along with IA 24 /2014. The present suit has been filled by a local Suresh Bag alleging that IBEUL has carried out illegal construction over certain properties causing losses. Status: the aforementioned was disposed of by the learned judge on 21-01-2014 and the order for maintaining status quo over the parcel of the land bearing Khata No. 191,26 and 7mauza Adhapada, Jharsuguda was passed until the disposal of the suit. No injective orders have been passed against IBEUL as regards the other properties which form part of the schedule suit properties.

	1. Mahanadi coal Field Limited vs IBEUL (C.S. 126/2018 before the court of Civil Judge, senior Division, LR &LTV, Jharsuguda) Status: The plaintiff has claimed for payment of an amount of approximately INR 2 Crores towards outstanding payments for usage of railway sidings and land along its side for stacking, loading and transportation of coal. Since, the plaintiff's claims were not admitted at the time of CIRP, hence, the present claims can not be raised at this stage, post approval of the NCLT resolution plan, would be difficult for the resolution applicant to run the business of corporate Debtor. The Supreme Court of the India has held that the successful resolution applicant cannot be suddenly faced with undecided claim post the approval of the resolution plan.
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	1. Yes, 2. Violation of Forest (Conservation) Act, 1980 during plant construction under previous Ind Barath Energy management. 3. In response to Hight court direction dated 17th may 2023, MoEF IRO has recommended for the regularisation for construction activities already done under violation as per the REC meeting held on 13 June 2023.
Additional information (if any)	No

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.)

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level.

The EAC noted that Environmental clearance was accorded by MoEF&CC dated 30th Nov 2009. But power plant of capacity 1x350 MW was already commissioned in year 2016. Meanwhile, the unit became non-operational due to the financial crisis. Environmental clearance expired on 31.12.2018. It is noted that construction of the proposed unit more than 50% construction was completed in 2016. The EAC also observed the component- wise physical progress of construction work attained by the PP through areal video of plant and documents submitted and presented during the meeting. The EAC being satisfied with the physical progress made by the PP viewed that the requitement of repeat public hearing may be exempted.

It was further noted that the proposal being considered by the Forest division as a violation case as PP has started construction activities on forest land prior to the grant of Forest clearance. It was also noted that the EC was given in the year 2009 and requirement of Stage-I FC before grant of EC was made mandatory vide Office Memorandum No. J-11013/41/2006-IA.II (I) dated 9th September, 2011after the judgement of the Hon'ble Supreme Court dated 6th July, in the IA No. 1868,2091, 2225-2227, 2380, 2568 & 2937 in W.P. No. 202 OF 1995- T.N. Godavarman Thirumulpad Vs UOI & Ors in Lafarge mining/Forest case. Further, no specific/ general condition is mentioned in the EC regarding obtaining of FC before starting the project construction work.

The EAC observed that water quality analysis was not carried out properly as the result shows high alkalinity and very pH value in few samples. The green belt plantation done by the PP was found to be unsatisfactory.

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Terms of Reference

3.1.6.1. Specific

Socio-economic Study	
1.	1. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored a assessing the need of the labour force and local populace. 2. All the tasks includingconducting public hearing shall be done as per the provisions of Notification, 2006 and as amended from time to time. Public hearing issues raised compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter. 3. Statement on the commitments (activity-wise) made during public hearing to facilitate discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilita &Resettlement plan shall be prepared. 4. Details of settlement in 10 km area shall be submitted.
Disaster Management	
1.	Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.
Environmental Management and Biodiversity Conservation	
1.	1. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of proposed project shall be conducted. 2. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary. 3. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequ fund for wildlife habitat management, preserving wildlife and its corridors and be submitted along with EIA/E report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 y shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan. 4. Details of the existing rail, road networks and alignment of transmission lines along with quantity of coal be transported/to be transported for existing units and proposed expansion, its source and transportation mode shall submitted. 5. Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given. 6. A comparative chart shall be prepared with changes observed from previous baseline study and present baseline study. 7. Existing green plantation carried out by the project proponent along with its survival rate shall be submitted and a p

	shall be made to maintain survival rate upto 90%. 8. Detailed action plan shall be prepared for maintenance of air pollution control equipment. 9. PP shall prepare action plan to close existing ash dyke area which is under operation and very close to natural water b and same need to be incorporate in EIA/EMP report. 10. Details of Ash management of existing (last 5 years) and proposed project shall be submitted, along with 5-year plan 100 % ash utilization. 11. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted. 12. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed pond and water body (minimum 60 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate w any fresh water body for under construction ash pond. High Density Slurry disposal plan shall be prepared. 13. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and repor submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospi within 2 km radius of the plant boundary be submitted. 14. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/E report. 15. Details pertaining to water source, treatment and discharge should be provided. 16. Zero Liquid Discharge plan shall be submitted. 17. Action plan for development of green belt (40% of total project cover area) along the periphery of the project bound shall be provided with a video clip of existing green belt. Plan shall be dully approved by the DFO. 18. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations. 19. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report. 20. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consulta with reputed government institution. 21. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focus on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report. 22. The distance of proposed project location from Jharsuguda identified polluted area shall be indicated and applica norms/guidelines issued by the Ministry for undertaking the project in identified polluted areas shall be followed du preparation of EIA/EMP. 23. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibilit thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.
Miscellaneous:	
1.	1. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO s provide specific observations on the status of OCMS, ash utilization, green cover and emission control equipment o units of the plant. 2. PP shall submit details of court cases and its status for the project. 3. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the d time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the orig test reports and certificates of the labs which will analyze the samples. 4. Arial view video of project site shall be recorded through drone and be submitted. 5. Details of regularization of Forest Clearance violation shall be submitted along with EIA/EMP Report.

3.1.6.2. 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.	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
8.	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
9.	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
10.	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.	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.
Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)	
1.	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
2.	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
3.	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
4.	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
5.	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
6.	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.
7.	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.

8.	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
9.	Impact on fisheries at various socio economic level shall be assessed.
10.	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
11.	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
12.	There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Proposed Expansion from 1320 MW to 1980 MW Buxar Thermal Power Project by installing 1x660 MW plant unit Near Chausa, district Buxar, Bihar by **SJVN THERMAL PVT LTD** located at **BUXAR,BIHAR**			
Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/BR/THE/439566/2023	J-13012/69/2008-IA.I (T)	10/10/2023	Thermal Power Plants (1(d))

3.2.2. Project Salient Features

The proposal is for grant of Terms of Reference to Expansion from 1320 MW to 1980 MW Buxar Thermal Power Project by installing 1x660 MW plant unit Near Chausa, district Buxar, Bihar by M/s SJVN Thermal Pvt. Ltd.

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

1. M/s SJVN Thermal (P) Ltd. is proposing to establish a 1x660 MW coal based 3rd unit in Buxar Thermal Power Project besides the 2x660 MW units already under construction.
2. The project site is located near Chausa of Buxar district in Bihar. The site is located at latitude of 25°28'21.62"Nand longitude of 83°52'55.48"E. The site is situated near villages Kocharhi, Mohanpurwa, Sikraul, Khorrampur, Bechanpurva & Banarpur. The nearest railway station Chausa on Delhi-Kolkata Section (via Pandit Deen Dayal Upadhyaya Junction) is approximately 4 km away from the project site.
3. The Environmental Clearance was accorded by Ministry of Environment, Forest and Climate Change vide File No. J-13012/69/2008-IA.II(T), dated 28.02.2017 for the 2x660 MW (1320 MW) Thermal Power Plant which is under construction.
4. Fuel Supply Agreement (FSA) was signed between STPL and CIL/CCL for Long-term coal linkage to Buxar TPP (2x660 MW) on 26.07.2023 for supplying of 4.976 Million MTPA of G-9 to G14 Grade coal. Meeting of Standing Linkage Committee (Long Term) of MoP, GoI was held on 16.06.2023. As per the minutes of meeting, the Standing Linkage Committee (Long Term) has recommended for Long Term Coal Linkage to Stage-2,

BTPP.

5. Water permission from Central Water Commission, Irrigation Planning (North), Govt. of Bihar issued vide letter no. 7/2/2BH (10)/2010 IP (N)/585-587 dated 24.09.2010 for 55 cusec. Permission for additional 30 cusec will be obtained.
6. The proposed 3rd Unit of Coal Based Buxar Thermal Power project (1X660 MW) is to be located within the existing premises of Buxar Thermal Power Plant (2X660 MW). Most of the land for the proposed power project (1x660 MW) is available within the premises of existing Project (2X660 MW).
7. However, additional land would be required for ash dyke, Intake Pump house etc acquired by STPL. No alternate site has been considered because Infrastructure facilities such as land, water, transport arrangements, railway line, roads etc. are available.
8. Meeting of Standing Linkage Committee (Long Term) of MoP, GoI was held on 16.06.2023. As per the minutes of meeting, the Standing Linkage Committee (Long Term) has recommended for Long Term Coal Linkage to Stage-2, BTPP.
9. Water permission from Central Water Commission, Irrigation Planning (North), Govt. of Bihar issued vide letter no. 7/2/2BH (10)/2010 IP (N)/585-587 dated 24.09.2010 for 55 cusec. Permission for additional 30 cusec will be obtained.
10. Approx. 6.25 MMTPA (existing) and 3.1 MMTPA (proposed) of coal is required for the Power Plant. Coal for the proposed thermal power project would be made available from Central Coal Field, Jharkhand for which Long Term Coal Linkage has already been approved by Ministry of Coal, Government of India.
11. The Salient features of the project are as under:

1. **Project details:**

Name of the Proposal	Proposed Expansion from 1320 MW to 1980 MW Coal Based Buxar Thermal Power Project by installing 1x660 MW Unit.
Proposal No.	IA/BR/THE/439566/2023
Location	Near Chausa, District Buxar, Bihar
Company's Name	M/s SJVN Thermal Power (P) Limited
Accredited Consultant and certificate no.	Accreditation No.: NABET/EIA/2326/RA 0305, Valid till 20.04.2026
Inter- state issue involved	Yes, Bihar - Uttar Pradesh ~ 1 km in NW
Seismic zone	Zone-III

1. **Category details:**

Category of the project	Cat – A, Sector – 1(d)
Capacity	Existing Project Capacity - 1320 MW Proposed project capacity - 1980 MW
Attracts the General Conditions (Yes/No)	Yes, (Inter-state boundary ~ 1 km in NW)
Additional information (if any)	

1. **Project Details:**

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	The Environmental Clearance was accorded by Ministry of Environment, Forest and Climate Change vide File No. J-13012/69/2008-IA.I(T), dated 28.02.2017 for the 2x660 MW (1320 MW) Coal Based Super Critical Buxar thermal power project (BTPP) at near village Chausa, District Buxar, Bihar by M/s SJVN Thermal Pvt. Ltd.
Amendments granted, if Yes details	NA
Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Will be obtained
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are /will be available. Also contact details of PP's officer responsible for updating this webpage/ information.	https://sjvn.nic.in/
Co-ordinates of all four corners of TPP Site:	**Pillar No.** **Latitudes** **Longitudes** A 25°28'55.84"N 83°52'31.18"E B 25°28'59.65"N 83°53'18.52"E C 25°28'18.26"N 83°53'21.78"E D 25°27'21.61"N 83°53'11.46"E E 25°27'37.14"N

	83°52'19.06"E F 25°28'25.76"N 83°52'23.46"E
Average height of: 1. (a) TPP site, (b) Ash pond site etc. above MSL	Above means sea level (MSL) 1. 65.52 m 2. 56 m
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No,
CRZ Clearance	No,
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	**Total Cost**: Rs. 16,909.30 Crores **Existing**: Rs. 10,520.48 Crores **Proposed:** Rs. 6,388.82 Crores
Employment Potential for entire project/ plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	During Construction Phase :5550 Nos During Operation Phase: 4500 Nos.
Benefits of the project (specify quantitative information)	• Fulfill power demand of the country by 1980 MW power generation. • Employment generation of 4500 Nos. of employee.

1. **Electricity generation capacity:**

Capacity & Unit Configurations:	1320 MW + 660 MW
Generation of Electricity Annually	9828 + 4914 = 14742 Million Unit

1. **Details of fuel and Ash disposal**

Fuel to be used:	Coal & LDO
Quantity of Fuel required per Annum:	Annual coal requirement for the plant shall be 4.97 MTPA (For Stage - I) 3.10 MTPA (For Stage - II)
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	1. Fuel Supply Agreement (FSA) was signed between STPL and CIL/CCL for Long-term coal linkage to Buxar TPP (2x660 MW) on 26.07.2023 for

	supplying of 4.976 Million MTPA of G-9 to G14 Grade coal. 2. Meeting of Standing Linkage Committee (Long Term) of MoP, GoI was held on 16.06.2023. As per the minutes of meeting, the Standing Linkage Committee (Long Term) has recommended for Long Term Coal Linkage to Stage-2, BTPP.
Details of mode of transportation of coal from coal source to the plant premises along with distances	Proposed- The transportation of Coal for Buxar Stage-II (1X660 MW) is proposed through existing rail network. Existing - Imported and Domestic coal will be transported through rail. Eastern Central Railways provided in-principle approval for railway siding vide letter dated 29.09.2015
Fly Ash Disposal System Proposed	Pneumatic conveying system shall be employed for extraction of fly ash from the electrostatic precipitator hoppers in dry form. This dry ash shall be taken to buffer hoppers of unit located near to ESP. Dry ash from buffer hoppers shall be transported to main storage silos. The main ash storage silos shall be placed on the rail line for further utilization through rail wagons. There shall be two nos. of new ash silos in the existing silo area. The storage capacity of each silo shall be approx. 1800 M3. The user industries shall take the dry fly ash from these silos in closed tankers/Rail wagons/Open trucks. For wet disposal of dry ash extracted from various ESP hoppers, the same shall be diverted through feeder ejector to ash slurry pump house.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	**Existing -** Ash Pond Area - 282 acres 25°28'36.46"N to 25°28'48.73"N, & 83°52'39.77"E to 83°52'52.98"E MSL (m): 83 – 88 meter **Proposed -** Ash pond Area - 165 acres 25°27'8.00"N to 25°27'15.50"N & 83°52'57.77"E to 83°53'11.47"E MSL(m): 88 – 89 meter
Quantity of 1. Fly Ash to be generated 2. Bottom Ash to be generated:	a. 2.74 MTPA b. 1.614 MTPA
Fly Ash utilization (details)	Pneumatic conveying system (either vacuum system or pressurized system) shall be employed for extraction of fly ash from the electrostatic precipitator hoppers in dry form. This dry ash shall be taken to buffer hoppers of unit located near to ESP. Dry ash from buffer hoppers shall be transported to main storage silos. The main ash storage silos shall be placed on the rail line for further utilization through rail wagons. There shall be two nos. of new ash silos in the existing silo area. The storage capacity of each silo shall be 1800 M3. The user industries shall take the dry fly ash from these silos in closed tankers/Rail wagons/Open trucks. For wet disposal of dry ash extracted from various ESP hoppers, the same shall be diverted through feeder ejector to ash slurry pump house. EOI for fly ash utilization is obtained from Rural Work Development, Govt. of Bihar vide letter no. BRRDA

	(HQ) PMGSY-581/2015/65 dated 07.01.2016, Road Construction department, Bihar vide letter no. Sec-11/Vividth-03-41/2015-192 dated 08.01.2016 & other private companies like R. S. Mishra Enterprises, Lafarge, Dalmia Bharat Cement etc.
Stack Height (m) & Type of Flue	**Proposed-** Existing - Stack Height - 225.52 m (For stage - II) & 275 m (For Stage - I) Type of flue - Flue Gas Desulphurization (FGD) and Selective Catalytic Reduction (SCR) shall be installed in the proposed Thermal Power Plant.

1. **Water Requirement:**

Source of Water:	The makeup water for the project is proposed to be drawn from River Ganga a distance of about 5kms.
Quantity of water requirement:	**During Construction Phase:** Existing: 200 KLD Proposed: 100 KLD. **During Operation Phase:** Existing: 134561 KLD (55 Cusec). Proposed: 73397 KLD (30 Cusec).
Distance of source of water from Plant:	5 km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Intake well
Mode of conveyance of water:	Pipeline
Status of water linkage:	Water permission from Central Water Commission, Irrigation Planning (North), Govt. of Bihar issued vide letter no. 7/2/2BH (10)/2010 IP (N)/585-587 dated 24.09.2010 for 55 cusecs. Permission for additional 30 cusec will be obtained.
(If source is Sea water) Desalination Plant Capacity	NA
Mode / Management of Brine:	NA
Cooling system	Induced Draft Cooling Tower

1. **Land Area Breakup:**

Land Requirement: 1. TPP Site 2. Ash Pond 3. Township 4. Railway Siding & Others	**Description** **Areas in Acres** **Existing** **Proposed**

5. Raw Water Reservoir 6. Green Belt 7. others Total (if expansion state additional land requirement)	**Total** Main plant, BOP & CHP & Misc. facilities 450 0 450 Ash Disposal area 282 165 447 Green Belt 178 0 178 Township 95 0 95 Land for miscellaneous facilities like roads, etc. 60 0 60 Lay down area (converted in green belt after Construction) 0 80 80 **Total** **1065** **245** **1310** Railway siding and water pipeline Corridor

	225 5 230
Status of Land Acquisition:	Land for Stage-I is already acquired and land for Stage-2 is under identification.
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.	Stage - I is in under construction.
Break-Up of land-use of TPP site: 1. Total land required for project components 2. Private land 3. Government land 4. Forest Land	Land required for Expansion i.e 250 Acres, is total private land.

1. **Presence of Environmentally Sensitive areas in the study area**

Forest Land/ Protected Area/ EnvironmentalSensitivity Zone	**Yes/No**	**Details Certificate/ letter/ Remarks**
Reserve Forest /Protected Forest Land	No	
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/ historical temples etc	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites, Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	Ganga River ~ 5 km in North Direction Karamnasa ~ 1 km in NW direction	
Additional information (if any)	NA	

Availability of Schedule-I species in study area

1. **Court case details:**

Any litigation/ Court Case pertaining to the project	**Yes** 1. Two (02) Acre of land belonging to K.K.

	Tiwari & Ganesh Tiwari of main plant area is under trial at double bench of Patna, High Court. The trial is between District Administration/Bihar State Vs K.K Tiwari & Ganesh Tiwari in this regard decision/judgment of court is still awaited. 2. Cases pertaining to compensation of land related to Rail & Water Corridor is pending with LARRA, Patna since January 2023. The same is also between District Administration, Buxar and related land owners.
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Additional information (if any)	No

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion from 1320 MW to 1980 MW Buxar Thermal Power Project by installing 1x660 MW plant unit Near Chausa, district Buxar, Bihar by M/s SJVN Thermal Pvt. Ltd.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level.

The EAC noted that green planation is not up to the mark, though the plant is under construction but at least peripheral green belt plantation should have been done by the PP. Further, GLCs value for PM2.5 and PM10 showed by the PP were also found to be unrealistic.

The EAC observed that under construction plant of which expansion has been proposed is 350m away from school boundary and in very close vicinity of the hospital as well. The EAC was of the view that the basic information like GLC of critical environmental parameters, settings around the power plant etc have been explained properly so that EAC can frame appropriate TOR for conducting EIA study. The EAC showed displeasure about the performance of M/s. Mantec Consultants in collecting these data/information.

The EAC after detailed deliberation on the information submitted and as presented during the meeting decided to conduct site visit by EAC sub-committee before making any recommendations on proposal and **deferred** the proposal for want of following additional information:

1. Re-submit the ash pond area in Ha in terms of MoEF&CC latest notification. Environmental sensitivity and land use pattern of all alternative areas for location of ash pond area shall be submitted.
2. Impact assessment of existing as well as proposed location school, hospital, and other environmental sensitive area within 10km radius of the project boundary.
3. Action plan for development of 3 layer peripheral greenbelt.
4. Scientific reasoning for location of Installed Online Monitoring Stations as per accurate air modelling.

*The proposal is therefore **deferred** on the above lines.*

3.2.5. Recommendation of EAC

Deferred for ADS

3.3. Agenda Item No 3:

3.3.1. 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 **DHENKANAL,ODISHA**			
Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/OR/THE/449476/2023	J-13012/73/2011-IA. II (T)	19/10/2023	Thermal Power Plants (1(d))

3.3.2. Project Salient Features

The proposal is for grant of Terms of Reference to Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited.

The Project Proponent and the accredited Consultant M/s. Enviro Infra Solutions Pvt. Ltd. made a detailed presentation on the salient features of the project and informed that

1. M/s GMR Kamalanga Energy Limited (GKEL) is situated in central Odisha in the district of Dhenkanal on the National Highway No. 55, at a distance of 120 km from Bhubaneswar and 50 km. from Dhenkanal city. Budhapank Railway Station is the nearest railway station at a distance of 2 Km in West direction (On Nirgundi - Talcher section of East Coast Rly.)
2. M/s GKEL is a 1400 MW (4x350 MW) coal based thermal power plant, out of which the Phase-I i.e. 1050 MW (3x350 MW) is in operation of which EC has been granted by MOEF&CC vide letter No. J-13011/64/2007-IA.II (T) dated 05.02.2008. For Phase – II (1x350 MW) EC has been granted by MOEF vide letter No. J-13012/73/2011-IA.II(T) dated 05.12.2011. The first, second and third units of Phase - I were commissioned in April 2013, November 2013 and March 2014 respectively.
3. The Environment Clearance was granted for Expansion of existing 3 x 350 MW Thermal power project by addition of 1 x 350 MW Coal based Thermal Power Plant (Phase – II) by MoEF&CC vide F. No. J-13012/73/2011-IA.II (T) on dated 05.12.2011 and its revalidation dated 11.04.2019 and is valid up to 04.12.2022 considering general extension of 1 year vide MoEF&CC Gazette Notification No. 201 dated 18th January, 2021.). The project 1 x 350 MW is in process of implementation. The unit of 1x 350 MW was already executed for about 64% progress in overall Project Works and 90% of Civil work including chimney construction.
4. **Reason for Delay –**

1. No project work due to the Covid 19 pandemic from April 2020 to April 2022
2. Non-availability of Power purchase agreement
3. The coal supply was hit because of Hon’ble Supreme Court’s decision on Coal Mining allocation, and ultimately which hit the Power Sector
4. The price of coal in international market was very high
5. Delay in offshore material supply

1. The project profile is same & no changes were made in project capacity, fuel and water consumption, plant facility & waste emission/ effluent treatment system.

1. Status of Proposed Facilities are as under:

Sl	Project components	% Comp	Status of Completion	Compl. Time line
A	**Infrastructure & other facilities**			
1	Approach Road outside of plant	100	Completed & under operation.	
2	MGR & its take off	100	Completed & under operation.	
3	Plantation	100	>357 Acres with 3,92,350 Nos.	
4	Ash Pond	100	Present ash pond will be used - Ash utilisation more than 100 % since last 5 years.	
B	**Plant Facilities**			
5	Coal Bunker, Mill, Boiler and ESP	15	• Foundation done and Bunkers erected.	30.06.2026
6	TG, its Aux. & TG Building.	10	• Civil foundation done.	30.06.2026
7	Chimney & Flue can	100	• Completed	
8	Switch Yard with Transformers	75	• Switch yard completed, transformers to be installed.	30.11.2024
9	Cooling Towers & CW Pump house	15	• Civil & building work of PH completed, • Cooling Tower - work to be done.	30.03.2026
10	River Water PH, Reservoir, Raw water Pump House & pipe lines.	81	• Common facility - Major work Completed, • Connecting pipe lines to be laid.	30.10.2024
11	Water treatment plant & accessories & ETP/STP/RO system.	90	• Completed-Common facility • Blowdown pipeline to be laid.	30.10.2024

12	Fuel oil Pump House	85	• Common facility, only pipe lines to be laid.	30.05.2026
13	Coal handling Plant	85	• Common Facility completed • Feed Conveyor to be laid.	30.05.2026
14	Ash handling System	81	• Completed, ash conveying Pipeline to be laid	
15	FGD for all 04 Units	--	• Bidding in process	30.11.2026
Cumulative progress of Plant Facilities		**63.7 %**		

1. The Salient features of the project are as under:

1. **Project details:**

Particular	**Details**
Name of the Proposal	Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, in Odapada Taluk, Dhenkanal District, Odisha by M/s GMR Kamalanga Energy Limited
Proposal No.	IA/OR/THE/449476/2023; File. No. J-13012/73/2011-IA. II (T)
Location	Khasra No. - 758/888 etc., Village Kamalanga, Mangalpur, Bhagabatpur & Senabatibarana, Taluk Odapada, District Dhenkanal, State Odisha.
Company's Name	M/s GMR Kamalanga Energy Limited
Accredited Consultant and certificate no.	Enviro Infra Solutions Pvt. Ltd. NABET Certificate No.: NABET/EIA/2225/RA 0300
Inter- state issue involved	No
Seismic zone	The project is in moderate damage risk zone (Part VI) as per seismic map.

1. **Category details:**

Particular	Details
Category of the project	Category 1(d) Thermal Power Project
Capacity	1x350 MW (Phase II)
Attracts the General Conditions (Yes/No)	Not applicable
Additional information (if any)	Proposal is for grant of ToR

1. **Project Details:**

Particular	Details
If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	EC for 3 x 350 MW Thermal Power Plant (Phase-I) - Granted by MoEF&CC vid dated 05.02.2008. EC for 1 x 350 MW Thermal Power Plant (Phase-II) - Granted by MoEF&CC vid dated 05.12.2011.
Amendments granted, if Yes details	EC for 1 x 350 MW Thermal Power Plant (Phase-II) - Granted by MoEF&CC vid dated 05.12.2011, Amendment dated 11.01.2019 & Validity Extension dated 11 2023
Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Half-yearly EC compliance report is being submitted to MoEF&CC, New Delh Bhubaneswar regularly. Compliance report for the period of October to March 202
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/information.	All EC related documents monitoring and compliance related reports/documents) of the project has been upl https://www.gmrgroup.in/kamalanga/
Co-ordinates of all four corners of TPP Site:	**Latitudes (North):** From: Degree:20, Minutes: 51, Second :11.82 To: Degree:20, Minutes: 53, Second :5.45 **Longitudes (East):**

	From: Degree:85, Minutes: 15, Second :11.32 To: Degree:85, Minutes: 16, Second :28.06
Average height of: TPP site, ash pond site etc. above MSL	1. TPP site - 65 to 70mtr AMSL Ash pond site - 70 mtr AMSL
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	Not applicable
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	INR 1192.68 Crores INR 551.00 Crores
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	Present employment forExisting unit - Around 1550. Proposed unit - Around 500 inproject stage & during operation - Around 120.
Benefits of the project (specify quantitative information)	The project is under implementation stage. We have already constructed 63.7 % power generation capacity of the state and shall increase socioeconomic developm

1. **Electricity generation capacity:**

Particular	Details
Capacity & Unit Configurations:	Total - 1400 (4 x 350) MW Under Operation - 1050 (3x350) MW Under Construction - 350 (1x350) MW
Generation of Electricity Annually	For existing 1050MW - 7450 MU (with81 % PLF) For Under construction 350 MW - 2483 MU (with81 % PLF)

1. **Details of fuel and Ash disposal**

Particular	Details
Fuel to be used:	Coal is the primary fuel for the TPP operation.
Quantity of Fuelrequired per Annum:	The total coal requirement for the phase II (1 x 350 MW) will be 1.934 million tonnes.
Coal Linkage *I* Coal Block: (If Block allotted, status of EC & FC of the Block)	Coal from Mahanadi Coalfields Ltd., LDO from nearest BPCL I HPCL/IOCL terminal
Details of mode of transportation of coal from coal source to the plant premises along with distances	The coal will be brought via existing railway transport up to Budhapank Railway Station and further through dedicated MGR system.
Fly Ash Disposal System Proposed	Bottom ash disposal would be in wet slurry form and fly ash disposal would be partly in wet slurry and partly in dry form.
Ash Pond/Dyke (Area, Location & Co-ordinates) Average height of area aboveMSL (m)	The overall site elevation is 65 mt to 70 mt AMSL Ash dyke location within plant boundary and Co-ordinates of TPP – Latitudes (North): From: Degree:20, Minutes: 51, Second :11.82 To: Degree:20, Minutes: 53, Second :5.45 Longitudes (East): From: Degree:85, Minutes: 15, Second :11.32 To: Degree:85, Minutes: 16, Second :28.06

Quantity of Fly Ashto be generated:	1865.12 TPD
Bottom Ash to be generated:	466.28 TPD (Bottom Ash to be Disposed-off as HCS (High Concentrated Slurry) in the ash pond, Disposed for Low Land Filling, Road Making, Cement and Brick manufacturing)
Fly Ash utilization (details)	Fly ash will be utilized in manufacturing of cement & bricks and also filling of low lying areas/Road construction.
Stack Height (m) & Typeof Flue	Stack height is 275 m and Flue type will be gaseous & particulate matter emission.

1. **Water Requirement:**

Particular	**Details**
Source of Water:	The water will be drawn from the Brahmani River.
Quantity of water requirement:	The total water demand for the proposed unit is 32000 KLD.
Distance of sourceof water from Plant:	The approximate distance of Brahmani River from project site is 1.5 km.
Whether barrage/weir/ intake well/ jack well/ others proposed:	Requirement of water intake will be fulfilled from existing raw water intake well.
Mode of conveyance of water:	Water will be conveyed through existing pipeline.
Status of waterlinkage:	Project is EC validity extension of Phase II i.e., 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, in Odapada Taluk, Dhenkanal District, Odisha, so water linkage is already available.
(If source is Sea water) Desalination Plant Capacity	Not applicable
Mode *I* Management of Brine:	Not applicable
Cooling system	Water Cooled Condenser (River water for Condenser cooling) & equipment cooling system with cooling tower (IDCT) will be installed.

