



सत्यमेव जयते

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

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**Minutes of 46TH MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) Expert Appraisal Committee meeting River Valley and Hydroelectric Projects held from 04/09/2023 to 04/09/2023**      **Date:** 10/10/2023

**MoM ID:** EC/MOM/EAC/715928/8/2023  
**Agenda ID:** EC/AGENDA/EAC/715928/8/2023  
**Meeting Venue:** MOEF&CC, INDIRA PARYAVARAN BHAWAN  
**Meeting Mode:** Physical  
**Date & Time:**

04/09/2023	02:30 PM	05:30 PM
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**1. Opening remarks**

The 46th 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 4th September, 2023 at Narmada Hall, Jal Wing, Indira Paryavaran Bhawan (MoEF&CC) under the Chairmanship of Shri Gururaj P. Kundargi.

**2. Confirmation of the minutes of previous meeting**

The Minutes of the 45th EAC (Thermal Power) meeting held on 16th August, 2023 were confirmed in the meeting.

**3. Details of proposals considered by the committee**

**Day 1 -04/09/2023**

**3.1. Agenda Item No 1:**

**3.1.1. Details of the proposal**

<b>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</b>			
<b>Proposal For</b>		Fresh ToR	
<b>Proposal No</b>	<b>File No</b>	<b>Submission Date</b>	<b>Activity (Schedule Item)</b>
IA/DL/THE/435160/2023	J-13012/02/2023-IA.I (T)	11/08/2023	Thermal Power Plants

### 3.1.2. Project Salient Features

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 at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited.

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. 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, the Authority has proposed to develop a Waste to Energy (WtE) Project at Narela-Bawana site through Public-Private Partnership mode. The Jindal Urban Infrastructure Limited (JUIL) has come as a successful bidder through competitive bidding process for development, operation, and maintenance of Waste to Energy (WtE) processing facility at Narela-Bawana, Delhi.
- ii. The Proposed Waste to Energy Project (50 MW) is located at DSIIDC Industrial area, Sector-5, Bawana, Delhi-110039 by M/s Jindal Urban Waste Management (Bawana) Limited.
- iii. The proposed Waste to Energy project site is located at Bawana, Delhi. Geographical location of project site is covered under Survey of India Toposheet No. 53 H/1.
- iv. Alternative studied are as follows:

S. No.	Parameters	Alternate Site-1 (Bhalsawa SLF)	Alternate Site-2 (Sultanpur Dabas)	Alternate Site-3 (Bawana)
1.	Availability of adequate suitable land.	<p>The adequate land at Bhalsawa SLF location is available. However, the soil properties would not be very suitable for establishing an industry.</p> <p>Also, the site is located at high-risk prone area due to exceeding height of SLF and adjoining to National Highway. Hence, the site is not suitable for developing the WtE project.</p>	<p>Approximately 49 acres land area is available at Sultanpur Dabas. Considering the distance of fuel and water sources, and sub-station for power evacuation from the site, the site is suitable for establishing WtE plant.</p> <p>On the other side, the collection and transportation of MSW also need to be look after by MCD and the same need to be disposed at designated SLF site. Hence, MCD has proposed the site for constructing an engineering sanitary landfill site for disposing the inert and other process rejects.</p>	<p>Suitable adequate land is available to construct the project. The proposed site is in DSIIDC industrial area and similar nature of industry is located adjacent to the proposed site.</p> <p>Also, the distance of fuel, water sources, and sub-station for power evacuation are available at short distance comparatively.</p> <p>Hence, MCD has proposed this site for developing WtE plant.</p>
2.	Distance from reliable water source.	Approx. 5 KM from Coronation Pillar STP.	Narela STP is located approx. 13km (aerial distance) away. Hence, there will be technical difficulties in laying of water pipeline.	Water source will be available from PPCL which is at the distance of approx. 1 km from project site. Also, Narela STP is

				approx. 6 km away.
3.	Distance from Fuel source.	Fuel sources are approx. 10-15 km (aerial distance) away.	Fuel sources are approx. 12- 22 km (aerial distance) away.	MSW of 3 zones namely Karol Bagh, City SP and Narela Zones are to be handled, distance of which are approx. 8-13 km (aerial distance).
4.	Distance from Sub-station for power evacuation	Sub-station for power evacuation is located approx. 3 -4 km away.	TPDDL Sub-station for power evacuation is located approx. 4 -5 km away.	Power evacuation will be done through 220/66 KV Bawana Substation which is located at distance of an approx. 1-1.5 km.
5.	Environmental Considerations			
i.	Land resource.	Adequate land is available at this site. However, more land would be required due to unsuitability of the soil.	Approximately 49 acres land is available which is earmarked for an ESLF by MCD for disposing the inert and other processing rejects.	Keeping in view of suitability of soil, nearness of required resources and the land being located in DSIIDC industrial area, MCD has selected this site for constructing WtE plant.
ii.	Impact on traffic of Delhi.	Due to long distance from the project site, transportation of MSW will have more impact on the traffic of Delhi.	Less impact on traffic	Less impact on traffic
iii.	Type of land and R&R issue	Govt. Waste land and no R&R issue involved.	Govt. land with trees. No R&R issue involved.	Govt. Waste land and no R&R issue involved.
iv.	Tree felling	No Tree felling	Tree felling involved	No tree felling
v.	Distance from Ecological Sensitive Area	1. Bhalswa Lake: 1 km, E 2. Yamuna River: Approx. 7 Km, E 3. Yamuna Biodiversity Park: Approx. 5 Km, E	1. Bhalswa Lake: Approx. 13 km, E 2. Yamuna River: Approx. 18 Km, E 3. Yamuna Biodiversity Park: Approx. 17 Km, E	1. Bhalswa Lake: Approx. 12 km, E 2. Yamuna River: Approx. 13 Km, E 3. Yamuna Biodiversity Park: Approx. 15 Km, E
6.	Project cost	810 Cr.	800 Cr.	785 Cr.
7.	Conclusion	Not suitable	Not suitable	<b>Suitable</b>

Bawana site is environmentally and techno-economically suitable for establishing the proposed Waste to Energy Project due to following reasons:

- Availability of authorized land with the MCD, Delhi.
- Earmarked land for the setting up the WtE Project is under DSIIDC, Industrial Area.
- Nearness to water source: - The project will use reject blowdown water (BDW), from the Pragati Power Corporation Limited (PPCL), which is the distance of an approx 1.0 kilometers. No fresh water will be drawn up for industrial use except drinking water.

- Nearness to fuel source: - The MCD has well established infrastructure to supply the MSW from the nearest zone.
- Project site has good road connectivity due to nearness to NH-44 and SH-18.
- All the requirements such as land, water and fuel (MSW) are available for setting up the green field WtE project at the proposed site.

The proposed site is most suitable for setting up the Waste to Energy project at Bawana for management of Municipal Solid Waste of whole North West Delhi.

All WtE facilities require some degree of pre-processing of MSW leading to what is commonly known as refuse derived fuel (RDF). The various stages of MSW processing for preparation of RDF are as follows:

- MSW received at site will be unloaded into MSW storage pit under negative pressure. from where the material is lifted by overhead grab cranes and will be fed to hopper of MRF system.
- Form hopper MSW to be transferred to ballistic separator by hydraulic operated ram feeder.
- Ballistic separator has two size mesh 200 mm and 50 mm. Ballistic separators segregate the materials into four fractions based on density separation.
- Inert and heavy materials wastes will be separated as one fraction and further send to slow speed belt conveyor. Magnetic separator will be installed over slow speed belt to recover the ferrous metal.
- <50 mm materials having dust, silt and combustible materials are separated as second fraction and send to vibrating screen of 10 mm sieve. Above 10mm combustible material will be transferred to RDF belt and less than 10 mm dust and silt will be collected separately and will be send to secured landfills site designated by MCD.
- >50 mm and <200 mm material is separated as third fraction which is lighter fraction called RDF Fluff and send to RDF storage pit for further utilization as a fuel in the boiler.
- Above 200 mm material is separated as fourth fraction and will be send to shredder/cutter for further sizing.
- After shredding the material is transferred to RDF carrying conveyor and will be send to RDF storage pit.

v. The salient features of project as follows:

### 1. EAC Meeting Details:

EAC meeting/s	46 <sup>th</sup> Meeting of the re-constituted Expert Appraisal Committee (EAC)
Date of Meeting/s	04/09/2023
Date of earlier EAC meetings	Not Applicable

### 2. Project details:

Name of the Proposal	Proposed Waste to Energy Project 50 MW located at DSIIDC Industrial Area, Sector-5, Bawana, Delhi-110039 by M/s Jindal Urban Waste Management (Bawana) Limited - <b>Terms of Reference (ToR)</b> - Reg.
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.	<b>Consultant Name:</b> Mantec Consultants Pvt. Ltd. <b>Certificate No.:</b> NABET/EIA/2023/RA 0205 valid upto 20-04-2023. The validity of accreditation has been extended up to 16-10-2023 by NABET vide letter no. QCI/NABET/ENC/ACO/23/2799 dated 17-07-2023.
Inter- state issue involved	No
Seismic zone	Zone-IV (As per 1893:2002)

### 3. Category details:

Category of the project	Category - A
Capacity	50 MW (3600 TPD of MSW)
Attracts the General Conditions (Yes/No)	Yes
Additional information (if any)	NA

### 4. 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	a. TPP Site- 220-222 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):	Estimated Cost of the Project Rs 785 Crore.
Cost of the proposed activity in the amendment:	
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	<p>Employment potential:</p> <ul style="list-style-type: none"> <li>• <b><u>During the construction phase</u></b></li> </ul> <p>Employment (Contract): 590 Nos On Roll: 60 Nos <b>Total (On Roll + Contract): 650 Nos.</b></p> <ul style="list-style-type: none"> <li>• <b><u>During the operational phase</u></b></li> </ul> <p>Contract: 156 Nos On Roll: 98 Nos <b>Total (On Roll + Contract): 254 Nos.</b></p>
Benefits of the project (specify quantitative information)	<ul style="list-style-type: none"> <li>• Handling of 3600 TPD of MSW through an environmentally and scientific approach.</li> <li>• Generation of 50 MW of Green Energy from MSW</li> <li>• Avoidance of sanitary landfill site due to utilization of MSW, thus saving land resource.</li> </ul>

#### 5. Electricity generation capacity:

Capacity & Unit Configurations:	50 MW (2X25MW)
Generation of Electricity Annually	438000 MW

#### 6. Details of fuel and Ash disposal

Fuel to be used:	Municipal Solid Waste (MSW)
Quantity of Fuel required per Annum:	13,14,000 MT
Coal Linkage / Coal Block:	Not Applicable
(If Block allotted, status of EC & FC of the Block)	
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:	<p>a. Fly Ash - &lt;3% (Approx.) of the MSW.</p> <p>b. Bottom Ash - &lt;17% (Approx.) of the MSW.</p>
Fly Ash utilization (details)	Fly ash will be sent to the secured landfills site designated by MCD.

Stack Height (m) &amp; Type of Flue

60 meters &amp; Single flue type.

**7. Water Requirement:**

Source of Water:	<ul style="list-style-type: none"> <li>Process water will be met from PPCL /Treated sewage from DJB.</li> <li>Drinking water will be supplied by DJB</li> </ul>
Quantity of water requirement:	<ul style="list-style-type: none"> <li>During construction phase: 40 KLD</li> <li>Domestic water: 10 KLD</li> <li>During operation:700 KLD (Industrial Purpose)</li> <li>Domestic water: 5 KLD</li> </ul>
Distance of source of water from Plant:	Approx 1 Km from PPCL
Whether barrage/ weir/ intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Through underground pipeline
Status of water linkage:	To be process
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	ACC (Air Cooled Condenser)

**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	<ul style="list-style-type: none"> <li>Ghoga RF: 3.12 Km in North direction</li> <li>Bawana RF: 1.70 km in North direction.</li> <li>Sultanpur RF: 4.29 km in SW direction.0</li> <li>There is no National Park, Wildlife Sanctuary etc. in 10 km radius.</li> </ul>
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)	--	-

**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	No

the project:	
Additional information (if any)	NA

### 3.1.3. Deliberations by the EAC in previous meetings

N/A
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### 3.1.4. Deliberations by the EAC in current meetings

<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><i>The Proposal was <b>deferred</b> on above lines.</i></p>
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### 3.1.5. Recommendation of EAC

Deferred for ADS
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## 3.2. Agenda Item No 2:

### 3.2.1. Details of the proposal

<b>NLC TAMILNADU POWER LIMITED</b> by <b>NLC TAMILNADU POWER LIMITED</b> located at <b>TUTICORIN, TAMIL NADU</b>			
<b>Proposal For</b>		Amendment in EC	
<b>Proposal No</b>	<b>File No</b>	<b>Submission Date</b>	<b>Activity (Schedule Item)</b>
IA/TN/THE/431783/2023	J-13012/68/2006-IA-II(T)	10/06/2023	Thermal Power Plants (1(d))

### 3.2.2. Project Salient Features

The proposal is for amendment in Environmental Clearance for 2x500 MW Tuticorin Thermal Power
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Project in an area of 135 ha at District Thoothukkudi, Tamil Nadu of M/s NLC Tamilnadu Power Limited.

The proposal was earlier considered by the EAC in its 43<sup>rd</sup> meeting held on 19.06.2023, wherein the EAC sought additional information i.e. PP shall prepare a chart after compiling all the issues raised and commitments made by the PP during the public hearing along with implementation status, expenditure (including recurring cost) and additional activities carried out by the PP. All the details desired by the EAC shall be examined and certified by the IRO, MoEF&CC.

The Project Proponent submitted additional information sought by the EAC on 21.08.2023 along with certified compliance report of IRO, MoEF&CC. The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

- i. The Ministry of Environment, Forest and Climate Change (MoEF&CC) erstwhile MoEF accorded Environment Clearance (EC) for 2X500MW Tuticorin Thermal Power Project, District Tuticorin, Tamilnadu, NLC Tamilnadu Power Limited vide letter no. J-13012/68/2006-IA.II(T) dated 13.06.2007 and susquent extension vide letter dated 11.01.2013.
- ii. The MoEF&CC stipulated the Capital & Recurring Annual Expenditure towards CSR activities as 0.4% of the capital cost of the project and 0.08% of the capital cost of the project respectively. Accordingly, the EC extension letter dated 11.01.2013 included additional condition no. (xxxiv) towards CSR activities as follows:

*“An amount of Rs. 19.63 Crores shall be earmarked as one-time capital cost for CSR programme. Subsequently a recurring expenditure of Rs. 3.93 Crores per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted to the Regional Office of the Ministry along with road map for implementation”.*

**Request:**

- iii. The project proponent submitted the proposal on 10/06/2023 requesting for deleting the condition no. (xxxiv) of EC extension letter dated 11.01.2013.

