



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



Minutes of AGENDA FOR 45th MEETING OF THE EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL POWER PROJECTS) TO BE HELD ON 22nd MAY, 2026 Date: 26/05/2026
6 DURING 10:30 – 13:30 HRS THROUGH VIRTUAL MODE. meeting Thermal
Projects held from 22/05/2026 to 22/05/2026

MoM ID: EC/MOM/EAC/510625/5/2026
Agenda ID: EC/AGENDA/EAC/510625/5/2026
Meeting Venue: N/A
Meeting Mode: Virtual
Date & Time:

22/05/2026	10:30 AM	02:30 PM
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1. Opening remarks

At the outset, Shri. Inder Pal Singh Matharu (I.F.S Retd.), Chairman, Expert Appraisal Committee (Thermal Power & Coal Mining) welcomed the Expert members & other participants and requested to start the proceeding as per the agenda listed for this meeting. The list of EAC members who participated in the meeting is at Annexure – I.

[The main PDF of MoM is enclosed at Page no. 93-161]

2. Confirmation of the minutes of previous meeting

N/A

3. Details of proposals considered by the committee

Day 1 -22/05/2026

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Expansion of Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 5 & 6) as Stage-III at Banaharpalli village, Jharsuguda district, Odisha state by M/s. Odisha Power Generation Corporation Ltd. by ODISHA POWER GENERATION CORPORATION LIMITED located at JHARSUGUDA, ODISHA			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity Sub-Activity (Schedule Item)
IA/OR/THE/575779/2026	J-13011/59/2008-IA.II (T)	19/05/2026	Thermal Power Plants Coal/Lignite based plants (1(d))

3.1.2. Project Salient Features

45.1 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.

[Proposal no. **IA/OR/THE/575779/2026**, F.No. **J-13011/59/2008-IA.II (T)**]

45.1.1: 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.

Name of the EIA consultant: M/s Vimta Labs Ltd. Hyderabad [List of ACOs with their Certificate / Extension Letter no. NABET/EIA/2326/RA 0301 Valid up to 25.06.2026].

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

45.1.2: The project of M/s. Odisha Power Generation Corporation Limited located in Banaharpalli 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.

45.1.3: The existing project was accorded environment clearance vide letter no. 14/13/83-EM I/I.A 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.

45.1.4: 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	04.02.2010	Operational	1320 MW

		(2 × 660 MW)			(2 × 660 MW)
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45.1.5: 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. The details of the observations made by RO, Bhubaneswar in the report dated 12.02.2026 along with each reassessment/present status as furnished by the PP is as given below:

S. No.	Non-compliance details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
	A twin flue stack of 275 m height shall be provided with continuous online monitoring equipment's for SO _x , NO _x and RSPM (PM _{2.5} & PM ₁₀). Exit velocity of flue gases shall not be less than 22m/sec. Mercury emissions from stack shall also be monitored on periodic basis (Specific condition v of EC dated 04.02.2010).	The online data was being fed to SPCB server since August 2019. Although the analysers were fully functional & generating the emission data, the connection to the server was found disrupted at the time of visit due to change in server maintenance agency by SPCB.	04.02.2010	Specific condition No-v		RO observed that CEMS data transmission connected successfully to SPCB server. Complied
	Adequate dust extraction systems such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling	The fugitive emissions are effectively controlled by OPGC through diff	04.02.2010	Specific condition-vii		Ring header water sprinkling system has been provide all along the Ash Pond-C. The total perimeter of Ash Pond-C is around 3000 m. Sprinklers have been provided at an interval of every 50m. Thus around 60 sprinklers have been installed all around the ash pond. Flexible hoses can be attached to these sprinkler heads to extend the ar

S. No.	Non-compliance details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
	ling points, transfer areas and other vulnerable dust y areas shall be provided	rent mitigative measures & the effectiveness of these measures is reflected in the ambient air quality monitoring data. However, as suggested fugitive emission monitoring shall also be carried out in strategic locations such as CHP, AHP & Ash Ponds. Ring Header Water Sprinklers have been provided around the entire perimeter of Ash Pond-C. Ring Header of Ash Pond-A will be shifted from RL-205m to RL 208m once height				ea coverage of the sprinklers. Complied

S. No.	Non-compliance details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
		raising work is completed (reached RL 211 m).				
	Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.	Ring Header Water Sprinklers have been provided around the entire perimeter of Ash Pond-C. Ring Header of Ash Pond-A will be shifted from RL-205m to RL 208m once height raising work is completed (reached RL 211 m).	04.02.2010	Specific condition xlv		OPGC has started monitoring fugitive emission (Source emission i.e. Work Zone Monitoring). The data of the same has been reported in the half yearly compliance report for the period from April 2025 to September 2025. Complied
	An amount of Rs 24.36 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 4.87 Crore per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be su	PP reported an expenditure of Rs. 221905330.00 on peripheral development. As per the stipulated condition capital earmarked is of Rs 24.36 c	04.02.2010	Specific condition xxvi		- Revision of Annual CSR report for FY 2024-25/ CSR expense:- As per the revision of Annual CSR Report filing to Ministry of Corporate Affairs (MCA) for FY 2024-25, the expense has been revised from Rs.11.86 crore to Rs. 9.25 crore to comply with the guideline laid out by MCA. The CSR projects worth Rs. 2.51 crore worth (Rs.11.86 crore - Rs. 9.35 crore) has been transferred to FY 2025-26. - Revise CSR budget for FY 2025-26:- In the 247th Board Meeting, a CSR budget of Rs. 1,555.08 lakh was approved for FY 2025-26. Subsequently, considering certain urgent community requirements, a revised

S. No.	Non-compliance details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
	Submitted within one month along with road map for implementation.	More and recurring expenditure is 4.87 crores. The expenditure reported is less than earmarked amount				CSR budget of Rs. 1,958.41 lakh has been approved by the Board for FY 2025-26. Complied
	As part of CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help in upliftment of poor section of society. In come generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community' development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to up self-employment and jobs.	PP submitted an action plan for identification of local employed youth for training in skills relevant to Phase-III expansion of OPGC Power plant. The compliance status as per the condition has not been furnished.	04.02.2010	Specific condition xxvii of EC		The WO for conducting annual social study has been awarded to Sambalpur University on 09.10.2025 (LOI had been issued on 25.09.2025). The survey work started from first week of November 2025 & the 1 st season study has already been completed in January 2026. Interim report has been received & 2 nd Season study shall commence from April 2026 (Post Monsoon & Summer Season Data). Complied

S. No.	Non-compliance details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
	A common Green Endowment Fund shall be created, and the interest earned out of it shall be used for the development and management of green cover of the area	PP reported last 9 years expenditure in green belt development as Rs 201.67 Lakhs. However, details of green endowment fund has not been furnished. Ministry may like to take a view in the matter.	22.01.2014	Specific condition-l		OPGC was in process of applying for EC amendment for the mentioned condition after obtaining Environment Clearance for its expansion project. However, as per suggestion of the EAC dated 22.01.2026, OPGC is reconsidering of creating a green endowment fund. Partially Complied

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

- Categorization details of TPP : C (Existing Units as per CPCB letter dated 23/06/2022)
- Sulphur content of the coal to be fired in the boiler is 0.4%
- 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 been provided.	Compliance to the notification number 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)

- 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.

45.1.7: 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 - Terminal held on 04.09.20	Terms of Reference	TOR was accorded by MoEF&CC vide L	02.11.2027 -----

	23		etter No. J13011/59/2008-IA.II(T) dated 02.11.2023	
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	

45.1.8: 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><tr><td>Others (please specify)</td><td>Township - Included in (a) above</td><td>No separate Township envisaged</td></tr><tr><td>Total</td><td>410.014 Ha</td><td>86.703</td></tr><tr><td>Total Including Existing & Proposed</td><td colspan="2">496.717 Ha</td></tr></table> B. Ash Pond <table><tr><th>OPGCL Stages</th><th>Existing (Ha)</th><th>Proposed (Ha)</th></tr><tr><td>Stage-I</td><td>107.61</td><td>Nil</td></tr><tr><td>Stage-II</td><td>123.79</td><td>Nil</td></tr><tr><td>Stage-III</td><td>Nil</td><td>109.38</td></tr></table> C. Ash Pipeline Corridor (Ha) <table><tr><th>OPGCL Stages</th><th>Existing (Ha)</th><th>Proposed (Ha)</th></tr><tr><td>Stage-I</td><td>ROW has been</td><td>Nil</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	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		OPGCL Stages	Existing (Ha)	Proposed (Ha)	Stage-I	107.61	Nil	Stage-II	123.79	Nil	Stage-III	Nil	109.38	OPGCL Stages	Existing (Ha)	Proposed (Ha)	Stage-I	ROW has been	Nil	
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		Stage-II	obtained from Hirakud Main Dam Division for 20.61 Ha (The land is not under possession of OPGCL)	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 Habitation Present Within 5 Km Radius <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> 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.			Habitation	Distance	Direction	Baragad	1.3 km	W	Telenpali	2 km	N	Adhapada	2.3 km	NW	Banharpali	1 km	NE	
Habitation	Distance	Direction																		
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Banharpali	1 km	NE																		

S.No.	Particulars	Details	Remarks																																				
		· 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 school and hospitals if any.	A. School Project site: None Schools Present within 5km area: <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> B. Hospital Hospitals present within 5km area. <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> Mitigation Measure: Considering the presence of school(s) and health centre(s) in close proximity, the following mitigation and community protection measures shall be implemented to mi	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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S.No.	Particulars	Details	Remarks
		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 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.	

S.No.	Particulars	Details	Remarks																																																
		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="4">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><tr><td>21°40'39.69"N</td><td>83°54'23.19"E</td></tr><tr><td rowspan="4">Ash Pond-2</td><td>21°38'33.34"N</td><td>83°54'50.37"E</td></tr><tr><td>21°39'04.81"N</td><td>83°55'08.41"E</td></tr><tr><td>21°38'48.48"N</td><td>83°55'54.87"E</td></tr><tr><td>21°38'29.97"N</td><td>83°55'06.07"E</td></tr><tr><td rowspan="4">Proposed Ash Pond</td><td>21°41'56.79"N</td><td>83°55'56.47"E</td></tr><tr><td>21°42'16.25"N</td><td>83°55'41.96"E</td></tr><tr><td>21°42'28.44"N</td><td>83°55'15.35"E</td></tr><tr><td>21°42'09.41"N</td><td>83°55'7.35"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	21°40'39.69"N	83°54'23.19"E	Ash Pond-2	21°38'33.34"N	83°54'50.37"E	21°39'04.81"N	83°55'08.41"E	21°38'48.48"N	83°55'54.87"E	21°38'29.97"N	83°55'06.07"E	Proposed Ash Pond	21°41'56.79"N	83°55'56.47"E	21°42'16.25"N	83°55'41.96"E	21°42'28.44"N	83°55'15.35"E	21°42'09.41"N	83°55'7.35"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, Canals)	Project Site: None Water Body in Study Area	No Nala, Natural drainage, canal etc. exist within the project area																																																

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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 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.												

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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><thead><tr><th>Sl. No.</th><th>Conditions</th><th>Compliance Status</th></tr></thead><tbody><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 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. </td></tr><tr><td>2.</td><td>CEMS may be installed in all large/medium red category industries (air polluting) and connected to SPCB and CPCB server.</td><td> 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. </td></tr></tbody></table>	Sl. No.	Conditions	Compliance Status	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 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.	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%.
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		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 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 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	At present OPGC has green	

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				sed 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 Polluting).	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 adopted in Units 5 and 6 also.	
		3.	A detailed water harvesting plan may be submitted by the project proponent.	OPGC has constructed 18000 m³ 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.	

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			R 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.	7.05 Cr has been earmarked towards CER expenditure with reference OPGC Stage-III expansion project.	

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

S.No.	Existing power plant configuration and capacity	Proposed power plant configuration and capacity	Total	Technology adopted
1.	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) - Unit 5 & 6 – 2x660 MW (Ultra super critical)
2.	2x660 MW (Unit 3 & 4)			

45.1.10: 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 (MT PA)	Source	Distance from site (Kms)	Mode of Transportation	Coal characteristics (Worst case scenario)	Linkage document
Existing TPP	2.7 MT PA for Stage-I 7.6 MT PA 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 MT PA	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	

45.1.11: 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.

45.1.12: 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 Auxiliary Power.

45.1.13: 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 To 53 µg/m ³ PM ₁₀ = 30.6 To 74.3 µg/m ³ SO ₂ = 8.7 To 19.4 µg/m ³ NO _x = 13.2 To 28.7 µg/m ³ CO = 297 To 463 µg/m ³	
Baseline and predicted Incremental GLC level	PM ₁₀ = 54.5 To 55.11 µg/m ³ (Level at 1 km in S Direction) SO ₂ = 14.2 To 16.16 µg/m ³ (Level at 1 km in S Direction) NO _x = 21.7 To 23.98 µg/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/l, Chlorides: 18 to 220 mg/l, Fluoride: 0.3 to 1 mg/l, 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/l and BOD: <3 mg/l. COD < 5 mg/l	
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.

Period	October 2023 to December 2023	Additional Study (if any)
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 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	
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 µmhos/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; Phosphorus: 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 %	
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 withi	OPGC shall comply with the recommendations of the study.

Period	October 2023 to December 2023	Additional Study (if any)
	in 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	
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 - 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 reclaimer, 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	OPGC shall comply with the recommendations of the study.

Period	October 2023 to December 2023	Additional Study (if any)
	l 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 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.	

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

S. No.	Type of Waste	Source	Quantity generated (TPA)	Disposal
	Domestic Solid Waste	Domestic Solid Waste	500 T/Annum	Recycling principle of Waste Management

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

45.1.15: 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
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 L N o.	Core Area	Activity	Rationale / Source	Estimated Financial Commitment (IN R Lakh s)	2026-27	2027-28	2028-29	2029-30	2030-31	Means of Verification / Monitoring/ Target Date
1	Biodiversity	Community Plan tation	Need-b ased ass essment and PH	20	0	5.0	5.0	5.0	5.0	Project executio n reports Target: Ongoing activity with ann ual target
		Distribu tion of s aplings	Need-b ased ass essment	7.5	1.5	1.5	1.5	1.5	1.5	Project executio n reports Target: Ongoing activity with ann ual target
		Restorat ion of d egraded forest la nd	Need-b ased ass essment and PH	750	150	150	150	150	150	Project executio n reports Target: Ongoing activity with ann ual target
		Supply of air bl owing machine for cont rol of fo rest fire s	Need-b ased ass essment and PH	10	0	10	0	0	0	Equipment procu rement and usag e records Target: 31.03.2028
		Avenue plantati on	Need-b ased ass essment and PH	10	2.0	2.0	2.0	2.0	2.0	Project executio n reports Target: Ongoing activity with ann ual target
2	Water Co nservatio n & Grou nd Water Recharge Projects	Deepeni ng of ex isting p ounds & constru ction of new po nds	Need-b ased ass essment and PH	250	50	50	50	50	50	Project executio n reports Target: Ongoing activity with ann ual target

S I. N o.	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
		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 recharge	Need-based assessment	40	0	10	10	10	10	Project execution reports Target: 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	Need-based assessment study	40	0	10	10	10	10	Training completion certificates, feedback survey Target: Ongoing activity with annual target

S L N o.	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
		ulture practices such as vermicompost, water usage in agriculture, fertilizer application based on soil quality etc. through reputed institutes								ual 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	20	0	5	5	5	5	Training feedback survey reports Target: Ongoing

S L N o.	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
			study							activity with annual target
		Short term need based training to local people	Need-based assessment and PH	600	0	150	150	150	150	Completion certificates, 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 IPTS Hospital to	Public Hearing	500	100	100	100	100	100	Project execution reports / user feedback / photographs

S L N o.	Core Area	Activity	Rational e / Source	Estimated Financial Commitment (IN R Lakhs)	20 26- 27	202 7-28	202 8-29	20 29- 30	20 30- 31	Means of Verification / Monitoring/ Target Date
		cater the growing demand of local people								Target: Ongoing activity with annual target
		Total		4705.5	71 3.5	955. 5	965. 5	11 35. 5	93 5.5	

45.1.16: 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.N o.	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
(vii).	Addressal of Public Consultation issues	2147		4705	
Total		158198	19840	120100	20206

45.1.17: 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 (10 Ha)	FY 2031-32 (10 Ha)	FY 2032-33 (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 l. N o.	A c t i v i t y / I t e m W o r k	T o t a l	F Y 2 0 2 2 - 2 8 (2 H a)	F Y 2 0 2 2 - 2 9 (2 H a)	F Y 2 0 2 2 - 3 0 (2 H a)	F Y 2 0 2 3 - 3 1 (2 H a)	F Y 2 0 2 3 - 3 2 (2 H a)
1	S a p l i n g s t o b e P l a n t e d	7 5 0 0 0	1 5 0 0 0	1 5 0 0 0	1 5 0 0 0	1 5 0 0 0	1 5 0 0 0
2	A r e a D e v e l o p m e n t		4 0 L a k h	4 0 L a k h	8 0 L a k h	8 0 L a k h	8 0 L a k h
3	R a i s i n g o f P l a n t a t i o n w i t h 1 s t Y e a r	1 0 H a	1 1 4 L a k h	1 1 4 L a k h	1 1 4 L a k h	1 1 4 L a k h	1 1 4 L a k h

	Maintenance					
4	2nd Year Maintenance		32 Lakhs	32 Lakhs	32 Lakhs	32 Lakhs
5	3rd Year Maintenance		17 Lakhs	17 Lakhs	17 Lakhs	17 Lakhs
	Total		203 Lakhs	203 Lakhs	203 Lakhs	203 Lakhs
Plantation will be done by Miyawaki Technology						

45.1.18: 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, 2 X250 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 OSPC B.
	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:

1. Utilization in NHAI and other road embankment projects.
2. Filling of low-lying areas.
3. Mine void filling and OB mix applications.
4. 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-I)
		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 a 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 LDP E 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 MCSD or LCSD)	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-I)
		Stage-I			Stage-II	
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 in to land or water body (m ³)	Nil (ZLD)
11.	Details regarding dyke stability study and name of the organization who conducted the study:	To be carried out by IIT Chennai

45.1.19: 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:

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.

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

A. Summary of court cases

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

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
2	OHRC Case no.3475/2023	Odisha Human Rights Commission	Matter portent to breach of ash pond C which had occurred on 09.12.2023	-	-	Pending

A. NGT Original application no. 89/2024/EZ

Prayer:

1. Evacuation of spilled ash
2. High Committee Joint Inspection to be carried out
3. Conducting Damage Assessment Study

Action taken by PP:

1. OPGC submitted that total ash of 5.56 lakh m³ has already been removed and affected area was restored and soil capped.
2. Two high level inquiry committee visited the incident site as follows
A committee comprising of members from Odisha State Pollution Control Board, Central Pollution Control Board & MoEF&CC.
A Committee comprising of members from Central Pollution Control Board, MoEF&CC & District Administration, Jharsuguda
3. A damage assessment study has been carried out by TERI-SAS
The recommendations of TERI-SAS & Action Taken by OPGCL
i: Capping Fly ash affected soil with virgin soil (Complied)
ii. Phytoremediation with metal accumulating plants (Shall be complied)
iii. Regular monitoring of Heavy Metals around the affected area (Complied, regular monitoring is being conducted)
iv. Strengthening of ash pond with geosynthetic liners (Complied)
v. Development of greenbelt in degraded forest patch in nearby areas (To be complied)

B. OHRC Case no.3475/2023

Prayer: Payment of compensation to the affected people

Action taken by PP:

Compensation has already been paid to affected persons and additional environmental studies are under progress.

Financial Year	Compensation Paid (₹)
2023-24	54,54,050
2024-25	40,95,665
2025-26	41,47,181
Total Compensation Paid	1,36,96,896

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

S. N	MoEF &CC New Delhi	Date	Reasons for	Status of reply s	Present status
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o			issuance of SCN	ubmission	
<u>1.</u>		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.

C. Summary of violation- Nil

45.1.21 Written Submission:

Query: Clarification Regarding Construction of OPGC Stage-I Ash Pond Over Hiraikud 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/Hiraikud 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 Hiraikud 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 Hiraikud 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.

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

Observation and deliberation of the EAC

45.1.22: 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 Hirakud 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 Hirakud 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 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 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
- 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
- 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.
- 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.

Recommendations of the Committee:

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

3.1.5. Recommendation of EAC

Recommended (Subject to submission of requisite information/ documents)

3.1.6. Details of Environment Conditions

3.1.6.1. Specific

[A] Environmental Management	
1.	Project proponent shall ensure that 100% utilization of ash generated from 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
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.
3.	All the environmental safeguards prescribed by the OSPCB vide its memo no. 7896/IND-II-CTE-235 dated 20.06.2026 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.
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.
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.
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.
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.
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.
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.
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 1.	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 2.	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 3.	Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.
1 4.	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 5.	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 6.	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 7.	Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
1 8.	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 9.	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.
2 0.	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.
2 1.	Project proponent shall carry out community plantation with incentive scheme by distributing 50,000 saplings per year for a period of five years. Further, PP shall provide basic facilities to the nearby schools such as drinking water, sanitation facilities (sanitary napkin vending machines) and shall also develop green belt around the nearby schools. Further, PP shall organize quarterly awareness programs for school students to educate them on the significance and preservation of trees.
2 2.	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.
2 3.	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.
2 4.	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.
2 5.	PP shall deploy vacuum based road sweeping vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
2 6.	Environment Audit of plant shall be done annually, and report shall be submitted to Regional office of the Ministry.
2 7.	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.
2 8.	Oil and grease recovered from the treatment plant should be disposed of only through authorized recyclers.
2 9.	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.
3 0.	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.
3	PP shall ensure that all types of plastic waste generated from the plant shall be stored separately in

1.	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.
3 2.	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.
3 3.	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.
[B] Socio-economic	
1.	A vision document comprising prospective plan for implementation of various CER activities, plantation programme outside the project cover area, rejuvenation and conservation of water bodies within 5 km radius of the project cover area shall be prepared and submitted to the Regional Office of the Ministry within 6 months. Implementation status of the same shall be reported to the Regional office in 6 monthly compliance report.
2.	Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in two year) through independent agency. Necessary measures shall be taken as per findings of study in consultation with district administration. Action taken report shall be submitted to the Regional Office of the Ministry.
3.	The budget proposed for PH is Rs. 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) & Community Health Center (CHC) in the study area for better public health as committed. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC.
4.	The establishment of a robust public grievance redressal mechanism to address concerns and complaints from local communities regarding the power plant's operations, environmental impacts, or social issues shall be developed. A Senior Officer shall review the functioning of the mechanism twice in a month.
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.
[C] Miscellaneous	
1.	An Environmental Cell headed by the Environment Manager with postgraduate qualification in environmental science/environmental engineering, shall be created. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for

	implementation of environmental regulations and social impact improvement/mitigation measures.
2.	Consent for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
3.	All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

3.1.6.2. Standard

1(d)	Thermal Power Plants
Statutory compliance	
1.	Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
2.	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.
3.	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
4.	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
Ash content/mode of transportation of coal	
1.	MoEF&CC Notification issued vide S.O. 1561 (E) dated 21.05.2020 and as amended from time to time shall be complied which inter-alia include use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance of conditions prescribed under (1) Setting Up Technology Solution for emission norms, (2) Management of Ash Ponds and (3) Transportation.
Air quality monitoring and Management	
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.
2.	Low NO _x Burners with Over Fire Air (OFA) system shall be installed to achieve NO _x emission standard of 100 mg/Nm ³ .
3.	High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm ³ .
4.	Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO ₂ , NO _x and Particulate Matter as per extant rules.
5.	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.