1. **Land Area Break-up:**

Particular	
Land Requirement: 1. TPP Site 2. Ash Pond 3. Township 4. Railway Siding &Others 5. Raw Water Reservoir 6. Green Belt 7. others Total (if expansion state additional land requirement)	

Status of LandAcquisition:

Status of the project:
If under construction phase:please specify the reasons for delay, w
date and balance worksalong with expected date of completion.
If under
operation phase, date of commissioning (COD)of each unit.Whether the plantwas under shutdown since commissioning, d

Break-Up of land-use of TPP site:

1. Total land required for project components
2. Private land
3. Governmentland Forest Land

1. **Presence of Environmentally Sensitive areas in the study area:**

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/ No**	**Details of**
Reserve Forest/ Protected Forest Land	Yes	4 Reserve Ba
National Park	No	-
Wildlife Sanctuary	No	-
Archaeological sites monuments/ historical temples etc.	No	-
Names & distance of National parks,Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forestsetc. Located within10 Km fromthe plant boundary:	No	-
Additional information (ifany)		Forest cle

Availabilityof Schedule - I Speciesin Study Area:Not Applicable

1. **Court Case Details:**

Particular	Details
Any litigation/ Court Casepertaining to the project	No litigation or court case pertaining to the project.
Is the proposal under any investigation? If so, details thereof.	No.
Any violation casepertaining to the project:	No.
Additional information (if any)	No.

3.3.3. Deliberations by the committee in previous meetings

N/A

3.3.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that earlier EC was granted by MoEF&CC vide letter dated 05.02.2008 for Phase-I i.e. 1050 MW (3x350 MW) and EC has been granted for Phase – II (1x350 MW) by MoEF&CC vide letter dated 05.12.2011. The unit of 1x 350 MW was already executed for about 64% progress in overall and the EC dated 05.12.2011 has been expired, so the present proposal is for seeking EC afresh for unit under Phase – II (1x350 MW). The EAC examined the component-wise construction status of the proposed unit through areal video as well as documents submitted by the PP. The Expert Member from the CEA also explained the criteria for deciding the physical construction status being followed by the CEA. The EAC being satisfied with the physical progress made by the PP viewed that the requirement of repeat public hearing may be exempted. The EAC suggested the PP to develop green belt in 40% of the total project cover area, the PP agreed for the same.

3.3.5. Recommendation of EAC

Recommended

3.3.6. Details of Terms of Reference

3.3.6.1. Specific

Socio-economic Study	
1.	1. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities

	strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored a assessing the need of the labour force and local populace. 2. All the tasks including conducting public hearing shall be done as per the provisions of Notification, 2006 and as amended from time to time. Public hearing issues raised compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter. 3. Statement on the commitments (activity-wise) made during public hearing to facilitate discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilita &Resettlement plan shall be prepared. 4. Details of settlement in 10 km area shall be submitted.
Disaster Management	
1.	1. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.
Environmental Management and Biodiversity Conservation	
1.	1. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of proposed project shall be conducted. 2. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary. 3. Status of FGD installation for existing unit shall be submitted. 4. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequ fund for wildlife habitat management, preserving wildlife and its corridors and be submitted along with EIA/E report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 y shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan. 5. Details of the existing rail, road networks and alignment of transmission lines along with quantity of coal be transported/to be transported for existing units and proposed expansion, its source and transportation mode shall submitted. 6. Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given. 7. A comparative chart shall be prepared with changes observed from previous baseline study and present baseline study. 8. Existing green plantation carried out by the project proponent with its survival rate shall be submitted and a plan shal made to maintain survival rate upto 90%. 9. Detailed action plan shall be prepared for maintenance of air pollution control equipment. 10. Details of Ash management of existing (last 5 years) and proposed project shall be submitted, along with 5-year plan 100 % ash utilization. MoU signed with cement manufactures for ash utilization shall be submitted. 11. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted. 12. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed pond and water body (minimum 500 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate w any fresh water body for under construction ash pond. High Density Slurry disposal plan shall be prepared. 13. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and repor submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospi within 2 km radius of the plant boundary be submitted. 14. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/E report. 15. Details pertaining to water source, treatment and discharge should be provided. 16. Zero Liquid Discharge plan shall be submitted. 17. Action plan for development of green belt (40% of total project cover area) along the periphery of the project bound with 90% survival rate shall be provided with a video clip of existing green belt. 18. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations. 19. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report. 20. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consulta with reputed government institution. 21. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focus on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report. 22. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibilit

	thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.
Miscellaneous:	
1.	1. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO s provide specific observations on the status of OCMS, ash utilization, green cover and emission control equipment o units of the plant. 2. PP shall submit details of court cases and its status for the project. 3. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the d time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the orig test reports and certificates of the labs which will analyze the samples. 4. Arial view video of project site shall be recorded through drone and be submitted.

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.	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted

8.	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
9.	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
10.	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.	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.

Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)	
1.	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
2.	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
3.	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
4.	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
5.	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
6.	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.
7.	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
8.	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
9.	Impact on fisheries at various socio economic level shall be assessed.
10.	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
11.	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
12.	There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

3.4. Agenda Item No 4:

3.4.1. Details of the proposal

MEJA THERMAL POWER PROJECT STAGE II - COAL BASED 3 X 800 MW by **MEJA URJA NIGAM PRIVATE LIMITED** located at **PRAYAGRAJ,UTTAR PRADESH**	
Proposal For	Fresh ToR

Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/UP/THE/449702/2023	-13012/03/2008- IA.II (T)	20/10/2023	Thermal Power Plants (1(d))

3.4.2. Project Salient Features

The proposal is for grant of Terms of Reference to 3 X 800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited.

The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

1. M/s Meja TPP (Stage-I) is a 1320 MW (2x660MW) Power Plant located in Village Kohdar, Meja Tehsil, Prayagraj (UP).
2. MoEF&CC had accorded EC for Stage-I (2x660 MW) vide letter no J-13012/03/2008- IA.II (T) dated 10.01.2011 and both the Units are under Operation. EC for Stage-I was amended as follows:

Date of EC Amendment	Amendment Details
21.07.2017	Permission for road transportation of 2 Lakh Tons of coal by road for temporary period of one year or till the commissioning of railway siding whichever is earlier.
08.01.2018	Time extension for the validity of Environment Clearance
28.03.2019	Temporary permission for transportation of coal by road
08.08.2019	Extension of validity of EC for further period of one year
25.09.2020	Extension of validity of EC for further period of one year

1. **Land Requirement:**

- About 1295 Ha of land has been acquired for Meja TPP during Stage-I. The plant facilities of Stage-II shall be accommodated within the existing premises of the Meja STPP.
- Additional area proposed to be acquired is 114 Ha for Ash Dyke and Railway Siding for Stage-II.

1. The Salient features of the project are as under:

1. **Project details:**

Name of the Proposal	3 X 800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited - Terms of Reference (ToR)- reg
Proposal No.	IA/UP/THE/449702/2023
Location	Post Kohdar, Tehsil Meja, District Prayagraj
Company's Name	M/s Meja Urja Nigam Private Limited
Accredited Consultant and certificate no.	EQMS Global Pvt. Ltd. formerly known as EQMS India Pvt. Ltd. NABET/EIA/2225/RA 0303 Valid upto: 23/11/2025
Inter- state issue involved	No
Seismic zone	Zone II

1. **Category details:**

Category of the project	Thermal, Category - A
Capacity	**Under Operation** Stage-I: 1320 MW (2x660 MW) **Proposed Expansion** Stage-II: 3x800 MW (2400MW)
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	Meja Thermal Power Project (Stage-I) is in commercial operation. This proposal is for expansion by additional capacity of 2400 MW (3x800MW) as Stage-II based on pulverized coal fired thermal power generation technology, Air Cooled Condenser System & compliant with applicable emission norms.

1. **Project Details:**

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	It is an expansion project. Ministry of Environment, Forests and Climate Change (MoEF&CC) had accorded Environmental Clearance (EC) for 2x660 MW (Stage-I) Supercritical Technology Coal Based Meja Thermal Power Plant near Kohadar, Bhagdeva & Mai Kalam villages, in Meja Taluk, in Allahbad Distt., in Uttar Pradesh vide letter no. J-13012/03/2008-IA.II (T) dated 10.01.2011.
Amendments granted, if Yes details	• Amendment dated 21.07.2017 for coal transportation by road. • Amendment dated 08.01.2018 for EC validity extension • Amendment dated 28.03.2019 for coal

	transportation by road • Amendment dated 08.08.2019 for EC validity extension and waive off CSR recurring expenditure stipulation • Amendment dated 25.09.2020 for EC validity extension
Expansion / Green Field (new): (IPP / Merchant / Captive)	Expansion of existing Stage-I 1320 MW (2x660MW) by additional capacity of 2400 MW (3x800MW) as Stage-II
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Certified Compliance report shall be submitted along with Final EIA report.
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/ information.	www.munpl.co.in Head of Project, Meja Thermal Power Plant Village – Kohadar, Bhagdeva, Mai Kalam Taluk – Meja District – Allahbad State – Uttar Pradesh Pin - 212301
Co-ordinates of all four corners OF TPP Site:	Latitude :25°08'18" N, 25°06'40"N, 25°09'12"N, 25°08'37"N Longitude: 81°58'34" E, 81°55'45"E, 81°56'10"E, 81°55'16"E
Average height of: 1. TPP site, 2. Ash pond site etc. above MSL	(a) 127 M (b) 115 M
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Cost of the Existing Project at current price level (in Lakhs) [A] 1302922 Cost of the proposed expansion/ modernization of Project at current price level (in Lakhs) [B] 2247997 Total Cost of the project/ Activity (in lakhs) [A+B] 3550919

Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	The project will generate direct and indirect employment opportunities as well as opportunities for self-employment. The no. of NTPC employees during construction and operation phases are 554 and 720 respectively. Workforce employed during construction phase by the EPC contractors would be much higher (about 4000-5000 during peak deployment). In addition to the people directly involved in construction and operation of the power project, employment opportunities in subsidiary industries and service sectors as well as self-employment opportunities shall also be generated.
Benefits of the project (Specify quantitative information)	Construction and operation of the project will generate employment potential both directly or indirectly. Local people will have employment opportunities as skilled, semi-skilled and unskilled laborers as well as self-employment opportunities. Thus, there will be overall improvement in the socio-economic status of the people of the surrounding areas. Power plant will have a positive effect on the socio-economic conditions of the people nearby, the project and service activities will generate steady source of income for local people. With the implementation of the project, employment opportunities, communication, medical facilities, education and skill up-gradation facilities etc. in the area will be further improved. Besides, there will be marked improvement for various facilities in the local areas as shown below. • Improvement in medical and health care system. • Improvement in educational services. • Improvement of drinking water & sanitation facilities. • Vocational training facilities for local eligible youth of local community to enable them to seek employment in suitable project operations and elsewhere. • Benefit to the State and the Central governments through financial revenues from this project directly and also indirectly. • Employment opportunities to local persons of different skills and trades. • Improvement in the socio-economic conditions of the inhabitants of the area

1. **Electricity generation capacity:**

Capacity & Unit Configurations:	**Under Operation** Stage-I: 1320 MW (2x660 MW) **Proposed Expansion** Stage-II: 2400MW (3x800 MW)
Generation of Electricity Annually	Stage-II: 21 Billion Units annually (2400 MW @ 85%

	PLF)

1. **Details of fuel and Ash disposal**

Fuel to be used:	Coal
Quantity of Fuel required per Annum	Stage-II: 9.94 Million MT at 85% PLF
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	SLC (LT) in its meeting held on 21.02.2023 had recommended grant of coal linkage to Stage-II (2x660 MW), which was further enhanced for the revised capacity of 3x800 MW in SLC (LT) Meeting held on 19.09.2023. However, as per practice of coal allocation, the Coal Block is yet to be allocated. The likely coal sources are NCL and CCL.
Details of mode of transportation of coal from coal source to the plant premises along with distances	Rail (NCL-280 to CCL-480 km)
Fly Ash Disposal System Proposed	The fly ash shall be extracted in dry form from the electrostatic precipitator hoppers. This dry ash shall either be taken to buffer hoppers for its onward transportation in dry form for utilization or shall be slurrified in wetting units for its ultimate disposal in ash disposal area using HSCD System. The bottom ash shall be extracted and disposed-off in wet form. It is envisaged to have disposal system sized for 100% generation of ash. The ash management scheme for fly ash and bottom ash involves dry collection of fly ash, supply of ash to entrepreneurs for utilisation, promoting ash utilisation and safe disposal of unused ash. NTPC shall make maximum efforts to utilise the fly ash for various purposes. Unused fly ash and bottom ash shall be disposed-off in the ash pond. A blanket of water shall be maintained over the entire ash pond to control fugitive dust emission. After the ash pond is abandoned, it shall be reclaimed through green vegetation.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL(m)	For Stage-II, Land still to be Acquired (Proposed Area: 110 Ha.) adjacent to existing Ash dyke 115 M
Quantity of 1. Fly Ash to be generated 2. Bottom Ash to be generated:	Stage-II: a. Fly Ash 3.02 Million Metric TPA b. Bottom Ash 0.76 Million Metric TPA
Fly Ash utilization (details)	The Ash Utilisation shall be done as per Ministry

	of Environment, Forests and Climate Change Notification dated 31-12-2021 as amended on 31.12.2022. To utilize ash and also to comply the stipulations of MoEF&CC's Gazette Notification on fly ash dated 31-12-2021 following actions would be taken up by NTPC: • NTPC shall provide a system for 100% extraction of dry fly ash along with dedicated dry ash silos for storage of at least sixteen hours of ash based on installed capacity having separate access roads so as to ease the delivery of fly ash. Provision shall also be kept for segregation of coarse and fine ash, loading this ash to closed/ open trucks and also for loading fly ash into rail wagons. This will ensure availability of dry fly ash required for manufacture of Fly Ash based Portland Pozzolana Cement (FAPPC) for cement plants and Ready Mix Concrete plants. • NTPC shall also promote, adopt and set up the ash based product manufacturing facilities within its premises & fly ash brick thus produced shall be utilized in in-house construction works as well as for supply in the market on price. • NTPC shall make efforts to motivate and encourage entrepreneurs to set up ash based building products such as fly ash bricks, blocks tiles, fly ash based aggregate etc. in the vicinity of proposed power plant. • To promote use of ash in agriculture/low lying areas/wasteland development-show case project shall be taken up in the vicinity of proposed thermal power station. • NTPC shall make efforts with authorities of coal mines and other minerals mines for use of ash in reclamation of mines located within 300 km of proposed power station. • All government/ private agencies responsible for construction/ design of buildings, road embankment, flyover bridges and reclamation/ development of low lying areas within 300 km of the plant areas shall be persuaded to use ash and ash based products in compliance of MoEF&CC's Gazette Notification on fly ash. • With all the efforts mentioned above, it is expected that fly ash generated at proposed thermal power station shall be utilized in the areas of cement, concrete & building products manufacturing, road embankment construction, land development, mine filling, shoreline protection structure, agriculture etc.

Stack Height (m) & Type of Flue	One twin flue chimney of 220 M height & one single flue chimney of 150 m

1. **Water Requirement:**

Source of Water:	Ganga River
Quantity of water requirement:	Stage-II (With Air Cooled Condenser) 30 Cusec
Distance of source of water from Plant:	29 km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Intake Well
Mode of conveyance of water:	Pipeline
Status of water linkage:	Stage-II: Quantity Available - 5 Cusecs An additional allocation of 25 Cusecs shall be required from WRD, GoUP. Under approval with GoUP.
(If source is Sea water) Desalination Plant Capacity	NA
Mode / Management of Brine:	NA
Cooling system	Air Cooled Condenser

1. **Land Area Breakup:**

Land Requirement: 1. TPP Site 2. Ash Pond 3. Township 4. Railway Siding & Others 5. Raw Water Reservoir 6. Green Belt 7. others 8. Total (if expansion state additional land requirement)	Land Requirement: Existing (Proposed) 1. 328 Ha (Nil) 2. 302 Ha (110 Ha) 3. 85 Ha (Nil) 4. Railway Siding 171 Ha (4 Ha) 5. 75 Ha (Nil) 6. Included above 133.1 ha (20 ha) 7. 334 Ha (including available for expansion) 8. Total 1295 Ha (114 Ha)
Status of Land Acquisition:	To be taken up
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected	Construction of Stage-II not yet started Stage-I Both units commissioned

date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons	
Break-Up of land-use of TPP site: 1. Total land required for project components 2. Private land 3. Government land 4. Forest Land	**Nature of Land involved in (Ha)** **Area Existing (Ha)** **Additional Area Proposed (Ha)** **Total Area required after expansion (Ha)** Govt. Land 535 62 597 Pvt. Land 760 52 812 Forest Land 0 0 0 **Total** **1295** **114** **1409**

1. **Presence of Environmentally Sensitive areas in the study area**

Forest Land/Protected Area/ Environmental Sensitivity Zone	Yes/ No	**Details of Certificate/ letter/Remarks**

Reserve Forest/Protected Forest Land	Yes	Forest Located in 10 km area: 1. Badiha R.F -7.0 km East 2. Gadaria R.F – 5.0 km East 3. Singhpur khurd R.F.- 0.9 km SW 4. Salaiya Kalan R.F. – along the southern boundary 5. Salaiya Khurd R.F. – along the southern boundary 6. Kohdr R.F. – along the eastern boundary 7. Murpela R.F- 2.7 km East 8. Chandhs R. F. – 8.0 km East 9. Sukh P.F.- 8.5 km east
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/ historical temples etc.	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:		Forest Located in 10 km area: 1. Badiha R.F -7.0 km East 2. Gadaria R.F – 5.0 km East 3. Singhpur khurd R.F.- 0.9 km SW 4. Salaiya Kalan R.F. – along the southern boundary 5. Salaiya Khurd R.F. – along the southern boundary 6. Kohdr R.F. – along the eastern boundary 7. Murpela R.F- 2.7 km East 8. Chandhs R. F. – 8.0 km East 9. Sukh P.F.- 8.5 km east River in 10 km area - Tons River 1.5 km in North
Additional information (if any)		

Availability of Schedule-I species in study area – At the time of EIA for Stage-I, Blackbuck was reported by State Forest Deptt. & Conservation plan prepared & implemented for the same. However, as per recent reports wild species like Jackal, Wolf, Mongoose, Porcupine are also reported. Details shall be presented in EIA study report.

1. **Court case details:**

Any litigation/Court case pertaining to the project	NO
Is the proposal under any investigation? If so, details thereof.	NO
Any violation case pertaining to the project:	NO

Additional information (if any)	-

3.4.3. Deliberations by the committee in previous meetings

N/A

3.4.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for 3x800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited.

The project/activity is covered under Category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that earlier EC was granted vide letter dated 10.01.2011 to Meja TPP (Stage-I) of capacity 1320 MW (2x660MW) Power Plant located in Village Kohdar, Meja Tehsil, Prayagraj (UP) and both the Units are under commercial operation. Now PP proposes expansion of TPP by adding 3x800 MW with air cooled condenser system, which eventually uses 40% less water as compare to water cooled condenser system. The EAC further noted that additional land area proposed to be acquired is 114 Ha for Ash Dyke and Railway Siding for Stage-II.

3.4.5. Recommendation of EAC

Recommended

3.4.6. Details of Terms of Reference

3.4.6.1. Specific

Environmental Management and Biodiversity Conservation	
1.	1. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of proposed project shall be conducted. 2. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary. 3. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequ fund for wildlife habitat management, preserving wildlife and its corridors and be submitted along with EIA/E report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 y shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan. 4. Details of the existing rail, road networks and alignment of transmission lines along with quantity of coal be transported/to be transported for existing units and proposed expansion, its source and transportation mode shall submitted. 5. Radioactivity studies along with coal analysis to be provided (sulphur, ash percentage and heavy metals including Pb, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc should also be given. 6. A comparative chart shall be prepared with changes observed from previous baseline study and present baseline study. 7. Existing green plantation carried out by the project proponent (within or outside the plant boundary) with its survival shall be submitted and a plan shall be made to maintain survival rate upto 90%. 8. Detailed action plan shall be prepared for maintenance of air pollution control equipment. 9. Details of Ash management of existing (since operation of the plant) and proposed project shall be submitted, along v

	5-year plan for 100 % ash utilization. 10. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted. 11. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed pond and water body (minimum 500 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate w any fresh water body for under construction ash pond. High Density Slurry disposal plan shall be prepared. 12. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and repor submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospi within 2 km radius of the plant boundary be submitted. 13. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/E report. 14. Details pertaining to water source, treatment and discharge should be provided. 15. Zero Liquid Discharge plan shall be submitted. 16. Action plan for development of green belt (40% of total project cover area) along the periphery of the project bound with 80% survival rate shall be provided with a video clip of existing green belt. The plan shall be prepared consultation with State Forest Department considering the project site is located in rocky area. 17. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations. 18. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report. 19. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consulta with reputed government institution. 20. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focus on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report. 21. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibilit thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.
Socio-economic Study	
1.	1. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored a assessing the need of the labour force and local populace. 2. All the tasks includingconducting public hearing shall be done as per the provisions of Notification, 2006 and as amended from time to time. Public hearing issues raised compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter. 3. Statement on the commitments (activity-wise) made during public hearing to facilitate discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilita &Resettlement plan shall be prepared. 4. Details of settlement in 10 km area shall be submitted.
Disaster Management	
1.	1. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.
Miscellaneous:	
1.	1. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO s provide specific observations on the status of OCMS, ash utilization, green cover and emission control equipment o units of the plant. 2. PP shall submit details of court cases and its status for the project. 3. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the d time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the orig test reports and certificates of the labs which will analyze the samples. 4. Arial view video of project site shall be recorded through drone and be submitted.

3.4.6.2. 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.	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
8.	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
9.	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
10.	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.	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.
Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)	
1.	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
2.	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
3.	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.

4.	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
5.	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
6.	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.
7.	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
8.	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
9.	Impact on fisheries at various socio economic level shall be assessed.
10.	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
11.	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
12.	There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

Day 2 -01/11/2023

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd by **NTPC LIMITED** located at **RAIGARH,CHHATTISGARH**			
Proposal For		Amendment in EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/CG/THE/448422/2023	J-13012/11/2018-IA.I (T)	17/10/2023	Thermal Power Plants (1(d))

3.1.2. Project Salient Features

The proposal is for amendment in Environmental Clearance for 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd.

The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

1. M/s NTPC is operating Lara Super Thermal Power Station, Stage-I (2x800 MW) at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh in Tehsil Pussore, District Raigarh (Chhattisgarh). The Environment clearance for Lara STPP stage-I was accorded by MoEF&CC vide letter no. J-13012/79/2007-IA.II (T) dated 13.12.2012 and its amendments dated 26.04.2017, 15.11.2018, 14.01.2020 & 21.10.2020.

1. The Environmental Clearance for NTPC Lara Super Thermal Power Station, Stage-II (2x800 MW) has been accorded by MOEF&CC vide letter no. J-13012/11/2018-IA.I (T) dated 17.07.2023.

NTPC is making its all-out efforts to comply with all the EC Conditions. However, a detailed examination of EC conditions reveals that some of the conditions are not applicable to the project Lara STPP Stage-II, hence need deletion while some other conditions need review and amendment. A detailed account of these conditions along with justification are as follows:

lment Proposed
ndition may be deleted.
ndition may be deleted.
TPP, Stage-II shallachieve specific waterconsumption of **3.0 m^3/MWh and Zero effluent discharge.**
lment Proposed
ndition may be deleted.

on of operation of power planton agricultural crops,large water bodies(as applicable) once in five years by engaging an institute e. The study shall also include impact due to heavymetals associated with emission from power plant.
d/Natural draft closed cycle wet cooling system including cooling towers shall be set n minimum Cycles of Concentration (COC)of 5.0 or abovefor power plantsusing fresh waterto achieve specific water nption of 3.0 m3/ MWhr.
ndition may be deleted.
ndition may be deleted.
oring of Carbon Emissions from the existing power plant as well as for the proposed power projectshall be carriedout once ears from a reputed institute and report be submitted to the Ministry's Regional Office.
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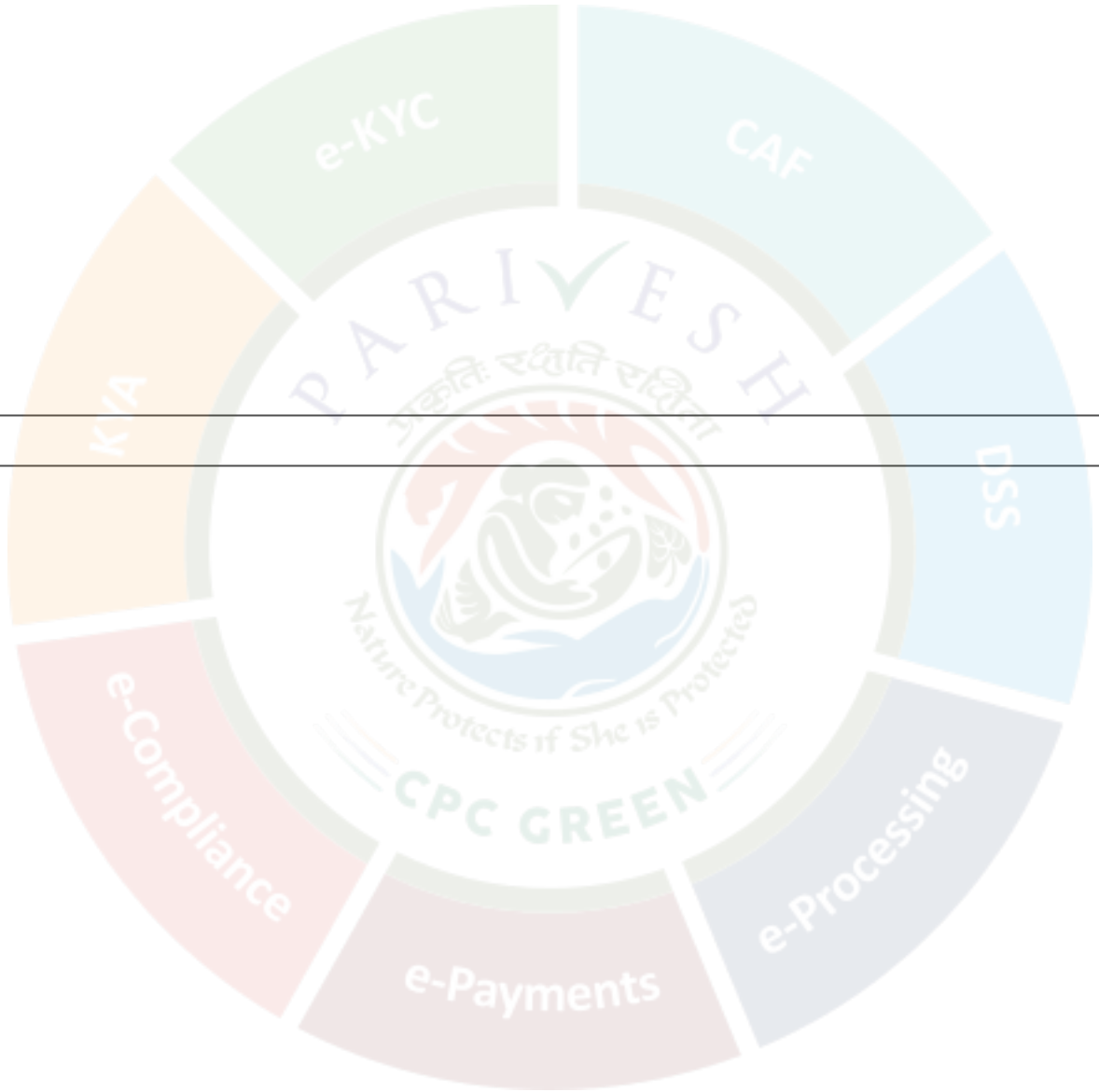
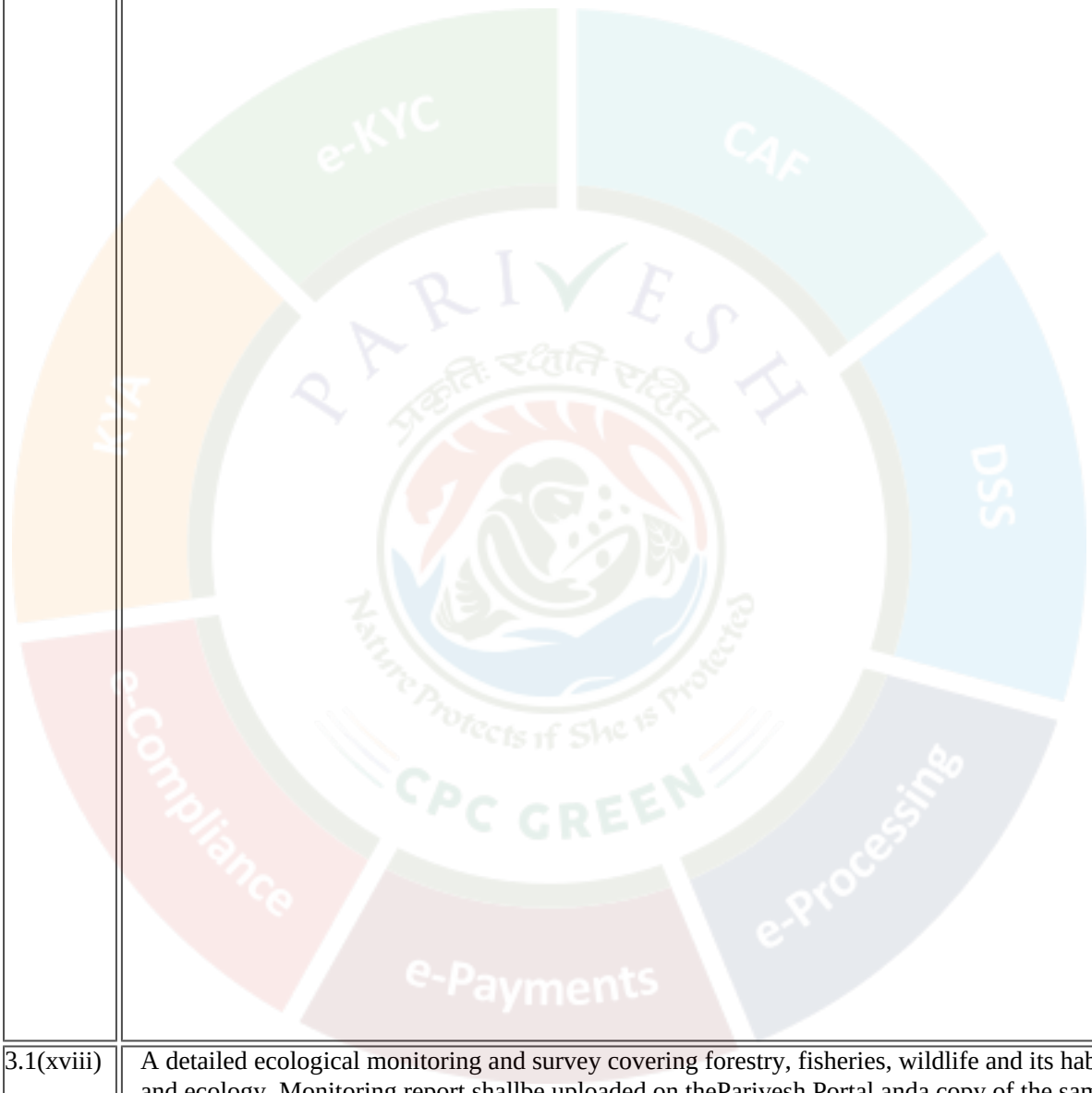


1.
2.