**Justification:**

- iv. Comprehensive guidelines on CER was later issued by MoEF&CC vide OM dated 01.05.2018 which supersedes the above stipulations made in respect of CSR in subsequent ECs including that of NTPL.
- v. CSR expenditure is subject to Governmental and Ministerial guidelines. NTPL follows CSR provisions of Companies Act 2013 for taking up CSR activities and it is taken up as per the request received from the District Authorities so that the local necessities are met. NTPL is committed to inclusive growth and sustainable development with special focus on the neighbourhood communities.
- vi. The IRO, MoEF&CC public hearing compliance verification visit was carried out on 04/08/2023. The Certified Copy of the Compliance to the issues raised during Public Hearing (held on 07/12/2005) along with implementation status, expenditure (including recurring cost) and additional activities carried out by 2X500MW Tuticorin Thermal Power Project, District Tuticorin, Tamilnadu, NLC Tamilnadu Power Limited (NTPL) has been submitted.
- vii. Details of Capital Expenditure towards Issues raised in Public Hearing held on 07.12.2005 are as follows:

S. No.	Issues raised during Public Hearing	Compliance	Capital Expenditure (Rs. in Cr.)	Avg. Recurring Expenditure per year (Rs. in Cr.)
01	Desalination plant should be provided as proposed to meet out the entire water requirement of the new project.	Complied	162.89	2.14
02	The unit should provide adequate Air pollution control measures so as to satisfy the AAQ and emission standards prescribed.	Complied	3.43	0.36
03	The unit should provide adequate ETP to treat the trade effluent generated from various sources.	Complied	0.69	0.022
04	The unit should ensure that the entire quantity of treated trade effluent is used for gardening / green belt development.	Complied		0.1088
05	All the construction activities proposed by the unit should comply with the regulations contained in the CRZ Notification, 1991.	Complied		
06	The entire quantity of fly ash generated should be sold out to cement industries and other user industries and sufficient/adequate storage silos should be provided for ensuring this.	Complied	17.05	1.2
07	The bottom ash generated should not be mixed with sea water and it should be mixed only with the treated trade effluent and the unit should explore the possibility of selling this bottom ash also to other user industries.	Complied	3.26	1.17
08	Periodic monitoring of sea water quality in the vicinity should be carried out to assess the presence of heavy metals, if any, in the sea water.	Complied		0.027
09	The unit should comply with the provisions of all the existing environmental laws as applicable to the unit.	Complied		
10	Employment opportunities should be given to local fishermen in the new project.	Complied		
11	The grievances of the fishermen and local people as presented above should be kept in mind by the project authorities while implementing the project.	Complied		
12	Fly Ash Bricks should be used in the Construction of this project.	Complied		
TOTAL (Rs. in Cr.)			187.32	5.02

viii. M/s NLC Tamilnadu Power Limited has achieved commercial operation of 2X500 MW units in

2015.

ix. M/s NLC Tamilnadu Power Limited identified & carried out various CSR projects/ activities in association with the Office of the District Collector in the following thrust areas as mentioned below :

- Infrastructural development projects like construction of roads
- Welfare projects like desilting of lakes
- Marine life conservation projects in the Gulf of Mannar Marine Biosphere area,
- Drinking water, sanitation, health/medical facilities
- Education & skill development etc.
- Art, Culture and Sports
- Environmental Protection and Community Development

x. Expenditure incurred/earmarked towards CSR activities for NTPL (2x500) MW amounts to a total value of Rs. 39.73 Crores till FY 2023-24.

xi. Details of CSR Expenditure by the project proponent are as follows:

S. No.	Financial Year	To be spent as per Companies Act	Spent/ Sanctioned (Rs. in Lakhs)	Remarks
01	2013-14	0.00	20.76	For Environmental Sustainability (Green belt and plantation from Roundana –TTPS – VOC Port)
02	2014-15	0.00	25.00	Contribution to KMTCF tiger reserve for protection of flora and fauna.
03	2015-16	0.00	24.30	Providing Benches & Desks to Govt. Schools of Thoothukudi for Promoting Education.
04	2016-17	0.00	46.93	
05	2017-18	0.00	143.76	Construction of compound wall in Govt. schools & ITI and plantation near township and VOC Port
06	2018-19	55.88	177.75	Undertaken various schemes under Environmental Sustainability, providing safe drinking water and cyclone relief/Disaster management
07	2019-20	519.60	519.60	Undertaken various schemes under Promoting Education, Environmental Sustainability and Promoting Health care.
08	2020-21	580.70	580.70*	Undertaken various schemes under Environmental Sustainability, Training to promote rural sports and Rural development projects.
09	2021-22	808.65	808.65*	Undertaken various schemes under Environmental Sustainability, providing safe drinking water and cyclone relief/Disaster management
10	2022-23	744.41	744.41*	Undertaken various schemes under Promoting health care, Promoting Education and Women empowerment
11	2023-24	882.09	882.09*	Undertaken various schemes under Promoting health care, Environmental Sustainability, Promoting Education and Community Development

Amount spent and earmarked for CSR expenditure (Rs in Lakhs)	3973.95
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\*Including unspent amount deposited into separate account

### 3.2.3. Deliberations by the EAC in previous meetings

**Date of EAC 1 :**19/06/2023

**Deliberations of EAC 1 :**

**The EAC during deliberations noted the following:**

The proposal is for amendment in Environmental Clearance granted by the Ministry vide letter dated 13.06.2007 for 2x500 MW Tuticorin Thermal Power Project in an area of 135 ha at District Thoothukkudi, Tamil Nadu in favour of M/s Neyveli Lignite Corporation Limited.

Earlier, the Ministry of Environment, Forests and Climate Change (MoEF&CC) erstwhile MoEF accorded Environment Clearance (EC) for 2X500MW Tuticorin Thermal Power Project, District Tuticorin, Tamilnadu, NLC Tamilnadu Power Limited vide letter no. J-13012/68/2006/IA.II(T) dated 13.06.2007 and subsequent extension vide letter dated 11.01.2013.

The EAC opined that PP shall prepare a chart after compiling all the issues raised and commitments made by the PP during the public hearing along with implementation status, expenditure (including recurring cost) and additional activities carried out by the PP. All the details desired by the EAC shall be examined and certified by the IRO, MoEF&CC.

The proposal was *deferred* on the above lines.

### 3.2.4. Deliberations by the EAC in current meetings

The proposal is for amendment in Environmental Clearance for 2x500 MW Tuticorin Thermal Power Project in an area of 135 ha at District Thoothukkudi, Tamil Nadu in favour of M/s Neyveli Lignite Corporation 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.

Earlier, the Ministry of Environment, Forests and Climate Change (MoEF&CC) erstwhile MoEF accorded Environment Clearance (EC) for 2X500MW Tuticorin Thermal Power Project, District Tuticorin, Tamilnadu, NLC Tamilnadu Power Limited vide letter no. J-13012/68/2006/IA.II(T) dated 13.06.2007 and subsequent extension vide letter dated 11.01.2013.

### 3.2.5. Recommendation of EAC

Recommended

### 3.2.6. Details of Environment Conditions

#### 3.2.6.1. Specific

Additional Condition



1.	<p>i. All the other conditions mentioned in the EC dated 13.06.2007 and its subsequent extension letter vide letter dated 11.01.2013 shall remain unchanged.</p> <p>ii. Activities shall be identified for the upliftment of local fisherman and its implementation status shall be submitted in six monthly compliance report.</p>
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### 3.3. Agenda Item No 3:

#### 3.3.1. Details of the proposal

<b>EC &amp; 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 &amp; Puzhuvakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu. by TANGEDCO located at THIRUVALLUR, TAMIL NADU</b>			
<b>Proposal For</b>		Amendment in EC	
<b>Proposal No</b>	<b>File No</b>	<b>Submission Date</b>	<b>Activity (Schedule Item)</b>
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

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

Earlier, the proposal no. IA/TN/THE/237995/2021 was considered by the EAC for obtaining amendment in Environmental Clearance to North Chennai TPP Stage – III (1x800 MW) in an area of 76.9 ha (190 acre) located at Village Ennore & Puzhuvakkam, Tehsil Ponneri, District Thiruvallur, Tamil Nadu by M/s TANGEDCO.

Accordingly, the proposal was considered by the EAC in its 17<sup>th</sup> meeting held on 30<sup>th</sup> November, 2021, wherein the EAC overserved as follows:

- As per finding of Committee report which was constituted by Hon'ble NGT (SZ) mentioned that PP has constructed ash slurry pipeline for North Chennai Thermal Power Station Stage III without taking amendment in EC & CRZ clearance. Therefore, Hon'ble NGT has directed to take necessary amendment for construction of ash slurry pipeline for NCTPS Stage III. The EAC also noted the representation received about the project.
- The EAC noted that ash slurry pipeline of North Chennai Thermal Power Station (NCTPS) Stage I & Stage II are older than 25 years which are not managed properly and ash slurry is leaking into water stream. During the meeting, the EAC noted that PP has given commitment that repairing of ash slurry pipeline will be completed by February, 2022.
- The EAC noted the submission made by the PP during discussion that there is a requirement of ash slurry pipeline, but it will be used rarely, as PP has to maintain 100% ash utilization throughout the year and dumping of ash in ash dyke will be used in case of emergency. Further, EAC noted that FGD for Stage I & Stage II are not installed for controlling of SO<sub>x</sub> in the plant.

The EAC after detailed deliberation the project was deferred seeking additional information, therefore PP submitted the fresh proposal for obtaining amendment in Environmental Clearance dated 20<sup>th</sup> January,

2016.

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 & Puzhuvakkam, 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. In order to offset the power demand of Tamil Nadu TANGEDCO has proposed to set up a coal based 1 x 800 MW super critical thermal power plant, Stage III within the NCTPS complex using the existing infrastructure facilities viz., Cooling water channel and coal handling system.
- iv. An application [No.122 of 2021 dt.7.6.21] has been filed by one Thiru. R. Ravimaran, Ennore, before the Hon'ble NGT (SZ) at Chennai against the NCTPP-III for the construction of ash slurry pipe lines.
- v. Further, a suo moto case (No.162/2021) has been registered by the Tribunal against NCTPS Stage-I, Stage-II, NCTPP Stage-III, and Ennore SEZ TPP project based on the news item published in the Newspaper, Times of India, Chennai Edition dt.1.7.21. The Hon'ble NGT(SZ) has also constituted a Committee and instructed the Committee to look into the issues and submit a report. Accordingly, the NGT Committee submitted their report which states under the heading "Findings of the Committee"  
  
*"It is inferred that the NCTPS Stage-III has not obtained CRZ clearance for laying of ash slurry pipeline or for laying new ash pipeline corridor in the CRZ area."*  
  
*Also, under heading "Recommendation of the Committee," in par.8, it has been mentioned as "The TANGEDCO shall resume the activities pertaining to NCTPS Stage-III and Ennore SEZ power plants within CRZ area in Kosasthalaiyar River/Buckingham Canal/Backwaters only after obtaining amendment to the existing CRZ clearance from MoEF&CC".*
- vi. As part of the Stage III plant for the transfer of ash slurry from the plant (during its operation) to the existing ash dyke pond of NCTPS and carry the recovery water from the dyke to the plant, ash slurry pipelines and recovery water pipeline system were being laid which was though part of the earlier proposal's approved EC, was not highlighted particularly.
- vii. Considering the technical feasibility and integrity of the existing structure, the pipeline alignment is designed in such a way that the system will be developed and installed majorly parallel to the existing pipelines of Stage I and Stage II plants rather than above them in deck structures, as per details submitted to MoEF&CC in 2015.
- viii. At present about 65 % of the construction activities have been completed. During the construction/installation of the ash pipelines, applications (Original Application No.122 of 2021 (SZ) With Original Application No.162 of 2021 (SZ)) were filed in Hon'ble NGT (SZ) against the same for stopping the laying of pipelines. In this regard, as per the recommendations of the

committee constituted by NGT (SZ), TANGEDCO has submitted a proposal No. IA/TN/THE/237995/2021 dated 15 November, 2021 seeking amendment in the EC and CRZ clearance of the project for inclusion of laying the ash slurry pipelines and recovery water pipeline.

- ix. The ash handling unit of the under construction NCTPP Stage III plant is designed with dry form of ash collection and the collected ash will be stored in silos. The total of ~3,608 TPD of dry ash (in worst case scenario of utilizing 100% Indian coal) will be supplied to cement / brick industries for manufacturing cement and bricks in the worst-case scenario of utilizing 100% Indian coal. An MOU has been executed with M/s. Dalmia Cements Ltd, Dalmiapuram in this regard, other vendors will also be identified via e-auction in line to existing practice of NCTPS. Additionally, the ash disposal system also has the provision to handle wet ash which will be disposed in the form of slurry to the existing ash dyke pond adjacent to NCTPS Ennore SEZ STPP. The water that will be recovered from Ash dyke will be collected, pumped, and reused for slurry making in the Stage III Plant through recovery water line.

**46.5.4** Point wise reply on additional details sought by the EAC in its 17<sup>th</sup> meeting held on 30<sup>th</sup> November, 2021 are as follows:

**Query 1: Recommendations of the SCZMA and CRZ division in the Ministry.**

**Reply:** PP has obtained recommendations from the Tamil Nadu State Coastal Zone Management Authority (TNSCZMA) vide letter No 6269/EC.3/2023 dated 18.08.2023.

**Query 2: Impact Assessment plan and mitigation measures shall be prepared for all along the route for laying ash pipeline shall be submitted.**

**Reply:**

- A detailed Impact Assessment study was conducted by NABET accredited EIA Consultants M/s Cholamandalam MS Risk Services Ltd.
- Baseline monitoring was conducted during September- October 2022 and January – March 2023.

**Predicted impacts**

- No direct ground or surface water abstraction.
- Water demand during construction phase: 865KLD, (will be met from existing sources – CMWSSB).
- Water demand during operation phase: 2 KLD met by main plant's desalination plant
- Spillage of construction material
- Spillage of ash slurry due to unprecedented event

**Environmental Management Plan**

- The construction activities shall be restricted during turtle nesting seasons (Dec to Feb) as any spill in the Buckingham Canal or Kosasthalaiyar River will enter the sea via Ennore estuary.
- Site machinery and equipment fitted with spill collection trays
- Pressure monitoring system and emergency shut-off valve shall be installed to monitor & control the Pipelines for any leaks or damages.
- Pipe mechanical integrity tests, periodical manual inspection, and CCTV camera installation at a primary location where pipelines cross the creek and sensitive areas.
- Environmental emergency clean-up fund Rs. 1 Cr
- Corridor designed with deck structure in water crossing to prevent any direct spill/leak.

**Hydrodynamic Modelling:** 38 piles in the Kosasthalaiyar river and banks, ~16 piles in water course.



- Current speed in the river/creek - 0 m/s to 0.02 m/s.
- The current speed in the existing structure footprint - 0.14m/s.
- Incremental change in current speed post development - 0.16 m/s
- Post-project localized current speed @ structure footprint - 0.3 m/s.
- Insignificant change in Hydrodynamics.

### Pipeline System Water Body Crossing

- 38 piles in the Kosasthalaiyar river and banks, ~16 piles in water course – Insignificant change in Hydrodynamics.
- 18 piles will be installed in the Buckingham canal’s banks, - No piles in water course & No change in hydrodynamics
- 18 piles will be installed in the Boat canal (no flow exists) and banks

S. No	Description	CRZ Classification	Length (m)	Area (Sq.m)*	Percentage of Construction Completed	Total length (m)	Total Footprint Area (Sq.m)*
1	Ash Slurry Disposal and Recovery Water Pipeline	CRZ I A (50m Buffer from Mangroves)	271.1	34	65%	6813.25	2550
		CRZ I B	141.15	78			
		CRZ II	902.45	1250			
		CRZ IV B	59.01	65			
		Outside CRZ	5439.54	1123			

\* Values provided by NCTPP Stage III Site team based on the design specification calculations

Clause 4. (ii). (d) and 8.I.(i).(b). which states that “The following activities shall require clearance from MoEF&CC, namely - laying of Pipelines, conveying systems, transmission line” and “No new construction shall be permitted in CRZ-I except - Pipelines, conveying systems including transmission lines” respectively

**Query 3: Impact Assessment report on Mangrove forests and plan to conserve Mangrove forest shall be submitted.**

**Reply:** A detailed EIA Study Inclusive of Impact Assessment report on Mangroves and Mangrove Conservation/Management Plan has been prepared and presented in the EIA Report. The budget for the mangrove conservation and afforestation programs shall be allocated from the 2 Cr. Compensatory Conservation Plan (CCP) budget.