6.	Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM ₁₀ , PM _{2.5} , SO ₂ , NO _x within the plant area 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.
7.	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8.	Appropriate Air Pollution Control measures be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.
Noise pollution and its control measures	
1.	The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2.	Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3.	Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.
Human Health Environment	
1.	Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2.	Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.
Water quality monitoring and Management	
1.	Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 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.
2.	In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
3.	Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
4.	Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB

	guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
5.	The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
6.	Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
7.	Wastewater generation of 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.
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).
Risk Mitigation and Disaster Management	
1.	Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2.	Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Low sulphur fuel shall be used.
3.	Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4.	Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
5.	Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.
Green belt and Biodiversity conservation	
1.	Green belt shall be developed in an area of 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.
2.	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
Waste management	

1.	Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2026.
2.	Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
3.	Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
4.	Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Ash Utilization issued by the Ministry S.O. 5481 dated 31.12.2021, S.O.6169 (E) dated 30.12.2021, S.O.05 (E) dated 01.01.2024 and amendment thereto.
5.	Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method for fly ash and LCSD for Bottom Ash.
Monitoring of compliance	
1.	Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
2.	Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
3.	Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.
4.	Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
5.	The project proponent shall (Post-EC Monitoring): - Send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; - Upload the clearance letter on the web site of the company as a part of information to the general public. - 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. - Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically; - 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; - Submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB;

	g. Submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company; h. Inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work
Corporate Environmental Responsibility (CER) activities	
1.	CER activities will be carried out as per Ministry's OM F.No.22- 65/2017- IA.III dated 30 th 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.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

2x195 MW (Stage-II) Coal Based Thermal Power Plant at village Kanti, in Muzaffarpur Distt. in Bihar by NTPC LIMITED located at MUZAFFARPUR, BIHAR			
Proposal For		Amendment in EC	
Proposal No	File No	Submission Date	Activity Sub-Activity (Schedule Item)
IA/BR/THE/562720/2025	J-13012/98/2008-IA.II(T)	22/12/2025	Thermal Power Plants Coal/Lignite based plants (1(d))

3.2.2. Project Salient Features

45.2: 2x195 MW (Stage-II) Coal Based Thermal Power Plant by M/s. NTPC Limited at village Kanti, District Muzaffarpur, Bihar– Amendment in Environment Clearance with respect to Sulphur dioxide emission standards as per MoEF&CC Notification dated 11/07/2025 – regarding. [Proposal No: IA/BR/THE/562720/2025; F.No. J-13012/98/2008-IA.II(T)] 45.2.1: M/s. NTPC Limited has made online application vide proposal no. IA/BR/THE/562720/2025 dated 22/12/2025 along with Form 4 & addendum EIA report and sought for amendment in the Environmental Clearance accorded by the Ministry vide letter no. J 13012/98/2008-IA.II(T) dated 09/11/2009 its subsequent amendments granted therein for the above-mentioned project with respect to Sulphur dioxide emission standards as per MoEF&CC Notification dated 11/07/2025 under the provisions of the EIA Notification, 2006. Name of the EIA consultant with accreditation status: M/s. MITCON Consultancy and Engineering Services Ltd.; Certificate No.: NABET/EIA/24-27/RA 0343; Validity: 05.02.2027 Details of the proposal submitted for deliberations during the meeting are given as under: 45.2.2: The existing project of 2x195 MW was originally granted Environmental Clearance in favour of M/s Kanti Bijlee Utpadan Nigam Ltd. for setting up 2X195 MW Thermal Power Plant at Village Kanti, District Muzaffarpur, Bihar vide letter no. J 13012/98/2008-IA.II (T) dated 09/11/2009 under EIA, 2006. Muzaffarpur Thermal Power Station (MTPS), NTPC-Kanti
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(erstwhile known as Kanti Bijlee Utpadan Nigam limited) was amalgamated with NTPC Limited w.e.f. 26.08.2022. Unit#1 & #2 of 110MW were decommissioned w.e.f. 08.09.2021 and only Unit#3 & #4 are in operation. Subsequently, corrigendum/amendment to the EC was accorded for the following:

- Corrigendum dated 19.11.2009 was issued for change in stack height,
- Extension of EC validity was granted on 31.12.2014,
- Amendment dated 21.10.2020 was issued for deletion of CSR expenditure condition,
- EC name transfer from M/s. Kanti Bijlee Utpadan Nigam Ltd to M/s. NTPC Ltd. was issued on 10/08/2024

In addition to the above, the Unit#1 & #2 of 110MW operating in the above premises were decommissioned w.e.f. 08.09.2021 and only Unit#3 & #4 are in operation as of now and amendment is sought only for unit 3 & 4.

45.2.3: Environmental site settings:

S. No.	Particulars	Details	Remarks														
1.	Total land	500.89 Ha. [Govt. Land 65.65 Ha; Private land 435.24 Ha].	Land use: Industrial														
2.	Land use break up	<table><tr><th>Facilities</th><th>Area (Ha)</th></tr><tr><td>Main Plant</td><td>93.04</td></tr><tr><td>Ash Dyke</td><td>128.41</td></tr><tr><td>Misc.</td><td>94.72</td></tr><tr><td>Township</td><td>19.43</td></tr><tr><td>Greenbelt (Existing: 28.25 ha and Proposed: 137.05 ha)</td><td>165.29</td></tr><tr><td>Total</td><td>500.89</td></tr></table>	Facilities	Area (Ha)	Main Plant	93.04	Ash Dyke	128.41	Misc.	94.72	Township	19.43	Greenbelt (Existing: 28.25 ha and Proposed: 137.05 ha)	165.29	Total	500.89	
Facilities	Area (Ha)																
Main Plant	93.04																
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Misc.	94.72																
Township	19.43																
Greenbelt (Existing: 28.25 ha and Proposed: 137.05 ha)	165.29																
Total	500.89																
3.	Land acquisition details as per MoE F&CC O.M. dated 7/10/2014 & 19/02/2025	Entire land is under the possession of the project proponent. Land document available and uploaded in PARIVESH Portal. No additional land acquisition is involved in the proposed amendment.															
4.	Existence of habitation & involvement of R&R, if any.	Project site: No habitation exists with project boundary Nearby Habitation <table><tr><td>Habitance</td><td>Distance</td><td>Direction</td></tr><tr><td>Kothia</td><td>1.4 km</td><td>ENE</td></tr><tr><td>Narsa</td><td>1.5 km</td><td>E/SE</td></tr></table>	Habitance	Distance	Direction	Kothia	1.4 km	ENE	Narsa	1.5 km	E/SE	There is no involvement of R&R activity as new land is not required for the instant proposal.					
Habitance	Distance	Direction															
Kothia	1.4 km	ENE															
Narsa	1.5 km	E/SE															

S. No.	Particulars	Details	Remarks															
		<table><tr><td>n d a</td><td></td><td></td></tr><tr><td>P a k a r i</td><td>4. 0 k m</td><td>N E</td></tr><tr><td>K a n t i</td><td>1. 2 k m</td><td>W N W</td></tr><tr><td>R a t a n p u r a</td><td>3. 5 k m</td><td>W N W</td></tr><tr><td>B a r i a r p u r</td><td>1. 6 k m</td><td>S E</td></tr></table>	n d a			P a k a r i	4. 0 k m	N E	K a n t i	1. 2 k m	W N W	R a t a n p u r a	3. 5 k m	W N W	B a r i a r p u r	1. 6 k m	S E	
n d a																		
P a k a r i	4. 0 k m	N E																
K a n t i	1. 2 k m	W N W																
R a t a n p u r a	3. 5 k m	W N W																
B a r i a r p u r	1. 6 k m	S E																
5.	Existence of school and hospitals if any	A. School Project site: DAV Public School Nearest schools <table><tr><td>S c h o o l</td><td>D i s t a n c e</td><td>D i r e c t i o n</td></tr><tr><td>N a t i o n a l P u b l i c S</td><td>~ 1. 2 8 k m</td><td>N W</td></tr></table>	S c h o o l	D i s t a n c e	D i r e c t i o n	N a t i o n a l P u b l i c S	~ 1. 2 8 k m	N W										
S c h o o l	D i s t a n c e	D i r e c t i o n																
N a t i o n a l P u b l i c S	~ 1. 2 8 k m	N W																

S. No.	Particulars	Details			Remarks									
		<table><tr><td>c h o o l</td><td></td><td></td></tr><tr><td>D e l h i P u b l i c S c h o o l, K a n t i</td><td>~ 1. 7 2 k m</td><td>N W</td></tr><tr><td>H i g h S c h o o l K a n t i</td><td>~ 2. 5 4 k m</td><td>N</td></tr></table>	c h o o l			D e l h i P u b l i c S c h o o l, K a n t i	~ 1. 7 2 k m	N W	H i g h S c h o o l K a n t i	~ 2. 5 4 k m	N			
c h o o l														
D e l h i P u b l i c S c h o o l, K a n t i	~ 1. 7 2 k m	N W												
H i g h S c h o o l K a n t i	~ 2. 5 4 k m	N												
		B. Hospital Project site: Jivantika Hospital Nearest hospital <table><tr><td>H o s p i t a l</td><td>D i s t a n c e</td><td>D i r e c t i o n</td></tr><tr><td>G o v e</td><td>~ 1. 5 6</td><td>N W</td></tr></table>			H o s p i t a l	D i s t a n c e	D i r e c t i o n	G o v e	~ 1. 5 6	N W				
H o s p i t a l	D i s t a n c e	D i r e c t i o n												
G o v e	~ 1. 5 6	N W												

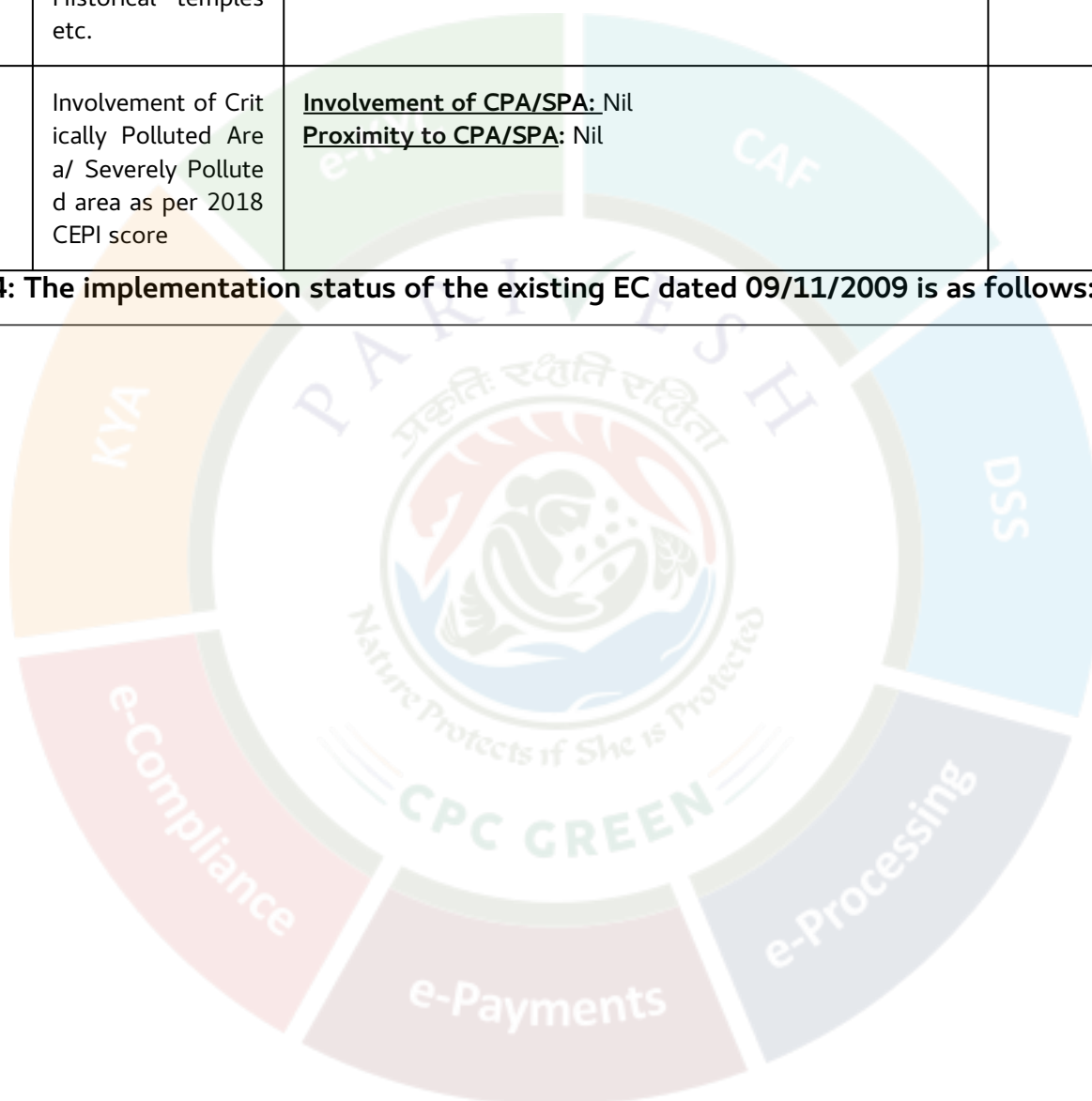
S. No.	Particulars	Details	Remarks									
		<table><tr><td>r n m e n t H o s p i t a l</td><td>k m</td><td></td></tr><tr><td>V a r d h m a n H o s p i t a l</td><td>~ 1. 4 1 k m</td><td>N W</td></tr><tr><td>S h r i D u r g a H o s p i t a l</td><td>~ 1. 3 3 k m</td><td>N</td></tr></table>	r n m e n t H o s p i t a l	k m		V a r d h m a n H o s p i t a l	~ 1. 4 1 k m	N W	S h r i D u r g a H o s p i t a l	~ 1. 3 3 k m	N	
r n m e n t H o s p i t a l	k m											
V a r d h m a n H o s p i t a l	~ 1. 4 1 k m	N W										
S h r i D u r g a H o s p i t a l	~ 1. 3 3 k m	N										
5.	Latitude and Longitude of all corners of the project site.	<table><tr><td colspan="2">Plant Site -</td></tr><tr><td>L a t i t u d e</td><td>L o n g i t u d e</td></tr><tr><td>2 6° 1</td><td>8 5° 1</td></tr></table>	Plant Site -		L a t i t u d e	L o n g i t u d e	2 6° 1	8 5° 1				
Plant Site -												
L a t i t u d e	L o n g i t u d e											
2 6° 1	8 5° 1											

S. No.	Particulars	Details		Remarks
		2' 1 4. 0" N	7' 3 7. 8" E	
		2 6° 1 1' 3 8. 3" N	8 5° 1 7' 4 0. 5" E	
		2 6° 1 1' 5 5. 2" N	8 5° 1 8' 2 6. 3" E	
		2 6° 1 1' 5 8. 5" N	8 5° 1 8' 3 0. 6" E	
		Ash Pond -		
		L a t i t u d e	L o n g i t u d e	
		2 6° 1 1' 0 0. 4" N	8 5° 1 2' 3 0. 9" E	
		2 6° 1 1' 3 8. 3" N	8 5° 1 2' 7. 5" E	

S. No.	Particulars	Details	Remarks																																																			
		<table><tr><td>N</td><td>E</td></tr><tr><td>2</td><td>8</td></tr><tr><td>6°</td><td>5°</td></tr><tr><td>1</td><td>1</td></tr><tr><td>5'</td><td>3'</td></tr><tr><td>1</td><td>1</td></tr><tr><td>0.</td><td>3.</td></tr><tr><td>3"</td><td>0"</td></tr><tr><td>N</td><td>E</td></tr><tr><td>2</td><td>8</td></tr><tr><td>6°</td><td>5°</td></tr><tr><td>1</td><td>1</td></tr><tr><td>5'</td><td>3'</td></tr><tr><td>4</td><td>0</td></tr><tr><td>7.</td><td>8.</td></tr><tr><td>3"</td><td>6"</td></tr><tr><td>N</td><td>E</td></tr></table>	N	E	2	8	6°	5°	1	1	5'	3'	1	1	0.	3.	3"	0"	N	E	2	8	6°	5°	1	1	5'	3'	4	0	7.	8.	3"	6"	N	E																		
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7.	8.																																																					
3"	6"																																																					
N	E																																																					
6.	Elevation of the project site	76 m Above mean sea level.																																																				
7.	Involvement of Forest land if any.	No forest land involved in the project.																																																				
8.	Water body (River s, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	Project site: Name: No major river or natural drainage channel within plan t boundary. Nearest water body <table><tr><td>W</td><td>D</td><td>D</td></tr><tr><td>at</td><td>is</td><td>ir</td></tr><tr><td>er</td><td>t</td><td>e</td></tr><tr><td>b</td><td>a</td><td>c</td></tr><tr><td>o</td><td>n</td><td>t</td></tr><tr><td>d</td><td>c</td><td>o</td></tr><tr><td>y</td><td>e</td><td>n</td></tr><tr><td>B</td><td>4</td><td>S</td></tr><tr><td>ur</td><td>k</td><td>E</td></tr><tr><td>hi</td><td>m</td><td></td></tr><tr><td>G</td><td></td><td></td></tr><tr><td>an</td><td></td><td></td></tr><tr><td>d</td><td></td><td></td></tr><tr><td>ak</td><td></td><td></td></tr><tr><td>Ri</td><td></td><td></td></tr><tr><td>ve</td><td></td><td></td></tr><tr><td>r</td><td></td><td></td></tr></table>	W	D	D	at	is	ir	er	t	e	b	a	c	o	n	t	d	c	o	y	e	n	B	4	S	ur	k	E	hi	m		G			an			d			ak			Ri			ve			r			
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ak																																																						
Ri																																																						
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9.	Existence of ESZ/ ESA/ national Park / wildlife sanctuary / biosphere reserve/ tiger reserve/ elephant reserve etc. if	Study area Name of the ESZ/ESA: No Status of Notification: No Distance of project from ESZ/ESA: Not Applicable Authenticated map of ESZ projecting: NA distance of ESZ from project site: NA																																																				

S. No.	Particulars	Details	Remarks
	any within the study area	Status of NBWL approval: NA List of Reserved and protected forests: No National Park, Wildlife Sanctuary, Biosphere Reserve, Eco-Sensitive Zone, Tiger Reserve or Elephant Corridor exists within 10 km radius of the project site	
10.	Archaeological sites / monuments / Historical temples etc.	No archaeological monuments or historical structures exist within 10 km radius of the project site.	
11	Involvement of Critically Polluted Area / Severely Polluted area as per 2018 CEPI score	Involvement of CPA/SPA: Nil Proximity to CPA/SPA: Nil	

45.2.4: The implementation status of the existing EC dated 09/11/2009 is as follows:

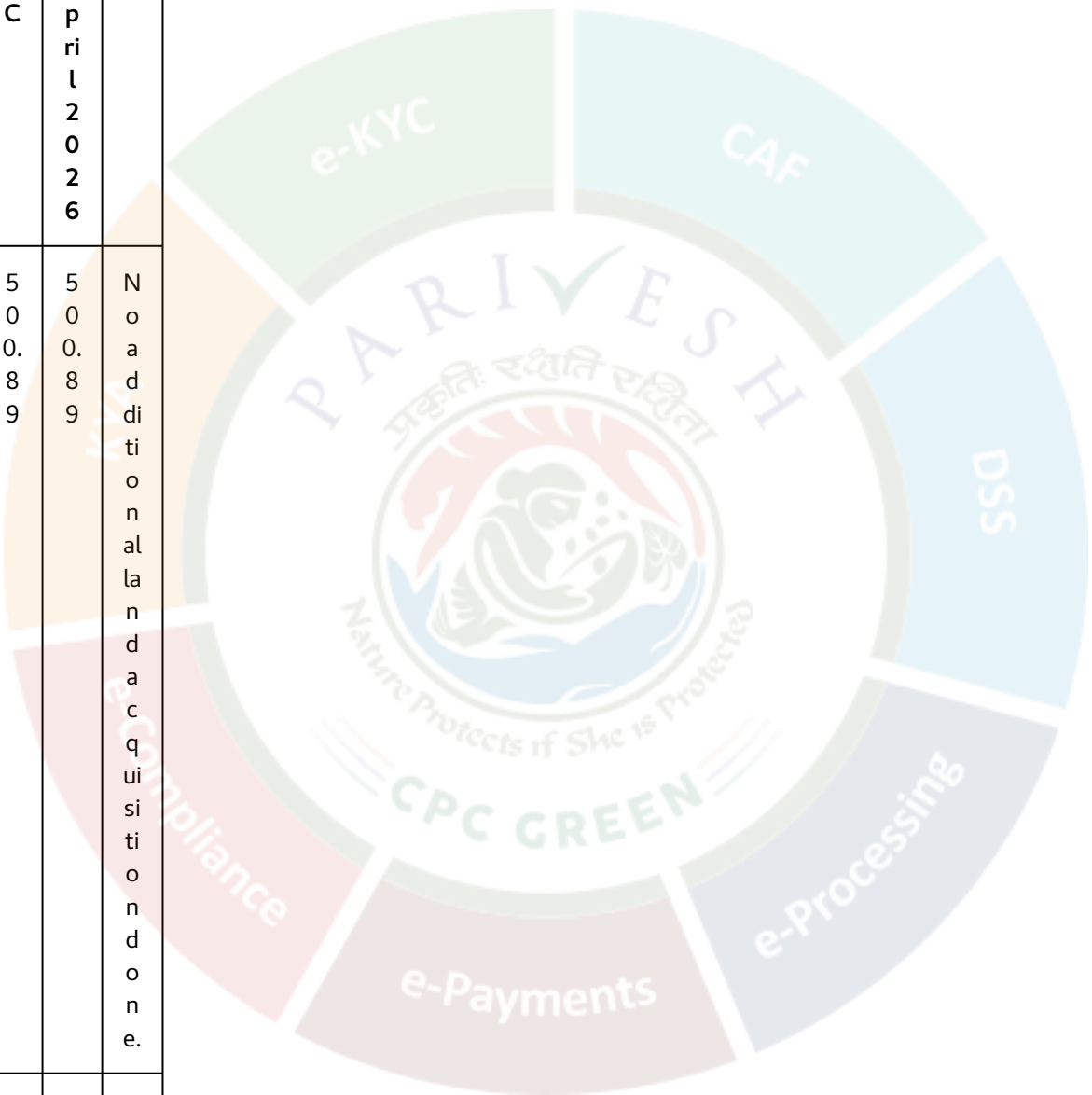


S. N o.		Ca pa cit y (M W)	D a t e o f a c c o r d o f E C	D a t e o f c o m m i s s i o n i n g o f u n i t s	P r o d u c t i o n a s p e r C T O	A p p l i c a b l e e m i s s i o n n o r m s a s p e r n o t i f i c a t i o n d a t e d 7/ 1 2/ 20 15 & i t s a m e n d m e n t
1		39 0 M W		U n i t 3- 3 1. 0 3. 2 0 1 5 U n i t 4-	3 9 0 M W	P M- 50 m g/ N m 3 S O ₂ -6 00 m g/ N m

S. N o.		Ca pa cit y (M W)	D a t e o f a c c o r d o f E C	D a t e o f c o m m i s s i o n i n g o f u n i t s	P r o d u c t i o n a s p e r C T O	A p p l i c a b l e e m i s s i o n n o r m s a s p e r n o t i f i c a t i o n d a t e d 7/ 1 2/ 20 15 & i t s a m e n d m e n t
				2 4. 0 3. 2 0 1 6		3 N O x- 45 0 m g/ N m 3

45.2.5: Total land under possession for the proponent is 500.89 ha [Govt. Land 65.65 Ha; Private land 435.24 Ha]. There is no CPA/SPA is in the vicinity of the plant. There are no national parks, Biosphere Reserves, Eco-sensitive zone, Tiger/Elephant Reserves and Wildlife Corridors within 10 km distance from the project site.

P a r a m e t e r	D e t a i l s a s p e r E C	S t a t u s a s o n A p r i l 2 0 2 6	R e m a r k s
T o t a l L a n d A r e a (H a)	5 0 0. 8 9	5 0 0. 8 9	N o a d d i t i o n a l l a n d a c q u i s i t i o n d o n e.
I n v o l v e m e n t o f F o r e s	N A	N A	N o t a p p l i c a b l e



t La n d (H a)			
N B W L C l e a r a n c e	N A	N A	N o t a p p l i c a b l e
C R Z C l e a r a n c e	N A	N A	N o t a p p l i c a b l e
C P A/ S P A	N A	N A	N o t a p p l i c a b l e

45.2.6: Background for amendment sought by the proponent:

- Initially, MoEF&CC (erstwhile MoEF) notified stack emission standards for Particulate Matter (PM) parameter vide Notification dated 03.01.1989 requiring TPPs to install Electrostatic Precipitators (ESPs) to reduce emission.
- MoEF&CC notified stack height regulation for TPPs vide Notification dated 30.08.1990. The said notification outlined stack height regulations based on the plant's capacity and Sulphur content in the fuel, ensuring proper dispersion of the pollutants (SO₂ and NO_x) through adequately large stacks
- MoEF&CC vide its notification dated 07.12.2015 stipulated emission standards for coal/lignite-fired TPPs, which included revised emission standards for Particulate Matter (PM), and newly introduced emission standards for Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x), and Mercury (Hg) parameters with timelines.

45.2.7: The summary of the information submitted by the proponent in the addendum EIA

report is as follows:

i. Average coal consumption and the average Sulphur content of coal is being used in the TPP for last three months' period.

Month	Coal consumption in MT Unit wise		
	Unit 3	Unit 4	Total
Nov'25	39184	74224	113408
Dec'25	10906	81783	92689
Jan'26	75553	74801	150354

Domestic Coal is being used while maintaining Avg.Sulphur content $\leq 0.6\%$

ii. Minimum, maximum and 98th percentile levels of ambient PM₁₀, PM_{2.5}, NO_x, and SO₂ from secondary monitored AAQ data for last three months' period.

