



File No: J-13011/59/2008-IA.II (T)
Government of India
Ministry of Environment, Forest and
Climate Change
IA Division



Date 04/06/2026



To,

Sh. Parthasarathi Panda
M/s. Odisha Power Generation Corporation Limited
Zone-A, 7th Floor, Fortune Towers, Chandrashekharpur, Bhubaneswar, Odisha- 751023
E-mail: deepak.tripathy@opgc.co.in

Subject: Expansion of existing 1740 MW [Stage I (Unit 1 & 2: 2x210 MW) and Stage II (Unit 3&4: 2x660 MW)] Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III by M/s. Odisha Power Generation Corporation Limited located at Banaharpalli village, Jharsuguda District, Odisha - Environment Clearance – regarding

Sir/Madam,

This is with reference to your proposal number IA/OR/THE/575779/2026 dated 30.04.2026 along with written submission dated 26.05.2026 seeking for grant of Environmental Clearance (EC) under the provision 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.	EC26A0601OR5271511N
(ii) File No.	J-13011/59/2008-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 Expansion of existing 1740 MW [Stage I (Unit 1 & 2: 2x210 MW) and Stage II (Unit 3&4: 2x660 MW)] Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III by M/s. Odisha Power Generation Corporation Limited located at Banaharpalli village, Jharsuguda District, Odisha
(vii) Name of Project	

(viii) Name of Company/Organization	M/s. Odisha Power Generation Corporation Limited
(ix) Location of Project (District, State)	Jharsuguda, Odisha
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. M/s. Odisha Power Generation Corporation Limited (OPGCL) has made an online application vide proposal no. IA/OR/THE/575779/2026 dated 30.04.2026 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. The proposed project activity is listed at item no. 1 (d) under Category "A" of the schedule of the EIA Notification, 2006. The project do not attract the provisions of general condition of the EIA Notification, 2006.

4. The instant Proposal was considered by the EAC (Thermal) in its 45th meeting held on 22nd May, 2026. The MoM for the same may be seen using the following web link: <https://parivesh.nic.in>

Details submitted by the project proponent

5. The project of M/s. Odisha Power Generation Corporation Limited located in Banharpali Village, Lakhanpur Tehsil, Jharsuguda District, Odisha State is for setting up of a new power plant with a capacity of 1320 MW (2 × 660 MW) with enhancement of Power Generation capacity from 1740 MW to 3060 MW.

6. The existing project was accorded environment clearance vide letter no. 14/13/83-EM I/IA dated 30.01.1987 for OPGC Stage-I (2 × 210 MW). Environment Clearance for OPGC Stage-II (2X660 MW) was obtained vide letter No. J-13011/59/2008-IA. II (T) dated 04.02.2010 and was amended vide letter No. J-13011/59/2008-IA.II(T) dated 22.01.2014 & validity of EC was extended vide letter No. J-13011/59/2008-IA.II(T), dated 16.01.2015 from MoEF&CC. Stage I and Stage II TPP has been implemented and presently under operation. Consent to Operate for the Stage I & II was accorded by Odisha State Pollution Control Board vide letter No. 4493/IND-I-CON-104 dated 30.03.2026. The validity of CTO is up to 31.03.2027.

7. Implementation status of the existing EC

Sl. No.	Configuration	Capacity	As per EC dated	Implementation status as on	Production as per CTO
1	Sub-critical	420 MW (2 × 210 MW)	30.01.1987	Operational	420 MW (2 × 210 MW)
2	Super-critical	1320 MW (2 × 660 MW)	04.02.2010	Operational	1320 MW (2 × 660 MW)

8. Certified compliance report from Regional Office

As per Certified Compliance Report dated 08/09/2025, 6 Nos of partially complied conditions had been reported. OPGCL had submitted the Action Take Report to RO Office, Bhubaneswar on 11.02.2026. Subsequently RO office evaluated the Action Taken Report & furnished comments on the same vide letter dated 12.02.2026. Out of 6 Nos of partially complied conditions, 5 Nos of conditions have been stated as complied & 1 No is partially complied.

9. Compliance to MoEF&CC Notification dated 11/07/2025 regarding SO₂ emission norms:

i. Categorization details of TPP : C (Existing Units as per CPCB letter dated 23/06/2022)

ii. Sulphur content of the coal to be fired in the boiler is 0.4%

iii. Status of SO₂ emission control facility for the existing unit:

Stage	Capacity	Present system for SO ₂ control	Remarks
I	2x210 MW	A bi-flue stack of 220 meter height has	Compliance to the notification number

		been provided.	GSR 742 (E) dated the 30/08/1990
II	2x660 MW	The installation of FGD is at advanced stage of construction (90% completed). The FGDs for Stage-II are likely to be commissioned by 31.12.2026	Installation of FGD under progress (Advanced stage) for OPGC Stage-II (2x660 MW)

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: A 275m stack with twin flue will be constructed for the proposed expansion.

10. The details of the ToR is furnished as below:

Proposal No with date	Consideration	Details	Date of accord	ToR Validity
IA/OR/THE/440643/2023 Dated 28.08.2023	46 th meeting of EAC – Thermal held on 04.09.2023	Terms of Reference	TOR was accorded by MoEF&CC vide Letter No. J13011/59/2008-IA.II(T) dated 02.11.2023	02.11.2027 -----
IA/OR/THE/562131/2025 dated 18/12/2025	36 th meeting of EAC – Thermal held on 22.01.2026	Amendment	Amended TOR was accorded vide File No- File No.: J13011/59/2008-IA.II (T) dated 07.02.2026	

11. Environmental site settings

S.No.	Particulars	Details	Remarks																					
1.	Total land	A. Total Plant Area: 496.717 Ha (No additional land is required for proposed Expansion Project) B. Ash Pond Details: • Stage-I Ash Pond: 107.61 Ha (5.8 Km from the Plant area) • Stage-II Ash Pond: 123.79 Ha (14 Km from the Plant area) • Stage-III Ash Pond (Proposed):109.38 Ha (7 Km from the Plant area) C. Ash Pipeline Corridor: • Stage-I & Stage-II: ROW has been taken for 20.61 Ha from Hirakud Main Dam Division. • Stage-III: 5.69 Ha																						
2.	Land use break up	A. Plant Area <table><tr><th>Facilities</th><th>Existing Area (In Hectares)</th><th>Proposed Area (In Hectares)</th></tr><tr><td>Main Plant</td><td>236.561</td><td>60.703</td></tr><tr><td>Coal Handling System</td><td>Included in (a) above</td><td>Included in (a) above</td></tr><tr><td>Water System</td><td>Included in (a) above</td><td>Included in (a) above</td></tr><tr><td>Switch Yard</td><td>Included in (a) above</td><td>Included in (a) above</td></tr><tr><td>Green belt</td><td>173.453</td><td>26.00</td></tr><tr><td>Roads</td><td>Included in (a) above</td><td>Included in (a) above</td></tr></table>	Facilities	Existing Area (In Hectares)	Proposed Area (In Hectares)	Main Plant	236.561	60.703	Coal Handling System	Included in (a) above	Included in (a) above	Water System	Included in (a) above	Included in (a) above	Switch Yard	Included in (a) above	Included in (a) above	Green belt	173.453	26.00	Roads	Included in (a) above	Included in (a) above	No additional land is required for the Plant area under the proposed expansion. The proposed expansion will be implemented exclusively on the existing available land of 60.703 Ha.
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S.No.	Particulars	Details			Remarks															
		Others (please specify)	Township - Included in (a) above	No separate Township envisaged																
		Total	410.014 Ha	86.703																
		Total Including Existing & Proposed	496.717 Ha																	
		B. Ash Pond																		
		OPGCL Stages	Existing (Ha)	Proposed (Ha)																
		Stage-I	107.61	Nil																
		Stage-II	123.79	Nil																
		Stage-III	Nil	109.38																
		Note: Out of total of 109.38 Ha, 34.78 Ha has been earmarked for greenbelt development.																		
		C. Ash Pipeline Corridor (Ha)																		
		OPGCL Stages	Existing (Ha)	Proposed (Ha)																
		Stage-I	ROW has been obtained from Hirakud Main Dam Division for 20.61 Ha (The land is not under possession of OPGCL)	Nil																
		Stage-II		Nil																
Stage-III	Nil	5.69																		
3.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014 & 19/02/2025	A. Plant area: 496.717 Ha is already under the possession of proponent B. Ash Pond: 231.40 Ha of area for Stage I & II ash pond is already under the possession of PP. 109.38 Ha for Stage III ash pond is under the process of acquisition by IDCO. In this regard, administrative approval has been accorded by the Energy Department of Govt. of Odisha (o. 4688/En., ENG-THER-OPGC- 0002-2018) on 29/04/2026. C. Ash pond corridor: 20.61 Ha is already under Right of Way for corridor of Stage I & II. 5.69 Ha ash pipeline corridor for Stage III is under acquisition. The 5.69 Ha land is under acquisition process by IDCO.			Ash pond- 109.38 Ha Govt. Land.1.56 Ha Pvt.Land-107.82 Ha Ash Pipeline Corridor-5.69 Ha Govt. Land.0.71 Ha Pvt.Land-4.98 Ha															
4.	Existence of habitation & involvement of R&R, if any.	<u>Project site:</u> None <u>Habitation Present Within 5 Km Radius</u> <table><tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Baragad</td><td>1.3 km</td><td>W</td></tr><tr><td>Telenpali</td><td>2 km</td><td>N</td></tr><tr><td>Adhapada</td><td>2.3 km</td><td>NW</td></tr><tr><td>Banharpali</td><td>1 km</td><td>NE</td></tr></table>			Habitation	Distance	Direction	Baragad	1.3 km	W	Telenpali	2 km	N	Adhapada	2.3 km	NW	Banharpali	1 km	NE	
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S.No.	Particulars	Details	Remarks
		Mitigation Measures: • Development of adequate greenbelt within the plant premises and along the project boundary to act as a barrier against dust, noise and gaseous emissions. • Installation of high-efficiency air pollution control systems such as ESPs, low NOx burners and FGD system to ensure emissions remain within prescribed norms. • Continuous Ambient Air Quality Monitoring Stations (CAAQMS) shall be installed at strategic locations including nearby habitation areas for regular monitoring of air quality. • Regular water sprinkling on roads, ash handling areas and material handling zones to control fugitive dust emissions. • All ash transportation shall be carried out through covered bulkers/closed conveying systems to avoid dust nuisance in nearby villages. • Noise generating equipment shall be provided with acoustic enclosures, silencers and vibration isolation measures. Workers shall use suitable PPEs and periodic noise monitoring shall be carried out at plant boundary and nearby habitation areas. • Treated wastewater shall be reused to the maximum extent possible and no untreated wastewater shall be discharged outside the plant premises. • Proper traffic management plan shall be implemented to minimize congestion and disturbance to local residents during construction and operation phases. • Regular health check-up camps, medical facilities and community welfare programmes shall be undertaken for nearby villagers under CSR activities. • Emergency Response and Disaster Management Plan shall be implemented with adequate communication and coordination mechanism involving nearby villages and local administration. • Plantation and avenue development shall be undertaken in nearby villages and along approach roads to improve the local environmental conditions. • Public grievance redressal mechanism shall be established for addressing concerns of nearby residents in a timely manner. • Occupational and environmental monitoring data shall be periodically reviewed to ensure that the project activities do not adversely impact nearby populated areas.	
5.	Existence of	A. School Project site: None	

