सत्यमेव जयते

File No: J-13012/65/2008-IA.II(T)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **06/11/2025**

To,

Sh. Rajesh Malik
M/s. NTPC Limited
NTPC Limited, NTPC Bhawan, SCOPE Complex, Institutional Area, Lodhi Road, New Delhi – 110003
E-mail: rajeshmalik@ntpc.co.in

Subject: **Expansion of 2x800 MW (Stage-I) Darlipali Supercritical Coal Based Thermal Power Plant by Addition of One Unit of 800 MW [1x800MW(Stage-II) Darlipali Super Thermal Power Project] by M/s. NTPC Limited located at Village Darlipali, Raidihi, in Lephripara Tehsil, Village Chuabahal, Kalamegha, Laikera, Bihajor, Kanaktura in Hemgir Tehsil, District Sundergarh and Village Tileimal, Chichinda, Kechobahal, in Jharsuguda Tehsil and Village Chhadarama in Lakhanpur Tehsil of Jharsuguda District, Odisha – Environmental Clearance– regarding**

Sir/Madam,

This is with reference to your proposal number IA/OR/THE/551120/2025 dated 11/09/2025 along with a written submission dated 15.10.2025 seeking for grant of Environmental Clearance (EC) under the provisions of the EIA Notification 2006 and as amended thereof to the proposed project mentioned above.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25A0601OR5829174N
(ii) File No.	J-13012/65/2008-IA.II(T)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(d) Thermal Power Plants
(vi) Sector	Thermal Projects
(vii) Name of Project	Expansion of 2x800 MW (Stage-I) Darlipali Supercritical Coal Based Thermal Power Plant by Addition of One Unit of 800 MW [1x800MW(Stage-II) Darlipali Super Thermal

	Power Project] at Village Darlipali, Raidihi, in Lephripara Tehsil, Village Chuabahal, Kalamegha, Laikera, Bihajor, Kanaktura in Hemgir Tehsil of Sundergarh District and Village Tileimal, Chichinda, Kechobahal, in Jharsuguda Tehsil and Village Chhadarama in Lakhanpur Tehsil of Jharsuguda District in Odisha
(viii) Name of Company/Organization	M/s. NTPC Limited
(ix) Location of Project (District, State)	Sundergarh, Odisha
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. M/s. NTPC Limited has made an online application vide proposal no. IA/OR/THE/551120/2025 dated 11/09/2025 along with copy of EIA/EMP report, Form and Certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above.

4. The proposed project activity is listed at item no. 1(d) Under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central Level and does not attract the general condition of the EIA Notification, 2006.

5. The instant Proposal was considered by the EAC (Thermal) in its 30th meeting held on 26th September, 2025. The PP has submitted the written information on 15.10.2025. The MoM for the same may be seen using the following web link: https://parivesh.nic.in

Details submitted by the project proponent

6. Darlipali Super Thermal Power Project, Stage-II (1 x 800 MW) by M/s. NTPC Limited, located in Darlipali, Raidhi Village in Lephripara Tehsil & Chuabahl, Kalamegha, Laikera, Bihajor, Kanakturan village in Hemgir Tehsil of Sundergarh District and village Tileimal, Chichinda, Kechobahal in Jharsuguda Tehsil and village Chhadarama in Lakhanpur Tehsil of Jharsuguda District in Odisha State is for enhancement of power generation capacity from 1600 MW to 2400 MW with addition of 1 unit of 800 MW based on Ultra Super Critical Technology & Air Cooled Condenser.

7. The existing project of 2x800 MW was accorded environmental clearance vide letter no. J-13012/65/2008-IA.1(T) dated 17.02.2014 from Ministry of Environment & Forests. The Environment Clearance was amended vide letter dated 12.02.2019, 11.08.2020 & 24.12.2021. The project has been implemented and units are under operation. Consent to Operate for the existing units was accorded by Odisha State Pollution Control Board vide Letter No. 6565 dated 28.03.2025. The validity of CTO is up to 31.03.2026.

8. Implementation status of the existing EC

S. No.	Configuration	Capacity (MW)	Date of EC	Implementation Status	Production as per CTO
1	2×800	1600 MW (2 x 800 W)	17.02.2014	2×800	1600 MW

9. **Certified compliance report from Regional Office**: The Status of compliance of earlier EC was obtained from Regional Office Bhubaneswar, vide letter no.101-736/EPE dated 10.09.2024 in the name of M/s. NTPC Darlipali. The Action taken report regarding the partially/non-complied conditions was submitted to Regional office, MoEF&CC Bhubaneswar, vide letter no. DSTPP/EMG-AU/26/2024 dated 21.09.2024. Request letter regarding revisit for closure report has been sent to RO vide letter no: DSTPP/EMG-AU/2024/30 dated 18.10.2024. MoEF&CC (RO), Bhubaneswar evaluated the same after revisiting the site on 09.05.2025 and submitted observations on ATR submitted by Project Proponent dated 21.09.2024 vide letter no. 101-736/EPE/2024 dated 02.06.2025 to MoEF&CC. In this regard, project proponent has submitted the action taken report regarding the partially/non-complied conditions vide letter no: DSTPP/EMG-AU/2025/26 dated 28.06.2025.

10. **Status regarding SO2 emission standards as per the MoEF&CC Notification dated 11/07/2025**:

i. Categorization details of TPP : C (Other than those included in Category A and B)

ii. Sulfur content of the coal to be fired in the boiler: 0.4%-0.55%.

iii. Status of FGD installation for existing unit: Wet Flue gas desulphurization (FGD) System has been installed for both the units of Darlipali STPP Stage-I and are in operation.

iv. Action plan for installation of new stack in compliance to the notification number GSR 742 (E) dated the 30/08/1990 for the proposed expansion : Installation of 275m high stacks envisaged for the proposed expansion project in compliance to the notification GSR 742(E) dated 30.08.1990.

11. The detail of the ToR is furnished as below:

Proposal No with date	Consideration	Details	Date of accord	ToR Validity
IA/OR/THE/417290/2023	38th EAC meeting held on 06.03.2024	Terms of reference	17.04.2023	16.04.2027
IA/OR/THE/441147/2023	47th EAC meeting held on 26.09.2023	Amendment	13.11.2023	-
IA/OR/THE/544298/2025	28th EAC meeting held on 12.08.2025	Amendment	09.09.2025	-