Condition Number	Existing EC Condition
Specific EC Conditions:	
2. Socio-Economic:	
2.1 (xxvi)	Epidemiological Studyamong population within5 km radius of project cover area shall be carri measures shall be taken as per findings of study in consultation with district administration. Action taken repor
3.Environmental Management	
3.1(iii)	Extensive green cover within 2 km range of the plant boundary shall be developed. An action plan in this regard to be prepared in consultation with CPCB/expert institution and submitted before

	
3.1(iv)	24X7 online monitoring system for ambient air c connectivitywith SPCB and CPCB server. Stack monitoring shallbe done through24X7 online monitoring syst The emission Standards for Municipal Solid Waste basedThermal Power Plantsas per Municipal Solid Waste I II of Municipal Solid Waste Rules, 2016 dated 8.4.2016 (S.O. 1357 (E)).

3.1(x)	A detailed action plan regarding leachate handling shall be prepared and implemented in consultation with SP discharge shall be adopted. Leachateshall be treatedand reused. No treated leachate shall be disc leachate shall be monitored once in quarterand records shallbe maintained.
3.1(xv)	A well designed rain-water harvesting system shallbe put in place withinsix months, whichshall built up and open area in the plantpremises and detailed record kept of the quantity of water harvested every y
3.1(xvi)	No waterbodies including naturaldrainage system in the area shall be disturbed due to activities associated wit shall be prepared after physical surveywithin 10 km radius of the project. A detailed conservation plan for all these water bodies shall be prepared and submitted bef conservation plan be submitted in 6 monthlycompliance report.

	
3.1(xviii)	A detailed ecological monitoring and survey covering forestry, fisheries, wildlife and its habitat shall be done and ecology. Monitoring report shallbe uploaded on theParivesh Portal anda copy of the samebe submitted to t

3.1(xxiii)	Explore desulphurization from biotechnological method.

1. The salient features of the project are as under:

1. **Project details:**

Name of the Proposal	2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, jhilgitar and Kandagarh in Taluk Pussore, in District Raigarh, in Chhattisgarh
Proposal No.	IA/CG/THE/448422/2023
Location	Village - Chhapora Taluk – Pussore District – Raigarh State - Chhattisgarh PIN - 496440
Company's Name	NTPC Limited
Accredited Consultant and certificate no.	No, as the current proposal is only for seeking amendment of Environment Clearance by way of suitable amendment in EC conditions, the requirement of consultant is not envisaged.
Inter-state issue involved	No
Seismic zone	Zone-II

1. **Category details:**

Category of the project	Thermal, Category - A
Capacity	**Under Operation** Stage-I: 1600 MW (2x800 MW) **Proposed Expansion** Stage-II: 2x800 MW
Attracts the General Conditions (Yes/No)	Yes, the interstate boundary of Chhattisgarh & Odisa is located at 1.5 km from Main Plant Area.
Additional information (if any)	

1. **Project Details:**

If expansion, the details of ECs (including amendments and extension of validity) of	It is not for expansion of Project. It is for Amendment in EC Conditions for Stage-II.

existing Units etc.	Ministry of Environment, Forests and Climate Change (MoEF&CC) had accorded Environmental Clearance (EC) for 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project vide letter no. J-13012/11/2018-IA.I (T) on 17.07.2023
Amendments granted, if Yes details	No amendments have been granted so far for Stage-II.
Expansion / Green Field (new): (IPP / Merchant / Captive)	It is not for expansion of project. It is for Amendment in EC Conditions
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Not Applicable
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/ information.	https://www.ntpc.co.in/about-us/corporate-functions/environment/status-hyc-reports Head of Project, Lara Super Thermal Power Project Village - Chhapora Taluk – Pussore District – Raigarh State - Chhattisgarh PIN - 496440
Co-ordinates of all four corners of TPP Site:	**Main Plant** Latitudes: From 21°44'57"N to 21°46'19"N, Longitudes: From 83°25'37"E to 83°27'56"E
Average height of: 1. TPP site, 1. Ash pond site etc. above MSL	200~210 m 220-242 m
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	As per EC ₹ 31,779.45 Crores (for Both Stage-I & II) • Stage-I (Approved Cost): ₹17,779.45 Crores

	• Stage-II (Estimated Cost): ₹14,000.00 Crores However, Investment approval for Stage-II has been accorded at a project cost of Rs. 15,530 Crore in Aug., 2023.
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	• Current employment at existing power plant (Lara STPP Stage-I)-1773 (Permanent-273 & Temprorary-1500) • The estimated employment generation from the proposed project (Stage-II) 1. During Construction- 4000-5000 (Permanent-112 & Temprorary-4000-5000; depending on the construction phase of the project) 2. During Operation- 1905 (Permanent-405 & Temprorary-1500) However, the manpower shall be optimised and the exact number of manpower shall be decided during the construction/ operation phases of the project.
Benefits of the project (specify quantitative information)	• Proposed Lara STPP Stage-II (2x800 MW) will have State of Art Ultra Super Critical Technology which has better efficiency and less carbon emissions in comparison to sub-critical technology. Installation of High efficiency ESP, FGD and De-Nox System will comply the new emission norms of MOEF&CC. • The setting up of the proposed project will lead to direct and indirect benefits to the overall socio-economic development of the region. • These will also benefit the local population. NTPC has taken up several community welfare and community development activities under Corporate Social Responsibility and this will be strengthened during commissioning of Lara STPP Stage-II.

1. **Electricity generation capacity:**

Capacity & Unit Configurations:	**Under Operation** Stage-I: 1600 MW (2x800 MW) **Proposed Expansion (Under Implementation)** Stage-II: 1600 MW (2x800 MW)
Generation of Electricity Annually	11.91 Billion Units @85% PLF from Stage-II

1. **Details of fuel and Ash disposal**

Fuel to be used:	Coal
Quantity of Fuel required per Annum	6.6 MTPA corresponding to 85% PLF for Stage-II
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Talaipali Coal Block Mining Project (TLCMP) of NTPC Limited is linked to cater the coal requirement for Lara STPP. EC & FC for TLCMP (for a Peak Rated Capacity of 18 MTPA) has already been accorded by MoEF&CC as follows: • EC: Letter no. J-11015/279/2009-IA.II (M) dated 02.01.2013 • FC: Stage-I & Stage-II F.No.8-18/2012-FC dated 05.11.2012 & 28.01.2014 respectively
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of coal transportation from the coal mines to the power plant shall be MGR and Indian Railways. MGR and Railway Sidings have already been commissioned and in use.
Fly Ash Disposal System Proposed	The bottom ash shall be extracted and disposed off in wet form. The fly ash shall be conveyed in dry form from the electrostatic precipitator hoppers. This dry fly ash is taken to buffer hoppers for its onward transportation in dry form to storage silos near plant boundary for utilization. In case of non-utilization, fly ash shall be taken to HCSD system, where in it shall be mixed with water in agitator tanks for its ultimate disposal in high concentration slurry form to ash disposal area. The ash management scheme for fly ash and bottom ash involves dry collection of fly ash, supply of ash to entrepreneurs for utilisation, promoting ash utilisation and safe disposal of unused ash. NTPC shall make maximum efforts to utilise the fly ash for various purposes. Unused fly ash and bottom ash shall be disposed off in the ash pond.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL(m)	Area: 491 Acres (Lara STPP, Stage-I) (No Additional Ash dyke proposed for Lara STPP Stage-II) Co-ordinates: Latitudes: 21°43’7”N to 21°44’27”N Longitudes: 83°27’37”E to 83°29’4”E 220-242 m
Quantity of 1. Fly Ash to be generated 2. Bottom Ash to be generated:	 1.792 MTPA 0.448 MTPA
Fly Ash utilization (details)	The Ash Utilisation shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31-12-2021 as amended on 31.12.2022. To utilize ash and also to comply the stipulations of MoEF&CC’s Gazette Notification on fly ash dated 31-12-2021 following actions would be taken up by NTPC:

	• NTPC shall provide a system for 100% extraction of dry fly ash along with dedicated dry ash silos for storage of at least sixteen hours of ash based on installed capacity having separate access roads so as to ease the delivery of fly ash. Provision shall also be kept for segregation of coarse and fine ash, loading this ash to closed/ open trucks and also for loading fly ash into rail wagons. This will ensure availability of dry fly ash required for manufacture of Fly Ash based Portland Pozzolana Cement (FAPPC) for cement plants and Ready Mix Concrete plants. • NTPC shall also promote, adopt and set up the ash based product manufacturing facilities within its premises & fly ash brick thus produced shall be utilized in in-house construction works as well as for supply in the market on price. • NTPC shall make efforts to motivate and encourage entrepreneurs to set up ash based building products such as fly ash bricks, blocks tiles, fly ash based aggregate etc. in the vicinity of proposed power plant. • To promote use of ash in agriculture/low lying areas/wasteland development-show case project shall be taken up in the vicinity of proposed thermal power station. • NTPC shall make efforts with authorities of coal mines and other minerals mines for use of ash in reclamation of mines located within 300 km of proposed power station. • All government/ private agencies responsible for construction/ design of buildings, road embankment, flyover bridges and reclamation/ development of low lying areas within 300 km of the plant areas shall be persuaded to use ash and ash based products in compliance of MoEF&CC's Gazette Notification on fly ash. • With all the efforts mentioned above, it is expected that fly ash generated at proposed thermal power station shall be utilized in the areas of cement, concrete & building products manufacturing, road embankment construction, land development, mine filling, shoreline protection structure, agriculture etc.
Stack Height (m) & Type of Flue	Two single flue stacks of 150 m or one bi-flue stack of 220 m height will be provided

1. **Water Requirement:**

Source of Water:	Saradih barrage on River Mahanadi

Quantity of water requirement:	Make up water requirement for Lara-II (2 x 800 MW) project would be 4800 m3/hr.
Distance of source of water from Plant:	45 km (Route Length)/34 km (Aerial)
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Intake structure shall be constructed
Mode of conveyance of water:	Pipeline
Status of water linkage:	Water Resource Department (WRD), Government of Chhattisgarh dated 06.12.2022 have accorded water availability confirmation of 45 MCM (5137 m3/hr) for stage-I (2 x 800 MW) power project and 68 MCM (7763 m3/hr) for stage-II for Lara STPP from Saradih barrage on River Mahanadi.
(If source is Sea water) Desalination Plant Capacity	Not Applicable.
Mode / Management of Brine:	Not Applicable.
Cooling system	Water Cooled Condenser System

1. **Land Area Breakup:**

Land Requirement:	
1. TPP Site	Stage-I
2. Ash Pond	Stage-II
3. Township	Future Expansion
4. Railway Siding & Others	Main Plant
5. Raw Water Reservoir	390
6. Green Belt	267
7. others	170
	Green Belt
Total (if expansion state additional land requirement)	35
	56
	Included in Stage-I & II
	Reservoir
	135
	287

	Included in Stage- II
	Township
	151
	NA
	NA
	Peripheral Road (Public)
	57
	NA
	NA
	Ash Dyke
	491
	Nil
	Green Belt in Ash Dyke
	45
	Ash Corridors
	49
	Rly Siding & MGR
	53
	27
	Miscellaneous/ Unutilised Space due to Irregular Shape
	270
	Total

	1676 637 170 Grand Total 2483 No additional land shall be acquired for the proposed project of Stage-II
	A total of 2483.29 acres of land has been acquired under Stage-I for the ultimate capacity of project (Private Land – 1929.17 Acres, Govt. Land. – 179.11 Acres and Forest Land – 375.01 Acres). Stage-I and Stage-II Forest Clearances have already been obtained for forest land involved. However, land acquisition of about 78.14 acres of left out patches of private land is till in progress, thereby making total land requirement of the project as 2561.43 acres. Stage-I facilities are constructed in 1676 acres and out of the above while 637 acres is proposed to be utilized for Stage-II units. A provision of 170 acres has been kept for future expansion.
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons	Under Implementation, Construction work is yet to start at site.

Break-Up of land-use of TPP site:

1. Total land required for project components
2. Private land
3. Government land
4. Forest Land

1.

	Already Acquired (Acres)	Left Out Land (acres)
Private	1929.17	78.14
Govt.	179.11	
Forest	375.01	
Total	2483.29	78.14

Presence of Environmentally Sensitive areas in the study area

	Grand Total	2561.43

Forest Land/Protected Area/ Environmental Sensitivity Zone	**Yes/ No**	**Details of Certificate/ letter/Remarks**
Reserve Forest/Protected Forest Land	Yes	• Gajmar R.F (4.0 km, NNE) • Jharghan R.F (5.5 km, NE) • Holsari Dungri R.F (9.3 km, ESE)
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/ historical temples etc.	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	No.	No National parks, Wildlife sanctuaries, Biosphere reserves, Archaeological Heritage sites exists within 10 Km radius
Additional information (if any)	No	

Availability of Schedule-I species in study area: Indian Peafowl – Pavo cristatus

9. Court case details:

Any litigation/Court case pertaining to the project	No litigation/Court cases regarding Environment issue, However there are other Court cases regarding land.
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Additional information (if any)	--

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance for 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC after detailed deliberation on the information submitted and as presented during the meeting opined that standard and specific conditions stipulated by the MoEF&CC during grant of EC, then PP shall abide by all the safeguard conditions (specific/standard/general) mentioned in the EC. if such conditions are not applicable to the project, the same can be justified by the PP during site visit of RO, MoEF&CC and verified by the IRO as 'Not applicable'.

*The proposal was therefore **returned** on the above lines.*

3.1.5. Recommendation of EAC

Returned in present form

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

(3x660 MW) Neyveli Uttar Pradesh Power Limited, Ghatampur Thermal Power Project by **NEYVELI UTTAR PRADESH POWER LIMITED** located at **KANPUR NAGAR,UTTAR PRADESH**			
Proposal For		Amendment in EC	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/UP/THE/445314/2023	J-13012/113/2011-IA.II (T)	04/10/2023	Thermal Power Plants (1(d))

3.2.2. Project Salient Features

The proposal is for amendment in Environmental Clearance for 3x660 MW Ghatampur Thermal Power Station at Tehsil Ghatampur, District Kanpur Nagar, Uttar Pradesh by M/s Neyveli Uttar Pradesh Power Ltd.

The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

1. The Ministry of Environment, Forests and Climate Change (MoEF & CC) accorded Environment Clearance (EC) on 17.05.2015 with Project cost as ₹14,375.40 Cr. As per MoEF&CC OM dtd. 13.12.2022, NUPPL EC is valid till 16.06.2025.
2. Amendment requested by the project proponent along with justification are as follows:

S. No	EC condition	Amendment requested	Justification
1.	EC Specific Conditions sub-clause v) As committed, a minimum amount of 0.4% & 0.08% of the capital cost of the project shall be earmarked as capital cost during the construction phase of the project and recurring cost per annum till the operation of the plant respectively for CSR activities	The specific conditions under sub-clause v), vi) & vii) of Environmental Clearance may kindly be deleted.	• MoEF & CC, vide OM dtd. 01.05.2018, has issued comprehensive guidelines on CER. These comprehensive guidelines on CER are being followed in subsequent ECs • The CSR activities to be undertaken by an industry is under the domain of Ministry of Corporate Affairs under the Companies Act, 2013 • The stipulation of conditions pertaining to CSR by MOEF&CC will create ambiguity in multiple reporting and duplication. • CSR expenditure is subject to Governmental and Ministerial guidelines
1.	EC Specific Conditions sub-clause vi) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken.		
1.	EC Specific Conditions sub-clause vii) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.		• NUPPL has taken up CSR activities as per the request/directive received from the District Authorities. • NUPPL is committed to inclusive growth and sustainable development with special focus on the neighborhood communities.

1. Total Amount of CSR/CER spent till FY 2023 – 24 (till Aug'23) amounts to Rs. 31.08 Crores

1. The salient features of the project are as under:

1. **Project details:**

Name of theProposal	Amendmentin EC – Deletion of Specific Conditions pertainingto CSR
Proposal No.	IA/UP/THE/445314/2023
Location	Ghatampur,District Kanpur Nagar,Uttar Pradesh
Company's Name	Neyveli Uttar Pradesh Power Limited
Accredited Consultant and certificate no.	Not Applicable
Inter- stateissue involved	N0
Seismic zone	Zone - III

1. **Category details:**

Categoryof the project	A
Capacity	1980 MW (3 x 660 MW)
Attractsthe General Conditions (Yes/No)	No
Additionalinformation (if any)	

1. **Project Details:**

If expansion, the details of ECs (including amendments and extension of validity) ofexisting Units etc.
Amendmentsgranted, if Yes details
Expansion / Green Field (new): (IPP / Merchant / Captive): If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the phases. A certified copy of the latest R.O. monitoring report shall alsobe submitted.
Specific webpage address

EC relateddocuments (including monitoring and compliance relatedreports/documents) of the specific projectunder consid webpage/information.
Co-ordinates of all fourcorners OF TPP
Site:
Average height of: 1. TPPsite, 2. ashpond site etc.above MSL
Whether the project is in theCritically Polluted Area(CPA) or within10 km of CPA. If so, the details thereof:
CRZ Clearance
Cost of theProject (As per EC and revised):
Cost of the proposed activity in the
amendment:
Employment Potential for entireproject/plant and employment potential for the proposed amendment (specify number of p
Benefits of the project (specifyquantitative information)

1. **Electricity generation capacity:**

Capacity& Unit Configurations:	1980 MW (Unit-1 – 660 MW,Unit-2 – 660 MW, Unit-3– 660 MW)
Generationof Electricity Annually	14743.08 MU (Estimated)

1. **Details of fuel and Ash disposal**

Fuel to beused:	Coal
Quantity of Fuel required per Annum:	7016560.87 MTPA
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Pachwara South Coal Block, Dumka, Jharkhand. (Block Allocated, Status of EC: EAC has recommended for grant of EC with condition in 47th EAC meeting held on 21.07.2023. Status of FC: FAC held on 20.10.2023 for Stage-I. Minutes of meeting awaited.)
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of transportation: Rail Distance: 993 Km
Fly Ash Disposal System Proposed	6 nos. of Fly Ash Silos each having capacity of 2100 T provided for storage and further sale of Fly Ash. NUPPL has signed Fly Ash offtake agreement with M/s JK Cements for evacuation of total Fly Ash generated from this project.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Area: Ash Dyke-1: 433600 sq.m Ash Dyke-2: 720921 Sq.m Location: Rampur, Ghatampur, Kanpur Nagar, Uttar Pradesh. Co-ordinates of Ash Dyke – 1 & 2: 25°58'55.83"N 80° 9'53.70"E 25°59'13.68"N 80°10'20.46"E Av. Ht. of area above MSL(m): 141.5m
Quantity of 1. Fly Ash to be generated 2. Bottom Ash to be generated:	Fly Ash: 2.312 MTPA Bottom Ash: 0.578 MTPA
Fly Ash utilization (details)	Project is under construction phase.
Stack Height (m) & Type of Flue	Tri-flue Stack with a height of 275 m

1. **WaterRequirement:**

Source of Water:	West Allahabad BranchCanal
Quantityof water requirement:	146742 KLD
Distanceof source of water fromPlant:	45 Km
Whether barrage/ weir/intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Pipeline
Status of waterlinkage:	Agreementwith UPID
(If source is Sea water)Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable

Coolingsystem	01 no. NDCT (Natural Draught cooling tower) for each unit. The CW systemis proposed to operate at 5 cycles of concentrations.

1. **LandArea Breakup:**

Land Requirement: 1. TPP Site 2. Ash Pond 3. Township 4. Railway Siding & Others 5. RawWater Reservoir 6. Green Belt 7. others Total (if expansion state additional land requirement)
Status of LandAcquisition:
Status of the project: If under construction phase: please specify the reasons for delay, till date and balance worksalong with expected date of completion. Ifunder operation phase,date of commissioning (COD) of each unit. Whetherthe plant was under shutdown since commiss
Break-Upof land-use of TPP site: 1. Total land required for project components 2. Private land

3. Government land Forest Land

1. **Presence of Environmentally Sensitiveareas in the study area**

Forest Land/ Protected Area/ Environmental Sensitivity Zone
Reserve Forest/Protected ForestLand
NationalPark
WildlifeSanctuary
Archaeological sites monuments/historical temples etc
Names & distance of National parks,Wildlife sanctuaries, Biosphere reserves, Heritage sitesRivers, Tanks, ReserveForests etc. Located within 10Km from the plant boundary:
Additionalinformation (if any)

Availability of Schedule-I speciesin study area:

Thereis only one Schedule-
I species(*Pavo cristatus*) observed in the buffer zone of study area.There are four Schedule-
I species recorded in the study area. Out of four, three are found in primary field survey such as Indian wolf, the Great Pied Hornbill and Peacock. However, Gangetic Dolphin was not observed during primary field survey.

10. Court Case details - NIL

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance for 3x660 MW Ghatampur Thermal Power Station at Tehsil Ghatampur, District Kanpur Nagar, Uttar Pradesh by M/s Neyveli Uttar Pradesh Power Ltd.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted the PP could not provide the specific information on the status of work done under Corporate Environment Responsibility (CER) till date. It was also observed that green plantation carried out in the plant boundary is not up to the mark. It need to be improved. It was noted that there are 16 primary and secondary school in 8 gram panchayats within 10km radius of the project area in which no significant contribution has been made, only small scale work like painting in some schools has been done by the PP.

2.7.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting deferred the proposal for want of additional information:

1. A detailed and time bound action plan for green plantation with 90% survival rate along with allocated budget dully approved by the forest department shall be submitted.
2. Submit latest certified compliance report of existing EC certified by IRO, MoEF&CC.
3. Latest social survey shall be carried out within 10 km of project cover area through reputed government institute in terms of current requirement of health centres, deployment of ambulances, upgrading school facilities such as development of school infrastructure/arrangements for smart classes and basic requirements of public like drinking water facility, setting up of skill development centres for local youth etc. Accordingly, time bound action plan for implementation of such activities shall be prepared and submitted.
4. Submit latest certified compliance report of existing EC.
5. Detailed plan for reducing the pollution during the fly ash transportation along with budget allocated for the same shall be submitted.
6. Detailed information of the ash pond area in terms of the latest notification of Ministry/ CPCB shall be submitted. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibility of thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.
7. PP shall submit undertaking in affidavit form that 100 % fly ash utilization shall be carried out throughout the operation of the plant.

*The proposal is therefore **deferred** on the above lines.*

3.2.5. Recommendation of EAC

Deferred for ADS

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

EC & CRZ amendment for laying of ash slurry and recovery water pipelines from NCTPP Stage III to NCTPS Ash Dyke (Pipeline System) of 1x 800 MW NCTPP Stage III at Villages Ennore & Puzhudivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu. by **TANGEDCO** located at **THIRUVALLUR,TAMIL NADU**

Proposal For	Amendment in EC

Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/TN/THE/442379/2023	J-13012/14/2012-IA.II (T)	29/08/2023	Thermal Power Plants (1(d))

3.3.2. Project Salient Features

2.8.1 The proposal is for amendment in Environmental Clearance for 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhudivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO).

2.8.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

1. The Environmental Clearance (EC) and Coastal Regulation Zone (CRZ) was accorded by MoEF&CC vide letter dated 20th January, 2016 to 1x800 MW Supercritical Coal Based Thermal Power Plant Stage III at Villages Ennore & Puzhudivakkam, Taluk Ponneri, District Thiruvallur, Tamil Nadu by M/s TANGEDCO. The current proposal is for seeking amendment in the EC and CRZ Clearance granted for the inclusion of proposed Ash slurry pipeline and recovery water pipeline.

1. M/s TANGEDCO has established 3x210 MW North Chennai Thermal Power Station Stage I during 1995 and 2 x 600 MW Stage-II during 2014 in NCTPS Complex. An area of 190 acres (76.88 Ha) of barren land is available within the existing North Chennai Thermal Power Station (NCTPS).

1. Earlier, the proposal was considered by the EAC in its 46th meeting held on 4th September, 2023 and sought additional details. The PP vide letter dated 13/10/2023 submitted following details on Parivesh and presented during the meeting:

Query 1 Submit latest certified compliance report of existing EC.

Reply: The Certified compliance for the existing Environment Clearances of all the three stages including NCTPP III has been obtained vide F. No. EP/12.1/1/2015-16/TN/93 dated 16th January 2023 Certified compliance for the existing Environment Clearances of all the three stages was approved vide diary no 046 dated 13.01.2023 has been submitted.

Query 2 Proof of payment of Rs. 50 Lakhs imposed by the Hon'ble NGT.

Reply: The Letter received from the Member Secretary/TNPCB for having received environmental compensation has been submitted. Amount paid to TNPCB account through online vide UTR No. IOBAN22087324859 dt 28.03.2022. The receipt of Environment Compensation Fund was acknowledged by TNPCB vide letter No. T2/TNPCB/F.023071/2023 dated 12-10-2023.

Query 3 Submit marine EIA report with CRZ map duly authenticated of slurry pipeline

Reply: The Rapid EIA Study carried out has covered the Marine Ecology and Marine Environment set up of the study area. CRZ mapping carried out by Institute of Remote Sensing (IRS). The CRZ maps were obtained from the Institute of Remote Sensing (IRS), Anna University. The EIA report enclosing CRZ Maps has been submitted.

Query 4 Ministry may seek comments of CRZ division for slurry pipeline.

Reply: No comments.

Query 5 Submit status of construction in of slurry pipeline in CRZ area.

Reply: The EC and CRZ Clearance for the NCTPP Stage III Plant was granted in 2016 and after finalization of contractor, the construction works for the ash slurry pipeline and recovery water pipeline system had been commenced and as a whole about 65% of the construction works have been completed wherein concrete support pedestals covering foot Print of 34 M'has been executed in CRZ lA buffer zone. About 1000 M concrete support pedestals including laying of pipe in the CRZ - II area from west bank of Kosathalayar river to boat canal have been

executed. In B'Canal - 14 piles completed out of 18 piles in the both banks upto natural ground level for constructing the bridge to carry the ash slurry pipe lines.

In Kosathalai river - 22 piles completed out of 38 upto bed level of the river for constructing the bridge to carry the ash slurry pipe lines.

Upon the NGT direction, the pipeline system construction activities have been stopped in the CRZ Area including Buckingham Canal and Kosasthalaiyar River and since 07 /2021, no activities have been undertaken. On receipt of the amendment from MoEF& CC only the work will be resumed.

Query 6 Clarification about laying of pipeline without consent of the Ministry.

Reply: Previously it was proposed to lay the ash slurry pipe lines over the existing ash slurry pipe lines of NCTPS I & II. But due to aged supporting structure, the new ash slurry pipe line was laid parallel to the ash slurry pipe lines of NCTPS – I & II in existing corridor. Hence as per direction of NGT this proposal for amendment in EC & CRZ clearance is submitted.

Query 7 Comments of CRZ Division in the Ministry may be obtained.

Reply:
No comments.

3.3.3. Deliberations by the committee in previous meetings

Date of EAC 1 :04/09/2023

Deliberations of EAC 1 :
The proposal is for grant of Amendment in Environmental Clearance to 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhudivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO).

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

Earlier, the Environmental Clearance (EC) and Coastal Regulation Zone (CRZ) was accorded by MoEF&CC vide letter dated 20th January, 2016 to 1x800 MW Supercritical Coal Based Thermal Power Plant Stage III at Villages Ennore & Puzhudivakkam, Taluk Ponneri, District Thiruvallur, Tamil Nadu by M/s TANGEDCO.

The Hon'ble NGT in the matter Original Application No.122 of 2021 (SZ) with Original Application No.162 of 2021 (SZ) directed to stop the construction activities of ash slurry pipeline and directed to obtain amendment in the EC and CRZ from MoEF&CC to resume the ash slurry pipeline work. Hon'ble NGT imposed additional environmental compensation of Rs. 50 Lakhs.

The project proponent has not submitted the latest certified compliance report. Also, the project proponent need to submit the proof of payment of Rs. 50 Lakhs imposed by the Hon'ble NGT. Also, the project proponent need to submit marine EIA report with CRZ map duly authenticated of slurry pipeline.

The EAC after detailed deliberation on the information submitted and as presented during the meeting ***deferred*** the proposal for want of additional information:

i. Submit latest certified compliance report of existing EC.
ii. Proof of payment of Rs. 50 Lakhs imposed by the Hon'ble NGT.
iii. Submit marine EIA report with CRZ map duly authenticated of slurry pipeline.
iv. Ministry may seek comments of CRZ division for slurry pipeline.
v. Submit status of construction in of slurry pipeline in CRZ area.
vi. Clarification about laying of pipeline without consent of the Ministry.
vii. Comments of CRZ Division in the Ministry may be obtained.