### Predicted impacts

- Settlement of dust particles from construction on mangrove leaves
- Impact on species within mangrove habitant area
- Spill of construction materials
- No loss of mangroves in the footprint area, footprint in mangrove buffer area (50m mangrove buffer) is 34 Sq.m

### Baseline scenario

- Mangroves of 225.8 Ha. is present within the 10 Km Study Area.
- *Avicennia marina* was the recorded species
- No pipelines will be laid in the mangrove core area
- Pipelines will be laid only in mangrove buffer area with max footprint of 34 Sq.m



### Environmental Management Plan

- Periodical Mangrove Health Survey
- Creation of GIS based Baseline Mangrove area mapping for change assessment
- Awareness programs for site workers to prevent interaction with mangroves
- Dedicated Mangrove Management Plan
- Mangrove Afforestation - 34 x 5 = 170 Sq.m with Forest Dept
- The budget for the mangrove conservation and afforestation programs shall be allocated from the 2 Cr. Compensatory Conservation Plan (CCP) budget.

**Query 4: Complete plan and time lime to install FGD's for all of Stages of NCTPS shall be submitted.**

**Reply: Complete plan with timeline to install FGD's for all of Stages of NCTPS are as under:**

NCTPS Stage I – FGD Plan		
Tender Opening	Process Period after Tender Opening	Conduct Period
02.03.2023	180 days	820 Days
NCTPS Stage II – FGD Plan		
Tender Opening	Process Period after Tender Opening	Conduct Period
14.06.2023	180 days	820 Days
NCTPS Stage III – FGD Plan		
Tender Awarded to	Date of Handing Over Site	Conduct Period
BHEL	22.01.2021	45 Months

**Query 5: Ash generation and its utilization status in last 5 years of Stage-I and Stage-II along with its utilization plan for next five years shall be submitted.**

**Reply:**

**Details of Fly Ash generation and utilization status in the last 5 years of NCTPS-I.**

Year	Total Coal Consumption (in MT)	Total Ash Generated (in MT)	Total Ash Utilized (Fly + Wet) (in MT)	Balance Ash to Dyke (in MT)
2017-2018	3049155	1141177	453333	687844
2018-2019	2791371	1016863	672756	344107
2019-2020	2462649	822999	1000337	-177338
2020-2021	2332509	908512	2332848	-1424336
2021-2022	2493105	1018752	1450658	-431906

Note: Utilization plan for next 5 years:

Further 12 Nos Cement Companies have been allotted for lifting of 500000MT per annum for next three years and extended upto 5 Years.

**Details of Fly Ash generation and utilization status in the last 5 years of NCTPS-II.**

Year	Total Coal Consumption (in MT)	Total Ash Generated (in MT)	Total Ash Utilized (Fly + Wet) (in MT)	Balance Ash to Dyke
2017-2018	4425830	1590697	638222	952475
2018-2019	5008822	1788038	1138962	649076
2019-2020	4094839	1404983	1385385	19598
2020-2021	2945551	1083884	1775993	-692109
2021-2022	3684063	1488890	1559328	-70438

Note: Utilization plan for next 5 years:

Further 16 Nos Cement Companies have been allotted for lifting of 1600000MT per annum for next three years and extended upto 5 Years.

**Query 6: Implementation status of findings of NGT order shall be submitted.**

**Reply: Implementation status of finding of the NGT order are as follows:**

S.No	NGT Conditions	Compliance to NGT conditions	Implementation status/ action plan
1	To pay an amount of Rs. 50,00,000/- towards Environmental compensation to TNPCB	Complied	Amount paid to TNPCB account thro' online vide UTR No.IOBAN22087324859 dt 28.03.2022
2	To pay an amount of Rs.25,000/- to the petitioner ((late) Mr. Ravimaran)	Complied	Amount paid to the legal heir of the petitioner thro' online vide UTR No. 217115755980 dt. 20.06.2022
3	To obtain amendment to the existing EC & CRZ clearances from the MoEF & CC.	Current Submission & appraisal	CZMA recommendations obtained on 18.08.2023. Proposal submitted to MoEF& CC on 29.08.2023.

**Query 7: Certified compliance report from Ministry's Regional office of previous ECs of Stage –I and Stage -II.**

**Reply:** PP did not submitted the Certified compliance report from Ministry's Regional office of previous ECs of Stage –I and Stage –II.

**Query 8: Disaster management plan especially in terms of leakage of ash slurry pipelined.**

**Reply:**

- A detailed EIA Study Inclusive of Impact Assessment Plan, Disaster Management and Emergency Response Plan for the Ash Slurry Pipeline Route has been prepared and presented in the EIA Report.
- An Emergency Response Plan Budget / Environmental Emergency Clean-Up Fund of about INR. 1 Cr shall be earmarked and be utilized only for the dedicated purpose. The budget shall be governed by the Director/Chairman/Chief Engineer (Site Main Controller) associated by Control In Charge or Site Incident Controller for effective utilization of the funds.

**Disaster Management & Emergency Response Plan**

1. Spill identification via visual inspection or surveillance video/site surveillance or pressure drop warning – Pumping operations stopped via manual/automatic.
2. A communication system shall be established between site people and control room and vice versa to ensure that the entire team is well aware of any spill occurrence.
3. Emergency shutoff valve closed via manual/remote
4. Response time of team < 1 Hr.
5. The spill containment/ removal units in site.
6. Kit Assessment - Quarterly and during the mock drill events.
7. Spill area earmarked isolated in case of spill.
8. Manual recovery and stored in portable steel bins, trolleys, trucks for onwards transport to ash dyke.
9. PPEs for spill collection and response team.
10. The pipeline water body crossings on concrete decks to prevent direct spill. crossing shall include drain facilities for spill collection and cleaning.
11. At any point of time 30 to 50 site people shall be made available at site for emergency response, spill containment and recovery operations.
12. The slurry settled over the bed of the water body will be removed by machinery and manual method.
13. Additionally, to prevent failure of pipelines, Pipeline Integrity Test shall be conducted once every year to check the condition of the pipelines and in case of failure identification the section shall be replaced.
14. The pipelines are designed for an average life span of 30 years; however, to prevent any mishaps, the pipeline sections crossing the water bodies shall be replaced every 25 or less if required based on the annual pipeline integrity tests.

**Query 9: Necessary local permission for laying as slurry pipeline need to be obtained and shall be submitted.**

**Reply:** Details about the land ownership is submitted as under:

Land Ownership	Land Area (Acres)
TNEB (TANGEDCO) land	24.80
Kamarajar Port Limited (KPL) Land - Ennore Port	7.12
Area of land in Water Bodies	0.269
Total Land Required for Pipelines	32.189

**Query 10: Quality of waste water dumping into the water and impact on pisciculture in river stream need to assess and its mitigation measure shall be submitted**

**Reply:** The outfall water quality and analysis at confluence point is being undertaken on periodical basis. The outfall quality is maintained in line to the discharge standards

### 3.3.3. Deliberations by the EAC in previous meetings

N/A

### 3.3.4. Deliberations by the EAC in current meetings

The proposal is for grant of Amendment in Environmental Clearance to 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhuvivakkam, 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 & Puzhudevakkam, 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.

### 3.3.5. Recommendation of EAC

Deferred for ADS

### 3.4. Agenda Item No 4:

#### 3.4.1. Details of the proposal

**Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha state by M/s. Odisha Power Generation Corporation Ltd. by ODISHA POWER GENERATION CORPORATION LIMITED located at JHARSUGUDA, ODISHA**

<b>Proposal For</b>		Fresh ToR	
<b>Proposal No</b>	<b>File No</b>	<b>Submission Date</b>	<b>Activity (Schedule Item)</b>
IA/OR/THE/440643/2023	J-13011/59/2008-IA.II (T)	28/08/2023	Thermal Power Plants (1(d))

#### 3.4.2. Project Salient Features



The proposal is for grant of Terms of Reference to Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation Ltd.

The Project Proponent and the accredited Consultant M/s. Vimta Labs Limited made a detailed presentation on the salient features of the project and informed that:

- i. M/s Odisha Power Generation Corporation Limited (OPGC) proposes to set up Stage III (2 x 660 MW) Thermal Power Plant adjacent to its existing Stage I (2 x 210 MW) and Stage II (2 x 660 MW) Power Plants at IB Thermal Power Station, Banharpali village, Lakhanpur Taluk, Jharsuguda district in the North-west of Odisha.
- ii. The Ministry had issued EC for Stage -I vide letter no. 14/13/83-EM-2, dated 27.09.1984, Stage-II vide letter no. J-13011/59/2008-IA. II (T), dated 04.02.2010 and EC for Township obtained from SEIAA, Odisha vide letter no. 243/SEIAA, dated: 21.01.2014. to the existing project IB Thermal Power station in favour of M/s. Odisha Power Generation Corporation Limited.
- iii. Two (2) units of 210 MW capacity each came up in the first phase and commissioned in 1994 & 1996 respectively and in the second phase another two units of 660 MW capacity each were commissioned in 2019.
- iv. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. The Nearest Wildlife sanctuary is Debrigarh WL sanctuary which is located at 18.5 Km south and separated by Hirakud Reservoir water. Hirakud Reservoir is adjacent to the project site and major River IB River which is flowing at a distance of 5.7 Km in SW direction.
- v. Total water requirement is 2,16,000 KLD including existing water requirement of 1,24,000 KLD of which fresh water requirement be met from Hirakud Reservoir. Permission obtained from Water Resource Department, Govt, of Odisha for 52.98 cusecs (129619 KLD) for Stage-I & II. Application was filed for 38.84 cusecs (95024 KLD) water allocation.
- vi. Effluent of 15650 KLD including existing 9800 KLD quantity will be treated through Effluent Treatment plant of capacity existing 9600 KLD and proposed 9600 KLD. The plant will be based on Zero Liquid discharge system. Sewage water will be treated by using existing STP- 1000 KLD.
- vii. Power requirement after expansion will be 185.25 MW including existing 111.05 MW and will be met in house. DG sets of capacity 3x 1750 KVA are proposed as standby during power failure. Stack (height 30 m) will be provided as per CPCB norms to the proposed DG sets.
- viii. 2 units of 660 MW Turbine generator sets of coal fired boiler operated with supercritical steam parameters. Electro Static Precipitators with a stack of height of 150 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm<sup>3</sup>.
- ix. The total solid waste generation of the expansion will be 32,50,000 TPA. Which will be utilized as per the Fly notification Dec, 2021 and amended thereof and disposal of balance un utilized ash in Ash pond.
- x. The hazardous waste will be generated from different operation process for expansion is 415 TPA it will be disposed/sent to Common Hazardous Waste Treatment Storage Disposal Facility/Authorized Recyclers.
- xi. OPGC IB Thermal Power Plant was inspected on 26.07.2023 by IRO, MoEF&CC, Bhubaneshwar and Certified compliance report issued vide File no: 101-361/23/EPE, dated: 23.08.2023.

xii. The salient features of the project are as under:-

### 1. Project Details:

<b>Name of the Proposal</b>	Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha state by M/s. Odisha Power Generation Corporation Ltd. (OPGCL)
<b>Proposal No.</b>	IA/OR/THE/440643/2023
<b>Location</b>	Banaharpalli Village, Jharsuguda, Odisha
<b>Company's Name</b>	Odisha Power Generation Corporation Ltd. (OPGCL)
<b>Accredited Consultant and certificate no.</b>	M/s. Vimta Labs Limited, Hyderabad Certificate No. NABET/EIA/2326/RA 0301 Valid upto: May 26, 2026
<b>Inter- state issue involved</b>	Not Applicable
<b>Seismic zone</b>	The project area falls under seismic zone-III as per IS: 1893 (Part-1): 2002.

### 2. Category Details

<b>Category of the project</b>	A
<b>Capacity</b>	1320 MW (2 X 660 MW)
<b>Attracts the General Conditions (Yes/No)</b>	No
<b>Additional information (if any)</b>	Not Applicable

### 3. Project Details

<b>If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.</b>	<p>Stage-I (Unit#1 &amp; 2): Environment Clearance No. 14/13/83-EM-2, dated 27.09.1984</p> <p>Stage-II (Unit#3 &amp; 4): Environment Clearance No. J-13011/59/2008-IA.II(T), dated 04-02-2010</p> <p>Amendment and Extension of EC validity No. J-13011/59/2008-IA.II(T), dated 22-01-2014.</p> <p>Extension of EC validity No. J-13011/59/2008-IA.II(T), dated 16-01-2015.</p>
<b>Amendments granted, if Yes details</b>	<p>Yes J-13011/59/2008-IA.II(T); dated: 22-01-2014</p> <p>a. Condition No. (xii) of Para No.4 shall be read as "Closed cycle cooling system with induced draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms" <b>instead of</b> "Closed cycle cooling system with natural draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms."</p>

b. Condition no. (xviii) of Para No.4 shall be read as “Storage facilities for auxiliary liquid fuel such as LDO and /HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil” ***instead of*** “Storage facilities for auxiliary liquid fuel such as LDO and /HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil”

Further, under Para no.4 of this Ministry’s letter of even no. dated 04.02.2010, after the condition no. (xl), the following conditions are added:

(xli) A long-term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter, mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.

(xlii) Continuous monitoring for heavy metals in and around the existing ash pond area shall be immediately carried out by reputed institutes like IIT Kanpur.

(xliii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.

(xliv) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.

(xlv) No ground water shall be extracted for use in operation of the power plant even in lean season.

(xlvi) Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.

(xlvii) 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.

(xlviii) Fly ash shall not be used for agricultural

purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.

(xlix) Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary.

(1) A common **Green Endowment Fund** shall be created and the interest earned out of it shall be used for the development and management of green cover of the area.

(li) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.

(lii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensured that the head of the cell shall directly report to the Head of the Organization.

(liii) The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.

4. All other conditions mentioned in this Ministry's letter or even No. dated 04-02-2010 shall remain the same.

5. Regarding the extension of validity of environmental clearance, since the validity will only expire in Feb, 2015, you may request this Ministry along with updated Form- I only before 6 months from expiry of the validity of EC, if required.