Summary of AAQ Result (Third Party Monitoring Reports) for December 2025 to February 2026:

S. No.	Name of location	Parameter	Concentration in $\mu\text{g}/\text{m}^3$			98 th percentile	NAAQMS
			Min.	Max.	Avg.		
1	AAQMS 1 Bariyarpur	PM ₁₀	59.24	65.68	62.46	65.55	100
2		PM _{2.5}	31.02	34.99	33.01	34.91	60
3		SO ₂	16.21	17.60	16.91	17.57	80
4		NO _x	21.23	22.38	21.81	22.36	80
5	AAQMS_2 Kanti Township	PM ₁₀	88.25	142.06	115.16	140.98	100
6		PM _{2.5}	61.41	93.73	77.57	93.08	60
7		SO ₂	13.68	16.35	15.02	16.30	80
8		NO _x	19.05	21.46	20.26	21.41	80
9	AAQMS_3 Ratanpura	PM ₁₀	52.25	56.32	54.29	56.24	100
10		PM _{2.5}	28.1	30.41	29.26	30.36	60

S. No.	Name of location	Parameter	Concentration in $\mu\text{g}/\text{m}^3$			98 th percentile	NAAQMS
			Min.	Max.	Avg.		
			1				
11		SO ₂	10.46	11.60	11.03	11.58	80
12		NO _x	14.75	17.36	16.06	17.31	80
13	AAQMS_4_ Madhuban	PM ₁₀	51.26	53.23	52.25	53.19	100
14		PM _{2.5}	25.44	26.24	25.84	26.22	60
15		SO ₂	12.26	13.10	12.68	13.08	80
16		NO _x	16.02	19.12	17.57	19.06	80
17	AAQMS_5_ Paharpur	PM ₁₀	56.87	92.3	74.59	91.59	100
18		PM _{2.5}	59.15	78.95	69.05	78.55	60
19		SO ₂	13.52	14.40	13.96	14.38	80
20		NO _x	18.57	19.67	19.12	19.65	80

Ambient Air Quality Results for December 2025 to February 2026 in CPCB monitoring stations near MTPS

Location	Parameter	Feb-26				Jan-26				Dec-25			
		Max	Min	Avg.	98%	Max	Min	Avg.	98%	Max	Min	Avg.	98%
Buddha Colony, Muzaffarpur - CPCB	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	107.99	46.69	75.65	168.87	107.64	56.53	80.58	159.42	114.99	63.03	85.82	150.32
	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	170.36	97.27	128.43	107	165.56	72.36	118.22	107.47	155.04	77.69	112.06	109.68

Location	Parameter	Feb-26				Jan-26				Dec-25			
		Max	Min	Avg.	98%	Max	Min	Avg.	98%	Max	Min	Avg.	98%
	NO _x (ppb)	86.11	6.49	37.23	84.6	50	18.96	34.44	9.5	62.37	18.68	57.82	7.59
	SO ₂ (µg/m ³)	8.68	2.99	4.60	80.53	10.7	2.47	5.39	49.06	7.74	2.37	5.03	32.17
MIT-Daudpur Kothi, Muzaffarpur - CPCB	PM _{2.5} (µg/m ³)	60.15	49.53	55.23	74.22	65.51	51.13	58.37	78.29	65.64	48.41	60.81	84.11
	PM ₁₀ (µg/m ³)	74.4	58.48	67.03	60.0	81.34	62.33	69.40	64.93	88	62.54	72.82	65.58
	NO _x (ppb)	4.75	2.3	3.61	11.26	4.78	4.68	4.72	14.08	13.42	2.46	5.22	15.49
	SO ₂ (µg/m ³)	11.25	3.42	8.65	4.74	14.64	7.47	10.78	4.76	16.06	7.1	10.82	13.31
Muzaffarpur Collectorate, Muzaffarpur - CPCB	PM _{2.5} (µg/m ³)	63.3	47.35	56.46	63.17	68.2	54.7	61.23	67.18	71.53	55.22	63.79	69.84
	Nox (ppb)	22.19	14.59	18.30	6.68	22.67	12.6	17.21	6.052	19.87	14.03	17.06	4.91
	SO ₂ (µg/m ³)	7.19	3.23	4.88	21.87	6.13	3.33	4.42	22.64	5.12	3.52	4.17	19.43

iii. Average stack emissions for PM, NO_x, and SO₂ parameters for last three months, flue gas concentration in mg/Nm³

S. No.	Name of stack	Parameter	Concentration in (mg/Nm ³) Period- Nov 25 - Jan-26			Standard (mg/Nm ³)
			Max.	Min.	Avg.	
1	Unit-3	PM	16.78	15.89	16.33	50
2		S	9	8	8	6

S. N o.	N a m e o f s t a c k	P a r a m e t e r	Concentrati on in (mg/N m ³) Period- Nov 25 - Ja n-26			S t a n d a r d (m g/ N m ³)
			M a x.	M i n.	A v g.	
		O ₂	68.60	11.5	90.05	00
3		N O _x	333.91	283.83	308.87	450
4	U n i t- 4	P M	19.25	17.49	18.37	50
5		S O ₂	101.956	82.94	92.470	600
6		N O _x	333.91	283.83	308.87	450

Mass emission rate of pollutants in gram per second

S. No.	Parameters	Units	Unit 3 (1X195 M W)	Unit 4 (1X195 MW)
1	Stack Height	m	146.5	
2	No. of flue	-	Bi flue	
3	Top diameter of flue	m	4.3	
4	Flue gas velocity in each flue	m/s	22	

S. No.	Parameters	Units	Unit 3 (1X195 M W)	Unit 4 (1X195 MW)
5	Flue gas temperature	°C	126	126
6	Volumetric Flow rate of gas in each flue	Nm ³ /s	363.05	363.05
7	Emission Rates			
A	PM	g/s	2.90	2.85
B	SO ₂	g/s	313.88	313.88
C	NO _x	g/s	60.5	56.07

iv. Current stack height of the Kanti is 146.5 m and is in compliance with the MoEF&CC Notification of August 30, 1990.

V. Assessment of maximum Ground Level Concentration (GLCs) of pollutants from the stack emission as per the envisaged stack height (as applicable) based on available site-specific meteorological parameters. Details of the model used, input data used for modelling and output data of the modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors.

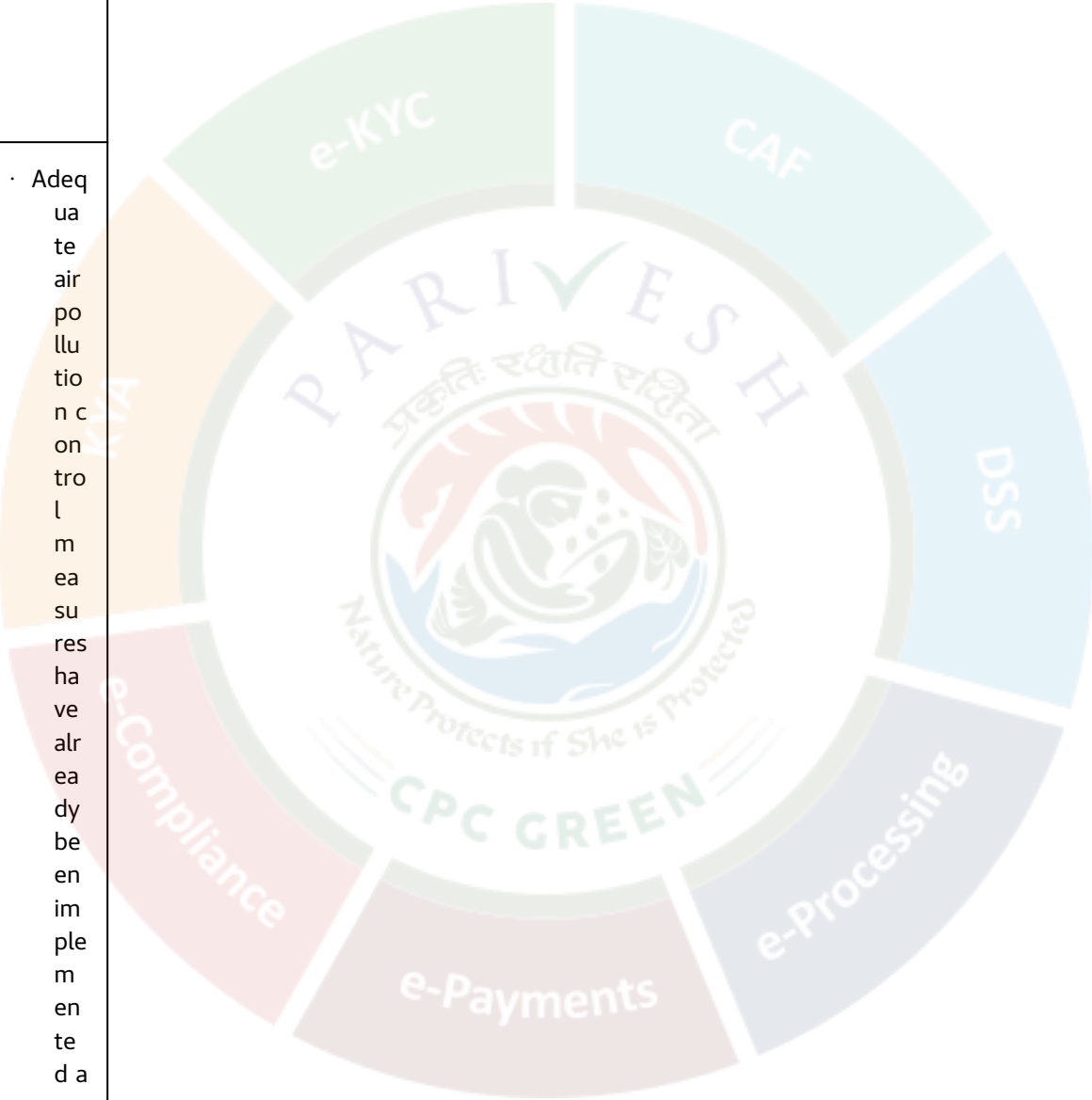
The air quality contours plotted on a location map showing the location of project site, habitation nearby, sensitive receptors. The detail study of air modelling is provided in Addendum EIA report.

Details of Model Used- AIRMOD 10.0.1

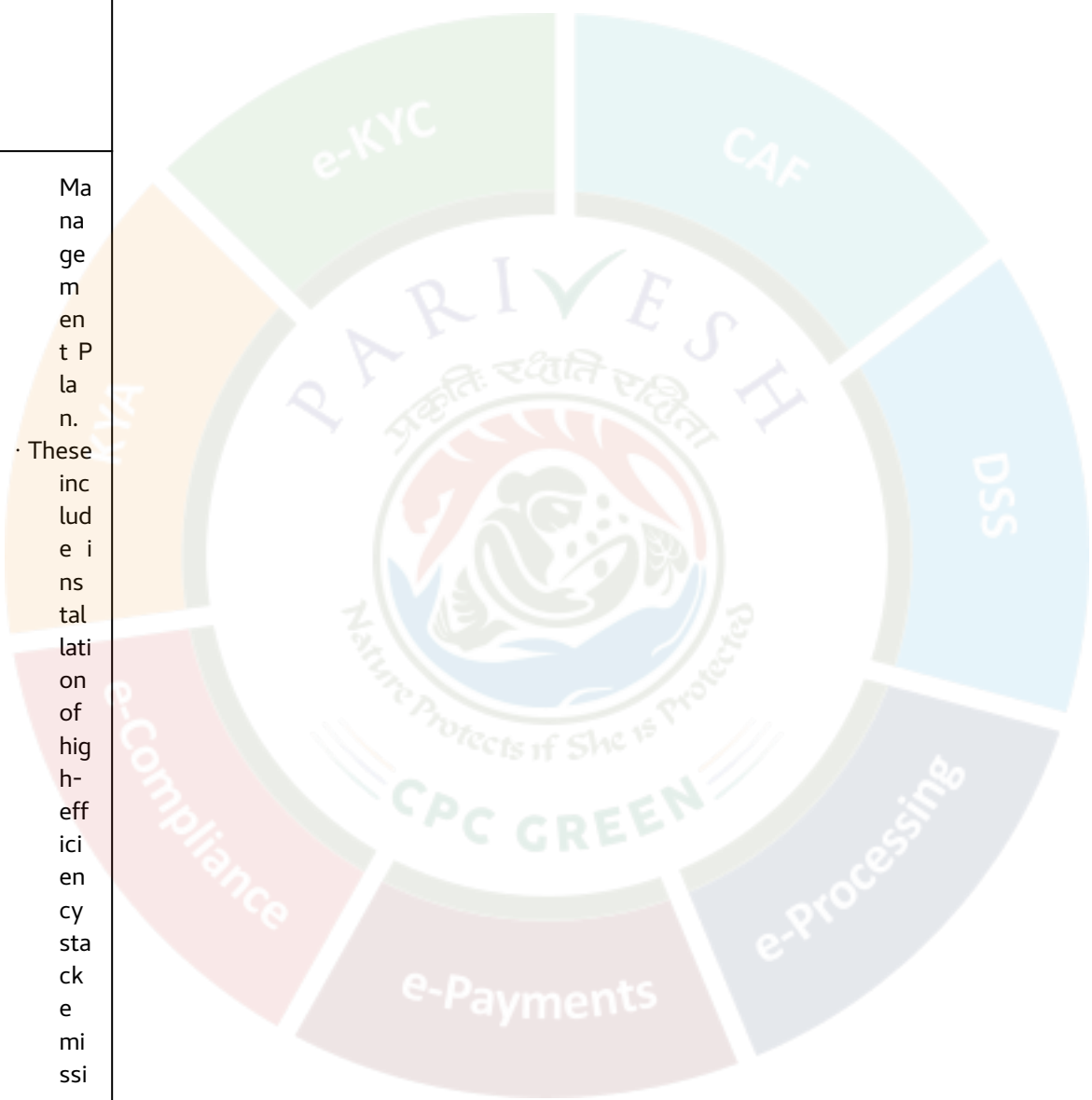
GLC of pollutants at sampling locations:

Villages	Dist. (km)	Direction	GLC (µg/m ³)			
			SO ₂	NO _x	PM ₁₀	PM _{2.5}
NAAQS (24hrs)			80	80	100	60
Bariyarpur	2.3	SE	37	29.47	59.48	31.72
Kanti Township	1.3	NNE	18.68	24.05	88.45	61.70
Ratanpura	3.0	WNW	16.47	21.36	55.73	29.37
Madhuban	2.5	E	20	23.62	52.65	26.25
Paharpur	3.9	SE	19.15	24.67	56.97	79.10

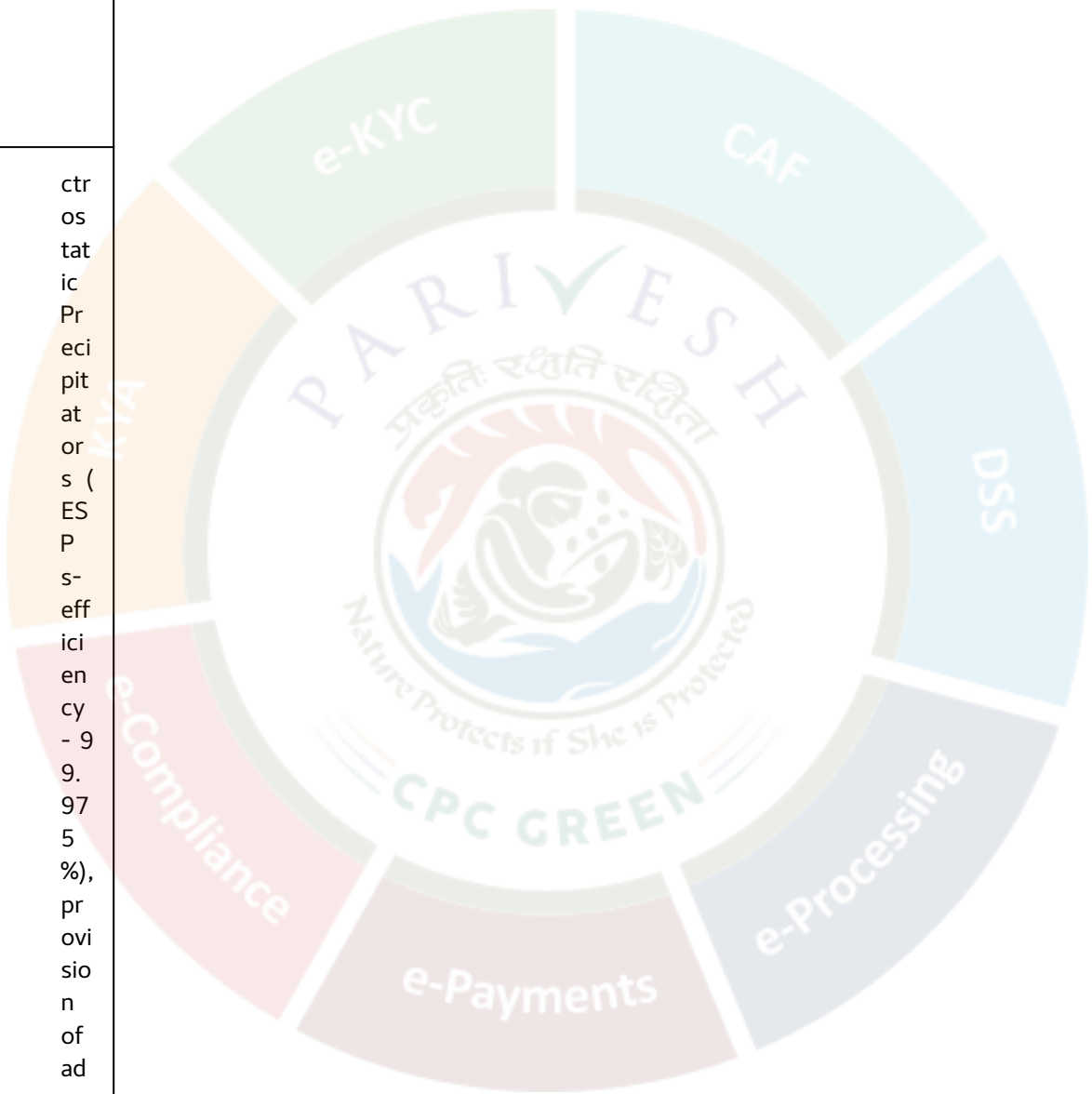
vi. Environment Management Plan (EMP):

Details as prescribed by MoEF&CC	Information provided by Proponent
a. Environment Management Plan (EMP) covering the following: a. Impact of ground level co	· Adequate air pollution control measures have already been implemented as part of the Environmental 

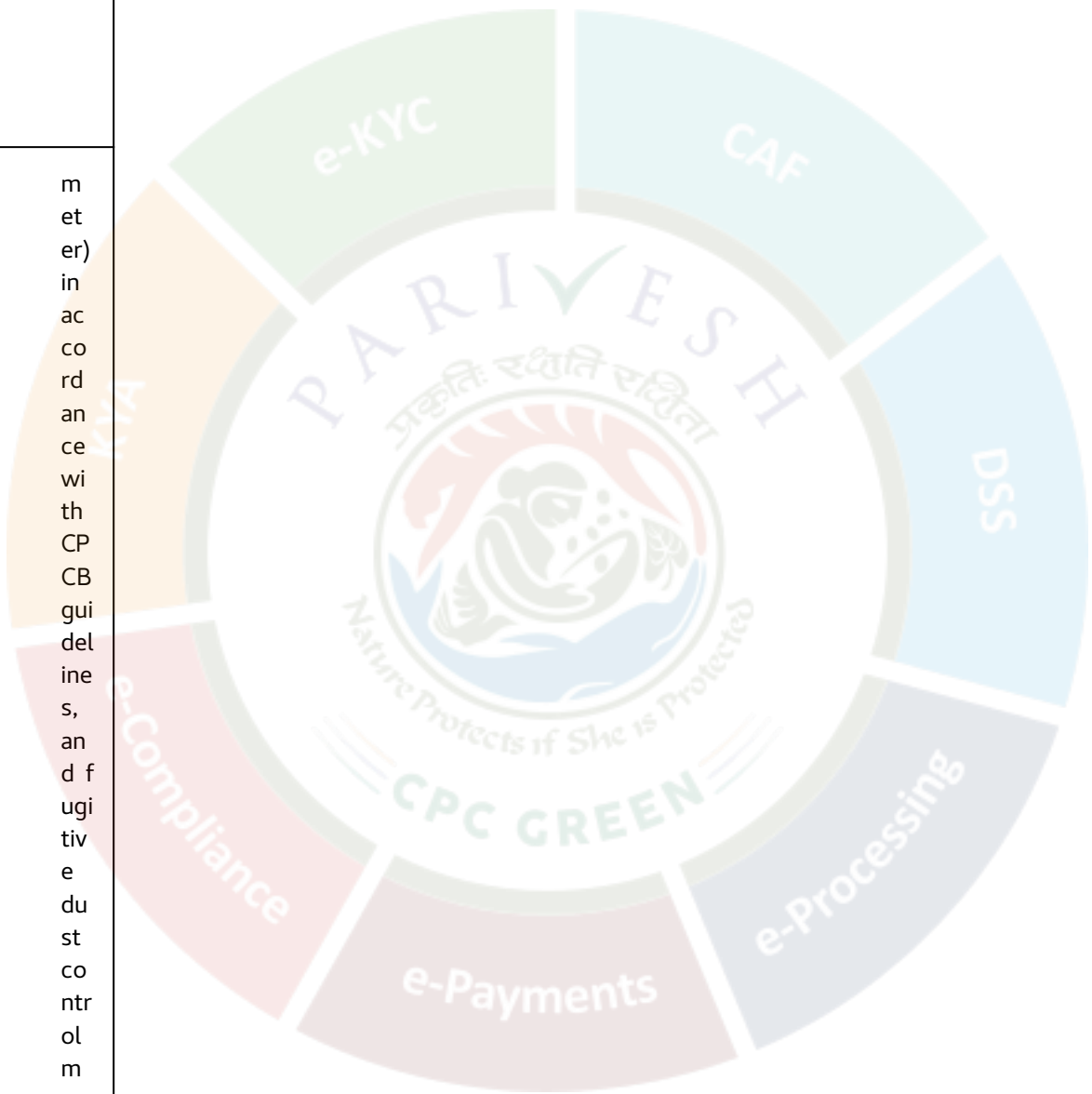
Details as prescribed by MoEF&CC	Information provided by Proponent
concentration on the environment if any and corresponding mitigation on measures to be adopted.	Management Plan. These include installation of high-efficiency stack emission control systems such as Ele



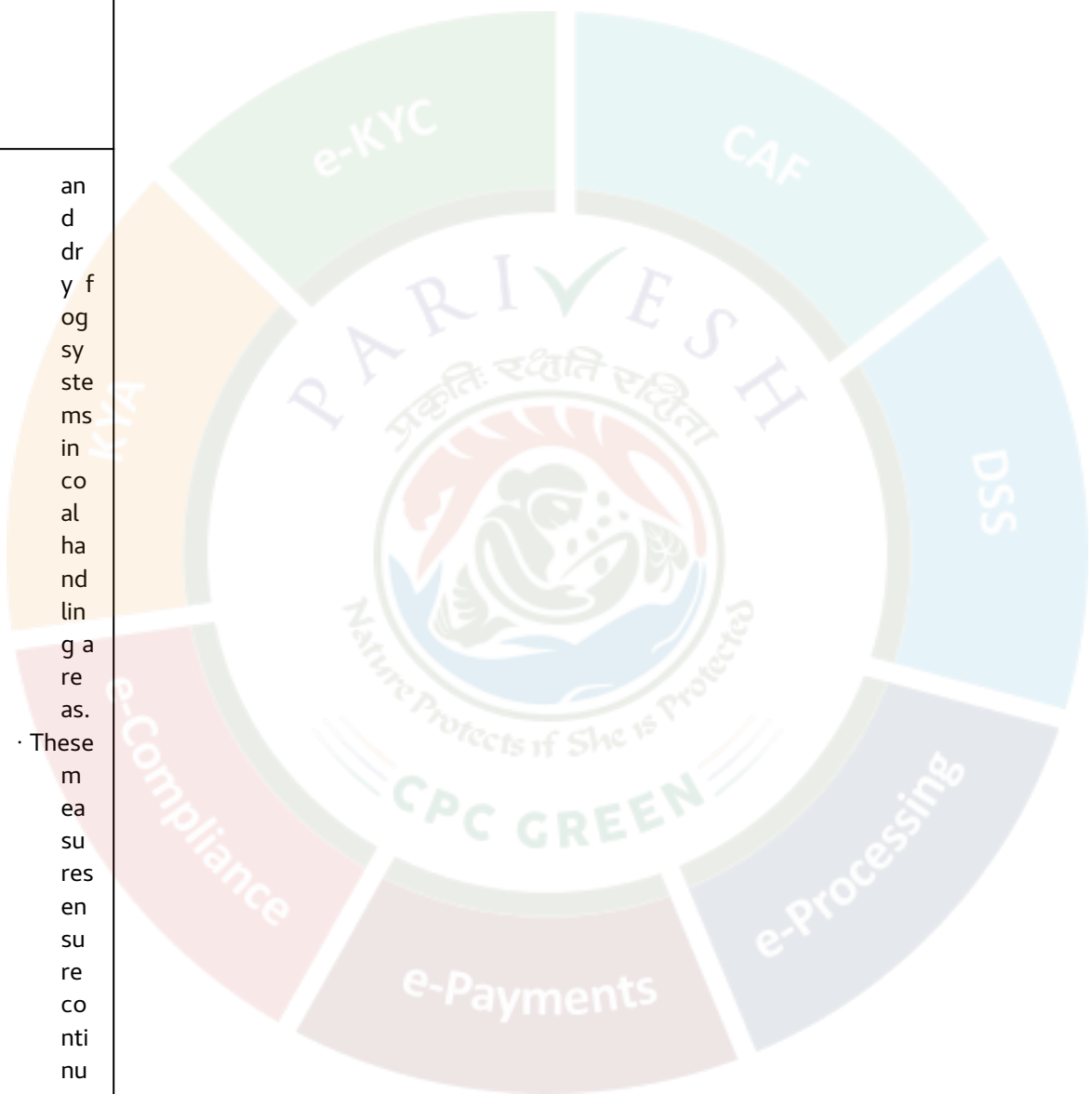
Details as prescribed by MoEF&CC	Information provided by Proponent
	contrastive Precipitation (ESP efficiency - 99.975%), provision of adequate stack height (146.5