12. **Environmental site settings**

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>1</td><td>Total land</td><td>Existing area is 675.780 Ha. Total land requirement for Stage II i.e., 1x800 MW is 159.912 Ha. Total area of the project is 835.692 Ha. Out of 159.912 Ha, 39.278 Ha will be met from the existing area and remaining 120.64 Ha of additional land is proposed to be acquired.</td><td>-</td></tr>
<tr><td>2</td><td>Land use break up (Page 56 Final EIA report)</td><td>
<table>
<tr><th>Description</th><th>Existing (Ha)</th><th>Area Proposed (Ha)</th><th>Total (Ha)</th></tr>
<tr><td>Main Plant</td><td>92.24</td><td>46.592</td><td>138.832</td></tr>
<tr><td>Ash Pond</td><td>160.00</td><td>60.000</td><td>220.000</td></tr>
<tr><td>Sub Total (Plant & ash Dyke)</td><td>252.24 (A)</td><td>106.592 (B)</td><td>358.832 (C)</td></tr>
<tr><td>Green Belt</td><td>116.47</td><td>39.660</td><td>156.13</td></tr>
<tr><td>Green Belt (%) of Main Plant & Ash Dyke Area</td><td>46.17 % of (A)</td><td>37.20 % of (B)</td><td>43.51 % of (C)</td></tr>
<tr><td>Township</td><td>55.210</td><td>0</td><td>55.210</td></tr>
<tr><td>Railway siding, MGR, Outside drains etc.</td><td>159.150</td><td>0</td><td>159.150</td></tr>
<tr><td>Raw water Reservoir</td><td>12.000</td><td>13.660</td><td>25.660</td></tr>
<tr><td>Others (Misc. areas in roads/periphery, office/Stores,</td><td>80.610</td><td>0</td><td>80.610</td></tr>
</table>
</td><td>The additional unit(1x800MW) of Stage-II are proposed to be established adjacent to Stage-I units. However, approx. 120.64 Ha of additional land is proposed to be acquired out of total land requirement of 159.912 Ha for Stage II.</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>make up water pump House etc.)</td><td></td><td></td><td></td></tr>
<tr><td>Total</td><td>675.780</td><td>159.912</td><td>835.692</td></tr>
</table>
</td><td></td></tr>
<tr><td>3</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014 & 19/02/2025</td><td>
Darlipali STPP has acquired total 715.059 Ha out of which 675.780 ha of land has been utilized for Stage-I, with the provision of 39.278 Ha to be utilized for proposed Stage-II (1x800 MW). Land required for acquisition towards the proposed Darlipali Stage– II (1x800 MW) expansion project is 120.64 Ha, out of total land requirement of 159.912 Ha.
Breakup of the Land use of TPP site is as follow
<table>
<tr><th>Nature of land involved (in Ha)</th><th>Area existing (in Ha)</th><th>Additional area proposed (in Ha)</th><th>Total area required after expansion (in Ha)</th></tr>
<tr><td>Non-Forest Land</td><td>622.700</td><td>94.611</td><td>717.311</td></tr>
<tr><td>Forest Land</td><td>53.080*</td><td>65.301</td><td>118.381</td></tr>
<tr><td>Total</td><td>675.780</td><td>159.912</td><td>835.692</td></tr>
</table>
*25.56 ha of forest land for laying of Make Up Water (MUW) pipeline and 132 KV Electric Transmission lines by NTPC Ltd. on ROU/ROW basis are not included in above table.
<table>
<tr><th colspan="2">Land Category</th><th>Stage – II (1 x 800 MW)</th></tr>
<tr><td rowspan="2">Non-Forest land to be acquired /alienated (In Ha.)</td><td>Pvt.</td><td>38.85</td></tr>
<tr><td>Govt.</td><td>16.49</td></tr>
<tr><td colspan="2">Forest Area (In Ha.)</td><td>65.301</td></tr>
<tr><td colspan="2">Total (Ha)</td><td>120.64</td></tr>
</table>
Status of land acquisition: Out of 120.64 Ha, 65.301 Ha is a forest land for which Stage I FC has been obtained vide FC letter dated 17.10.2025. The remaining 55.34 Ha, is under the process of acquisition by the project proponent through Revenue Department of Government of Odisha.
</td><td>Land details for existing land and proposed acquisition are available and submitted with EC application.</td></tr>
<tr><td>4</td><td>Existence of habitation & involvement of R&R, if any.</td><td>
Project site: Nil
Study Area: Details of the nearby villages are as follows:
<table>
<tr><th>Village</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Tileimal</td><td>2.31</td><td>SE</td></tr>
<tr><td>Darlipali</td><td>0.05</td><td>E</td></tr>
<tr><td>Chichinda</td><td>3.28</td><td>S</td></tr>
<tr><td>Kanaktora</td><td>2.65</td><td>SSW</td></tr>
<tr><td>Naudihi</td><td>4.02</td><td>E</td></tr>
<tr><td>Raidihi</td><td>1.25</td><td>W</td></tr>
<tr><td>Raibaga</td><td>2.35</td><td>NE</td></tr>
</table>
</td><td>The R&R plan shall be finalised in consultation with the State Government.</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Kechhobahal</td><td>4.56</td><td>S</td></tr>
<tr><td>Loising</td><td>6.64</td><td>SE</td></tr>
<tr><td>Rajpur</td><td>7.91</td><td>SSE</td></tr>
<tr><td>Jogimal</td><td>7.18</td><td>ENE</td></tr>
<tr><td>Mundagaon</td><td>4.66</td><td>ENE</td></tr>
<tr><td>Jhargaon</td><td>4.12</td><td>NNE</td></tr>
<tr><td>Badbanga</td><td>5.41</td><td>NE</td></tr>
<tr><td>Laikera</td><td>5.38</td><td>W</td></tr>
<tr><td>Chaubahal</td><td>2.22</td><td>WSW</td></tr>
<tr><td>Dambahal</td><td>9.39</td><td>E</td></tr>
</table>
</td><td></td></tr>
<tr><td>5</td><td>Existence of school and hospitals if any</td><td>
Project site: Darlipali STPP Stage-II
Details of the schools in nearby area are as below:
<table>
<tr><th>School</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Bal Bharati public school</td><td>0.76 km</td><td>N</td></tr>
<tr><td>Lochan High School</td><td>0.18 km</td><td>E</td></tr>
<tr><td>Blue Swan Public School</td><td>0.21 km</td><td>E</td></tr>
<tr><td>Chandra Susama Degree College</td><td>0.58 km</td><td>NNW</td></tr>
<tr><td>Damodar Naik junior College</td><td>0.58 km</td><td>NNW</td></tr>
<tr><td>Government Polytechnic College</td><td>1.58 km</td><td>ESE</td></tr>
<tr><td>Saraswati Shishu Vidya Mandir</td><td>1.81 km</td><td>E</td></tr>
<tr><td>Anganwadi School</td><td>2.40 Km</td><td>NW</td></tr>
</table>
Hospital details near the project site are as follows:
<table>
<tr><th>Hospital</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Niramay hospital</td><td>Project site</td><td>Nil</td></tr>
<tr><td>Darlipali Primary Health Center</td><td>0.58 km</td><td>E</td></tr>
<tr><td>Raidihi Hospital</td><td>1.47 km</td><td>NW</td></tr>
<tr><td>Primary Health Center Loisingh</td><td>1.48 km</td><td>WW</td></tr>
</table>
Protection measures to be adopted are as follows:
Control of Air Emissions:
Provision of High Efficiency ESP, Low NOx Burner & Over Fire Air System, Dust Extraction, Dust Suppression, Dry Fog Dust Suppression, Fog Cannons at Ash Dyke, Water Sprinkling on Hauling Roads·
Noise: Acoustic Enclosures & barriers
Greenbelt Development: Development of dense greenbelt in the periphery of plant as well as towards the side of villages/ habitations, Afforestation/ Miyawaki Plantation on available land.
Wastewater: ETP, STP, Ash water recycling system, Zero Liquid Discharge, Rainwater Harvesting, Watershed Development in the vicinity.
Safety: Display signages, speed breakers, and crossing guard's
</td><td></td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>provision; optimization of heavy vehicle movement near villages, Disaster Management Plan & Provisions.
Health & Awareness: Regular health camps, distribution of masks, and environmental awareness programs for surrounding community. Native species greenbelt development along the forest boundary. Downcast, low-intensity lighting will be used near forest areas. Night-time construction near sensitive zones will be minimized. Awareness programs on forest and wildlife protection Implementation of Wildlife Conservation Plan in consultation with Forest Dept.
CSR & Monitoring: Support for infrastructure and development, air and noise monitoring in the nearby.</td><td></td></tr>
<tr><td>6</td><td>Latitude and Longitude of all corners of the project site.</td><td>Main Plant site
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>21°58'28.43"</td><td>83°53'25.63"</td></tr><tr><td>B</td><td>21°57'55.87"</td><td>83°54'27.29"</td></tr><tr><td>C</td><td>21°57'29.79"</td><td>83°53'35.00"</td></tr><tr><td>D</td><td>21°58'5.02"</td><td>83°52'43.15"</td></tr></table>Existing Ash Pond
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>21°57'23.52"</td><td>83°54'52.27"</td></tr><tr><td>B</td><td>21°57'2.15"</td><td>83°55'28.21"</td></tr><tr><td>C</td><td>21°56'42.57"</td><td>83°55'13.22"</td></tr><tr><td>D</td><td>21°57'10.66"</td><td>83°54'23.44"</td></tr></table>Existing Township
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>21°59'5.40"</td><td>83°54'7.34</td></tr><tr><td>B</td><td>21°59'5.73"</td><td>83°54'27.39"</td></tr><tr><td>C</td><td>21°58'37.43"</td><td>83°54'27.22"</td></tr><tr><td>D</td><td>21°58'40.45"</td><td>83°53'56.12"</td></tr></table>Proposed Ash Pond
<table><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>21°57'3.98"</td><td>83°54'7.86"</td></tr><tr><td>B</td><td>21°56'39.29"</td><td>83°54'36.57"</td></tr><tr><td>C</td><td>21°56'19.77"</td><td>83°54'26.47"</td></tr><tr><td>D</td><td>21°56'36.70"</td><td>83°54'0.21"</td></tr></table></td><td></td></tr>
<tr><td>7</td><td>Elevation of the project site</td><td>Elevation of plant is approx. 235-246 m (msl), Elevation of Existing Ash dyke of Stage-I is approx. 223-245 m (msl) and Elevation of Proposed Ash dyke of Stage-II is approx. 225-245 m (msl).</td><td></td></tr>
<tr><td>8</td><td>Involvement of Forest land if any.</td><td>Total forest land involved: 143.941 Ha
<u>Status of Forest Clearance for Darlipali STPP Stage-I (2 x800 MW)</u>:
Area of the forest land involved: 78.64 Ha (13.95 Ha+19.70</td><td></td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>Ha +19.43 Ha +25.56 Ha)
Details of existing forest diversion are as follows:
1. Diversion of 13.95 ha of forest land for setting up of Darlipali Super Thermal Power Project in Darlipali and Raidihi village under Sundergarh Forest Division of Sundergarh district
● Stage-I FC accorded vide letter No. 5-ORC158/2013-BHU dated-14.08.2013.
● Stage-II FC accorded vide letter No.5-ORC158/2013-BHU dated-13.10.2014.
2. Diversion of 19.70 ha of forest land in village Darlipali, Raidihi, Chuabahal and Kalamegha in Sundergah district, Odisha for construction of MGR-Rail Corridor for transportation of coal from their Dulanga Coal Mines to Darlipali Super Thermal Power Plant in Sundergarh district, Odisha
● Stage-I FC vide letter No.5-ORC240/2015-BHU dated17.06.2015.
● Stage-II FC accorded vide letter No.5-ORC240 /2015-BHU dated-16.11.2016.
3. FC (Stage-I) Diversion of 19.43 ha of forest land in village Laikera, Chuabahal, Kalamegha, Bihajore and Kanktora in Hemgir Tahasil of Sundergarh district, Odisha for construction of Railway Siding Corridor by Darlipali STPS to connect their MGR line (drawn between Darlipali STPP and their Dulanga Coal Mines) with MCL Railway stations at Laiikera and Kechobahal to transport coal from Basundhara, Garjanbahal area of MCL and also for transport of oil rakes of the Darlipali STPS
● Stage-I FC accorded vide letter No.5-ORC349 /2018-BHU dated18.06.2018.
● Stage-II FC accorded vide letter No.5- ORC349 /2018-BHU dated:26.06.2024.
4. Diversion of 25.56 ha of forest kisam land (originally proposed 25.76 ha) in Jharsuguda and Sundergarh district of Odisha for laying of Make Up Water (MUW) pipeline and 132 KV Electric Transmission lines by NTPC Ltd. for drawal of water from Hirakud reservoir for its Darlipali Super Thermal Power Project in Sundergarh district on ROU/ROW Basis.
● Stage-I FC accorded vide letter No.5-ORC279/2016-BHU dated 01.11.2016.
● Stage-II FC: accorded vide letter No.5-No.5-ORC279 /2016-BHU dated-24.04.2025
Project involved 65.301 Ha of forest land in the proposed Stage-II project.
<u>65.301 Ha of forest land is involved for which Stage I FC has been obtained vide proposal no. FP/OR/THE/446413/2023 dated 17.10.2025</u>.</td><td></td></tr>
<tr><td>9</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as</td><td>Project site: Nil
Study area: 10 km radius from the project area
<table><tr><th>Water body</th><th>Distance</th><th>Direction</th></tr></table></td><td>As per the Main Dam Division letter of Irrigation and Water Resource deptt. Odisha dated:</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>study area.</td><td>
<table>
<tr><td>Basundahara River</td><td>1.82 km</td><td>SW</td></tr>
<tr><td>IB river</td><td>9.03 km</td><td>SE</td></tr>
<tr><td>Ichha River</td><td>9.20 km</td><td>NE</td></tr>
</table>
Plant site (at an elevation of 235-246 m) is at higher elevation than the HFL of IB and Basundhara River (209 m MSL).
</td><td>04.03.2025 HFL of IB river and Basundhara river is 200.9m</td></tr>
<tr><td>10</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>
Study area Name of the ESZ/ESA: Nil
Status of Notification: Distance of project from ESZ/ESA: Not applicable
Authenticated map of ESZ projecting distance of ESZ from project site: Not applicable
Status of NBWL approval: Not applicable
List of Reserved and protected forests:
<table>
<tr><th>Name of Forest</th><th>Distance (km)</th><th>Direction</th></tr>
<tr><td>Barabanga PF</td><td>7.00</td><td>N</td></tr>
<tr><td>Panikholia RF</td><td>8.00</td><td>NW</td></tr>
<tr><td>Balijori RF</td><td>8.00</td><td>W</td></tr>
<tr><td>Kalamegha RF</td><td>4.7</td><td>WSW</td></tr>
<tr><td>Satparlia RF</td><td>6.2</td><td>WSW</td></tr>
<tr><td>Makarachata RF</td><td>3.8</td><td>S</td></tr>
<tr><td>Rajpur RF</td><td>9.3</td><td>S</td></tr>
<tr><td>Katangbubi RF</td><td>4.4</td><td>S</td></tr>
<tr><td>Balangibahal RF</td><td>4.6</td><td>E</td></tr>
<tr><td>Ghatmal PF</td><td>2.14</td><td>E</td></tr>
<tr><td>Bursipatra RF</td><td>0.9</td><td>ENE</td></tr>
</table>
No. National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes/wildlife corridor, available within 10 km of the project site. No Environment sensitive area is within 10 Km.
</td><td></td></tr>
<tr><td>11</td><td>Archaeological sites monuments/ historical temples etc.</td><td>No Archaeological sites within 10km of study area.</td><td>-</td></tr>
<tr><td>12</td><td>Facility envisaged in CRZ area
(Only for coastal power plant)</td><td>Not applicable</td><td>-</td></tr>
<tr><td>13</td><td>Involvement of Critically Polluted Area/Severel y Polluted area as per 2018 CEPI score</td><td>No involvement of Critically Polluted area/severely polluted area</td><td>-</td></tr>
</table>

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

S. No.	Existing power plant configuration and capacity	Proposed power Plant configuration and capacity	Total	Technology adopted*
1	2X800MW=1600MW	1x800 MW=800MW	2400MW	Ultra-Super Critical Technology

14. The details of the fuel (coal/LDO) requirement for the proposed project/ expansion cum proposed project along with

its source and mode of transportation is given as below:

Details	Fuel require - ment MTPA	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP	8.0	Dulanga; However, coal is also supplemented from other domestic sources such as MCL, NLC Talabira, NTPC Talaipalli, etc., as per requirement.	12 Km Other sources:10 to 150 Km	MGR Other sources: 10 to 150 Km	Ash - 43(%) Sulphur – 0.55(%) Moisture -17 (%) GCV -3100 Kcal/Kg	Linkage document is submitted with EC application
Proposed TPP	3.82	Tentative linkage source communicated by CIL: MCL	Tentative linkage source: MCL: 10 to 300 KMs (Pg 90 Final EIA report)	Transportation of Coal from Coal Mines to the project is proposed by MGR/Indian Railway. The permanent railway siding at Laikera and Kechobahal are sufficient to meet the coal requirement of Stage-II in addition to Stage-I (2X800MW + 1X800MW).	Ash - 42 % (%) Sulphur - Max. 0.55 (%) Moisture-17 %0 GCV - 3400 kcal/kg Kcal/Kg (Pg 90 Final EIA report)	Linkage documents is submitted with EC application

15. **Water requirement**: Existing Water requirement is 1,15,200 m3 /day, water requirement is obtained from Hirakud Reservoir and permission for the same has been obtained from Main Dam division Burla/Dept. of Water resources Odisha vide letter no. MDD/157 dated 9.02.2023 (permission for 55 cusec water allocation is given). The water requirement for the proposed project is estimated as 18,000 m3 /day will be obtained from Hirakund reservoir. The permission for drawl of surface water is obtained from Department of Water resources, Odisha vide Lr. No. 1799 Dated 21.01.2025 for additional water requirement of 7.42 Cusec. The water will be transported to the plant site through pipeline. The specific water consumption for the power plant is less than 3.0 m3 /MWhr.