**Extension of EC validity granted, if Yes details**

Yes (J-13011/59/2008-IA.II(T); Dated: 16-01-2015

2. The matter was placed before the EAC (Thermal Power) in its 26<sup>th</sup> Meeting held during 27<sup>th</sup> & 28<sup>th</sup>



	November, 2014. In acceptance of the recommendations of the EAC and in view of the information/clarification furnished by you with respect to the implementation of the above mentioned power plant, the validity of the EC and its amendment is extended for a period of five years i.e. <b>till 03.02.2020</b> to start the production operations by the power plant.	
<b>Expansion / Green Field (new): (IPP / Merchant / Captive):</b>	Expansion	
<b>If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&amp;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.</b>	<p>Stage-I (Unit#1 &amp; 2): Submission of Half yearly Environmental Status Report of OPGCL (2X210 MW), for the period October 2022 – March 2023 vide OPGC Letter No. ITPS/2912/WE dated 27-05-2023 submitted to The Eastern Regional Office, MoEF&amp;CC, Bhubaneswar. Copy enclosed as <b>Exhibit-A</b>.</p> <p>Stage-II (Unit#3 &amp; 4): Submission of Half yearly Environmental Status Report of OPGCL (2X210 MW), for the period October 2022 – March 2023 vide OPGC Letter No. ITPS/2913/WE dated 27-05-2023 submitted to The Eastern Regional Office, MoEF&amp;CC, Bhubaneswar. Copy enclosed as <b>Exhibit-B</b>.</p>	
<b>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.</b>	Website Address: <a href="https://opgc.co.in/">https://opgc.co.in/</a>	
<b>Co-ordinates of all four corners of TPP Site:</b>	<b>Details of unit</b>	<b>GPS Coordinates</b>
	Existing & Proposed Main Plant Area including Township	A.21°42'01.98"N 83°51'05.97"E B.21°41'57.29"N 83°51'43.87"E C.21°41'46.43"N 83°51'43.79"E D.21°41'43.85"N 83°52'42.93"E E.21°41'23.84"N 83°52'35.36"E F.21°40'52.73"N 83°51'54.67"E G.21°40'50.40"N 83°51'32.63"E
	Ash Pond-1	A. 21°41'22.40"N 83°53'33.95"E B.21°41'49.18"N 83°53'51.82"E C. 21°41'01.92"N 83°54'50.06"E D.21°40'39.69"N 83°54'23.19"E
	Ash Pond-2	A.21°38'33.34"N 83°54'50.37"E B. 21°39'04.81"N 83°55'08.41"E C.21°38'48.48"N 83°55'54.87"E D. 21°38'29.97"N 83°55'06.07"E

<b>Average height of:</b> <b>(a) TPP site</b>	a. TPP site: 195 m (MSL) to 200 m (MSL)
<b>(b) ash pond site etc. above MSL</b>	b. Ash pond site: 187m (MSL) to 208 m (MSL)
<b>Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:</b>	Not Applicable
<b>CRZ Clearance</b>	Not Applicable
<b>Cost of the Project (As per EC and revised):</b>	INR 12717 Crores
<b>Cost of the proposed activity in the amendment:</b>	
<b>Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).</b>	Existing employment is 5200 (Permanent employees: 409 and Temporary/Contract employees: 4791).  Proposed employment is 3500. (Permanent employees: 150 and Temporary/Contract employees: 3350)
<b>Benefits of the project (specify quantitative information)</b>	National GDP at the all-India level will continue to grow at the average compound annual growth rate (CAGR). Higher Growth rates of electricity consumption. Expansion proposed to meet this major demand. Housing, Education, Market, Healthcare, Road Network, etc., will be developed

#### 4. Electricity generation capacity:

<b>Capacity &amp; Unit Configurations:</b>	Proposed: 2 x 660 MW Post Expansion: 3060 MW (2 X 210 MW + 2 X 660 MW + 2 X 660 MW)
<b>Generation of Electricity Annually</b>	Present – 1740 MW Post Expansion – 3060 MW

#### 5. Details of fuel and Ash disposal

<b>Fuel to be used:</b>	Coal		
<b>Quantity of Fuel required per Annum:</b>	Proposed 2 x 660 MW		
	<b>Particulars</b>	<b>Unit</b>	<b>Quantity of coal</b>
	Stage-I (Unit # 1 & 2)	MTPA	2.7
	Stage-II (Unit # 3 & 4)	MTPA	7.6
	Stage-III (Unit # 5 & 6)	MTPA	7.6
<b>Coal Linkage / Coal Block:</b>	<b>Coal Linkage Details:</b> Availability of long-term linkage from Manoharpur coal mines, MoC,		

<b>(If Block allotted, status of EC &amp; FC of the Block)</b>	Government of India for Stage-I. Allocated captive coal block of Manoharpur coal mined in the year 2015 for Stage-II & III.						
<b>Details of mode of transportation of coal from coal source to the plant premises along with distances</b>	The coal will be transported from the Mines through the dedicated MGR system (length is 48 KM) of OPGC. Coal production from Manoharpur coal mines has already been started and currently, the required quantity of coal for Stage II is being availed from the Manoharpur mine through the dedicated MGR system of OPGC						
<b>Fly Ash Disposal System Proposed</b>	Fly ash from the power plant will be evacuated in dry form and disposed through HCSD system to the Ash Pond of Units 5 & 6 for first five years and later on transported to mine for mixing with OB and backfilling.						
<b>Ash Pond/ Dyke</b>  <b>(Area, Location &amp; Co-ordinates)</b>  <b>Average height of area above MSL (m)</b>	Ash Pond / Dyke – Area: 131.523 ha  An area of 131.523 Ha for Ash Pond will be acquired which has already identified adjacent to the Plant site boundary.  <table border="1" data-bbox="655 936 1297 1312"> <thead> <tr> <th data-bbox="655 936 794 1010">Details of unit</th> <th data-bbox="794 936 1297 1010">GPS Coordinates</th> </tr> </thead> <tbody> <tr> <td data-bbox="655 1010 794 1160">Ash Pond-1</td> <td data-bbox="794 1010 1297 1160">           A. 21°41'22.40"N 83°53'33.95"E            B. 21°41'49.18"N 83°53'51.82"E            C. 21°41'01.92"N 83°54'50.06"E            D. 21°40'39.69"N 83°54'23.19"E         </td> </tr> <tr> <td data-bbox="655 1160 794 1312">Ash Pond-2</td> <td data-bbox="794 1160 1297 1312">           A. 21°38'33.34"N 83°54'50.37"E            B. 21°39'04.81"N 83°55'08.41"E            C. 21°38'48.48"N 83°55'54.87"E            D. 21°38'29.97"N 83°55'06.07"E         </td> </tr> </tbody> </table>	Details of unit	GPS Coordinates	Ash Pond-1	A. 21°41'22.40"N 83°53'33.95"E B. 21°41'49.18"N 83°53'51.82"E C. 21°41'01.92"N 83°54'50.06"E D. 21°40'39.69"N 83°54'23.19"E	Ash Pond-2	A. 21°38'33.34"N 83°54'50.37"E B. 21°39'04.81"N 83°55'08.41"E C. 21°38'48.48"N 83°55'54.87"E D. 21°38'29.97"N 83°55'06.07"E
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<b>Quantity of</b>  <b>a. Fly Ash to be generated</b> <b>b. Bottom Ash to be generated:</b>	a. Max. Fly Ash Generation / unit– 220 Tons/hr b. Max. Bottom Ash Generation / unit – 68 Tons/hr						
<b>Fly Ash utilization (details)</b>	a. The dry fly ash from the silos will be used for fly ash brick manufacturing; lightweight aggregates manufacturing, cement admixtures, Quarry reclamation, low lying area reclamation etc. b. b) In the event of disruption in off take of fly ash from the plant, unutilized fly ash will be disposed through High Concentration Slurry Disposal (HCSD) system to the identified plot as suggested in the CREP as an exigency measure. In HCSD system, the fly ash solidifies very quickly at the disposal site and this process offers no air or water pollution during disposal. The decanted water will be recycled back for fresh						

	<p>slurry making. After attaining the maximum height, the mount will be covered with earth topping followed by greenery development.</p> <p>c. Fly Ash will also be progressively back filled into Manoharpur mines which is the captive mine block of OPGC and any other mines which will be obtained from MCL. In doing this, the MoEFCC's guidelines of mixing fly ash in development of external OB Dump of OPGC's captive mine will be adhered to.</p>
<b>Stack Height (m) &amp; Type of Flue</b>	<p>One (1) twin-flue chimney with common windshield for the two units have been envisaged for the proposed power station. The total height of the chimney has been considered as 150 m. The flues will be of mild steel construction with glass wool insulation. The chimney windshield would be of RCC slip-form construction.</p>

#### 6. Water Requirement:

<b>Source of Water:</b>	Surface water (Hirakud Reservoir)
<b>Quantity of water requirement:</b>	Existing: 5133 m <sup>3</sup> /hr (124000 KLD) Proposed: 3800 m <sup>3</sup> /hr (92000 KLD) Upon Expansion: 8933 m <sup>3</sup> /hr (216000 KLD)
<b>Distance of source of water from Plant:</b>	5.6 km
<b>Whether barrage/ weir/ intake well/ jack well/ others proposed:</b>	From Hirakud Reservoir by existing installed raw water pump house system and through intake channel for drawal of surface water.
<b>Mode of conveyance of water:</b>	Intake channel
<b>Status of water linkage:</b>	<p>Permission obtained from Water Resources Department, Govt. of Odisha for allocation of 52.98 cusecs for Stage-I &amp; II. Existing water will suffice the requirement of construction phase of Stage-III.</p> <p>Application filed with Water Resource Department, Govt. of Odisha for allocation of 38.84 cusecs.</p>
<b>(If source is Sea water) Desalination Plant Capacity</b>	Not Applicable
<b>Mode / Management of Brine:</b>	Not Applicable
<b>Cooling system</b>	Semi-open recirculating condenser cooling system with wet-type induced draft cooling tower.

#### 7. Land Area Breakup:

<b>Land Requirement:</b>	<b>Land Requirement: Existing (Stage-I &amp; II):</b>
<p>a. TPP Site</p> <p>b. Ash Pond</p> <p>c. Township</p>	<p>a. TPP site including township: 263.637 Ha</p> <p>b. Vacant or unutilized land: 60.703 Ha</p> <p>c. Ash Pond: 350.17 Ha (Outside Plant)</p>



<p>d. <b>Railway Siding &amp; Others</b>  e. <b>Raw Water Reservoir</b>  f. <b>Green Belt</b>  g. <b>Others</b></p> <p><b>Total (if expansion state additional land requirement)</b></p>	<p>d. MGR: 294Ha  e. Raw water reservoir: 0 Ha  f. Green Belt: 172.579 Ha  g. Others: 0 Ha</p> <p><b>Land Requirement:  Proposed (Stage-III):</b></p> <p>a. TPP site including township: 60.703 Ha  b. Vacant or unutilized land: 0 Ha  c. Ash Pond: 131.523 Ha (Outside Plant)  d. MGR: 294 Ha  e. Raw water reservoir: 0 Ha  f. Green Belt: 0 Ha  g. Others: 0 Ha</p> <p>Note:</p> <ul style="list-style-type: none"> <li>• Stage-III installation (main plant &amp; auxiliaries) will be carried out in an area of 60.703 Ha of vacant land available adjacent to existing Stage II (2 x 660 MW) of area 263.637 Ha including township facilities.</li> <li>• No additional land is proposed to be acquired for the Stage-III project.</li> <li>• To cater future requirement of ash pond 131.523 ha land will be identified and acquired as per MoEF&amp;CC Guideline i.e. 0.1 ha / MW.</li> </ul>																																												
<p><b>Status of Land Acquisition</b></p>	<p>The complete land is in possession of OPGCL and work can be started immediately without any hindrance.</p>																																												
<p><b>Status of the Project</b></p> <p><b>If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.</b></p> <p><b>If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.</b></p>	<table border="1"> <thead> <tr> <th>S.No.</th> <th>Stages</th> <th>Units</th> <th>Capacity</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td colspan="5">Existing Stages – I &amp; II</td> </tr> <tr> <td rowspan="2">1</td> <td rowspan="2">Stage – I</td> <td>Unit # 1</td> <td>210 MW</td> <td>In operation</td> </tr> <tr> <td>Unit # 2</td> <td>210 MW</td> <td>In operation</td> </tr> <tr> <td rowspan="2">2</td> <td rowspan="2">Stage – II</td> <td>Unit # 3</td> <td>660 MW</td> <td>In operation</td> </tr> <tr> <td>Unit # 4</td> <td>660 MW</td> <td>In operation</td> </tr> <tr> <td colspan="5">Proposed Stage – III</td> </tr> <tr> <td rowspan="2">3</td> <td rowspan="2">Stage – III</td> <td>Unit # 5</td> <td>660 MW</td> <td>Proposed</td> </tr> <tr> <td>Unit # 6</td> <td>660 MW</td> <td>Proposed</td> </tr> <tr> <td colspan="3">Total</td> <td>3060 MW</td> <td></td> </tr> </tbody> </table>	S.No.	Stages	Units	Capacity	Status	Existing Stages – I & II					1	Stage – I	Unit # 1	210 MW	In operation	Unit # 2	210 MW	In operation	2	Stage – II	Unit # 3	660 MW	In operation	Unit # 4	660 MW	In operation	Proposed Stage – III					3	Stage – III	Unit # 5	660 MW	Proposed	Unit # 6	660 MW	Proposed	Total			3060 MW	
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<b>Break-Up of land-use of TPP site:</b>	<b>Break-Up of land-use of TPP site</b>
a. <b>Total land required for project components</b> b. <b>Private land</b> c. <b>Government land</b> d. <b>Forest land</b>	a. Total land required for project components – 60.703 ha b. Private land – 0 ha c. Land already acquired (existing) – 60.703 ha d. Forest land – 0 ha

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

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Details of Certificate/letter/Remarks
<b>Reserve Forest/Protected Forest Land</b>	Yes	1. RF Near Bhuta Village (1.5 km, W) 2. Remendra RF (2.7 km, W) 3. Sunari RF (6.9 km, SW) 4. RF Near Telenpali Village (0.7 km, NNE) 5. Desari RF (7.5 km, S) 6. Guja Paharh RF (9.1 km, SSE) 7. Maulabhanja RF (9.6 km, E) 8. Bikramakhhol RF (10.2 km, NNW) 9. Patrapali RF (10.6 km, NE) 10. Rampur RF (11.2 km, NE) 11. Padhan Dungri RF (11.8 km, WSW) 12. Malda RF (11.9 km, NE) 13. Saukani Dingri RF (12.5 km, SW) 14. Kaite RF (13.3 km, NE) 15. Bhanwarkhol RF (13.7 km, NW)
<b>National Park</b>	No	Nil within 10 km radius
<b>Wildlife Sanctuary</b>	No	Nil within 10 km radius
<b>Archaeological sites monuments/historical temples etc</b>	No	Nil within 10 km radius
<b>Names &amp; distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:</b>	No	Nil within 10 km radius
<b>Additional information (if any)</b>	Yes	<b>Water bodies:</b> Hirakud Reservoir Adjacent (SW) IB River (5.7 km, NE) Lilari Nala (7.9 km, NNE) Bhedan River (12.6 km, NE)

**Availability of Schedule-I species in study area: No**

#### 9. Court case details:

<b>Any litigation/ Court Case pertaining to the project</b>	Yes
<b>Is the proposal under any investigation? If so, details thereof.</b>	Yes
<b>Any violation case pertaining to the project:</b>	No
<b>Additional information (if any)</b>	Not Applicable
<b>Court Name:</b> High Courts <b>Bench:</b> Orissa High Court <b>Case Category:</b> WP (Civil) <b>Status:</b> Pending <b>Orders Directions:</b> Related to Contractual issues <b>Order copy:</b> Court cases and their status are enclosed as <b>Exhibit-C</b> .	

### 3.4.3. Deliberations by the EAC in previous meetings

N/A

### 3.4.4. Deliberations by the EAC in current meetings

The proposal is for grant of Terms of Reference to Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation 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 that the Ministry had issued EC for Stage -I vide letter no. 14/13/83-EM-2, dated 27.09.1984, Stage- II vide letter no. J-13011/59/2008-IA. II (T), dated 04.02.2010 and EC for Township obtained from SEIAA, Odisha vide letter no. 243/SEIAA, dated: 21.01.2014. to the existing project IB Thermal Power station in favour of M/s. Odisha Power Generation Corporation Limited.

The EAC noted that existing Ash pond for Stage-I and Stage-II is very near to natural water body and as informed by the PP, there is only 28% ash utilized by the Power plant as there are large number of thermal power plants in the same district therefore demand of ash is very less.

