



File No.: IA-J-11011/355/2005-IA-II(IND-I)

Government of India  
Ministry of Environment, Forest and Climate Change  
IA Division

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Dated 29/05/2024



To,

M/s Ambuja Cement Limited  
Adani Corporate House, Shantigram, S.G. Highway, Khodiyar, Adani Corporate House Shantigram SG  
Highway Khodiyar, AHMADABAD, GUJARAT, Near Shantinagar, 382421  
sanjeevkumar.singh@adani.com

**Subject:** Expansion of Integrated Cement (Clinker: 8.1 MTPA to 16.1 MTPA, Cement: 6.5 MTPA to 16.5 MTPA, WHRS: 43 MW to 85 MW & CPP: 63 MW to 123 MW) by Installation of Line- IV & Line-V at Village: Rawan, Tehsil: Balodabazar, District: Balodabazar-Bhatapara, State: Chhattisgarh by M/s Ambuja Cements Limited (Unit: Bhatapara) - Grant of Standard Terms of Reference (ToR) to the proposed Project under the EIA Notification 2006-and as amended thereof-regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/CG/IND1/466013/2024 dated 11/05/2024 for grant of Terms of Reference (ToR) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) ToR Identification No.	TO24A1101CG5595808N
(ii) File No.	IA-J-11011/355/2005-IA-II(IND-I)
(iii) Clearance Type	Fresh ToR
(iv) Category	A
(v) Project/Activity Included Schedule No.	3(b) Cement plants ,1(d) Thermal Power Plants,1(d) Thermal Power Plants
(vi) Sector	Industrial Projects - 1 Expansion of Integrated Cement (Clinker: 8.1 MTPA to 16.1 MTPA, Cement: 6.5 MTPA to 16.5 MTPA, WHRS: 43 MW to 85 MW & CPP: 63 MW to 123 MW) by Installation of Line- IV & Line-V at Village: Rawan, Tehsil: Balodabazar, District: Balodabazar-Bhatapara, State: Chhattisgarh by M/s Ambuja Cements Limited (Unit: Bhatapara)
(vii) Name of Project	

<b>(viii) Name of Company/Organization</b>	Ambuja Cement Limited
<b>(ix) Location of Project (District, State)</b>	BALODA BAZAR, CHHATTISGARH
<b>(x) Issuing Authority</b>	MoEF&CC
<b>(xii) Applicability of General Conditions</b>	NO

3. The **MoEF&CC** has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after detailed examination hereby decided to grant Standard Terms of Reference to the instant proposal of **M/s.Ambuja Cement Limited** under the provisions of the aforementioned Notification.
4. The brief about products and by products as submitted by the Project proponent in Form-1 (Part A, B) and Standard Terms of Reference are annexed to this letter as Annexure (1).
5. The Ministry reserves the right to stipulate additional TORs, if found necessary.
6. The Standard Terms of Reference (ToR) to the aforementioned project is under provisions of EIA Notification, 2006 and as amended thereof. It does not tantamount to approvals/consent/permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
7. The granted letter, all the documents submitted as a part of application viz. Form-1 Part A and Part B are available on PARIVESH portal which can be accessed by scanning the QR Code above.
8. It is requested that the draft EIA Report may be prepared in accordance with the above-mentioned specific ToRs and enclosed generic ToRs and additional ToRs for obtaining Environment Clearance in accordance with the procedure prescribed under the EIA Notification, 2006 as amended.
9. The ToRs are valid for a period of four years from date of issue of this letter as per the Ministry's Notification S.O. 751 (E) dated 17/02/2020.

**(Dr. R. B. Lal)**  
**Scientist F'/Director**  
Email: [rb.lal@nic.in](mailto:rb.lal@nic.in)  
Tele.: 011-20819346

#### **Copy To**

1. The Principal Secretary Forest, Mahanadi Bhawan, Nawa Raipur, Atal Nagar Chhattisgarh, India.
2. Additional Chief Secretary Forest, Mahanadi Bhawan, Nawa Raipur, Atal Nagar, Chhattisgarh.
3. The Director General of Forest, Ministry of Environment, Forest and Climate Change, New Delhi.
4. The Principal Chief Conservator of Forests (HoFF) Chhattisgarh Forest Department, Jai Road Aranya Bhavan Raipur, (C.G.)-492007.
5. Regional Officer, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Aranya Bhawan, North Block, Sector-19 Naya Raipur, Atal Nagar, Chhattisgarh - 492002.
6. The Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
7. The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19 Naya Raipur (C.G.) 492002.
8. The Member Secretary, Central Ground Water Authority, Jamnagar House, 18/11, Man Singh Road Area, New Delhi - 110001
9. The District Collector, Balodabazar-Bhatapara, Chhattisgarh.
10. Director, IA CMD, Ministry of Environment, Forest and Climate Change, New Delhi
11. Guard File/Record File/Monitoring File/MoEFCC website/Parivesh Portal.