S.No.	Particulars	Details	Remarks																																				
	school and hospitals if any.	<u>Schools Present within 5km area:</u> <table> <tr> <th>School</th> <th>Distance</th> <th>Direction</th> </tr> <tr> <td>DAV Public School</td> <td>1</td> <td>NW</td> </tr> <tr> <td>DAV High School</td> <td>1 .5</td> <td>N</td> </tr> <tr> <td>Telenpali Primary School</td> <td>2</td> <td>N</td> </tr> <tr> <td>Banharpali School</td> <td>1</td> <td>SE</td> </tr> <tr> <td>Adhapada School</td> <td>2.3</td> <td>NW</td> </tr> <tr> <td>Rengali Primary School</td> <td>3</td> <td>SE</td> </tr> <tr> <td>Kumarbandh College</td> <td>5</td> <td>SE</td> </tr> </table> <u>B. Hospital</u> <u>Hospitals present within 5km area.</u> <table> <tr> <th>Hospital</th> <th>Distance (Km)</th> <th>Direction</th> </tr> <tr> <td>ITPS Hospital</td> <td>1.5</td> <td>N</td> </tr> <tr> <td>Kumarbandh PHC</td> <td>5</td> <td>SE</td> </tr> <tr> <td>Adhapada PHC</td> <td>2.5</td> <td>NNW</td> </tr> </table> <u>Mitigation Measure:</u> - Considering the presence of school(s) and health centre(s) in close proximity, the following mitigation and community protection measures shall be implemented to minimize potential impacts arising out of construction and operation of the proposed project: - Adequate air pollution control measures including high efficiency Electrostatic Precipitators (ESP), covered conveyors, water sprinkling systems and dust suppression arrangements shall be provided to minimize dust and gaseous emissions affecting nearby institutions. - Green belt of adequate width with native and dust tolerant species shall be developed along the project boundary adjoining the school and health centre to act as a noise and dust attenuation barrier. - Noise generating equipment shall be provided with acoustic enclosures, silencers and vibration isolation systems to maintain ambient noise levels within prescribed standards in nearby sensitive receptors. - Transportation of coal, ash and construction materials shall be carried out through covered vehicles with controlled speed limits to minimize dust generation and traffic disturbance near the school and health centre. - Regular water sprinkling and road maintenance shall be undertaken on internal roads and approach roads	School	Distance	Direction	DAV Public School	1	NW	DAV High School	1 .5	N	Telenpali Primary School	2	N	Banharpali School	1	SE	Adhapada School	2.3	NW	Rengali Primary School	3	SE	Kumarbandh College	5	SE	Hospital	Distance (Km)	Direction	ITPS Hospital	1.5	N	Kumarbandh PHC	5	SE	Adhapada PHC	2.5	NNW	
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		to control fugitive dust emissions. - Ambient air quality and noise monitoring shall be carried out periodically at identified locations near the school and health centre and corrective measures shall be taken wherever required. - Adequate traffic management plan including signages, speed control measures and designated vehicle movement routes shall be implemented to ensure safety of school children, patients and local residents. - Construction activities generating high noise shall preferably be restricted during school operating hours and sensitive timings of the health centre, as far as practicable. - The project shall maintain Zero Liquid Discharge (ZLD)/maximum wastewater recycling approach to prevent contamination of nearby water sources used by local communities. - Emergency preparedness and Disaster Management Plan (DMP) shall include provisions for nearby public institutions including school and health centre for prompt response during any emergency situation. - Periodic health camps, medical assistance and community welfare activities shall be organized by the project proponent in nearby villages and institutions as part of Corporate Environment Responsibility (CER)/CSR activities. - Continuous liaison and consultation shall be maintained with local administration, school authorities and health centre representatives for addressing community concerns related to project activities. - Plantation and aesthetic development activities shall be undertaken around nearby community infrastructure to improve local environmental quality and visual aesthetics. As a part of CSR programme frequent/regular health check-ups will be done in the surrounding community.																													
6.	Latitude and Longitude of all corners of the project site.	A. Plant site <table><thead><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr></thead><tbody><tr><td>A</td><td>21°42'01.98"N</td><td>83°51'05.97"E</td></tr><tr><td>B</td><td>21°41'57.29"N</td><td>83°51'43.87"E</td></tr><tr><td>C</td><td>21°41'46.43"N</td><td>83°51'43.79"E</td></tr><tr><td>D</td><td>21°41'43.85"N</td><td>83°52'42.93"E</td></tr><tr><td>E</td><td>21°41'23.84"N</td><td>83°52'35.36"E</td></tr></tbody></table> B. Ash Pond <table><thead><tr><th>Ash Pond</th><th>Latitude</th><th>Longitude</th></tr></thead><tbody><tr><td rowspan="3">Ash Pond - 1</td><td>21°41'22.40"N</td><td>83°53'33.95"E</td></tr><tr><td>21°41'49.18"N</td><td>83°53'51.82"E</td></tr><tr><td>21°41'01.92"N</td><td>83°54'50.06"E</td></tr></tbody></table>	Point	Latitude	Longitude	A	21°42'01.98"N	83°51'05.97"E	B	21°41'57.29"N	83°51'43.87"E	C	21°41'46.43"N	83°51'43.79"E	D	21°41'43.85"N	83°52'42.93"E	E	21°41'23.84"N	83°52'35.36"E	Ash Pond	Latitude	Longitude	Ash Pond - 1	21°41'22.40"N	83°53'33.95"E	21°41'49.18"N	83°53'51.82"E	21°41'01.92"N	83°54'50.06"E	
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7.	Elevation of the project site	Elevation ranges from 187 M to 208 M above mean sea level	Average elevation of the Plant area is 200 m MSL																					
8.	Involvement of Forest land if any.	In the existing plant area of 496.717 Ha involvement of forest land is 258.3 Ha for which requisite Stage II FC obtained vide letter No. IOF (Cons) 35/85/3482/FFAH, dated 27. 02. 1985. No additional forest land is involved neither in the plant area nor in the ash pond and its corridor area.	258.3 ha of land had been diverted for non-forest use by forest dept. of Odisha vide letter No. IOF (Cons) 35/85/3482/FFAH,																					
9.	Water body (Rivers, Lakes, Natural Drainage, Canal etc.) exists within the project site as well as study area	Project Site: None Water Body in Study Area <table><tr><th>Water body</th><th>Distance</th><th>Direction</th></tr><tr><td>Hirakud Reservoir</td><td>0.8 Km</td><td>SW</td></tr><tr><td>Ib River</td><td>7 Km</td><td>NE</td></tr><tr><td>Lilari Nala</td><td>7.9</td><td>NNE</td></tr></table> For Proposed Stage-III Plant area and ash pond area, there is no involvement of wetland. Mitigation measures: - Adoption of Zero Liquid Discharge Concept. - Development of Greenbelt Buffer between Hirakud Reservoir & Proposed Stage-III Ash Pond. - Construction & Designing of Ash Pond as per CEA guidelines. - Engagement of Institutes of National reputes for design & drawings of Ash Ponds. - Implementation of recommendations of State Wetland Authority if any.	Water body	Distance	Direction	Hirakud Reservoir	0.8 Km	SW	Ib River	7 Km	NE	Lilari Nala	7.9	NNE	No Nala, Natural drainage, canal etc. exist within the project area. As per the correspondence received from Office of The Chief Engineer & Basin Manager, Mahanadi Basin, Burla vide Letter No-CE&BM/MB/W/M/377(28)/2026:-624/WE dated 10.02.2026, it has been clarified that the proposed Plant & Ash Pond Area falls beyond 500 m from HFL of Hirakud Reservoir.									
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Hirakud Reservoir	0.8 Km	SW																						
Ib River	7 Km	NE																						
Lilari Nala	7.9	NNE																						
10.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Study area Name of the ESZ/ESA: No notified ESZ/ESA present within 15 Km of study area Status of Notification: Not Applicable 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: Not Applicable	No ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. is situated within the study area of 15 Km. No wildlife corridor passes through the project site as confirmed by PCCF(WL) Govt. of Odisha. Hirakud reservoir which is a Ramsar site is situated in close proximity to the project area. At the time of establishment of																					

S.No.	Particulars	Details	Remarks									
			existing OPGC Stage-I during 1994, 182.9 Ha of land was relinquished by Water Resource Department Govt of Odisha for construction of Stage-I ash pond. Further it is to clarify that Plant area of existing Stage-I, stage-II & of Proposed Stage-III Plant as well as ash pond stage II & III does not fall under wetland area.									
11.	Archaeological sites monuments/ historical temples etc.	No Archaeological sites monuments/ historical temples										
12.	Facility envisaged in CRZ area (Only for coastal power plant)	Not Applicable	Not Applicable									
13.	Involvement of Critically Polluted Area/Severely Polluted area as per 2018 CEPI score	The project area falls under Severely Polluted area The following additional environmental measures will be taken as per MoEF&CC OM dated 31/10/2019 <table><tr><th>Sl. No.</th><th>Conditions</th><th>Compliance Status</th></tr><tr><td colspan="3">A. Air Pollution Mitigation Measures</td></tr><tr><td>1.</td><td>Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.</td><td> For Stage-I: - PM & NOX emission norms are being complied. - For SO₂, a stack height of 220-meter chimney has been provided. For Stage-II: - PM & NOX emission norms are being complied. - For SO₂, FGD is being constructed which is at advance stage and is expected to be commissioned </td></tr></table>	Sl. No.	Conditions	Compliance Status	A. Air Pollution Mitigation Measures			1.	Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.	For Stage-I: - PM & NOX emission norms are being complied. - For SO₂, a stack height of 220-meter chimney has been provided. For Stage-II: - PM & NOX emission norms are being complied. - For SO₂, FGD is being constructed which is at advance stage and is expected to be commissioned	OSPCB through its Letter 2002/VI-SC (I&PR)-03/16-17, Dated 11.02.2026 has clearly demarcated the boundary of Ib Thermal Power Station of OPGC & all the existing as well as the proposed project area falls under SPA. However, Phase-II Ash Pond is outside the boundary of SPA. OPGC is complying to all the conditions of SPA .At present OPGC has green belt over 173.453 Ha (34.92% is existing green belt %) & has demarcated additional 26 Ha of land within the existing Plant Boundary for development of Green Belt. This will increase the existing Green Belt % to 40.15%.
Sl. No.	Conditions	Compliance Status										
A. Air Pollution Mitigation Measures												
1.	Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.	For Stage-I: - PM & NOX emission norms are being complied. - For SO₂, a stack height of 220-meter chimney has been provided. For Stage-II: - PM & NOX emission norms are being complied. - For SO₂, FGD is being constructed which is at advance stage and is expected to be commissioned										