### 3.4.5. Recommendation of EAC

Recommended

### 3.4.6. Details of Terms of Reference

#### 3.4.6.1. Specific

#### Socio-economic Study

1. 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.
2. 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.
  3. 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 30<sup>th</sup> September, 2020 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & 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. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of the 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 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.
4. 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.
5. 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.
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 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. 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.
10. Details of Ash management of existing (last 5 years) and proposed project shall be submitted, along with 5-year plan for 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 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.
13. 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.
14. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP 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 (33% of total project cover area) along the periphery of the project boundary 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



	<p>consultation with reputed government institution.</p> <p>21. 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.</p> <p>22. 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.</p>
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**Miscellaneous:**

1.	<p>1. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&amp;CC. IRO shall provide specific observations on the status of OCMS and emission control equipment of all units of the plant.</p> <p>2. PP shall submit details of court cases and its status for the project.</p> <p>3. The PP should submit the photograph of monitoring stations &amp; sampling locations. The photograph should bear the date, time, latitude &amp; 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.</p> <p>4. Arial view video of project site shall be recorded through drone and be submitted.</p>
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**3.4.6.2. Standard**

1(d)	<b>Thermal Power Plants</b>
<b>Statutory compliance</b>	
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.
<b>Details of the Project and Site</b>	
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.
<b>Ecology biodiversity and Environment</b>	
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
<b>Environmental Baseline study and mitigation measures</b>	
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 analysis and 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.
<b>Environmental Management Plan</b>	
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.
<b>Green belt development</b>	
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 CO <sub>2</sub> 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
<b>Socio-economic activities</b>	
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). CER details 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.
<b>Corporate Environment Policy</b>	
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.
<b>Miscellaneous</b>	
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.
<b>Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)</b>	
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 Desalination 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
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## 5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Shri Gururaj P Kundargi	Chairman, EAC	gpkundargi@gmail.com	
2	Shri Suramya Dolarray Vora	Member (EAC)	suramya.vora@gmail.com	
3	Dr Narmada Prasad Shukla	Member (EAC)	shuklanp55@gmail.com	Absent
4	Dr Santoshkumar Hampannavar	Member (EAC)	santoshkumar777@yahoo.com	
5	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	ukahalekar@rediffmail.com	
6	Shri K B Biswas	Member (EAC)	biswaskiriti@gmail.com	
7	Dr Nandini N	Member (EAC)	sai.nandinin@gmail.com	
8	Dr Unmesh Patnaik	Member (EAC)	unmesh.patnaik@tiss.edu	Absent
9	Dr Nazimuddin	Member (EAC)	nazim.cpcb@nic.in	Absent
10	Shri Mahi Pal Singh	Member (EAC)	mpsingh.cea@nic.in	
11	Dr R K Giri	Member (EAC)	rk.giriccs@gmail.com	Absent
12	Professor Sheo Shanker Rai	Member (EAC)	sheoshankar@iitism.ac.in	
13	Yogendra Pal Singh	Scientist E	yogendra78@nic.in	

## **MINUTES OF THE 46<sup>TH</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 04<sup>TH</sup> SEPTEMBER, 2023**

The 46<sup>th</sup> 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 4<sup>th</sup> September, 2023 at Narmada Hall, Jal Wing, Indira Paryavaran Bhawan (MoEF&CC) under the Chairmanship of Shri Gururaj P. Kundargi. The list of Members participated in the meeting is at **Annexure**.

### **Agenda Item No.46.1: Confirmation of the Minutes of the 45<sup>th</sup> EAC meeting**

The Minutes of the 45<sup>th</sup> EAC (Thermal Power) meeting held on 16<sup>th</sup> August, 2023 were confirmed in the meeting.

### **Agenda Item No.46.2**

**Waste to Energy Thermal Power Project (50 MW) at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited - Terms of References (TOR) – reg.**

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

**46.2.1** 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 at villages Badli, Sub-district Alipur, District North Delhi, Delhi by M/s Jindal Urban Waste Management (Bawana) Limited.

**46.2.2** 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. 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, the Authority has proposed to develop a Waste to Energy (WtE) Project at Narela-Bawana site through Public-Private Partnership mode. The Jindal Urban Infrastructure Limited (JUIL) has come as a successful bidder through competitive bidding process for development, operation, and maintenance of Waste to Energy (WtE) processing facility at Narela-Bawana, Delhi.
- ii. The Proposed Waste to Energy Project (50 MW) is located at DSIIDC Industrial area, Sector-5, Bawana, Delhi-110039 by M/s Jindal Urban Waste Management (Bawana) Limited.
- iii. The proposed Waste to Energy project site is located at Bawana, Delhi. Geographical location of project site is covered under Survey of India Toposheet No. 53 H/1.
- iv. Alternative studied are as follows:



S. No	Parameters	Alternate Site-1 (Bhalsawa SLF)	Alternate Site-2 (Sultanpur Dabas)	Alternate Site-3 (Bawana)
1.	Availability of adequate suitable land.	<p>The adequate land at Bhalsawa SLF location is available. However, the soil properties would not be very suitable for establishing an industry.</p> <p>Also, the site is located at high-risk prone area due to exceeding height of SLF and adjoining to National Highway. Hence, the site is not suitable for developing the WtE project.</p>	<p>Approximately 49 acres land area is available at Sultanpur Dabas. Considering the distance of fuel and water sources, and sub-station for power evacuation from the site, the site is suitable for establishing WtE plant.</p> <p>On the other side, the collection and transportation of MSW also need to be look after by MCD and the same need to be disposed at designated SLF site. Hence, MCD has proposed the site for constructing an engineering sanitary landfill site for disposing the inert and other process rejects.</p>	<p>Suitable adequate land is available to construct the project. The proposed site is in DSIIDC industrial area and similar nature of industry is located adjacent to the proposed site.</p> <p>Also, the distance of fuel, water sources, and sub-station for power evacuation are available at short distance comparatively.</p> <p>Hence, MCD has proposed this site for developing WtE plant.</p>
2.	Distance from reliable water source.	Approx. 5 KM from Coronation Piller STP.	Narela STP is located approx. 13km (aerial distance) away. Hence, there will be technical difficulties in laying of water pipeline.	Water source will be available from PPCL which is at the distance of approx. 1 km from project site. Also, Narela STP is approx. 6 km away.
3.	Distance from Fuel source.	Fuel sources are approx. 10-15 km (aerial distance) away.	Fuel sources are approx. 12-22 km (aerial distance) away.	MSW of 3 zones namely Karol Bagh, City SP and Narela Zones are to be handled, distance of which are approx. 8-13 km (aerial distance).
4.	Distance	Sub-station for	TPDDL Sub-station for	Power evacuation will

	from Sub-station for power evacuation	power evacuation is located approx. 3 -4 km away.	power evacuation is located approx. 4 -5 km away.	be done through 220/66 KV Bawana Substation which is located at distance of an approx. 1-1.5 km.
5.	Environmental Considerations			
i.	Land resource.	Adequate land is available at this site. However, more land would be required due to unsuitability of the soil.	Approximately 49 acres land is available which is earmarked for an ESLF by MCD for disposing the inert and other processing rejects.	Keeping in view of suitability of soil, nearness of required resources and the land being located in DSIIDC industrial area, MCD has selected this site for constructing WtE plant.
ii.	Impact on traffic of Delhi.	Due to long distance from the project site, transportation of MSW will have more impact on the traffic of Delhi.	Less impact on traffic	Less impact on traffic
iii.	Type of land and R&R issue	Govt. Waste land and no R&R issue involved.	Govt. land with trees. No R&R issue involved.	Govt. Waste land and no R&R issue involved.
iv.	Tree felling	No Tree felling	Tree felling involved	No tree felling
v.	Distance from Ecological Sensitive Area	1. Bhalswa Lake: 1 km, E 2. Yamuna River: Approx. 7 Km, E 3. Yamuna Biodiversity Park: Approx. 5 Km, E	1. Bhalswa Lake: Approx. 13 km, E 2. Yamuna River: Approx. 18 Km, E 3. Yamuna Biodiversity Park: Approx. 17 Km, E	1. Bhalswa Lake: Approx. 12 km, E 2. Yamuna River: Approx. 13 Km, E 3. Yamuna Biodiversity Park: Approx. 15 Km, E
6.	Project cost	810 Cr.	800 Cr.	785 Cr.
7.	Conclusion	Not suitable	Not suitable	<b>Suitable</b>

Bawana site is environmentally and techno-economically suitable for establishing the proposed Waste to Energy Project due to following reasons:

- Availability of authorized land with the MCD, Delhi.
- Earmarked land for the setting up the WtE Project is under DSIIDC, Industrial Area.
- Nearness to water source: - The project will use reject blowdown water (BDW), from the Pragati Power Corporation Limited (PPCL), which is the distance of an approx 1.0 kilometers. No fresh water will be drawn up for industrial use except drinking water.

- Nearness to fuel source: - The MCD has well established infrastructure to supply the MSW from the nearest zone.
- Project site has good road connectivity due to nearness to NH-44 and SH-18.
- All the requirements such as land, water and fuel (MSW) are available for setting up the green field WtE project at the proposed site.

The proposed site is most suitable for setting up the Waste to Energy project at Bawana for management of Municipal Solid Waste of whole North West Delhi.

All WtE facilities require some degree of pre-processing of MSW leading to what is commonly known as refuse derived fuel (RDF). The various stages of MSW processing for preparation of RDF are as follows:

- MSW received at site will be unloaded into MSW storage pit under negative pressure. from where the material is lifted by overhead grab cranes and will be fed to hopper of MRF system.
- Form hopper MSW to be transferred to ballistic separator by hydraulic operated ram feeder.
- Ballistic separator has two size mesh 200 mm and 50 mm. Ballistic separators segregate the materials into four fractions based on density separation.
  - Inert and heavy materials wastes will be separated as one fraction and further send to slow speed belt conveyor. Magnetic separator will be installed over slow speed belt to recover the ferrous metal.
  - <50 mm materials having dust, silt and combustible materials are separated as second fraction and send to vibrating screen of 10 mm sieve. Above 10mm combustible material will be transferred to RDF belt and less than 10 mm dust and silt will be collected separately and will be send to secured landfills site designated by MCD.
  - >50 mm and <200 mm material is separated as third fraction which is lighter fraction called RDF Fluff and send to RDF storage pit for further utilization as a fuel in the boiler.
  - Above 200 mm material is separated as fourth fraction and will be send to shredder/cutter for further sizing.
  - After shredding the material is transferred to RDF carrying conveyor and will be send to RDF storage pit.

v. The salient features of project as follows:

**1. EAC Meeting Details:**

EAC meeting/s	46 <sup>th</sup> Meeting of the re-constituted Expert Appraisal Committee (EAC)
Date of Meeting/s	04/09/2023
Date of earlier EAC meetings	Not Applicable

**2. Project details:**

Name of the Proposal	Proposed Waste to Energy Project 50 MW located at DSIIDC Industrial Area, Sector-5, Bawana, Delhi-110039 by M/s Jindal Urban Waste Management (Bawana) Limited - <b>Terms of Reference (ToR)</b> - Reg.
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.	<b>Consultant Name:</b> Mantec Consultants Pvt. Ltd. <b>Certificate No.:</b> NABET/EIA/2023/RA 0205 valid upto 20-04-2023. The validity of accreditation has been extended up to 16-10-2023 by NABET vide letter no. QCI/NABET/ENC/ACO/23/2799 dated 17-07-2023.
Inter- state issue involved	No
Seismic zone	Zone-IV (As per 1893:2002)

### 3. Category details:

Category of the project	Category - A
Capacity	50 MW (3600 TPD of MSW)
Attracts the General Conditions (Yes/No)	Yes
Additional information (if any)	NA

### 4. 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	(a) TPP Site- 220-222 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 785 Crore.

Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	<p>Employment potential:</p> <ul style="list-style-type: none"> <li><b><u>During the construction phase</u></b></li> </ul> <p>Employment (Contract): 590 Nos On Roll:60 Nos <b>Total (On Roll + Contract): 650 Nos.</b></p> <ul style="list-style-type: none"> <li><b><u>During the operational phase</u></b></li> </ul> <p>Contract: 156 Nos On Roll: 98 Nos <b>Total (On Roll + Contract): 254 Nos.</b></p>
Benefits of the project (specify quantitative information)	<ul style="list-style-type: none"> <li>• Handling of 3600 TPD of MSW through a environmentally and scientific approach.</li> <li>• Generation of 50 MW of Green Energy from MSW</li> <li>• Avoidance of sanitary landfill site due to utilization of MSW, thus saving land resource.</li> </ul>

### 5. Electricity generation capacity:

Capacity & Unit Configurations:	50 MW (2X25MW)
Generation of Electricity Annually	438000 MW

### 6. Details of fuel and Ash disposal

Fuel to be used:	Municipal Solid Waste (MSW)
Quantity of Fuel required per Annum:	13,14,000 MT
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 the MSW. b. Bottom Ash - <17% (Approx.) of the MSW.
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.

### 7. Water Requirement:

Source of Water:	<ul style="list-style-type: none"> <li>Process water will be met from PPCL /Treated sewage from DJB.</li> <li>Drinking water will be supplied by DJB</li> </ul>
Quantity of water requirement:	<ul style="list-style-type: none"> <li>During construction phase: 40 KLD Domestic water: 10 KLD</li> <li>During operation:700 KLD (Industrial Purpose) Domestic water: 5 KLD</li> </ul>
Distance of source of water from Plant:	Approx 1 Km from PPCL
Whether barrage/ weir/ intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Through underground pipeline
Status of water linkage:	To be process
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	ACC (Air Cooled Condenser)

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

<b>Forest Land/ Protected Area/ Environmental Sensitivity Zone</b>	<b>Yes/No</b>	<b>Details of Certificate/ letter/ Remarks</b>
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.0 ❖ 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)	--	-

### 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

### 46.2.3 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 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.*

### **Agenda Item No. 46.3:**

**Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation Ltd. - Terms of References (TOR) – reg.**

**[Proposal No. IA/OR/THE/440643/2023; F. No. J-13011/59/2008-IA.II (T)]**

**46.3.1** The proposal is for grant of Terms of Reference to Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation Ltd.

**46.3.2** The Project Proponent and the accredited Consultant M/s. Vimta Labs Limited made a detailed presentation on the salient features of the project and informed that:

- i. M/s Odisha Power Generation Corporation Limited (OPGC) proposes to set up Stage III (2 x 660 MW) Thermal Power Plant adjacent to its existing Stage I (2 x 210 MW) and Stage II (2 x 660 MW) Power Plants at IB Thermal Power Station, Banharpalli village, Lakhanpur Taluk, Jharsuguda district in the North-west of Odisha.
- ii. The Ministry had issued EC for Stage -I vide letter no. 14/13/83-EM-2, dated 27.09.1984, Stage- II vide letter no. J-13011/59/2008-IA. II (T), dated 04.02.2010 and EC for Township obtained from SEIAA, Odisha vide letter no. 243/SEIAA, dated: 21.01.2014. to the existing project IB Thermal Power station in favour of M/s. Odisha Power Generation Corporation Limited.
- iii. Two (2) units of 210 MW capacity each came up in the first phase and commissioned in 1994 & 1996 respectively and in the second phase another two units of 660 MW capacity each were commissioned in 2019.
- iv. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project

site. The Nearest Wildlife sanctuary is Debrigarh WL sanctuary which is located at 18.5 Km south and separated by Hirakud Reservoir water. Hirakud Reservoir is adjacent to the project site and major River IB River which is flowing at a distance of 5.7 Km in SW direction.

- v. Total water requirement is 2,16,000 KLD including existing water requirement of 1,24,000 KLD of which fresh water requirement be met from Hirakud Reservoir. Permission obtained from Water Resource Department, Govt, of Odisha for 52.98 cusecs (129619 KLD) for Stage-I & II. Application was filed for 38.84 cusecs (95024 KLD) water allocation.
- vi. Effluent of 15650 KLD including existing 9800 KLD quantity will be treated through Effluent Treatment plant of capacity existing 9600 KLD and proposed 9600 KLD. The plant will be based on Zero Liquid discharge system. Sewage water will be treated by using existing STP- 1000 KLD.
- vii. Power requirement after expansion will be 185.25 MW including existing 111.05 MW and will be met in house. DG sets of capacity 3x 1750 KVA are proposed as standby during power failure. Stack (height 30 m) will be provided as per CPCB norms to the proposed DG sets.
- viii. 2 units of 660 MW Turbine generator sets of coal fired boiler operated with supercritical steam parameters. Electro Static Precipitators with a stack of height of 150 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm<sup>3</sup>.
- ix. The total solid waste generation of the expansion will be 32,50,000 TPA. Which will be utilized as per the Fly notification Dec, 2021 and amended thereof and disposal of balance un utilized ash in Ash pond.
- x. The hazardous waste will be generated from different operation process for expansion is 415 TPA it will be disposed/sent to Common Hazardous Waste Treatment Storage Disposal Facility/Authorized Recyclers.
- xi. OPGC IB Thermal Power Plant was inspected on 26.07.2023 by IRO, MoEF&CC, Bhubaneshwar and Certified compliance report issued vide File no: 101-361/23/EPE, dated: 23.08.2023.
- xii. The salient features of the project are as under:-

**1. Project Details:**

<b>Name of the Proposal</b>	Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district,
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	Odisha state by M/s. Odisha Power Generation Corporation Ltd. (OPGCL)
<b>Proposal No.</b>	IA/OR/THE/440643/2023
<b>Location</b>	Banaharpalli Village, Jharsuguda, Odisha
<b>Company's Name</b>	Odisha Power Generation Corporation Ltd. (OPGCL)
<b>Accredited Consultant and certificate no.</b>	M/s. Vimta Labs Limited, Hyderabad Certificate No. NABET/EIA/2326/RA 0301 Valid upto: May 26, 2026
<b>Inter- state issue involved</b>	Not Applicable
<b>Seismic zone</b>	The project area falls under seismic zone-III as per IS: 1893 (Part-1): 2002.