The proposal is therefore deferred.

3.3.4. Deliberations by the EAC in current meetings

2.8.3 The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance for 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhudivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO).

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.
The EAC noted the about 65 % of the construction activities have been completed, the EAC desired to verify the extent of construction activities at site. The EAC therefore decided to conduct site visit by EAC sub-committee before making any recommendations on proposal.

*The proposal was **deferred** on the above lines.*

3.3.5. Recommendation of EAC

Deferred for ADS

3.4. Agenda Item No 4:

3.4.1. Details of the proposal

Proposed Waste to Energy Project 50 MW, DSIIDC Industrial Area, sector-5, Bawana, Delhi-110039 by M/s Jindal Urban Waste Management (Bawana) Limited. by **JINDAL URBAN WASTE MANAGEMENT (BAWANA) LIMITED** located at **NORTH WEST,DELHI**			
Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity (Schedule Item)**
IA/DL/THE/435160/2023	J-13012/02/2023-IA.I (T)	11/08/2023	Thermal Power Plants (1(d))

3.4.2. Project Salient Features

The proposal is for grant of Terms of Reference to the project for Waste to Energy Thermal Power Project (30 MW) at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited.

The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

1. The proposal was earlier considered by the EAC in its 46th meeting held on 4th September, 2023 wherein the proposal was deferred while observing the following:

   "*….The EAC noted that another 24 MW Waste to Energy Plant by M/s Delhi MSW Solutions Ltd. is already under operation just adjacent to the boundary of proposed power plant. It was also noted that a proposal (proposal no IA/DL/THE/430833/2023) for expansion of the same operating power plant has also been submitted to the Ministry for adding capacity of 60 MW. From the. kml file the committee observed that the proposed location of instant proposal is in notified industrial area as well as very close to civil colonies.*

   The proposed project layout also indicates diversion of Natural stream/Nallah. Operation of 110MW waste to energy power plants in the area may invite undesirable environmental consequences. The EAC suggested the PP to re-visit the proposal in terms of its capacity and project site location……"

1. In view of the observations raised by the EAC the project proponent vide letter dated 17.10.2023 submitted the following:

   1. Project capacity is revised to 30 MW.
   2. In view of existing Natural Stream/ Nallah, which is crossing through the backside of the proposed project site shall not be disturbed and no change will be made in existing drainage pattern. The revised layout plan of proposed project has been submitted.

It is pertinent to mention that the proposed project site has been earmarked for Solid Waste Management facility by DDA in Zonal Development Plan of Zone "P1" Narela

The Municipal Corporation of Delhi (MCD), in order to meet the target of 100% solid waste processing and scientific disposal of unprocessed quantities of MSW, has planned to develop this Waste Energy (WtE) Project.

1. **Analysis of Alternate Site: -**

Three alternate sites were analysed to decide the most environmentally and techno-economically suitable site for establishing the proposed Waste to Energy Project. The Bawana site has been found most suitable due to availability of adequate authorized land with the MCD in DSIIDC, Industrial Area, Nearness to water source from PPCL and no fresh water will be drawn up for industrial use except drinking water, and no existence of Ecologically sensitive areas.

1. The Salient features of the project are as under:

1. **Project details:**

Name of the Proposal	Proposed Waste to Energy Project 30 MW located at DSIIDC Industrial Area, Sector-5, Bawana, Delhi-110039 by M/s Jindal Urban Waste Management (Bawana) Limited.
Proposal No.	IA/DL/THE/435160/2023
Location	DSIIDC Industrial Area, Sector-5, Bawana, Delhi-110039.
Company's Name	M/s Jindal Urban Waste Management (Bawana) Limited.
Accredited Consultant and certificate no.	**Consultant Name:** Mantec Consultants Pvt. Ltd. **Certificate No.:** NABET/EIA/2326/RA 0305 valid up to 20-04-2026.
Inter- state issue involved	Delhi-Haryana State Boundary
Seismic zone	Zone-IV (As per IS 1893:2002)

1. **Category details:**

Category of the project	Category - A
Capacity	30 MW (3000 TPD of MSW)
Attracts the General Conditions (Yes/No)	Yes
Additional information (if any)	NA

1. **Project Details:**

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	Not Applicable.

Amendments granted, if Yes details	Not Applicable.
Expansion / Green Field (new): (IPP / Merchant / Captive):	Green Field (New)
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Not Applicable.
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/information.	Specific website of the project will be developed.
Co-ordinates of all four corners of TPP Site:	A 28°47'41.49"N 77°3'42.51"E B 28°47'46.08"N 77°3'36.54"E C 28°47'53.53"N 77°3'43.80"E D 28°47'49.56"N 77°3'48.06"E E 28°47'47.84"N 77°3'47.27"E F 28°47'47.12"N 77°3'47.43"E G 28°47'46.70"N 77°3'47.84"E
Average height of: (a) TPP site, (b) ash pond site etc. above MSL	1. TPP Site: ~240 m 2. Ash Pond site etc.: Not Applicable
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No
CRZ Clearance	Not Applicable.
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Estimated Cost of the Project Rs 660.00 Crore.
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	Employment potential: • **<u>During the construction phase</u>** Employment (Contract): 570 Nos On Roll:60 Nos **Total (On Roll + Contract): 630 Nos.** • **<u>During the operational phase</u>** Contract: 156 Nos On Roll: 86 Nos **Total (On Roll + Contract): 242 Nos.**

Benefits of the project (specify quantitative information)	• Handling of 3000 TPD of MSW through an environmentally and scientific approach. • Generation of 30 MW of Green Energy from MSW • Avoidance of sanitary landfills site due to utilization of MSW, thus saving land resource.

1. **Electricity generation capacity:**

Capacity & Unit Configurations:	30 MW (One TG Set with Two Steam Generators/Boilers)
Generation of Electricity Annually	262800 MWh

1. **Details of fuel and Ash disposal**

Fuel to be used:	Municipal Solid Waste (MSW)
Quantity of Fuel required per Annum:	10,95,000 MTPA
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Not Applicable
Details of mode of transportation of coal from coal source to the plant premises along with distances	MSW will be transported to the site through covered trucks/closed compactor by MCD.
Fly Ash Disposal System Proposed	Fly ash will be sent to the secured landfills site designated by MCD.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL(m)	Not Applicable. .
Quantity of 1. Fly Ash to be generated. 2. Bottom Ash to be generated:	1. Fly Ash- <3% (Approx.) of Feed. 2. Bottom Ash- <17% (Approx.) of Feed
Fly Ash utilization (details)	Fly ash will be sent to the secured landfills site designated by MCD.
Stack Height (m) & Type of Flue	60 meters & Single flue type.

1. **Water Requirement:**

Source of Water:	• Process water will be met from PPCL /Treated sewage from DJB. • Drinking water will be supplied by DJB
Quantity of water requirement:	• During construction phase: 40 KLD • Domestic water: 10 KLD • During operation: 625 KLD (Industrial Purpose) • Domestic water: 5 KLD
Distance of source of water from Plant:	Approx 1 Km from PPCL
Mode of Conveyance of water	Through Pipeline
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode/Management of Brine:	Not Applicable
Cooling System	ACC (Air Cooled Condenser)
1. **Land Area Breakup:**	
Land Requirement: 1. TPP Site 1. Ash Pond 1. Township 1. Railway Siding & Others 1. Raw Water Reservoir 1. Green Belt 1. others	15.0 Acres 7.84 Acres NA NA NA NA 4.96 Acres 2.2 Acres 15.0 Acres (Note: This is Greenfield project; hence no additional land is required). Land will be given by MCD. Green Field (New) NA

Total (if expansion state additional land requirement) Status of Land Acquisition: Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons. Break-Up of land-use of TPP site: a. Total land required for project. components. b. Private land c. Government land d. Forest Land	15.0 Acres Nil 15.0 Acres Nil

1. **Presence of Environmentally Sensitiveareas in the study area**

Forest Land/Protected Area/ Environmental Sensitivity Zone	**Yes/No**	**Details of Certificate/ letter/ Remarks**
Reserve Forest/Protected Forest Land	Yes	• Ghoga RF: 3.12 Km in North direction • Bawana RF: 1.70 km in North direction. • Sultanpur RF: 4.29 km in SW direction • There is no National Park, Wildlife Sanctuary etc. in 10 km radius.
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/historical temples etc	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	No	
Additional information (if any)	NA	-

Availability of Schedule-I species in study area: It will be included in the EIA report**.**

1. **Court case details:**

Any litigation/ Court Case pertaining to the project	No
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Additional information (if any)	NA

3.4.3. Deliberations by the committee in previous meetings

Date of EAC 1 :04/09/2023

Deliberations of EAC 1 :

The proposal is for grant of Terms of Reference to the project for Waste to Energy Thermal Power Project of capacity 50 MW in an area of 15 acres at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that another 24 MW Waste to Energy Plant by M/s Delhi MSW Solutions Ltd. is already under operation just adjacent to the boundary of proposed power plant. It was also noted that a proposal (proposal no IA/DL/THE/430833/2023) for expansion of the same operating power plant has also been submitted to the Ministry for adding capacity of 60 MW. From the. kml file the committee observed that the proposed location of instant proposal is in notified industrial area as well as very close to civil colonies.

The proposed project layout also indicates diversion of Natural stream/Nallah. Operation of 110MW waste to energy power plants in the area may invite undesirable environmental consequences. The EAC suggested the PP to re-visit the proposal in terms of its capacity and project site location.

*The Proposal was **deferred** on above lines.*

3.4.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Waste to Energy Thermal Power Project (30 MW) at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that another 24 MW Waste to Energy Plant by M/s Delhi MSW Solutions Ltd. is already under

operation just adjacent to the boundary of proposed power plant. Further, it was observed that the proposed location of the plant is very close to the Habitation.

The EAC noted that ambient air quality parameters are above the permissible limit therefore on account of this issue PP claimed that air pollution is caused by the Municipal solid waste plant and after commissioning of the project air quality will get improved.

PP submitted that there will no burning of the hard plastic in the furnace therefore it will release less amount of dioxins and furans.

3.4.5. Recommendation of EAC

Recommended

3.4.6. Details of Terms of Reference

3.4.6.1. Specific

Environmental Management and Biodiversity Conservation	
1.	1. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of proposed project shall be conducted. 2. Details of characterization of Municipal solid waste, its segregation process and disposal of waste management plan s be submitted along with EIA. 3. A plan shall be submitted to minimize the least use of hard plastic getting burn into the incinerators. 4. A study shall be carried out that commissioning of the project can decrease air emission level in the surrounding are compare to current situation. 5. Proximate and ultimate analysis, Calorific value of municipal waste proposed to be brought from nearby MSW shal carried out for design purpose of boilers. Mass balance of waste in the process shall be submitted. 6. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for Characterization of leachate, any poter of leaching heavy metals into the surrounding areas as well as into the groundwater. TCLP analysis of heavy me texture, bulk density, Cation Exchange Capacity of Heavy metals in the flyash and bottom ash shall be conducted existing nearby plant. 7. The remedial measures for arresting dust generation on roads and atmosphere, Air pollution control measures includ NOx control measure, treatment of leachate and stabilizing the slopes shall be taken up. Implementation plan along v timelines and financial allocations for Scientific and engineered closure of existing landfill shall be submitted. 8. Detailed Geo-hydrological study shall be conducted w. r. t hydraulic gradient, porosity and infiltration around 2 km of landfill site. 9. Aquifer characteristics shall be clearly mapped by conducting in-situ studies. 10. Treatment and disposal of leachate shall be submitted. No water from the plant is allowed to enter into canal/ nal stream. 11. Details regarding Flue gas treatment, ash generation and its disposal/utilization method shall be submitted. 12. Monitoring of dioxins and furans and other heavy metals shall also be carried out in the stack emissions as per Municipal Solid Waste Rules, 2016 for one season of the existing nearby waste to energy plant. 13. Impact of existing integrated facility on natural environment be studied and a comparative statement clearly mention the impacts on existing water bodies, and other ecologically sensitive areas within 10 km radius of project be submitte 14. A comparative chart shall be prepared with changes observed from previous baseline study (existing nearby Wast Energy Plant) and present baseline study. 15. An epidemiological study shall be carried out within 5 km range of the existing integrated facility. 16. Detailed action plan shall be prepared for maintenance of air pollution control equipment. 17. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and repor submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospi within 2 km radius of the plant boundary be submitted. 18. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/E report. 19. Details pertaining to water source, treatment and discharge should be provided. 20. Zero Liquid Discharge plan shall be submitted.

	21. Action plan for development of green belt (40% of total project cover area) along the periphery plantation with 9 survival rate and detailed plan for thick plantation in the surrounding Nallah/stream shall be submitted. 22. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations. 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 consulta with reputed government institution. 25. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focus on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report. 26. Recommendations of the Commission for Air Quality Management in National Capital Region and Adjoining Areas s be submitted.
Socio-economic Study	
1.	1. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored a assessing the need of the labour force and local populace. 2. All the tasks includingconducting public hearing shall be done as per the provisions of Notification, 2006 and as amended from time to time. Public hearing issues raised compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter. 3. Statement on the commitments (activity-wise) made during public hearing to facilitate discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilita &Resettlement plan shall be prepared. 4. Details of settlement in 10 km area shall be submitted. 5. Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas s be formulated and for expansion projects, status of implementation shall also be submitted.
Disaster Management	
1.	1. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.
Miscellaneous:	
1.	1. PP shall submit details of court cases and its status for the project. 2. A letter shall be submitted certified that the JSW is the current bidder and it has valid consent. 3. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the d time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the orig test reports and certificates of the labs which will analyze the samples. 4. Aerial view video of project site shall be recorded through drone and be submitted.

3.4.6.2. 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.	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
8.	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
9.	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
10.	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.	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.
Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)	
1.	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
2.	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
3.	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
4.	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
5.	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
6.	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.

7.	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
8.	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
9.	Impact on fisheries at various socio economic level shall be assessed.
10.	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
11.	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
12.	There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Dr. Sharad Singh Negi	Chairman	sha**********@gmail.com	
2	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	uka*******@rediffmail.com	
3	Shri K B Biswas	Member (EAC)	bis*********@gmail.com	
4	Shri Inder Pal Singh Matharu	Member	mat********@gmail.com	
5	Shri Lalit Kapur	Member	lka********@yahoo.com	
6	Dr. Santosh Kumar Hampannavar	Member	san**********@yahoo.com	
7	Shri Savalge Chandrasekhar	Member	sav*****@gmail.com	
8	Prof. Shyam Shanker Singh	Member	sin********@gmail.com	
9	Dr. Vinod Agrawal	Member	vin*****@yahoo.com	
10	Prof. R M Bhattacharjee	Member	rmb**********@iitism.ac.in	
11	Yogendra Pal Singh	Scientist E	yog*******@nic.in	

MINUTES OF THE 02ND MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 31ST OCTOBER, 2023 AND 01ST NOVEMBER, 2023

The 2th Meeting of the re-constituted EAC (Thermal Power) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi was held on 31st October, 2023 and 01st November, 2023 through video conference under the Chairmanship of Dr. Sharad Singh Negi. The list of Members participated in the meeting is at **Annexure**.

Agenda Item No.2.1: Confirmation of the Minutes of the 01st EAC meeting

The Minutes of the 01st EAC (Thermal Power) meeting held on 16th October, 2023 were confirmed in the meeting.

31ST OCTOBER, 2023

Agenda Item No.2.2

Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.) – Terms of Reference (ToR) – reg.

[Proposal No. IA/OR/THE/446926/2023; F. No. J-13012/31/2008-IA.II (T)]

2.2.1 The proposal is for grant of Terms of Reference to the project for Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.)

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

i. M/s Ind-Barath Energy (Utkal) Limited (IBEUL), a subsidiary company of JSW Energy Ltd (JSWEL) planned to install 2x350 MW Coal based thermal power plant at village Sahajbahal, PO Charpali- Barpali, Via: Bandhbahal, Tehsil: Lakhanpur, Jharsuguda, Odisha. The latitude and longitude of centre of site are 21°39'39.02"N and 83°55'18.23"E, respectively.
ii. The Environmental clearance was accorded by MoEF&CC vide F.No. J-13012/31/2008-IA.II (T) dated 30th Nov 2009. However, out of total 2x350 MW, power plant of capacity 1x350 MW was already commissioned in year 2016 and was operational as per CTO granted by OSPCB vide CTO no. 8024/IND-I-CON-6430 dated 09.06.2017 valid till 31.03.2018. Meanwhile, the unit became non-operational due to the financial crisis. Environmental Clearance expired on 31.12.2018.

iii. Thereafter, the company (M/s Ind-Barath Energy (Utkal) Ltd) admitted into corporate insolvency resolution process ("CIRP") on 29th August 2018 ("Insolvency Commencement Date") on application made by its financial creditors. Resolution Plan for the Company has been approved by the NCLT (National Company Law Tribunal) vide the NCLT order dated 25.07.2022. JSW has recently acquired the power plant which was earlier under the ownership of IBEUL. CTO has been granted by OSPCB for Phase I (1x350 MW) vide letter no. 4856/IND-I-CON-6430 dated 28.03.2023.

iv. The chronology of events in the establishment of existing unit and subsequently obtaining the appropriate approvals is given as under:

S. No.	Type of Approval	F. No./ Order No.	Production Capacity
1.	MoU with Govt. of Odisha	**MoU dtd. 7 Feb 2009**	2X350 MW Coal Based Thermal Power Plant
2.	Prior Environmental Clearance	F.No. J-13012/31/2008-IA.II (T) dated 30.11. 2009	2x350 MW Coal Based Thermal Power Plant
3.	Consent to Establish	Order No: 13374/Ind-II-NOC-5151 dated 13.08.2010	2x350 MW Coal Based Thermal Power Plant
4.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 04.02.2015	2x350 MW Coal Based Thermal Power Plant
5.	Consent to Operate	Order No: 16909/IND-I-CON-6430 dated 29.10.2015 valid up to 31.03.2016.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant
6.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 09.03.2016	2x350 MW Coal Based Thermal Power Plant
7.	Renewal of Consent to operate	Order No:5872/IND-I-CON-6430 dated 30.03.2016 valid up to 31.03.2017.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant
8.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 03.03.2017	2x350 MW Coal Based Thermal Power Plant
9.	Consent to Establish	Order No: 4815/IND-II-NOC-5151dated 31.03.2017	2x350 MW Coal Based Thermal Power Plant

S. No.	Type of Approval	F. No./ Order No.	Production Capacity
10.	Renewal of Consent to operate	Order No:8024/IND-I-CON-6430 dated 09.06.2017 valid up to 31.03.2018.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant
11.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 06.03.2018.	2x350 MW Coal Based Thermal Power Plant
12.	Plan Approval by the NCLT (National Company Law Tribunal) to JSW	IA.NO: 882 of 2019 dated 25.07.2022	-
13.	Latest Consent to Operate	4856/IND-I-CON-6430 dated 28.03.2023.	For Phase -I 1 x 350 MW Coal based Thermal Power Plant

v. As per MoEF&CC Notification vide S.O. 1247 (E) dated 18.03.2021, projects where construction has been completed more than 50% within the earlier environmental clearance validity, project may be exempted for public hearing during grant of new environmental clearance. As more than 50% of project has been implemented at site, thus it is requested to exempt us from Public consultation.

vi. Out of 240 hectares of project land, only 35.98 ha (88.92 acre) is revenue Forest land. The Forest Clearance for the said land was applied in 2010 and it is in advance stage of stage -I clearance. The PCCF Nodal office had recommended the proposal in 2014 and communication was made by PCCF to Principal Secy. Govt. of Odisha for consideration of proposal at ERO MoEF & CC in 2014. Details chronology of the events for forest clearance is as below:

- The Forest Clearance was applied in 2010 and it is in advance stage of stage -I clearance.
- There was PIL filed in Odisha high court in 2014.
- The PCCF Nodal office had recommended the proposal in 2014 and communication was made by PCCF to Principal Secy. Govt. of Odisha for consideration of proposal at ERO MoEF & CC in 2014.
- The MoEF and CC IRO had recommended the proposal in the REC meeting held in 2018 and pursue the court case and present the status to state Govt.
- The Odisha high court has given the order on 17.05.2023 and directed State Govt. to consider the proposal in accordance with law.
- Upon persuasion from State Govt. & PCCF Nodal, the MoEF IRO Bhubaneshwar conducted REC meeting on 13th June 2023 and discussed extensively on the pending proposal & further consideration in line with Hon'ble Odisha high court's direction dated. 17th May 2023. The REC

recommended for regularization of area of forest land over which construction activities already done.

- In obedience to high court order dated. 17th May 2023 & compliance to MoEF IRO letter no. 5-ORC236/2015-BHU dated. 28th June 2023, the DFO Jharsuguda vide order no. dated. 136 dtd. 27thJune 2023, submitted report along with certification of area under violation.
- As part of process of regularization of proposal, the DFO sought the compliance report from PP IBEUL vide no. 4386 dtd. 2nd Aug 2023.
- Also, DFO Jharsuguda sought confirmation & certification of compensatory afforestation (CA) land from Tahsildar, Lakhanpur vide letter dtd. 2 Aug 2023. The PP IBEUL submitted pointwise compliance to DFO Jharsuguda on 7th Aug 2023.
- The Odisha High court has given order and extended the timeline by six months and accepted the regularization proposal vide order dtd. 04.09.2023.

vii. Earlier, the proposal no. IA/OR/THE/433320/2023 was appraised by the EAC in its 44th meeting held on 20.7.2023 and the project was returned with additional details, accordingly PP submitted point-wise reply on the same which is as under:

S.No.	ADS Point	Reply by the PP
1.	Revised layout restricting ash pond within the existing 240 Ha of land and provisions for maintaining 40% greenbelt.	• Total green belt proposed inside plant boundary is 189.44 Acres (about 32% of the total plot area). Additional land has been identified in nearby area for rest of the green belt development. • Land identified for greenbelt nearby plant boundary at Rampela village is about 45 Acres which is about 7.60% of the plot area. • Thus, total green belt to be developed will be about 234.44 Acres which is approx. 40 % of the total plot area. • Total area for ash pond proposed within the project area is estimated to be 37.74 acres. (14.4 acres (Existing) +23.31 acres (Proposed)).
2.	Green plantation status along with survival rate and species shall be submitted and granting of EC shall be subject to implementation 40 % area of green belt area of total plant boundary.	➢ Total green belt to be provided is 234.44 Acres (which is about 40 % of the total plot area). ➢ Native species have been planted in the existing greenbelt. ➢ Similarly, native species/fast growing tree species shall be planted in proposed greenbelt also. ➢ Details of the greenbelt plantation status/ greenbelt plan along with tree species and proposed budget for plantation shall be

		provided in EIA report and presented before EAC during EC presentation.
3.	PP shall prepare a chart of existing air, water and soil characteristics	Submitted during the meeting.
4.	Arial view video of project site shall be recorded through drone and be submitted.	Submitted during the meeting.
5.	Detailed chronology of events along with orders passed in the PIL pending at High court Odisha shall be submitted.	• The Forest Clearance was applied in 2010 and it is in advance stage of stage -I clearance. There was PIL filed in Odisha high court in 2014. • The PCCF Nodal office had recommended the proposal in 2014 and communication was made by PCCF to Principal Secy. Govt. of Odisha for consideration of proposal at ERO MoEF & CC in 2014. • The MoEF&CC IRO had recommended the proposal in the REC meeting held in 2018 and pursue the court case and present the status to state Govt. • The Odisha high court has given the order on 17.05.2023 and directed state Govt. consider the proposal in accordance with law. • Upon persuasion from State Govt. & PCCF Nodal, the MoEF&CC IRO Bhubaneshwar conducted REC meeting on 13th June 2023 and discussed extensively on the pending proposal & further consideration in line with Hon'ble Odisha high court's direction dated 17th May 2023. The REC recommended for regularization of area of forest land over which construction activities already done. • In obedience to high court order dated. 17th May 2023 & compliance to MoEF IRO letter no. 5-ORC236/2015-BHU dated 28th June 2023, the DFO Jharsuguda vide order no. 136 dated 27th June 2023, submitted report along with certification of area under violation. • As part of process of regularization of proposal, the DFO sought the compliance

		report from PP IBEUL vide no. 4386 dated 2nd Aug 2023. • Also, DFO Jharsuguda sought confirmation & certification of compensatory afforestation (CA) land from Tahsildar, Lakhanpur vide letter dated 2nd Aug 2023. The PP IBEUL submitted pointwise compliance to DFO Jharsuguda on 7th Aug 2023. • The Odisha High court has given order and extended the timeline by six months and accepted the regularization proposal vide order dated 04.09.2023.

6.	The details of earlier ash pond location	• Earlier disposal of ash was proposed in 20-acre land with premises and rest to be disposed in MCL abandoned coal mines.
		• Now, IBUL has proposed 37.74 acres ((14.4 acres (Existing) +23.31 acres (Proposed)) of ash pond within the project boundary. Ash is proposed to be handled in dry form. JSW has an agreement with JSW cement plant for 100% disposal of fly ash.
		• Bottom ash will be disposed to ash pond and collected water will be recycled.
		• Proposed ash pond (23.31 acres) is located adjacent to old emergency ash pond (14.43 acre) with in the plant area.
		• The High concentrated slurry disposal system is adopted for ash disposal in the emergency ash pond.
		• After completion of life of inhouse ash pond, bottom ash shall be dumped in a nearby private stone quarry located 5-10 km of TPP with prior approval from the state pollution control board.
		• The following agencies has been identified for 100 % disposal. The conditioned ash shall be transported in a closed dumper to a stone quarry.
		  • M/s Padma
		  • Ash Tech
		  • Refex
		• The order shall be finalized with above mentioned agencies in Oct-Nov,2023.

7.	Submit proof of completion of 50% construction	• The overall completion of erection works of second unit is more than 50 %. • This assessment cum Technical Due-Diligence Report Project Management &

		Assessment Consultant cum LIE was carried out by M/s L&T – Sargent & Lundy Ltd in 2018 as per the advice of Consortium of Lenders. • The specific information pertaining to unit erection completion status of stage-II is more than 50%. • Unit-I (1x350MW) was commissioned, and CoD was done in 2016 and it was not in operation since then due to financial crisis • For Unit-II (1x350 MW) more than 50% construction was completed in 2016. Due to financial issues the construction work of Unit -II was stopped. The technical due diligence was carried out by L&T in 2018 by lenders to understand the status of the project • Railway line from IBEUL TPP to Telenpalli take off point is about 10 km length, and the construction work is completed & track is ready for transportation.
8.	The details of other court cases, if any and their status/outcomes.	Two cases are pending at Jharsguda Dist. Court. **Case-1:** Suresh Bag vs IBEUL (C.S. 165/2013 before the Court of the Civil Judge, Senior Divison, LR & LTV Jharsguda along with IA 24/2014). The present suit has been filed by a local Suresh Bag alleging that IBEUL has carried out illegal consruction over certain properties causing loses. Status: The aforementioned was disposed of by the Learned Judge on 21.01.2014 and order for maintaining status quo over the parcel of land bearing khata No. 191, 26 and 7, Mouza Adhapada, Jharsguda was passed until the disposal of the suit. No injuctive orders have been passed until the disposal of the suit. No injuctive orders have been passed against the IBEUL as regards the other properties which form part of the Scheduled Suit Properties. **Case-2:** Mahanadi Coal Fields Limited vs IBEUL (C.S. 126/2018 before the Court of the Civil Judge, Senior Division, Jharsguda)

		Status: The Plaintiff has claimed for payment of an amount of approximately INR 2 Crores towards outstanding payments for usage of railway sidings and land along its side for stacking, loading and transportation of coal. Since the Plaintiffs' claims were not admitted at the time of CIRP, hence the present claims cannot be raised at this stage, post approval of the NCLT resolution plan, would be difficult for the resolution applicant to run the business of the Corporate Debtor. The Supreme Court of India has held that the successful resolution applicant cannot be suddenly faced with undecided claims post the approval of the resolution plan.
9.	Transfer of existing EC from previous owner to present owner as the ownership has been changed	• Initially M/s Ind-Barath Energy (Utkal) Limited (Company) obtained Environmental Clearance for Thermal Power Plant. In Dec, 2022, JSW Energy Limited acquired the company through NCLT. • Now, Ind-Barath Energy (Utkal) Limited (IBEUL) is a subsidiary of JSW Energy Ltd (JSWEL) and continue in the name of Ind Barath Energy (Utkal) Ltd. • Therefore, Transfer of EC is not required.

viii. The Salient features of the Project are as follows:

1. Project details:

Name of the Proposal	Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, District Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd
Proposal No.	IA/OR/THE/446926/2023
Location	Village Sahajbahal, Tehsil Lakhanpur, District Jharsuguda, Odisha
Company's Name	M/s Ind-Barath Energy (Utkal) Ltd
Accredited Consultant and certificate no.	M/s EQMS Global Pvt. Ltd. (NABET Accreditation Number: NABET/EIA/2225/RA 0303 valid till 23.11.2025)
Inter- state issue involved	Not Applicable
Seismic zone	Zone – III (Moderate Risk Zone)

2. Category details:

Category of the project	1 (d) Thermal Power Plants
Capacity	Unit -I (Phase-I): 1 x 350 MW Unit -II (Phase-II): 1 x 350 MW
Attracts the General Conditions (Yes/No)	Yes Project is in Severely polluted area (IB Valley)
Additional information (if any)	No

3. Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.