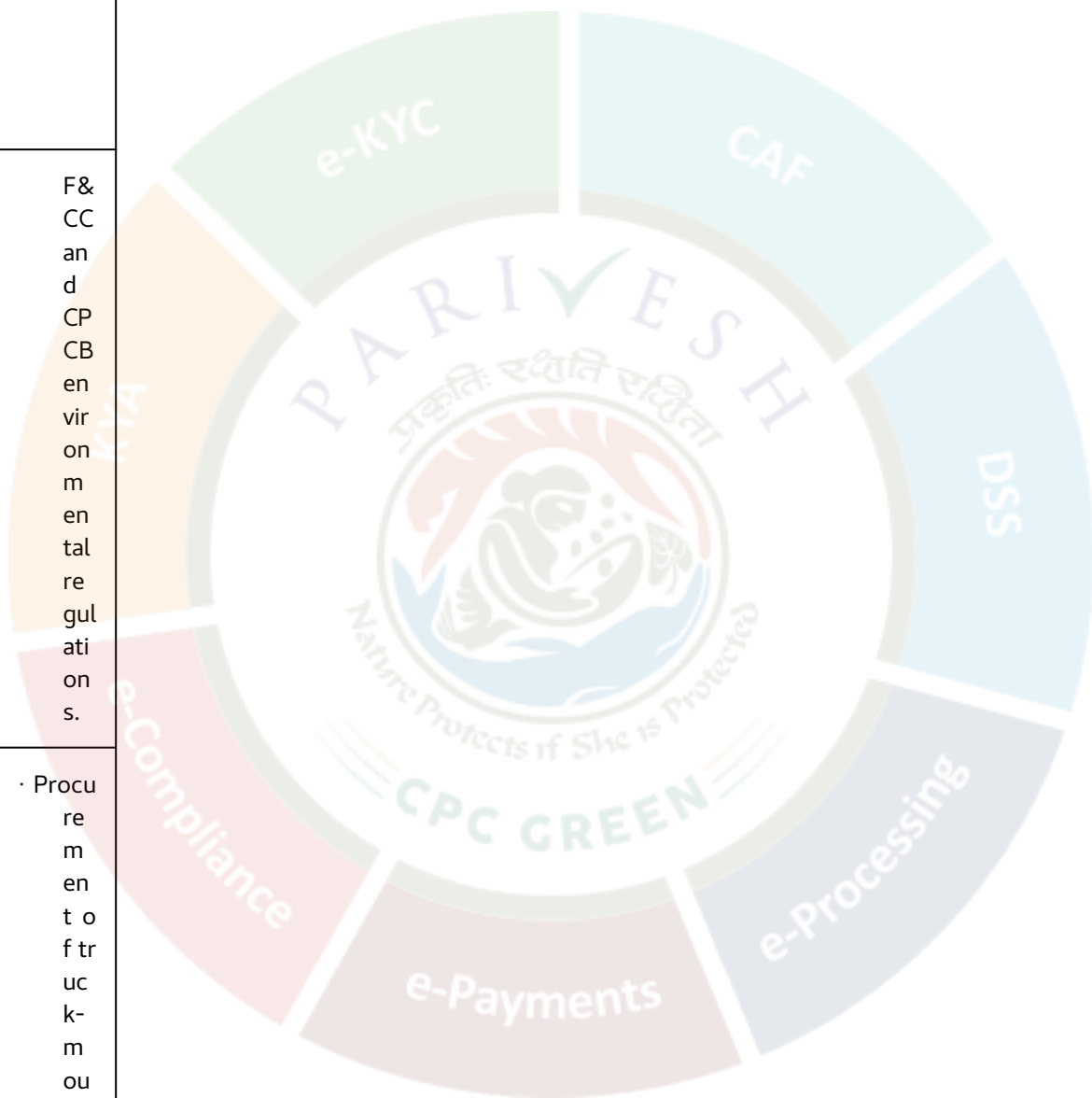
Details as prescribed by MoEF&CC	Information provided by Proponent
	meter) in accordance with CP CB guidelines, and fugitive dust control measures such as water spraying



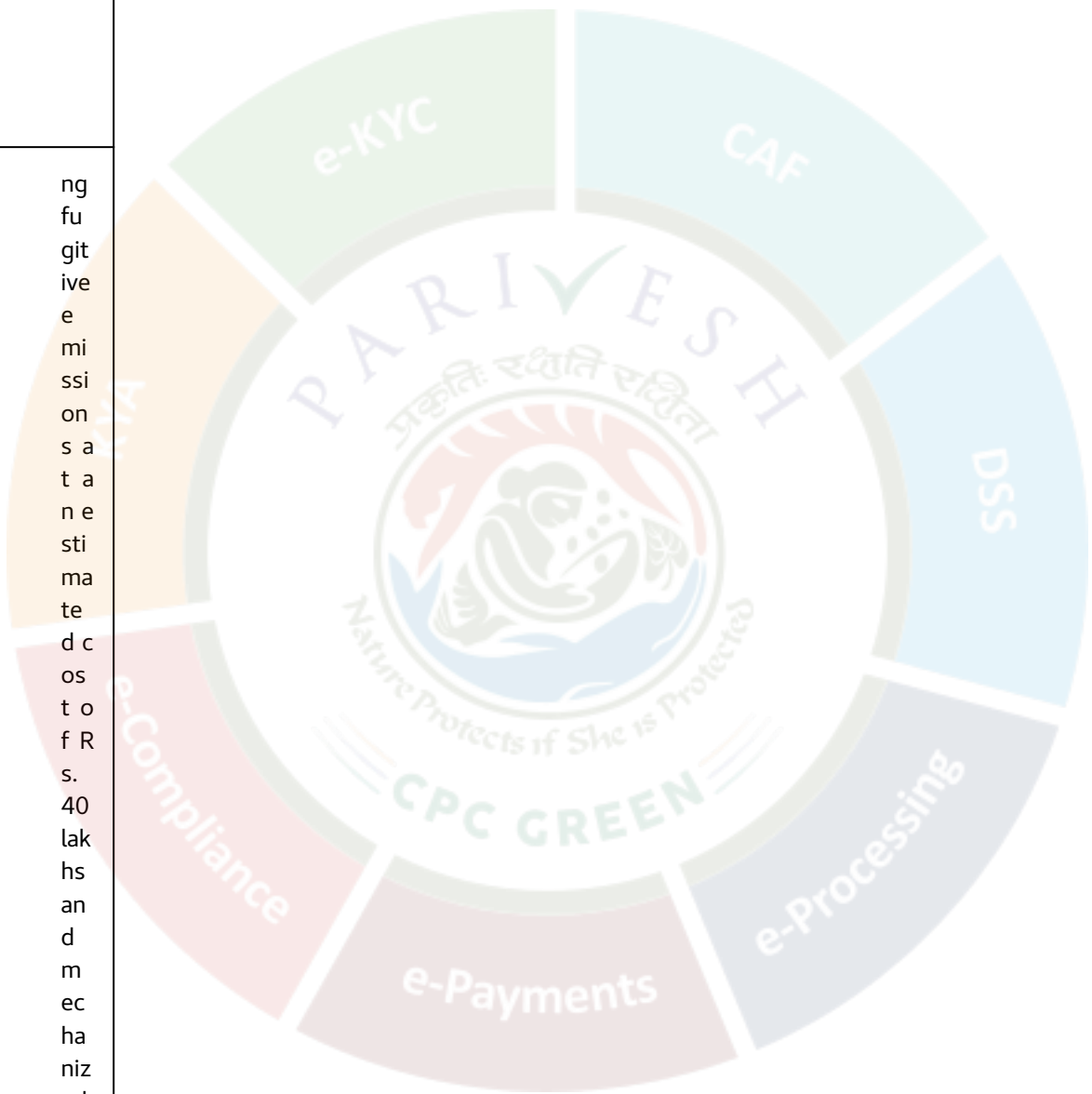
Details as prescribed by MoEF&CC	Information provided by Proponent
	and dry of systems in coal handling areas. These measures ensure continuous compliance with MoE



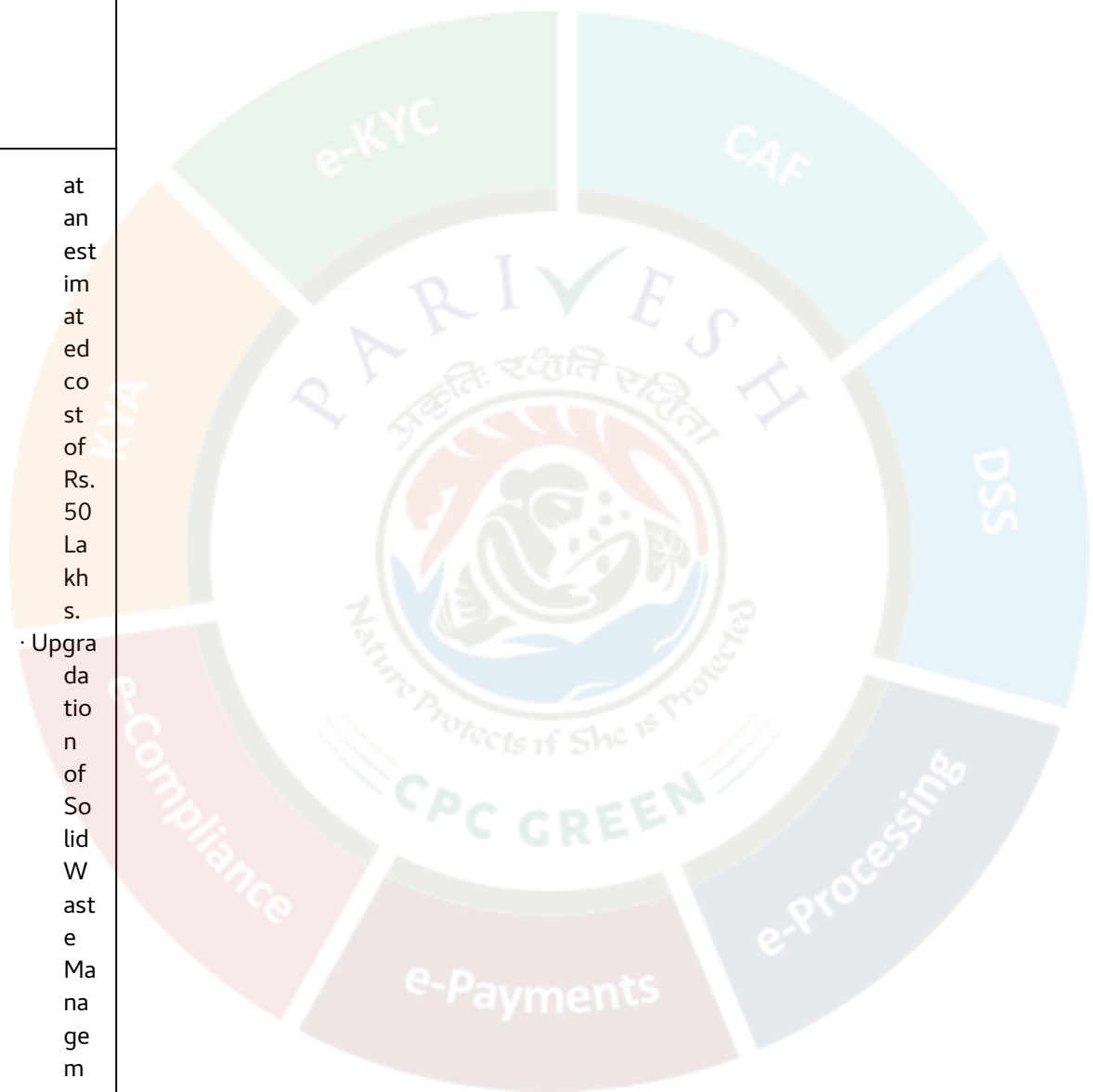
Details as prescribed by MoEF&CC	Information provided by Proponent
	F&CC and CPB environmental regulations.
b. Additional mitigation measures proposed if any	Procurement of truck-mounted fog cannon for mitigation



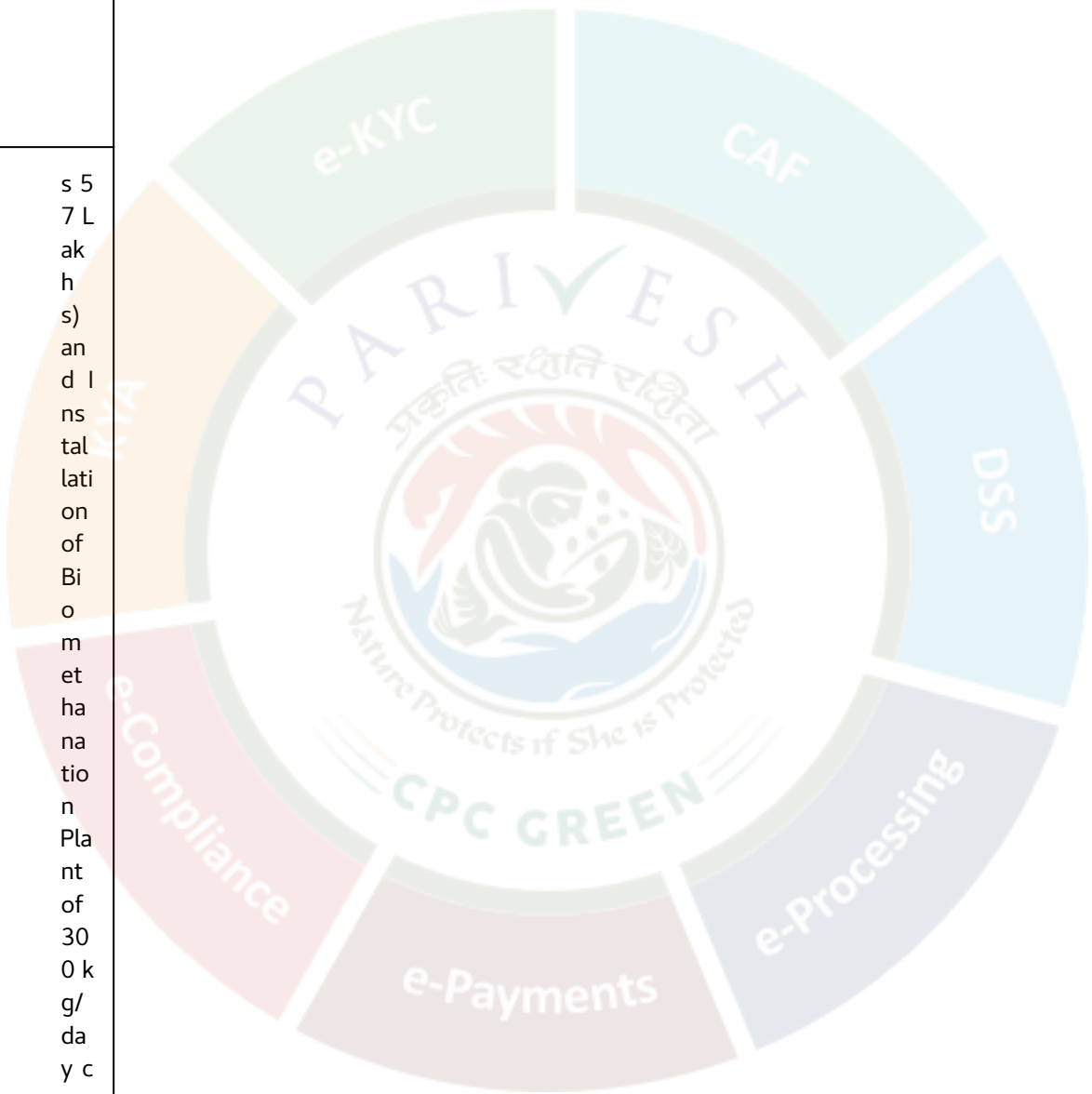
Details as prescribed by MoEF&CC	Information provided by Proponent
	ing fugitive emissions at a nestimate d cost of Rs. 40 lakhs and mechanized vacuum cleaning system



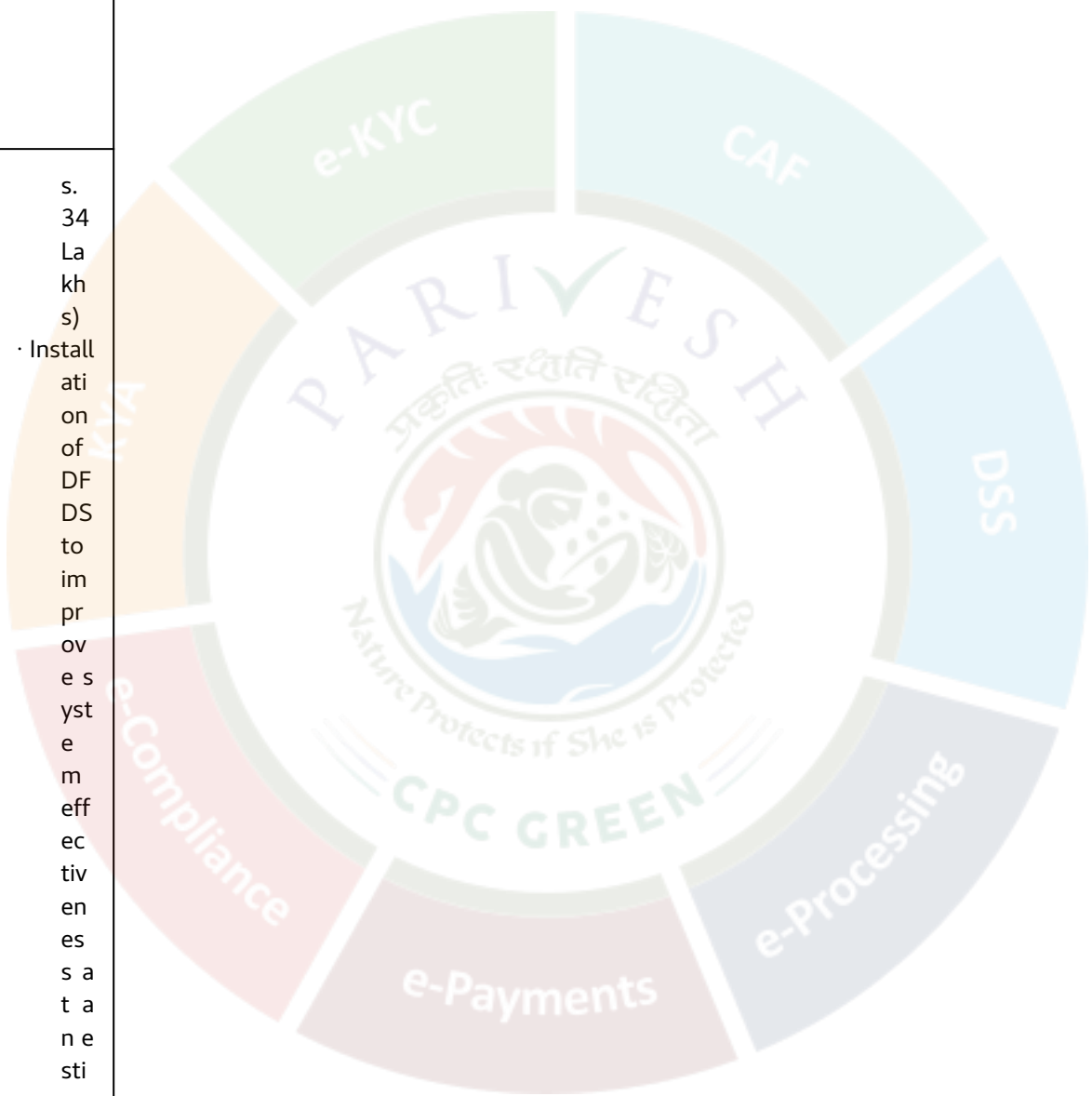
Details as prescribed by MoEF&CC	Information provided by Proponent
	at an estimated cost of Rs. 50 Lakhs. Upgradation of Solid Waste Management Facility (estimated cost Rs. 100 Lakhs)

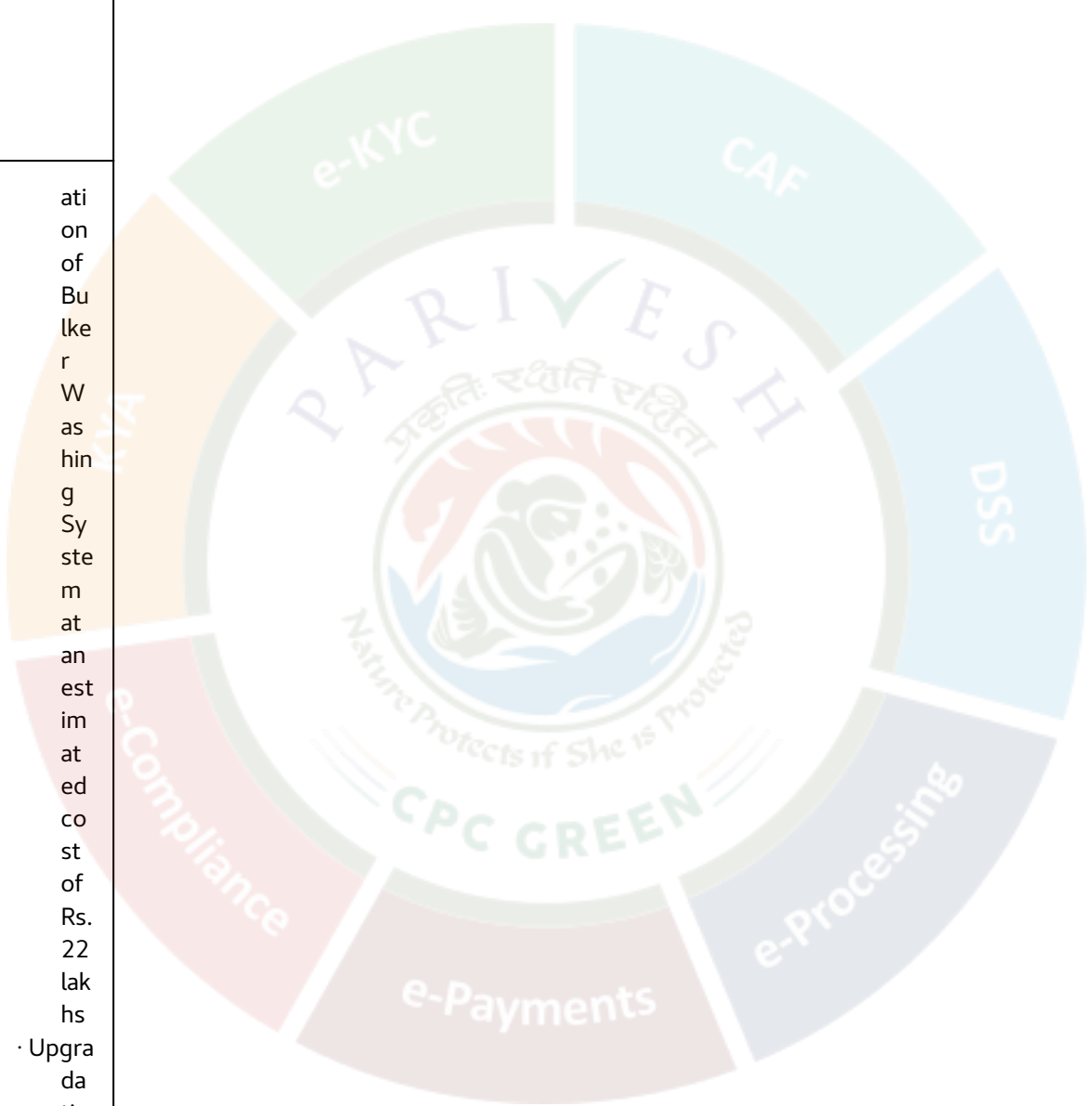


Details as prescribed by MoEF&CC	Information provided by Proponent
	s 57 Lakhs) and Installation of Bio-methanation Plant of 300 kg/day capacity (estimated cost of Rs

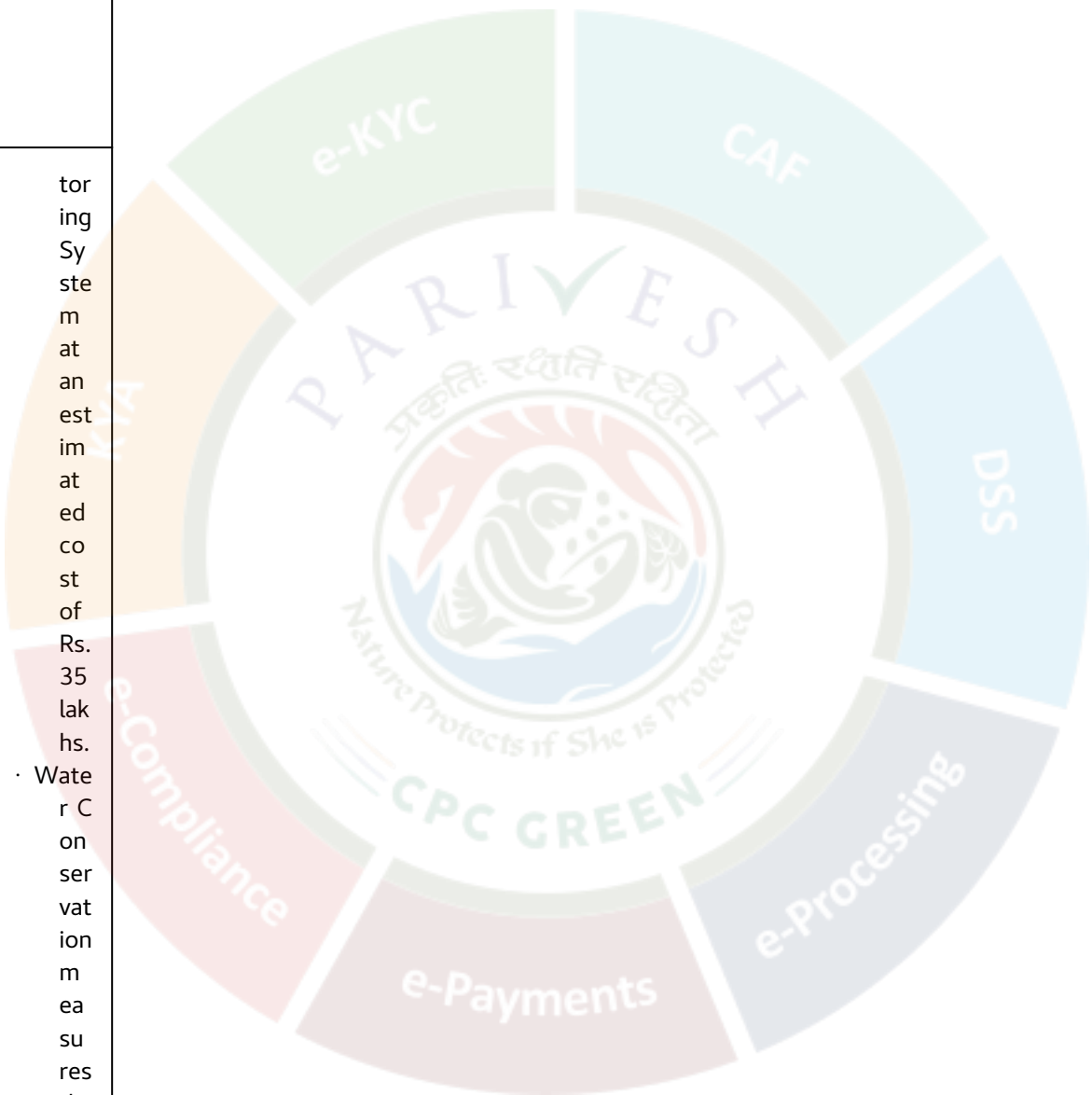


Details as prescribed by MoEF&CC	Information provided by Proponent
	s. 34 Lakhs) · Installation of DFDS to improve system effectiveness at a net estimated cost of Rs 39 lakhs. · Install



Details as prescribed by MoEF&CC	Information provided by Proponent
	ation of Bulkier W as hining System at an estimated cost of Rs. 22 lakhs · Upgradation of Environment Monitoring  The diagram illustrates the PARIVESH CPC GREEN system, a circular platform for environmental monitoring. At the center is the logo of the Central Pollution Control Board (CPCB), featuring a stylized tree and the motto 'प्रकृति रक्षति रक्षितः' (Nature Protects if She is Protected). Surrounding the logo is a ring divided into eight colored segments, each representing a different module of the system: e-KYC (green), CAF (light blue), DSS (blue), e-Processing (grey), e-Payments (brown), e-Compliance (red), and two unlabeled segments (orange and yellow). The text 'PARIVESH' is written in a semi-circle above the logo, and 'CPC GREEN' is written below it.