16. **Existing power requirement**: Existing power requirement of 98.4 MW is obtained from Darlipali STPP Stage I. The power requirement for the proposed project is estimated as 58 MW, will be obtained from the own generation.

17. **Baseline Environmental Studies**:

Period	April -June 2023	Additional study (if any)
AAQ parameters at 10 Locations (min and max)	$PM_{2.5}$ = 22 To 37 µg/m^3 PM_{10} = 40 To 59 µg/m^3 SO_2 = 6 to 18 µg/m^3 NO_x = 14 To 30 µg/m^3 CO =0.45 To 0.84 mg/m^3	---
Incremental GLC level	PM_{10} =0.10 µg/m^3 (Level at 5.83.km In E Direction) $PM_{2.5}$ = 0.01 µg/m^3 (Level at 1.54 km In NW Direction) SO_2 = 15.47 µg/m^3 (Level at 0.63 km in E Direction) NO_x = 0.69 µg/m^3 (Level at 0.63 km In E Direction) (@100mg/nm^3)	----

Period	April -June 2023	Additional study (if any)
	Proposed measures for monitoring and Control of Air Pollution: •High efficiency Electrostatic Precipitator (ESP) to control PM •Emissions with 275 m high stack for wider dispersion. •Use of Low-NOx burners and Over Fire Air to control NO emissions. •Dust Suppression system in coal handling and ash handling areas. •Regular maintenance of Pollution control equipment's to ensure efficient functioning. •Continuous Emission & Ambient Air Quality monitoring systems.	
Ground water quality at 06 locations	pH: 6.84 to 7.38, Total Hardness: 264 to 442 mg/l, Fluoride: 0.18 to 0.22 mg/l. Heavy metals Zn: 0.071-0.407 mg/l Ca: 76-118.4 mg/l Mg:17.98-35.43 mg/l	
Surface water quality at 06 locations	pH: 6.99 to 7.42; DO: 5.7 to 6.7 mg/l and BOD: 5 to 7 mg/l. COD-36 mg/l to 56mg/l Chloride:18-40mg/l Fluoride:0.15-0.68mg/l TSS:06-14 mg/l TDS: 180-225 mg/l Total Hardness: 102-149 mg/l Heavy metal Zn:0.024-0.54 mg/l Fe: 0.034-0.072 mg/l Total coliform: 1876-2851 MPN/100ml	
Effluent generation details and its treatment	**Stage-I: Existing** ***Plant Effluent generation***: 54360 KLD ***ETP Capacity***: 7200 KLD (Lamella clarifiers) + 120 KLD (DM wastewater neutralization) + 72000 KLD (Coal slurry settling pits) [Total- 79320 KLD] ***Mode of treatment & reuse***: Neutralization for DM plant regeneration wastewater, Coal settling pit for Coal laden wastewater, Oil Removal & Lamella clarifier/Tube settler for service water. Treated Wastewater utilization in Cooling water makeup, dust suppression, ash handling, horticulture etc. within the plant maintaining, Zero Liquid discharge (ZLD). Rest quantity of effluents like cooling tower blowdown, Clarifier drainages etc. will be reused recycled mainly for Ash Handling and fugitive dust control purpose within the plant premises maintaining Zero Liquid discharge (ZLD). ***Domestic Effluent Generation Stage I***: 875 KLD ***STP Capacity Stage I***: 1275 KLD ***Technology***: STP (MBBR Technology) and Tertiary Treatment and treated effluent recycling in horticulture maintaining Zero Liquid discharge (ZLD) to cater entire sewage generated. **Stage-II: Proposed (1 x 800 MW)** ***Plant Effluent generation***: 15600 KLD ***ETP Capacity***: 3600 KLD (Lamella clarifier) + 120 KLD (DM wastewater neutralization) [Total- 3720 KLD] Additional- 48000 KLD (Clarifier system in existing CSSP pits) ***Mode of treatment & reuse***: Neutralization for DM plant regeneration wastewater, Coal settling pit (existing) along with Clarifier system for Coal laden wastewater, Oil Removal & Lamella clarifier/Tube settler for service water and Wastewater UF-RO system. Treated Wastewater utilization in Aux. Cooling water makeup, dust suppression, ash handling, horticulture etc. within the plant maintaining	

<table>
<tr><th>Period</th><th>April -June 2023</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>Zero Liquid discharge (ZLD).
Rest quantity of effluents like Clarifier drainages etc. will be reused recycled mainly for Ash Handling and fugitive dust control purpose within the plant premises maintaining Zero Liquid discharge (ZLD).
Domestic Effluent Generation St-II : 175 KLD
STP Capacity: Existing: 1275 KLD, Proposed 75 KLD,
Mode of treatment & reuse: Technology: STP (MBBR technology) with Tertiary Treatment and effluent recycling in horticulture maintaining Zero Liquid discharge (ZLD) for existing capacity STP. Packaged type STP proposed with primary, Secondary and tertiary treatment.</td><td></td></tr>
<tr><td>Noise levels Leq (Day and Night)</td><td>43.1dB (A) to 52.3 dB (A) for the daytime and
34.3 dB (A) to 40.3 dB (A) for the Night time.</td><td></td></tr>
<tr><td>Traffic assessment study finding</td><td>Traffic study has been conducted at MDR (Darlipali-Ujalpur road) which is approximately 1Km (distance) from the plant site.
•Transportation of raw material (Coal) will be done 100% by rail.
•Existing PCU is 39.79 PCU/hr on MDR (Darlipali-Ujalpur road) and existing level of service (LOS) is: 0.47
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>Traffic load on Darlipali-Ujalpur road</td><td>39.79</td><td>83.33</td><td>39.79/ 83.33</td><td>0.47</td></tr>
</table>
•PCU load after proposed project will be 46.62 (39.79 (Existing) + 6.83 (Additional) PCU/hr and level of service (LOS) will be: 0.55
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr.)</th><th>C (Capacity in PCU/hr.)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>Traffic load on Darlipali-Ujalpur road</td><td>46.62</td><td>83.33</td><td>46.62/83.33</td><td>0.55</td></tr>
</table>
* Note: Capacity as per IRC-2000 PCU/day (83.33 PCU/hr) Guideline for capacity for roads. (Only for road transport)
Conclusion: The level of service will 0.55 after including additional traffic due to proposed project.
•Transportation of raw material will be done 100% by rail</td><td></td></tr>
<tr><td>Soil Quality at 06 Locations</td><td>pH range 7.21to 7.44 ; Electrical conductivity (EC); 328 to 374 µ mhos/cm; Potassium: 9.27 to 9.99 mg/100 gm (207.65 kg/ha to 223.78 kg/ha); Nitrogen: 13.82 to 15.07 mg/100 gm (309.57 kg/ha to 337.57 kg/ha); Phosphorous: 0.66 to 0.84 mg/100gm (14.78 kg/ha to 18.82 kg/ha); Cation Exchange Capacity (CEC): 13.48 to 17.12 meq/100gm;</td><td></td></tr>
<tr><td>Flora and fauna</td><td>List of schedule I fauna and endangered Flora if any. If yes, status of site specific wildlife conservation plan.
<table>
<tr><th>S.N</th><th>Class</th><th>Scientific name</th><th>Common name</th><th>IUCN/ IWPA Status</th></tr>
<tr><td>1</td><td>Mammal</td><td>Herpestes edwardsii</td><td>Common Mongoose</td><td>LC/I</td></tr>
</table></td><td>This Wildlife Conservation plan with budgetary offer Rs. 391.5 lakhs has been prepared for Sch -I species and it has been submitted to PCCF vide letter no. DSTPP/emg/27/2024 dated 17.10.2024.</td></tr>
</table>

<table>
<tr><th>Period</th><th>April -June 2023</th><th>Additional study (if any)</th></tr>
<tr><td></td><td>
<table>
<tr><td></td><td></td><td>Vulpes bengalensis</td><td>Indian Fox</td><td>LC/I</td></tr>
<tr><td></td><td></td><td>Elephhas maximus</td><td>Harti</td><td>EN/I</td></tr>
<tr><td></td><td></td><td>Canis aureus</td><td>Siyar</td><td>LC/I</td></tr>
<tr><td></td><td></td><td>Felis chaus</td><td>Banbiral</td><td>LC/I</td></tr>
<tr><td>2</td><td>Reptilia</td><td>Naja naja</td><td>Nag</td><td>LC/I</td></tr>
<tr><td></td><td></td><td>Python molurus</td><td>Ajgar</td><td>VU/I</td></tr>
<tr><td></td><td></td><td>Ptyas mucosa</td><td>Rat snake</td><td>LC/I</td></tr>
<tr><td>3</td><td>Birds</td><td>Anthracoceros coronatus</td><td>Malabar pied hornbill</td><td>NT/I</td></tr>
<tr><td></td><td></td><td>Pavo cristtatus</td><td>Peacock</td><td>LC/I</td></tr>
</table>
</td><td></td></tr>
<tr><td>Hydrogeology study</td><td>
<table>
<tr><th>S. No.</th><th>Recommendations</th><th>Nos.</th><th>Budget (lacs)</th><th>Time Period</th></tr>
<tr><td>1</td><td>Quality of Surface water and ground water</td><td>Surface water at 10 Location Ground water at 08 Location</td><td>14.00</td><td>Six monthly</td></tr>
<tr><td>2</td><td>Construction of piezometer to monitor ground water level</td><td>04 Location near by Ash Dyke</td><td>08</td><td>01 Year</td></tr>
<tr><td>3</td><td>Revival of surface water ponds in surrounding area (Desilting and Cleaning)</td><td>10 nos.</td><td>40</td><td>0-2 Yrs</td></tr>
<tr><td></td><td>Total</td><td></td><td>62 Lacs</td><td></td></tr>
</table>
</td><td>M/s Sujalam Consultants Nagpur-an accredited Ground water Consultant Organisation (GWCO) by QCI NABET (Certificate No. NABET/GWCO/IA/GW002, Dt.23.09.2021 valid upto 05.11.2025</td></tr>
<tr><td>Impact study on ecology</td><td>Impact on Terrestrial Ecology:
The initial construction works at the project site involves land clearance. The construction of main plant will be within existing plant premises. Since land is already for industrial purpose, during construction phase, there will be minimal disturbance of vegetation. Greenbelt will be developed to screen out the fugitive dust generated during construction and to improve the aesthetic value in the area. As there is minimum soil erosion, so impacts will be confirmed to project site & this will be minimized through water sprinkling & paving.
The project involves diversion of 65.301 Ha of forest land with 5964 no. of trees. However, the forest land proposed for diversion in patches, surrounded by NTPC plant area/ intensely cultivated and inhabited area and hence, has no significant wildlife. Compensatory afforestation on equivalent non-forest land shall help in offsetting the impact of forest land diversion, if any. Therefore, the impact on terrestrial ecology shall be marginal.
Impact on Aquatic ecology:
The runoff from construction area may lead to a short-term increase in suspended solids and decrease in dissolved oxygen near the discharge</td><td>Mantac consultant Pvt. Ltd.</td></tr>
</table>