## 2. Category Details

<b>Category of the project</b>	A
<b>Capacity</b>	1320 MW (2 X 660 MW)
<b>Attracts the General Conditions (Yes/No)</b>	No
<b>Additional information (if any)</b>	Not Applicable

## 3. Project Details

<b>If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.</b>	<p>Stage-I (Unit#1 &amp; 2): Environment Clearance No. 14/13/83-EM-2, dated 27.09.1984</p> <p>Stage-II (Unit#3 &amp; 4): Environment Clearance No. J-13011/59/2008-IA.II(T), dated 04-02-2010</p> <p>Amendment and Extension of EC validity No. J-13011/59/2008-IA.II(T), dated 22-01-2014.</p> <p>Extension of EC validity No. J-13011/59/2008-IA.II(T), dated 16-01-2015.</p>
<b>Amendments granted, if Yes details</b>	<p>Yes J-13011/59/2008-IA.II(T); dated: 22-01-2014</p> <p>a) Condition No. (xii) of Para No.4 shall be read as "Closed cycle cooling system with induced draft cooling towers shall be provided. The Effluents shall be treated as per the prescribed norms" <b>instead of</b> "Closed cycle cooling system with natural draft cooling towers shall be provided.</p>

	<p>The Effluents shall be treated as per the prescribed norms."</p> <p>b) Condition no. (xviii) of Para No.4 shall be read as "Storage facilities for auxiliary liquid fuel such as LDO and /HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil" <b><i>instead of</i></b> "Storage facilities for auxiliary liquid fuel such as LDO and /HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil"</p> <p>Further, under Para no.4 of this Ministry's letter of even no. dated 04.02.2010, after the condition no. (xl), the following conditions are added:</p> <p>(xli) A long-term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter, mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.</p> <p>(xlii) Continuous monitoring for heavy metals in and around the existing ash pond area shall be immediately carried out by reputed institutes like IIT Kanpur.</p> <p>(xliii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.</p> <p>(xliv) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.</p>
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	<p>(xiv) No ground water shall be extracted for use in operation of the power plant even in lean season.</p> <p>(xlv) Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.</p> <p>(xlvii) 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.</p> <p>(xlviii) Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.</p> <p>(xlix) Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary.</p> <p>(l) A common <b>Green Endowment Fund</b> shall be created and the interest earned out of it shall be used for the development and management of green cover of the area.</p> <p>(li) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.</p> <p>(lii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensured that the head of the</p>
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	<p>cell shall directly report to the Head of the Organization.</p> <p>(liii) The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.</p> <p>4. All other conditions mentioned in this Ministry's letter or even No. dated 04-02-2010 shall remain the same.</p> <p>5. Regarding the extension of validity of environmental clearance, since the validity will only expire in Feb, 2015, you may request this Ministry along with updated Form- I only before 6 months from expiry of the validity of EC, if required.</p>
<p><b>Extension of EC validity granted, if Yes details</b></p>	<p>Yes (J-13011/59/2008-IA.II(T); Dated: 16-01-2015</p> <p>2. The matter was placed before the EAC (Thermal Power) in its 26<sup>th</sup> Meeting held during 27<sup>th</sup> &amp; 28<sup>th</sup> November, 2014. In acceptance of the recommendations of the EAC and in view of the information/clarification furnished by you with respect to the implementation of the above mentioned power plant, the validity of the EC and its amendment is extended for a period of five years i.e. <b>till 03.02.2020</b> to start the production operations by the power plant.</p>
<p><b>Expansion / Green Field (new): (IPP / Merchant / Captive):</b></p>	<p>Expansion</p>
<p><b>If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&amp;CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest</b></p>	<p>Stage-I (Unit#1 &amp; 2): Submission of Half yearly Environmental Status Report of OPGCL (2X210 MW), for the period October 2022 – March 2023 vide OPGC Letter No. ITPS/2912/WE dated 27-05-2023 submitted to The Eastern Regional Office, MoEF&amp;CC, Bhubaneshwar. Copy enclosed as <b>Exhibit-A.</b></p> <p>Stage-II (Unit#3 &amp; 4): Submission of Half yearly Environmental Status Report of OPGCL (2X210 MW), for the period October 2022 – March 2023 vide</p>

R.O. monitoring report shall also be submitted.	OPGC Letter No. ITPS/2913/WE dated 27-05-2023 submitted to The Eastern Regional Office, MoEF&CC, Bhubaneshwar. Copy enclosed as <b>Exhibit-B.</b>	
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.	Website Address: <a href="https://opgc.co.in/">https://opgc.co.in/</a>	
Co-ordinates of all four corners of TPP Site:	<b>Details of unit</b>	<b>GPS Coordinates</b>
	Existing & Proposed Main Plant Area including Township	A.21°42'01.98"N 83°51'05.97"E B.21°41'57.29"N 83°51'43.87"E C.21°41'46.43"N 83°51'43.79"E D.21°41'43.85"N 83°52'42.93"E E.21°41'23.84"N 83°52'35.36"E F.21°40'52.73"N 83°51'54.67"E G.21°40'50.40"N 83°51'32.63"E
	Ash Pond-1	A. 21°41'22.40"N 83°53'33.95"E B.21°41'49.18"N 83°53'51.82"E C. 21°41'01.92"N 83°54'50.06"E D.21°40'39.69"N 83°54'23.19"E
	Ash Pond-2	A.21°38'33.34"N 83°54'50.37"E B. 21°39'04.81"N 83°55'08.41"E C.21°38'48.48"N 83°55'54.87"E D. 21°38'29.97"N 83°55'06.07"E
Average height of: (a) TPP site  (b) ash pond site etc. above MSL	a) TPP site: 195 m (MSL) to 200 m (MSL)  b) Ash pond site:187m (MSL) to 208 m (MSL)	
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	

<b>Cost of the Project (As per EC and revised):</b>	INR 12717 Crores
<b>Cost of the proposed activity in the amendment:</b>	
<b>Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).</b>	Existing employment is 5200 (Permanent employees: 409 and Temporary/Contract employees: 4791).  Proposed employment is 3500. (Permanent employees: 150 and Temporary/Contract employees: 3350)
<b>Benefits of the project (specify quantitative information)</b>	National GDP at the all-India level will continue to grow at the average compound annual growth rate (CAGR). Higher Growth rates of electricity consumption. Expansion proposed to meet this major demand. Housing, Education, Market, Healthcare, Road Network, etc., will be developed

#### 4. Electricity generation capacity:

<b>Capacity &amp; Unit Configurations:</b>	Proposed: 2 x 660 MW Post Expansion: 3060 MW (2 X 210 MW + 2 X 660 MW + 2 X 660 MW)
<b>Generation of Electricity Annually</b>	Present – 1740 MW Post Expansion – 3060 MW

#### 5. Details of fuel and Ash disposal

<b>Fuel to be used:</b>	Coal												
<b>Quantity of Fuel required per Annum:</b>	Proposed 2 x 660 MW <table border="1" data-bbox="719 1543 1353 1845"> <thead> <tr> <th>Particulars</th> <th>Unit</th> <th>Quantity of coal</th> </tr> </thead> <tbody> <tr> <td>Stage-I (Unit # 1 &amp; 2)</td> <td>MTPA</td> <td>2.7</td> </tr> <tr> <td>Stage-II (Unit # 3 &amp; 4)</td> <td>MTPA</td> <td>7.6</td> </tr> <tr> <td>Stage-III (Unit # 5 &amp; 6)</td> <td>MTPA</td> <td>7.6</td> </tr> </tbody> </table>	Particulars	Unit	Quantity of coal	Stage-I (Unit # 1 & 2)	MTPA	2.7	Stage-II (Unit # 3 & 4)	MTPA	7.6	Stage-III (Unit # 5 & 6)	MTPA	7.6
Particulars	Unit	Quantity of coal											
Stage-I (Unit # 1 & 2)	MTPA	2.7											
Stage-II (Unit # 3 & 4)	MTPA	7.6											
Stage-III (Unit # 5 & 6)	MTPA	7.6											
<b>Coal Linkage / Coal Block:</b>  <b>(If Block allotted, status of EC &amp; FC of the Block)</b>	<b>Coal Linkage Details:</b> Availability of long-term linkage from Manoharpur coal mines, MoC, Government of India for Stage-I.												

	Allocated captive coal block of Manoharpur coal mined in the year 2015 for Stage-II & III.						
<b>Details of mode of transportation of coal from coal source to the plant premises along with distances</b>	The coal will be transported from the Mines through the dedicated MGR system (length is 48 KM) of OPGC. Coal production from Manoharpur coal mines has already been started and currently, the required quantity of coal for Stage II is being availed from the Manoharpur mine through the dedicated MGR system of OPGC						
<b>Fly Ash Disposal System Proposed</b>	Fly ash from the power plant will be evacuated in dry form and disposed through HCSD system to the Ash Pond of Units 5 & 6 for first five years and later on transported to mine for mixing with OB and backfilling.						
<b>Ash Pond/ Dyke (Area, Location &amp; Co-ordinates)  Average height of area above MSL (m)</b>	<p>Ash Pond / Dyke – Area: 131.523 ha</p> <p>An area of 131.523 Ha for Ash Pond will be acquired which has already identified adjacent to the Plant site boundary.</p> <table border="1"> <thead> <tr> <th>Details of unit</th> <th>GPS Coordinates</th> </tr> </thead> <tbody> <tr> <td>Ash Pond-1</td> <td>A. 21°41'22.40"N 83°53'33.95"E B. 21°41'49.18"N 83°53'51.82"E C. 21°41'01.92"N 83°54'50.06"E D. 21°40'39.69"N 83°54'23.19"E</td> </tr> <tr> <td>Ash Pond-2</td> <td>A. 21°38'33.34"N 83°54'50.37"E B. 21°39'04.81"N 83°55'08.41"E C. 21°38'48.48"N 83°55'54.87"E D. 21°38'29.97"N 83°55'06.07"E</td> </tr> </tbody> </table> <p>Ash pond site:187m (MSL) to 208 m (MSL)</p>	Details of unit	GPS Coordinates	Ash Pond-1	A. 21°41'22.40"N 83°53'33.95"E B. 21°41'49.18"N 83°53'51.82"E C. 21°41'01.92"N 83°54'50.06"E D. 21°40'39.69"N 83°54'23.19"E	Ash Pond-2	A. 21°38'33.34"N 83°54'50.37"E B. 21°39'04.81"N 83°55'08.41"E C. 21°38'48.48"N 83°55'54.87"E D. 21°38'29.97"N 83°55'06.07"E
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<b>Quantity of  a. Fly Ash to be generated b. Bottom Ash to be generated:</b>	<p>a.) Max. Fly Ash Generation / unit– 220 Tons/hr b.) Max. Bottom Ash Generation / unit – 68 Tons/hr</p>						
<b>Fly Ash utilization (details)</b>	<p>a) The dry fly ash from the silos will be used for fly ash brick manufacturing; lightweight aggregates manufacturing, cement admixtures, Quarry reclamation, low lying area reclamation etc.</p> <p>b) b) In the event of disruption in off take of fly ash from the plant, unutilized fly ash will be disposed through High Concentration Slurry Disposal</p>						



	<p>(HCSD) system to the identified plot as suggested in the CREP as an exigency measure. In HCSD system, the fly ash solidifies very quickly at the disposal site and this process offers no air or water pollution during disposal. The decanted water will be recycled back for fresh slurry making. After attaining the maximum height, the mount will be covered with earth toping followed by greenery development.</p> <p>c) Fly Ash will also be progressively back filled into Manoharpur mines which is the captive mine block of OPGC and any other mines which will be obtained from MCL. In doing this, the MoEFCC's guidelines of mixing fly ash in development of external OB Dump of OPGC's captive mine will be adhered to.</p>
<b>Stack Height (m) &amp; Type of Flue</b>	<p>One (1) twin-flue chimney with common windshield for the two units have been envisaged for the proposed power station. The total height of the chimney has been considered as 150 m. The flues will be of mild steel construction with glass wool insulation. The chimney windshield would be of RCC slip-form construction.</p>

## 6. Water Requirement:

<b>Source of Water:</b>	Surface water (Hirakud Reservoir)
<b>Quantity of water requirement:</b>	Existing: 5133 m <sup>3</sup> /hr (124000 KLD) Proposed: 3800 m <sup>3</sup> /hr (92000 KLD) Upon Expansion: 8933 m <sup>3</sup> /hr (216000 KLD)
<b>Distance of source of water from Plant:</b>	5.6 km
<b>Whether barrage/ weir/ intake well/ jack well/ others proposed:</b>	From Hirakud Reservoir by existing installed raw water pump house system and through intake channel for drawal of surface water.
<b>Mode of conveyance of water:</b>	Intake channel
<b>Status of water linkage:</b>	<p>Permission obtained from Water Resources Department, Govt. of Odisha for allocation of 52.98 cusecs for Stage-I &amp; II. Existing water will suffice the requirement of construction phase of Stage-III.</p> <p>Application filed with Water Resource Department, Govt. of Odisha for allocation of 38.84 cusecs.</p>

<b>(If source is Sea water) Desalination Plant Capacity</b>	Not Applicable
<b>Mode / Management of Brine:</b>	Not Applicable
<b>Cooling system</b>	Semi-open recirculating condenser cooling system with wet-type induced draft cooling tower.