Details as prescribed by MoEF&CC	Information provided by Proponent
	tor ing Sy stem at an estimated cost of Rs. 35 lakhs. Water Conservation measures through rainwater harvesting



Details as prescribed by MoEF&CC	Information provided by Proponent
	at an estimated cost of Rs. 65 lakhs.

Air Pollution & Fugitive Emission Control Systems

Emission Source / Area	Control System / Measure Implemented
Particulate Matter (PM)	· A stack height of 146.5 m has been provided. · High efficiency Electrostatic Precipitators (ESP) are installed for Unit-3 & Unit-4 with efficiency of 99.975%. · PM emission values recorded during PG test (2024) by M/s BHEL are 12.9 mg/Nm³ and 16.1 mg/Nm³ for Unit-3 & Unit-4 respectively, which are well below the prescribed limit of 50 mg/Nm³.
Nitrogen Oxides (NOx)	
Coal Transportation	· 100% coal is transported from coal mines to MTPS through rail route via Indian Railways. · Regular water sprinkling is carried out on plant approach roads through water tankers.
Coal Handling & Storage	· Dust suppression and dust extraction systems are installed. · Pre-wetting system is installed at track hopper. · Fog cannons are installed at coal yard. · Water spraying arrangements are provided at transfer points, loading/unloading stations and coal stockpiles to control dust. · Transfer towers and crusher houses are provided with dust extraction systems.

Emission Source / Area	Control System / Measure Implemented
Fly Ash Handling	· Fly ash is conditioned with water spray while loading into bulkers to prevent dust emission. · Bulkers are used for ash transportation. · Dry ash is collected through pneumatic conveying system. · Silos are provided with bag filters. · User industries collect dry fly ash through bulkers.
Fly Ash Loading & Transport	· To reduce the dust nuisance while loading the ash into the bulkers from fly ash silos, the fly ash is conditioned with water spray · Bulkers are used to prevent flying of fine ash during transportation.
Fly Ash Disposal	Utilized in Ash Based Products like bricks/blocks/tiles etc. and cement manufacture.
Fly Ash Utilization	Ash utilization for last three years: FY 2023-24: 120.59% FY 2024-25: 123.88%: FY 2025-26: 135.95%

Compliance Status of MTPS, NTPC Kanti in respect of Muzaffarpur Action Plan for Control of Air Pollution

S.No.	Action Points	Present Compliance/Normal Range (in mg/Nm ³)	Remarks
A	Strict Enforcement of CPCB Stack Emissions Rules		
1	PM Norms: - 50 mg/Nm ³	10-20	Norms Being Complied. ESP with 99.975 % collection has been commissioned.
2	NOx Norms: - 450 mg/Nm ³	200-400	Norms Being Complied. NOx reduction system has been commissioned.
3	SO ₂ Norms: - 600 mg/Nm ³	800-1200	Compliance date applicable for B- Category TPP:- 31.12.2028 FGD installation to be waived off on case-to-case basis by MoEF&CC inline with recent MoEF notification dated 11.07.2025. Application for review of applicable SO₂ Emission standards has been submitted to MoEF&CC on 22.12.2025. However, during EAC meeting held on 22.01.2026, MoEF&CC has directed to resubmit the application along with addendum EIA report vetted by QCI/ NABET accredited consultant. Accordingly, QCI/NABET accredited consultant has been hired for the ab

S.No.	Action Points	Present Compliance/Normal Range (in mg/N m ³)	Remarks
			ove work and application for review of a pplicable SO ₂ Emission standards sh all be resubmitted.
B	Controlling Fugitive Emission in Dust Prone Areas.		
	Dust Prone Areas	Action Taken/ Present Compliance	Remarks
1	CHP	Water sprinkling is being done at dust prone area for suppression of fugitive emission	Regular Operation is being ensured.
2	Coal Stack Yard	Fog Cannon & Water Monitors are installed at dust prone area for suppression of fugitive emission	Regular Operation is being ensured.
3	Coal Conveyor Belt	CONFLOW system is installed at conveyor for suppression of fugitive emission	Regular Operation is being ensured.
4	Ash Dyke Area	- Sufficient nos. of Water Sprinkling Tankers are deployed on approach road and periphery of ash dyke for mitigating road dust / fugitive emission - Water cover is maintained over ash dyke surface to control fugitive emissions in operational dykes. - Green Curtain is provided around periphery of Ash Dykes for controlling fugitive emission from ash dyke. - Covering of Ash Loaded Vehicle is being ensured. - During ash utilization wetness of ash is being maintained to control fugitive emission during excavation and transportation.	Being Ensured
5	Ash Silo Area	- Ash Loaded vehicles are being washed before exit from plant premises. - Fog Cannon have been deployed. - Telescopic Chute are installed to control fugitive emission during loading. - Only Closed Ash Bulklers are used for ash transportation.	Being Ensured
C	Green Belt Development		
1	Total 70,568 nos. of trees have been planted till 28.02.2026. Further plantation is proposed at old ash dyke area of 180 Acre.		

S.No.	Action Points	Present Compliance/Normal Range (in mg/N m ³)	Remarks
D	Monitoring of Air Pollution & Display of Information to Public		
1	04 Nos. of CAAQMS station has been commissioned in TPP at strategic location continuously monitoring ambient air quality parameters on 24-hour basis. The same data has been shared with CPCB & B SPCB on real time basis.		
2	A digital display board has been installed at Plant Gate of TPP where continuously data of ambient air quality and stack emissions is being displayed to general public.		

Additional Environmental Management Cost

S.No.	Description	Activities	Expenditure (in Lakhs)	Timeline (in Yrs)
1	System Upgradation for Environment Monitoring System	Upgradation of Hardware & Software System for Ambient Air Quality Monitoring Stations	35	1
2	Installation of Dry Fog Dust Suppression (DFDS) system	Installation of Dry Fog Dust Suppression (DFDS) system at CH P to improve fugitive dust suppression effectiveness	39	1.5
3	Stabilisation & Reclamation of Ash Dyke	Providing Soil Cover, Levelling and other associated miscellaneous work at Ash Dyke	1212	2
4	Green Belt Development	Phase wise Green belt development in 137.05 Ha	2741	5 Years as per submitted plan
5	Upgradation of facilities at Ash Dyke for conservation for environment	Kerb Wall, Slope Drain for rain water Channelization etc.	160	1.5
6	Water conservation Measures	Surface Rain Water Collection and Pumping System for reuse in process water	65	2
7	Additional Renewable Energy Generation for reduction in carbon footprint	2MW in Plant and Township Area	800	2
8	Upgradation of Solid Waste Management Facility	Construction of Compost Pits for management of Biodegradable waste	57	1
9	Municipal solid waste management	Installation of Biomethanation Plant	34	2

S.No.	Description	Activities	Expenditure (in Lakhs)	Timeline (in Yrs)
	nagement system	lant		
10	RE for Net Zero Energy Township	Installation of rooftop (350 K W) & ground mounted (1960 K W) Solar PV at Plant and Township	808.5	2
	Total		5951.5	

Recurring Expenditure on Environment Management

S. No.	Description	Expenditure per annum (in Lakhs)
1	Operation & Maintenance of AAQMS	48.50
2	Operation & Maintenance of EQMS	5.60
3	Operation & Maintenance of CEMS	20.00
4	Operation & Maintenance of Environmental Data Digital Display Board	0.68
5	Real Time Environmental Data Transmission	1.80
6	Third party monitoring of Environmental parameters	9.00
7	Environmental studies / Miscellaneous works to comply Env't. Rules / direction of statutory authority.	6.00
8	Miscellaneous (Environmental Awareness, Promotion of Ecofriendly lifestyle & other works to comply direction of Statutory authority)	1.20
9	Plantation & landscape development	24.00
10	Movable Water Sprinkling System (Tanker Deployment)	16.00
11	O&M of Solid Waste Management facility	15.00
12	Biomedical Waste Management	0.50
13	Occupational Health Management	23.50
14	Maintenance of Air Pollution Control Equipment	4.00
15	Maintenance of Ash Handling Systems	90.00
16	Operation of Dry Ash Extraction System	60.30

S. No.	Description	Expenditure per annum (in Lakhs)
17	O&M of Ash Brick Plant	30.00
18	Management of Fugitive Dust Suppression at Ash Dyke	14.00
19	Ash Dyke Management Cost	58.00
20	Maintenance of Dust Extraction & Suppression System at CHP	15.00
21	Providing green curtain around ash dyke	4.00
22	Deployment of Mechanical Sweeping System	70.00
23	Deployment of Truck Mounted Fog Cannon for Mitigating Fugitive emissions	50.00
	Total	567.08

Additional mitigation measure at Maximum GLC Location

S.No.	Description	Expenditure (in Lakhs)	Timeline for Completion in Yrs
1	Distribution and plantation of approx. 3000 trees at the environmental receptors at Max. GLC Location	25	1-2 yr

45.2.8: Amendment sought: The details of the condition for which amendment is sought and justification for the same is as follows:

S. No.	Conditions as per EC amendment dated 21/10/2020	Amendment Sought	Justification & Request for Amendment
1	While commissioning the proposed unit, the compliance of revised emission norms issued vide notification dated 07.12.2015 and as amended time to time shall be achieved along with specific water consumption as per the notification dated 28.06.2018. The FGD system and NO _x control measures such as SCR/SNCR/De-NO _x burners shall be installed to achieve the revised emission norms.		Wrt. MoEF&CC Notification dated 11.07.2025, MTPS has been complying with Stack Height criteria and present Ambient Air Quality is observed within the NAAQ Standards 2009.
2	Space for FGD shall be provided for future installation as may be required.		MTPS is complying with Stack Height criteria of August 30, 1990 and present Ambient Air Quality for SO ₂ is observed within the NAAQ Standards 2009.

45.2.9: Summary of court cases

S r. N o.	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	OA No. 95/2023/EZ	NGT	Regarding Water pollution	Disposed Off	NA	Fencing, Lighting and Security arrangement has been made available around ash dykes. Paved road between lagoon 3 & 2 constructed. Covering of loaded fly ash truck is being ensured, free board is being ensured & Vehicle tyre washing platform constructed
2	OA No. 138/2023/EZ	NGT	Regarding Air Pollution	Disposed Off	NA	ZLD system has already been implemented to ensure no effluent discharge through storm water drain. Treated wastewater from ETP & STP is being utilised in processing/ washing/ ash slurry making/ Horticulture/watering of plants etc.
3	OA No. 327/2022	NGT	Regarding sale / purchase of fly ash	Pending Case Listed for further hearing on 14.04.2026 as per latest order dt. 09.01.2026	14.04.2026	
4	WP (Civil) : CWJC 1237/2022	High Court	Land Compensation	Pending Next date of hearing to be announced.	Not Available	
5	WP (Civil): LPA 123/2024	High Court	Land Compensation	Pending Case relisted on 06.11.2025 as per latest order dt. 08.10.2025	06.11.2025 (Order yet to be issued)	

45.2.10: ADS Information in chronology:

M/s. NTPC Ltd. has made an online application vide proposal no. IA/BR/THE/562720/2025 dated

22/12/2025. The proposal was initially considered in 36th meeting of Reconstituted EAC (Thermal) held on 22/01/2026. Proposal was deferred for want of additional information. The observations and recommendation is given as below:

S. No.	ADS	Submission
i	Project proponent has not submitted the addendum EIA/EMP report through NABET accredited consultant.	The Addendum EIA/EMP Report prepared by M/s MITCON Consultancy and Engineering Services Ltd., Pune a NABET accredited consultant organization is submitted for kind consideration.
ii	Particulate Matter level in Ambient Air exceeded NAAQS, 2009. Proponent unable to substantiate source and no tangible action plan submitted to control PM emissions from 2×195 MW TPP.	It is humbly submitted that ESP of efficiency 99.97% is installed for control of PM emission from stack. The stack emissions are in the range of 15- 25mg/Nm ³ w.r.t to specified limit of 50mg/Nm ³ indicating that the exceedance of Ambient Particulate Matter is not attributable to MTPS Units. It may kindly be noted that the higher than NAAQS values of PM may be due to the nearby NH construction activities and vehicular traffic. Detailed Environmental Protection Measures are incorporated in the Addendum report.
iii	Proponent unable to explain existing pollution control systems for air, water and fly ash management.	Existing pollution control systems for Air, Water and Fly ash management are given in the Addendum Report and a brief of the same is placed below for kind perusal: Air Pollution Control: · Electrostatic Precipitators (ESP) installed with efficiency >99.975%. · Stack height 146.5 m as per CPCB norms. · Low NOx burners · Secondary Over Fire Air damper (SOFA) installed for NOx control. · Dust Suppression system in Coal Handling Plant. · Fly ash stored in Ash Silos with Bag filter for control of Fugitive emission along with Telescopic Chute for loading of Ash Bulklers. · Total Dry Fly Ash transport in Closed Bulklers. · Regular water sprinkling is carried out on plant approach roads through water tankers. · 100% coal is transported from coal mines to MTPS through rail route via Indian Railways. Water Pollution Control: · Plant is Zero Liquid Discharge compliant. · ETP 1800 KLD for treatment of process wastewater and treated water is reused in the process. · STP 550 KLD for treatment of domestic wastewater. · STP Treated water reused for ash conditioning & greenbelt. Fly Ash Management: · Ash utilization for last three years: FY 2022-23: 104.86% FY 2023-24: 120.59% FY 2024-25: 123.88% · Fly ash is conditioned with water spray while loading into bulklers to prevent dust emission. · Bulklers are used for ash transportation. · Dry ash is collected through pneumatic conveying system. · Silos are provided with bag filters. The Photographs of the existing facilities are included in the Addendum Report.

M/s. NTPC Ltd. has made an online application vide proposal no. IA/BR/THE/562720/2025 dated

22/12/2025. The proposal was initially considered in 41st meeting of Reconstituted EAC (Thermal) held on 08/04/2026. Proposal was deferred for want of additional information. The observations and recommendation is given as below:

Sl. No.	ADS	Submission
1	Reasons for higher level of PM in the ambient air and corresponding tangible mitigation measures to be adopted by the proponent in order to maintain the PM levels at the project site as per the prevailing NAAQS, 2009.	The baseline data as per Environment Impact analysis Report 2009 of Kanti Stage II (2x195 MW) and the corresponding current ambient air quality is attached in ADS Reply submitted on Parivesh Portal. The comparison shows that the present ambient air quality is at par with the baseline data of 2009 despite the operation of Stage-II units. The ongoing Highway construction work is adding to the PM. Upon the completion of national highway construction, alongside NTPC Kanti's committed environmental management initiatives, a measurable improvement in ambient air quality is expected. · The PM level in the ambient air is not solely attributed to operation of NTPC Kanti. The issue of high PM level in the vicinity of plant i.e. Kanti Tola is due to ongoing construction work of National Highways and other storage /stockpile for construction material. The fugitive emission is due to frequent loading and unloading of the construction material. · Further it may be noted that the main contribution of air pollution from thermal power plant can be through stack emission. To control Stack emission, highly efficient Electrostatic Precipitators (ESP) have been provided with design PM emission of 18 mg / Nm³ against stipulated norms i.e 50 mg /Nm³. As per performance test of ESP the measured value for Unit-3 & Unit-4 are 12.9 mg/Nm³ and 16.1 mg/Nm³ respectively which are well below the specified norms. · In addition, MTPS has taken various measures to control fugitive emission like deployment of movable water sprinklers at approach road and ash dyke peripheral roads, green curtain at ash dyke, permanent sprinklers at coal storage area and fog cannon operation at track hopper. The frequency of operation of permanent sprinklers and fog cannon has been increased in view of summer season.
2	Project proponent shall explain the reasons for not developing 33% of the project area till date as only 5.6% of the project area is covered under the green belt.	The conditions envisaged in the EC of MTPS St-II with respect to greenbelt are as follows: i. EC condition no. xv - "Shelter Belt consisting of 3 tiers of plantations around the plant of 100 m width and adequate tree density shall be developed". ii. EC condition no. xxxix- "Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary". This plant is taken over from State Govt . The Unit-1 & Unit-2 (Stage-I) was commissioned long back in 1985 & 86 and in the same plant area, Stage-II (2X195MW) has been constructed. Thus, there are constraints in land availability in plant area to accommodate 100 m width green belt due to previous set General layout Plan. The Greenbelt development has been developed in 28.25 Ha and

Sl. No.	ADS	Submission												
		d total plantation carried out is approx. 70,568 Nos.. However, now MTPS, NTPC Kanti has decided to allocate the old ash dyke for greenbelt development for achieving 33% greenbelt area. The details of the total greenbelt is placed below: <table border="1"> <thead> <tr> <th>Greenbelt</th><th>Area (Ha)</th><th>Plantation (No.)</th></tr> </thead> <tbody> <tr> <td>Existing</td><td>28.25</td><td>70,568</td></tr> <tr> <td>Proposed</td><td>137.05</td><td>342,625</td></tr> <tr> <td>Total</td><td>165.30</td><td>413,193</td></tr> </tbody> </table> NTPC Kanti has submitted green belt action plan including year wise plan of plantation and allocated budget of Rs. 27.41 Cr. to achieve 33% of green belt development	Greenbelt	Area (Ha)	Plantation (No.)	Existing	28.25	70,568	Proposed	137.05	342,625	Total	165.30	413,193
Greenbelt	Area (Ha)	Plantation (No.)												
Existing	28.25	70,568												
Proposed	137.05	342,625												
Total	165.30	413,193												
3	Detailed action plan for 3-tier Greenbelt development covering 33% of the project area including gap plantation in the existing green belt area shall be submitted.	The detailed action plan for Greenbelt development covering 33% of the project area is attached in ADS Reply submitted on Parivesh Portal												
4	Details of existing capital EMP cost and recurring cost and proposed additional EMP (capital and recurring) shall be submitted.	An expenditure of Rs. 363.4 Cr has been incurred towards the capital cost of existing EMP in addition to this a sum of Rs. 59.51 Cr. is proposed towards additional capital cost of EMP. The recurring cost for existing and additional EMP is Rs. 5.67 Cr./Annum. Details of Capital and recurring cost are attached in ADS Reply on Parivesh Portal												
5	Details of the sensitive receptors at maximum GLC location and control measures proposed in this regard.	The Government primary, middle and secondary schools-03 nos. have been identified at maximum GLC location in Bariyarpur and accordingly additional plantation will be carried out in above schools. The additional cost of Rs. 25 Lakhs for the same has been included in the EMP.												
6	Comparison of baseline environment status as per the EIA report submitted at the time of grant of EC for the TPP vis a vis present monitored data for a period of last three months. Data shall be analysed for the down-wind and up-wind locations, maximum, average and standard deviations shall be presented. Any major deviations from the baseline shall be explained with scientific justification and the action plan for mitigation measures to be adopted.	Comparison of baseline environment status as per the EIA report submitted at the time of grant of EC for the TPP Stage-II vis a vis present monitored data for a period of last three months has been carried out and data has been analysed for the down-wind and up-wind locations. Maximum, average and standard deviations data is attached in ADS Reply submitted on Parivesh Portal The comparison shows that the present ambient air quality is at par with the baseline data of 2009 despite the running of NTPC Kanti Stage-II and the values are well within the limit of NAAQ 2009 norms except 1 location at Kanti Tola. The issue of high PM level at this location is due to ongoing construction work of National Highways and other storage /stockpile for construction material. The fugitive emission is due to frequent loading and unloading of the construction material. It is to humbly submit that the PM emission from the running units is well within the limit and do not contribute to the elevated ambient PM levels which is substantiated by the Air modelling data.												

Sl. No.	ADS	Submission
7	Revisit the EMP in totality and incorporate appropriate pollution control measures in the form of a time bound action plan to address the PM levels in ambient air and PM & NO _x level in stack emissions with physical and financial outlay. Besides, EMP shall explicitly brought out the existing and proposed additional environmental safeguards with physical and financial outlay.	EMP has been reviewed in totality and appropriate pollution control measures in the form of a time bound action plan has been proposed with physical and financial outlay.
8	Undertaking in a non-judicial stamp paper from the PP to comply with the mitigation measures proposed under revised EMP shall be submitted.	Undertaking on a non-judicial stamp paper to comply with the mitigation measures proposed under revised EMP is attached in ADS Reply submitted on Parivesh Portal.
9	Latest six-monthly compliance report submitted to the Regional Office of MoEF&CC.	The copy of latest six-monthly compliance report submitted on Parivesh Portal on 09.05.2026 and soft copy submitted to the Regional Office of MoEF&CC on 11.05.2026.
10	Details of the disposed off court case related to environment and point wise compliance to the direction of the Hon'ble Court/Tribunal.	The Details of the disposed off court case related to environment and point wise compliance to the direction of the Hon'ble Court/Tribunal is attached in ADS Reply submitted on Parivesh Portal.

45.2.11 Summary of Show Cause Notices (Last two years): Nil.

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

3.2.3. Deliberations by the committee in previous meetings

Date of EAC 1 :22/01/2026

Deliberations of EAC 1 :

36.5.2: The Committee observed the following during the EAC meeting:

Project proponent has not submitted the addendum EIA/EMP report through NABET accredited consultant.

Over the records submitted, the Particulate Matter level in the Ambient Air was found to be exceeding the NAAQS, 2009. Project proponent was unable to substantiate the source for the same. No tangible action plan was submitted by the proponent to control the PM emissions from the 2x195 MW TPP.

Project proponent was unable to explain the existing pollution control systems established in the TPP for control of Air pollution, water pollution and fly ash management.

During deliberations, proponent requested for deferment of the proposal and requested for another opportunity to present the proposal in detail before the EAC.

36.5.3: In view of the foregoing, the EAC recommended to defer the proposal and asked the proponent to submit aforementioned information for fresh consideration by the EAC as requested by the project proponent.

Date of EAC 2 :08/04/2026



Deliberations of EAC 2 :

Observations and deliberation of the EAC

41.4.12: The Committee observed and noted the following:

- i. The instant proposal is for seeking amendment in a EC conditions as per MoEF&CC Notification dated 11/07/2025 for Sulphur dioxide emission standards, prescribed in EC letter dated 01.11.2009 for setting up 2X195 MW Thermal Power Plant at Village Kanti, District Muzaffarpur, Bihar by M/s Kanti Bijlee Utpadan Nigam Ltd. which was later transferred to M/s. NTPC Ltd.
- ii. The existing project of 2x195 MW was originally granted Environmental Clearance in favour of M/s. Kanti Bijlee Utpadan Nigam Ltd. for setting up 2X195 MW Thermal Power Plant at Village Kanti, District Muzaffarpur, Bihar vide letter no. J 13012/98/2008-IA.II (T) dated 09/11/2009 under EIA, 2006. Subsequently, corrigendum/amendment to the EC was accorded on 19.11.2009 for change in stack height, Extension of EC validity was granted on 31.12.2014, Amendment dated 21.10.2020 was issued for deletion of CSR expenditure condition and EC name transfer from M/s. Kanti Bijlee Utpadan Nigam Ltd to M/s. NTPC Ltd. was done on 10/08/2024. CTO is valid up to 31.03.2028.
- iii. There is no Forest Land involved in the project.
- iv. The project site is about 10 km away from Muzaffarpur city in SE direction which is a non-attainment city.
- v. During the three months, the total coal requirement for Unit 3 was 39184 MT, 10906 MT, and 75553 MT and for Unit 4 was 74224 MT, 81783 MT and 74801 MT for the months of November 2025, December 2025 and January 2026, respectively. Domestic coal is being used, while maintaining a sulphur content of less than 0.6 %.
- vi. The mass emission rate of pollutants including PM, NO_x, and SO₂ were estimated 2.90, 60.5, 313.88 g/s, respectively for unit-3 and 2.85, 56.07, 313.88 g/s, respectively, for Unit-4
- vii. Project proponent has installed a 146.5 m bi-flue stack, which complies with the MoEF&CC Notification dated August 30, 1990.
- viii. As per the submitted addendum EIA report prepared through QCI/NABET accredited consultant, the predicted maximum Ground Level Concentration (GLCs) using AERMOD View dispersion model from the stack emission as per the envisaged stack height and site-specific meteorological parameters the maximum incremental GLC of PM₁₀, PM_{2.5} SO₂ and NO_x is 0.244,0.163, 37.7 and 8.24 µg/m³ at 1.96,1.96,1.97 and 1.94 Km resp. in SE direction.
- ix. EAC observed that the PM₁₀ values are higher than the NAAQMS 2009 norms in Kanti township.
- x. EAC observed the existing Greenbelt of the project is only 28.25 Ha which is 5.6% of the project area in place of mandatory requirement of 33% of the project area. This has been viewed by the EAC seriously.