Period	April -June 2023	Additional study (if any)
	point in the receiving water body. Construction water will pass through a sedimentation tank to arrest sediments and treated water will be reused in water sprinkling. No discharge from construction site will be allowed hence no impact is expected on aquatic ecology.	
Risk assessment study	1. Ensure that the facilities should have necessary fire and gas detection system in the Plant as per applicable guidelines. Operators should be well trained about the detection system. 2. The Plant would be having necessary provision for emergency stop of critical equipment from control room in the event of any incident. 3. Routine checks should be carried to ensure proper working of firefighting equipment. 4. Clearly defined escape and evacuation routes along with proper sign board to guide personnel to escape in case of an emergency. 5. Well defined assembly points in safe locations shall be identified for personnel in case of an emergency. 6. Windsocks visible from all direction would be provided. This will assist people to escape in upwind or cross wind direction from flammable releases. 7. In order to further reduce the probability of failure of pipeline & equipment, critical equipment shall be identified and inspection methodologies to be finalized for continuous monitoring during operation and shutdown maintenance. 8. Mock drills to be well rehearsed to ensure readiness to handle emergency. 9. All the valves and pipeline should be periodically maintained and inspected to prevent the failures. 10. Ensure periodic safety trainings in firefighting, escape, operation of emergency switches etc. should be provided to the officials. 11. Calibration of all instruments to be ensure periodically. 12. The company shall train all employees in Emergency Response, Fire Fighting and First Aid. 13. Proper lighting arrangements and CCTV as per applicable OISD guidelines should be provided at Plant. 14. The adjacent population is to be made aware of the risk associated with the pipeline and the mitigation measures to be taken care of in case of Emergency.	Mantac consultant Pvt. Ltd.
Marine impact assessment study (Only for coastal based TPPs)	Not applicable	-----

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

A. Non-Hazardous waste

S. No.	Type of Waste	Source	Estimated Quantity	Mode of Treatment	Disposal
1	Municipal Solid waste	Township	18 MT	Composting	Manure to plants

B. Hazardous waste

S. No.	Type of Waste	Source	Estimated Quantity	Mode of Treatment	Disposal
1	Used oil	Plant	35KL	Nil	Through SPCB Authorised agency
2	Barrels	Plant	180 nos.	Nil	Through SPCB

					Authorised agency
3	Spent resin	Plant	3 MT	Nil	TSDF
4	Glass Wool	Plant	30 MT	Nil	TSDF
5	Battery waste	Plant	2.5 MT	Nil	Buyback to supplier
6.	E-waste	Plant area	0.07 MT	Nil	Buyback & Sale to Authorised dealer
7.	Biomedical Waste	Hospital	0.20 MT	Nil	Through authorised agency (Medical Waste)

19. **Public Consultation**:

A. Jharsuguda District

Details of advertisement given	01.10.2024
Date of public consultation	22.10.2024
Venue	Tileimal Village, Jharsuguda, Dist.
Presiding Officer	Additional District Magistrate
Major issues raised	The major issues raised during public hearing were regarding employment to local people, skill development, infrastructure, village road construction and pollution from ash dyke etc.
No. of people attended	Approx. 500 people attended the public hearing meeting, whereas only 196 of them have signed their attendance sheet.

Action plan as per MoEF&CC O.M. dated 30/09/2020

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
A	**Educational Initiatives**							
1	Upgradation of infrastructure in 10 schools and Anganwadis	0.12	0.12	0.12	0.12	0.12	0.60	Infrastructure upgradation in terms of providing Benches and Desks, Smart Boards, Cycle Shed, Area lighting etc, shall be taken up in 10 schools and Anganwadis in Luising, Chandnimal and Rajpur GP.
2	Distribution of drinking Water filter/ Water Coolers in schools		0.0375	0.0375			0.075	Providing Water Coolers/Water Filters in 15 schools in Jharsuguda District.
3	Providing Computers/Smart Boards in Schools			0.0375	0.0375		0.075	Procurement and providing Computers/Smart boards to 5

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
								Schools
	Sub Total	**0.12**	**0.1575**	**0.195**	**0.1575**	**0.12**	**0.75**	
B	**Community Health Initiatives**							
1	Providing doorstep medical services through Mobile Medical Unit	0.25	0.25	0.25	0.25	0.25	1.25	Deployment of Medical Mobile Unit and extending door step medical services, to 16 villages in Luising and Chandnimal Gram Panchayats
2	Conducting Mega Medical Camps	0.01	0.01	0.01	0.01	0.01	0.05	Conducting 04 Mega Medical camps @ 150 patients annually in villages of Luising, Rajpur and Chandnimal GPs.
3	Conducting Eye check-up/ Cataract operation camps	0.015	0.015	0.015	0.015	0.015	0.075	Conducting 1 cataract operation camp annually for 5 years. Per camp-30 patients
	Sub Total	0.275	0.275	0.275	0.275	0.275	1.375	
C	**Sustainable Livelihood and Women Empowerment**							
1	Skill Development Training to Youth through CIPET/Other agencies	0.17	0.17	0.17	0.17	0.17	0.85	Providing Skill Development Training to 40 unemployed youths to improve their employability through CIPET/Accredited Skill Devt. Agency
2	Skill Development Training for Women in villages of Jharsuguda District		0.075		0.075		0.15	Skill Development on Income generation activities to be taken up covering 6o women based on need assessment and market linkage.

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
	Sub Total	0.17	0.245	0.17	0.245	0.17	1.00	
D	**Community Rural Infrastructure Development**							
1	Repairing, strengthening & Maintenance of Existing roads in consultation with Gram Panchayats.	2.0	4.0	5.0	3.0	3.0	17.00	Bituminous/CC road about 7500 meters length in villages of Luising Gram Panchayat and 7000 meters length in Chandnimal and Rajpur Gram Panchayats will be constructed, through district administration.
2	Installation of Solar High Mast Lights in villages of Jharsuguda District in consultation with Gram Panchayats		0.48	0.40	0.40		1.28	32 nos. of Solar High Mast Lights shall be installed in prominent locations based on need assessment.
3	Installation of Solar Street Lights in villages of Jharsuguda District	0.08	0.12	0.06	0.08	0.06	0.40	200 nos. of Solar Street Lights shall be installed in Luising, Chandnimal and Rajpur Gram Panchayats, at prominent locations based on need assessment.
4	Construction of 2 nos of Kirtan Mandaps in Luising and Chandnimal Gram Panchayat	0.10			0.10		0.20	02 nos. of Kirtan Mandap of 300 Sq Ft each shall be constructed in 2 Gram Panchayats.
5	Construction of 2 nos of Community Centers		0.14	0.14	0.14		0.42	03 nos. of Community Centers of 420 Sq Ft shall be taken up in Koilaga and Saimal
6	Construction of market Complex			0.18			0.18	1 Market Complex of 600 Sq Ftshall be constructed at Rajpur
7	Augmentation of Water	0.30	0.60				0.90	10 locations in

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
	Supply in Villages through Solar Based Bore Well system							Tileimal, Saimal and Niktimal villages, shall be taken up in consultation with local community, to install Solar based Bore well system.
8	Renovation of Ponds and construction of bathing ghats	0.60	0.75	0.45			1.80	Renovation of 12 nos. of Ponds & construction of bathing ghats in Luising, Rajpur and Chandnimal GP.
9	Construction of 1 no of Temporary Check Dam in Tileimal village (Every year during summer season)	0.01	0.01	0.01	0.01	0.01	0.05	Construction of Temporary Check Dam across Baghei Nala for Summer Season, to be done on annual basis.
10	Renovation of Primary Health Center	--	0.30	0.20	---	----	0.50	Taking up enabling infrastructure works in Luising Primar Health Center.
	Sub Total	3.09	6.4	6.44	3.73	3.07	22.73	
E	**Development of Playgrounds for Sports**							
1	Levelling and improvement of Playgrounds in villages	---	0.25	---	---	0.25	0.50	Levelling and infrastructure upgradation shall be taken up in 2 playgrounds each of 4800 Sq Mts in Luising and Rajpur Gram Panchayats.
2	Providing Sports kits to local clubs & Schools	0.32	0.36	0.24	--	----	0.92	Providing Sports Kits to 8 Local Clubs and 15 Schools in Chandnimal and Telenpali
	Sub Total	**0.32**	**0.61**	**0.24**	**0.00**	**0.25**	**1.42**	
F	Promoting local Culture and Sports/Need Based activities							
1	Support for Cultural	0.15	0.15	0.15	0.15	0.15	0.75	Support for

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
	Events/ Rural Sports in villages of Jharsuguda District							Cultural Events/ Rural Sports to local clubs and village committees on annual basis based on events.
2	Procurement of Need Based items (Blankets/Mosquito nets/ Assistive Aids/ Furniture) for distribution in villages or supply to Public Utility building	0.30	0.30	0.30	0.30	0.30	1.50	Procurement of need based items viz. mosquito nets, blankets, assistive Aids etc for distribution to villagers.
3	Providing seedlings for plantation drive in villages	0.03	0.03	0.03	0.03	0.03	0.15	Procurement, distribution and organizing mass tree plantation events in schools during Van Mahotsav, Greening Fallow lands identified by the Gram Panchayat bodies.
4	Providing critical drinking water supply to villages in Summer Months annually for 5 years	0.20	0.20	0.20	0.20	0.20	1.00	Providing critical drinking water supply to villages, during summer season annually for 5 years covering 14 habitations in Jharsuguda district.
5	Taking up additional plantation in and around the periphery villages	0.60	0.60	0.60	0.60	0.60	3.00	Taking up additional plantation in and around the periphery villages
6	Deployment of Fog Canons in the periphery areas to tackle pollution by fugitive dust	0.70	0.70	0.70	0.70	0.70	3.50	Deployment of 2 nos. of Fog Canons on daily basis
	Sub Total	**1.98**	**1.98**	**1.98**	**1.98**	**1.98**	**9.90**	
	Total (A+B+C+D+E+F)	**5.955**	**9.667**	**9.30**	**6.387**	**5.865**	**37.175**	

B. Sundargarh District

Details of advertisement given	18.10.2024
Date of public consultation	04.11.2024
Venue	Raidihi, under Lephripara tehsil, Sundergarh Dist.
Presiding Officer	Additional District Magistrate
Major issues raised	The major issues raised during public hearing were regarding employment to local people, skill development, infrastructure, village road construction and pollution from ash dyke etc.
No. of people attended	Approx. 300 people attended the public hearing meeting, whereas only 131 of them have signed their attendance sheet.