S. No.	Type of Approval	F. No./ Order No.	Details
1.	MoU with Govt. of Odisha for establishment of 2X350 MW TPP	MoU dated. 7 Feb 2009	Applied for renewal and is under approval
2	Water allocation for the project from dept. of water resources, Odisha	---	Water allocation Committee approved on 22.09.2023.
3.	Environmental Clearance	F. No. J-13012/31/2008-IA.II (T) dated 30.11. 2009	2X350 MW Coal Based Thermal Power Plant
4.	Consent to Establish	Order No: 13374/Ind-II-NOC-5151 dated 13.08.2010	2X350 MW Coal Based Thermal Power Plant
5.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 04.02.2015	2X350 MW Coal Based Thermal Power Plant
6.	Consent to Operate	Order No: 16909/IND-I-CON-6430 dated 29.10.2015 valid up to 31.03.2016.	For Unit - I 1 X 350 MW Coal based Thermal Power Plant

	7.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 09.03.2016	2X350 MW Coal Based Thermal Power Plant
	8.	Renewal of Consent to operate	Order No:5872/IND-I-CON-6430 dated 30.03.2016 valid up to 31.03.2017.	For Unit - I 1 x 350 MW Coal based Thermal Power Plant
	9.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 03.03.2017	2x350 MW Coal Based Thermal Power Plant
	10.	Consent to Establish	Order No: 4815/IND-II-NOC-5151dated 31.03.2017	2x350 MW Coal Based Thermal Power Plant
	11.	Renewal of Consent to operate	Order No:8024/IND-I-CON-6430 dated 09.06.2017 valid up to 31.03.2018.	For Unit - I 1 x 350 MW Coal based Thermal Power Plant
	12.	Extension of validity of Environment Clearance	File no: J-13012/31/2008-IA.II (T) dated 06.03.2018.	2x350 MW Coal Based Thermal Power Plant
	13.	Resolution plan approval by the NCLT (National Company Law Tribunal)	IA.NO: 882 of 2019 dated 25.07.2022	---
	14.	Consent to Operate	4856/IND-I-CON-6430 dated 28.03.2023. with validity up to 31 March 2024 and renewable for three years	For Unit - I 1 x 350 MW Coal based Thermal Power Plant
Amendments granted, if Yes details	No			

Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Shall be taken after grant of TOR.
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this	-

webpage/information.	
Co-ordinates of all four corners OF TPP Site:	**A:** 21°40'41.38"N , 83°55'17.56"E **B:** 21°40'23.60"N , 83°55'45.24"E **C:** 21°39'36.72"N , 83°55'45.97"E **D:** 21°39'10.28"N , 83°55'17.04"E **E:** 21°39'35.37"N , 83°54'55.54"E **F:** 21°40'0.11"N , 83°54'48.77"E
Average height of: (a) TPP site, (b) Ash pond site etc. above MSL	(a) 218 amsl (b) 206 amsl
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	Yes, project is within severely polluted area (IB Valley)
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Cost of the Project (As per EC): Rs 3200 (Crores) Revised Cost: Rs. 2700 after NCLT
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	**During construction phase**: 700 no's of employees will be hired. **During Operation Phase**: 525 no. employees are already working in the unit.
Benefits of the project (specify quantitative information)	• It will fulfil the demand supply gap of power. • It will generate employment

4. Electricity generation capacity:

Capacity & Unit Configurations:	Unit -I (Phase-I): 1 x 350. MW Unit -II (Phase-II): 1 x 350 MW
Generation of Electricity Annually	5212200 MW

5. Details of fuel and Ash disposal

Fuel to be used:	Coal
Quantity of Fuel required per Annum:	14700 TPD for 2X350 MW TPP, 7350 TPD for 1X350 MW
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Quantity: 14700 TPD **Name of Block & Linkage:** The previous FSA is being re-validating through MCL authorities. **The method of obtaining remaining coal:** Coal sourced through Shakti coal scheme E auction from MCL (Belpahar, LOCM etc.) coal fields to plant coal bunker through BOBR wagons through dedicated railway system and track hopper for unloading of coal. Till the coal transportation system is established, the coal will be transported by road using trucks. The railway line from IBEUL TPP to Telenpalli take off point is about 10 km length and the construction work is in the advanced stage of completion. Ash content in coal: 45% Sulphur in coal: 0.5% Moisture: 15% GCV in coal: 4039 Kcal/Kg
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of transportation: Rail Distance from Source: 14 km from mines Source of coal: Mahanadi Coal Field L Belpahar coal fields
Fly Ash Disposal System Proposed	Yes (Fly ash shall be utilized for cement & brick making)
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Ash Pond: JSWIBUL has proposed total area for ash pond 37.74 acres i.e., within the project boundary. The proposed ash pond is for emergency disposal only. Co-ordinate: 21°39'18.09"N & 83°55'9.68"E

21°39'18.16"N & 83°55'15.19"E

Average height of area above MSL (m): 214 amsl

ASH POND CASE – 1 (By considering 100% Bottom ash disposal only)		
Coal consumption/hr	300	tonnes
Total running hr	24	hrs
Total coal/day	7200	tonnes
Total ash/day/unit	3168	tonnes
Ash/unit/PLF-85%	2693	tonnes
Land 37.7 acre		
Ash pond area	37.7	acre
Ash pond area	152728	m2
Depth	15	m
Capacity	2749113	tonnes
Ash dumping/day/Unit	539	tonnes
Ash dumping /year/Unit	196574	tonnes
Ash dumping /year/2 units	393149	tonnes
Ash dumping @ 100% /2 units	7	Year

ASH POND CASE – 2 (By considering 100% Bottom ash and 10% Fly ash dumping in Ash pond during emergencies.)		
Coal consumption/hr	300	tonnes
Total running hr	24	hrs
Total coal/day	7200	tonnes
Total ash/day/unit	3168	tonnes
Ash/unit/PLF-85%	2693	tonnes
Land 37.7 acre		
Ash pond area	37.7	acre
Ash pond area	152728	m2
Depth	15	m
Capacity	2749113	tonnes

	<table><tr><td>Ash dumping/day/Unit</td><td>539</td><td>tonnes</td></tr><tr><td>Ash dumping /year/Unit</td><td>196574</td><td>tonnes</td></tr><tr><td>*Ash dumping /year/2 units</td><td>550408</td><td>tonnes</td></tr><tr><td>Ash dumping @ 100% /2 units</td><td>5</td><td>Year</td></tr></table>
Quantity of a. Fly Ash to be generated. b. Bottom Ash to be generated:	Quantity of a. Fly Ash to be generated: 5290 MTPA. b. Bottom Ash to be generated: 1324 MTPA
Fly Ash utilization (details)	It shall be sent to Cement Manufacturer.
Stack Height (m) & Type of Flue	Stack Height: 275 m Type of Flue: Concrete outer shell and steel flue inside

6. Water Requirement:

Source of Water:	Hirakud Dam back water Reservoir
Quantity of water requirement:	54792 KLD
Distance of source of water from Plant:	1.50 Km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Pipeline
Status of water linkage:	Obtained
(If source is Sea water) Desalination Plant	No
Mode / Management of Brine:	Not Applicable
Cooling system	Induced Draft

7. Land Area Breakup:

Land Requirement: a) TPP Site b) Ash Pond c) Township d) Railway Siding & Others e) Raw Water Reservoir f) Green Belt g) others Total (if expansion state additional land	The total land area is **240 ha.** <table><tr><th>Particulars</th><th>Area in hectare</th></tr><tr><td>Plant and utility</td><td>36</td></tr><tr><td>Water system and treatment system</td><td>15</td></tr><tr><td>Coal handling, ash handling, rail, road</td><td>50</td></tr></table>

<table>
<tr><td>requirement)</td><td><table>
<tr><td>Green belt for power plant*</td><td>76.66</td></tr>
<tr><td>Proposed Ash pond</td><td>9.43</td></tr>
<tr><td>Existing ash pond</td><td>5.83</td></tr>
<tr><td>Township</td><td>2.36</td></tr>
<tr><td>New projects</td><td>44.72</td></tr>
<tr><td>Total</td><td>240</td></tr>
<tr><td colspan="2">*Green belt provision: In addition to 189.4 Acres land, 45 Acres of additional land is identified near to the plant area.</td></tr>
</table></td></tr>
<tr><td>Status of Land Acquisition:</td><td>Acquired</td></tr>
<tr><td>Status of the project:

If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.

If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.</td><td>Phase I (1x350 MW) has been completed and has valid Consent to Operate.
Partial work of Phase II is completed. Status of construction is given below
<table>
<tr><th>Sl. No.</th><th>Items</th><th>Current status of construction work / % work completed</th></tr>
<tr><td>1</td><td>Rail Network system Construction work Status</td><td>70</td></tr>
<tr><td>2</td><td>Status of Boiler Installation work</td><td>75</td></tr>
<tr><td>3</td><td>Status of Turbine and generator Installation work</td><td>70</td></tr>
<tr><td>4</td><td>Status ESP and Ducting System</td><td>40</td></tr>
<tr><td>5</td><td>Status of Ash Handling System</td><td>60</td></tr>
<tr><td>6</td><td>Water treatment facility</td><td>90</td></tr>
<tr><td>7</td><td>Status of Coal Handling Plant</td><td>90</td></tr>
</table></td></tr>
</table>

8	Water Compressor and Pump House	90
9	Stack (Twin flue)	100

IBEUL had planned to install 2x350 MW Coal based thermal power plant at village Sahajbahal, PO Charpali-Barpali, Via: Bandhbahal, Tehsil: Lakhanpur, Jharsuguda, Odisha. Prior Environmental clearance was taken from MoEF&CC vide F.No. J-13012/31/2008-IA. II (T) dated 30th Nov 2009. However, out of total 2x350 MW, power plant of capacity 1x350 MW was already commissioned in year 2016 and was operational as per CTO granted by OSPCB vide CTO no. 8024/IND-I-CON-6430 dated 09.06.2017 valid till 31.03.2018. Meanwhile, the unit became non-operational due to the financial crisis. Environmental clearance expired on 31.12.2018.

Thereafter, the company (M/s Ind-Barath Energy (Utkal) Ltd) admitted into corporate insolvency resolution process ("CIRP") on 29th August 2018 ("Insolvency Commencement Date") on application made by its financial creditors. Once the company was admitted into CIRP on account of financial stress, all project related works came to a standstill on account of lack of financial resources with the company.

Thus, JSW Energy Limited ("JSW") submitted a resolution plan dated

	03.10.2019 ("Resolution Plan"). Thereafter, after undergoing the CIRP as per the provisions of Insolvency and Bankruptcy Code, 2016, Resolution Plan for the Company has been approved by the NCLT (National Company Law Tribunal) vide the NCLT order dated 25.07.2022. JSW has recently acquired the power plant which was earlier under the ownership of IBEUL. CTO has been granted by OSPCB for Phase I (1x350 MW) vide letter no. 4856/IND-I-CON-6430 dated 28.03.2023.
Break-Up of land-use of TPP site: a. Total land required for project components. b. Private land c. Government land d. Forest Land	Break-Up of land-use of TPP site: a. Total land required for project components: **240 ha** b. Private land: **204.02 ha** c. Government land: 0 ha d. Forest Land: **35.98 ha**

8. Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/No**	**Remark**
Reserve Forest/Protected	Yes	• Arhaparha Reserved Forest (4.84 Km, NW) • Maulabhanja Reserved Forest (5.26 Km, NE) • Reserved forest (6.78 Km, NW) • Reserved forest (9.19 Km, NW) • Reserved forest (5.19 Km, SW) • Reserved forest (7.29 Km, SW)
Forest Land	Yes	35.98 ha
National Park	No	-
Wildlife Sanctuary	No	-
Archaeological sites monuments/historical temples etc.	No	

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/No**	**Remark**
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	Yes	• Arhaparha Reserved Forest (4.84 Km, NW) • Maulabhanja Reserved Forest (5.26 Km, NE) • Reserved forest (6.78 Km, NW) • Reserved forest (9.19 Km, NW) • Reserved forest (5.19 Km, SW) • Reserved forest (7.29 Km, SW)
Additional information (if any)	No	

9. Court case details:

Any litigation/ Court Case pertaining to the project	Two cases are pending at Jharsuguda District Court 1. Suresh Bag vs IBEUL (C.S. 165/2013 before the court of Civil Judge, senior Division, LR &LTV, Jharsuguda) along with IA 24 /2014. The present suit has been filled by a local Suresh Bag alleging that IBEUL has carried out illegal construction over certain properties causing losses. Status: the aforementioned was disposed of by the learned judge on 21-01-2014 and the order for maintaining status quo over the parcel of the land bearing Khata No. 191,26 and 7mauza Adhapada, Jharsuguda was passed until the disposal of the suit. No injective orders have been passed against IBEUL as regards the other properties which form part of the schedule suit properties. 1. Mahanadi coal Field Limited vs IBEUL (C.S. 126/2018 before the court of Civil Judge, senior Division, LR &LTV, Jharsuguda) Status: The plaintiff has claimed for payment of an amount of approximately INR 2 Crores towards outstanding payments for usage of

	railway sidings and land along its side for stacking, loading and transportation of coal. Since, the plaintiff's claims were not admitted at the time of CIRP, hence, the present claims can not be raised at this stage, post approval of the NCLT resolution plan, would be difficult for the resolution applicant to run the business of corporate Debtor. The Supreme Court of the India has held that the successful resolution applicant cannot be suddenly faced with undecided claim post the approval of the resolution plan.
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	Yes, Violation of Forest (Conservation) Act, 1980 during plant construction under previous Ind Barath Energy management. In response to Hight court direction dated 17th may 2023, MoEF IRO has recommended for the regularisation for construction activities already done under violation as per the REC meeting held on 13 June 2023.
Additional information (if any)	No

2.2.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.)

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level.

The EAC noted that Environmental clearance was accorded by MoEF&CC dated 30th Nov 2009. But power plant of capacity 1x350 MW was already commissioned in year 2016. Meanwhile, the unit became non-operational due to the financial crisis. Environmental clearance expired on 31.12.2018. It is noted that construction of the proposed unit more than 50% construction was completed in 2016. The EAC also observed the component- wise physical progress of construction work attained by the PP through areal video of plant and documents submitted and presented during

the meeting. The EAC being satisfied with the physical progress made by the PP viewed that the requitement of repeat public hearing may be exempted.

It was further noted that the proposal being considered by the Forest division as a violation case as PP has started construction activities on forest land prior to the grant of Forest clearance. It was also noted that the EC was given in the year 2009 and requirement of Stage-I FC before grant of EC was made mandatory vide Office Memorandum No. J-11013/41/2006-IA.II (I) dated 9th September, 2011after the judgement of the Hon'ble Supreme Court dated 6th July, in the IA No. 1868,2091, 2225-2227, 2380, 2568 & 2937 in W.P. No. 202 OF 1995- T.N. Godavarman Thirumulpad Vs UOI & Ors in Lafarge mining/Forest case. Further, no specific/ general condition is mentioned in the EC regarding obtaining of FC before starting the project construction work.

The EAC observed that water quality analysis was not carried out properly as the result shows high alkalinity and very pH value in few samples. The green belt plantation done by the PP was found to be unsatisfactory.

2.4.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting ***recommended*** for grant of Standard ToR for conducting EIA study without Public Hearing for Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.), under the provisions of the EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

i. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of the proposed project shall be conducted.
ii. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary.
iii. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequate fund for wildlife habitat management, preserving wildlife and its corridors and be submitted along with EIA/EMP report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 years shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan.
iv. Details of the existing rail, road networks and alignment of transmission lines along with quantity of coal being transported/to be transported for existing units and proposed expansion, its source and transportation mode shall be submitted.
v. 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.

vi. A comparative chart shall be prepared with changes observed from previous baseline study and present baseline study.
vii. Existing green plantation carried out by the project proponent along with its survival rate shall be submitted and a plan shall be made to maintain survival rate upto 90%.
viii. Detailed action plan shall be prepared for maintenance of air pollution control equipment.
ix. PP shall prepare action plan to close existing ash dyke area which is under operation and very close to natural water body and same need to be incorporate in EIA/EMP report.
x. Details of Ash management of existing (last 5 years) and proposed project shall be submitted, along with 5-year plan for 100 % ash utilization.
xi. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted.
xii. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed Ash pond and water body (minimum 60 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate with any fresh water body for under construction ash pond. High Density Slurry disposal plan shall be prepared.
xiii. 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.
xiv. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.
xv. Details pertaining to water source, treatment and discharge should be provided.
xvi. Zero Liquid Discharge plan shall be submitted.
xvii. Action plan for development of green belt (40% of total project cover area) along the periphery of the project boundary shall be provided with a video clip of existing green belt. Plan shall be dully approved by the DFO.
xviii. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
xix. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
xx. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution.
xxi. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focusing on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report.
xxii. The distance of proposed project location from Jharsuguda identified polluted area shall be indicated and applicable norms/guidelines issued by the Ministry for undertaking the project in identified polluted areas shall be followed during preparation of EIA/EMP.

xxiii. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibility of thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.

[B] Disaster Management

xxiv. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.

[C] Socio-economic Study

xxiv. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. 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 need of the labour force and local populace.

xxv. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter.

xxvi. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2020 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.

xxvii. Details of settlement in 10 km area shall be submitted.

[D] Miscellaneous

xxv. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO shall provide specific observations on the status of OCMS, ash utilization, green cover and emission control equipment of all units of the plant.

xxvi. PP shall submit details of court cases and its status for the project.

xxvii. 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.

xxviii. Arial view video of project site shall be recorded through drone and be submitted.

xxix. Details of regularization of Forest Clearance violation shall be submitted along with EIA/EMP Report.

Agenda Item No. 2.3:

Expansion from 1320 MW to 1980 MW Buxar Thermal Power Project by installing 1x660 MW plant unit Near Chausa, district Buxar, Bihar by M/s SJVN Thermal Pvt. Ltd. – Terms of Reference (ToR) – reg.
[Proposal No. IA/BR/THE/439566/2023; F. No. J-13012/69/2008-IA.I (T)]

2.3.1 The proposal is for grant of Terms of Reference to Expansion from 1320 MW to 1980 MW Buxar Thermal Power Project by installing 1x660 MW plant unit Near Chausa, district Buxar, Bihar by M/s SJVN Thermal Pvt. Ltd.

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

i. M/s SJVN Thermal (P) Ltd. is proposing to establish a 1x660 MW coal based 3rd unit in Buxar Thermal Power Project besides the 2x660 MW units already under construction.
ii. The project site is located near Chausa of Buxar district in Bihar. The site is located at latitude of 25°28'21.62"Nand longitude of 83°52'55.48"E. The site is situated near villages Kocharhi, Mohanpurwa, Sikraul, Khorrampur, Bechanpurva & Banarpur. The nearest railway station Chausa on Delhi-Kolkata Section (via Pandit Deen Dayal Upadhyaya Junction) is approximately 4 km away from the project site.
iii. The Environmental Clearance was accorded by Ministry of Environment, Forest and Climate Change vide File No. J-13012/69/2008-IA.II(T), dated 28.02.2017 for the 2x660 MW (1320 MW) Thermal Power Plant which is under construction.
iv. Fuel Supply Agreement (FSA) was signed between STPL and CIL/CCL for Long-term coal linkage to Buxar TPP (2x660 MW) on 26.07.2023 for supplying of 4.976 Million MTPA of G-9 to G14 Grade coal. Meeting of Standing Linkage Committee (Long Term) of MoP, GoI was held on 16.06.2023. As per the minutes of meeting, the Standing Linkage Committee (Long Term) has recommended for Long Term Coal Linkage to Stage-2, BTPP.
v. Water permission from Central Water Commission, Irrigation Planning (North), Govt. of Bihar issued vide letter no. 7/2/2BH (10)/2010 IP (N)/585-587 dated 24.09.2010 for 55 cusec. Permission for additional 30 cusec will be obtained.
vi. The proposed 3rd Unit of Coal Based Buxar Thermal Power project (1X660 MW) is to be located within the existing premises of Buxar Thermal Power Plant (2X660 MW). Most of the land for the proposed power project (1x660 MW) is available within the premises of existing Project (2X660 MW).
vii. However, additional land would be required for ash dyke, Intake Pump house etc acquired by STPL. No alternate site has been considered because Infrastructure facilities such as land, water, transport arrangements, railway line, roads etc. are available.

viii. Meeting of Standing Linkage Committee (Long Term) of MoP, GoI was held on 16.06.2023. As per the minutes of meeting, the Standing Linkage Committee (Long Term) has recommended for Long Term Coal Linkage to Stage-2, BTPP.

ix. Water permission from Central Water Commission, Irrigation Planning (North), Govt. of Bihar issued vide letter no. 7/2/2BH (10)/2010 IP (N)/585-587 dated 24.09.2010 for 55 cusec. Permission for additional 30 cusec will be obtained.

x. Approx. 6.25 MMTPA (existing) and 3.1 MMTPA (proposed) of coal is required for the Power Plant. Coal for the proposed thermal power project would be made available from Central Coal Field, Jharkhand for which Long Term Coal Linkage has already been approved by Ministry of Coal, Government of India.

xi. The Salient features of the project are as under:

1. Project details:

Name of the Proposal	Proposed Expansion from 1320 MW to 1980 MW Coal Based Buxar Thermal Power Project by installing 1x660 MW Unit.
Proposal No.	IA/BR/THE/439566/2023
Location	Near Chausa, District Buxar, Bihar
Company's Name	M/s SJVN Thermal Power (P) Limited
Accredited Consultant and certificate no.	Accreditation No.: NABET/EIA/2326/RA 0305, Valid till 20.04.2026
Inter- state issue involved	Yes, Bihar - Uttar Pradesh ~ 1 km in NW
Seismic zone	Zone-III

2. Category details:

Category of the project	Cat – A, Sector – 1(d)
Capacity	Existing Project Capacity - 1320 MW Proposed project capacity - 1980 MW
Attracts the General Conditions (Yes/No)	Yes, (Inter-state boundary ~ 1 km in NW)
Additional information (if any)	

3. Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	The Environmental Clearance was accorded by Ministry of Environment, Forest and Climate Change vide File No. J-13012/69/2008-IA.I(T), dated 28.02.2017

<table>
<tr><td></td><td>for the 2x660 MW (1320 MW) Coal Based Super Critical Buxar thermal power project (BTPP) at near village Chausa, District Buxar, Bihar by M/s SJVN Thermal Pvt. Ltd.</td></tr>
<tr><td>Amendments granted, if Yes details</td><td>NA</td></tr>
<tr><td>Expansion / Green Field (new):
(IPP / Merchant / Captive):</td><td>Expansion</td></tr>
<tr><td>If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.</td><td>Will be obtained</td></tr>
<tr><td>Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are /will be available. Also contact details of PP's officer responsible for updating this webpage/ information.</td><td>https://sjvn.nic.in/</td></tr>
<tr><td>Co-ordinates of all four corners of TPP Site:</td><td><table>
<tr><th>Pillar No.</th><th>Latitudes</th><th>Longitudes</th></tr>
<tr><td>A</td><td>25°28'55.84"N</td><td>83°52'31.18"E</td></tr>
<tr><td>B</td><td>25°28'59.65"N</td><td>83°53'18.52"E</td></tr>
<tr><td>C</td><td>25°28'18.26"N</td><td>83°53'21.78"E</td></tr>
<tr><td>D</td><td>25°27'21.61"N</td><td>83°53'11.46"E</td></tr>
<tr><td>E</td><td>25°27'37.14"N</td><td>83°52'19.06"E</td></tr>
<tr><td>F</td><td>25°28'25.76"N</td><td>83°52'23.46"E</td></tr>
</table></td></tr>
<tr><td>Average height of:
(a) TPP site,
(b) Ash pond site etc. above MSL</td><td>Above means sea level (MSL)
(a) 65.52 m
(b) 56 m</td></tr>
<tr><td>Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:</td><td>No,</td></tr>
</table>

CRZ Clearance	No,
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	**Total Cost**: Rs. 16,909.30 Crores **Existing**: Rs. 10,520.48 Crores **Proposed:** Rs. 6,388.82 Crores
Employment Potential for entire project/ plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	During Construction Phase :5550 Nos During Operation Phase: 4500 Nos.
Benefits of the project (specify quantitative information)	• Fulfill power demand of the country by 1980 MW power generation. • Employment generation of 4500 Nos. of employee.

4. Electricity generation capacity:

Capacity & Unit Configurations:	1320 MW + 660 MW
Generation of Electricity Annually	9828 + 4914 = 14742 Million Unit

5. Details of fuel and Ash disposal

Fuel to be used:	Coal & LDO
Quantity of Fuel required per Annum:	Annual coal requirement for the plant shall be 4.97 MTPA (For Stage - I) 3.10 MTPA (For Stage - II)
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	1. Fuel Supply Agreement (FSA) was signed between STPL and CIL/CCL for Long-term coal linkage to Buxar TPP (2x660 MW) on 26.07.2023 for supplying of 4.976 Million MTPA of G-9 to G14 Grade coal. 2. Meeting of Standing Linkage Committee (Long Term) of MoP, GoI was held on 16.06.2023. As per the minutes of meeting, the Standing Linkage Committee (Long Term) has recommended for Long Term Coal Linkage to Stage-2, BTPP.

Details of mode of transportation of coal from coal source to the plant premises along with distances	Proposed- The transportation of Coal for Buxar Stage-II (1X660 MW) is proposed through existing rail network. Existing - Imported and Domestic coal will be transported through rail. Eastern Central Railways provided in-principle approval for railway siding vide letter dated 29.09.2015
Fly Ash Disposal System Proposed	Pneumatic conveying system shall be employed for extraction of fly ash from the electrostatic precipitator hoppers in dry form. This dry ash shall be taken to buffer hoppers of unit located near to ESP. Dry ash from buffer hoppers shall be transported to main storage silos. The main ash storage silos shall be placed on the rail line for further utilization through rail wagons. There shall be two nos. of new ash silos in the existing silo area. The storage capacity of each silo shall be approx. 1800 M3. The user industries shall take the dry fly ash from these silos in closed tankers/Rail wagons/Open trucks. For wet disposal of dry ash extracted from various ESP hoppers, the same shall be diverted through feeder ejector to ash slurry pump house.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	**Existing -** Ash Pond Area - 282 acres 25°28'36.46"N to 25°28'48.73"N, & 83°52'39.77"E to 83°52'52.98"E MSL (m): 83 – 88 meter **Proposed -** Ash pond Area - 165 acres 25°27'8.00"N to 25°27'15.50"N & 83°52'57.77"E to 83°53'11.47"E MSL(m): 88 – 89 meter
Quantity of Fly Ash to be generated Bottom Ash to be generated:	 a. 2.74 MTPA b. 1.614 MTPA
Fly Ash utilization (details)	Pneumatic conveying system (either vacuum system or pressurized system) shall be employed for extraction of fly ash from the electrostatic precipitator hoppers in dry form. This dry ash shall be taken to buffer hoppers of unit located near to ESP. Dry ash from buffer hoppers shall be transported to main

	storage silos. The main ash storage silos shall be placed on the rail line for further utilization through rail wagons. There shall be two nos. of new ash silos in the existing silo area. The storage capacity of each silo shall be 1800 M3. The user industries shall take the dry fly ash from these silos in closed tankers/Rail wagons/Open trucks. For wet disposal of dry ash extracted from various ESP hoppers, the same shall be diverted through feeder ejector to ash slurry pump house. EOI for fly ash utilization is obtained from Rural Work Development, Govt. of Bihar vide letter no. BRRDA (HQ) PMGSY-581/2015/65 dated 07.01.2016, Road Construction department, Bihar vide letter no. Sec-11/Vividth-03-41/2015-192 dated 08.01.2016 & other private companies like R. S. Mishra Enterprises, Lafarge, Dalmia Bharat Cement etc.
Stack Height (m) & Type of Flue	**Proposed-** Existing - Stack Height - 225.52 m (For stage - II) & 275 m (For Stage - I) Type of flue - Flue Gas Desulphurization (FGD) and Selective Catalytic Reduction (SCR) shall be installed in the proposed Thermal Power Plant.

6. Water Requirement:

Source of Water:	The makeup water for the project is proposed to be drawn from River Ganga a distance of about 5kms.
Quantity of water requirement:	**During Construction Phase:** Existing: 200 KLD Proposed: 100 KLD. **During Operation Phase:** Existing: 134561 KLD (55 Cusec). Proposed: 73397 KLD (30 Cusec).
Distance of source of water from Plant:	5 km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Intake well

Mode of conveyance of water:	Pipeline
Status of water linkage:	Water permission from Central Water Commission, Irrigation Planning (North), Govt. of Bihar issued vide letter no. 7/2/2BH (10)/2010 IP (N)/585-587 dated 24.09.2010 for 55 cusecs. Permission for additional 30 cusec will be obtained.
(If source is Sea water) Desalination Plant Capacity	NA
Mode / Management of Brine:	NA
Cooling system	Induced Draft Cooling Tower

7. Land Area Breakup:

Land Requirement:
a. TPP Site
b. Ash Pond
c. Township
d. Railway Siding & Others
e. Raw Water Reservoir
f. Green Belt
g. others

Total (if expansion state additional land requirement)

Description	**Areas in Acres**		
	Existing	**Proposed**	**Total**
Main plant, BOP & CHP & Misc. facilities	450	0	450
Ash Disposal area	282	165	447
Green Belt	178	0	178
Township	95	0	95
Land for miscellaneous facilities like roads, etc.	60	0	60
Lay down area (converted in green belt after Construction)	0	80	80
Total	**1065**	**245**	**1310**
Railway siding and water pipeline	225	5	230

	Corridor			
Status of Land Acquisition:	Land for Stage-I is already acquired and land for Stage-2 is under identification.			
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.	Stage - I is in under construction.			
Break-Up of land-use of TPP site: a. Total land required for project components b. Private land c. Government land d. Forest Land	Land required for Expansion i.e 250 Acres, is total private land.			

8. Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/No**	**Details Certificate/ letter/ Remarks**
Reserve Forest /Protected Forest Land	No	
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/ historical temples etc	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites, Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	Ganga River ~ 5 km in North Direction Karamnasa ~ 1 km in NW direction	
Additional information (if any)	NA	

Availability of Schedule-I species in study area

9. Court case details:

Any litigation/ Court Case pertaining to the project	**es** . Two (02) Acre of land belonging to K.K. Tiwari & Ganesh Tiwari of main plant area is under trial at double bench of Patna, High Court. The trial is between District dministration/Bihar State Vs K.K Tiwari & Ganesh Tiwari in this regard decision/judgment of court is still awaited. . Cases pertaining to compensation of land related to Rail & Water Corridor is pending with LARRA, Patna since January 2023. The same is also between District Administration, Buxar and related land owners.
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Additional information (if any)	No

2.3.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion from 1320 MW to 1980 MW Buxar Thermal Power Project by installing 1x660 MW plant unit Near Chausa, district Buxar, Bihar by M/s SJVN Thermal Pvt. Ltd.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level.