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
				by 31.12.2026. For Stage-III: - PM & NOX emission norms shall be complied. - For SO₂, a stack height of 220-meter chimney will be provided.	
		2.	CEMS may be installed in all large/medium red category industries (air polluting) and connected to SPCB and CPCB server.	Stage-I: 2 nos. CEMS have been installed, and the readings are transmitted to CPCB/OSPCB server on real time basis. Stage-II: 2 nos. CEMS have been installed, and the readings are transmitted to CPCB/OSPCB server on real time basis. Stage-III: CEMS will be provided with real time connection to SPCB and CPCB server for real time data transmission.	
		3.	Effective fugitive emission control measures should be imposed in the process, transportation, packing etc.	For Stage-I & Stage-II: - Provided Rain guns all along the coal yard. - Mist sprinklers have been installed all along the track hopper. - Dry Fog system has	

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
				been installed at all transfer points of Conveyor Belt. • Bag filters have been installed at all silo tops, • Mechanized sweepers have been deployed to clean roads. • Ring header sprinklers have been installed at the ash ponds. • All internal roads are either black topped or concrete. • Entire transfer of coal is done through rail. For Stage-III: • The same shall be adopted in Units 5 and 6 also.	
		4.	Transportation of materials by rail/conveyor belt wherever feasible.	Stage-I & Stage-II: 100% of transportation of coal through dedicated MGR system and the same shall be adopted for Stage-III.	
		5.	Encourage use of cleaner fuels (pet coke/furnace oil/ LSHS may be avoided)	For Stage-I & Stage-II: Use domestic coal as main fuel and LDO is used as auxiliary fuel. For Stage-III: Use domestic coal as main fuel and	

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
				LDO as auxiliary fuel will be used.	
		6.	Best available technology may be used. For example, usage of EAF/SAF/IF in place of cupola furnace usage of supercritical technology in place sub-critical technology.	Old units i.e. Unit#1 & Unit#2 are subcritical, however newer units i.e. Unit#3 & Unit#4 are supercritical & upcoming Units i.e. Unit#5 & Unit#6 will be ultra-supercritical.	
		7.	Increase green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.	At present OPGC has green belt over 173.453 Ha (34.92% is existing green belt %) & has demarcated additional 26 Ha of land within the existing Plant Boundary for development of Green Belt. This will increase the existing Green Belt % to 40.15%.	
		8.	Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry etc.	OPGC in consultation with DFO, Jharsuguda is in process of identifying degraded forest land has planned to have green belt over 10 Ha of degraded forest land within coming 5 years. Each year plantation activity will be carried out over 2 ha of land.	
		B. Water Pollution Mitigation Measures			
		1.	Reuse/recycle of treated wastewater, wherever feasible.	Stage-I & Stage-II: <i>The entire effluent is reused/ recycled</i> Cooling Tower blow	

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
				down is used in ash handling (When COC reaches above 5.5, makeup from the Cooling Tower circulation system is given to ash handling). - Cooling Tower Blow down is treated in ETP (400 m³ hr capacity) with RO system & Permeate is used in DM water production & reject is used in ash handling. - The CT drift loss water is circulated back to cooling tower basin. - The decanted ash water is circulated back with help of 3 dedicated pumps of 1000 m³/hr capacity. At any point of time 2 pumps remain operational & 1 remains standby. Independent recirculation systems are available for OPGC Phase-I & OPGC Phase-II ash	

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
				ponds. - Settling pits water are used in dust suppression. 1000 KLD STP has been installed to treat domestic effluent & the treated sewage water is used in green belt development. - Rainwater harvesting system is functional. Stage-III: The project will be based on Zero Liquid Discharge concept. The Effluent generated from Cooling Tower Blowdown, Boiler Blow Down, CPU Water will be treated using 2x200 m³/hr capacity ETP. The RO permeate water will be used in CT Makeup and DM Water production. The reject water will be used in Ash Handling. Generated Domestic Sewage will be treated in existing 1 MLD capacity STP.	
		2.	Continuous monitoring of effluent quality/quantity in large and medium Red category industries (Water	Online EQMS has been installed at outlets of STP & ETP. The data is transmitted to CPCB/OSPCB server on real-time basis. The same shall be	

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
			Polluting).	adopted in Units 5 and 6 also.	
		3.	A detailed water harvesting plan may be submitted by the project proponent.	OPGC has constructed 18000 m ³ rainwater harvesting pond with recovery system. The harvested rainwater is used back in the process.	
		4.	Zero liquid discharge wherever techno-economically feasible.	OPGC maintains Zero liquid discharge in existing units. The same shall be adopted in Units 5 and 6 also.	
		5.	In case, domestic waste water generation is more than 10 KLD, the industry may install STP.	OPGC has installed 1000 KLD Sewage Treatment Plant for treatment of domestic effluent. The treated water is used for green belt development. The same shall be adopted in Units 5 and 6 also.	
		C. Land Pollution Mitigation Measures			
		1.	Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever, feasible for new projects.	At present OPGC has green belt over 173.453 Ha (34.92% is existing green belt %) & has demarcated additional 26 Ha of land within the existing Plant Boundary for development of Green Belt. This will increase the existing Green Belt % to 40.15%.	
		2.	Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas,	OPGC in consultation with DFO, Jharsuguda is in process of identifying degraded forest land has planned to have green belt over 10 Ha of	

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
			social forestry, etc.	degraded forest land within coming 5 years. Each year plantation activity will be carried out over 2 ha of land.	
		3.	Dumping of waste (Fly ash) may be permitted only at designated locations approved by SPCB.	Will be complied.	
		4.	More stringent norms for management of hazardous waste. The waste generated should be preferably utilised in co-processing	- Used oil & empty drums are disposed to authorized recyclers. - Spent resins is co-processed in the boilers by mixing with coal (The annual generation of spent resins (Having GCV of 3300 Kcal/Kg is only 4 MT whereas daily coal consumption is 30000 MT, thus the amount of spent resin is very small as compared to coal)	
		D. Other Condition (Additional)			
		1.	Monitoring of compliance of EC conditions may be submitted with third party every year.	Compliance status has been periodically evaluated by IRO MoEF &CC Bhubaneswar, However, OPGC assures to carry out third party EC condition compliance from FY 2026-27.	

S.No.	Particulars	Details			Remarks
		Sl. No.	Conditions	Compliance Status	
		2.	The % of the CER may be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA in case of Environmental Clearance.	A budgetary outlay of Rs. 47.05 Cr has been earmarked towards CER expenditure with reference OPGC Stage-III expansion project.	

12. 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.	2x210 MW (Unit 1 & 2)	2x660 MW (Unit 5 & 6)	3060 MW	- Unit 1 & 2 – 2x210 MW (sub critical) - Unit 3 & 4 – 2x660 MW (Super critical)
2.	2x660 MW (Unit 3 & 4)			Unit 5 & 6 – 2x660 MW (Ultra super critical)

13. The details of the fuel (coal/gas/LDO) requirement for the expansion cum proposed project along with its source and mode of transportation is given as below:

Details	Fuel requirement (MTPA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP	2.7 MTPA for Stage-I 7.6 MTPA for Stage-II	MCL & Manoharpur coal mines (captive) Manoharpur Coal mines (Captive mine)	8 km - from MCL(Track Length) 47 km for Manoharpur (Track Length)	Through dedicated rail corridor	Ash - (41 -43%) Sulphur (0.3 - 0.45%) Moisture (12-14%)	Fuel supply agreement exist with MCL & Manoharpur captive coal
Proposed TPP	7.2 MTPA	Manoharpur and Deepside Manoharpur coal Block	47 km for Manoharpur (Track Length)	Through dedicated rail corridor	Ash - (41 -43%) Sulphur - (0.3 - 0.45%) Moisture (12-14%) GCV -Kcal/Kg 3000 - 3400	

14. Water Requirement: Existing Water requirement is 124000 m³ /day, water requirement is obtained from Hirakud Reservoir and permission for the same has been obtained from Department of Water Resources, Govt. of Odisha vide letter no. 22837/WR.,Irr.-II-WRC-146/13 dated 26/08/2013. The water requirement for the proposed project is estimated as 81600 m³ /day, The permission for drawl of surface water is obtained from Department of Water Resources, Govt. of Odisha. vide letter no.7621/WR., WR-MAJII-WRC-0178/2023(OSWAS File No.) dated 13.03.2024 The water will be sourced to the plant site through Intake channel. The specific water consumption for the power plant is 2.5 m³ /MW hr.