Action plan as per MoEF&CC O.M. dated 30/09/2020

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
A	Educational Initiatives							
1	Upgradation of infrastructure in 15 schools and Anganwadis	0.18	0.18	0.30	0.24		0.90	Infrastructure upgradation in terms of providing Benches and Desks, Smart Boards, Cycle Shed, Area lighting etc, shall be taken up in 15 schools and Anganwadis in Darlipali, Raidihi, J-Raiboga and Badbanga GP.
2	Distribution of drinking Water filter/ Water Coolers in schools	0.05		0.05			0.10	Providing Water Coolers/Water Filters in 20 schools in schools of Sundargarh District.
3	Providing Computers/ Smart Boards in Schools	----	0.0375	--	0.0375	--	0.075	Procurement and providing Computers/Smart boards to 5 Schools
	Sub Total	0.23	0.2175	0.35	0.2775	0	1.075	
B	Community Health Initiatives							
1	Providing doorstep Medical services through Mobile Medical Unit	0.25	0.25	0.25	0.25	0.25	1.25	Deployment of Medical Mobile Unit and extending doorstep medical services, to 22 villages in Darlipali Raidhi and J Raiboga Gram Panchayats
2	Conducting Mega Medical Camps	0.01	0.01	0.01	0.01	0.01	0.05	Conducting 04 Mega Medical camps @ 150 patients annually

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
								in villages of Darlipali , Raidhi, J Raiboga GPs.
3	Conducting Eye check up/ Cataract operation camps	0.015	0.015	0.015	0.015	0.015	0.075	Conducting 1 cataract operation camp annually for 5 years. Per camp- 30 patients
	Sub Total	**0.275**	**0.275**	**0.275**	**0.275**	**0.275**	**1.375**	
C	Sustainable **Livelihood and Women Empowerment**							
1	Skill Development Training to Youth through CIPET/Other agencies	0.17	0.17	0.17	0.17	0.17	0.85	Providing Skill Development Training to 40 unemployed youths to improve their employability through CIPET/Accredited Skill Devt Agency
2	Skill Development Training for Women in villages of Sundergarh District		0.075		0.075		0.15	Skill Development on Income generation activities to be taken up covering 6o women based on need assessment and market linkage.
	Sub Total	**0.17**	**0.245**	**0.17**	**0.245**	**0.17**	**1.00**	
D	**Community Rural Infrastructure Development**							
1	Repairing, strengthening & Maintenance of Existing roads in consultation with Gram Panchayats.	1.0	3.0	4.0	2.0	2.0	13.00	Bituminous/CC road about 6500 meters length (Podmundi to Ainlabahal), 2500 Mts (Darlipali Khagesh market to ASH dyke), 5000 mts (Ash Dyke to Tileimal Chowk), 2000 mts in Periphery villages on requirement basis through district administration.
2	Installation of Solar High Mast Lights in villages of Sundergarh District in consultation with Gram Panchayats	0.60	0.60	---	0.72	---	1.92	48 nos of Solar High Mast Lights shall be installed in prominent locations based on need assessment.

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
3	Installation of Solar Street Lights in villages of Sundergarh District	0.20	0.20	0.20	---	---	0.60	300 nos. of Solar Street Lights shall be installed in Darlipali, Badbanga, Raidihi and J-Raibaga Gram Panchayats, at prominent locations based on need assessment.
4	Construction of 2 nos of Kirtan Mandaps in Darlipali & Raidhi Gram Panchayat	0.10	----	-----	0.10	----	0.20	02 nos. of Kirtan Mandap of 300 Sq Ft each shall be constructed in 2 Gram Panchayats.
5	Construction of 2 nos of Community Centers	----	0.14	0.14	0.14	----	0.42	03 nos. of Community Centers of 420 Sq Ft shall be taken up-2 in Raidihi and 1 in Nuadihi village.
6	Construction of market Complex	---	---	0.18	---	---	0.18	1 Market Complex of 600 Sq Ft shall be constructed at Raidhi.
7	Renovation works in Chandli Temple	---	0.30	----	---	---	0.30	Construction of Rest Shed and Stairs for Chandli Temple
8	Augmentation of Water Supply in Villages through Solar Based Bore Well system	0.30	0.60	---	---	---	0.90	10 locations in Raidhi, Badbanga and Sargipali villages, shall be taken up in consultation with local community, to install Solar based Bore well system.
9	Renovation of Ponds and construction of bathing ghats	0.60	0.75	0.45	----	----	1.80	Renovation of 12 nos of Ponds & construction of bathing ghats in Luising, Rajpur and Chandnimal GP.
10	Construction of 1 no of Temporary Check Dam in Tileimal village (Every year during summer season)	0.03	0.03	0.03	0.03	0.03	0.15	Construction of Temporary Check Dam across Basundhara Nala for Summer Season, to be done on annual basis.

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
11	Renovation of Darlipali Primary Health Center	----	0.30	0.20	----	----	0.50	Taking up enabling infrastructure works in Darlipali Primar Health Center viz, repair of Boundary wall, Tiles repairing inside premises, Construction of Vehicle Parking Shed, Painting works, Lighting inside Campus.
	Sub Total	**2.81**	**5.9**	**5.18**	**2.97**	**2.01**	**18.87**	
E	**Development of Playgrounds for Sports**							
1	Levelling and improvement of Playgrounds in villages	---	0.25	----	----	0.25	0.50	Levelling and infrastructure upgradation shall be taken up in 2 playgrounds each of 4800 Sq Mts in Kheradega and Nuadihi villages.
2	Providing Sports kits to local clubs & Schools	0.32	0.36	0.24	----	----	0.92	Providing Sports Kits to 8 Local Clubs and 15 Schools in Darlipali, Raidhi GPs and other local clubs.
	Sub Total	**0.32**	**0.61**	**0.24**	**0.00**	**0.25**	**1.42**	
F	**Promoting local Culture and Sports/Need Based activities**							
1	Support for Cultural Events/ Rural Sports in villages of Sundergarh District	0.20	0.20	0.20	0.20	0.20	0.80	Support for Cultural Events/ Rural Sports to local clubs and village committees on annual basis based on events.
2	Procurement of Need Based items (Blankets/Mosquito nets/ Assistive Aids/ Furniture) for distribution in villages or supply to Public Utility building	0.30	0.30	0.30	0.30	0.30	1.50	Procurement of need based items viz. mosquito nets, blankets, assistive Aids etc for distribution to villagers.
3	Providing seedlings for plantation drive in villages	0.02	0.02	0.02	0.02	0.02	0.10	Procurement, distribution and organizing mass tree plantation events in

S. No	Key Area Identification for Activities Based on Public Needs Highlighted During Public Hearing	Proposed Expenditures year wise (Rs. In Crores)					Total Proposed Expenditure (Rs. In Crores)	Physical Targets
		1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr		
								schools during Van Mahotsav, Greening Fallow lands identified by the Gram Panchayat bodies.
4	Providing critical drinking water supply to villages in Summer Months annually for 5 years	0.20	0.20	0.20	0.20	0.20	1.00	Providing critical drinking water supply to villages, during summer season annually for 5 years covering 14 habitations in Darlipali and Raidihi GPs
5	Taking up additional plantation in and around the periphery villages	2.00	2.00	2.00	2.00	2.00	10.00	Taking up additional plantation in and around the periphery villages
6	Deployment of Fog Canons in the periphery areas to tackle pollution by fugitive dust	0.35	0.35	0.35	0.35	0.35	1.75	Deployment of 1 no of Fog Canons on daily basis
7	Compensation to villages for Crop loss due to pollution	0.20	0.20	0.20	0.20	0.20	0.80	Crop Compensation to Alupada villagers owing to crop loss due to pollution
8	Intervention regarding Waste Disposal	0.032	0.032	0.032	0.032	0.032	0.16	Awareness Generation programs for Waste segregation and waste disposal in villages.
9	Cleaning of roads through deployment of tankers	0.50	0.50	0.50	0.50	0.50	2.50	Regular water sprinkling on roads to arrest fugitive dust on roads in periphery villages throughout the year.
	Sub Total	**3.802**	**3.802**	**3.802**	**3.802**	**3.802**	**3.802**	
	Total (A+B+C+D+E+F)	**7.607**	**11.0495**	**10.017**	**7.569**	**6.507**	**42.75**	

20. **Project cost**: Capital cost of Existing project was Rs. 14822.27 Crores. The capital cost of the proposed project is Rs11130.98 Crores and the capital cost for environmental protection measures is proposed as Rs1082.62 crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 21.85 Crores. The employment generation from the proposed project / expansion is During construction phase of Stage – II the no. of temporary and permanent persons are 1200-1500 & 100, respectively, and during operation phase of Stage – II the no. of temporary and

permanent persons are 500 & 100 respectively. The details of cost for environmental protection measures are as follows:

S.No	EMPs: (Eg.: Air Environment, Water Environment)	Capital Cost (Lakhs)	Recurring cost (Lakhs)
1	Electrostatic Precipitator	17325.52	346.51
2	Chimney	6370.29	127.41
3	Cooling Towers incl. Civil Works	341284	68.29
4	Ash Handling	37051.46	741.03
5	Ash Disposal Area	38706.51	774.13
6	Ash Water Recirculation Incl. ETP	1829.00	36.58
7	Dust extraction & suppression System.	42.00	0.84
8	DM plant waste treatment systems	260.00	5.20
9	Online monitoring equipments CEMS	640	12.8
10	Solar Rooftop	364.55	7.30
11	Sewerage collection, treatment & disposal	210.00	4.20
12	Green Belt, Afforestation & Landscaping	1278.00	20.00
13	Wildlife Conservation plan	391.55	-
14	Watershed management.	177.20	-
15	River Protection	38.55	-
16	Environment Lab equipment	50	10
17	Environment monitoring	1.40	31.68
18	Hydrology study	62	0
19	Risk Assessment action plan	39.58	0
20	Rainwater Harvesting	12	
Total		**108262.50**	**2185.91**
Cost provisions for addressing the issues raised in Environmental Public hearing as per time bound action Plan for Sundergarh District		4275.00	
Cost provisions for addressing the issues raised in Environmental Public hearing as per time bound action Plan for Jharsuguda District		3717.00	

21. **Green belt development**: Existing green belt has been developed in 116.470 Ha area which is about 46.17 % of the total Main plant and Ash dyke area of 252.24 Ha with total sapling of Approx. 227500 Trees. Proposed greenbelt will be developed in 39.660 Ha which is about 37.20 % of the total Main plant and Ash dyke area of 106.592 Ha. Thus, total of 156.130 ha (116.470 ha + 39.660 ha) area will be developed as greenbelt which is about 43.51% of total Main plant and Ash dyke area of 358.832 Ha (252.24 Ha + 106.592 Ha). A 30-50m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 1,60,000 saplings will be planted and nurtured in an area of approx. 64 Ha (44 Ha within the plant premises +20 Ha in the Ash Dyke area).

22. **Ash management for last three years** (Only for expansion cases)

Year	Quantity generated (LMT)	Quantity utilized (LMT)	% of utilization	Balance quantity (LMT)	No of storage silos with capacity
FY 2022-23	38.85	10.24	26.37	54.74	Dry Fly Ash Silos Main silos: 4x1500 MT with truck & Wagon loading facilities HCSD Silo: 3x 700 MT with truck loading
FY 2023-24	43.10	24.01	55.71	73.82	
FY 2024-25	39.88	33.93	85.06	79.78	

A. Fly ash Details for last three years: 97.464 LMT

Financial Year	Total Ash Production	Fly Ash Production	Total Ash Utilization	Total Ash

	(LMT)	(LMT)	(LMT)	Utilization (%)
2022-23	38.85	31.08	10.24	26.37
2023-24	43.10	34.48	24.01	55.71
2024-25	39.88	31.90	33.93	85.06

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks (Prior approval of SPCB details to be mentioned)
1	Fly ash based products (bricks or blocks or tiles or fiber cement sheets or pipes or boards or panels)	0.003	0.003	Only ash bricks manufactured.
2	Construction of roads, road and fly over embankment	57.08	58.56%	
3	Use in overburden dumps	0.42	0.43%	
	Total	**57.503**	**58.993%**	

B. Bottom ash details for last three years: 24.368 LMT

Financial Year	Total Ash Production (LMT)	Bottom Ash Production (LMT)	Total Ash Utilization (LMT)	Total Ash Utilization (%)
2022-23	38.85	7.76	10.24	26.37
2023-24	43.10	8.62	24.01	55.71
2024-25	39.88	7.976	33.93	85.06

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks (Prior approval of SPCB details to be mentioned)
1	Filling up of low lying area	9.59	39.36%	
2	Filling of mine voids:	1.06	4.35%	
	Total	**10.65**	**43.71%**	

C. Legacy ash details: There is no legacy ash

D. Ash Pond details: Stage I (existing ash pond)

S.No.	Details of Ash Pond	Lagoon 1: Fly ash lagoon (FA)	Lagoon 2: Bottom ash lagoon (BA)	Lagoon 3: Bottom ash lagoon (BA)	OFL	Total
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	Active	Active	Active	-	
2.	Area (Ha)	80.93	36.42	38.44	4.21	160
3.	Dyke height (m)	8	8	8	-	
4.	Volume (m^3)	42.96LMT	19.33LMT	20.41LMT	-	
5.	Quantity of ash disposed (Metric Tons)	78.5 LMT				
6.	Available volume in percentage (per cent) and quantity of ash can be	4.2 LMT				

S.No.	Details of Ash Pond	Lagoon 1: Fly ash lagoon (FA)	Lagoon 2: Bottom ash lagoon (BA)	Lagoon 3: Bottom ash lagoon (BA)	OFL	Total
	further disposed (Metric Tons)					
7.	Expected life of ash pond (number of years and months	01-month capacity				
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HCSD Lining which is impervious.	HCSD Lining which is impervious.	Bentonite lining	-	
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD	LCSD	LCSD	-	
10	Ratio of ash: water in slurry mix :	1:2/3	1:3	1:3	-	
11	Ash water recycling system (AWRS)	Yes	Yes	Yes	-	

E. Proposed ash utilization plan for expansion project

Details	Existing generation (LMTPA)	Proposed generation (LMTPA)	Total LMTPA	Utilization (LMTPA)	% of utilization	Balance quantity (LMTPA)	No. of storage silos with capacity
Ash(Fly Ash & Botto Ash)	40	20	60	60	100	--	HCSD cum Dry Fly Ash Silos Main silos: 2x2000 MT & Fine Fly Ash Silo : 1x1500MT with truck & Wagon loading facilities No separate HCSD silos Dry Bottom Ash Silo : 1x2000T with truck & Wagon loading facilities (In case of dry bottom ash system) Dry bottom ash intermediate silo : 1x500MT with truck loading facility only (In case of dry bottom ash system).