Recommendations of the Committee

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

- i. Reasons for higher level of PM in the ambient air and corresponding tangible mitigation measures to be adopted by the proponent in order to maintain the PM levels at the project site as per the prevailing NAAQS, 2009.
- ii. Project proponent shall explain the reasons for not developing 33% of the project area till date as only 5.6% of the project area is covered under the green belt.
- iii. Detailed action plan for 3-tier Greenbelt development covering 33% of the project area including gap plantation in the existing green belt area shall be submitted.
- iv. Details of existing capital EMP cost and recurring cost and proposed additional EMP (capital and recurring) shall be submitted.
- v. Details of the sensitive receptors at maximum GLC location and control measures proposed in this regard.
- vi. Comparison of baseline environment status as per the EIA report submitted at the time of grant of EC for the TPP vis a vis present monitored data for a period of last three months .Data shall be analysed for the down-wind and up-wind locations, maximum, average and standard deviations shall be presented. Any major deviations from the baseline shall be explained with scientific justification and the action plan for mitigations measures to be adopted.
- vii. Revisit the EMP in totality and incorporate appropriate pollution control measures in the form of a time bound action plan to address the PM levels in ambient air and PM & NO_x level in stack emissions with physical and financial outlay. Besides, EMP shall explicitly brought out the existing and proposed additional environmental safeguards with physical and financial outlay.
- viii. Undertaking in a non-judicial stamp paper from the PP to comply with the mitigation measures proposed under revised EMP shall be submitted.
- ix. Latest six monthly compliance report submitted to the Regional Office of MoEF&CC.

x. Details of the disposed off court case related to environment and point wise compliance to the direction of the Hon'ble Court/Tribunal.

3.2.4. Deliberations by the EAC in current meetings

Observations and deliberation of the EAC

45.2.13: The Committee observed and noted the following:

Recommendations of the Committee

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

- i. Project proponent shall take immediate action to increase the green cover of the project site from 5.6 % of the total area to at least 15% of the project area along with time bound action plan to develop green belt in the remaining area and other environment pollution mitigation measures to be put in place in the form of an action with physical targets and financial out lay.
- ii. Project proponent to revisit the AAQ modelling as incremental GLC for SO₂ parameters is reported as 37.7µg/m³ and details shall be submitted.

3.2.5. Recommendation of EAC

Deferred for ADS

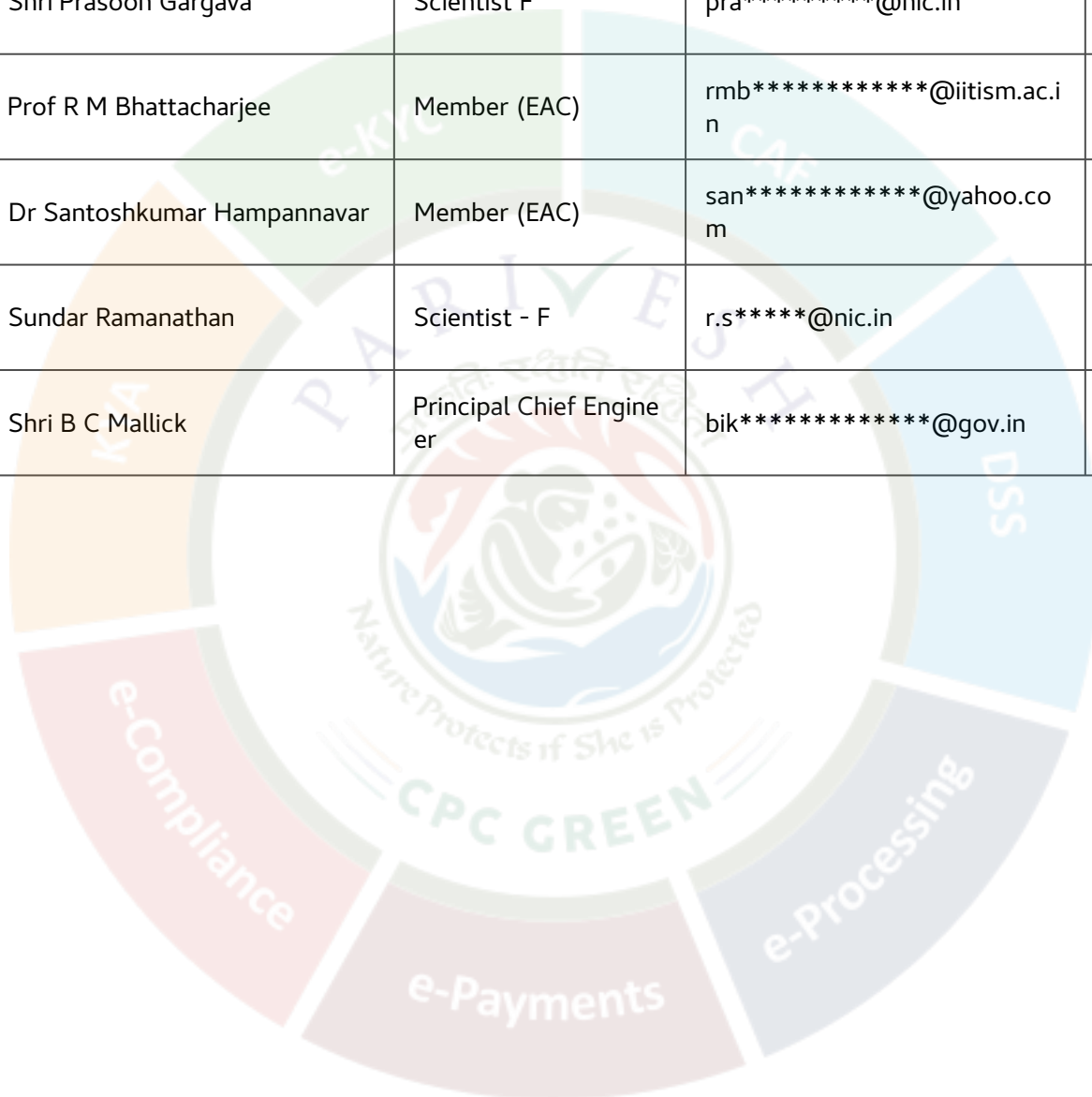
4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Sh Inder Pal Singh Matharu IFS	Chairman, EAC	mat*****@gmail.com	Present
2	Shri K B Biswas	Member (EAC)	bis*****@gmail.com	Present
3	Shri Mahi Pal Singh	Member (EAC)	mps*****@nic.in	Present
4	Sh Lalit Kapur	Member (EAC)	lka*****@yahoo.com	Present
5	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	uka*****@gmail.com	Present
6	Sh Savalge Chandrasekhar	Member (EAC)	sav*****@gmail.com	Present

				t
7	Prof Shyam Shanker Singh	Member (EAC)	sin*****@gmail.com	Present
8	Dr Vinod Agrawal	Member (EAC)	vin*****@yahoo.com	Present
9	Shri Harmeet Sahaney	Member (EAC)	har*****@imd.gov.in	Absent
10	Shri Prasoon Gargava	Scientist F	pra*****@nic.in	Present
11	Prof R M Bhattacharjee	Member (EAC)	rmb*****@iitism.ac.in	Absent
12	Dr Santoshkumar Hampannavar	Member (EAC)	san*****@yahoo.com	Absent
13	Sundar Ramanathan	Scientist - F	r.s*****@nic.in	Present
14	Shri B C Mallick	Principal Chief Engineer	bik*****@gov.in	Present



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

Date of zero draft MoM sent to Chairman: 25/05/2026

Approval by Chairman: 26/05/2026

Uploading on PARIVESH: 26/05/2026

SUMMARY RECORD OF THE FORTY FIFTH (45th) MEETING OF EXPERT APPRAISAL COMMITTEE (EAC) HELD DURING 22nd MAY 2026 FOR ENVIRONMENT APPRAISAL OF THERMAL SECTOR PROJECTS THROUGH VIRTUAL MODE.

22nd MAY, 2026 [FRIDAY]

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

Agenda Item No. 45.1:

- 45.1 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.**

[Proposal no. IA/OR/THE/575779/2026, F.No. J-13011/59/2008-IA.II (T)]

45.1.1: 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.

Name of the EIA consultant: M/s Vimta Labs Ltd. Hyderabad [List of ACOs with their Certificate / Extension Letter no. NABET/EIA/2326/RA 0301 Valid up to 25.06.2026].

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

45.1.2: 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.

45.1.3: 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.

45.1.4: 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)

45.1.5: 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. The details of the observations made by RO, Bhubaneswar in the report dated 12.02.2026 along with each reassessment/present status as furnished by the PP is as given below:

S. No.	Non-compliances details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
1	A twin flue stack of 275 m height shall be provided with continuous online monitoring equipment's for SO _x , NO _x and RSPM (PM _{2.5} & PM ₁₀). Exit velocity of flue gases shall not be less than 22m/sec. Mercury emissions from stack shall also be monitored on periodic basis (Specific condition v of EC dated 04.02.2010).	The online data was being fed to SPCB server since August 2019. Although the analysers were fully functional & generating the emission data, the connection to the server was found disrupted at the time of visit due to change in server maintenance agency by SPCB.	04.02.2010	Specific condition No- v		RO observed that CEMS data transmission connected successfully to SPCB server. Complied
2.	Adequate dust extraction system such as	The fugitive emissions are effectively	04.02.2010	Specific condition- vii		Ring header water sprinkling system has been provide all along the Ash

S. No.	Non-compliances details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
	cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided	controlled by OPGC through different mitigative measures & the effectiveness of these measures is reflected in the ambient air quality monitoring data. However, as suggested fugitive emission monitoring shall also be carried out in strategic locations such as CHP, AHP & Ash Ponds. Ring Header Water Sprinklers have been provided around the entire perimeter of Ash Pond-C. Ring Header of Ash Pond-A will be shifted from RL-205m to RL 208m once height raising work is completed (reached RL 211m).				Pond-C. The total perimeter of Ash Pond-C is around 3000 m. Sprinklers have been provided at an interval of every 50m. Thus around 60 sprinklers have been installed all around the ash pond. Flexible hoses can be attached to these sprinkler heads to extend the area coverage of the sprinklers. Complied
3.	Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land.	Ring Header Water Sprinklers have been provided around the entire perimeter of Ash Pond-C. Ring Header	04.02.2010	Specific condition xlv		OPGC has started monitoring fugitive emission (Source emission i.e. Work Zone Monitoring). The data of the same has been reported in the half yearly compliance report for the period from April 2025 to September 2025.

MoM of 45th meeting of the EAC for Thermal sector held on 22nd May, 2026

S. No.	Non-compliances details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
		of Ash Pond-A will be shifted from RL-205m to RL 208m once height raising work is completed (reached RL 211m).				Complied
4.	An amount of Rs 24.36 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 4.87 Crore per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.	PP reported an expenditure of Rs. 221905330.00 on peripheral development. As per the stipulated condition capital earmarked is of Rs 24.36 crore and recurring expenditure is 4.87 crores. The expenditure reported is less than earmarked amount	04.02.2010	Specific condition-xxvi		Revision of Annual CSR report for FY 2024-25/ CSR expense:- As per the revision of Annual CSR Report filing to Ministry of Corporate Affairs (MCA) for FY 2024-25, the expense has been revised from Rs.11.86 crore to Rs. 9.25 crore to comply with the guideline laid out by MCA. The CSR projects worth Rs. 2.51 crore worth (Rs.11.86 crore - Rs. 9.35 crore) has been transferred to FY 2025-26. Revise CSR budget for FY 2025-26:- In the 247th Board Meeting, a CSR budget of Rs. 1,555.08 lakh was approved for FY 2025-26. Subsequently, considering certain urgent community requirements, a revised CSR budget of Rs. 1,958.41 lakh has been approved by the Board for FY 2025-26.
5.	As part of CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which can help	PP submitted an action plan for identification of local employed youth for training in skills relevant to Phase-III expansion of OPGC Power	04.02.2010	Specific condition xxvii of EC		Complied The WO for conducting annual social study has been awarded to Sambalpur University on 09.10.2025 (LOI had been issued on 25.09.2025). The survey work started from first week of November 2025 & the 1 st season study has already been completed in January 2026. Interim report has been received & 2 nd Season

S. No.	Non-compliances details	Observation of RO (abridged)	Condition No.			Re-assessment by RO / Response by PP
			EC date	Specific	General	
	in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community' development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to self-employment and jobs.	plant. The compliance status as per the condition has not been furnished.				study shall commence from April 2026 (Post Monsoon & Summer Season Data). Complied
6.	A common Green Endowment Fund shall be created, and the interest earned out of it shall be used for the development and management of green cover of the area	PP reported last 9 years expenditure in green belt development as Rs 201.67 Lakhs. However, details of green endowment fund has not been furnished. Ministry may like to take a view in the matter.	22.01.2014	Specific condition-1		OPGC was in process of applying for EC amendment for the mentioned condition after obtaining Environment Clearance for its expansion project. However, as per suggestion of the EAC dated 22.01.2026, OPGC is reconsidering of creating a green endowment fund. Partially Complied

45.1.6: 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 been provided.	Compliance to the notification number 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.

45.1.7: 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	

45.1.8: 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	

S.No .	Particulars	Details	Remarks																																																					
2.	Land use break up	A. Plant Area <table><thead><tr><th>Facilities</th><th>Existing Area (In Hectares)</th><th>Proposed Area (In Hectares)</th></tr></thead><tbody><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><tr><td>Others (please specify)</td><td>Township - Included in (a) above</td><td>No separate Township envisaged</td></tr><tr><td>Total</td><td>410.014 Ha</td><td>86.703</td></tr><tr><td>Total Including Existing & Proposed</td><td colspan="2">496.717 Ha</td></tr></tbody></table> B. Ash Pond <table><thead><tr><th>OPGCL Stages</th><th>Existing (Ha)</th><th>Proposed (Ha)</th></tr></thead><tbody><tr><td>Stage-I</td><td>107.61</td><td>Nil</td></tr><tr><td>Stage-II</td><td>123.79</td><td>Nil</td></tr><tr><td>Stage-III</td><td>Nil</td><td>109.38</td></tr></tbody></table> Note: Out of total of 109.38 Ha, 34.78 Ha has been earmarked for greenbelt development. C. Ash Pipeline Corridor (Ha) <table><thead><tr><th>OPGCL Stages</th><th>Existing (Ha)</th><th>Proposed (Ha)</th></tr></thead><tbody><tr><td>Stage-I</td><td rowspan="2">ROW has been obtained from Hirakud Main Dam Division for 20.61 Ha (The land is not under possession of OPGCL)</td><td>Nil</td></tr><tr><td>Stage-II</td><td>Nil</td></tr><tr><td>Stage-III</td><td>Nil</td><td>5.69</td></tr></tbody></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	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		OPGCL Stages	Existing (Ha)	Proposed (Ha)	Stage-I	107.61	Nil	Stage-II	123.79	Nil	Stage-III	Nil	109.38	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	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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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.	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																																																					

S.No .	Particulars	Details	Remarks															
		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.																
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> 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.	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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		- 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 school and hospitals if any.	A. School Project site: None Schools Present within 5km area: <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> B. Hospital Hospitals present within 5km area. <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> Mitigation Measure: 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	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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		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 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.	

S.No	Particulars	Details	Remarks																																																
		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><tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr><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></table> B. Ash Pond<table><tr><th>Ash Pond</th><th>Latitude</th><th>Longitude</th></tr><tr><td rowspan="4">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><tr><td>21°40'39.69"N</td><td>83°54'23.19"E</td></tr><tr><td rowspan="4">Ash Pond-2</td><td>21°38'33.34"N</td><td>83°54'50.37"E</td></tr><tr><td>21°39'04.81"N</td><td>83°55'08.41"E</td></tr><tr><td>21°38'48.48"N</td><td>83°55'54.87"E</td></tr><tr><td>21°38'29.97"N</td><td>83°55'06.07"E</td></tr><tr><td rowspan="4">Proposed Ash Pond</td><td>21°41'56.79"N</td><td>83°55'56.47"E</td></tr><tr><td>21°42'16.25"N</td><td>83°55'41.96"E</td></tr><tr><td>21°42'28.44"N</td><td>83°55'15.35"E</td></tr><tr><td>21°42'09.41"N</td><td>83°55'7.35"E</td></tr></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	21°40'39.69"N	83°54'23.19"E	Ash Pond-2	21°38'33.34"N	83°54'50.37"E	21°39'04.81"N	83°55'08.41"E	21°38'48.48"N	83°55'54.87"E	21°38'29.97"N	83°55'06.07"E	Proposed Ash Pond	21°41'56.79"N	83°55'56.47"E	21°42'16.25"N	83°55'41.96"E	21°42'28.44"N	83°55'15.35"E	21°42'09.41"N	83°55'7.35"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, dated 27. 02. 1985																																																
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.	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,																																				
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S.No	Particulars	Details	Remarks
		<u>Mitigation measures:</u> - 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 repute for design & drawings of Ash Ponds. - Implementation of recommendations of State Wetland Authority if any.	it has been clarified that the proposed Plant & Ash Pond Area falls beyond 500 m from HFL of Hirakud Reservoir.
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 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	<u>The project area falls under Severely Polluted area</u> The following additional environmental measures will be taken as per MoEF&CC OM dated 31/10/2019	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

S.No .	Particulars	Details			Remarks
	2018 CEPI score	Sl. No.	Conditions	Compliance Status	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%.
		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 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.	

S.No .	Particulars	Details		Remarks
		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 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 LDO as auxiliary fuel will be used.
		6.	Best available technology may be used.	Old units i.e. Unit#1 & Unit#2 are subcritical, however newer units

S.No .	Particulars	Details		Remarks
			For example, usage of EAF/SAF/IF in place of cupola furnace usage of supercritical technology in place sub-critical technology.	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, 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: The entire effluent is reused/ recycled - Cooling Tower blow 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)

S.No .	Particulars	Details			Remarks
				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 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.	

S.No .	Particulars	Details		Remarks
			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 Polluting). 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 adopted in Units 5 and 6 also.	
		3.	A detailed water harvesting plan may be submitted by the project proponent. OPGC has constructed 18000 m³ 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 At present OPGC has green belt over 173.453 Ha (34.92% is existing green belt	

S.No .	Particulars	Details		Remarks
			beyond the permissible requirement of 33%, wherever, feasible for new projects.	%) & 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, 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.
		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	Compliance status has been periodically evaluated by IRO MoEF &CC Bhubaneswar, However, OPGC

S.No.	Particulars	Details			Remarks
			third party every year.	assures to carry out third party EC condition compliance from FY 2026-27.	
		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.	

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

S.No.	Existing power plant configuration and capacity	Proposed power plant configuration and capacity	Total	Technology adopted
1.	2x210 MW (Unit 1 & 2)			
2.	2x660 MW (Unit 3 & 4)	2x660 MW (Unit 5 & 6)	3060 MW	- Unit 1 & 2 – 2x210 MW (sub critical) - Unit 3 & 4 – 2x660 MW (Super critical) - Unit 5 & 6 – 2x660 MW (Ultra super critical)

45.1.10: 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%) GCV -Kcal/Kg 3000 - 3400	Fuel supply agreement exist with MCL & Manoharpur captive coal mine

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

45.1.11: 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.

45.1.12: 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 Auxiliary Power.

45.1.13: 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 To 53 µg/m ³ PM ₁₀ = 30.6 To 74.3 µg/m ³ SO ₂ = 8.7 To 19.4 µg/m ³ NO _x = 13.2 To 28.7 µg/m ³ CO = 297 To 463 µg/m ³	
Baseline and predicted Incremental GLC level	PM ₁₀ = 54.5 To 55.11 µg/m ³ (Level at 1 km in S Direction) SO ₂ = 14.2 To 16.16 µg/m ³ (Level at 1 km in S Direction) NO _x = 21.7 To 23.98 µg/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/l, Chlorides: 18 to 220 mg/l, Fluoride: 0.3 to 1 mg/l, 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/l and BOD: <3 mg/l. COD <5 mg/l	
Effluent generation details and its treatment	Effluent generation from TPP 5802 KLD from Cooling tower Blowdown, Boiler Blowdown, condensate policing 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	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

Period	October 2023 to December 2023	Additional Study (if any)
	200 KLD Mode of treatment & reuse 1 MLD STP based on ASP technology and the treated water will be used for green belt development	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 µmhos/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 %	
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.19th 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	OPGCL committed to comply with the recommendations of the Hydrogeology study.

Period	October 2023 to December 2023	Additional Study (if any)
	existing ponds & construction of few new ponds can be taken up for conservation of water.	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 - 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	OPGC shall comply with the recommendations of the study.

Period	October 2023 to December 2023	Additional Study (if any)
	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 reclaimer, 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 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	

Period	October 2023 to December 2023	Additional Study (if any)
	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.	

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

S. No.	Type of Waste	Source	Quantity generated (TPA)	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

45.1.15: 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.

Sl. N o.	Core Area	Activity	Rationa le / Source	Estimated Financial Commitm ent (INR Lakhs)	202 6-27	202 7-28	202 8-29	2029 -30	203 0-31	Means of Verificati on / Monitori ng/ Target Date
1	Biodiversi ty	Community Plantation	Need-based assessm ent 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 assessm ent	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 assessm ent 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 assessm ent and PH	10	0	10	0	0	0	Equipmen t procurem ent and usage records

Sl. No.	Core Area	Activity	Rationale / Source	Estimated Financial Commitment (INR Lakhs)	202 6-27	202 7-28	202 8-29	2029 -30	203 0-31	Means of Verification / Monitoring/ Target Date
										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	Deepening of existing ponds & construction of new ponds	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 recharge	Need-based assessment	40	0	10	10	10	10	Project execution reports Target: 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	Need-based assessment	20	0	5	5	5	5	Training feedback

Sl. No.	Core Area	Activity	Rationale / Source	Estimated Financial Commitment (INR Lakhs)	202 6-27	202 7-28	202 8-29	2029 -30	203 0-31	Means of Verification / Monitoring/ Target Date
		Government Agencies	ent study							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 certificate s, 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 certificate s, feedback survey Target: Ongoing activity with annual target
		Women centric programmes like mushroom	Need-based assessment and PH	80	0	20	20	20	20	Training feedback survey reports

Sl. No.	Core Area	Activity	Rationale / Source	Estimated Financial Commitment (INR Lakhs)	202 6-27	202 7-28	202 8-29	2029 -30	203 0-31	Means of Verification / Monitoring/ Target Date
		cultivation, goat farming								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 local people	Need-based assessment and PH	600	0	150	150	150	150	Completion certificates, 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

Sl. 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
										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	

45.1.16: 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
(vii).	Addressal of Public Consultation issues	2147		4705	
Total		158198	19840	120100	20206

45.1.17: 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

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)
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)

Sl. 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)
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							

45.1.18: 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:

1. Utilization in NHAI and other road embankment projects.
2. Filling of low-lying areas.
3. Mine void filling and OB mix applications.
4. 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 MCSD or LCSD)	LCSD	NA	LCSD	HCSD	HCSD
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	NA	NA	Yes	Yes	Yes

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	
	and functioning : Yes or No					
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 Prof. D Naidu of IIT Chennai	April-2026 Prof. D Naidu 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)	% utilization of	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

S.No.	Details of Ash pond	Ash pond
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 who conducted the study:	To be carried out by IIT Chennai

45.1.19: 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.

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

A. Summary of court cases

S. No	Case Title	No/ Name of the Court	Brief summary of the case	Last date of hearing	Next date of hearing	Direction/ Action taken by the PP
1	Original application no. 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	-	-	Pending

S. No	Case Title	No/	Name of the Court	Brief summary of the case	Last date of hearing	Next date of hearing	Direction/ Action taken by the PP
				which had occurred on 09.12.2023			

A. NGT Original application no. 89/2024/EZ

Prayer:

1. Evacuation of spilled ash
2. High Committee Joint Inspection to be carried out
3. Conducting Damage Assessment Study

Action taken by PP:

1. OPGC submitted that total ash of 5.56 lakh m³ has already been removed and affected area was restored and soil capped.
2. Two high level inquiry committee visited the incident site as follows

A committee comprising of members from Odisha State Pollution Control Board, Central Pollution Control Board & MoEF&CC.

A Committee comprising of members from Central Pollution Control Board, MoEF&CC & District Administration, Jharsuguda

3. A damage assessment study has been carried out by TERI-SAS
The recommendations of TERI-SAS & Action Taken by OPGCL
i: Capping Fly ash affected soil with virgin soil (Complied)
ii. Phytoremediation with metal accumulating plants (Shall be complied)
iii. Regular monitoring of Heavy Metals around the affected area (Complied, regular monitoring is being conducted)
iv. Strengthening of ash pond with geosynthetic liners (Complied)
v. Development of greenbelt in degraded forest patch in nearby areas (To be complied)

B. OHRC Case no.3475/2023

Prayer: Payment of compensation to the affected people

Action taken by PP:

Compensation has already been paid to affected persons and additional environmental studies are under progress.

Financial Year	Compensation Paid (₹)
2023-24	54,54,050
2024-25	40,95,665
2025-26	41,47,181
Total Compensation Paid	1,36,96,896

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
<u>1.</u>	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.