15. Power Requirement: Existing power requirement of 111.05 MW (at 85% PLF) is obtained from Auxiliary Power. The power requirement for the proposed project is estimated as 62.32 MW (at 85% PLF), which will be obtained from the

16. Baseline Environmental Studies

Period	October 2023 to December 2023	Additional Study (if any)
AAQ parameters at eleven Locations (min and max)	$PM_{2.5} = 14.5 \text{ To } 53 \text{ } \mu\text{g}/\text{m}^3$ $PM_{10} = 30.6 \text{ To } 74.3 \text{ } \mu\text{g}/\text{m}^3$ $SO_2 = 8.7 \text{ To } 19.4 \text{ } \mu\text{g}/\text{m}^3$ $NO_x = 13.2 \text{ To } 28.7 \text{ } \mu\text{g}/\text{m}^3$ $CO = 297 \text{ To } 463 \text{ } \mu\text{g}/\text{m}^3$	
Baseline and predicted Incremental GLC level	$PM_{10} = 54.5 \text{ To } 55.11 \text{ } \mu\text{g}/\text{m}^3$ (Level at 1 km in S Direction) $SO_2 = 14.2 \text{ To } 16.16 \text{ } \mu\text{g}/\text{m}^3$ (Level at 1 km in S Direction) $NO_x = 21.7 \text{ To } 23.98 \text{ } \mu\text{g}/\text{m}^3$ (Level at 1 km in S Direction)	
Ground water quality at six locations	pH: 6.57 to 7.14, Total Hardness: 47 To 344 mg/I, Chlorides: 18 to 220 mg/I, Fluoride: 0.3 to 1 mg/I, Heavy metals cadmium <0.003 Lead <0.01 Mercury <0.001 Arsenic <0.01	
Surface water quality at four locations	pH: 7.57 to 7.67; DO: 4.7 to 5.7 mg/I and BOD: <3 mg/I. COD <5 mg/I	
Effluent generation details and its treatment	Effluent generation from TPP 5802 KLD from Cooling tower Blowdown, Boiler Blowdown, condensate polishing Unit and neutralization pit water from DM Plant. Mode of treatment & reuse ETP (2x200 m ³ /hr capacity) with reverse osmosis technology and the treated water will be used in Ash Handling Plant Domestic wastewater generation 200 KLD Mode of treatment & reuse 1 MLD STP based on ASP technology and the treated water will be used for green belt development	Two nos. of ETP each having a capacity of 200 m ³ /Hour having total capacity of 9600 m ³ /Day with Reverse Osmosis Technology will be installed for the treatment of Effluent. the treated water (Permeate) will be used in Cooling Tower Makeup & DM Water Production. The RO reject will be used in Ash Handling Plant The generated domestic waste will be treated in the existing STP having a capacity of 1 MLD based on ASP technology and the treated water will be used for green belt development. At present the STP is running with a load of 0.7 MLD.
Noise levels Leq (Day and Night)	45.7 dB(A) to 63.5 dB(A) for the day time and 39.5 dB(A) to 57.3 dB(A) for the Night time.	
Traffic assessment study findings	Traffic Study not carried out as the entire coal will be sourced through existing MGR system from captive coal mine to plant and power evacuation is through transmission line	As all the required Coal for the Stage-III project will be transported through dedicated rail corridor from the mines to the plant site.
Soil Quality at - Locations	Bulk density: 1.22 to 1.39 gm/cm ³ ; pH range 6.56 to 6.95; Electrical conductivity (EC): 114 to 215 $\mu\text{hos}/\text{cm}$; calcium content: 573 to 1948 mg/kg; sodium: 30 to 166.9 mg/kg; potassium: 50.1 to 191.5 kg/hac; Nitrogen: 112.4 to 254.5 kg/hac; Phosphorous: 43.5 to 86 kg/hac; Cation Exchange Capacity (CEC): 6.59 to 20.77 meq/100gm; Magnesium: 224 to 773 mg/kg; Sulphur: 21.5 to 53.2 mg/kg; Organic Matter: 0.4 to 1.66 %	

Period	October 2023 to December 2023	Additional Study (if any)
Flora and fauna	Flora in study area Trees- 149 species Shrubs- 34 species Herbs- 54 species Fauna in study area Mammals- 14 species Birds- 70 species Reptiles- 22 species Amphibians-9 species Fish- 10 species Schedule I species: 22 Nos	Site Specific wildlife conservation plan has been prepared in consultation with Forest, environment and climate change Department, Govt. of Odisha which has been approved by PCCF(WL) vide letter No. 11217/CWLW-FDWC-FD-0008-2024 Dated.19 th September 2024. An amount of Rs. 515.328 Lakh has already been paid to concerned forest division for implementation of SSPWLCP based on approved Wildlife conservation plan
Hydrogeology study	Recommendations of Hydrogeology study (Study has been conducted by IIT Roorkee): Since the study area falls near Hirakud Reservoir, there is no scope for water shed development, however deepening of existing ponds & construction of few new ponds can be taken up for conservation of water.	OPGCL committed to comply with the recommendations of the Hydrogeology study. The commitment has been incorporated in the action plan against the issues raised during the Public Hearing.
Impact study on bio-diversity and aquatic ecology	Recommendations of study report: - It is proposed as a zero liquid discharge (ZLD) unit. No treated or untreated effluents or sewage shall be disposed outside the unit. This measure will ensure that the proposed expansion will not contaminate to the wetland. - To the extent possible, efforts will be made to cover the gaps within the green areas (plantations) through gap filling. Soils within the green areas will be enriched with degraded organic matter to improve the O.M content of soils. - Development dense green cover between the IB River and the new ash dyke so that it can act as a nesting, resting and safety zone for birds. - Ash Ponds to be lined with HDPE membrane	OPGC shall comply with the recommendations of the study.
Risk assessment study	Recommendations of Risk assessment report with mitigation measures In case of Spillage of chemicals while handling (HCl, NaOH) - The spillage should be treated as per MSDS of each chemical. A copy of MSDS should be kept in chemical laboratory and stores. - The source of the spillage should be immediately identified and plugged. The spilled chemical should be washed with copious water and the washed water should be collected in floor wash tank. The washed water in floor wash tank should be treated as per waste treatment procedure till it is exhausted. In case of chlorine leak	OPGC shall comply with the recommendations of the study.

Period	October 2023 to December 2023	Additional Study (if any)
	• Evacuate nearby surrounding; • An automatic chlorine leak absorption system should be provided for chlorination plant to neutralise chlorine leakage. Chlorination plant shall be provided with required chlorine containers, instrumentation. Panels, chlorine leak detectors etc. Use ammonia spray or swab for identifying leakage. (A white cloud indicates Chlorine leakage). • For persistent leakage connect a flexible hose pipe and put the pipe in the tank containing Caustic soda. • Isolate the area until the gas has dispersed. For Fire Detection & Protection System • Hydrant system for complete power plant covering main plant building, boiler area, turbine and its auxiliaries, coal handling plant, all pump houses and miscellaneous buildings of the plant. The system shall be complete with piping, valves, instrumentation, hoses, nozzles, hose boxes/stations etc. • Automatic high velocity water spray system for all transformers located in transformer yard and transformers having oil capacity above 2000 ltrs located within the boundary limits of plant, main and unit turbine oil tanks and purifier, Oil canal, generator seal oil system, lube oil system for turbine driven boiler feed pumps, boiler burner fronts, etc. This system shall consist of QB detectors, deluge valves projectors, valves, piping & instrumentation. • Automatic medium velocity water spray system for cable vaults and cable galleries of main plant, switchyard control room and ESP control room consisting of smoke detectors, linear heat sensing cable detectors, deluge valves, isolation valves, piping, instrumentation, etc.; • Automatic medium velocity water spray system for coal conveyors, coal galleries, transfer points, Stacker reclaimers, etc. This system shall consist of QB detectors, linear heat sensing cables, deluge valves, nozzles, piping, instrumentation, etc.; • Automatic medium velocity water spray system for un-insulated fuel oil tanks storing fuel oil having flash point 65o C and below consisting of QB detectors, deluge valves, nozzles, piping, instrumentation, etc.; • Automatic fire detection cum sprinkler system for crusher house along with alarm valves, sprinkler nozzles, piping, instrumentations etc.; • Automatic Foam injection system for fuel oil / storage tanks consisting of foam concentrate tanks, foam pumps, in-line inductors, valves, piping & instrumentation, etc.; • For protection of central control room, Control equipment room, Programmer room and UPS, Inert Gas extinguishing system as per NFPA- 2001 (edition 2004 or latest) would be opted.; • Fire detection and alarm system - A computerized analogue, addressable type Fire detection and Alarm system shall be provided to cover the complete power plant. Following types of fire detection shall be employed.; • Multi-sensor type smoke detection system; • Photo electric type smoke detection system; • Combination of both multisensor type and photo electric type	

Period	October 2023 to December 2023	Additional Study (if any)
	smoke detection systems; • Linear heat sensing cable detector; • Quartzoid bulb heat detection system; • Infra red type heat detectors (for selected coal conveyors); • Portable and mobile extinguishers, such as pressurized water type, carbon dioxide type, foam type, dry chemical powder type, will be located at strategic locations throughout the plant; • CW blow down shall be used for supply of fire water. • An alternate connection from clarified water make-up line shall also be provided as a back-up source for fire water. It is proposed to provide two numbers of Steel tanks for storage of fire water system. Fire water pumps shall be located in the fire water pump house and horizontal centrifugal pumps shall be installed in the pump house for hydrant and spray system and the same shall be driven by electric motor and diesel engines as per the regulations of TAC. The water for foam system shall be tapped off from the hydrant system network; • For the above fire water pumping station, automatic pressurization system consisting of jockey pumps shall be provided; and • Complete Instrumentation and Control System for the entire fire detection and protection system shall be provided for safe operation of the complete system.	

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

S. No.	Type of Waste	Source	Quantity generated (TPA)	Disposal
1.	Domestic Solid Waste	Domestic Solid Waste	500 T/Annum	Recycling principle of Waste Management
2.	Plastic Waste	Industrial packing	2 T/Annum	Co-processing in cement industries
3.	E-Waste	Industrial E-Waste	1 T/Annum	Disposed through authorized recycler
4.	Battery Waste	Battery Waste	1.5 T/Annum	Disposed through authorized recycler
5.	Waste residue containing oil	Maintenance Department	5 T/Annum	Disposed through authorized recycler
6.	Sludge contaminated with Oil	LDO Storage Tank	100 T/Annum	Disposed through authorized recycler
7.	Spent Resin	DM Plant	10 T/Annum	Burn with Coal
8.	Used Oil	Maintenance Department	300 T/Annum	Disposed through authorized recycler
9.	Empty Oil & Chemical Drums	Maintenance Department & WTP	30 T/Annum	Disposed through authorized recycler/ Sent to original manufacturer

18. Public Consultation:

The Public Hearing for the Stage-III project was scheduled to be held on 24.04.2024 for which the advertisement was published in Prameya (Vernacular Language i.e. Odia) on 18.03.2024 and in The Times of India on 18.03.2024. Due to Model Code of Conduct, the Public Hearing couldn't be held on the scheduled date.