Proposed year wise Ash Utilization for Existing Stage-I & Proposed Stage-II is submitted

Ash pond details: If existing ash pond is to be utilized details may be mentioned. If not, new ash pond details may be provided as below:

S.No.	Details of Ash pond	Ash pond
1	Area (Ha)	60 Ha (including 30% space for non-storage purpose i.e. overflow

S.No.	Details of Ash pond	Ash pond
		lagoon, dyke embankment, toe drains, peripheral roads, ash pipe corridor, AWRS pump house and other facilities etc.).
2	Dyke height (m)	Average Height:10 m (Starter Dyke) (Additionally, two subsequent Raisings of 3.0 M height is envisaged in each lagoon design for uncertainties in ash utilisation)
3	Volume (m3)	Approx. 3.8 million m^3 (Ash disposal in Starter Dyke)
4	Quantity of ash to be disposed (Metric Tons)	Approx 3.8 Million Metric Ton (considering density as 1.0T/Cum)
5	Expected life of ash pond (number of years and months)	7.5 years
6	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	Suitable impervious lining as per actual site conditions meeting the imperviousness requirements as per standard "Guidelines for Design, Construction, O&M and Annual certification of Coal Ash Ponds-June 2023". HDPE lining system is envisaged in OFL and Bentonite blended lining in all ash storage lagoons.
7	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	Bottom Ash in lean slurry and Fly Ash in High Concentration Slurry Disposal (HCSD) form
8	Ratio of ash: water in slurry mix :	Bottom Ash: Water ratio- 25:75 Fly ash: Water ratio- 60:40
9	Ash water recycling system (AWRS): Yes or No	Yes Ash water recycling system has been envisaged for the proposed project.
10	Quantity of wastewater from ash pond to be discharged into land or water body (m3)	No ash water discharge is envisaged. AWRS and ZLD system envisaged hence no ash water discharge from Ash Dyke.
11	Details regarding dyke stability study and name of the organization who conducted the study	As already done in all past ash dyke stability design, this will also be done by NTPC, (in-house design) in line with "CEA and CPCB Guidelines for Design, Construction, O&M and Annual certification of Coal Ash Ponds".

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

A. Summary of court cases: There are total 9 cases related with Darlipali STPP Stage-I, out of these 04 cases are related to Land Acquisition, 03 Cases related to Contractual disputes, 01 Injunction Suit, 01 case related to Environment Matter which pertains to Orissa Human Rights Commission and its details are as given bellow:

S.N	Case No/ Title	Name of the Court	Brief summary of the case	Last Date of Hearing	Next date of Hearing	Direction/Action taken by the PP
1.	OHRC Case No. 3888 of 2024 (2952/OHRC, dated 18.02.2025)	Orissa Human Rights Commission	The complainant alleges that NTPC is violating human rights by polluting the environment in the Sundargarh district, causing health hazards due to emissions from vehicles and	22.07.2025	30.10.2025	Comprehensive Reply has been submitted by NTPC on all the issues raised by the complainant along with documentary evidence. On last date, i.e. 22.07.2025, petitioner has submitted its reply

			chimneys of the power plant. Complaint states that there is no development in the area since the establishment of project.			on NTPC written submission. Now, NTPC has to file reply on petitioner's submission.

B. Summary of Show Cause Notices: Show case Notice no. 13591/IND-I-CON-6631 dated 19.07.2025, issued by OSPCB, Bhubaneswar for illegal dumping of Ash in unauthorised area.

S.N.	Issuing authority	Date	Reasons for issuance of SCN	Status of reply to submission	Present status
1	Odisha Pollution Control Board	19.07.2025	Illegal dumping of Ash	Reply submitted to OSPCB on 23.07.2025	Case is under consideration for personal Hearing in OSPCB.

C. Summary of violation

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

24. Compliance to the observations of sub-committee site visit report (Only in case of site visit by the sub-committee) – Nil

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

1. ***Queries raised: Forest Clearances Details***

Reply:

FOREST CLEARANCES ALREADY ACCORDED FOR DARLIPALI STAGE-1			
Purpose of Forest Diversion	**Forest Area Diverted (Ha)**	**Purpose for which used**	**Remarks**
Setting up of Darlipali Super Thermal Power project	13.95 Ha	Main Plant and associated infrastructure and Township	Stage-II Forest Clearance accorded on 13.10.2014
Construction of MGR-Rail Corridor for transportation of coal from Dulanga Coal Mines to Darlipali Super Thermal Power Plant	19.70 Ha	Construction of MGR- rail corridor, connecting Dulanga coal mines with the Darlipali Power Plant	Stage-II Forest Clearance accorded on 16.11.2016
Construction of Railway Siding Corridor by NTPC Darlipali STPP to connect their MGR line	19.43 Ha	Construction of Railway Siding Corridor by NTPC Darlipali STPP to connect to the MGR line	Stage-II Forest Clearance accorded on 26.06.2024
Laying of Make Up Water Pipeline and 132 KV Electric	25.56 Ha	Laying of Make Up Water Pipeline and 132 KV Electric transmission	Stage-II Forest Clearance accorded on 24.04.2025

FOREST CLEARANCES ALREADY ACCORDED FOR DARLIPALI STAGE-1			
Purpose of Forest Diversion	**Forest Area Diverted (Ha)**	**Purpose for which used**	**Remarks**
transmission lines by NTPC for drawl of water from Hirakud reservoir for Darlipali Super Thermal Power Project		lines by NTPC.	
Proposal For Diversion of Forest Land for Darlipali Stage-II			
Construction of Additional reservoir and Unit-III of NTPC Darlipali	65.301 Ha	Construction of Main Plant, Reservoir and Ash Dyke. The area for the proposed Ash Dyke, is a combination of Private Land, Non Forest Govt land and Forest land as the requirement of land for the Ash Dyke is required in contiguity.	Stage-1 FC for 65.301 Ha of forest land has been obtained vide FC letter dated 17.10.2025

2. ***Action taken Report Show cause notice*** (Notice No. - 13591/IND-I-CON-6631 dated 19.07.2025, issued by OSPCB, Bhubaneswar for illegal dumping of Ash in unauthorised area)

Reply: NTPC has submitted detailed reply to OSPCB, Bhubaneswar vide Letter dated 23.07.2025, with the following action taken:

• All dumped Fly Ash from the alleged site, has been completely evacuated.

• Physical and biological reclamation measures have been undertaken to restore the area to its natural condition.

Post submission of the above, site visit has been conducted by Regional Officer- SPCB- Rourkela and inspection report has been submitted on 25.09.2025, which mentions that all the ash has been completed evacuated by the user agency and plantation has been carried out on the mentioned land. The photographic evidence is also enclosed along with the Inspection report. (Copy of inspection report is submitted)

3. ***Updated Ash Pond Life details***

Reply: Updated Ash pond life details of proposed new ash-pond of Darlipalli-II(1x800MW) is as mentioned below-

Details of Proposed Ash Dyke	
Area	60 Ha (including 30% space for non-storage purpose i.e. overflow lagoon, dyke embankment, toe drains, peripheral roads, ash pipe corridor, AWRS pump house and other facilities etc.).
Volume	Approx. 3.8 million m^3 (Ash disposal in Starter Dyke)
Height of the Ash Dyke	Average Height:10m (Starter Dyke)
Life of the ash pond	7.5 years

4. ***CPCB Recognition and NABL Accreditation certificate for Consultant Laboratory***

Reply: Recognition letter w.r.t recognition of M/s. Mantec Consultants Pvt. Ltd., D-36, Sector-6, Noida, Gautam Budh Nagar, Noida-201 301, Uttar Pradesh has been submitted by CPCB vide letter dated 7th July 2025.

5. ***Green Belt details around ash dyke***

Reply: Action plan for 50000 Sapling plantation around proposed ash dyke of Stage-II: Tree plantation is one of the effective remedial measures to control the Air pollution/dust emission and noise pollution. It also causes aesthetics and climatologically improvement of area as well as sustains and supports the biosphere. It is an established fact that trees and vegetation acts as a vast natural sink for the gaseous as well as particulate air pollutants due to enormous surface area of leaves. Plantation around proposed ash dyke towards Basundhara River will act barrier for dust pollution sources which will control the air pollution by filtering the air particulate before it reaches to the Basundhara River.

Year of plantation	**Total no of Seedling**	**Area in Ha**	**Budget in Lakhs Rs.**

2025-26	15000	6.0	150
2026-27	20000	8.0	160
2027-28	15000	6.0	150
Total	**50000**	**20**	**460**

Following are species to be planted around Ash dyke:
Shorea robusta (Sal), Dalbergia sisoo (Sisoo), Gmelina. Arborea (Gambhar), Bridelia retusa (Kasi), Terminelia tomentosa (Asan), Terminelia arjuna (Arjun), Terminalia belerica, Adina cordifolia, Mitragyna parviflora, Careya arborea, Clestartthus collinus, Cassia. Fistula, .Albizia procera, Madhuca indica (Mahul), Acacia auriculiformis (Acacia), Cassia siamea (Chakuda), Pongamia pinnata (Karanja), Albizzia lebek (sersuan), Dendrocalamus strictus (Bamboo),Tectona grandis.

Selection of Plant species: Native/local plant species will be selected in the proposed greenbelt and plantation areas in consultation with local forest department. Species composition of plantation area will be heterogeneous in nature.

The species for plantation will be selected based on the following characteristics:
• Adapted to the Geo-climatic conditions of the area.
• Species having wide canopy.
• Different heights ranging from 4 m to 12 m; and
• Preferably evergreen trees

Various type of plant species based on their important and mode of functions will be selected for plantation.

Agency: State Forest department, OFDC, CGVRV Vikas Nigam LTD.
The lay out map of Ash dyke marked with green belt area to be planted around proposed ash dyke towards the Basundhara River is submitted.

Proposed Greenbelt of Darlipali plant Stage – II: A total of 1,10,000 nos. of saplings will be planted in an area of approx. 44 Ha with a tentative budget of Rs. 935 lakhs. Details are summarized in following table:

Proposed Green Belt Development Action Plan			
Financial Year	**Area in Ha**	**Number of Plants**	**Tentative Budget (In Lakhs Rupees)**
2025-26	08	20000	160
2026-27	14	35000	280
2027-28	08	20000	170
2028-29	08	20000	175
2029-30	06	15000	150
Total	**44**	**1,10000**	**G35**

Note: 15000 additional saplings are being proposed equivalent to 6 Ha Land (@2500 Sapling/Ha) (Increase from 38 Ha to 44 Ha)
Plant to Plant distance = 2 meters.
Row to Row distance = 2 meters.