## 7. Land Area Breakup:

<p><b>Land Requirement:</b></p> <p>a) TPP Site b) Ash Pond c) Township d) Railway Siding &amp; Others e) Raw Water Reservoir f) Green Belt g) Others</p> <p><b>Total (if expansion state additional land requirement)</b></p>	<p><b>Land Requirement: Existing (Stage-I &amp; II):</b></p> <p>a) TPP site including township: 263.637 Ha b) Vacant or unutilized land: 60.703 Ha c) Ash Pond: 350.17 Ha (Outside Plant) d) MGR: 294Ha e) Raw water reservoir: 0 Ha f) Green Belt: 172.579 Ha g) Others: 0 Ha</p> <p><b>Land Requirement: Proposed (Stage-III):</b></p> <p>a) TPP site including township: 60.703 Ha b) Vacant or unutilized land: 0 Ha c) Ash Pond: 131.523 Ha (Outside Plant) d) MGR: 294 Ha e) Raw water reservoir: 0 Ha f) Green Belt: 0 Ha g) Others: 0 Ha</p> <p>Note:</p> <ul style="list-style-type: none"> <li>• Stage-III installation (main plant &amp; auxiliaries) will be carried out in an area of 60.703 Ha of vacant land available adjacent to existing Stage II (2 x 660 MW) of area 263.637 Ha including township facilities.</li> <li>• No additional land is proposed to be acquired for the Stage-III project.</li> <li>• To cater future requirement of ash pond 131.523 ha land will be identified and acquired as per MoEF&amp;CC Guideline i.e. 0.1 ha / MW.</li> </ul>
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<b>Status of Land Acquisition</b>	The complete land is in possession of OPGCL and work can be started immediately without any hindrance.				
<b>Status of the Project</b>  <b>If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.</b>  <b>If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.</b>	<b>S.No.</b>	<b>Stages</b>	<b>Units</b>	<b>Capacity</b>	<b>Status</b>
	Existing Stages – I & II				
	1	Stage – I	Unit # 1	210 MW	In operation
			Unit # 2	210 MW	In operation
	2	Stage – II	Unit # 3	660 MW	In operation
			Unit # 4	660 MW	In operation
	Proposed Stage – III				
	3	Stage – III	Unit # 5	660 MW	Proposed
			Unit # 6	660 MW	Proposed
	Total			3060 MW	
<b>Break-Up of land-use of TPP site:</b>	<b>Break-Up of land-use of TPP site</b>				
a. <b>Total land required for project components</b> b. <b>Private land</b> c. <b>Government land</b> d. <b>Forest land</b>	a. Total land required for project components – 60.703 ha b. Private land – 0 ha c. Land already acquired (existing) – 60.703 ha d. Forest land – 0 ha				

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

<b>Forest Land/ Protected Area/ Environmental Sensitivity Zone</b>	<b>Yes/No</b>	<b>Details of Certificate/letter/Remarks</b>
<b>Reserve Forest/Protected Forest Land</b>	Yes	1. RF Near Bhuta Village (1.5 km, W) 2. Remendra RF (2.7 km, W) 3. Sunari RF (6.9 km, SW) 4. RF Near Telenpali Village (0.7 km, NNE) 5. Desar RF (7.5 km, S) 6. Guja Paharh RF (9.1 km, SSE)

		7. Maulabhanja RF (9.6 km, E) 8. Bikramakhol RF (10.2 km, NNW) 9. Patrapali RF (10.6 km, NE) 10. Rampur RF (11.2 km, NE) 11. Padhan Dungri RF (11.8 km, WSW) 12. Malda RF (11.9 km, NE) 13. Saukani Dingri RF (12.5 km, SW) 14. Kaite RF (13.3 km, NE) 15. Bhanwarkhol RF (13.7 km, NW)
<b>National Park</b>	No	Nil within 10 km radius
<b>Wildlife Sanctuary</b>	No	Nil within 10 km radius
<b>Archaeological sites monuments/historical temples etc</b>	No	Nil within 10 km radius
<b>Names &amp; distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:</b>	No	Nil within 10 km radius
<b>Additional information (if any)</b>	Yes	<b>Water bodies:</b> Hirakud Reservoir Adjacent (SW) IB River (5.7 km, NE) Lilari Nala (7.9 km, NNE) Bhedan River (12.6 km, NE)

**Availability of Schedule-I species in study area: No**

**9. Court case details:**

<b>Any litigation/ Court Case pertaining to the project</b>	Yes
<b>Is the proposal under any investigation? If so, details thereof.</b>	Yes
<b>Any violation case pertaining to the project:</b>	No
<b>Additional information (if any)</b>	Not Applicable
<b>Court Name:</b> High Courts <b>Bench:</b> Orissa High Court <b>Case Category:</b> WP (Civil) <b>Status:</b> Pending <b>Orders Directions:</b> Related to Contractual issues	

**Order copy:** Court cases and their status are enclosed as **Exhibit-C**.

#### **46.3.3 The EAC during deliberations noted the following:**

The proposal is for grant of Terms of Reference to Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation 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 that the Ministry had issued EC for Stage -I vide letter no. 14/13/83-EM-2, dated 27.09.1984, Stage- II vide letter no. J-13011/59/2008-IA. II (T), dated 04.02.2010 and EC for Township obtained from SEIAA, Odisha vide letter no. 243/SEIAA, dated: 21.01.2014. to the existing project IB Thermal Power station in favour of M/s. Odisha Power Generation Corporation Limited.

The EAC noted that existing Ash pond for Stage-I and Stage-II is very near to natural water body and as informed by the PP, there is only 28% ash utilized by the Power plant as there are large number of thermal power plants in the same district therefore demand of ash is very less.

**46.3.4** 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 Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha by M/s Odisha Power Generation Corporation Ltd, 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 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 (33% of total project cover area) along the periphery of the project boundary 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. 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.

## **[B] Disaster Management**

xxiii. 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 30<sup>th</sup> 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**

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

### **Agenda Item No. 46.4:**

**2x500 MW Tuticorin Thermal Power Project in an area of 135 ha at District Thoothukkudi, Tamil Nadu of M/s NLC Tamilnadu Power Limited - Reconsideration for Amendment in Environmental Clearance (EC) – reg.**

**[Proposal No. IA/TN/THE/431783/2023; F. No. J-13012/68/2006-IA.II (T)]**

**46.4.1** The proposal is for amendment in Environmental Clearance for 2x500 MW Tuticorin Thermal Power Project in an area of 135 ha at District Thoothukkudi, Tamil Nadu of M/s NLC Tamilnadu Power Limited.

The proposal was earlier considered by the EAC in its 43<sup>rd</sup> meeting held on 19.06.2023, wherein the EAC sought additional information i.e. PP shall prepare a chart after compiling all the issues raised and commitments made by the PP during the public hearing along with implementation status, expenditure (including recurring cost) and additional activities carried out by the PP. All the details desired by the EAC shall be examined and certified by the IRO, MoEF&CC.

**46.4.2** The Project Proponent submitted additional information sought by the EAC on 21.08.2023 along with certified compliance report of IRO, MoEF&CC. The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

- i. The Ministry of Environment, Forest and Climate Change (MoEF&CC) erstwhile MoEF accorded Environment Clearance (EC) for 2X500MW Tuticorin Thermal Power Project, District Tuticorin, Tamilnadu, NLC Tamilnadu Power Limited vide letter no. J-13012/68/2006-IA.II(T) dated 13.06.2007 and subsequent extension vide letter dated 11.01.2013.
- ii. The MoEF&CC stipulated the Capital & Recurring Annual Expenditure towards CSR activities as 0.4% of the capital cost of the project and 0.08% of the capital cost of the project respectively. Accordingly, the EC extension letter dated 11.01.2013 included additional condition no. (xxxiv) towards CSR activities as follows:

*“An amount of Rs. 19.63 Crores shall be earmarked as one-time capital cost for CSR programme. Subsequently a recurring expenditure of Rs. 3.93 Crores per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted to the Regional Office of the Ministry along with road map for implementation”.*

**Request:**

- iii. The project proponent submitted the proposal on 10/06/2023 requesting for deleting the condition no. (xxxiv) of EC extension letter dated 11.01.2013.

**Justification:**

- iv. Comprehensive guidelines on CER was later issued by MoEF&CC vide OM dated 01.05.2018 which supersedes the above stipulations made in respect of CSR in subsequent ECs including that of NTPL.
- v. CSR expenditure is subject to Governmental and Ministerial guidelines. NTPL follows CSR provisions of Companies Act 2013 for taking up CSR activities and it is taken up as per the request received from the District Authorities so that the local necessities are met. NTPL is committed to inclusive growth and sustainable development with special focus on the neighbourhood communities.

vi. The IRO, MoEF&CC public hearing compliance verification visit was carried out on 04/08/2023. The Certified Copy of the Compliance to the issues raised during Public Hearing (held on 07/12/2005) along with implementation status, expenditure (including recurring cost) and additional activities carried out by 2X500MW Tuticorin Thermal Power Project, District Tuticorin, Tamilnadu, NLC Tamilnadu Power Limited (NTPL) has been submitted.

vii. Details of Capital Expenditure towards Issues raised in Public Hearing held on 07.12.2005 are as follows:

<b>S. No.</b>	<b>Issues raised during Public Hearing</b>	<b>Compliance</b>	<b>Capital Expenditure (Rs. in Cr.)</b>	<b>Avg. Recurring Expenditure per year (Rs. in Cr.)</b>
01	Desalination plant should be provided as proposed to meet out the entire water requirement of the new project.	Complied	162.89	2.14
02	The unit should provide adequate Air pollution control measures so as to satisfy the AAQ and emission standards prescribed.	Complied	3.43	0.36
03	The unit should provide adequate ETP to treat the trade effluent generated from various sources.	Complied	0.69	0.022
04	The unit should ensure that the entire quantity of treated trade effluent is used for gardening / green belt development.	Complied		0.1088
05	All the construction activities proposed by the unit should comply with the regulations contained in the CRZ Notification, 1991.	Complied		
06	The entire quantity of fly ash generated should be sold out to cement industries and other user industries and sufficient/adequate storage silos should be provided for ensuring this.	Complied	17.05	1.2

07	The bottom ash generated should not be mixed with sea water and it should be mixed only with the treated trade effluent and the unit should explore the possibility of selling this bottom ash also to other user industries.	Complied	3.26	1.17
08	Periodic monitoring of sea water quality in the vicinity should be carried out to assess the presence of heavy metals, if any, in the sea water.	Complied		0.027
09	The unit should comply with the provisions of all the existing environmental laws as applicable to the unit.	Complied		
10	Employment opportunities should be given to local fishermen in the new project.	Complied		
11	The grievances of the fishermen and local people as presented above should be kept in mind by the project authorities while implementing the project.	Complied		
12	Fly Ash Bricks should be used in the Construction of this project.	Complied		
TOTAL (Rs. in Cr.)			187.32	5.02

- viii. M/s NLC Tamilnadu Power Limited has achieved commercial operation of 2X500 MW units in 2015.
- ix. M/s NLC Tamilnadu Power Limited identified & carried out various CSR projects/ activities in association with the Office of the District Collector in the following thrust areas as mentioned below :
- Infrastructural development projects like construction of roads
  - Welfare projects like desilting of lakes
  - Marine life conservation projects in the Gulf of Mannar Marine Biosphere area,
  - Drinking water, sanitation, health/medical facilities
  - Education & skill development etc.
  - Art, Culture and Sports
  - Environmental Protection and Community Development
- x. Expenditure incurred/earmarked towards CSR activities for NTPL (2x500) MW amounts to a total value of Rs. 39.73 Crores till FY 2023-24.



xi. Details of CSR Expenditure by the project proponent are as follows:

S. No.	Financial Year	To be spent as per Companies Act	Spent/ Sanctioned (Rs. in Lakhs)	Remarks
01	2013-14	0.00	20.76	For Environmental Sustainability (Green belt and plantation from Roundana –TTPS – VOC Port)
02	2014-15	0.00	25.00	Contribution to KMTCF tiger reserve for protection of flora and fauna.
03	2015-16	0.00	24.30	Providing Benches & Desks to Govt. Schools of Thoothukudi for Promoting Education.
04	2016-17	0.00	46.93	
05	2017-18	0.00	143.76	Construction of compound wall in Govt. schools & ITI and plantation near township and VOC Port
06	2018-19	55.88	177.75	Undertaken various schemes under Environmental Sustainability, providing safe drinking water and cyclone relief/Disaster management
07	2019-20	519.60	519.60	Undertaken various schemes under Promoting Education, Environmental Sustainability and Promoting Health care.
08	2020-21	580.70	580.70*	Undertaken various schemes under Environmental Sustainability, Training to promote rural sports and Rural development projects.
09	2021-22	808.65	808.65*	Undertaken various schemes under Environmental Sustainability, providing safe drinking water and cyclone relief/Disaster management
10	2022-23	744.41	744.41*	Undertaken various schemes under Promoting health care, Promoting Education and Women empowerment
11	2023-24	882.09	882.09*	Undertaken various schemes under Promoting health care, Environmental Sustainability,

				Promoting Education and Community Development
Amount spent and earmarked for CSR expenditure (Rs in Lakhs)			3973.95	
*Including unspent amount deposited into separate account				

#### 46.4.3 The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance for 2x500 MW Tuticorin Thermal Power Project in an area of 135 ha at District Thoothukkudi, Tamil Nadu in favour of M/s Neyveli Lignite Corporation 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.

Earlier, the Ministry of Environment, Forests and Climate Change (MoEF&CC) erstwhile MoEF accorded Environment Clearance (EC) for 2X500MW Tuticorin Thermal Power Project, District Tuticorin, Tamilnadu, NLC Tamilnadu Power Limited vide letter no. J-13012/68/2006/IA.II(T) dated 13.06.2007 and subsequent extension vide letter dated 11.01.2013.

**46.4.4** The EAC after detailed deliberation on the information submitted and as presented during the meeting **recommended** for grant of amendment in Environmental Clearance as proposed by the PP to the 2x500 MW Tuticorin Thermal Power Project in an area of 135 ha at District Thoothukkudi, Tamil Nadu in favour of M/s NLC Tamilnadu Power Limited, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific conditions:

- i. All the other conditions mentioned in the EC dated 13.06.2007 and its subsequent extension letter vide letter dated 11.01.2013 shall remain unchanged.
- ii. Activities shall be identified for the upliftment of local fisherman and its implementation status shall be submitted in six monthly compliance report.

#### Agenda Item No. 46.5:

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

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

**46.5.1** The proposal is for grant of Amendment in Environmental Clearance to 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhuvakkam, Ponneri Taluk,

Tiruvallur District, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO).

**46.5.2** Earlier, the proposal no. IA/TN/THE/237995/2021 was considered by the EAC for obtaining amendment in Environmental Clearance to North Chennai TPP Stage – III (1x800 MW) in an area of 76.9 ha (190 acre) located at Village Ennore & Puzhuvakkam, Tehsil Ponneri, District Thiruvallur, Tamil Nadu by M/s TANGEDCO.

Accordingly, the proposal was considered by the EAC in its 17<sup>th</sup> meeting held on 30th November, 2021, wherein the EAC overserved as follows:

- As per finding of Committee report which was constituted by Hon'ble NGT (SZ) mentioned that PP has constructed ash slurry pipeline for North Chennai Thermal Power Station Stage III without taking amendment in EC & CRZ clearance. Therefore, Hon'ble NGT has directed to take necessary amendment for construction of ash slurry pipeline for NCTPS Stage III. The EAC also noted the representation received about the project.
- The EAC noted that ash slurry pipeline of North Chennai Thermal Power Station (NCTPS) Stage I & Stage II are older than 25 years which are not managed properly and ash slurry is leaking into water stream. During the meeting, the EAC noted that PP has given commitment that repairing of ash slurry pipeline will be completed by February, 2022.
- The EAC noted the submission made by the PP during discussion that there is a requirement of ash slurry pipeline, but it will be used rarely, as PP has to maintain 100% ash utilization throughout the year and dumping of ash in ash dyke will be used in case of emergency. Further, EAC noted that FGD for Stage I & Stage II are not installed for controlling of SO<sub>x</sub> in the plant.

The EAC after detailed deliberation the project was deferred seeking additional information, therefore PP submitted the fresh proposal for obtaining amendment in Environmental Clearance dated 20<sup>th</sup> January, 2016.