Further, the Public Hearing notice was published on 31st May, 2024 in Prameya (Vernacular Language i.e. Odia) and in The Times of India for the scheduled Public Hearing meeting date 27.06.2024 which was deferred by District Administration, Jharsuguda letter dated 25.06.2024.

The Public Hearing for the proposed Stage-III which was held on 07.07.2025 and the details are mentioned below.

Details of advertisement given	Prameya (Vernacular Language-Odia) on 17.06.2025 The Times of India on 17.06.2025
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Date of public consultation	07.07.2025
Venue	Telenpali Hatapada, Lakhanpur Tehsil, Jharsuguda
Presiding Officer	Sub Collector, Jharsuguda
Major issues raised	Supply of Drinking water Providing Local employment Development of Community infrastructure Providing Health care facilities like strengthening of ITPS Hospital
No. of people attended	Approx. 200

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

An outlay of Rs. 47.05 crore has been earmarked for budgetary provision against issues raised during public hearing and the proposed activities will be carried out within five years.

S. No.	Core Area	Activity	Rationale / Source	Estimated Financial Commitment (INR Lakhs)	2026-27	2027-28	2028-29	2029-30	2030-31	Means of Verification / Monitoring/ Target Date
1.	Biodiversity	Community Plantation	Need-based assessment and PH	20	0	5.0	5.0	5.0	5.0	Project execution reports Target: Ongoing activity with annual target
		Distribution of saplings	Need-based assessment	7.5	1.5	1.5	1.5	1.5	1.5	Project execution reports Target: Ongoing activity with annual target.
		Restoration of degraded forest land	Need-based assessment and PH	750	150	150	150	150	150	Project execution reports Target: Ongoing activity with annual target
		Supply of air blowing machine for control of forest fires	Need-based assessment and PH	10	0	10	0	0	0	Equipment procurement and usage records Target: 31.03.2028
		Avenue plantation	Need-based assessment and PH	10	2.0	2.0	2.0	2.0	2.0	Project execution reports Target: Ongoing activity with annual target
2.	Water Conservation & Ground Water Recharge Projects		Need-based assessment and PH	250	50	50	50	50	50	Project execution reports Target: Ongoing activity with annual target
		Watershed development	Need-based assessment	220	0	20	0	200	0	Project execution reports Target: 31.03.2030
		Rooftop rainwater harvesting infrastructure for ground water	Need-based assessment	40	0	10	10	10	10	Project execution reports Target:

		recharge								Ongoing activity with annual target
3.	Sustainable Agriculture	Training Multi cropping programmes & crop rotation by Government Agencies	Need-based assessment study	20	0	5	5	5	5	Training completion certificates, feedback survey Target: Ongoing activity with annual target
		Training on Organic cropping by Government Agencies	Need-based assessment study	20	0	5	5	5	5	Training feedback survey reports Target: Ongoing activity with annual target
		Street Animals immunization programme	Need-based assessment study	30	0	0	10	10	10	Project execution reports / photographs Target: Ongoing activity with annual target
		Training programme on sustainable agriculture practices such as vermicompost, water usage in agriculture, fertilizer application based on soil quality etc. through reputed institutes	Need-based assessment study	40	0	10	10	10	10	Training completion certificates, feedback survey Target: Ongoing activity with annual target
4.	Livelihood	Training on Fodder farming	Need-based assessment and PH	8	0	2	2	2	2	Training completion certificates, feedback survey Target: Ongoing activity with annual target
		Women centric programmes like mushroom cultivation, goat farming	Need-based assessment and PH	80	0	20	20	20	20	Training feedback survey reports Target: Ongoing activity with annual target
		Installation of leaf plate and bowl making press	Need-based assessment study	30	0	0	30	0	0	Training feedback survey reports Target: 31.03.2029
		Making of cloth bags	Need-based assessment study	20	0	5	5	5	5	Training feedback survey reports Target: Ongoing activity with annual target
		Short term need based training to	Need-based assessment	600	0	150	150	150	150	Completion certificates,

		local people	and PH							photographs, user feedback Target: Ongoing activity with annual target
5.	Infrastructure	Installation of solar lights in peripheral villages	Public Hearing	500	100	100	100	100	100	Project execution reports Target: Ongoing activity with annual target
		Construction village roads/maintenance of existing roads	Public Hearing	1000	200	200	200	200	200	Project execution reports Target: Ongoing activity with annual target
		Construction of community compost yard	Need-based assessment study	50	10	10	10	10	10	Project execution reports / user feedback Target: Ongoing activity with annual target
6.	Health & Sanitation	Providing potable drinking water in surrounding villages	Public Hearing	500	100	100	100	100	100	Project execution reports / user feedback / photographs Target: Ongoing activity with annual target
		Upgradation of ITPS Hospital to cater the growing demand of local people	Public Hearing	500	100	100	100	100	100	Project execution reports / user feedback / photographs Target: Ongoing activity with annual target
		Total		4705.5	713.5	955.5	965.5	1135.5	935.5	

19. Capital Cost: Existing capital cost of project is Rs. 12303.44 Crores (Undepreciated investment till 31.03.2025 for all existing four units & associated infrastructures). The capital cost of the proposed project is Rs. 12717 Crores and the capital cost for environmental protection measures is proposed as Rs. 1246.95 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 204.47 Crores. The employment generation from the proposed project/ expansion is 150 Permanent 3350 Contractual. The details of cost for environmental protection measures is as follows:

S.No.	Description of Item	Existing (Rs. In lakhs)		Proposed (Rs. In Lakhs)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
(i).	Air Pollution Control	105730	197	48390	446
(ii).	Noise control	Included in equipment cost			
(iii).	Water Pollution Control	15800	146	14000	85
(iv).	Ash management	30412	19300	50800	19500
(v).	Environmental Monitoring and Management	2109	90	705	25
(vi).	Green Belt Development	2000	107	1500	150

S.No.	Description of Item	Existing (Rs. In lakhs)		Proposed (Rs. In Lakhs)	
		Capital Cost	Recurring Cost	Capital Cost	Recurring Cost
(vii).	Addressal of Public Consultation issues	2147		4705	
Total		158198	19840	120100	20206

20. Greenbelt Development: Existing green belt has been developed in 173.453 ha area which is about 34.92% of the total plant area (Main Plant & Township) of 496.717 ha (Excluding Ash Pond & MGR) with total sapling of 360000. Proposed greenbelt will be developed in 26 ha inside plant. Thus, total of 199.453 ha area (40.15% of total project area) will be developed as greenbelt. A 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary has already been 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. In addition to this, green belt is proposed to be developed in an area of 51.38 Ha in ash pond area and 10 ha in degraded forest land situated adjacent to the project site.

A. Action plan for Green Belt Development within the plant site (Area: 26 Ha; Time frame – 5 years- FY 2026 to FY 2031)

Sl. No.	Activity / Item Work	Total Area	FY 2027-28 (5 Ha)	FY 2028-29 (5 Ha)	FY 2029-30 (5 Ha)	FY 2030-31 (5Ha)	FY 2031-32 (6 Ha)
1	Saplings to be Planted	65000	12500	12500	12500	12500	15000
2	Area Development	26 Ha	40 Lakh	40 Lakh	40 Lakh	40 Lakh	50 Lakh
3	Raising of Plantation with 1st Year Maintenance		40 Lakh	40 Lakh	40 Lakh	40 Lakh	50 Lakh
4	2nd Year Maintenance		35 Lakh	35 Lakh	35 Lakh	35 Lakh	40 Lakh
5	3rd Year Maintenance		20 Lakh	20 Lakh	20 Lakh	20 Lakh	25 Lakh
	Total		135 Lakh	135 Lakh	135 Lakh	135 Lakh	165 Lakh

B. Action plan for Green Belt Development at ash pond area (Area: 51.38 Ha (Existing:16.6 Ha & Proposed:34.78 Ha) ; Time frame 5 years FY 2028 to FY 2033)

Sl. No.	Activity / Item Work	Total	FY 2027-28 (5 Ha)	FY 2028-29 (5 Ha)	FY 2029-30 (10 Ha)	FY 2030-31 (10Ha)	FY 2031-32 (10 Ha)	FY 2031-32 (11.38 Ha)
1	Saplings to be Planted	128500	12500	12500	25000	25000	25000	28500
2	Area Development	51.38 Ha	40 Lakh	40 Lakh	80 Lakh	80 Lakh	80 Lakh	90 Lakh
3	Raising of Plantation with 1st Year Maintenance		40 Lakh	40 Lakh	80 Lakh	80 Lakh	80 Lakh	90 Lakh
4	2nd Year Maintenance		35 Lakh	35 Lakh	70 Lakh	70 Lakh	70 Lakh	75 Lakh
5	3rd Year Maintenance		20 Lakh	20 Lakh	30 Lakh	30 Lakh	30 Lakh	30 Lakh
	Total		135 Lakh	135 Lakh	260 Lakh	260 Lakh	260 Lakh	285 Lakh

C. Action plan for Green Belt Development in 10 Ha degraded forest patch adjacent to plant site (Area: 10 Ha; Time frame 5 years)

S. No.	Activity / Item Work	Total	FY 2027-28 (2 Ha)	FY 2028-29 (2 Ha)	FY 2029-30 (2 Ha)	FY 2030-31 (2Ha)	FY 2031-32 (2 Ha)
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1	Saplings to be Planted	75000	15000	15000	15000	15000	15000
2	Area Development	10 Ha	40 Lakh	40 Lakh	80 Lakh	80 Lakh	80 Lakh
3	Raising of Plantation with 1st Year Maintenance		114 Lakh	114 Lakh	114 Lakh	114 Lakh	114 Lakh
4	2nd Year Maintenance		32 Lakh	32 Lakh	32 Lakh	32 Lakh	32 Lakh
5	3rd Year Maintenance		17 Lakh	17 Lakh	17 Lakh	17 Lakh	17 Lakh
	Total		203 Lakh	203 Lakh	203 Lakh	203 Lakh	203 Lakh
Plantation will be done by Miyawaki Technology							

21. Ash Management: Ash management for last three years

Year	Quantity generated (MT)	Quantity utilized (MT)	% of utilization	Balance quantity (MTP)	No of storage silos with capacity
2023-24	3579629	874309	24.42	2705320	6 Silos (3X2700 MT, 2X250 MT & 1X120 MT)
2024-25	3764606	650676	17.28	3113930	
2025-26	3771914	1603515	42.51	2168399	

A. Fly ash Details for last three years =2964306 TPA

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)	14774 MT	1.63	NA
2.	Cement manufacturing	470842 MT	52.02	NA
3.	Ash and Geo-polymer-based construction materials	25058 MT	2.76	NA
4.	Construction of roads, road and fly over embankment	394597	43.59	NA
	Total	905271	100	

B. Bottom ash generation for last three years = 741077 TPA

S.No.	Activity (as applicable)	Quantity	Percentage	Remarks (Prior approval of SPCB details to be mentioned)
1.	Construction of roads, road and fly over embankment	1270635 MT	57.15	
2.	Filling up of low-lying area	952594 MT	42.85	Necessary permission has been obtained from OSPCB.
	Total	2223229	100%	

C. Legacy Ash Details: 144.36 Lakh Ton (Stored in Active Ash Pond)

Plan for Ash Utilization

OPGC has prepared a comprehensive phased action plan for evacuation and complete utilization of stocked ash deposited in Ash Pond-A and Ash Pond-C of Stage-I (Approximately 144 L MT) in compliance with the directions of the EAC. The plan has been prepared considering the present ash inventory, identified ash utilization avenues, logistics feasibility and

future demand from infrastructure and mine filling projects.