6. ***Existing Ash Pond available capacity details***
Reply:

S.No.	Details of Ash Pond	Lagoon 1: Fly ash lagoon (FA)	Lagoon 2: Bottom ash lagoon (BA)	Lagoon 3: Bottom ash lagoon (BA)	OFL	Total
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	Active	Active	Active	-	
2.	Area (Ha)	80.93	36.42	38.44	4.21	160
3.	Dyke height (m)	8	8	8	-	
4.	Volume (m3)	42.96LMT	19.33LMT	20.41LMT	-	
5.	Quantity of ash disposed (Metric Tons)	78.5 LMT				
6.	Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons)	4.2 LMT				
7.	Expected life of ash pond (number of years and months	01-month capacity				
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	HCSD Lining which is impervious.	HCSD Lining which is impervious.	Bentonite lining	-	
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD	LCSD	LCSD	-	
10	Ratio of ash: water in slurry mix :	1:2/3	1:3	1:3	-	
11	Ash water recycling System (AWRS)	Yes	Yes	Yes	-	

7. ***RO Compliance status***
Reply: PP has submitted the IRO compliance report status as on 26.09.2025

Observations and deliberation of the EAC

26. The Committee observed and noted the following:

i. The instant proposal is for expansion of 2x800 MW (Stage-I) Darlipali Supercritical Coal Based Thermal Power Plant by addition of one unit of 800 MW [1x800MW(Stage-II) Darlipali Super Thermal Power Project] by M/s. NTPC Limited located at Village Darlipali, Raidihi, in Lephripara Tehsil, Village Chuabahal, Kalamegha, Laikera, Bihajor, Kanaktura in Hemgir Tehsil, District Sundergarh and Village Tileimal, Chichinda, Kechobahal, in Jharsuguda Tehsil and Village Chhadarama in Lakhanpur Tehsil of Jharsuguda District in Odisha.

ii. The existing project of 2x800 MW was accorded environmental clearance vide letter dated 17.02.2014 from Ministry of Environment & Forests. The Environment Clearance was amended vide letter dated 12.02.2019, 11.08.2020 & 24.12.2021. Consent to Operate (CTO) for the existing units accorded by Odisha State Pollution Control Board vide Letter 28.03.2025, which is valid up to 31.03.2026.

iii. Both units (2 x 800 MW) have been commissioned and are under commercial operation.

iv. The EAC also took into consideration the drone survey of the project site and KML file on the Google Earth presented by the project proponent along with DSS of the project site on PARIVESH portal.

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

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

vii. The Status of compliance of EC (for unit 2×800MW) was obtained from Regional Office, Bhubaneswar, vide letter dated 10.09.2024. The Action taken report regarding the partially/non-complied conditions was submitted to Regional office, MoEF&CC Bhubaneswar, vide letter dated 21.09.2024. Request letter regarding revisit for closure report has been sent to IRO vide letter dated 18.10.2024. MoEF&CC (IRO), Bhubaneswar evaluated the same after revisiting the site on 09.05.2025 and submitted observations on ATR submitted by Project Proponent dated 21.09.2024 vide letter 02.06.2025 to MoEF&CC. Project Proponent has submitted the action taken report regarding the partially/non-complied conditions vide letter dated 28.06.2025.

viii. As per the categorization list of CPCB dated 23/06/2022, the existing units (2x800 MW) falls under Category C. The proposed project does not fall within any CPA nor in any non-attainment cities as per MoEF &CC notification G.S.R. 465(E) dated 11/07/2025. Hence, it is also classified as C-Category project with respect to FGD installation. Wet Flue gas desulphurization (FGD) System has been installed for both the units of Darlipali STPP Stage-I and are in operation. Installation of 275m high stacks is envisaged for the proposed expansion (Stage-II) project in compliance to the notification GSR 742(E) dated 30.08.1990.

ix. ToR for the proposed expansion project was granted vide letter dated 17.04.2023 followed by its amendment on dated 13.11.2023 and 09.09.2025. PH was done for both Jharsuguda and Sundargarh District on dated 22.10.2024 and 04.11.2024, respectively.

x. Darlipali STPP has acquired total 715.059 Ha land, out of which 675.780 ha of land has been utilized for Stage-I, with the provision of 39.278 Ha to be utilized for proposed Stage-II (1x800 MW). The additional unit(1x800MW) of Stage-II are proposed to be established adjacent to Stage-I units. Land required for acquisition towards the proposed Darlipali Stage– II (1x800 MW) expansion project is 120.64 Ha, out of total land requirement of 159.912 Ha.

xi. There is involvement of 65.301 Ha of forest land in the proposed Stage-II project for which requisite Stage-1 FC has been obtained vide FC letter dated 17.10.2025 under the provisions of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.

xii. Total 10 Schedule I Species are reported in the study area. A Wildlife Conservation Plan has been prepared for Schedule-I species with consultation with Forest Department along with budgetary provision Rs. 391.5 lakhs and the same has been submitted PCCF vide letter dated 17.10.2024.

xiii. Basundahara River is located at 1.82 km from the project boundary. IB river and Ichha River is located at around 9 km form the project boundary. As per the letter of Irrigation and Water Resource deptt. Odisha, dated 04.03.2025 HFL of IB river and Basundhara river is 200.9m. The project site is located at substantial higher elevation compared to the HFL of IB and Basundhara River (209 m MSL).

xiv. The water requirement for the proposed project is estimated as 750 m3 /hr will be obtained from Hirakund reservoir. The permission for drawl of surface water is obtained from Department of Water resources, Odisha vide letter Dated 21.01.2025 for additional water requirement of 7.42 Cusec. The water will be transported to the plant site through pipeline.

xv. Zero Liquid Discharge system will be adopted.

xvi. Transportation of raw material coal will be done 100% by rail.

xvii. Existing green belt has been developed in 116.470 Ha area which is about 46.17 % of the total Main plant and Ash dyke area of 252.24 Ha with total sapling of Approx. 227500 Trees. Proposed greenbelt will be developed in 39.660 Ha

which is about 37.20 % of the total Main plant and Ash dyke area of 106.592 Ha. Thus, total of 156.130 ha (116.470 ha + 39.660 ha) area will be developed as greenbelt which is about 43.51% of total Main plant and Ash dyke area of 358.832 Ha (252.24 Ha + 106.592 Ha). A 30-50m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 1,60,000 saplings will be planted and nurtured in an area of approx. 64 Ha (44 Ha within the plant premises +20 Ha in the Ash Dyke area).

xviii. The Ash will be collected in dry form in silos for further utilization/transportation through rail wagons / closed trucks to adjacent Cement Plants. 100% Ash will be utilized as per Ash Notification dated 31/12/2021.

xix. The existing ash dyke situated in an area of 160 Ha. New ash dyke is envisaged in an area of 60 Ha for the proposed expansion.

xx. The issues raised during Public hearing both in Jharsuguda and Sundargarh Districts are regarding employment to local people, skill development, infrastructure, village road construction and pollution from ash dyke etc. Proponent has earmarked an amount of Rs. 37.175 crores and 42.75 crores to address the said concerns for Jharsuguda and Sundargarh Districts, respectively.

xxi. The capital cost of the proposed project is Rs11130.98 Crores and the capital cost for environmental protection measures is proposed as Rs1082.62 crore. The annual recurring cost towards the environmental protection measures is proposed as Rs 21.85 Crores. The employment generation from the proposed project / expansion is During construction phase of Stage – II the no. of temporary and permanent persons are 1200-1500 & 100 respectively and during operation phase of Stage – II the no. of temporary and permanent persons are 500 & 100, respectively.

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

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

xxiv. The committee noted that with respect to water pollution control, domestic wastewater will be treated in Sewage treatment plant and treated sewage water shall be reused. Effluent will be treated in ETP. There will be no effluent discharge from the premises, hence the ZLD will be maintained. A state-of-the-art roof top rain water harvesting system, Check Dam and recharge pit will be provided to collect the run -off for ground water recharging.

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

xxvi. There are total 9 case related with Darlipali STPP Stage-I, out of these 04 cases are related to Land Acquisition, 03 Cases related to Contractual disputes, 01 Injunction Suit, 01 case related to Environment Matter which pertains to Orissa Human Rights Commission (No. 3888 of 2024 (2952/OHRC, dated 18.02.2025). Next date of hearing is on 30.10.2025.

xxvii. One Show case Notice (no. 13591/IND-I-CON-6631 dated 19.07.2025) has been issued by OSPCB, Bhubaneswar for illegal dumping of Ash in unauthorised area. Case is under consideration for personal Hearing in OSPCB.

xxviii. A violation under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, has been raised by MoEF&CC, regarding take-up construction of Make-up Water Pipeline and 132KV transmission line without obtaining Stage-II approval/Working permission for diversion of 25.56 ha of forest land. However, requisite stage II permission has been accorded by the Ministry.

xxix. The PP shall fulfil the compliance and install 200 and 300 solar power panels in nearby villages (school, colleges, hospitals and other government building) of Jharsuguda and Sundergarh district, respectively.

xxx. EAC suggested to quantify the Carbon emission due to proposed TPP and allied carbon sequestration/ carbon offsetting plan.

xxxi. The committee has suggested that the PP shall explore the option of ash transportation by specialized fly ash bulkers, and shall provide detailed action plan for the same.

xxxii. EAC deliberated and strictly directed to PP for taken action to compliance the partially/ non-complied conditions which reported by RO, MoEF&CC, as per the mentioned in Environmental Clearance (EC) letter vide lr.no. J-13012/65/2008-IA.II (T) dated 17/02/2014 and further amended on 12/02/2019, 24/12/2021, and 11/08/2020 from MoEF&CC. With respect to the non-applicable conditions of existing EC, proponent shall seek for amendment in the EC.

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

xxxiv. The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

Recommendations of the Committee:

27. The EAC after detailed deliberations on the information submitted and as presented during the meeting ***recommended*** for grant of Environmental Clearance to the proposed "*Expansion of 2x800 MW (Stage-I) Darlipali Supercritical Coal Based Thermal Power Plant by Addition of One Unit of 800 MW [1x800MW(Stage-II) Darlipali Super Thermal Power Project] by M/s. NTPC Limited located at Village Darlipali, Raidihi, in Lephripara Tehsil, Village Chuabahal, Kalamegha, Laikera, Bihajor, Kanaktura in Hemgir Tehsil, District Sundergarh and Village Tileimal, Chichinda, Kechobahal, in Jharsuguda Tehsil and Village Chhadarama in Lakhanpur Tehsil of Jharsuguda District, Odisha*", under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and standard/general conditions (**Annexure 1**).

28. The MoEF&CC has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the EAC hereby accords Environmental Clearance to **M/s. NTPC Limited** for "*Expansion of 2x800 MW (Stage-I) Darlipali Supercritical Coal Based Thermal Power Plant by Addition of One Unit of 800 MW [1x800MW(Stage-II) Darlipali Super Thermal Power Project] located at Village Darlipali, Raidihi, in Lephripara Tehsil, Village Chuabahal, Kalamegha, Laikera, Bihajor, Kanaktura in Hemgir Tehsil, District Sundergarh and Village Tileimal, Chichinda, Kechobahal, in Jharsuguda Tehsil and Village Chhadarama in Lakhanpur Tehsil of Jharsuguda District, Odisha*" subject to compliance of the Specific/General environmental conditions (**Annexure 1**).

29. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

30. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

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

32. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

33. General Instructions:
(i) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which

one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC website where it is displayed.

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn must display the same for 30 days from the date of receipt.

(iii) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.

(iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

(v) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(vi) The Regional Office of this MoEF&CC shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(vii) Validity of EC is as per the provision of EIA Notification, 2006 and its subsequent amendment.

34. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

35. This issue with an approval of the Competent Authority

Yours faithfully,
(Sundar Ramanathan)
Scientist 'F'
Tel: 011- 20819378
Email- r.sundar@nic.in

Copy To

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar (Odisha).
3. The Deputy Director General of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandershekharpur, Bhubaneswar- 751023 (Odisha).
4. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneshwar - 751012 (Odisha).
7. The Regional Director, Central Ground Water Board, South Eastern Region Bhujal Bhawan, Khandagiri, Bhubaneshwar, Pin- 751030 (Odisha).
8. The Chairman, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar,Unit – VIII, Bhubaneswar –

751012, Odisha.
9. The Member Secretary, State Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar,Unit – VIII, Bhubaneswar – 751012, Odisha.
10. District Collector, Sundergarh and Jharsuguda, Government of Odisha.
11. PARIVESH Portal.

Annexure 1

Specific EC Conditions for (Thermal Power Plants)

1. [A] Environmental Management

S. No	EC Conditions
1.1	Project proponent shall comply with all the conditions stipulated in the Stage – I Forest Clearance letter dated 17.10.2025 for diversion of forestland of 65.301 Ha involved in the project for nonforestry activity.
1.2	The project proponent shall abide by all orders and judicial pronouncements, made from time to time by the OA No. 3888 of 2024 (2952/OHRC, dated 18.02.2025) Orissa Human Rights Commission.
1.3	Project proponent shall ensure that 100% utilization of ash generated from the proposed project in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. Area for the expansion project ash pond shall not exceed 60 Ha as committed.
1.4	Project proponent shall comply with the recommendations made in the biodiversity assessment report and Hydrogeology report in a time bound manner. Compliance status in this regard shall be submitted to the Regional Office of MoEF&CC along with the six monthly compliance report.
1.5	The water requirement for proposed expansion (Stage-II) unit is estimated as 750 m3 /hr and the same shall be met from Hirakund reservoir. The specific water consumption for proposed unit shall be less than 3.0 m3/MWhr.
1.6	The entire coal requirement for proposed TPP shall be transported by rail network only and no road transportation is permitted.
1.7	Project proponent shall store harvested rainwater in the project boundary and utilize the same for plantation, recharging water in the pond and domestic utilization in colonies. A record shall be maintained of water collected through rainwater and its supply system. PP shall get the water audit done every year to optimize the water requirement.
1.8	Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs. 1082.62 crores and should be kept in separate accounts and audited annually. The implementation status along with the amount spent with documentary proof shall be submitted to the concerned Regional Office for the activities carried out during the previous year.
1.9	Project proponent shall assess the carbon footprint of the project and develop carbon sink/carbon sequestration resources using modern technologies. The implementation report shall be submitted to the concerned Regional Office of the MoEF&CC.

S. No	EC Conditions
1.10	Project proponent shall ensure that diesel operated vehicles will be switched over to E-Vehicles / CNG vehicles in a time bound manner, replace the passenger vehicles to E/ CNG vehicle in phased manner. Further, for local movement of officials, Contract of Vehicles deployment shall be awarded to Project affected people and all efforts for adopting heavy E-vehicles/ CNG Vehicles like Bulkers for ash transportation for short distance subject to availability of such E-vehicle and adequate charging infrastructure in the surrounding area shall be provided. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), number of such non diesel vehicles deployed etc. in six monthly compliance report.
1.11	The Project Proponent shall provide stack of 275 meters height and shall abide by the provisions of the notification number G.S.R 465 (E) dated 11/07/2025 related to SO2 emission standards.
1.12	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
1.13	Effluent of 15600 KLD will be treated through Effluent Treatment Plant. As committed by the Project proponent, Zero liquid discharge shall be adopted for the existing and the proposed plant. No wastewater will be discharged outside the project site.
1.14	PP shall implement the concurrent plantation plan in a time bound manner. Total of 156.130 ha area (43.51% of total Main plant and Ash dyke area of 358.832 Ha) will be developed as greenbelt. A 30-50m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed within 2 years as greenbelt and green cover as per CPCB guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 1,60,000 saplings will be planted and nurtured in an area of approx. 64 Ha (44 Ha within the plant premises +20 Ha in the Ash Dyke area). The budget earmarked for the green belt plantation including Miyawaki Plantation area shall be kept in a separate account and audited annually. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year.
1.15	Project proponent shall carry out community plantation with incentive scheme by distributing 50,000 saplings per year for a period of five years. Further, PP shall provide basic facilities to the nearby schools such as drinking water, sanitation facilities (sanitary napkin vending machines) and shall also develop green belt around the nearby schools. Further, PP shall organize quarterly awareness programs for school students to educate them on the significance and preservation of trees.
1.16	Wildlife conservation plan as approved by the competent authority shall be implemented. Additional, budget shall be added in the plan, in case additional measures suggested by state wildlife department. The final Wildlife conservation plan duly approved by the CWLW shall be submitted to RO, MoEF&CC within a time frame of three months from the date of grant of EC and the budget approved by the concerned authority shall be deposited in a government account.
1.17	Project proponent shall install LED display of air quality (Continuous AAQ monitoring) and stack emission (Continuous emission monitoring) at prominent locations preferably outside the plant's main entrance for public viewing and in administrative complex and maintenance of devices shall be done regularly.

S. No	EC Conditions
1.18	Project proponent shall carry out Water Sprinkling on roads inside the plant area/ administrative/ residential areas and outside the plant area at least for 2 KM on a regular basis to control the air pollution. A logbook shall be maintained for the activity and be in six-monthly compliance report.
1.19	PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
1.20	Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.
1.21	A detailed action plan regarding leachate handling shall be prepared and implemented in consultation with SPCB and the same shall be submitted to the Regional Office of the Ministry. Leachate shall be treated and reused. No treated leachate shall be discharged in any circumstances. Characteristics of Leachate and the treated leachate shall be monitored once in quarter and records shall be maintained.
1.22	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
1.23	Monitoring of surface water quality and Ground Water quality shall also be regularly conducted in and around the project site and records to be maintained. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report. The monitored data shall be submitted regularly on PARIVESH portal as part of Half Yearly compliance report.
1.24	For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
1.25	PP shall ensure that all types of plastic waste generated from the plant shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016 (as amended). In pursuant to the Ministry's OM dated 18/07/2022. PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic (SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall also be included in the six monthly compliance report submitted by PP.
1.26	PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. The action in this regard shall be submitted concerned RO in six monthly report.

2. [B] Socio-economic

S. No	EC Conditions
2.1	A vision document comprising prospective plan for implementation of various CER activities, plantation programme outside the project cover area, rejuvenation and conservation of water bodies within 5 km radius of the project cover area shall be prepared and submitted to the Regional Office of the Ministry within 6 months. Implementation status of the same shall be reported to the Regional office in 6 monthly compliance report.
2.2	Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in two year) through independent agency. Necessary measures shall be taken as per findings of study in consultation with district administration. Action taken report shall be submitted to the Regional Office of the Ministry.
2.3	The budget proposed for PH is Rs. 37.175 crores and 42.75 crores to address the said concerns for Jharsuguda and Sundargarh Districts. The budget proposed shall be kept in a separate account and audited annually. Project proponent shall implement the action plan to address the issues raised during public hearing within a time frame of 5 years from the date of grant of EC. In addition to this, PP shall strengthen the existing Primary Health Center (PHC) & Community Health Center (CHC) in the study area for better public health as committed. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC.
2.4	The establishment of a robust public grievance redressal mechanism to address concerns and complaints from local communities regarding the power plant's operations, environmental impacts, or social issues shall be developed. A Senior Officer shall review the functioning of the mechanism twice in a month.

3. [C] Miscellaneous

S. No	EC Conditions
3.1	An Environmental Cell headed by the Environment Manager with postgraduate qualification in environmental science/environmental engineering, shall be created. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.
3.2	Consent for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
3.3	All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

Standard EC Conditions for (Thermal Power Plants)

1. Statutory Compliance

S. No	EC Conditions
1.1	Emission Standards for Thermal Power Plants as per Ministry’s Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.

S. No	EC Conditions
1.2	Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
1.3	MoEF&CC Notifications on Water Consumption vide Notification No. S.O. 3305 (E) dated 07.12.2015 read with G.S.R 593 (E) dated 28.6.2018 as amended from time to time shall be complied.
1.4	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
1.5	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

2. Air Quality Monitoring And Management

S. No	EC Conditions
2.1	Project proponent shall abide by the provisions of the notification number G.S.R 465(E) dated 11/07/2025 related to SO2 emission standards.
2.2	Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NOX emission standard of 100 mg/Nm3.
2.3	High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm3.
2.4	Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO2, Nox and Particulate Matter as per extant rules.
2.5	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
2.6	Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM10, PM2.5, SO2, NOX within the plant area at three locations. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
2.7	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
2.8	Appropriate Air Pollution Control measures (Des/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

3. Noise Pollution And Its Control Measures

S. No	EC Conditions
3.1	The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
3.2	Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3.3	Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

4. Human Health Environment

S. No	EC Conditions
4.1	Bi-annual Health check-up of all the workers is to be conducted. The Occupational health study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
4.2	Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.

5. Water Quality Monitoring And Management

S. No	EC Conditions
5.1	Project proponent shall use air cooled condensers in the power plants to reduce the fresh water consumption and achieve specific water consumption of 3.0 m3/MWhr.
5.2	In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
5.3	Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
5.4	Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
5.5	The treated effluents emanating from the different processes such as DM plant, boiler blow down,

S. No	EC Conditions
	ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
5.6	Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
5.7	Wastewater generation of 15600 KLD from various sources (viz. cooling tower blow down, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l.
5.8	Sewage generation of 175 KLD will be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/l; Total Suspended Solids: 100 mg/l; Fecal Coliforms (Most Probable Number).
5.9	Action plan by the TPPs located within 50 km of a municipality or any Urban Local Body (ULB) to use the treated sewage water produced by the municipality/Urban Local Body (ULB) to reduce fresh water consumption shall be submitted.

6. Risk Mitigation And Disaster Management

S. No	EC Conditions
6.1	Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
6.2	Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
6.3	Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
6.4	Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
6.5	Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

7. Green Belt And Biodiversity Conservation

S. No	EC Conditions
7.1	Green belt shall be developed in an area of 43.51% of the total plant area with indigenous native tree species in accordance with CPCB guidelines.

S. No	EC Conditions
7.2	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
7.3	A 3 tier plantation with saplings of native and fruit species of 2 meter height shall be done on both side of the roads which will be used for the transportation of coal and fly ash.

8. Waste Management

S. No	EC Conditions
8.1	Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
8.2	Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
8.3	Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
8.4	Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Ash Utilization issued by the Ministry S.O. 5481 dated 31.12.2021, S.O.6169 (E) dated 30.12.2021, S.O.05 (E) dated 01.01.2024 and amendment thereto.
8.5	Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method.

9. Monitoring Of Compliance

S. No	EC Conditions
9.1	Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
9.2	Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
9.3	Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.
9.4	Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
9.5	The project proponent shall (Post-EC Monitoring): a. send a copy of environmental clearance letter

S. No	EC Conditions
	to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; b. upload the clearance letter on the web site of the company as a part of information to the general public. c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in. d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically; e. monitor the criteria pollutants level namely; PM (PM10& PM2.5incase of ambient AAQ), SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company; f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB; g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company; h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work.

10. Corporate Environmental Responsibility (Cer) Activities

S. No	EC Conditions
10.1	CER activities will be carried out as per Ministry’s OM F.No.22- 65/2017- IA.III dated 30th September, 2020 and 22-65/2017- IA.III dated 25.02.2021 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting.

11. Ash Content/mode Of Transporatation Of Coal

S. No	EC Conditions
11.1	MoEF&CC Notification issued vide S.O. 1561 (E) dated 21.05.2020 and as amended from time to time shall be complied which inter-alia include use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance of conditions prescribed under (1) Setting Up Technology Solution for emission norms, (2) Management of Ash Ponds and (3) Transportation.