C. Summary of violation- Nil

45.1.21 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

45.1.22: 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/LA 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 Hirakud 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 Hirakud 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 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 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:

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

A. Specific conditions

[A] Environmental Management

1. Project proponent shall ensure that 100% utilization of ash generated from 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.
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.
3. All the environmental safeguards prescribed by the OSPCB vide its memo no. 7896/IND-II-CTE-235 dated 20.06.2026 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.
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.
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.
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.
7. The water requirement for proposed project is estimated as 81600 m³/day and the same shall be met from Hirakud Reservoir. The specific water consumption shall be less than 2.5 m³/MWhr.
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.
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.
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.

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.
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 SO₂ emission norms. Along with Particulate Matter, SO₂, NO_x and Hg, CO and CO₂ shall also be monitored for stack emissions.
13. Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.
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.
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
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.
17. Project proponent shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
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.
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.
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.

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.
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.
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.
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.
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.
26. Environment Audit of plant shall be done annually, and report shall be submitted to Regional office of the Ministry.
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.
28. Oil and grease recovered from the treatment plant should be disposed of only through authorized recyclers.

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
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.
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.
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.
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.

[B] Socio-economic

1. A vision document comprising prospective plan for implementation of various CER activities, plantation programme outside the project cover area, rejuvenation and conservation of water bodies within 5 km radius of the project cover area shall be prepared and submitted to the Regional Office of the Ministry within 6 months. Implementation status of the same shall be reported to the Regional office in 6 monthly compliance report.
2. Epidemiological Study among population within 5 km radius of project cover area shall be carried out on regular interval (Once in two year) through independent agency. Necessary measures shall be taken as per findings of study in consultation with district administration. Action taken report shall be submitted to the Regional Office of the Ministry.
3. The budget proposed for PH is Rs. 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) & Community Health Center (CHC) in the study area for better public health as committed. Compliance status in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office of MoEF&CC.

4. The establishment of a robust public grievance redressal mechanism to address concerns and complaints from local communities regarding the power plant's operations, environmental impacts, or social issues shall be developed. A Senior Officer shall review the functioning of the mechanism twice in a month.
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.

[C] Miscellaneous

1. An Environmental Cell headed by the Environment Manager with postgraduate qualification in environmental science/environmental engineering, shall be created. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.
2. Consent for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
3. All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.

B. General conditions

A. Statutory compliance:

1. Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305 (E) dated 7.12.2015, G.S.R.593 (E) dated 28.6.2018 and as amended from time to time shall be complied.
2. 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.
3. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
4. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.

B. Ash content/ mode of transportation of coal:

1. MoEF&CC Notification issued vide S.O. 1561 (E) dated 21.05.2020 and as amended from time to time shall be complied which inter-alia include use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance of conditions prescribed under (1) Setting Up Technology Solution for emission norms, (2) Management of Ash Ponds and (3) Transportation.

C. Air quality monitoring and Management:

1. Project proponent shall abide by the provisions of the notification number G.S.R 465(E) dated 11/07/2025 related to SO₂ emission norms.
2. Low NO_x Burners with Over Fire Air (OFA) system shall be installed to achieve NO_x emission standard of 100 mg/Nm³.
3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm³.
4. Stack with a height of 275 meters shall be provided with continuous online monitoring instruments for SO₂, NO_x and Particulate Matter as per extant rules.
5. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
6. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM₁₀, PM_{2.5}, SO₂, 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.
7. Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8. Appropriate Air Pollution Control measures be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

D. Noise pollution and its control measures:

1. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3. Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

E. Human Health Environment:

1. Bi-annual Health check-up of all the workers is to be conducted. The Occupational health study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2. Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.

F. Water quality monitoring and Management:

1. Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m³/MWhr.
2. In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
3. Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
4. Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
5. The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
6. Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
7. Wastewater generation of 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.
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).

G. Risk Mitigation and Disaster Management:

1. Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2. Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Low sulphur fuel shall be used.
3. Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4. Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.

5. Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

H. Green belt and Biodiversity conservation:

1. Green belt shall be developed in an area of 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.
2. In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.

I. Waste management:

1. Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2026.
2. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
3. Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
4. Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Ash Utilization issued by the Ministry S.O. 5481 dated 31.12.2021, S.O.6169 (E) dated 30.12.2021, S.O.05 (E) dated 01.01.2024 and amendment thereto.
5. Unutilized ash if any shall be disposed off in the ash pond in the form of High Concentration Slurry method for fly ash and LCSD for Bottom Ash.

J. Monitoring of compliance:

1. Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
2. Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
3. Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.
4. Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
5. The project proponent shall (Post-EC Monitoring):

- a. Send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
- b. Upload the clearance letter on the web site of the company as a part of information to the general public.
- c. Inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at <http://parviesh.nic.in>.
- d. Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
- e. Monitor the criteria pollutants level namely; PM (PM10 & PM2.5 in case of ambient AAQ), SO₂, 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.

K. Corporate Environmental Responsibility (CER) activities:

1. CER activities will be carried out as per Ministry's OM F.No.22- 65/2017- IA.III dated 30th September, 2020 and 22-65/2017- IA.III dated 25.02.2021 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed schedule 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.

Agenda Item No.- 45.2

45.2: 2x195 MW (Stage-II) Coal Based Thermal Power Plant by M/s. NTPC Limited at village Kanti, District Muzaffarpur, Bihar– **Amendment in Environment Clearance with respect to Sulphur dioxide emission standards as per MoEF&CC Notification dated 11/07/2025 – regarding.**

[Proposal No: IA/BR/THE/562720/2025; F.No. J-13012/98/2008-IA.II(T)]

45.2.1: M/s. NTPC Limited has made online application vide proposal no. IA/BR/THE/562720/2025 dated 22/12/2025 along with Form 4 & addendum EIA report and sought for amendment in the Environmental Clearance accorded by the Ministry vide letter no.

J 13012/98/2008-1A.II(T) dated 09/11/2009 its subsequent amendments granted therein for the above-mentioned project with respect to Sulphur dioxide emission standards as per MoEF&CC Notification dated 11/07/2025 under the provisions of the EIA Notification, 2006.

Name of the EIA consultant with accreditation status: M/s. MITCON Consultancy and Engineering Services Ltd.; Certificate No.: NABET/EIA/24-27/RA 0343; Validity: 05.02.2027

Details of the proposal submitted for deliberations during the meeting are given as under:

45.2.2: The existing project of 2x195 MW was originally granted Environmental Clearance in favour of M/s Kanti Bijlee Utpadan Nigam Ltd. for setting up 2X195 MW Thermal Power Plant at Village Kanti, District Muzaffarpur, Bihar vide letter no. J 13012/98/2008-1A.II (T) dated 09/11/2009 under EIA, 2006. Muzaffarpur Thermal Power Station (MTPS), NTPC-Kanti (erstwhile known as Kanti Bijlee Utpadan Nigam limited) was amalgamated with NTPC Limited w.e.f. 26.08.2022. Unit#1 & #2 of 110MW were decommissioned w.e.f. 08.09.2021 and only Unit#3 & #4 are in operation. Subsequently, corrigendum/amendment to the EC was accorded for the following:

- Corrigendum dated 19.11.2009 was issued for change in stack height,
- Extension of EC validity was granted on 31.12.2014,
- Amendment dated 21.10.2020 was issued for deletion of CSR expenditure condition,
- EC name transfer from M/s. Kanti Bijlee Utpadan Nigam Ltd to M/s. NTPC Ltd. was issued on 10/08/2024

In addition to the above, the Unit#1 & #2 of 110MW operating in the above premises were decommissioned w.e.f. 08.09.2021 and only Unit#3 & #4 are in operation as of now and amendment is sought only for unit 3 & 4.

45.2.3: Environmental site settings:

S. No.	Particulars	Details		Remarks
1.	Total land	500.89 Ha. [Govt. Land 65.65 Ha; Private land 435.24 Ha].		Land use: Industrial
2.	Land use break up	Facilities	Area (Ha)	
		Main Plant	93.04	
		Ash Dyke	128.41	
		Misc.	94.72	
		Township	19.43	
		Greenbelt (Existing: 28.25 ha and Proposed: 137.05 ha)	165.29	
		Total	500.89	
3.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014 & 19/02/2025	Entire land is under the possession of the project proponent. Land document available and uploaded in PARIVESH Portal. No additional land acquisition is involved in the proposed amendment.		

S. No.	Particulars	Details	Remarks																								
4.	Existence of habitation & involvement of R&R, if any.	Project site: No habitation exists with project boundary Nearby Habitation <table><tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Kothia</td><td>1.4 km</td><td>ENE</td></tr><tr><td>Narsanda</td><td>1.5 km</td><td>E/SE</td></tr><tr><td>Pakari</td><td>4.0 km</td><td>NE</td></tr><tr><td>Kanti</td><td>1.2 km</td><td>WNW</td></tr><tr><td>Ratanpura</td><td>3.5 km</td><td>WNW</td></tr><tr><td>Bariarpur</td><td>1.6 km</td><td>SE</td></tr></table>	Habitation	Distance	Direction	Kothia	1.4 km	ENE	Narsanda	1.5 km	E/SE	Pakari	4.0 km	NE	Kanti	1.2 km	WNW	Ratanpura	3.5 km	WNW	Bariarpur	1.6 km	SE	There is no involvement of R&R activity as new land is not required for the instant proposal.			
Habitation	Distance	Direction																									
Kothia	1.4 km	ENE																									
Narsanda	1.5 km	E/SE																									
Pakari	4.0 km	NE																									
Kanti	1.2 km	WNW																									
Ratanpura	3.5 km	WNW																									
Bariarpur	1.6 km	SE																									
5.	Existence of school and hospitals if any	A. School Project site: DAV Public School Nearest schools <table><tr><th>School</th><th>Distance</th><th>Direction</th></tr><tr><td>National Public School</td><td>~1.28 km</td><td>NW</td></tr><tr><td>Delhi Public School, Kanti</td><td>~1.72 km</td><td>NW</td></tr><tr><td>High School Kanti</td><td>~2.54 km</td><td>N</td></tr></table> B. Hospital Project site: Jivantika Hospital Nearest hospital <table><tr><th>Hospital</th><th>Distance</th><th>Direction</th></tr><tr><td>Government Hospital</td><td>~1.56 km</td><td>NW</td></tr><tr><td>Vardhman Hospital</td><td>~1.41 km</td><td>NW</td></tr><tr><td>Shri Durga Hospital</td><td>~1.33 km</td><td>N</td></tr></table>	School	Distance	Direction	National Public School	~1.28 km	NW	Delhi Public School, Kanti	~1.72 km	NW	High School Kanti	~2.54 km	N	Hospital	Distance	Direction	Government Hospital	~1.56 km	NW	Vardhman Hospital	~1.41 km	NW	Shri Durga Hospital	~1.33 km	N	
School	Distance	Direction																									
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Hospital	Distance	Direction																									
Government Hospital	~1.56 km	NW																									
Vardhman Hospital	~1.41 km	NW																									
Shri Durga Hospital	~1.33 km	N																									
5.	Latitude and Longitude of all corners of the project site.	Plant Site - <table><tr><th>Latitude</th><th>Longitude</th></tr><tr><td>26°12'14.0"N</td><td>85°17'37.8"E</td></tr><tr><td>26°11'38.3"N</td><td>85°17'40.5"E</td></tr><tr><td>26°10'55.2"N</td><td>85°18'26.3"E</td></tr><tr><td>26°11'58.5"N</td><td>85°18'30.6"E</td></tr></table> Ash Pond - <table><tr><th>Latitude</th><th>Longitude</th></tr><tr><td>26°16'00.4"N</td><td>85°12'30.9"E</td></tr><tr><td>26°11'38.3"N</td><td>85°12'27.5"E</td></tr><tr><td>26°15'10.3"N</td><td>85°13'13.0"E</td></tr><tr><td>26°15'47.3"N</td><td>85°13'08.6"E</td></tr></table>	Latitude	Longitude	26°12'14.0"N	85°17'37.8"E	26°11'38.3"N	85°17'40.5"E	26°10'55.2"N	85°18'26.3"E	26°11'58.5"N	85°18'30.6"E	Latitude	Longitude	26°16'00.4"N	85°12'30.9"E	26°11'38.3"N	85°12'27.5"E	26°15'10.3"N	85°13'13.0"E	26°15'47.3"N	85°13'08.6"E					
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26°15'47.3"N	85°13'08.6"E																										
6.	Elevation of the project site	76 m Above mean sea level.																									
7.	Involvement of Forest land if any.	No forest land involved in the project.																									
8.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	Project site: Name: No major river or natural drainage channel within plant boundary. Nearest water body <table><tr><th>Water body</th><th>Distance</th><th>Direction</th></tr><tr><td>Burhi Gandak River</td><td>4 km</td><td>SE</td></tr></table>	Water body	Distance	Direction	Burhi Gandak River	4 km	SE																			
Water body	Distance	Direction																									
Burhi Gandak River	4 km	SE																									

S. No.	Particulars	Details	Remarks
9.	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 Status of Notification: No Distance of project from ESZ/ESA: Not Applicable Authenticated map of ESZ projecting: NA distance of ESZ from project site: NA Status of NBWL approval: NA List of Reserved and protected forests: No National Park, Wildlife Sanctuary, Biosphere Reserve, Eco-Sensitive Zone, Tiger Reserve or Elephant Corridor exists within 10 km radius of the project site	
10.	Archaeological sites monuments / Historical temples etc.	No archaeological monuments or historical structures exist within 10 km radius of the project site.	
11	Involvement of Critically Polluted Area/ Severely Polluted area as per 2018 CEPI score	Involvement of CPA/SPA: Nil Proximity to CPA/SPA: Nil	

45.2.4: The implementation status of the existing EC dated 09/11/2009 is as follows:

S. No.	Configuration	Capacity (MW)	Date of accord of EC	Date of commissioning of units	Production as per CTO	Applicable emission norms as per notification dated 7/12/2015 & its amendment
1	2X195 MW	390 MW	09/11/2009	Unit 3- 31.03.2015 Unit 4- 24.03.2016	390 MW	PM- 50 mg/Nm ³ SO ₂ -600 mg/Nm ³ NOx- 450 mg/Nm ³

45.2.5: Total land under possession for the proponent is 500.89 ha [Govt. Land 65.65 Ha; Private land 435.24 Ha]. There is no CPA/SPA is in the vicinity of the plant. There are no national parks, Biosphere Reserves, Eco-sensitive zone, Tiger/Elephant Reserves and Wildlife Corridors within 10 km distance from the project site.

Parameter	Details as per EC	Status as on April 2026	Remarks
Total Land Area (Ha)	500.89	500.89	No additional land acquisition done.
Involvement of Forest Land (Ha)	NA	NA	Not applicable
NBWL Clearance	NA	NA	Not applicable
CRZ Clearance	NA	NA	Not applicable
CPA/SPA	NA	NA	Not applicable

45.2.6: Background for amendment sought by the proponent:

- a. Initially, MoEF&CC (erstwhile MoEF) notified stack emission standards for Particulate Matter (PM) parameter vide Notification dated 03.01.1989 requiring TPPs to install Electrostatic Precipitators (ESPs) to reduce emission.
- b. MoEF&CC notified stack height regulation for TPPs vide Notification dated 30.08.1990. The said notification outlined stack height regulations based on the plant's capacity and Sulphur content in the fuel, ensuring proper dispersion of the pollutants (SO₂ and NO_x) through adequately large stacks
- c. MoEF&CC vide its notification dated 07.12.2015 stipulated emission standards for coal/lignite-fired TPPs, which included revised emission standards for Particulate Matter (PM), and newly introduced emission standards for Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x), and Mercury (Hg) parameters with timelines.
- d. MoEF&CC vide notification dated 11/07/2025 amended the provisions related to sulphur dioxide emission standards for Category –B Thermal Power Plants (TPPs) at Sl. No.- 69&70.
- e. As per the CPCB categorization dated 23/06/2022 with the respect to Sulphur di-oxide (SO₂) emission norms, Muzaffarpur Thermal Power Station, Kanti of M/s NTPC Ltd falls under Category B and listed at s.no 67, 68, 69 and 70 of CPCB categorization dated 23/06/2022. The unit listed at s.no. 67 & 68 of 110 MW each has already been decommissioned and proposal has been submitted for seeking amendment only for the units listed at s.no 69 and 70.
- f. In pursuance to the MoEF&CC Notification dated 11/07/2025, M/s NTPC Ltd. has submitted its application for amendment in EC within the prescribed time frame seeking for review of Sulphur dioxide emission standards.

45.2.7: The summary of the information submitted by the proponent in the addendum EIA report is as follows:

i. Average coal consumption and the average Sulphur content of coal is being used in the TPP for last three months' period.

Month	Coal consumption in MT Unit wise		
	Unit 3	Unit 4	Total
Nov'25	39184	74224	113408
Dec'25	10906	81783	92689
Jan'26	75553	74801	150354
Domestic Coal is being used while maintaining Avg.Sulphur content ≤ 0.6%			

ii. Minimum, maximum and 98th percentile levels of ambient PM₁₀, PM_{2.5}, NO_x, and SO₂ from secondary monitored AAQ data for last three months' period.

Summary of AAQ Result (Third Party Monitoring Reports) for December 2025 to February 2026:

S. No.	Name of location	Parameter	Concentration in µg/m ³			98 th percentile	NAAQMS
			Min.	Max.	Avg.		
1	AAQMS 1 Bariyarpur	PM ₁₀	59.24	65.68	62.46	65.55	100
2		PM _{2.5}	31.02	34.99	33.01	34.91	60
3		SO ₂	16.21	17.60	16.91	17.57	80

S. No.	Name of location	Parameter	Concentration in $\mu\text{g}/\text{m}^3$			98 th percentile	NAAQMS
			Min.	Max.	Avg.		
4	AAQMS_2 Kanti Township	NO _x	21.23	22.38	21.81	22.36	80
5		PM ₁₀	88.25	142.06	115.16	140.98	100
6		PM _{2.5}	61.41	93.73	77.57	93.08	60
7		SO ₂	13.68	16.35	15.02	16.30	80
8		NO _x	19.05	21.46	20.26	21.41	80
9	AAQMS_3 Ratanpura	PM ₁₀	52.25	56.32	54.29	56.24	100
10		PM _{2.5}	28.11	30.41	29.26	30.36	60
11		SO ₂	10.46	11.60	11.03	11.58	80
12		NO _x	14.75	17.36	16.06	17.31	80
13	AAQMS_4_ Madhuban	PM ₁₀	51.26	53.23	52.25	53.19	100
14		PM _{2.5}	25.44	26.24	25.84	26.22	60
15		SO ₂	12.26	13.10	12.68	13.08	80
16		NO _x	16.02	19.12	17.57	19.06	80
17	AAQMS_5_ Paharpur	PM ₁₀	56.87	92.3	74.59	91.59	100
18		PM _{2.5}	59.15	78.95	69.05	78.55	60
19		SO ₂	13.52	14.40	13.96	14.38	80
20		NO _x	18.57	19.67	19.12	19.65	80

Ambient Air Quality Results for December 2025 to February 2026 in CPCB monitoring stations near MTPS

Location	Parameter	Feb-26				Jan-26				Dec-25			
		Max	Min	Avg.	98%	Max	Min	Avg.	98%	Max	Min	Avg.	98%
Buddha Colony, Muzaffarpur - CPCB	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	107.99	46.69	75.65	168.87	107.64	56.53	80.58	159.42	114.99	63.03	85.82	150.32
	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	170.36	97.27	128.43	107	165.56	72.36	118.22	107.47	155.04	77.69	112.06	109.68
	NO _x (ppb)	86.11	6.49	37.23	8.46	50	18.96	34.44	9.5	62.37	18.68	57.82	7.59
	SO ₂ ($\mu\text{g}/\text{m}^3$)	8.68	2.99	4.60	80.53	10.7	2.47	5.39	49.06	7.74	2.37	5.03	32.17
MIT-Daudpur Kothi, Muzaffarpur - CPCB	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	60.15	49.53	55.23	74.22	65.51	51.13	58.37	78.29	65.64	48.41	60.81	84.11
	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	74.4	58.48	67.03	60.0	81.34	62.33	69.40	64.93	88	62.54	72.82	65.58
	NO _x (ppb)	4.75	2.3	3.61	11.26	4.78	4.68	4.72	14.08	13.42	2.46	5.22	15.49
	SO ₂ ($\mu\text{g}/\text{m}^3$)	11.25	3.42	8.65	4.74	14.64	7.47	10.78	4.76	16.06	7.1	10.82	13.31
Muzaffarpur Collectorate, Muzaffarpur - CPCB	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	63.3	47.35	56.46	63.17	68.2	54.7	61.23	67.18	71.53	55.22	63.79	69.84
	Nox (ppb)	22.19	14.59	18.30	6.68	22.67	12.6	17.21	6.052	19.87	14.03	17.06	4.91
	SO ₂ ($\mu\text{g}/\text{m}^3$)	7.19	3.23	4.88	21.87	6.13	3.33	4.42	22.64	5.12	3.52	4.17	19.43

iii. Average stack emissions for PM, NO_x, and SO₂ parameters for last three months, flue gas concentration in mg/Nm³

S. No.	Name of stack	Parameter	Concentration in (mg/Nm ³) Period- Nov 25 - Jan-26			Standard (mg/Nm ³)
			Max.	Min.	Avg.	
1	Unit-3	PM	16.78	15.89	16.33	50
2		SO ₂	968.60	811.5	890.05	600
3		NO _x	333.91	283.83	308.87	450
4	Unit-4	PM	19.25	17.49	18.37	50
5		SO ₂	1019.56	829.84	924.70	600
6		NO _x	333.91	286.65	310.28	450

Mass emission rate of pollutants in gram per second

S. No.	Parameters	Units	Unit 3 (1X195 MW)	Unit 4 (1X195 MW)
1	Stack Height	m	146.5	
2	No. of flue	-	Bi flue	
3	Top diameter of flue	m	4.3	
4	Flue gas velocity in each flue	m/s	22	
5	Flue gas temperature	°C	126	126
6	Volumetric Flow rate of gas in each flue	Nm ³ /s	363.05	363.05
7	Emission Rates			
A	PM	g/s	2.90	2.85
B	SO ₂	g/s	313.88	313.88
C	NO _x	g/s	60.5	56.07

iv. Current stack height of the Kanti is 146.5 m and is in compliance with the MoEF&CC Notification of August 30, 1990.

V. Assessment of maximum Ground Level Concentration (GLCs) of pollutants from the stack emission as per the envisaged stack height (as applicable) based on available site-specific meteorological parameters. Details of the model used, input data used for modelling and output data of the modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors.

The air quality contours plotted on a location map showing the location of project site, habitation nearby, sensitive receptors. The detail study of air modelling is provided in Addendum EIA report.

Details of Model Used– AIRMOD 10.0.1

GLC of pollutants at sampling locations:

Villages	Dist. (km)	Direction	GLC (µg/m ³)			
			SO ₂	NO _x	PM ₁₀	PM _{2.5}
NAAQS (24hrs)			80	80	100	60
Bariyarpur	2.3	SE	37	29.47	59.48	31.72
Kanti Township	1.3	NNE	18.68	24.05	88.45	61.70
Ratanpura	3.0	WNW	16.47	21.36	55.73	29.37
Madhuban	2.5	E	20	23.62	52.65	26.25
Paharpur	3.9	SE	19.15	24.67	56.97	79.10

vi. Environment Management Plan (EMP):

Details as prescribed by MoEF&CC	Information provided by Proponent
a. Environment Management Plan (EMP) covering the following: a. Impact of ground level concentration on the environment if any and corresponding mitigation measures to be adopted.	- Adequate air pollution control measures have already been implemented as part of the Environmental Management Plan. - These include installation of high-efficiency stack emission control systems such as Electrostatic Precipitators (ESPs- efficiency - 99.975 %), provision of adequate stack height (146.5 meter) in accordance with CPCB guidelines, and fugitive dust control measures such as water spraying and dry fog systems in coal handling areas. - These measures ensure continuous compliance with MoEF&CC and CPCB environmental regulations.
b. Additional mitigation measures proposed if any	- Procurement of truck-mounted fog cannon for mitigating fugitive emissions at an estimated cost of Rs. 40 lakhs and mechanized vacuum-cleaning system at an estimated cost of Rs. 50 Lakhs. - Upgradation of Solid Waste Management Facility (estimated cost Rs 57 Lakhs) and Installation of Bio methanation Plant of 300 kg/day capacity (estimated cost of Rs. 34 Lakhs) - Installation of DFDS to improve system effectiveness at an estimated cost of Rs 39 lakhs. - Installation of Bulker Washing System at an estimated cost of Rs. 22 lakhs - Upgradation of Environment Monitoring System at an estimated cost of Rs. 35 lakhs. - Water Conservation measures through rainwater harvesting at an estimated cost of Rs. 65 lakhs.

Air Pollution & Fugitive Emission Control Systems

Emission Source / Area	Control System / Measure Implemented
Particulate Matter (PM)	- A stack height of 146.5 m has been provided. - High efficiency Electrostatic Precipitators (ESP) are installed for Unit-3 & Unit-4 with efficiency of 99.975%. - PM emission values recorded during PG test (2024) by M/s BHEL are 12.9 mg/Nm³ and 16.1 mg/Nm³ for Unit-3 & Unit-4 respectively, which are well below the prescribed limit of 50 mg/Nm³.
Nitrogen Oxides (NOx)	Low-NOx burners and Separated Over Fire Air (SOFA) / combustion modification systems have been installed to reduce NOx emissions.
Coal Transportation	100% coal is transported from coal mines to MTPS through rail route via Indian Railways. - Regular water sprinkling is carried out on plant approach roads through water tankers.
Coal Handling & Storage	- Dust suppression and dust extraction systems are installed. - Pre-wetting system is installed at track hopper. - Fog cannons are installed at coal yard. - Water spraying arrangements are provided at transfer points, loading/unloading stations and coal stockpiles to control dust. - Transfer towers and crusher houses are provided with dust extraction systems.
Fly Ash Handling	- Fly ash is conditioned with water spray while loading into bulkers to prevent dust emission. - Bulkers are used for ash transportation. - Dry ash is collected through pneumatic conveying system. - Silos are provided with bag filters. - User industries collect dry fly ash through bulkers.