As per the assessment, the total ash stock available in Ash Pond-A and Ash Pond-C shall be evacuated in a phased manner through sustained ash utilization activities during the period from FY 2027-28 onwards. The evacuation plan has been prepared year-wise and month-wise with quantified targets for ash excavation, transportation and utilization.

The major avenues identified for evacuation and utilization of pond ash are as follows:

- Utilization in NHAI and other road embankment projects.
- Filling of low-lying areas.
- Mine void filling and OB mix applications.
- Utilization in quarry reclamation activities.

The action plan envisages mechanized excavation of legacy ash from Ash Pond-A and Ash Pond-C followed by transportation through covered trucks/bulkers to identified utilization sites. Necessary dust suppression measures, water sprinkling systems and environmental safeguards shall be implemented during excavation, handling and transportation activities to prevent fugitive emissions.

The evacuation target has been planned progressively considering seasonal constraints, market demand and infrastructure availability. During the initial years, higher quantities of ash utilization have been earmarked through NHAI projects and mine void filling activities. Subsequently, utilization through low-lying area filling and reclamation activities shall also be enhanced.

OPGC has already established a robust ash management mechanism and is presently achieving high ash utilization levels in compliance with Fly Ash Notification provisions. The proposed legacy ash evacuation plan shall further ensure gradual reduction of ash inventory in Ash Pond-A and Ash Pond-C and ultimately facilitate scientific closure/reclamation of the ash ponds in a phased manner.

D. Ash Pond Details:

S.No.	Details of Ash pond	Ash pond 1(A)	Ash pond 2 (B)	Ash pond 3 (C)	Ash Pond 4 (Tilia Phase-I)	Ash Pond 5 (Tilia Phase-II)
		Stage-I			Stage-II	
1.	Status of ash pond (Active / Exhausted (yet to be reclaimed)/ Reclaimed)	Active	Exhausted & reclaimed	Active	Active	Active
2.	Area (Ha)	60.70	97.93	46.91	50.85	72.84
3.	Dyke height (m)	20.35	19	19.5	12.5	11
4.	Volume (m3)	81.36 Lakh	106 Lakh	82.24 Lakh	33.33 Lakh	62.08 Lakh
5.	Quantity of ash disposed (Metric Tons)	67.14 Lakh	127 Lakh	84.22	36.68	54.56
6.	Available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons)	30.49 LMT	Capped	14.47 LMT	3.32 LMT	22.94 LMT
7.	Expected life of ash pond (number of years and months)	9 Years	NA	9 Years	3 Years	5 Years
8.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	No Lining	NA	1.5 mm HDPE		
9.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or	LCSD	NA	LCSD	HCSD	HCSD

S.No.	Details of Ash pond	Ash pond 1(A)	Ash pond 2 (B)	Ash pond 3 (C)	Ash Pond 4 (Tilia Phase-I)	Ash Pond 5 (Tilia Phase-II)
		Stage-I			Stage-II	
	MCSD or LCSD)					
10.	Ratio of ash: water in slurry mix (1:___):	Dry Disposal	NA	1:2.3	1.0.5	1:0.5
11.	Ash water recycling system (AWRS) installed and functioning : Yes or No	NA	NA	Yes	Yes	Yes
12.	Quantity of wastewater from ash pond discharged into land or water body (m3)	No discharge of wastewater from ash pond discharged into land or water body.				
13.	Last date when the dyke stability study was conducted and name of the organization who conducted the study:	April-2026 Prof. D Naidu of IIT Chennai	December-2024 Prof. D Naidu of IIT Chennai Note-Ash Pond Capped	February-2026 Prof. D Naidu of IIT Chennai	April-2026 of IIT Chennai	April-2026 of IIT Chennai
14.	Last date when the audit was conducted and name of the organization who conducted the audit:	21.11.2025 Prof, Rabi Narayan Behera of NIT, Rourkela				

E. Proposed ash utilization plan for expansion project

Details	Existing generation (MTPA)	Proposed generation (MTPA)	Total	Utilization (MTPA)	% of utilization	Balance quantity (MTPA)	No of storage silos with capacity
Ash (Fly & Bottom)	3.8	3	6.8	Utilization will be done complying the ash utilization cycle as per provision of Fly Ash Notification of December 2021.			3 Silos of 2700 MT Capacity each will be constructed

F. Ash Pond details: New ash pond details are provided as below:

S.No.	Details of Ash pond	Ash pond
1.	Area (Ha)	109.38 (34.78 Ha is earmarked for Green Belt Development)
2.	Dyke height (m)	10 m (Starter Dyke)
3.	Volume (m ³)	7.65 million (Starter Dyke)
4.	Quantity of ash to be disposed (Metric Tons)	15 million (Considering 3 raising)
5.	Expected life of ash pond (number of years and months)	5 Years (Considering no as utilization)
6.	Type lining carried in ash pond: HDPE lining of LDPE lining or clay lining or No lining	1.5 mm HDPE
7.	Mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD)	HCSD
8.	Ratio of ash: water in slurry mix (1:___):	1:0.5
9.	Ash water recycling system (AWRS): Yes or No	Yes
10.	Quantity of wastewater from ash pond to be discharged into land or water body (m ³)	Nil (ZLD)
11.	Details regarding dyke stability study and name of the organization	To be carried out by IIT Chennai

S.No.	Details of Ash pond	Ash pond
	who conducted the study:	

22. Comments of State Pollution Control Board, Odisha as per Ministry's OM dated 14.01.2025 and SOP dated 08.10.2025, obtained vide Memo no. 7896/IND-II-CTE-235 dated 20.06.2026:

Comments of OSPCB:

- Project Proponent must obtain all necessary permission/clearances from various Govt. Authorities as applicable for the project.
- Project Proponent must comply the recommendation related to Environmental Safeguard, Carbon Footprint, Circular Economy, Water Pollution Safeguard, Air Pollution Safeguard, Solid and Hazardous Waste Management.
- Project Proponent is also required to obtain Consent to Operate(CTO) from the State Board as per the provisions of the sub-section(1) of Section 25 of the Water (Prevention &Control of Pollution) Act,1974 and sub-section (1) of Section 21 of the Air (Prevention &Control of Pollution) Act,1981 prior to start of production.

In addition to the above, proponent paid a fee of Rs. 5.08 Crore towards CTE Fees online through OSPCB Portal on 20.05.2026.

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

S. No	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	Original application no. 89/2024/EZ	NGT	Matter portent to breach of ash pond C which had occurred on 09.12.2023	29.01.2026	29.05.2026	Pending
2	OHRC Case no.3475/2023	Odisha Human Right Commission	Matter portent to breach of ash pond C which had occurred on 09.12.2023	-	-	Pending

B. Summary of Show Cause Notices- At present no pending show cause

S. No		Date	Reasons for issuance of SCN	Status of reply submission	Present status
1.	MoEF &CC New Delhi	26.09.2024 vide Letter No-F.No.IA-L-11011/43/2024-IA-I	Non compliance /Partial compliance of certain EC conditions	OPGC replied vide Letter No-ITPS/6238/WE, date 21.10.2024	A personal hearing in this regard was held on 01.10.2025 at MoEF&CC, New Delhi, wherein OPGC presented the compliance status of the stipulated conditions. After detailed deliberations, the Chair accepted the actions taken by OPGC and advised submission of the updated status report against the partial non-compliance conditions. Subsequently, the Action Taken Report (ATR) was verified and certified by the Integrated Regional Office (IRO), Bhubaneswar vide Letter No 101-361/08/EPE dated

					12.02.2026. The compliance observations have been addressed and the matter stands closed.
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C. Summary of violation- Nil

24. Written Submission:

Query: Clarification Regarding Construction of OPGC Stage-I Ash Pond Over Hirakud Reservoir Land

Reply: It is submitted that a part of the existing OPGC Stage-I Ash Pond was constructed over land relinquished by the Water Resources Department, Government of Odisha in favour of OPGC during the year 1994 for establishment of ash pond facilities. As per the relinquishment letter issued by the Water Resources Department/Hirakud Main Dam Division, around 452 Acres of land (182.9 Ha) in village Kumarbandh was relinquished in favour of OPGC for utilization as ash pond.

In this regard, it is respectfully submitted that the Stage-I Ash Pond was established during the 1990s based on the approvals and land transfer made by the competent Government authorities prevailing at that point of time. The subsequent notification of Wetlands (Conservation and Management) Rules, 2017 and declaration of Hirakud Reservoir as Ramsar Site in the year 2022 came much after the construction and operation of the Stage-I Ash Pond.

Query: Undertaking to be given by PP that the proposed project does not fall within Ramsar Site

Reply: In this connection, it is submitted that the proposed Stage-III Main Plant area, proposed Ash Pond area and associated project facilities are located outside the notified Ramsar Site boundary of Hirakud Reservoir.

It is further submitted that necessary maps indicating the relative locations of the proposed Stage-III project components with respect to the Ramsar Site have been submitted to MoEF & CC.

Query: Greenbelt development over 40% of Plant Area

Reply: Existing Green Belt area (Already submitted to MoEF & CC in Final EIA & Application) – 173.453 Ha
Proposed Green Belt area (Additional Patches identified in Main Plant & Township Area to increase the green belt cover to 40% in addition to area already submitted) – 26 Ha.

Query: Submission of Target Date for commitment made during the public hearing by PP

Reply: An amount of 47.05 Crs will be spent over a period of 5 Years. The details has been mentioned in table above.