The EAC noted that green planation is not up to the mark, though the plant is under construction but at least peripheral green belt plantation should have been done by the PP. Further, GLCs value for PM2.5 and PM10 showed by the PP were also found to be unrealistic.

The EAC observed that under construction plant of which expansion has been proposed is 350m away from school boundary and in very close vicinity of the hospital as well. The EAC was of the view that the basic information like GLC of critical environmental parameters, settings around the power plant etc have been explained properly so that EAC can frame appropriate TOR for conducting EIA

study. The EAC showed displeasure about the performance of M/s. Mantec Consultants in collecting these data/information.

2.3.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting decided to conduct site visit by EAC sub-committee before making any recommendations on proposal and **deferred** the proposal for want of following additional information:

i. Re-submit the ash pond area in Ha in terms of MoEF&CC latest notification. Environmental sensitivity and land use pattern of all alternative areas for location of ash pond area shall be submitted.
ii. Impact assessment of existing as well as proposed location school, hospital, and other environmental sensitive area within 10km radius of the project boundary.
iii. Action plan for development of 3 layer peripheral greenbelt.
iv. Scientific reasoning for location of Installed Online Monitoring Stations as per accurate air modelling.

*The proposal is therefore **deferred** on the above lines.*

Agenda Item No. 2.4:

Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited – Terms of Reference (ToR)- reg.

[Proposal No. IA/OR/THE/449476/2023; F. No. J-13012/73/2011-IA. II (T)]

2.4.1 The proposal is for grant of Terms of Reference to Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited.

2.4.2 The Project Proponent and the accredited Consultant M/s. Enviro Infra Solutions Pvt. Ltd. made a detailed presentation on the salient features of the project and informed that

i. M/s GMR Kamalanga Energy Limited (GKEL) is situated in central Odisha in the district of Dhenkanal on the National Highway No. 55, at a distance of 120 km from Bhubaneswar and 50 km. from Dhenkanal city. Budhapank Railway Station is the nearest railway station at a distance of 2 Km in West direction (On Nirgundi -Talcher section of East Coast Rly.)
ii. M/s GKEL is a 1400 MW (4x350 MW) coal based thermal power plant, out of which the Phase-I i.e. 1050 MW (3x350 MW) is in operation of which EC has been granted by MOEF&CC vide letter No. J-13011/64/2007-IA.II (T) dated 05.02.2008. For Phase – II (1x350 MW) EC has been granted by MOEF vide letter No. J-13012/73/2011-IA.II(T) dated 05.12.2011. The first, second and third units of Phase - I were commissioned in April 2013, November 2013 and March 2014 respectively.

iii. The Environment Clearance was granted for Expansion of existing 3 x 350 MW Thermal power project by addition of 1 x 350 MW Coal based Thermal Power Plant (Phase – II) by MoEF&CC vide F. No. J-13012/73/2011-IA.II (T) on dated 05.12.2011 and its revalidation dated 11.04.2019 and is valid up to 04.12.2022 considering general extension of 1 year vide MoEF&CC Gazette Notification No. 201 dated 18th January, 2021.). The project 1 x 350 MW is in process of implementation. The unit of 1x 350 MW was already executed for about 64% progress in overall Project Works and 90% of Civil work including chimney construction.

iv. **Reason for Delay –**

a) No project work due to the Covid 19 pandemic from April 2020 to April 2022
b) Non-availability of Power purchase agreement
c) The coal supply was hit because of Hon'ble Supreme Court's decision on Coal Mining allocation, and ultimately which hit the Power Sector
d) The price of coal in international market was very high
e) Delay in offshore material supply

v. The project profile is same & no changes were made in project capacity, fuel and water consumption, plant facility & waste emission/ effluent treatment system.

vi. Status of Proposed Facilities are as under:

Sl	**Project components**	**% Comp**	**Status of Completion**	**Compl. Time line**
A	**Infrastructure & other facilities**			
1	Approach Road outside of plant	100	Completed & under operation.	
2	MGR & its take off	100	Completed & under operation.	
3	Plantation	100	>357 Acres with 3,92,350 Nos.	
4	Ash Pond	100	Present ash pond will be used - Ash utilisation more than 100 % since last 5 years.	
B	**Plant Facilities**			
5	Coal Bunker, Mill, Boiler and ESP	15	• Foundation done and Bunkers erected.	30.06.2026
6	TG, its Aux. & TG Building.	10	• Civil foundation done.	30.06.2026

7	Chimney & Flue can	100	• Completed	
8	Switch Yard with Transformers	75	• Switch yard completed, transformers to be installed.	30.11.2024
9	Cooling Towers & CW Pump house	15	• Civil & building work of PH completed, • Cooling Tower - work to be done.	30.03.2026
10	River Water PH, Reservoir, Raw water Pump House & pipe lines.	81	• Common facility - Major work Completed, • Connecting pipe lines to be laid.	30.10.2024
11	Water treatment plant & accessories & ETP/STP/RO system.	90	• Completed-Common facility • Blowdown pipeline to be laid.	30.10.2024
12	Fuel oil Pump House	85	• Common facility, only pipe lines to be laid.	30.05.2026
13	Coal handling Plant	85	• Common Facility completed • Feed Conveyor to be laid.	30.05.2026
14	Ash handling System	81	• Completed, ash conveying Pipeline to be laid	
15	FGD for all 04 Units	--	• Bidding in process	30.11.2026
Cumulative progress of Plant Facilities		**63.7 %**		

vii. The Salient features of the project are as under:

1. Project details:

Particular	**Details**
Name of the Proposal	Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, in Odapada Taluk, Dhenkanal District, Odisha by M/s GMR Kamalanga Energy Limited
Proposal No.	IA/OR/THE/449476/2023; File. No. J-13012/73/2011-IA. II (T)

Location	Khasra No. - 758/888 etc., Village Kamalanga, Mangalpur, Bhagabatpur & Senabatibarana, Taluk Odapada, District Dhenkanal, State Odisha.
Company's Name	M/s GMR Kamalanga Energy Limited
Accredited Consultant and certificate no.	Enviro Infra Solutions Pvt. Ltd. NABET Certificate No.: NABET/EIA/2225/RA 0300
Inter- state issue involved	No
Seismic zone	The project is in moderate damage risk zone (Part VI) as per seismic map.

2. Category details:

Particular	**Details**
Category of the project	Category 1(d) Thermal Power Project
Capacity	1x350 MW (Phase II)
Attracts the General Conditions (Yes/No)	Not applicable
Additional information (if any)	Proposal is for grant of ToR

3. Project Details:

Particular	**Details**
If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	EC for 3 x 350 MW Thermal Power Plant (Phase-I) - Granted by MoEF&CC vide letter No. J-13011/ 64/2007-IA.II(T) dated 05.02.2008. EC for 1 x 350 MW Thermal Power Plant (Phase-II) - Granted by MoEF&CC vide letter No. J-13012/73/2011-IA.II (T) dated 05.12.2011.
Amendments granted, if Yes details	EC for 1 x 350 MW Thermal Power Plant (Phase-II) - 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 & 24.02.2023 upto 3rd Dec, 2023
Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion

If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Half-yearly EC compliance report is being submitted to MoEF&CC, New Delhi as well as Eastern Regional Office, Bhubaneswar regularly. Compliance report for the period of October to March 2023 submitted on 26.05.2023.
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/information.	All EC related documents (including monitoring and compliance related reports/documents) of the project has been uploaded in the following Company URL: https://www.gmrgroup.in/kamalanga/
Co-ordinates of all four corners of TPP Site:	**Latitudes (North):** From: Degree:20, Minutes: 51, Second :11.82 To: Degree:20, Minutes: 53, Second :5.45 **Longitudes (East):** From: Degree:85, Minutes: 15, Second :11.32 To: Degree:85, Minutes: 16, Second :28.06
Average height of: TPP site, ash pond site etc. above MSL	TPP site – 65 to 70 mtr AMSL Ash pond site - 70 mtr AMSL
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	Not applicable
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	INR 1192.68 Crores INR 551.00 Crores
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of	Present employment for Existing unit – Around 1550. Proposed unit – Around 500 in project stage & during operation –

persons and quantitative information).	Around 120.
Benefits of the project (specify quantitative information)	The project is under implementation stage. We have already constructed 63.7 % of project work. It shall lead to adding power generation capacity of the state and shall increase socioeconomic development of the area.

4. Electricity generation capacity:

Particular	**Details**
Capacity & Unit Configurations:	Total – 1400 (4 x 350) MW Under Operation – 1050 (3x350) MW Under Construction – 350 (1x350) MW
Generation of Electricity Annually	For existing 1050 MW – 7450 MU (with 81 % PLF) For Under construction 350 MW – 2483 MU (with 81 % PLF)

5. Details of fuel and Ash disposal

Particular	**Details**
Fuel to be used:	Coal is the primary fuel for the TPP
Quantity of Fuel required per Annum:	The total coal requirement for the phase II (1 x 350 MW) will be 1.934 million tonnes.
Coal Linkage *I* Coal Block: (If Block allotted, status of EC & FC of the Block)	Coal from Mahanadi Coalfields Ltd., LDO from nearest BPCL I HPCL/IOCL terminal
Details of mode of transportation of coal from coal source to the plant premises along with distances	The coal will be brought via existing railway transport up to Budhapank Railway Station and further through dedicated MGR system.

Fly Ash Disposal System Proposed	Bottom ash disposal would be in wet slurry form and fly ash disposal would be partly in wet slurry and partly in dry form.
Ash Pond/ Dyke (Area, Location & Co- ordinates) Average height of area above MSL (m)	The overall site elevation is 65 mt to 70 mt AMSL Ash dyke location within plant boundary and Co-ordinates of TPP – Latitudes (North): From: Degree:20, Minutes: 51, Second :11.82 To: Degree:20, Minutes: 53, Second :5.45 Longitudes (East): From: Degree:85, Minutes: 15, Second :11.32 To: Degree:85, Minutes: 16, Second :28.06
Quantity of Fly Ash to be	1865.12 TPD
Bottom Ash to be generated:	466.28 TPD (Bottom Ash to be Disposed-off as HCS (High Concentrated Slurry) in the ash pond, Disposed for Low Land Filling, Road Making, Cement and Brick manufacturing)
Fly Ash utilization (details)	Fly ash will be utilized in manufacturing of cement & bricks and also filling of low lying areas/Road construction.
Stack Height (m) & Type of Flue	Stack height is 275 m and Flue type will be gaseous & particulate matter emission.

6. Water Requirement:

Particular	**Details**
Source of Water:	The water will be drawn from the Brahmani River.
Quantity of water requirement:	The total water demand for the proposed unit is 32000 KLD.
Distance of source of water from Plant:	The approximate distance of Brahmani River from project site is 1.5 km.

Whether barrage/ weir/ intake well/ jack well/ others proposed:	Requirement of water intake will be fulfilled from existing raw water intake well.
Mode of conveyance of water:	Water will be conveyed through existing pipeline.
Status of water linkage:	Project is EC validity extension of Phase II i.e., 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, in Odapada Taluk, Dhenkanal District, Odisha, so water linkage is already available.
(If source is Sea water) Desalination Plant Capacity	Not applicable
Mode *I* Management of Brine:	Not applicable
Cooling system	Water Cooled Condenser (River water for Condenser cooling) & equipment cooling system with cooling tower (IDCT) will be installed.

7. Land Area Break-up:

<table>
<tr><th>Particular</th><th colspan="2">Details</th></tr>
<tr><td rowspan="9">Land Requirement:
a) TPP Site
b) Ash Pond
c) Township
d) Railway Siding & Others
e) Raw Water Reservoir
f) Green Belt
g) others
Total (if expansion state additional land requirement)</td><td colspan="2">Project is proposed expansion case by adding one additional unit of 350MW capacity to existing three units of 350 MW capacity TPP. The land requirement for total capacity is given below.</td></tr>
<tr><td>Description</td><td>Area</td></tr>
<tr><td>Steam Turbine Generator & accessories, TG Building</td><td>37</td></tr>
<tr><td>Switch Yard</td><td>10</td></tr>
<tr><td>Cooling towers & CW pump</td><td>24</td></tr>
<tr><td>River water pump house & pipeline</td><td>06</td></tr>
<tr><td>Water Treatment Plant & Accessories</td><td>18</td></tr>
<tr><td>Ash Disposal Area</td><td>393</td></tr>
<tr><td>Coal Handling Plant</td><td>137</td></tr>
<tr><td>Fuel Handling System</td><td>04</td></tr>
</table>

	Fire Fighting System	01
	Ash Handling System & Silos	05
	Misc. Non-Plant Building	08
	Reservoir & pump house	51
	Green Belt	320
	Others	24.5
	Direct Approach Road at outside plant boundary with side plantation	31.02
	Merry Go Round Railway Line connectivity outside plant boundary	30.79
	Left-Out Plots at inside Plant Boundary	31.19
	Permissive Possession of Govt. Land inside the Plant Boundary	19.74
	Periphery Development at Outside of the Plant boundary	7.33
	Total Land	**1158.57**
Status of Land Acquisition:	Land is already acquired.	

<table>
<tr>
<td>Status of the project:
If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.

If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details, and reasons.</td>
<td>The project is under construction and reason for delay of 1x350 MW is given below. The price of energy in open market and exchange were very low.
i. Non-availability of Power purchase agreement.
ii. The coal supply was insufficient because of Hon'ble Supreme Court's decision on Coal Scam, which hit Power Sector badly. On top of it, the price of coal in international market was very high.
iv. Issue with the EPC contractor and delay in offshore material supply.
v. So, the project implementation from 2013 to 2017 got affected.
vi. There was no project work due to the Covid 19 pandemic from April 2020 to April 2022.

As the power sector is showing upward trend in the recent years with increased availability of coal and high-energy prices in open market and energy exchanges, so, we are planning to start the construction activity of the proposed project of 1x350 MW.</td>
</tr>
<tr>
<td>Break-Up of land-use of TPP site:
a) Total land required for project components
b) Private land
c) Government land Forest Land</td>
<td>This is the case of expansion on additional land, so detailed area break-up is given below.

<table>
<tr><th>Description</th><th>Area (Acres)</th></tr>
<tr><td>Revenue land</td><td>139.63</td></tr>
<tr><td>Forest land</td><td>78.03</td></tr>
<tr><td>Double crop agricultural</td><td>Nil</td></tr>
<tr><td>Single crop agricultural land (Rain fed)</td><td>83</td></tr>
<tr><td>Waste land</td><td>857.91</td></tr>
<tr><td>Total</td><td>1158.57</td></tr>
</table>
</td>
</tr>
</table>

	* Alternate Grazing land (Exchange given) – 63 Acres

8. Presence of Environmentally Sensitive areas in the study area:

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/ No**	**Details of Certificate/letter/Remarks**
Reserve Forest/ Protected Forest Land	Yes	4 Reserve & Protected forests area available within study area of 10 km. Details area given below.
National Park	No	-
Wildlife Sanctuary	No	-
Archaeological sites monuments/ historical temples etc.	No	-
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	No	-
Additional information (if any)		Forest clearance already obtained for the forest land of 32.092 Ha.

Description	Distanc	Direction
Ganthigarhi PF	5.8 km	SW
Khalpal RF	6.1 km	NNE
Barabanka South RF	7.8 km	ENE
PF	9.1 km	WSW

Availability of Schedule - I Species in Study Area: Not Applicable

9. Court Case Details:

Particular	**Details**
Any litigation/ Court Case pertaining to the project	No litigation or court case pertaining to the project.

Is the proposal under any investigation? If so, details thereof.	No.
Any violation case pertaining to the	No.
Additional information (if any)	No.

2.4.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that earlier EC was granted by MoEF&CC vide letter dated 05.02.2008 for Phase-I i.e. 1050 MW (3x350 MW) and EC has been granted for Phase – II (1x350 MW) by MoEF&CC vide letter dated 05.12.2011. The unit of 1x 350 MW was already executed for about 64% progress in overall and the EC dated 05.12.2011 has been expired, so the present proposal is for seeking EC afresh for unit under Phase – II (1x350 MW). The EAC examined the component-wise construction status of the proposed unit through areal video as well as documents submitted by the PP. The Expert Member from the CEA also explained the criteria for deciding the physical construction status being followed by the CEA. The EAC being satisfied with the physical progress made by the PP viewed that the requirement of repeat public hearing may be exempted. The EAC suggested the PP to develop green belt in 40% of the total project cover area, the PP agreed for the same.

2.4.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting ***recommended*** for grant of Standard ToR for conducting EIA study without Public Hearing for Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited, under the EIA Notification, 2006 and as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

i. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of the proposed project shall be conducted.
ii. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary.
iii. Status of FGD installation for existing unit shall be submitted.

iv. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequate fund for wildlife habitat management, preserving wildlife and its corridors and be submitted along with EIA/EMP report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 years shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan.
v. Details of the existing rail, road networks and alignment of transmission lines along with quantity of coal being transported/to be transported for existing units and proposed expansion, its source and transportation mode shall be submitted.
vi. 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.
vii. A comparative chart shall be prepared with changes observed from previous baseline study and present baseline study.
viii. Existing green plantation carried out by the project proponent with its survival rate shall be submitted and a plan shall be made to maintain survival rate upto 90%.
ix. Detailed action plan shall be prepared for maintenance of air pollution control equipment.
x. Details of Ash management of existing (last 5 years) and proposed project shall be submitted, along with 5-year plan for 100 % ash utilization. MoU signed with cement manufactures for ash utilization shall be submitted.
xi. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted.
xii. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed Ash pond and water body (minimum 500 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate with any fresh water body for under construction ash pond. High Density Slurry disposal plan shall be prepared.
xiii. 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.
xiv. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.
xv. Details pertaining to water source, treatment and discharge should be provided.
xvi. Zero Liquid Discharge plan shall be submitted.
xvii. Action plan for development of green belt (40% of total project cover area) along the periphery of the project boundary with 90% survival rate shall be provided with a video clip of existing green belt.
xviii. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
xix. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report.

xx. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution.

xxi. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focusing on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report.

xxii. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibility of thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.

[B] Disaster Management

xxiii. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.

[C] Socio-economic Study

xxviii. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. 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 need of the labour force and local populace.

xxix. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter.

xxx. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2020 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.

xxxi. Details of settlement in 10 km area shall be submitted.

[D] Miscellaneous

xxiv. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO shall provide specific observations on the status of OCMS, ash utilization, green cover and emission control equipment of all units of the plant.

xxv. PP shall submit details of court cases and its status for the project.

xxvi. 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.

xxvii. Arial view video of project site shall be recorded through drone and be submitted.

Agenda Item No. 2.5:

3x800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited - Terms of Reference (ToR)- reg
[Proposal No. IA/UP/THE/449702/2023; F. No. J-13012/03/2008- IA.II (T)]

2.5.1 The proposal is for grant of Terms of Reference to 3 X 800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited.

2.5.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

i. M/s Meja TPP (Stage-I) is a 1320 MW (2x660MW) Power Plant located in Village Kohdar, Meja Tehsil, Prayagraj (UP).
ii. MoEF&CC had accorded EC for Stage-I (2x660 MW) vide letter no J-13012/03/2008- IA.II (T) dated 10.01.2011 and both the Units are under Operation. EC for Stage-I was amended as follows:

Date of EC Amendment	**Amendment Details**
21.07.2017	Permission for road transportation of 2 Lakh Tons of coal by road for temporary period of one year or till the commissioning of railway siding whichever is earlier.
08.01.2018	Time extension for the validity of Environment Clearance
28.03.2019	Temporary permission for transportation of coal by road
08.08.2019	Extension of validity of EC for further period of one year
25.09.2020	Extension of validity of EC for further period of one year

iii. Land Requirement:

- About 1295 Ha of land has been acquired for Meja TPP during Stage-I. The plant facilities of Stage-II shall be accommodated within the existing premises of the Meja STPP.
- Additional area proposed to be acquired is 114 Ha for Ash Dyke and Railway Siding for Stage-II.

iv. The Salient features of the project are as under:

1. Project details:

Name of the Proposal	3 X 800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited - Terms of Reference (ToR)- reg
Proposal No.	IA/UP/THE/449702/2023
Location	Post Kohdar, Tehsil Meja, District Prayagraj
Company's Name	M/s Meja Urja Nigam Private Limited
Accredited Consultant and certificate no.	EQMS Global Pvt. Ltd. formerly known as EQMS India Pvt. Ltd. NABET/EIA/2225/RA 0303 Valid upto: 23/11/2025
Inter- state issue involved	No
Seismic zone	Zone II

2. Category details:

Category of the project	Thermal, Category - A
Capacity	**Under Operation** Stage-I: 1320 MW (2x660 MW) **Proposed Expansion** Stage-II: 3x800 MW (2400MW)
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	Meja Thermal Power Project (Stage-I) is in commercial operation. This proposal is for expansion by additional capacity of 2400 MW (3x800MW) as Stage-II based on pulverized coal fired thermal power generation technology, Air Cooled Condenser System & compliant with applicable emission norms.

3. Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	It is an expansion project. Ministry of Environment, Forests and Climate Change (MoEF&CC) had accorded Environmental Clearance (EC) for 2x660 MW (Stage-I) Supercritical Technology Coal Based Meja Thermal Power Plant near Kohadar, Bhagdeva & Mai Kalam villages, in Meja Taluk, in Allahbad Distt., in Uttar Pradesh vide letter no. J-13012/03/2008-IA.II (T) dated 10.01.2011.
Amendments granted, if Yes details	• Amendment dated 21.07.2017 for coal transportation by road. • Amendment dated 08.01.2018 for EC validity extension • Amendment dated 28.03.2019 for coal transportation by road • Amendment dated 08.08.2019 for EC validity extension and waive off CSR recurring expenditure stipulation • Amendment dated 25.09.2020 for EC validity extension
Expansion / Green Field (new): (IPP / Merchant / Captive)	Expansion of existing Stage-I 1320 MW (2x660MW) by additional capacity of 2400 MW (3x800MW) as Stage-II
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Certified Compliance report shall be submitted along with Final EIA report.
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/ information.	www.munpl.co.in Head of Project, Meja Thermal Power Plant Village – Kohadar, Bhagdeva, Mai Kalam Taluk – Meja District – Allahbad State – Uttar Pradesh Pin - 212301

<table>
<tr><td>Co-ordinates of all four corners OF TPP Site:</td><td>Latitude :25°08’18” N, 25°06’40”N, 25°09’12”N, 25°08’37”N
Longitude: 81°58’34” E, 81°55’45”E, 81°56’10”E, 81°55’16”E</td></tr>
<tr><td>Average height of:
(a) TPP site,
(b) Ash pond site etc. above MSL</td><td>(a) 127 M
(b) 115 M</td></tr>
<tr><td>Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:</td><td>No</td></tr>
<tr><td>CRZ Clearance</td><td>Not Applicable</td></tr>
<tr><td>Cost of the Project (As per EC and revised):
Cost of the proposed activity in the amendment:</td><td><table>
<tr><td>Cost of the Existing Project at current price level (in Lakhs) [A]</td><td>1302922</td></tr>
<tr><td>Cost of the proposed expansion/ modernization of Project at current price level (in Lakhs) [B]</td><td>2247997</td></tr>
<tr><td>Total Cost of the project/ Activity (in lakhs) [A+B]</td><td>3550919</td></tr>
</table></td></tr>
<tr><td>Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).</td><td>The project will generate direct and indirect employment opportunities as well as opportunities for self-employment.
The no. of NTPC employees during construction and operation phases are 554 and 720 respectively.
Workforce employed during construction phase by the EPC contractors would be much higher (about 4000-5000 during peak deployment).
In addition to the people directly involved in construction and operation of the power project, employment opportunities in subsidiary industries and service sectors as well as self-employment opportunities shall also be generated.</td></tr>
<tr><td>Benefits of the project (Specify quantitative information)</td><td>Construction and operation of the project will generate employment potential both directly or indirectly. Local people will have employment opportunities as skilled, semi-skilled and unskilled laborers as well as self-employment opportunities. Thus, there will be overall improvement in the socio-economic status of the people of the surrounding areas. Power plant will have a</td></tr>
</table>

	positive effect on the socio-economic conditions of the people nearby, the project and service activities will generate steady source of income for local people. With the implementation of the project, employment opportunities, communication, medical facilities, education and skill up-gradation facilities etc. in the area will be further improved. Besides, there will be marked improvement for various facilities in the local areas as shown below. ➢ Improvement in medical and health care system. ➢ Improvement in educational services. ➢ Improvement of drinking water & sanitation facilities. ➢ Vocational training facilities for local eligible youth of local community to enable them to seek employment in suitable project operations and elsewhere. ➢ Benefit to the State and the Central governments through financial revenues from this project directly and also indirectly. ➢ Employment opportunities to local persons of different skills and trades. ➢ Improvement in the socio-economic conditions of the inhabitants of the area

4. Electricity generation capacity:

Capacity & Unit Configurations:	**Under Operation** Stage-I: 1320 MW (2x660 MW) **Proposed Expansion** Stage-II: 2400MW (3x800 MW)
Generation of Electricity Annually	Stage-II: 21 Billion Units annually (2400 MW @ 85% PLF)

5. Details of fuel and Ash disposal

Fuel to be used:	Coal
Quantity of Fuel required per Annum	Stage-II: 9.94 Million MT at 85% PLF

Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	SLC (LT) in its meeting held on 21.02.2023 had recommended grant of coal linkage to Stage-II (2x660 MW), which was further enhanced for the revised capacity of 3x800 MW in SLC (LT) Meeting held on 19.09.2023. However, as per practice of coal allocation, the Coal Block is yet to be allocated. The likely coal sources are NCL and CCL.
Details of mode of transportation of coal from coal source to the plant premises along with distances	Rail (NCL-280 to CCL-480 km)
Fly Ash Disposal System Proposed	The fly ash shall be extracted in dry form from the electrostatic precipitator hoppers. This dry ash shall either be taken to buffer hoppers for its onward transportation in dry form for utilization or shall be slurrified in wetting units for its ultimate disposal in ash disposal area using HSCD System. The bottom ash shall be extracted and disposed-off in wet form. It is envisaged to have disposal system sized for 100% generation of ash. The ash management scheme for fly ash and bottom ash involves dry collection of fly ash, supply of ash to entrepreneurs for utilisation, promoting ash utilisation and safe disposal of unused ash. NTPC shall make maximum efforts to utilise the fly ash for various purposes. Unused fly ash and bottom ash shall be disposed-off in the ash pond. A blanket of water shall be maintained over the entire ash pond to control fugitive dust emission. After the ash pond is abandoned, it shall be reclaimed through green vegetation.

Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL(m)	For Stage-II, Land still to be Acquired (Proposed Area: 110 Ha.) adjacent to existing Ash dyke 115 M
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	Stage-II: a. Fly Ash 3.02 Million Metric TPA b. Bottom Ash 0.76 Million Metric TPA
Fly Ash utilization (details)	The Ash Utilisation shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31-12-2021 as amended on 31.12.2022. To utilize ash and also to comply the stipulations of MoEF&CC's Gazette Notification on fly ash dated 31-12-2021 following actions would be taken up by NTPC: • NTPC shall provide a system for 100% extraction of dry fly ash along with dedicated dry ash silos for storage of at least sixteen hours of ash based on installed capacity having separate access roads so as to ease the delivery of fly ash. Provision shall also be kept for segregation of coarse and fine ash, loading this ash to closed/ open trucks and also for loading fly ash into rail wagons. This will ensure availability of dry fly ash required for manufacture of Fly Ash based Portland Pozzolana Cement (FAPPC) for cement plants and Ready Mix Concrete plants. • NTPC shall also promote, adopt and set up the ash based product manufacturing facilities within its premises & fly ash brick thus produced shall be utilized in in-house construction works as well as for supply in the market on price.