**46.5.3** 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 & Puzhuvakkam, 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. In order to offset the power demand of Tamil Nadu TANGEDCO has proposed to set up a coal based 1 x 800 MW super critical thermal power plant, Stage III within the NCTPS complex using the existing infrastructure facilities viz., Cooling water channel and coal handling system.
- iv. An application [No.122 of 2021 dt.7.6.21] has been filed by one Thiru. R. Ravimaran, Ennore, before the Hon'ble NGT (SZ) at Chennai against the NCTPP-III for the construction of ash slurry pipe lines.
- v. Further, a suo moto case (No.162/2021) has been registered by the Tribunal against NCTPS Stage-I, Stage-II, NCTPP Stage-III, and Ennore SEZ TPP project based on the news item published in the Newspaper, Times of India, Chennai Edition dt.1.7.21. The Hon'ble NGT(SZ) has also constituted a Committee and instructed the Committee to look into the issues and submit a report. Accordingly, the NGT Committee submitted their report which states under the heading "Findings of the Committee"

*"It is inferred that the NCTPS Stage-III has not obtained CRZ clearance for laying of ash slurry pipeline or for laying new ash pipeline corridor in the CRZ area."*

*Also, under heading "Recommendation of the Committee," in par.8, it has been mentioned as"The TANGEDCO shall resume the activities pertaining to NCTPS Stage-III and Ennore SEZ power plants within CRZ area in Kosasthalaiyar River/Buckingham Canal/Backwaters only after obtaining amendment to the existing CRZ clearance from MoEF&CC".*

- vi. As part of the Stage III plant for the transfer of ash slurry from the plant (during its operation) to the existing ash dyke pond of NCTPS and carry the recovery water from the dyke to the plant, ash slurry pipelines and recovery water pipeline system were being laid which was though part of the earlier proposal's approved EC, was not highlighted particularly.
- vii. Considering the technical feasibility and integrity of the existing structure, the pipeline alignment is designed in such a way that the system will be developed and installed majorly parallel to the existing pipelines of Stage I and Stage II plants rather than above them in deck structures, as per details submitted to MoEF&CC in 2015.
- viii. At present about 65 % of the construction activities have been completed. During the construction/installation of the ash pipelines, applications (Original Application No.122 of 2021 (SZ) With Original Application No.162 of 2021 (SZ)) were filed in Hon'ble NGT (SZ) against the same for stopping the laying of pipelines. In this

regard, as per the recommendations of the committee constituted by NGT (SZ), TANGEDCO has submitted a proposal No. IA/TN/THE/237995/2021 dated 15 November, 2021 seeking amendment in the EC and CRZ clearance of the project for inclusion of laying the ash slurry pipelines and recovery water pipeline.

- ix. The ash handling unit of the under construction NCTPP Stage III plant is designed with dry form of ash collection and the collected ash will be stored in silos. The total of ~3,608 TPD of dry ash (in worst case scenario of utilizing 100% Indian coal) will be supplied to cement / brick industries for manufacturing cement and bricks in the worst-case scenario of utilizing 100% Indian coal. An MOU has been executed with M/s. Dalmia Cements Ltd, Dalmiapuram in this regard, other vendors will also be identified via e-auction in line to existing practice of NCTPS. Additionally, the ash disposal system also has the provision to handle wet ash which will be disposed in the form of slurry to the existing ash dyke pond adjacent to NCTPS Ennore SEZ STPP. The water that will be recovered from Ash dyke will be collected, pumped, and reused for slurry making in the Stage III Plant through recovery water line.

**46.5.4** Point wise reply on additional details sought by the EAC in its 17<sup>th</sup> meeting held on 30<sup>th</sup> November, 2021 are as follows:

**Query 1: Recommendations of the SCZMA and CRZ division in the Ministry.**

**Reply:** PP has obtained recommendations from the Tamil Nadu State Coastal Zone Management Authority (TNSCZMA) vide letter No 6269/EC.3/2023 dated 18.08.2023.

**Query 2: Impact Assessment plan and mitigation measures shall be prepared for all along the route for laying ash pipeline shall be submitted.**

**Reply:**

- A detailed Impact Assessment study was conducted by NABET accredited EIA Consultants M/s Cholamandalam MS Risk Services Ltd.
- Baseline monitoring was conducted during September- October 2022 and January – March 2023.

**Predicted impacts**

- No direct ground or surface water abstraction.
- Water demand during construction phase: 865KLD, (will be met from existing sources – CMWSSB).
- Water demand during operation phase: 2 KLD met by main plant's desalination plant
- Spillage of construction material
- Spillage of ash slurry due to unprecedented event

**Environmental Management Plan**



- The construction activities shall be restricted during turtle nesting seasons (Dec to Feb) as any spill in the Buckingham Canal or Kosasthalaiyar River will enter the sea via Ennore estuary.
- Site machinery and equipment fitted with spill collection trays
- Pressure monitoring system and emergency shut-off valve shall be installed to monitor & control the Pipelines for any leaks or damages.
- Pipe mechanical integrity tests, periodical manual inspection, and CCTV camera installation at a primary location where pipelines cross the creek and sensitive areas.
- Environmental emergency clean-up fund Rs. 1 Cr
- Corridor designed with deck structure in water crossing to prevent any direct spill/leak.

**Hydrodynamic Modelling:** 38 piles in the Kosasthalaiyar river and banks, ~16 piles in water course.

- Current speed in the river/creek - 0 m/s to 0.02 m/s.
- The current speed in the existing structure footprint - 0.14m/s.
- Incremental change in current speed post development - 0.16 m/s
- Post-project localized current speed @ structure footprint - 0.3 m/s.
- Insignificant change in Hydrodynamics.

### Pipeline System Water Body Crossing

- 38 piles in the Kosasthalaiyar river and banks, ~16 piles in water course – Insignificant change in Hydrodynamics.
- 18 piles will be installed in the Buckingham canal’s banks, - No piles in water course & No change in hydrodynamics
- 18 piles will be installed in the Boat canal (no flow exists) and banks

S. No	Description	CRZ Classification	Length (m)	Area (Sq.m)*	Percentage of Construction Completed	Total length (m)	Total Footprint Area (Sq.m)*
1	Ash Slurry Disposal and Recovery Water Pipeline	CRZ I A (50m Buffer from Mangroves)	271.1	34	65%	6813.25	2550
		CRZ I B	141.15	78			
		CRZ II	902.45	1250			
		CRZ IV B	59.01	65			
		Outside CRZ	5439.54	1123			

\* Values provided by NCTPP Stage III Site team based on the design specification calculations

Clause 4. (ii). (d) and 8.1.(i).(b). which states that “The following activities shall require clearance from MoEF&CC, namely - laying of Pipelines, conveying systems, transmission line” and “No new construction shall be permitted in CRZ-I except - Pipelines, conveying systems including transmission lines” respectively

**Query 3: Impact Assessment report on Mangrove forests and plan to conserve Mangrove forest shall be submitted.**

**Reply:** A detailed EIA Study Inclusive of Impact Assessment report on Mangroves and Mangrove Conservation/Management Plan has been prepared and presented in the EIA Report. The budget for the mangrove conservation and afforestation programs shall be allocated from the 2 Cr. Compensatory Conservation Plan (CCP) budget.

**Predicted impacts**

- Settlement of dust particles from construction on mangrove leaves
- Impact on species within mangrove habitat area
- Spill of construction materials
- No loss of mangroves in the footprint area, footprint in mangrove buffer area (50m mangrove buffer) is 34 Sq.m

**Baseline scenario**

- Mangroves of 225.8 Ha. is present within the 10 Km Study Area.
- *Avicennia marina* was the recorded species
- No pipelines will be laid in the mangrove core area
- Pipelines will be laid only in mangrove buffer area with max footprint of 34 Sq.m

**Environmental Management Plan**

- Periodical Mangrove Health Survey
- Creation of GIS based Baseline Mangrove area mapping for change assessment
- Awareness programs for site workers to prevent interaction with mangroves
- Dedicated Mangrove Management Plan
- Mangrove Afforestation - 34 x 5 = 170 Sq.m with Forest Dept
- The budget for the mangrove conservation and afforestation programs shall be allocated from the 2 Cr. Compensatory Conservation Plan (CCP) budget.

**Query 4: Complete plan and time lime to install FGD’s for all of Stages of NCTPS shall be submitted.**

**Reply: Complete plan with timeline to install FGD’s for all of Stages of NCTPS are as under:**

NCTPS Stage I – FGD Plan		
Tender Opening	Process Period after Tender Opening	Conduct Period

02.03.2023	180 days	820 Days
<b>NCTPS Stage II – FGD Plan</b>		
Tender Opening	Process Period after Tender Opening	Conduct Period
14.06.2023	180 days	820 Days
<b>NCTPS Stage III – FGD Plan</b>		
Tender Awarded to	Date of Handing Over Site	Conduct Period
BHEL	22.01.2021	45 Months

**Query 5: Ash generation and its utilization status in last 5 years of Stage-I and Stage-II along with its utilization plan for next five years shall be submitted.**

**Reply:**

**Details of Fly Ash generation and utilization status in the last 5 years of NCTPS-I.**

Year	Total Coal Consumption (in MT)	Total Ash Generated (in MT)	Total Ash Utilized (Fly + Wet) (in MT)	Balance Ash to Dyke (in MT)
<b>2017-2018</b>	3049155	1141177	453333	687844
<b>2018-2019</b>	2791371	1016863	672756	344107
<b>2019-2020</b>	2462649	822999	1000337	-177338
<b>2020-2021</b>	2332509	908512	2332848	-1424336
<b>2021-2022</b>	2493105	1018752	1450658	-431906

Note: Utilization plan for next 5 years:

Further 12 Nos Cement Companies have been allotted for lifting of 500000MT per annum for next three years and extended upto 5 Years.

**Details of Fly Ash generation and utilization status in the last 5 years of NCTPS-II.**

Year	Total Coal Consumption (in MT)	Total Ash Generated (in MT)	Total Ash Utilized (Fly + Wet) (in MT)	Balance Ash to Dyke
<b>2017-2018</b>	4425830	1590697	638222	952475
<b>2018-2019</b>	5008822	1788038	1138962	649076

<b>2019-2020</b>	4094839	1404983	1385385	19598
<b>2020-2021</b>	2945551	1083884	1775993	-692109
<b>2021-2022</b>	3684063	1488890	1559328	-70438

Note: Utilization plan for next 5 years:

Further 16 Nos Cement Companies have been allotted for lifting of 1600000MT per annum for next three years and extended upto 5 Years.

**Query 6: Implementation status of findings of NGT order shall be submitted.**

**Reply: Implementation status of finding of the NGT order are as follows:**

<b>S.No</b>	<b>NGT Conditions</b>	<b>Compliance to NGT conditions</b>	<b>Implementation status/ action plan</b>
1	To pay an amount of Rs. 50,00,000/- towards Environmental compensation to TNPCB	Complied	Amount paid to TNPCB account thro' online vide UTR No.IOBAN22087324859 dt 28.03.2022
2	To pay an amount of Rs.25,000/- to the petitioner ((late) Mr. Ravimaran)	Complied	Amount paid to the legal heir of the petitioner thro' online vide UTR No. 217115755980 dt. 20.06.2022
3	To obtain amendment to the existing EC & CRZ clearances from the MoEF & CC.	Current Submission & appraisal	CZMA recommendations obtained on 18.08.2023. Proposal submitted to MoEF& CC on 29.08.2023.

**Query 7: Certified compliance report from Ministry's Regional office of previous ECs of Stage –I and Stage -II.**

**Reply:** PP did not submitted the Certified compliance report from Ministry's Regional office of previous ECs of Stage –I and Stage –II.

**Query 8: Disaster management plan especially in terms of leakage of ash slurry pipelined.**

**Reply:**

- A detailed EIA Study Inclusive of Impact Assessment Plan, Disaster Management and Emergency Response Plan for the Ash Slurry Pipeline Route has been prepared and presented in the EIA Report.
- An Emergency Response Plan Budget / Environmental Emergency Clean-Up Fund of about INR. 1 Cr shall be earmarked and be utilized only for the dedicated purpose. The budget shall be governed by the Director/Chairman/Chief Engineer (Site Main Controller) associated by Control In Charge or Site Incident Controller for effective utilization of the funds.

### **Disaster Management & Emergency Response Plan**

1. Spill identification via visual inspection or surveillance video/site surveillance or pressure drop warning – Pumping operations stopped via manual/automatic.
2. A communication system shall be established between site people and control room and vice versa to ensure that the entire team is well aware of any spill occurrence.
3. Emergency shutoff valve closed via manual/remote
4. Response time of team < 1 Hr.
5. The spill containment/ removal units in site.
6. Kit Assessment - Quarterly and during the mock drill events.
7. Spill area earmarked isolated in case of spill.
8. Manual recovery and stored in portable steel bins, trolleys, trucks for onwards transport to ash dyke.
9. PPEs for spill collection and response team.
10. The pipeline water body crossings on concrete decks to prevent direct spill. crossing shall include drain facilities for spill collection and cleaning.
11. At any point of time 30 to 50 site people shall be made available at site for emergency response, spill containment and recovery operations.
12. The slurry settled over the bed of the water body will be removed by machinery and manual method.
13. Additionally, to prevent failure of pipelines, Pipeline Integrity Test shall be conducted once every year to check the condition of the pipelines and in case of failure identification the section shall be replaced.
14. The pipelines are designed for an average life span of 30 years; however, to prevent any mishaps, the pipeline sections crossing the water bodies shall be replaced every 25 or less if required based on the annual pipeline integrity tests.

**Query 9: Necessary local permission for laying as slurry pipeline need to be obtained and shall be submitted.**

**Reply:** Details about the land ownership is submitted as under:

<b>Land Ownership</b>	<b>Land Area (Acres)</b>
TNEB (TANGEDCO) land	24.80

Kamarajar Port Limited (KPL) Land - Ennore Port	7.12
Area of land in Water Bodies	0.269
Total Land Required for Pipelines	32.189

**Query 10: Quality of waste water dumping into the water and impact on pisciculture in river stream need to assess and its mitigation measure shall be submitted**

**Reply:** The outfall water quality and analysis at confluence point is being undertaken on periodical basis. The outfall quality is maintained in line to the discharge standards

**46.5.5 The EAC during deliberations noted the following:**

The proposal is for grant of Amendment in Environmental Clearance to 1x800 MW (Stage III) North Chennai TPP at Villages Ennore & Puzhuvakkam, 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 & Puzhuvakkam, 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.

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

- i. 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.

**The meeting ended with vote of thanks to the Chair.**


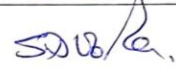
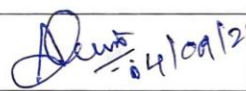


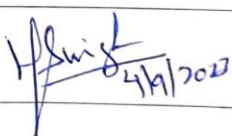

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## Annexure

### ATTENDANCE

#### 46<sup>th</sup> MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) THERMAL POWER PROJECTS

DATE : 04.09.2023  
 TIME : 02:30 PM onwards  
 VENUE : Narmada Hall, Jal Block, Indira Paryavaran Bhawan, New Delhi.

Sl.No.	Name of Member	Role	Signature
1.	Shri Gururaj P. Kundargi	Chairman	
2.	Shri Suramya Dolarray Vora	Member	
3.	Dr. Narmada Prasad Shukla	Member	- Ab -
4.	Dr. Santoshkumar Hampannavar	Member	 04/09/23
5.	Dr. Umesh Jagannathrao Kahalekar	Member	
6.	Shri K. B. Biswas	Member	 04/09/23
7.	Dr. Nandini.N	Member	Present through VC
8.	Dr. Unmesh Patnaik	Member	- Ab -
9.	Dr. Nazimuddin	Member (Official) Representative of Central Pollution Control Board, New Delhi	- Ab -
10.	Sh. Mahi Pal Singh	Member (Official) Representative of Central Electricity Authority (CEA)	 4/9/2023
11.	Prof R.K. Giri	Member (Official) Representative of Director General Indian Meteorological Department (IMD), New Delhi	- Ab -
12.	Professor Sheo Shankar Rai	Member (Official) Representative of Indian School of Mines Dhanbad (ISM Dhanbad)	Present through VC
13.	Shri Yogendra Pal Singh	Scientist - E and Member Secretary (Thermal Power Projects), MoEF&CC	

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## **APPROVAL OF THE CHAIRMAN**

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**From:** [gpkundargi@gmail.com](mailto:gpkundargi@gmail.com)

**To:** "Yogendra Pal Singh" <[yogendra78@nic.in](mailto:yogendra78@nic.in)>

**Sent:** Sunday, October 1, 2023 11:04:57 AM

**Subject:** Re: Draft MOM of the EAC (Thermal) held on 4.09.2023 -reg.

Dear Dr.Yogendra ji,

Draft Minutes of 46 th meeting of EAC Thermal are fine with me & Approved .  
you may take necessary action in this regard.

Thank you

Kundargi G P