Query: Land Breakup details to be provided by PP

Reply: The Land Breakup is as below.

A. Total Plant Area: 496.717 Ha (No additional land required for proposed Expansion Project

B. Ash Pond Details:

Stage-I Ash Pond: 107.61 Ha (5.8 Km from the Plant)

Stage-II Ash Pond: 123.79 Ha (14 Km from the Plant)

Stage-III Ash Pond (Proposed):109.38 Ha (7 Km from the Plant)

C. Ash Pipeline Corridor:

Stage-I & Stage-II: ROW has been taken for 20.61 Ha from Hirakud Main Dam Division.

Stage-III: 5.69 Ha

Query: Status of FGD Implementation

Reply: Stage-I (2×210 MW Unit#1 & Unit#2)

OPGC is not proposing installation of FGD system for the existing Stage-I units.

Stage-II (2×660 MW Unit#3 & Unit#4)

Installation of FGD system for OPGC Stage-II is already under advanced stage of construction and implementation.

Expected to be commissioned by 31.12.2026

Stage-II (2×660 MW Unit#3 & Unit#4)

OSPCB while considering for CTE for the project has recommended for installation of FGD under Stage-III, OPGCL proposes to take up the matter with OSPCB for review of this condition based on Notification dated 11.07.2025 & hereby undertakes to abide by the final decision of OSPCB.

Query: Closure Plan for Stage-I ash ponds

Reply: Ash Pond B has been capped & reclamation certificate has already been obtained from OSPCB. Around 144 Lakh MT of ash has been stored in Ash Pond-A & Ash Pond-C. The same will be removed and utilized for Road construction & Mine void filling within a time frame of 9 years.

Observation and deliberation of the EAC**25. The Committee observed and noted the following:**

- i. The Instant proposal is for Expansion of existing 1740 MW [Unit 1 & 2: 2x210 MW and Unit 3&4: 2x660 MW] Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III located in Banaharpalli village, Jharsuguda District, Odisha of M/s. Odisha Power Generation Corporation Limited.
- ii. The existing project was accorded environment clearance vide letter no. 14/13/83-EM I/I.A dated 30.01.1987 for (2 × 210 MW) and vide letter No. J-13011/59/2008-IA. II (T) dated 04.02.2010 and amended vide dated 22.01.2024 and 16.01.2015 for (2 × 660 MW) from MoEF&CC. Consent to Operate for the existing unit was accorded by Odisha State Pollution Control Board vide letter No. 4493/IND-I-CON-104 dated 30.03.2026. The validity of CTO is up to 31.03.2027.
- iii. The existing power project is established over 410.014 Ha of land and proposed expansion will be implemented exclusively on the existing available land. Total Project land after expansion will be 496.717 Ha.
- iv. The EAC reviewed the KML file of the project site, as presented by the Project Proponent, along with the Decision Support System (DSS) analysis available on the PARIVESH portal using Google Earth imagery.
- v. There is no habitation within the project area, therefore, no Resettlement and Rehabilitation (R& R) is required for the proposed project.
- vi. The EAC observed that the villages (Banharpali, Baragad, Telenpali and Adhapada), Schools (DAV Public School, Khoddal and Telenpali Primary School) and hospitals (ITPS Hospital) are located within 1.5 Km distance of the proposed project site.
- vii. Project Area includes 258.3 ha of forest land which had been diverted for non-forest use by forest dept. of Odisha vide letter No. IOF (Cons) 35/85/3482/FFAH dated 27.02.1985
- viii. EAC observed that the plant area is not located within the Hiraikud Reservoir which is a Ramsar Site.
- ix. The stage I ash pond situated in wetland comprises of three ash dykes namely A, B & C. EAC noted that Ash dyke B has been capped & reclamation certificate has already been obtained from OSPCB. Around 144 Lakh MT of ash has been stored in Ash dyke A&C. The same will be removed and utilized for Road construction & Mine void filling within a time frame of 9 years. However, EAC opined to complete the same in 5 years timeframe.
- x. The Hiraikud Reservoir is located at a distance of 0.8 Km and IB River is located at a distance of approximately 7 km. from the project boundary. Average elevation of the Plant area is 200 m MSL
- xi. As per the DSS analysis, Reserve and Protected forest are located within the project site and within study area which are Arthapar RF(Within the Project Site), Kushraloi RF. (N, at 3km), Remenda PRF. (W, at 1.9 km). Further, there are no National Parks, Biosphere Reserves, Eco sensitive zone, or notified Tiger/Elephant Corridors area within a 10 km radius of the project site. The committee also noted that there is no Archaeological sites present within study area.
- xii. The project site is located within Severely Polluted Area (SPA) of IB Valley having CEPI score of 66.35.
- xiii. The existing Water requirement is 124000 m³ /day, which is obtained from Hiraikud Reservoir and permission for the same has been obtained from Department of Water Resources, Govt. of Odisha vide letter no. 22837/WR.,Irr.-II-WRC-146/13 dated 26/08/2013. The water requirement for the proposed project is estimated as 81600 m³ /day and the permission for the same is obtained from Department of Water Resources, Govt. of Odisha. vide letter no.7621/WR., WR-

MAJII-WRC-0178/2023(OSWAS File No.) dated 13.03.2024 The water will be transported to the plant site through Intake channel. The specific water consumption for the power plant is 2.5 m³ /MW hr.

xiv. The power requirement for the proposed project is estimated as 62.32 MW, which will be obtained from the Auxillary Power.

xv. The capital cost of the proposed project is Rs. 12717 Crores and the capital cost for environmental protection measures is proposed as Rs. 1246.95 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 204.47 Crores. The employment generation from the proposed project/ expansion is 150 Permanent 3350 Contractual.

xvi. PP has presented the coal characteristic of domestic coal having total coal requirement of 7.2 MTPA. The Sulphur content of domestic coal is reported as <0.5 %. Similarly, the ash content of domestic coal is reported as <44%. Coal shall be transported by Rail to plant site from Mines\

xvii. Existing green belt has been developed in 173.453 ha area which is about 34.92% of the total plant area (Main Plant & Township) of 496.717 ha (Excluding Ash Pond & MGR) with total sapling of 360000. Proposed greenbelt will be developed in 26 ha inside plant. Thus, total of 199.453 ha area (40.15% of total project area) will be developed as greenbelt. A 50 m wide greenbelt, consisting of at least 3 tiers around plant boundary has already been 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. In addition to this, green belt is proposed to be developed in an area of 51.38 Ha in ash pond area and 10 ha in degraded forest land situated adjacent to the project site.

xviii. Action plan submitted by the proponent to address the issues raised Public Hearing held on 07.07.2025 is in line with the MoEF&CC OM dated 30/09/2020

xix. The Committee deliberated on the baseline data which was collected from October'2023 to December'2023 and incremental GLC. The committee noted that the proponent is providing High Efficiency Electrostatic Precipitator (ESP) to meet the stack emission standards for Particulate Matters 30 mg/Nm³, Low Nox Burner, and Dust Extraction & Suppression System to control the emission of Particulate matter, NOx, and stack with a height of 275 m will be provided to control & regulate the air emission from the proposed project.

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

xxi. EAC observed that the Hirakud Reservoir is situated along the Ash Pond Boundary and asked the Project Proponent to implement the Mitigation measures to prevent the breach of ash dyke and Hirakud water reservoir protection. Beside this PP needs to develop greenbelt all along the periphery of the ash pond and ash pipeline corridor. Regular monitoring of ash carrying pipeline shall be done to avoid any spillage/leakage, from ash carrying pipeline in Hirakud Reservoir.

xxii. EAC asked the Project Proponent to implement the recommendations of IIT Chennai, NIT-Rourkela and WAPCOS for the existing ash pond for Stage I&II.

xxiii. Project Proponent has informed the EAC that it is going to cap the Stage I Ash Pond (A&C), EAC asked the PP to evacuate all the Ash from the Ash Pond before capping as per the ash utilization notification dated 31/12/2021.

xxiv. The Committee reviewed the existing ash management practices and noted that ash utilization for FY 2025–26 was 42.51%. For the proposed Stage-III units, the estimate to comply ash generation is 3 Million Tonnes per Annum (MTPA). Utilization will be done complying the ash utilization cycle as per provision of Ash Utilization Notification dated 31/12/2021.

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

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

xxvii. The committee noted that with respect to water pollution control, proponent shall use 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. Along with this, the water from the cooling towers will be recirculated. A state-of-the-art roof top rain water harvesting system will be provided to collect the run -off for ground water recharging.

xxviii. 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.

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

xxx. The committee noted that 2 court cases pertaining Environment are pending against the proposed project and asked the PP to comply with the outcome of the case.

xxxi. 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.

xxxii. EAC deliberated on the written submission submitted by the Project Proponent and find is satisfactory.

Recommendations of the Committee:

26. The EAC after detailed deliberations on the information submitted and as presented during the meeting **recommended** for grant of Environmental Clearance to the proposed “*Expansion of existing 1740 MW [Stage I (Unit 1 & 2: 2x210 MW) and Stage II (Unit 3&4: 2x660 MW)] Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III by M/s. Odisha Power Generation Corporation Limited located at Banaharpalli village, Jharsuguda District, Odisha*”, under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and standard/general conditions (**Annexure 1**).

27. 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. Odisha Power Generation Corporation Limited** for “*Expansion of existing 1740 MW [Stage I (Unit 1 & 2: 2x210 MW) and Stage II (Unit 3&4: 2x660 MW)] Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III located at Banaharpalli village, Jharsuguda District, Odisha*” subject to compliance of the Specific/General environmental conditions (**Annexure 1**).

28. 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.

29. 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.

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

31. 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.

32. 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.

33. 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.