Emission Source / Area	Control System / Measure Implemented
Fly Ash Loading & Transport	- To reduce the dust nuisance while loading the ash into the bulkers from fly ash silos, the fly ash is conditioned with water spray - Bulkers are used to prevent flying of fine ash during transportation.
Fly Ash Disposal	Utilized in Ash Based Products like bricks/blocks/tiles etc. and cement manufacture.
Fly Ash Utilization	Ash utilization for last three years: FY 2023-24: 120.59% FY 2024-25: 123.88%; FY 2025-26: 135.95%

Compliance Status of MTPS, NTPC Kanti in respect of Muzaffarpur Action Plan for Control of Air Pollution

S.No.	Action Points	Present Compliance/Normal Range (in mg/Nm ³)	Remarks
A	Strict Enforcement of CPCB Stack Emissions Rules		
1	PM Norms: - 50 mg/Nm ³	10-20	Norms Being Complied. ESP with 99.975 % collection has been commissioned.
2	NOx Norms: - 450 mg/Nm ³	200-400	Norms Being Complied. NOx reduction system has been commissioned.
3	SO ₂ Norms: - 600 mg/Nm ³	800-1200	Compliance date applicable for B-Category TPP:- 31.12.2028 FGD installation to be waived off on case-to-case basis by MoEF&CC inline with recent MoEF notification dated 11.07.2025. Application for review of applicable SO ₂ Emission standards has been submitted to MoEF&CC on 22.12.2025. However, during EAC meeting held on 22.01.2026, MoEF&CC has directed to resubmit the application along with addendum EIA report vetted by QCI/NABET accredited consultant. Accordingly, QCI/NABET accredited consultant has been hired for the above work and application for review of applicable SO ₂ Emission standards shall be resubmitted.
B	Controlling Fugitive Emission in Dust Prone Areas.		
	Dust Prone Areas	Action Taken/ Present Compliance	Remarks
1	CHP	Water sprinkling is being done at dust prone area for suppression of fugitive emission	Regular Operation is being ensured.
2	Coal Stack Yard	Fog Cannon & Water Monitors are installed at dust prone area for suppression of fugitive emission	Regular Operation is being ensured.
3	Coal Conveyor Belt	CONFLOW system is installed at conveyor for suppression of fugitive emission	Regular Operation is being ensured.
4	Ash Dyke Area	Sufficient nos. of Water Sprinkling Tankers are deployed on approach road	Being Ensured

S.No.	Action Points	Present Compliance/Normal Range (in mg/Nm ³)	Remarks
		and periphery of ash dyke for mitigating road dust / fugitive emission - Water cover is maintained over ash dyke surface to control fugitive emissions in operational dykes. - Green Curtain is provided around periphery of Ash Dykes for controlling fugitive emission from ash dyke. - Covering of Ash Loaded Vehicle is being ensured. - During ash utilization wetness of ash is being maintained to control fugitive emission during excavation and transportation.	
5	Ash Silo Area	- Ash Loaded vehicles are being washed before exit from plant premises. - Fog Cannon have been deployed. - Telescopic Chute are installed to control fugitive emission during loading. - Only Closed Ash Bulklers are used for ash transportation.	Being Ensured
C	Green Belt Development		
1	Total 70,568 nos. of trees have been planted till 28.02.2026. Further plantation is proposed at old ash dyke area of 180 Acre.		
D	Monitoring of Air Pollution & Display of Information to Public		
1	04 Nos. of CAAQMS station has been commissioned in TPP at strategic location continuously monitoring ambient air quality parameters on 24-hour basis. The same data has been shared with CPCB & BSPCB on real time basis.		
2	A digital display board has been installed at Plant Gate of TPP where continuously data of ambient air quality and stack emissions is being displayed to general public.		

Additional Environmental Management Cost

S.No.	Description	Activities	Expenditure (in Lakhs)	Timeline (in Yrs)
1	System Upgradation for Environment Monitoring System	Upgradation of Hardware & Software System for Ambient Air Quality Monitoring Stations	35	1
2	Installation of Dry Fog Dust Suppression (DFDS) system	Installation of Dry Fog Dust Suppression (DFDS) system at CHP to improve fugitive dust suppression effectiveness	39	1.5
3	Stabilisation & Reclamation of Ash Dyke	Providing Soil Cover, Levelling and other associated miscellaneous work at Ash Dyke	1212	2
4	Green Belt Development	Phase wise Green belt development in 137.05 Ha	2741	5 Years as per submitted plan
5	Upgradation of facilities at Ash Dyke for conservation for environment	Kerb Wall, Slope Drain for rain water Channelization etc.	160	1.5

S.No.	Description	Activities	Expenditure (in Lakhs)	Timeline (in Yrs)
6	Water conservation Measures	Surface Rain Water Collection and Pumping System for reuse in process water	65	2
7	Additional Renewable Energy Generation for reduction in carbon footprint	2MW in Plant and Township Area	800	2
8	Upgradation of Solid Waste Management Facility	Construction of Compost Pits for management of Biodegradable waste	57	1
9	Municipal solid waste management system	Installation of Biomethanation Plant	34	2
10	RE for Net Zero Energy Township	Installation of rooftop (350 KW) & ground mounted (1960 KW) Solar PV at Plant and Township	808.5	2
	Total		5951.5	

Recurring Expenditure on Environment Management

S. No.	Description	Expenditure per annum (in Lakhs)
1	Operation & Maintenance of AAQMS	48.50
2	Operation & Maintenance of EQMS	5.60
3	Operation & Maintenance of CEMS	20.00
4	Operation & Maintenance of Environmental Data Digital Display Board	0.68
5	Real Time Environmental Data Transmission	1.80
6	Third party monitoring of Environmental parameters	9.00
7	Environmental studies / Miscellaneous works to comply Env't. Rules / direction of statutory authority.	6.00
8	Miscellaneous (Environmental Awareness, Promotion of Ecofriendly lifestyle & other works to comply direction of Statutory authority)	1.20
9	Plantation & landscape development	24.00
10	Movable Water Sprinkling System (Tanker Deployment)	16.00
11	O&M of Solid Waste Management facility	15.00
12	Biomedical Waste Management	0.50
13	Occupational Health Management	23.50
14	Maintenance of Air Pollution Control Equipment	4.00
15	Maintenance of Ash Handling Systems	90.00
16	Operation of Dry Ash Extraction System	60.30
17	O&M of Ash Brick Plant	30.00
18	Management of Fugitive Dust Suppression at Ash Dyke	14.00
19	Ash Dyke Management Cost	58.00
20	Maintenance of Dust Extraction & Suppression System at CHP	15.00
21	Providing green curtain around ash dyke	4.00
22	Deployment of Mechanical Sweeping System	70.00
23	Deployment of Truck Mounted Fog Cannon for Mitigating Fugitive emissions	50.00
	Total	567.08

Additional mitigation measure at Maximum GLC Location

S.No.	Description	Expenditure (in Lakhs)	Timeline for Completion in Yrs
1	Distribution and plantation of approx. 3000 trees at the environmental receptors at Max. GLC Location	25	1-2 yr

45.2.8: Amendment sought: The details of the condition for which amendment is sought and justification for the same is as follows:

S. No.	Conditions as per EC amendment dated 21/10/2020	Amendment Sought	Justification & Request for Amendment
1	While commissioning the proposed unit, the compliance of revised emission norms issued vide notification dated 07.12.2015 and as amended time to time shall be achieved along with specific water consumption as per the notification dated 28.06.2018. The FGD system and NO _x control measures such as SCR/SNCR/De-NO _x burners shall be installed to achieve the revised emission norms.	“The compliance of revised emission norms issued vide notification dated 07.12.2015 and as amended time to time shall be achieved for PM & NO_x along with specific water consumption as per the notification dated 28.06.2018. The NO_x control measures such as SCR/ SNCR/ De-NO_x burners shall be installed to achieve the revised emission norms. Adequate chimney height as per GSR 426 (E) dated 30/08/1990 shall be ensured.	Wrt. MoEF&CC Notification dated 11.07.2025, MTPS has been complying with Stack Height criteria and present Ambient Air Quality is observed within the NAAQ Standards 2009.
2	Space for FGD shall be provided for future installation as may be required.	MTPS is seeking for review of the applicability of Sulphur dioxide standards and exemption for installation of FGD as per MoEF&CC notification dated 11. 07.2025	MTPS is complying with Stack Height criteria of August 30, 1990 and present Ambient Air Quality for SO ₂ is observed within the NAAQ Standards 2009.

45.2.9: Summary of court cases

Sr. 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	OA No. 95/2023/EZ	NGT	Regarding Water pollution	Disposed Off	NA	Fencing, Lighting and Security arrangement has been made available around ash dykes. Paved road between lagoon 3 & 2 constructed. Covering of loaded fly ash truck is being ensured, free board is being ensured & Vehicle tyre washing platform constructed

Sr. 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
2	OA No. 138/2023/ EZ	NGT	Regarding Air Pollution	Disposed Off	NA	ZLD system has already been implemented to ensure no effluent discharge through storm water drain. Treated wastewater from ETP & STP is being utilised in processing/ washing/ ash slurry making/ Horticulture/watering of plants etc.
3	OA No. 327/2022	NGT	Regarding sale / purchase of fly ash	Pending Case Listed for further hearing on 14.04.2026 as per latest order dt. 09.01.2026	14.04.2026	
4	WP (Civil) : CWJC 1237/2022	High Court	Land Compensation	Pending Next date of hearing to be announced.	Not Available	
5	WP (Civil): LPA 123/2024	High Court	Land Compensation	Pending Case relisted on 06.11.2025 as per latest order dt. 08.10.2025	06.11.2025 (Order yet to be issued)	

45.2.10: ADS Information in chronology:

M/s. NTPC Ltd. has made an online application vide proposal no. IA/BR/THE/562720/2025 dated 22/12/2025. The proposal was initially considered in 36th meeting of Reconstituted EAC (Thermal) held on 22/01/2026. Proposal was deferred for want of additional information. The observations and recommendation is given as below:

S. No.	ADS	Submission
i	Project proponent has not submitted the addendum EIA/EMP report through NABET accredited consultant.	The Addendum EIA/EMP Report prepared by M/s MITCON Consultancy and Engineering Services Ltd., Pune a NABET accredited consultant organization is submitted for kind consideration.
ii	Particulate Matter level in Ambient Air exceeded NAAQS, 2009. Proponent unable to substantiate source and no tangible action plan submitted to control PM emissions from 2×195 MW TPP.	It is humbly submitted that ESP of efficiency 99.97% is installed for control of PM emission from stack. The stack emissions are in the range of 15- 25mg/Nm ³ w.r.t to specified limit of 50mg/Nm ³ indicating that the exceedance of Ambient Particulate Matter is not attributable to MTPS Units. It may kindly be noted that the higher than NAAQS values of PM may be due to the nearby NH construction activities and vehicular traffic. Detailed Environmental Protection Measures are incorporated in the Addendum report.
iii	Proponent unable to explain existing pollution control systems for air, water and fly ash management.	Existing pollution control systems for Air, Water and Fly ash management are given in the Addendum Report and a brief of the same is placed below for kind perusal:

S. No.	ADS	Submission
		Air Pollution Control: - Electrostatic Precipitators (ESP) installed with efficiency >99.975%. - Stack height 146.5 m as per CPCB norms. - Low NOx burners - Secondary Over Fire Air damper (SOFA) installed for NOx control. - Dust Suppression system in Coal Handling Plant. - Fly ash stored in Ash Silos with Bag filter for control of Fugitive emission along with Telescopic Chute for loading of Ash Bulklers. - Total Dry Fly Ash transport in Closed Bulklers. - Regular water sprinkling is carried out on plant approach roads through water tankers. 100% coal is transported from coal mines to MTPS through rail route via Indian Railways. Water Pollution Control: - Plant is Zero Liquid Discharge compliant. - ETP 1800 KLD for treatment of process wastewater and treated water is reused in the process. - STP 550 KLD for treatment of domestic wastewater. - STP Treated water reused for ash conditioning & greenbelt. Fly Ash Management: - Ash utilization for last three years: FY 2022-23: 104.86% FY 2023-24: 120.59% FY 2024-25: 123.88% - Fly ash is conditioned with water spray while loading into bulklers to prevent dust emission. - Bulklers are used for ash transportation. - Dry ash is collected through pneumatic conveying system. - Silos are provided with bag filters. The Photographs of the existing facilities are included in the Addendum Report.

M/s. NTPC Ltd. has made an online application vide proposal no. IA/BR/THE/562720/2025 dated 22/12/2025. The proposal was initially considered in 41st meeting of Reconstituted EAC (Thermal) held on 08/04/2026. Proposal was deferred for want of additional information. The observations and recommendation is given as below:

Sl. No.	ADS	Submission
1	Reasons for higher level of PM in the ambient air and corresponding tangible mitigation measures to be adopted by the proponent in order to maintain the PM levels at the project site as per the prevailing NAAQS, 2009.	The baseline data as per Environment Impact analysis Report 2009 of Kanti Stage II (2x195 MW) and the corresponding current ambient air quality is attached in ADS Reply submitted on Parivesh Portal. The comparison shows that the present ambient air quality is at par with the baseline data of 2009 despite the operation of Stage-II units. The ongoing Highway construction work is adding to the PM. Upon the completion of national highway construction, alongside NTPC Kanti's committed environmental management initiatives, a measurable improvement in ambient air quality is expected.

Sl. No.	ADS	Submission												
		- The PM level in the ambient air is not solely attributed to operation of NTPC Kanti. The issue of high PM level in the vicinity of plant i.e. Kanti Tola is due to ongoing construction work of National Highways and other storage /stockpile for construction material. The fugitive emission is due to frequent loading and unloading of the construction material. - Further it may be noted that the main contribution of air pollution from thermal power plant can be through stack emission. To control Stack emission, highly efficient Electrostatic Precipitators (ESP) have been provided with design PM emission of 18 mg /Nm³ against stipulated norms i.e 50 mg /Nm³. As per performance test of ESP the measured value for Unit-3 & Unit-4 are 12.9 mg/Nm³ and 16.1 mg/Nm³ respectively which are well below the specified norms. - In addition, MTPS has taken various measures to control fugitive emission like deployment of movable water sprinklers at approach road and ash dyke peripheral roads, green curtain at ash dyke, permanent sprinklers at coal storage area and fog cannon operation at track hopper. The frequency of operation of permanent sprinklers and fog cannon has been increased in view of summer season.												
2	Project proponent shall explain the reasons for not developing 33% of the project area till date as only 5.6% of the project area is covered under the green belt.	The conditions envisaged in the EC of MTPS St-II with respect to greenbelt are as follows: EC condition no. xv - “Shelter Belt consisting of 3 tiers of plantations around the plant of 100 m width and adequate tree density shall be developed”. EC condition no. xxxix- “Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary”. This plant is taken over from State Govt. The Unit-1 & Unit-2 (Stage-I) was commissioned long back in 1985 & 86 and in the same plant area, Stage-II (2X195MW) has been constructed. Thus, there are constraints in land availability in plant area to accommodate 100 m width green belt due to previous set General layout Plan. The Greenbelt development has been developed in 28.25 Ha and total plantation carried out is approx. 70,568 Nos.. However, now MTPS, NTPC Kanti has decided to allocate the old ash dyke for greenbelt development for achieving 33% greenbelt area. The details of the total greenbelt is placed below: <table border="1"> <thead> <tr> <th>Greenbelt</th><th>Area (Ha)</th><th>Plantation (No.)</th></tr> </thead> <tbody> <tr> <td>Existing</td><td>28.25</td><td>70,568</td></tr> <tr> <td>Proposed</td><td>137.05</td><td>342,625</td></tr> <tr> <td>Total</td><td>165.30</td><td>413,193</td></tr> </tbody> </table> NTPC Kanti has submitted green belt action plan including year wise plan of plantation and allocated budget of Rs. 27.41 Cr. to achieve 33% of green belt development	Greenbelt	Area (Ha)	Plantation (No.)	Existing	28.25	70,568	Proposed	137.05	342,625	Total	165.30	413,193
Greenbelt	Area (Ha)	Plantation (No.)												
Existing	28.25	70,568												
Proposed	137.05	342,625												
Total	165.30	413,193												
3	Detailed action plan for 3-tier Greenbelt development covering 33% of the project area including gap plantation in the existing green belt area shall be submitted.	The detailed action plan for Greenbelt development covering 33% of the project area is attached in ADS Reply submitted on Parivesh Portal												

Sl. No.	ADS	Submission
4	Details of existing capital EMP cost and recurring cost and proposed additional EMP (capital and recurring) shall be submitted.	An expenditure of Rs. 363.4 Cr has been incurred towards the capital cost of existing EMP in addition to this a sum of Rs. 59.51 Cr. is proposed towards additional capital cost of EMP. The recurring cost for existing and additional EMP is Rs. 5.67 Cr./Annum. Details of Capital and recurring cost are attached in ADS Reply on Parivesh Portal
5	Details of the sensitive receptors at maximum GLC location and control measures proposed in this regard.	The Government primary, middle and secondary schools-03 nos. have been identified at maximum GLC location in Bariyarpur and accordingly additional plantation will be carried out in above schools. The additional cost of Rs. 25 Lakhs for the same has been included in the EMP.
6	Comparison of baseline environment status as per the EIA report submitted at the time of grant of EC for the TPP vis a vis present monitored data for a period of last three months. Data shall be analysed for the down-wind and up-wind locations, maximum, average and standard deviations shall be presented. Any major deviations from the baseline shall be explained with scientific justification and the action plan for mitigations measures to be adopted.	Comparison of baseline environment status as per the EIA report submitted at the time of grant of EC for the TPP Stage-II vis a vis present monitored data for a period of last three months has been carried out and data has been analysed for the down-wind and up-wind locations. Maximum, average and standard deviations data is attached in ADS Reply submitted on Parivesh Portal The comparison shows that the present ambient air quality is at par with the baseline data of 2009 despite the running of NTPC Kanti Stage-II and the values are well within the limit of NAAQ 2009 norms except 1 location at Kanti Tola. The issue of high PM level at this location is due to ongoing construction work of National Highways and other storage /stockpile for construction material. The fugitive emission is due to frequent loading and unloading of the construction material. It is to humbly submit that the PM emission from the running units is well within the limit and do not contribute to the elevated ambient PM levels which is substantiated by the Air modelling data.
7	Revisit the EMP in totality and incorporate appropriate pollution control measures in the form of a time bound action plan to address the PM levels in ambient air and PM & NO _x level in stack emissions with physical and financial outlay. Besides, EMP shall explicitly brought out the existing and proposed additional environmental safeguards with physical and financial outlay.	EMP has been reviewed in totality and appropriate pollution control measures in the form of a time bound action plan has been proposed with physical and financial outlay.
8	Undertaking in a non-judicial stamp paper from the PP to comply with the mitigation measures proposed under revised EMP shall be submitted.	Undertaking on a non-judicial stamp paper to comply with the mitigation measures proposed under revised EMP is attached in ADS Reply submitted on Parivesh Portal.
9	Latest six-monthly compliance report submitted to the Regional Office of MoEF&CC.	The copy of latest six-monthly compliance report submitted on Parivesh Portal on 09.05.2026 and soft copy submitted to the Regional Office of MoEF&CC on 11.05.2026.
10	Details of the disposed off court case related to environment and point wise compliance to the direction of the Hon'ble Court/Tribunal.	The Details of the disposed off court case related to environment and point wise compliance to the direction of the Hon'ble Court/Tribunal is attached in ADS Reply submitted on Parivesh Portal.

45.2.11 Summary of Show Cause Notices (Last two years): Nil.

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

Observations and deliberation of the EAC

45.2.13: The Committee observed and noted the following:

- i. The instant proposal is for seeking amendment in a EC conditions as per MoEF&CC Notification dated 11/07/2025 for Sulphur dioxide emission standards, prescribed in EC letter dated 01.11.2009 for setting up 2 x195 MW Thermal Power Plant at Village Kanti, District Muzaffarpur, Bihar by M/s Kanti Bijlee Utpadan Nigam Ltd. which was later transferred to M/s. NTPC Ltd.
- ii. The existing project of 2x195 MW was originally granted Environmental Clearance in favour of M/s. Kanti Bijlee Utpadan Nigam Ltd. for setting up 2X195 MW Thermal Power Plant at Village Kanti, District Muzaffarpur, Bihar vide letter no. J 13012/98/2008-1A.II (T) dated 09/11/2009 under EIA, 2006. Subsequently, corrigendum/amendment to the EC was accorded on 19.11.2009 for change in stack height, Extension of EC validity was granted on 31.12.2014, Amendment dated 21.10.2020 was issued for deletion of CSR expenditure condition and EC name transfer from M/s. Kanti Bijlee Utpadan Nigam Ltd to M/s. NTPC Ltd. was done on 10/08/2024. CTO is valid up to 31.03.2028.
- iii. There is no Forest Land involved in the project.
- iv. The project site is about 10 km away from Muzaffarpur city in SE direction which is a non-attainment city.
- v. During the three months, the total coal requirement for Unit 3 was 39184 MT, 10906 MT, and 75553 MT and for Unit 4 was 74224 MT, 81783 MT and 74801 MT for the months of November 2025, December 2025 and January 2026, respectively. Domestic coal is being used, while maintaining a sulphur content of less than 0.6 %.
- vi. The mass emission rate of pollutants including PM, NO_x, and SO₂ were estimated 2.90, 60.5, 313.88 g/s, respectively, for unit-3 and 2.85, 56.07, 313.88 g/s, respectively, for Unit-4
- vii. Project proponent has installed a 146.5 m bi-flue stack, which complies with the MoEF&CC Notification dated August 30, 1990.
- viii. As per the submitted addendum EIA report prepared through QCI/NABET accredited consultant, the predicted maximum Ground Level Concentration (GLCs) using AERMOD View dispersion model from the stack emission as per the envisaged stack height and site-specific meteorological parameters the maximum incremental GLC of PM₁₀, PM_{2.5}, SO₂ and NO_x is 0.244, 0.163, 37.7 and 8.24 µg/m³ at 1.96,1.96,1.97 and 1.94 Km respectively, in SE direction.
- ix. EAC observed that the PM₁₀ values are higher than the NAAQMS 2009 norms in Kanti township.
- x. EAC observed the existing Greenbelt of the project is only 28.25 Ha which is 5.6% of the project area in place of mandatory requirement of 33 % of the project area.
- xi. EAC deliberated on the ADS submitted by the Project Proponent and observed that the PP has submitted the Greenbelt Development Plan starting from 2027-28.

- xii. EAC asked the Project Proponent to start the Tree Plantation in this monsoon season and develop the greenbelt along the Plant boundary.

Recommendations of the Committee

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

- i. Project proponent shall take immediate action to increase the green cover of the project site from 5.6 % of the total area to at least 15% of the project area along with time bound action plan to develop green belt in the remaining area and other environment pollution mitigation measures to be put in place in the form of an action with physical targets and financial out lay.
- ii. Project proponent to revisit the AAQ modelling as incremental GLC for SO₂ parameters is reported as 37.7µg/m³ and details shall be submitted.



ANNEXURE-I

LIST OF PARTICIPANTS OF EAC (THERMAL) IN 45th MEETING HELD DURING 22nd MAY, 2026 THROUGH VIRTUAL MODE

S. No.	Name & Address	Role	22.05.2026
1.	Shri Inder Pal Singh Matharu, (I.F.S. Retd.)	Chairman	Present
2.	Shri Lalit Kapur	Member	Present
3.	Dr. Umesh Jagannathrao Kahalekar	Member	Present
4.	Dr. Santosh Kumar Hampannavar	Member	Absent
5.	Shri Savalge Chandrasekhar	Member	Present
6.	Shri K. B. Biswas	Member	Present
7.	Prof. Shyam Shanker Singh	Member	Present
8.	Dr. Vinod Agrawal	Member	Present
10.	Shri Mahi Pal Singh, Chief Engineer	Representative of Central Electricity Authority (CEA)	Present
11.	Shri Harmeet Sawhney, Scientist 'E'	Representative of Indian Meteorological Department (IMD)	Absent
12.	Prof. R M Bhattacharjee	Representative of IIT/ISM Dhanbad	Absent
13.	Shri Prasoon Gargava, Scientist 'F'	Representative of Central Pollution Control Board	Present
14	Shri B C Mallick, Principal Chief Engineer	Special invitee as Representative of Central Electricity Authority (CEA)	Present
15.	Shri Sundar Ramanathan	Scientist 'F' & Member Secretary	Present
16.	Dr. Rajesh Prasad Rastogi	Scientist 'D'	Present

ANNEXURE-II

APPROVAL OF CHAIRMAN – EAC

Inderpal Singh Matharu < matharu0204@gmail.com >

Tue, 26 May 2026 4:45:21 PM +0530

To "Sundar Ramanathan"<r.sundar@nic.in>,"RAJESH PRASAD RASTOGI"
<rp.rastogi@gov.in>

Dear Sundar ji,

Thanks for finalizing the MoM of the 45 EAC Thermal meeting held on 22/05/2026.. All the points which were discussed during the meeting and later on amendment made in zero draft by Mr.M.P.Singh and Mr.Umesh also, have been incorporated very articulately. I approve the final MoM Of 45th EAC held on 22 May 2026.

Sincerely Yours

Inder Pal Singh Matharu

Chairman

EAC for Coal Mining and Thermal Power
MoEF&CC, GoI