	• NTPC shall make efforts to motivate and encourage entrepreneurs to set up ash based building products such as fly ash bricks, blocks tiles, fly ash based aggregate etc. in the vicinity of proposed power plant. • To promote use of ash in agriculture/low lying areas/wasteland development-show case project shall be taken up in the vicinity of proposed thermal power station. • NTPC shall make efforts with authorities of coal mines and other minerals mines for use of ash in reclamation of mines located within 300 km of proposed power station. • All government/ private agencies responsible for construction/ design of buildings, road embankment, flyover bridges and reclamation/ development of low lying areas within 300 km of the plant areas shall be persuaded to use ash and ash based products in compliance of MoEF&CC's Gazette Notification on fly ash. • With all the efforts mentioned above, it is expected that fly ash generated at proposed thermal power station shall be utilized in the areas of cement, concrete & building products manufacturing, road embankment construction, land development, mine filling, shoreline protection structure, agriculture etc.
Stack Height (m) & Type of Flue	One twin flue chimney of 220 M height & one single flue chimney of 150 m

6. Water Requirement:

Source of Water:	Ganga River
Quantity of water requirement:	Stage-II (With Air Cooled Condenser) 30 Cusec
Distance of source of water from Plant:	29 km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Intake Well
Mode of conveyance of water:	Pipeline
Status of water linkage:	Stage-II: Quantity Available - 5 Cusecs An additional allocation of 25 Cusecs shall be required from WRD, GoUP. Under approval with GoUP.
(If source is Sea water) Desalination Plant Capacity	NA
Mode / Management of Brine:	NA
Cooling system	Air Cooled Condenser

7. Land Area Breakup:

Land Requirement: a. TPP Site b. Ash Pond c. Township d. Railway Siding & Others e. Raw Water Reservoir f. Green Belt g. others h. Total (if expansion state additional land requirement)	Land Requirement: Existing (Proposed) a. 328 Ha (Nil) b. 302 Ha (110 Ha) c. 85 Ha (Nil) d. Railway Siding 171 Ha (4 Ha) e. 75 Ha (Nil) f. Included above 133.1 ha (20 ha) g. 334 Ha (including available for expansion) h. Total 1295 Ha (114 Ha)
Status of Land Acquisition:	To be taken up

<table>
<tr><td>Status of the project:
If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.
If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons</td><td>Construction of Stage-II not yet started

Stage-I Both units commissioned</td></tr>
<tr><td>Break-Up of land-use of TPP site:
a) Total land required for project components
b) Private land
c) Government land
d) Forest Land</td><td>
<table>
<tr><th>Nature of Land involved in (Ha)</th><th>Area Existing (Ha)</th><th>Additional Area Proposed (Ha)</th><th>Total Area required after expansion (Ha)</th></tr>
<tr><td>Govt. Land</td><td>535</td><td>62</td><td>597</td></tr>
<tr><td>Pvt. Land</td><td>760</td><td>52</td><td>812</td></tr>
<tr><td>Forest Land</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Total</td><td>1295</td><td>114</td><td>1409</td></tr>
</table>
</td></tr>
</table>

8. Presence of Environmentally Sensitive areas in the study area

Forest Land/Protected Area/ Environmental Sensitivity Zone	Yes/ No	**Details of Certificate/ letter/Remarks**
Reserve Forest/Protected Forest Land	Yes	Forest Located in 10 km area: 1. Badiha R.F -7.0 km East 2. Gadaria R.F – 5.0 km East 3. Singhpur khurd R.F.- 0.9 km SW 4. Salaiya Kalan R.F. – along the southern boundary

		5. Salaiya Khurd R.F. – along the southern boundary 6. Kohdr R.F. – along the eastern boundary 7. Murpela R.F- 2.7 km East 8. Chandhs R. F. – 8.0 km East 9. Sukh P.F.- 8.5 km east
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/ historical temples etc.	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:		Forest Located in 10 km area: 1. Badiha R.F -7.0 km East 2. Gadaria R.F – 5.0 km East 3. Singhpur khurd R.F.- 0.9 km SW 4. Salaiya Kalan R.F. – along the southern boundary 5. Salaiya Khurd R.F. – along the southern boundary 6. Kohdr R.F. – along the eastern boundary 7. Murpela R.F- 2.7 km East 8. Chandhs R. F. – 8.0 km East 9. Sukh P.F.- 8.5 km east River in 10 km area - Tons River 1.5 km in North
Additional information (if any)		

Availability of Schedule-I species in study area – At the time of EIA for Stage-I, Blackbuck was reported by State Forest Deptt. & Conservation plan prepared & implemented for the same. However, as per recent reports wild species like

Jackal, Wolf, Mongoose, Porcupine are also reported. Details shall be presented in EIA study report.

9. Court case details:

Any litigation/Court case pertaining to the project	NO
Is the proposal under any investigation? If so, details thereof.	NO
Any violation case pertaining to the project:	NO
Additional information (if any)	-

2.5.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for 3x800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited.

The project/activity is covered under Category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that earlier EC was granted vide letter dated 10.01.2011 to Meja TPP (Stage-I) of capacity 1320 MW (2x660MW) Power Plant located in Village Kohdar, Meja Tehsil, Prayagraj (UP) and both the Units are under commercial operation. Now PP proposes expansion of TPP by adding 3x800 MW with air cooled condenser system, which eventually uses 40% less water as compare to water cooled condenser system. The EAC further noted that additional land area proposed to be acquired is 114 Ha for Ash Dyke and Railway Siding for Stage-II.

2.5.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting ***recommended*** for grant of Standard ToR for conducting EIA study for 3x800 MW (Stage II) Meja Coal Based Thermal Power Project at Tehsil Meja, District Prayagraj, Uttar Pradesh by M/s Meja Urja Nigam Private Limited, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

i. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of the proposed project shall be conducted.
ii. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary.
iii. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequate fund for wildlife habitat management,

preserving wildlife and its corridors and be submitted along with EIA/EMP report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 years shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan.

iv. Details of the existing rail, road networks and alignment of transmission lines along with quantity of coal being transported/to be transported for existing units and proposed expansion, its source and transportation mode shall be submitted.

v. 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.

vi. A comparative chart shall be prepared with changes observed from previous baseline study and present baseline study.

vii. Existing green plantation carried out by the project proponent (within or outside the plant boundary) with its survival rate shall be submitted and a plan shall be made to maintain survival rate upto 90%.

viii. Detailed action plan shall be prepared for maintenance of air pollution control equipment.

ix. Details of Ash management of existing (since operation of the plant) and proposed project shall be submitted, along with 5-year plan for 100 % ash utilization.

x. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted.

xi. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed Ash pond and water body (minimum 500 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate with any fresh water body for under construction ash pond. High Density Slurry disposal plan shall be prepared.

xii. 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.

xiii. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.

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

xv. Zero Liquid Discharge plan shall be submitted.

xvi. Action plan for development of green belt (40% of total project cover area) along the periphery of the project boundary with 80% survival rate shall be provided with a video clip of existing green belt. The plan shall be prepared in consultation with State Forest Department considering the project site is located in rocky area.

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

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

xix. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution.

xx. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focusing on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report.

xxi. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibility of thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.

[B] Disaster Management

xxii. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.

[C] Socio-economic Study

xxxii. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. 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 need of the labour force and local populace.

xxxiii. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter.

xxxiv. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2020 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.

xxxv. Details of settlement in 10 km area shall be submitted.

[D] Miscellaneous

xxiii. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO shall provide specific observations on the status of OCMS, ash utilization, green cover and emission control equipment of all units of the plant.

xxiv. PP shall submit details of court cases and its status for the project.

xxv. 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.

xxvi. Arial view video of project site shall be recorded through drone and be submitted.

01ST NOVEMBER, 2023

Agenda Item No. 2.6:

2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd – Amendment in Environmental Clearance (EC) - reg.

[Proposal No. IA/CG/THE/448422/2023; F. No. J-13012/11/2018-IA.I (T)]

2.6.1 The proposal is for amendment in Environmental Clearance for 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd.

2.6.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

i. M/s NTPC is operating Lara Super Thermal Power Station, Stage-I (2x800 MW) at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh in Tehsil Pussore, District Raigarh (Chhattisgarh). The Environment clearance for Lara STPP stage-I was accorded by MoEF&CC vide letter no. J-13012/79/2007-IA.II (T) dated 13.12.2012 and its amendments dated 26.04.2017, 15.11.2018, 14.01.2020 & 21.10.2020.

ii. The Environmental Clearance for NTPC Lara Super Thermal Power Station, Stage-II (2x800 MW) has been accorded by MOEF&CC vide letter no. J-13012/11/2018-IA.I (T) dated 17.07.2023.

iii. NTPC is making its all-out efforts to comply with all the EC Conditions. However, a detailed examination of EC conditions reveals that some of the conditions are not applicable to the project Lara STPP Stage-II, hence need deletion while some other conditions need review and amendment. A detailed account of these conditions along with justification are as follows:

Standard EC Conditions			
1. Statutory compliance			
S.N	**Existing Condition**	**Justification for amendment/deletion**	**Amendment Proposed**

1.2	Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.	Proposed Lara stage-II is coal based TPP. Therefore, emission standard for Municipal Solid waste Rules 2016 dated 08.04.2016 is not applicable to Lara STPP. **Hence this condition may be deleted.**	The condition may be deleted.
1.3	MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 as amended time to time regarding use of raw or blended or beneficiated/ washed coal with ash content not exceeding 34% shall be complied with, as applicable.	As the MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 has been superseded with Notification dated 21.05.2020, **this condition may be deleted.**	The condition may be deleted.
1.5	Thermal Power Plants other than the power plants located on coast and using sea water for cooling purposes, shall achieve specific water consumption of **2.5 m3/MWh and Zero effluent discharge.**	The condition regarding specific water consumption has been amended vide MOEF&CC Notification dated 28.06.2018 to 3.0 **m3/MWh and Zero effluent discharge.** NTPC will comply with the amended norms as per MoEF&CC notification dated 28.06.2018. **Hence, this condition may be amended.**	Lara STPP, Stage-II shall achieve specific water consumption of **3.0 m^3/MWh and Zero effluent discharge.**
2. Ash content/mode of transportation of coal			
S.N	**Existing Condition**	**Justification for amendment/deletion**	**Amendment Proposed**
2.1	EC is given on the basis of assumption of % of ash content and km distance of transportation in rail/ road/ conveyor/ any other mode. Any	As per MoEF&CC Notification dated 21.05.2020, the condition regarding ash content in coal has been removed. **Hence, this condition may be deleted.**	The condition may be deleted.

	increase of % ash content by more than 1 percent, and/ or any change in transportation mode or increase in the transport distance (except for rail) require application for modifications of EC conditions after conducting the 'incremental impact assessment' and proposal for mitigation measures.		
5. Human Health Environment			
5.3	Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.	A brief Scope of work for the Study is enclosed at **Annexure-(a).** NTPC proposes to undertake the study for once in every five years. **As it is a special study, its frequency may be changed from once in two years to once in 05 years.**	Study on Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in five years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.
6. Water quality monitoring & Management			
6.1	Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m3/ MWhr (Or) Induced/ Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea	The condition regarding specific water consumption has been amended vide MOEF&CC Notification dated 28.06.2018 to 3.0 **m3/MWh and Zero effluent discharge.** NTPC will comply with the amended norms as per MoEF&CC notification dated 28.06.2018. **Hence, this condition may be amended.**	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.

	water.		
8. Green Belt and Biodiversity conservation			
8.3	Suitable screens shall be placed across the intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, etc., during extraction of seawater.	As no seawater shall be extracted for Lara STPP **the condition may be deleted.**	The condition may be deleted.
9. Waste management			
9.6	In case of waste-to-energy plant, major problems related with environment are fire smog in MSW dump site, foul smell and impacts to the surrounding populations. Therefore, the following measures are required to be taken up: i) Water hydrant at all the dumpsites of MSW area to be provided so that the fire and smog could be controlled. ii) Sprayer like microbial consortia may be provided for arresting the foul smell emanating from MSW area.	Proposed Lara stage-II is coal based TPP and not a Waste to Energy Plant. **Hence this condition may be deleted.**	The condition may be deleted.
10. Monitoring of compliance			
10.4	Monitoring of Carbon Emissions from the existing power plant as well as for the proposed power project shall be carried **out annually from a** reputed institute and report be submitted to the Ministry's Regional Office.	The Carbon Emissions from Power Plants of NTPC is being monitored internally every year and data submitted to CEA for National Emission Inventory. The frequency of one year for special study from reputed institute is too small. **Hence, this condition**	Monitoring of Carbon Emissions from the existing power plant as well as for the proposed power project shall be carried out once in 03 years from a reputed institute and report be submitted to the Ministry's Regional Office.

		may be amended.	
12. Marine facilities			
12.1	As the seawater intake systems are required for the plant fall in CRZ area, recommendations from State Coastal Zone Management Authority (SCZMA) as per CRZ Notification shall be implemented.	As Lara STPP is not a coastal plant, these conditions are not applicable. **Hence, the same may be deleted.**	The condition may be deleted.
12.2	Marine intake and outfall pipelines shall be located as per the recommendations State Coastal Zone Management Authority (SCZMA).	As Lara STPP is not a coastal plant, these conditions are not applicable. **Hence, the same may be deleted.**	The condition may be deleted.
13. Sea Water Intake			
13.1	Seawater intake system shall be so designed and constructed to ensure sufficient sweater in terms of quantity and quality.	As Lara STPP is not a coastal plant, these conditions are not applicable. **Hence, the same may be deleted.**	The condition may be deleted.
13.2	The withdrawal of seawater shall be preferably through a pipeline with a riser equipped with a velocity cap arrangement and bar screen to arrest the impingement of large marine organisms.		
13.3	In all tide conditions (particularly at spring low tides) the riser head must be flooded with the required submergence of seawater above its top.		
14. Effluent Release			
14.1	At the effluent release point, maximum temperature of the discharge water shall not be more than 5^{o}C	As Lara STPP is not a coastal plant, these conditions are not applicable. **Hence, the same may be**	The condition may be deleted.

	and salinity shall not exceed 50 ppt with respect to that of the ambient seawater.	**deleted.**	
14.2	Use of antifouling agents like chlorine / hypochlorite, shall be carefully controlled. The chlorine concentration shall not exceed 0.2 ppm at the effluent release point.		
14.3	The effluent when released at the selected location shall attain sufficient dilution so that near ambient water quality (particularly temperature and salinity) is attained within 500 m from the release location, at low tide.		
14.4	The location of the diffuser shall be marked with a solar lighted buoy to avoid accidents.		
14.5	The site selected based on mathematical modeling shall ensure absence of recirculation of the effluent plume in the seawater intake area under all tidal conditions.		
14.6	The effluent shall be released through a properly designed multiport diffuser above the seabed to facilitate its efficient initial mixing with the receiving seawater.		
14.7	Efficacy of the diffuser shall be ascertained at least once in 2 years through scientific		

	studies and corrective actions such as cleaning of the diffuser from marine growth, removal of silt deposits, etc. shall be taken up, if warranted.		
14.8	Continuous online monitoring system for Temperature and Salinity shall be installed to monitor the quality of effluent.		
15. Common to intake and effluent			
15.1	The pipeline shall be buried below the seabed at a depth to ensure its stability under rough sea conditions particularly during cyclone / tsunami. The depth of burial will depend on the seafloor strata but normally the top of the pipeline shall be at least 1 m below the bed level. In the surf and intertidal zones, the pipeline shall be buried below the maximum scour level.	As Lara STPP is not a coastal plant, these conditions are not applicable. **Hence, the same may be deleted.**	The conditions may be deleted.
15.2	In case of open channel, the channel shall be constructed as per the recommendations of State Coastal Zone Management Authority (SCZMA).		
15.3	If the substratum is rocky the pipeline may be anchored to the rock provided the geology of the area satisfactorily supports the structure which shall be ascertained through		

	geo-technical investigations.		
15.4	Exposed pipeline section and riser shall be protected by armour stone from waves, boats anchoring, fishing activities etc.		
15.5	The location of the riser & diffuser shall be marked with a solar lighted buoy to avoid accidents from boats.		
15.6	Marine / Sea water quality shall be monitored at effluent release location at the center. Parameters to be monitored shall be as follows: a. Physico-chemical: Temperature, Salinity, pH and Dissolved Oxygen. b. Biological: Primary Productivity, Phytoplankton (Chlorophyll a, Phaeophytin, Population, Species), Zooplankton (Biomass, Population, Species) and Benthos (Biomass, Population, Species).		
15.7	In case of Coastal Power Plants, the Mangroveplantation shall be taken up in an area of ……ha, along the coast/ on the banks of Estuary.		

Condition Number	**Existing EC Condition**	**Justification for Amendment**	**Amendment Proposed**

Specific EC Conditions:			
2. Socio-Economic:			
2.1 (xxvi)	Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in two year) through independent agency. Necessary measures shall be taken as per findings of study in consultation with district administration. Action taken report shall be submitted to the Regional Office of the Ministry.	A brief Scope of work of Epidemiological Study is enclosed at **Annexure-(b).** **<u>As it is a study with long gestation period, its frequency may be changed from once in two years to once in 05 years.</u>**	Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in five 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.Environmental Management			
3.1(iii)	Extensive green cover within 2 km range of the plant boundary shall be developed. An action plan in this regard to be prepared in consultation with CPCB/expert institution and submitted before Regional Office of the Ministry within 3 months.	1. NTPC has already undertaken a detailed study on Water conservation & Green Belt Development in nearby villages through IBRAD (Indian Institute of Bio-Social Research and Development, Kolkata). 2. Major recommendations related to Renovation, Deepening, Cleaning and Beautification of Ponds are already being implemented. Out of 37 activities, 34 are already completed with an expenditure of Rs. 391.5 Lacs **(Annexure-(c)**) and rest 03 out of 37	Extensive green cover within 2 km range of the plant boundary shall be developed. An action plan in this regard to be prepared in consultation with CPCB/expert institution and submitted before Regional Office of the Ministry within 06 months.

		activities are under process for implementation with cost of Rs. 119.2 Lacs approx. 3. In addition to above, a separate detailed study is being planned as suggested by MoEF&CC, the details of which shall be submitted later. 4. However, it is pertinent to mention here that within 2 kms range of plant boundary, there are inhabited villages & private agricultural fields. NTPC shall undertake the development of green cover as far as possible subject to availability of land from gram panchayats and other land owner's who will permit for the same. Further, the time period to prepare action plan in consultation with CPCB/ expert institution. is too short. In view of the above, it is requested that the time for submission may be extended to six months.	
3.1(iv)	24X7 online monitoring system for ambient air quality shall be established with its connectivity with SPCB and CPCB server. Stack	Shall be complied. Proposed Lara stage-II	The conditions

	monitoring shall be done through 24X7 online monitoring system. The emission Standards for Municipal Solid Waste based Thermal Power Plants as per Municipal Solid Waste Rules, 2016 dated 8.4.2016 (S.O. 1357 (E)) shall be complied (Refer Part C of Schedule II of Municipal Solid Waste Rules, 2016 dated 8.4.2016 (S.O. 1357 (E)).	is coal based TPP. Therefore, emission standard for Municipal Solid waste Rules 2016 dated 08.04.2016 is not applicable to Lara STPP. **Hence, this condition may be deleted.**	regarding MSW rules may be deleted.
3.1(x)	A detailed action plan regarding leachate handling shall be prepared and implemented in consultation with SPCB and the same shall be submitted to the Regional Office of the Ministry. Zero liquid discharge shall be adopted. Leachate shall be treated and reused. No treated leachate shall be discharged in any circumstances. Characteristics of Leachate and the treated leachate shall be monitored once in quarter and records shall be maintained.	NTPC Lara STPP Stage-II shall be based on zero liquid discharge. Further Lara STPP will not generate any leachate. **Therefore, the condition regarding leachate handling & treatment may be deleted.**	The condition may be deleted.
3.1(xv)	A well designed rain-water harvesting system shall be put in place within six	During construction phase due to excavation and material storage, lay	A well designed rain-water harvesting system shall be put in place

	months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.	down activities, it is not possible to implement RWH scheme. RWH facilities will be built up during last phases of plant construction. **Therefore, it may be amended as within six months of completion of plant construction.**	within six months of completion of plant construction, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.
3.1(xvi)	No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up/ operation of the power plant. A list of all small and large water bodies shall be prepared after physical survey within 10 km radius of the project. A detailed conservation plan for all these water bodies shall be prepared and submitted before the Regional Office of the Ministry within 3 months. Implementation status of conservation plan be submitted in 6 monthly compliance report.	1. It is hereby confirmed that no water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up/ operation of Stage-II. 2. NTPC has already undertaken a detailed study on Water conservation & Green Belt Development in nearby villages through IBRAD (Indian Institute of Bio-Social Research and Development, Kolkata), which inter-alia include the development of ponds, Check dams, Percolation tanks, re-excavation of Ponds, Plantation on Pond Bunds etc.; the implementation of which is in progress. The status of implementation is as above.	A detailed conservation plan for all these water bodies shall be prepared and submitted before the Regional Office of the Ministry within six (6) months. Implementation status of conservation plan be submitted with 6 monthly compliance report.

		3. In addition to above, a separate detailed study is being planned as suggested by MoEF&CC, the details of which shall be submitted later with 6 monthly compliance report. However, preparation of detailed conservation plan through an independent consultant shall take time. **Hence, the timeline may be extended to six months.** A brief scope of work is enclosed at **Annexure-(d).**	
3.1(xviii)	A detailed ecological monitoring and survey covering forestry, fisheries, wildlife and its habitat shall be done once in two years to assess the impacts of project on the local environment and ecology. Monitoring report shall be uploaded on the Parivesh Portal and a copy of the same be submitted to the regional office of MoEF&CC.	A brief scope of work is enclosed at **Annexure-(d).** The special type of study will take at least 02 years for completion and implementation of its findings **so its frequency may be changed from once in two years to once in 05 years.**	A detailed ecological monitoring and survey covering forestry, fisheries, wildlife and its habitat shall be done once in five years to assess the impacts of project on the local environment and ecology. Monitoring report shall be uploaded on the Parivesh Portal and a copy of the same be submitted to the Regional Office of MoEF&CC.
3.1(xxiii)	Explore desulphurization from biotechnological method.	NTPC proposed for installation of Flue gas Desulfurization (FGD) to remove Sulphur from flue gas emission. **Therefore, this**	The conditions may be deleted.

		condition may be deleted.	

iv. The salient features of the project are as under:

1. Project details:

Name of the Proposal	2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, jhilgitar and Kandagarh in Taluk Pussore, in District Raigarh, in Chhattisgarh
Proposal No.	IA/CG/THE/448422/2023
Location	Village - Chhapora Taluk – Pussore District – Raigarh State - Chhattisgarh PIN - 496440
Company's Name	NTPC Limited
Accredited Consultant and certificate no.	No, as the current proposal is only for seeking amendment of Environment Clearance by way of suitable amendment in EC conditions, the requirement of consultant is not envisaged.
Inter-state issue involved	No
Seismic zone	Zone-II

2. Category details:

Category of the project	Thermal, Category - A
Capacity	**Under Operation** Stage-I: 1600 MW (2x800 MW) **Proposed Expansion** Stage-II: 2x800 MW
Attracts the General Conditions (Yes/No)	Yes, the interstate boundary of Chhattisgarh & Odisa is located at 1.5 km from Main Plant Area.
Additional information (if any)	

3. Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	It is not for expansion of Project. It is for Amendment in EC Conditions for Stage-II. Ministry of Environment, Forests and Climate Change (MoEF&CC) had accorded Environmental Clearance (EC) for 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project vide letter no. J-13012/11/2018-IA.I (T) on 17.07.2023
Amendments granted, if Yes details	No amendments have been granted so far for Stage-II.
Expansion / Green Field (new): (IPP / Merchant / Captive)	It is not for expansion of project. It is for Amendment in EC Conditions
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Not Applicable
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/ information.	https://www.ntpc.co.in/about-us/corporate-functions/environment/status-hyc-reports Head of Project, Lara Super Thermal Power Project Village - Chhapora Taluk – Pussore District – Raigarh State - Chhattisgarh PIN - 496440
Co-ordinates of all four corners of TPP Site:	**Main Plant** Latitudes: From 21°44'57"N to 21°46'19"N, Longitudes: From 83°25'37"E to 83°27'56"E
Average height of: (c) TPP site, (d) Ash pond site etc. above MSL	 200~210 m 220-242 m

Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	As per EC ₹ 31,779.45 Crores (for Both Stage-I & II) • Stage-I (Approved Cost): ₹17,779.45 Crores • Stage-II (Estimated Cost): ₹14,000.00 Crores However, Investment approval for Stage-II has been accorded at a project cost of Rs. 15,530 Crore in Aug., 2023.
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	• Current employment at existing power plant (Lara STPP Stage-I)-1773 (Permanent-273 & Temprorary-1500) • The estimated employment generation from the proposed project (Stage-II) (a) During Construction- 4000-5000 (Permanent-112 & Temprorary-4000-5000; depending on the construction phase of the project) (b) During Operation- 1905 (Permanent-405 & Temprorary-1500) However, the manpower shall be optimised and the exact number of manpower shall be decided during the construction/ operation phases of the project.
Benefits of the project (specify quantitative information)	• Proposed Lara STPP Stage-II (2x800 MW) will have State of Art Ultra Super Critical Technology which has better efficiency and less carbon emissions in comparison to sub-critical technology. Installation of High efficiency ESP, FGD and De-Nox System will comply the new emission norms of MOEF&CC. • The setting up of the proposed project will lead to direct and indirect benefits to the overall socio-economic development of the region. • These will also benefit the local population. NTPC has taken up several community welfare and community development

	activities under Corporate Social Responsibility and this will be strengthened during commissioning of Lara STPP Stage-II.

4. Electricity generation capacity:

Capacity & Unit Configurations:	**Under Operation** Stage-I: 1600 MW (2x800 MW) **Proposed Expansion (Under Implementation)** Stage-II: 1600 MW (2x800 MW)
Generation of Electricity Annually	11.91 Billion Units @85% PLF from Stage-II

5. Details of fuel and Ash disposal

Fuel to be used:	Coal
Quantity of Fuel required per Annum	6.6 MTPA corresponding to 85% PLF for Stage-II
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Talaipali Coal Block Mining Project (TLCMP) of NTPC Limited is linked to cater the coal requirement for Lara STPP. EC & FC for TLCMP (for a Peak Rated Capacity of 18 MTPA) has already been accorded by MoEF&CC as follows: • EC: Letter no. J-11015/279/2009-IA.II (M) dated 02.01.2013 • FC: Stage-I & Stage-II F.No.8-18/2012-FC dated 05.11.2012 & 28.01.2014 respectively
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of coal transportation from the coal mines to the power plant shall be MGR and Indian Railways. MGR and Railway Sidings have already been commissioned and in use.
Fly Ash Disposal System Proposed	The bottom ash shall be extracted and disposed off in wet form. The fly ash shall be conveyed in dry form from the electrostatic precipitator hoppers. This dry fly ash is taken to buffer hoppers for its onward transportation in dry form to storage silos near plant

	boundary for utilization. In case of non-utilization, fly ash shall be taken to HCSD system, where in it shall be mixed with water in agitator tanks for its ultimate disposal in high concentration slurry form to ash disposal area. The ash management scheme for fly ash and bottom ash involves dry collection of fly ash, supply of ash to entrepreneurs for utilisation, promoting ash utilisation and safe disposal of unused ash. NTPC shall make maximum efforts to utilise the fly ash for various purposes. Unused fly ash and bottom ash shall be disposed off in the ash pond.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL(m)	Area: 491 Acres (Lara STPP, Stage-I) (No Additional Ash dyke proposed for Lara STPP Stage-II) Co-ordinates: Latitudes: 21°43'7"N to 21°44'27"N Longitudes: 83°27'37"E to 83°29'4"E 220-242 m
Quantity of c. Fly Ash to be generated d. Bottom Ash to be generated:	 1.792 MTPA 0.448 MTPA
Fly Ash utilization (details)	The Ash Utilisation shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31-12-2021 as amended on 31.12.2022. To utilize ash and also to comply the stipulations of MoEF&CC's Gazette Notification on fly ash dated 31-12-2021 following actions would be taken up by NTPC: • NTPC shall provide a system for 100% extraction of dry fly ash along with dedicated dry ash silos for storage of at least sixteen hours of ash based on installed capacity having separate access roads so as to ease the delivery of fly ash. Provision shall also be kept for segregation of coarse and fine ash, loading this ash to closed/ open trucks and also for loading fly ash into rail

	wagons. This will ensure availability of dry fly ash required for manufacture of Fly Ash based Portland Pozzolana Cement (FAPPC) for cement plants and Ready Mix Concrete plants. • NTPC shall also promote, adopt and set up the ash based product manufacturing facilities within its premises & fly ash brick thus produced shall be utilized in in-house construction works as well as for supply in the market on price. • NTPC shall make efforts to motivate and encourage entrepreneurs to set up ash based building products such as fly ash bricks, blocks tiles, fly ash based aggregate etc. in the vicinity of proposed power plant. • To promote use of ash in agriculture/low lying areas/wasteland development-show case project shall be taken up in the vicinity of proposed thermal power station. • NTPC shall make efforts with authorities of coal mines and other minerals mines for use of ash in reclamation of mines located within 300 km of proposed power station. • All government/ private agencies responsible for construction/ design of buildings, road embankment, flyover bridges and reclamation/ development of low lying areas within 300 km of the plant areas shall be persuaded to use ash and ash based products in compliance of MoEF&CC's Gazette Notification on fly ash. • With all the efforts mentioned above, it is expected that fly ash generated at proposed thermal power station shall be utilized in the areas of cement, concrete & building products manufacturing, road embankment construction, land development, mine filling, shoreline protection structure, agriculture etc.

Stack Height (m) & Type of Flue	Two single flue stacks of 150 m or one bi-flue stack of 220 m height will be provided

6. Water Requirement:

Source of Water:	Saradih barrage on River Mahanadi
Quantity of water requirement:	Make up water requirement for Lara-II (2 x 800 MW) project would be 4800 m3/hr.
Distance of source of water from Plant:	45 km (Route Length)/34 km (Aerial)
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Intake structure shall be constructed
Mode of conveyance of water:	Pipeline
Status of water linkage:	Water Resource Department (WRD), Government of Chhattisgarh dated 06.12.2022 have accorded water availability confirmation of 45 MCM (5137 m3/hr) for stage-I (2 x 800 MW) power project and 68 MCM (7763 m3/hr) for stage-II for Lara STPP from Saradih barrage on River Mahanadi.
(If source is Sea water) Desalination Plant Capacity	Not Applicable.
Mode / Management of Brine:	Not Applicable.
Cooling system	Water Cooled Condenser System

7. Land Area Breakup:

Land Requirement:
a) TPP Site
b) Ash Pond
c) Township
d) Railway Siding & Others
e) Raw Water Reservoir
f) Green Belt
g) others
Total (if expansion state additional land requirement)

	Stage-I	Stage-II	Future Expansion
Main Plant	390	267	170
Green Belt	35	56	Included in Stage-I & II
Reservoir	135	287	Included in Stage-II
Township	151	NA	NA

	Peripheral Road (Public)	57	NA	NA
	Ash Dyke	491	Nil	
	Green Belt in Ash Dyke	45		
	Ash Corridors	49		
	Rly Siding & MGR	53	27	
	Miscellaneous/ Unutilised Space due to Irregular Shape	270		
	Total	1676	637	170
	Grand Total			2483
	No additional land shall be acquired for the proposed project of Stage-II			
	A total of 2483.29 acres of land has been acquired under Stage-I for the ultimate capacity of project (Private Land – 1929.17 Acres, Govt. Land. – 179.11 Acres and Forest Land – 375.01 Acres). Stage-I and Stage-II Forest Clearances have already been obtained for forest land involved. However, land acquisition of about 78.14 acres of left out patches of private land is till in progress, thereby making total land requirement of the project as 2561.43 acres. Stage-I facilities are constructed in 1676 acres and out of the above while 637 acres is proposed to be utilized for Stage-II units. A provision of 170 acres has been kept for future expansion.			
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons	Under Implementation, Construction work is yet to start at site.			