34. 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 Monitoring Cell MoEFCC, Compliance & Monitoring Division, Indira Paryavaran Bhawan Jor Bagh Road New Delhi, South, Delhi, moefcc-monitoring@gov.in
2. The Deputy Director General, Regional Office, "Deputy Director General Of Forests (C) Ministry Of Environment Forest And Climate Change Regional Office A/3 Chandshekharapur Bhubaneswar-751023", N/A, N/A, roez.bsr-mef@nic.in
3. The Member Secretary, CPCB, Parivesh Bhawan Cbd-Cum-Office Complex East Arjun Nagar, East, Delhi, mscb.cpcb@nic.in
4. The District Collector, DC Office, Collectorate Building Po- Omp Line Jharsuguda Odisha, Jharsuguda, Odisha, dm-jharsuguda@nic.in
5. The Member Secretary, SPCB/PCC, Paribesh Bhawan A-118 Nilakantha Nagar Unit-Viii, Bhubaneswar, Odisha, membersecretary@ospcboard.org
6. The Secretary, Ministry of Power, Shram Shakti Bhawan Rafi Marg New Delhi 110001, New Delhi, Delhi, Secy-power@nic.in
7. The Chairman, Central Electricity Authority, Sewa Bhawan R.K. Puram New Delhi-110066., New Delhi, Delhi, chair@nic.in

Specific EC Conditions for (Thermal Power Plants)

1. [A] Environmental Management

S. No	EC Conditions
1.1	Project proponent shall ensure that 100% utilization of ash generated from 2x660 MW in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. Area for the ash pond proposed for Stage III (2x660MW) shall not exceed 109 Ha (34.78 Ha is earmarked for Green Belt Development) as committed. Ash pond shall be fenced and a green belt shall be developed all along the periphery of the ash pond area
1.2	Project proponent shall abide by all orders and judicial pronouncements, made from time to time by the Hon'ble NGT (Easter Zone) in Original Application No. 89/2024/EZ and Hon'ble OHRC in Case No. 3475/2023.
1.3	All the environmental safeguards prescribed by the OSPCB vide its memo no. 7896/IND-II-CTE-235 dated 20.05.2026 for the instant proposal in pursuance to the MoEF&CC O.M. dated 14.01.2025 and its subsequent amendment shall be complied with. Compliance in this regard shall be submitted to the Regional Office of MoEF&CC along with the six-monthly compliance report.
1.4	Project proponent shall comply with the recommendations made in the aquatic Ecology & Biodiversity assessment report, Hydrology and Hydrogeology study, Risk assessment Study 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	Project Proponent to implement the recommendations of IIT Chennai, NIT-Rourkela and WAPCOS for the existing ash pond for Stage I&II. Compliance status in this regard shall be submitted to the Regional Office of MoEF&CC along with the six monthly compliance report.
1.6	The coal requirement for the proposed project is about 7.2 MTPA and same would be met from Manoharpur & dip side Manoharpur Coal mine blocks in IB Valley and mode of transportation is by dedicated MGR system & MCL Mines of Lakhanpur. The entire coal requirement for proposed project shall be transported by rail network only and no road transportation is permitted.
1.7	The water requirement for proposed project is estimated as 81600 m ³ /day and the same shall be met from Hirakud Reservoir. The specific water consumption shall be less than 2.5 m ³ /MWhr.
1.8	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.
1.9	Project proponent shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs. 1246.95 crores and Rs. 204.47 crores (recurring) 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.

S. No	EC Conditions
1.10	Project proponent shall assess the carbon footprint of the project and develop carbon sink/carbon sequestration resources using modern technologies. The implementation report shall be submitted to the concerned Regional Office of the MoEF&CC.
1.11	Project proponent shall ensure that diesel operated vehicles will be switched over to E-Vehicles in a time bound manner and replace the passenger vehicles to E-vehicle in phased manner. Further, for local movement of officials, Contract of Vehicles deployment shall be awarded to Project affected people and all efforts for adopting heavy E-vehicles like Bulkers for ash transportation for short distance subject to availability of such E-vehicle and adequate charging infrastructure in the surrounding area shall be provided. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), number of such non diesel vehicles deployed etc. in six monthly compliance report.
1.12	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 SO ₂ emission norms. Along with Particulate Matter, SO ₂ , NO _x and Hg, CO and CO ₂ shall also be monitored for stack emissions.
1.13	Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.
1.14	Project Proponent to evacuate all the Ash from the Ash Pond of Stage I TPP within the 5 years as committed subject to adherence to the requisite Environmental norms/ regulations and all statutory clearances, under extant Acts, Rules and Guidelines before capping. Compliance in this regard shall be submitted to the Regional Office of MoEF&CC along with the six-monthly compliance report.
1.15	Project proponent shall comply with the recommendations of study report on “stability analysis of ash dykes of Stage I and Stage II” carried out by Department of Civil Engineering, Indian Institute of Technology, Madras. The design of ash pond for Stage III shall duly be vetted by IIT Madras as committed. Compliance to the recommendations of IIT report for ash dykes of Stage – I, II & III shall be submitted to the Regional Office of MoEF&CC along with the six monthly compliance report. A green belt along with the fencing shall be developed all along the periphery of the ash pond area of Stage – I, II & III.
1.16	Project proponent in consultation with the State Wetland Authority shall undertake all precaution and safeguards to protect and conserve the Ramsar site which is adjacent to the project. A thick green belt shall be developed all along the bank of Hirakud dam above the HFL, touching the project area.
1.17	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
1.18	Effluent of 5802 KLD will be treated through Effluent Treatment Plant. As committed by the Project proponent, Zero liquid discharge shall be adopted for the proposed plant. No wastewater will be discharged outside the project site.
1.19	PP shall install 60 MW Solar Energy Plant (50 MW in Stage I ash pond and 10 MW floating solar near intake water canal) for conservation measures as committed. Action plan in this regard shall be submitted to the Regional Office of the MoEF&CC and SPCB within two years from the date of grant of EC. PP should explore more opportunities to put solar PV in nearby Schools and other Government buildings also.

S. No	EC Conditions
1.20	PP shall implement the concurrent plantation plan in a time bound manner. Total of 199.453 ha area (40.15% of total project area) will be developed as greenbelt. A 5 m - 50 m wide (min 25 m) greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB guidelines within 3 years after receiving the EC. The height of the saplings to be planted should be of minimum of 2 meter height. The budget earmarked for the green belt plantation shall be kept in a separate account and audited annually. PP should annually submit the audited statement of expenditure along with proof of activities viz. photographs (before & after with geolocation date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC and on PARIVESH Portal as the case may be for the activities carried out during previous year. In addition to this, green belt shall be developed in an area of 51.38 Ha on inactive ash pond, 10 ha in degraded forest land situated adjacent to the project site and all along the Ash transport route.
1.21	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.
1.22	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.
1.23	Project proponent shall install LED display of air quality (Continuous AAQ monitoring) and stack emission (Continuous emission monitoring) at prominent locations preferably outside the plant's main entrance for public viewing and in administrative complex and maintenance of devices shall be done regularly.
1.24	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.
1.25	PP shall deploy vacuum based road sweeping vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
1.26	Environment Audit of plant shall be done annually, and report shall be submitted to Regional office of the Ministry.
1.27	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.
1.28	Oil and grease recovered from the treatment plant should be disposed of only through authorized recyclers.

S. No	EC Conditions
1.29	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.
1.30	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.
1.31	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 2026 (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.
1.32	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.
1.33	As committed the Project Proponent needs to comply the additional environmental safeguards as per MoEF&CC OM dated 31/10/2019 as the project is located within the Severely Polluted Area. Compliance in this regard shall be submitted to the Regional Office of MoEF&CC along with the six-monthly compliance 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. 47.05 Crores. The budget proposed shall be kept in a separate account and audited annually. Project proponent shall implement the action plan to address the issues raised during public hearing within a time frame of 5 years from the date of grant of EC. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC. In addition to this, PP shall take the help of local Government Health department to strengthen the existing Primary Health Center (PHC) &

S. No	EC Conditions
	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.
2.5	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 conservation of trees.

3. [C] Miscellaneous

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

Standard EC Conditions for (Thermal Power Plants)

1. Statutory Compliance

S. No	EC Conditions
1.1	Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
1.2	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.
1.3	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
1.4	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

2. Ash Content/mode Of Transportation Of Coal

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

3. Air Quality Monitoring And Management

S. No	EC Conditions
3.1	Project proponent shall abide by the provisions of the notification number G.S.R 465(E) dated 11/07/2025 related to SO ₂ emission norms.
3.2	Low NO _x Burners with Over Fire Air (OFA) system shall be installed to achieve NOX emission standard of 100 mg/Nm ³ .
3.3	High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm ³ .
3.4	Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO ₂ , NO _x and Particulate Matter as per extant rules.
3.5	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
3.6	Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM ₁₀ , PM _{2.5} , SO ₂ , NO _x within the plant area and in the buffer area, at six 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.
3.7	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
3.8	Appropriate Air Pollution Control measures 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.

4. Noise Pollution And Its Control Measures

S. No	EC Conditions
4.1	The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
4.2	Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE)

S. No	EC Conditions
	like earplugs/ear muffs, etc.
4.3	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.

5. Human Health Environment

S. No	EC Conditions
5.1	Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
5.2	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.

6. Water Quality Monitoring And Management

S. No	EC Conditions
6.1	Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m ³ /MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea water.
6.2	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.
6.3	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.
6.4	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.
6.5	The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.

S. No	EC Conditions
6.6	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.
6.7	Wastewater generation of 5802 KLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l.
6.8	Sewage generation of 200 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; Faecal Coliforms (Most Probable Number).

7. Risk Mitigation And Disaster Management

S. No	EC Conditions
7.1	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.
7.2	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). Low sulphur fuel shall be used.
7.3	Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
7.4	Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
7.5	Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

8. Green Belt And Biodiversity Conservation

S. No	EC Conditions
8.1	Green belt shall be developed in an area of 199.453 ha (40% of the total project area) with indigenous native tree species in accordance with CPCB guidelines within 3 years after receiving the EC. The green belt shall inter-alia cover an entire periphery of the plant. In addition to this, green belt shall be developed in an area of 51.38 Ha on inactive ash pond, 10 ha in degraded forest land situated adjacent to the project site and all along the Ash transport route.
8.2	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.

9. Waste Management

S. No	EC Conditions
9.1	Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2026.
9.2	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.
9.3	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.
9.4	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.
9.5	Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method for fly ash and LCSD for Bottom Ash.

10. Monitoring Of Compliance

S. No	EC Conditions
10.1	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.
10.2	Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
10.3	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.
10.4	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.
10.5	The project proponent shall (Post-EC Monitoring): a. Send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; b. Upload the clearance letter on the web site of the company as a part of information to the general public. c. Inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in. d. Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;

S. No	EC Conditions
	e. Monitor the criteria pollutants level namely; PM (PM10 & PM2.5 in case of ambient AAQ), SO₂, NO_x (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

11. Corporate Environmental Responsibility (CER) Activities

S. No	EC Conditions
11.1	CER activities will be carried out as per Ministry's OM F.No.22- 65/2017- IA.III dated 30th September, 2020 and 22-65/2017- IA.III dated 25.02.2021 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the commitment shall be submitted.