Break-Up of land-use of TPP site: a. Total land required for project components b. Private land c. Government land d. Forest Land	

	Already Acquired (Acres)	Left Out Land (acres)
Private	1929.17	78.14
Govt.	179.11	
Forest	375.01	
Total	2483.29	78.14
	Grand Total	2561.43

8. Presence of Environmentally Sensitive areas in the study area

Forest Land/Protected Area/ Environmental Sensitivity Zone	**Yes/ No**	**Details of Certificate/ letter/Remarks**
Reserve Forest/Protected Forest Land	Yes	• Gajmar R.F (4.0 km, NNE) • Jharghan R.F (5.5 km, NE) • Holsari Dungri R.F (9.3 km, ESE)
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/ historical temples etc.	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	No.	No National parks, Wildlife sanctuaries, Biosphere reserves, Archaeological Heritage sites exists within 10 Km radius
Additional information (if any)	No	

Availability of Schedule-I species in study area: Indian Peafowl – Pavo cristatus

9. Court case details:

Any litigation/Court case pertaining to the project	No litigation/Court cases regarding Environment issue, However there are other Court cases regarding land.

Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Additional information (if any)	--

2.6.3 The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance for 2x800 MW (Expansion, Stage-II) Coal Based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhilgitar and Kandagarh, in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

2.6.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting opined that standard and specific conditions stipulated by the MoEF&CC during grant of EC, then PP shall abide by all the safeguard conditions (specific/standard/general) mentioned in the EC. if such conditions are not applicable to the project, the same can be justified by the PP during site visit of RO, MoEF&CC and verified by the IRO as 'Not applicable'.

*The proposal was therefore **returned** on the above lines.*

Agenda Item No. 2.7:

3x660 MW Ghatampur Thermal Power Station at Tehsil Ghatampur, District Kanpur Nagar, Uttar Pradesh by M/s Neyveli Uttar Pradesh Power Ltd - Amendment in Environmental Clearance (EC) - reg.

[Proposal No. IA/UP/THE/445314/2023; F. No. J-13012/113/2011-IA.II (T)]

2.7.1 The proposal is for amendment in Environmental Clearance for 3x660 MW Ghatampur Thermal Power Station at Tehsil Ghatampur, District Kanpur Nagar, Uttar Pradesh by M/s Neyveli Uttar Pradesh Power Ltd.

2.7.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

i. The Ministry of Environment, Forests and Climate Change (MoEF & CC) accorded Environment Clearance (EC) on 17.05.2015 with Project cost as

₹14,375.40 Cr. As per MoEF&CC OM dtd. 13.12.2022, NUPPL EC is valid till 16.06.2025.

ii. Amendment requested by the project proponent along with justification are as follows:

S. No	EC condition	Amendment requested	Justification
1.	EC Specific Conditions sub-clause v) As committed, a minimum amount of 0.4% & 0.08% of the capital cost of the project shall be earmarked as capital cost during the construction phase of the project and recurring cost per annum till the operation of the plant respectively for CSR activities	The specific conditions under sub-clause v), vi) & vii) of Environmental Clearance may kindly be deleted.	• MoEF & CC, vide OM dtd. 01.05.2018, has issued comprehensive guidelines on CER. These comprehensive guidelines on CER are being followed in subsequent ECs • The CSR activities to be undertaken by an industry is under the domain of Ministry of Corporate Affairs under the Companies Act, 2013 • The stipulation of conditions pertaining to CSR by MOEF&CC will create ambiguity in multiple reporting and duplication. • CSR expenditure is subject to Governmental and Ministerial guidelines • NUPPL has taken up CSR activities as per the request/directive received from the
2.	EC Specific Conditions sub-clause vi) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken.		
3.	EC Specific Conditions sub-clause vii) For proper and periodic monitoring of CSR activities, a CSR		

	committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.		District Authorities. • NUPPL is committed to inclusive growth and sustainable development with special focus on the neighborhood communities.

iii. Total Amount of CSR/CER spent till FY 2023 – 24 (till Aug'23) amounts to Rs. 31.08 Crores

iv. The salient features of the project are as under:

1. Project details:

Name of the Proposal	Amendment in EC – Deletion of Specific Conditions pertaining to CSR
Proposal No.	IA/UP/THE/445314/2023
Location	Ghatampur, District Kanpur Nagar, Uttar Pradesh
Company's Name	Neyveli Uttar Pradesh Power Limited
Accredited Consultant and certificate no.	Not Applicable
Inter- state issue involved	N0
Seismic zone	Zone - III

2. Category details:

Category of the project	A
Capacity	1980 MW (3 x 660 MW)
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	

3. Project Details:

If expansion, the details of ECs (including amendments and extension of validity) ofexisting Units etc.	Not Applicable
Amendments granted, if Yes details	No
Expansion / Green Field (new):(IPP / Merchant / Captive): If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases.A certified copy of the latest R.O. monitoring report shall also be submitted.	Not Applicable
Specific webpage address where all EC related documents (including monitoringand compliance related reports/documents)of the specific project under considerationare/will be available. Also contact details of PP's officer responsible for updating this webpage/information.	Webpage Address: https://nuppl.co.in/clearances/ GM – Computer Services Neyveli Uttar Pradesh Power Limited,Ghatampur, Kanpur Nagar - 209206
Co-ordinates of all four corners OF TPP Site:	25°58'58.3"N 80°09'40.0"E 25°59'39.5"N 80°10'18.0"E 25°57'57.9"N 80°11'19.1"E 25°58'30.7"N 80°12'05.4"E
Average height of: (a) TPP site, (b) ash pond site etc. above MSL	(a) TPP site: 132.56m (b) ash pond site: 141.5m
Whether the project is in the CriticallyPolluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No
CRZ Clearance	Not Applicable
Cost of the Project (As per EC and revised): Cost of the proposed activity in the	Rs. 14375.4 Crores Not Applicable

amendment:	
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	1) During Construction: a) Permanent: 232 nos. b) Contractual: 1665 nos. 2) During Operation: Estimated manpower is; a) Permanent: 495 nos. b) Contractual: 1500 nos.
Benefits of the project (specify quantitativeinformation)	To meet the growing power requirement.Employment creation and upliftment of society.

4. Electricity generation capacity:

Capacity & Unit Configurations:	1980 MW (Unit-1 – 660 MW, Unit-2 – 660 MW, Unit-3 – 660 MW)
Generation of Electricity Annually	14743.08 MU (Estimated)

5. Details of fuel and Ash disposal

Fuel to be used:	Coal
Quantity of Fuel required per Annum:	7016560.87 MTPA
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Pachwara South Coal Block, Dumka, Jharkhand. (Block Allocated, Status of EC: EAC has recommended for grant of EC with condition in 47th EAC meeting held on 21.07.2023. Status of FC: FAC held on 20.10.2023 for Stage-I. Minutes of meeting awaited.)
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of transportation: Rail Distance: 993 Km
Fly Ash Disposal System Proposed	6 nos. of Fly Ash Silos each having capacity of 2100 T provided for storage and further sale of Fly Ash. NUPPL has signed Fly Ash offtake agreement with M/s JK Cements for evacuation of total Fly Ash generated from this project.

Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Area: Ash Dyke-1: 433600 sq.m Ash Dyke-2: 720921 Sq.m Location: Rampur, Ghatampur, Kanpur Nagar, Uttar Pradesh. Co-ordinates of Ash Dyke – 1 & 2: 25°58'55.83"N 80° 9'53.70"E 25°59'13.68"N 80°10'20.46"E Av. Ht. of area above MSL(m): 141.5m
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	 Fly Ash: 2.312 MTPA Bottom Ash: 0.578 MTPA
Fly Ash utilization (details)	Project is under construction phase.
Stack Height (m) & Type of Flue	Tri-flue Stack with a height of 275 m

6. Water Requirement:

Source of Water:	West Allahabad Branch Canal
Quantity of water requirement:	146742 KLD
Distance of source of water from Plant:	45 Km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Pipeline
Status of water linkage:	Agreement with UPID
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	01 no. NDCT (Natural Draught coolingtower) for each unit. The CW system is proposed to operate at 5 cycles of concentrations.

7. Land Area Breakup:

Land Requirement: a) TPP Site b) Ash Pond c) Township d) Railway Siding & Others e) Raw Water Reservoir f) Green Belt g) others Total (if expansion state additional land requirement)	a) TPP Site: 219.5 Ha b) Ash Pond: 172.9 Ha c) Township: 50.2 Ha d) Railway Siding & Others: 177.23 Ha e) Raw Water Reservoir: 60.7 Ha f) Green Belt: 193.9 Ha g) others: 124.3 Ha Not Applicable
Status of Land Acquisition:	Acquired
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.	**Status of The Project:** Under Construction The present status of Project as on 20.10.2023 is as per below; **Physical Progress:** 81.23 % **Financial Progress:** 83.18% **Reasons for delay of COD:**
	1. Delay during the initial period of execution of the project due to farmers agitation under the banner of Bhartiya Kisan Union. 2. Delay due to COVID-19 pandemic First & Second Wave. 3. Slow progress of work by GA3 Package contractor. Anticipated dates of COD: Unit-1: 31.10.2023* Unit-2: 31.01.2024* Unit-3: 31.03.2024* *Note: The above-mentioned dates are NUPPL board approved dates for COD of Units. However, due to the heavy rainfall during this monsoon season & extended monsoon period the COD of Units may likely to be shifted by 1-2 Months

Break-Up of land-use of TPP site: a. Total land required for projectcomponents b. Private land c. Government land Forest Land	a) Total land required for projectComponents: 998.80 Ha b) Private land: 937.4723 Ha c) Government land: 61.3346 Ha Forest Land: N/A

8. Presence of Environmentally Sensitive areas in the study area

Forest Land/ ProtectedArea/ Environmental Sensitivity Zone	**Yes/No**	**Details of Certificate/letter/Remarks**
Reserve Forest/Protected Forest Land	Yes Mannjhupur R.F: 3.4 Km(W) Chandupur East Block R.F.- 4Km(W) Badanpur R.F. – 4Km(W) Chandupur R.F. – 6Km(W)	
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/historical temples etc	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10Km from the plant boundary:	No	
Additional information (if any)	NIL	

Availability of Schedule-I species in study area:

There is only one Schedule-I species (*Pavo cristatus*) observed in the buffer zone of studyarea. There are four Schedule-I species recorded in the study area. Out of four, three are found in primary field survey such as Indian wolf, the Great Pied Hornbill and Peacock. However, Gangetic Dolphin was not observed during primary field survey.

10. Court Case details - NIL

2.7.3 The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance for 3x660 MW Ghatampur Thermal Power Station at Tehsil Ghatampur, District Kanpur Nagar, Uttar Pradesh by M/s Neyveli Uttar Pradesh Power Ltd.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted the PP could not provide the specific information on the status of work done under Corporate Environment Responsibility (CER) till date. It was also observed that green plantation carried out in the plant boundary is not up to the mark. It need to be improved. It was noted that there are 16 primary and secondary school in 8 gram panchayats within 10km radius of the project area in which no significant contribution has been made, only small scale work like painting in some schools has been done by the PP.

2.7.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting deferred the proposal for want of additional information:

i. A detailed and time bound action plan for green plantation with 90% survival rate along with allocated budget dully approved by the forest department shall be submitted.
ii. Submit latest certified compliance report of existing EC certified by IRO, MoEF&CC.
iii. Latest social survey shall be carried out within 10 km of project cover area through reputed government institute in terms of current requirement of health centres, deployment of ambulances, upgrading school facilities such as development of school infrastructure/arrangements for smart classes and basic requirements of public like drinking water facility, setting up of skill development centres for local youth etc. Accordingly, time bound action plan for implementation of such activities shall be prepared and submitted.
iv. Submit latest certified compliance report of existing EC.
v. Detailed plan for reducing the pollution during the fly ash transportation along with budget allocated for the same shall be submitted.

vi. Detailed information of the ash pond area in terms of the latest notification of Ministry/ CPCB shall be submitted. A detailed note w.r.t. compliance of MoEF&CC notifications dated 31.12.2021 and 30.12.2022 defining the eligibility of thermal power plants for having additional ash pond shall be submitted by the IRO in its compliance report.

vii. PP shall submit undertaking in affidavit form that 100 % fly ash utilization shall be carried out throughout the operation of the plant.

*The proposal is therefore **deferred** on the above lines.*

Agenda Item No. 2.8:

1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhudivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO) – Reconsideration for Amendment in Environmental Clearance (EC) – reg.

[Proposal No. IA/TN/THE/442379/2023; F. No. J-13012/14/2012-IA.II (T)]

2.8.1 The proposal is for amendment in Environmental Clearance for 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhudivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO).

2.8.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

i. The Environmental Clearance (EC) and Coastal Regulation Zone (CRZ) was accorded by MoEF&CC vide letter dated 20th January, 2016 to 1x800 MW Supercritical Coal Based Thermal Power Plant Stage III at Villages Ennore & Puzhudivakkam, Taluk Ponneri, District Thiruvallur, Tamil Nadu by M/s TANGEDCO. The current proposal is for seeking amendment in the EC and CRZ Clearance granted for the inclusion of proposed Ash slurry pipeline and recovery water pipeline.

ii. M/s TANGEDCO has established 3x210 MW North Chennai Thermal Power Station Stage I during 1995 and 2 x 600 MW Stage-II during 2014 in NCTPS Complex. An area of 190 acres (76.88 Ha) of barren land is available within the existing North Chennai Thermal Power Station (NCTPS).

iii. Earlier, the proposal was considered by the EAC in its 46th meeting held on 4th September, 2023 and sought additional details. The PP vide letter dated 13/10/2023 submitted following details on Parivesh and presented during the meeting:

Query 1 Submit latest certified compliance report of existing EC.

Reply: The Certified compliance for the existing Environment Clearances of all the three stages including NCTPP III has been obtained vide F. No. EP/12.1/1/2015-16/TN/93 dated 16th January 2023 Certified compliance for the existing Environment Clearances of all the three stages was approved vide diary no 046 dated 13.01.2023 has been submitted.

Query 2 Proof of payment of Rs. 50 Lakhs imposed by the Hon'ble NGT.
Reply: The Letter received from the Member Secretary/TNPCB for having received
environmental compensation has been submitted. Amount paid to TNPCB account through online vide UTR No. IOBAN22087324859 dt 28.03.2022. The receipt of Environment Compensation Fund was acknowledged by TNPCB vide letter No. T2/TNPCB/F.023071/2023 dated 12-10-2023.

Query 3 Submit marine EIA report with CRZ map duly authenticated of slurry pipeline
Reply: The Rapid EIA Study carried out has covered the Marine Ecology and Marine Environment set up of the study area. CRZ mapping carried out by Institute of Remote Sensing (IRS). The CRZ maps were obtained from the Institute of Remote Sensing (IRS), Anna University. The EIA report enclosing CRZ Maps has been submitted.

Query 4 Ministry may seek comments of CRZ division for slurry pipeline.
Reply: No comments.

Query 5 Submit status of construction in of slurry pipeline in CRZ area.
Reply: The EC and CRZ Clearance for the NCTPP Stage III Plant was granted in 2016 and after finalization of contractor, the construction works for the ash slurry pipeline and recovery water pipeline system had been commenced and as a whole about 65% of the construction works have been completed wherein concrete support pedestals covering foot Print of 34 M'has been executed in CRZ lA buffer zone. About 1000 M concrete support pedestals including laying of pipe in the CRZ - II area from west bank of Kosathalayar river to boat canal have been executed. In B'Canal - 14 piles completed out of 18 piles in the both banks upto natural ground level for constructing the bridge to carry the ash slurry pipe lines.

In Kosathalai river - 22 piles completed out of 38 upto bed level of the river for constructing the bridge to carry the ash slurry pipe lines.

Upon the NGT direction, the pipeline system construction activities have been stopped in the CRZ Area including Buckingham Canal and Kosasthalaiyar River and since 07 /2021, no activities have been undertaken. On receipt of the amendment from MoEF& CC only the work will be resumed.

Query 6 Clarification about laying of pipeline without consent of the Ministry.

Reply: Previously it was proposed to lay the ash slurry pipe lines over the existing ash slurry pipe lines of NCTPS I & II. But due to aged supporting structure, the new ash slurry pipe line was laid parallel to the ash slurry pipe lines of NCTPS – I & II in existing corridor. Hence as per direction of NGT this proposal for amendment in EC & CRZ clearance is submitted.

Query 7 Comments of CRZ Division in the Ministry may be obtained.
Reply: No comments.

2.8.3 The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance for 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhudivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO).

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.
The EAC noted the about 65 % of the construction activities have been completed, the EAC desired to verify the extent of construction activities at site. The EAC therefore decided to conduct site visit by EAC sub-committee before making any recommendations on proposal.

*The proposal was **deferred** on the above lines.*

Agenda Item No. 2.9:

Waste to Energy Thermal Power Project (30 MW) at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited - Reconsideration for Terms of References (TOR) – reg.

[Proposal No. IA/DL/THE/435160/2023; F. No. J-13012/02/2023-IA.I (T)]

2.9.1 The proposal is for grant of Terms of Reference to the project for Waste to Energy Thermal Power Project (30 MW) at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited.

2.9.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

i. The proposal was earlier considered by the EAC in its 46th meeting held on 4th September, 2023 wherein the proposal was deferred while observing the following:

"*….The EAC noted that another 24 MW Waste to Energy Plant by M/s Delhi MSW Solutions Ltd. is already under operation just adjacent to the boundary of*

proposed power plant. It was also noted that a proposal (proposal no IA/DL/THE/430833/2023) for expansion of the same operating power plant has also been submitted to the Ministry for adding capacity of 60 MW. From the. kml file the committee observed that the proposed location of instant proposal is in notified industrial area as well as very close to civil colonies.

The proposed project layout also indicates diversion of Natural stream/Nallah. Operation of 110MW waste to energy power plants in the area may invite undesirable environmental consequences. The EAC suggested the PP to re-visit the proposal in terms of its capacity and project site location……."

ii. In view of the observations raised by the EAC the project proponent vide letter dated 17.10.2023 submitted the following:

1. Project capacity is revised to 30 MW.
2. In view of existing Natural Stream/ Nallah, which is crossing through the backside of the proposed project site shall not be disturbed and no change will be made in existing drainage pattern. The revised layout plan of proposed project has been submitted.

It is pertinent to mention that the proposed project site has been earmarked for Solid Waste Management facility by DDA in Zonal Development Plan of Zone "P1" Narela

The Municipal Corporation of Delhi (MCD), in order to meet the target of 100% solid waste processing and scientific disposal of unprocessed quantities of MSW, has planned to develop this Waste Energy (WtE) Project.

iii. **Analysis of Alternate Site: -**

Three alternate sites were analysed to decide the most environmentally and techno-economically suitable site for establishing the proposed Waste to Energy Project. The Bawana site has been found most suitable due to availability of adequate authorized land with the MCD in DSIIDC, Industrial Area, Nearness to water source from PPCL and no fresh water will be drawn up for industrial use except drinking water, and no existence of Ecologically sensitive areas.

iv. The Salient features of the project are as under:

1. **Project details:**

Name of the Proposal	Proposed Waste to Energy Project 30 MW located at DSIIDC Industrial Area, Sector-5, Bawana, Delhi-110039 by M/s Jindal Urban Waste Management (Bawana) Limited.
Proposal No.	IA/DL/THE/435160/2023

Location	DSIIDC Industrial Area, Sector-5, Bawana, Delhi-110039.
Company's Name	M/s Jindal Urban Waste Management (Bawana) Limited.
Accredited Consultant and certificate no.	**Consultant Name:** Mantec Consultants Pvt. Ltd. **Certificate No.:** NABET/EIA/2326/RA 0305 valid up to 20-04-2026.
Inter- state issue involved	Delhi-Haryana State Boundary
Seismic zone	Zone-IV (As per IS 1893:2002)

2. **Category details:**

Category of the project	Category - A
Capacity	30 MW (3000 TPD of MSW)
Attracts the General Conditions (Yes/No)	Yes
Additional information (if any)	NA

3. Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	Not Applicable.
Amendments granted, if Yes details	Not Applicable.
Expansion / Green Field (new): (IPP / Merchant / Captive):	Green Field (New)
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	Not Applicable.
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will	Specific website of the project will be developed.

be available. Also contact details of PP's officer responsible for updating this webpage/information.	
Co-ordinates of all four corners of TPP Site:	A 28°47'41.49"N 77°3'42.51"E B 28°47'46.08"N 77°3'36.54"E C 28°47'53.53"N 77°3'43.80"E D 28°47'49.56"N 77°3'48.06"E E 28°47'47.84"N 77°3'47.27"E F 28°47'47.12"N 77°3'47.43"E G 28°47'46.70"N 77°3'47.84"E
Average height of: (a) TPP site, (b) ash pond site etc. above MSL	(a) TPP Site: ~240 m (b) Ash Pond site etc.: Not Applicable
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No
CRZ Clearance	Not Applicable.
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Estimated Cost of the Project Rs 660.00 Crore.
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	Employment potential: • **<u>During the construction phase</u>** Employment (Contract): 570 Nos On Roll:60 Nos **Total (On Roll + Contract): 630 Nos.** • **<u>During the operational phase</u>** Contract: 156 Nos On Roll: 86 Nos **Total (On Roll + Contract): 242 Nos.**
Benefits of the project (specify quantitative information)	• Handling of 3000 TPD of MSW through an environmentally and scientific approach. • Generation of 30 MW of Green Energy from MSW • Avoidance of sanitary landfills site due to utilization of MSW, thus saving land resource.

4. Electricity generation capacity:

Capacity & Unit Configurations:	30 MW (One TG Set with Two Steam Generators/Boilers)

Generation of Electricity Annually	262800 MWh

5. Details of fuel and Ash disposal

Fuel to be used:	Municipal Solid Waste (MSW)
Quantity of Fuel required per Annum:	10,95,000 MTPA
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Not Applicable
Details of mode of transportation of coal from coal source to the plant premises along with distances	MSW will be transported to the site through covered trucks/closed compactor by MCD.
Fly Ash Disposal System Proposed	Fly ash will be sent to the secured landfills site designated by MCD.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL(m)	Not Applicable. .
Quantity of a. Fly Ash to be generated. b. Bottom Ash to be generated:	a. Fly Ash- <3% (Approx.) of Feed. b. Bottom Ash- <17% (Approx.) of Feed
Fly Ash utilization (details)	Fly ash will be sent to the secured landfills site designated by MCD.
Stack Height (m) & Type of Flue	60 meters & Single flue type.

6. Water Requirement:

Source of Water:	• Process water will be met from PPCL /Treated sewage from DJB. • Drinking water will be supplied by DJB
Quantity of water requirement:	• During construction phase: 40 KLD • Domestic water: 10 KLD • During operation: 625 KLD (Industrial Purpose) • Domestic water: 5 KLD
Distance of source of water from Plant:	Approx 1 Km from PPCL

Mode of Conveyance of water	Through Pipeline
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode/Management of Brine:	Not Applicable
Cooling System	ACC (Air Cooled Condenser)

7. Land Area Breakup:

Land Requirement: a) TPP Site b) Ash Pond c) Township d) Railway Siding & Others e) Raw Water Reservoir f) Green Belt g) others Total (if expansion state additional land requirement) Status of Land Acquisition:	15.0 Acres 7.84 Acres NA NA NA NA 4.96 Acres 2.2 Acres 15.0 Acres (Note: This is Greenfield project; hence no additional land is required).
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons. Break-Up of land-use of TPP site:	Land will be given by MCD. Green Field (New) NA

a. Total land required for project. components. b. Private land c. Government land d. Forest Land	 15.0 Acres Nil 15.0 Acres Nil

8. **Presence of Environmentally Sensitive areas in the study area**

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/No**	**Details of Certificate/ letter/ Remarks**
Reserve Forest/Protected Forest Land	Yes	❖ Ghoga RF: 3.12 Km in North direction ❖ Bawana RF: 1.70 km in North direction. ❖ Sultanpur RF: 4.29 km in SW direction ❖ There is no National Park, Wildlife Sanctuary etc. in 10 km radius.
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/historical temples etc	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	No	
Additional information (if any)	NA	-

Availability of Schedule-I species in study area: It will be included in the EIA report**.**

9. Court case details:

Any litigation/ Court Case pertaining to the project	No
Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No

Additional information (if any)	NA

2.9.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Waste to Energy Thermal Power Project (30 MW) at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that another 24 MW Waste to Energy Plant by M/s Delhi MSW Solutions Ltd. is already under operation just adjacent to the boundary of proposed power plant. Further, it was observed that the proposed location of the plant is very close to the Habitation.

The EAC noted that ambient air quality parameters are above the permissible limit therefore on account of this issue PP claimed that air pollution is caused by the Municipal solid waste plant and after commissioning of the project air quality will get improved.

PP submitted that there will no burning of the hard plastic in the furnace therefore it will release less amount of dioxins and furans.

2.9.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting ***recommended*** for grant of Standard ToR for conducting EIA study for Waste to Energy Thermal Power Project (30 MW) at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

i. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of the proposed project shall be conducted.
ii. Details of characterization of Municipal solid waste, its segregation process and disposal of waste management plan shall be submitted along with EIA.
iii. A plan shall be submitted to minimize the least use of hard plastic getting burn into the incinerators.
iv. A study shall be carried out that commissioning of the project can decrease air emission level in the surrounding area as compare to current situation.
v. Proximate and ultimate analysis, Calorific value of municipal waste proposed to be brought from nearby MSW shall be carried out for design purpose of boilers. Mass balance of waste in the process shall be submitted.

vi. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for Characterization of leachate, any potential of leaching heavy metals into the surrounding areas as well as into the groundwater. TCLP analysis of heavy metals, texture, bulk density, Cation Exchange Capacity of Heavy metals in the flyash and bottom ash shall be conducted for existing nearby plant.
vii. The remedial measures for arresting dust generation on roads and atmosphere, Air pollution control measures including NOx control measure, treatment of leachate and stabilizing the slopes shall be taken up. Implementation plan along with timelines and financial allocations for Scientific and engineered closure of existing landfill shall be submitted.
viii. Detailed Geo-hydrological study shall be conducted w. r. t hydraulic gradient, porosity and infiltration around 2 km of the landfill site.
ix. Aquifer characteristics shall be clearly mapped by conducting in-situ studies.
x. Treatment and disposal of leachate shall be submitted. No water from the plant is allowed to enter into canal/ nallah/ stream.
xi. Details regarding Flue gas treatment, ash generation and its disposal/utilization method shall be submitted.
xii. Monitoring of dioxins and furans and other heavy metals shall also be carried out in the stack emissions as per the Municipal Solid Waste Rules, 2016 for one season of the existing nearby waste to energy plant.
xiii. Impact of existing integrated facility on natural environment be studied and a comparative statement clearly mentioning the impacts on existing water bodies, and other ecologically sensitive areas within 10 km radius of project be submitted.
xiv. A comparative chart shall be prepared with changes observed from previous baseline study (existing nearby Waste to Energy Plant) and present baseline study.
xv. An epidemiological study shall be carried out within 5 km range of the existing integrated facility.
xvi. Detailed action plan shall be prepared for maintenance of air pollution control equipment.
xvii. 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.
xviii. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.
xix. Details pertaining to water source, treatment and discharge should be provided.
xx. Zero Liquid Discharge plan shall be submitted.
xxi. Action plan for development of green belt (40% of total project cover area) along the periphery plantation with 90% survival rate and detailed plan for thick plantation in the surrounding Nallah/stream shall be submitted.
xxii. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
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.

xxv. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focusing on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report.

xxvi. Recommendations of the Commission for Air Quality Management in National Capital Region and Adjoining Areas shall be submitted.

[B] Disaster Management

xxvii. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.

[C] Socio-economic Study

xxxvi. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. 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 need of the labour force and local populace.

xxxvii. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter.

xxxviii. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2020 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.

xxxix. Details of settlement in 10 km area shall be submitted.

xl. 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.

[D] Miscellaneous

xxviii. PP shall submit details of court cases and its status for the project.

xxix. A letter shall be submitted certified that the JSW is the current bidder and it has valid consent.

xxx. 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.

xxxi. Aerial view video of project site shall be recorded through drone and be submitted.

The meeting ended with vote of thanks to the Chair.

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Annexure

ATTENDANCE

S. No.	Name & Address	Role	Attendance 31.10.2023	Attendance 01.11.2023
1.	Dr. Sharad Singh Negi (I.F.S. Retd.)	Chairman	P	P
2.	Shri Inder Pal Singh Matharu, IFS (Retd.)	Member	P	P
3.	Shri Lalit Kapur	Member	P	P
4.	Dr. Umesh Jagannathrao Kahalekar	Member	P	P
5.	Dr. Santosh Kumar Hampannavar	Member	P	P
6.	Shri Savalge Chandrasekhar	Member	P	P
7.	Shri K. B. Biswas	Member	P	P
8.	Prof. Shyam Shanker Singh	Member	P	P
9.	Dr. Vinod Agrawal	Member	P	P
10.	Dr Nazimuddin, Scientist - F	Representative of Central Pollution Control Board	P	P
11.	Shri Mahi Pal Singh, Chief Engineer	Representative of Central Electricity Authority (CEA)	P	P
12.	Shri Harmeet Sahaney	Representative of Indian Meteorological Department (IMD)	P	A
13.	Prof. R M Bhattacharjee	Representative of IIT/ISM Dhanbad	P	P
14.	Shri Yogendra Pal Singh	Member Secretary	P	P

APPROVAL OF THE CHAIRMAN

From: sharadnegi1957@gmail.com
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Sent: Tuesday, November 14, 2023 7:49:43 PM
Subject: Re: Draft MOM of the EAC (Thermal Power projects) for perusal and comments-reg

Thanks
The draft MoM is approved as proposed