(Dr. R. B. Lal)

**Standard Terms of Reference****1. Preliminary requirements**

S. No..	Terms of Reference
1.1	EIA/EMP report cover page shall consists of project title with location, applicable schedule of the EIA Notification, 2006, ToR letter No. with date, study period along with EIA consultant & laboratory details with QCI/NABET/NABL accreditation certificate detail.
1.2	Besides, following points shall be compiled as per QCI/NABET norms: a. Disclaimer by the EIA consultant. b. Declaration by the Functional Area Experts contributed to the EIA study and declaration by the head of the accredited consultant organization/authorized person. c. Undertaking by the project proponent owning the contents (information and data) of the EIA/EMP report. d. Undertaking by the EIA consultant regarding compliance of ToR issued by MoEF&CC. e. Consultant shall submit the Plagiarism Certificate for the EIA/EMP Report.

**2. Executive Summary**

S. No..	Terms of Reference
2.1	Table of Contents of the EIA report including list of tables/figures/annexures/abbreviations/symbols/notations.
2.2	Point wise compliance to the ToR issued by MoEF&CC.

**3. Executive Summary****3.1. Introduction**

S. No..	Terms of Reference
3.1.1	Name of the project along with applicable schedule and category as per EIA, 2006.
3.1.2	Location and accessibility

**4. Executive Summary****4.1. Project description**

S. No..	Terms of Reference
4.1.1	Resource requirements (Land; water; fuel; manpower)
4.1.2	Operational activity
4.1.3	Key pollution concerns

## 5. Executive Summary

### 5.1. Baseline Environment Studies

S. No..	Terms of Reference
5.1.1	Ambient air quality
5.1.2	Ambient Noise quality
5.1.3	Traffic study
5.1.4	Surface water quality
5.1.5	Ground water quality
5.1.6	Soil quality
5.1.7	Biological Environment
5.1.8	Land use
5.1.9	Socio-economic environment

## 6. Executive Summary

### 6.1. Anticipated impacts

S. No..	Terms of Reference
6.1.1	Impact on ambient air quality
6.1.2	Impact on ambient noise quality
6.1.3	Impact on road and traffic
6.1.4	Impact on surface water resource and quality
6.1.5	Impact on ground water resource and quality
6.1.6	Impact on terrestrial and aquatic habitat
6.1.7	Impact on socio-economic environment

## 7. Executive Summary

### 7.1. Alternative analysis

S. No..	Terms of Reference
7.1.1	

## 8. Executive Summary

## 8.1. Environmental Monitoring program

S. No..	Terms of Reference
8.1.1	Ambient air, noise, water and soil quality
8.1.2	Noise quality management plan
8.1.3	Emission and discharge from the plant
8.1.4	Green Belt
8.1.5	Social Parameters

## 9. Executive Summary

### 9.1. Additional Studies

S. No..	Terms of Reference
9.1.1	Risk assessment
9.1.2	Public consultation
9.1.3	Action plan to address the issues raised during public consultation as per MoEF&CC O.M. dated 30/09/2020

## 10. Executive Summary

### 10.1. Environment management plan

S. No..	Terms of Reference
10.1.1	Air quality management plan
10.1.2	Solid and hazardous waste management plan
10.1.3	Effluent management plan
10.1.4	Storm water management plan
10.1.5	Occupational health and safety management plan
10.1.6	Green belt development plan
10.1.7	Socio-economic management plan
10.1.8	Project cost and EMP implementation budget.

## 11. Introduction

S. No..	Terms of Reference
11.1	Background about the project
11.2	Need of the project
11.3	Purpose of the EIA study
11.4	Scope of the EIA study

## 12. Project description

### 12.1. Site Details

S. No..	Terms of Reference
12.1.1	Location of the project site covering village, Taluka/Tehsil, District and State.
12.1.2	Site accessibility
12.1.3	A digital toposheet in pdf or shape file compatible to google earth of the study area of radius of 10km and site location preferably on 1:50,000 scale. (including all eco-sensitive areas and environmentally sensitive places).
12.1.4	Latest High-resolution satellite image data having 1 m - 5 m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc., along with delineation of plant boundary co-ordinates. Area must include at least 100 m all around the project location.
12.1.5	Environment settings of the site and its surrounding along with map.
12.1.6	A list of major industries with name, products and distance from plant site within study area (10km radius) and the location of the industries shall be depicted in the study area map.
12.1.7	In case if the project site is in vicinity of the water body, 50 meters from the edge of the water body towards the site shall be treated as no development/construction zone. If it's near the wetland, Guidelines for implementing Wetlands (Conservation and Management) Rules, 2017 may be followed.
12.1.8	In case if the project site is in vicinity of the river, the industry shall not be located within the river flood plain corresponding to one in 25 years flood, as certified by concerned District Magistrate/Executive Engineer from State Water Resources Department (or) any other officer authorized by the State Government for this purpose as per the provisions contained in the MoEF&CC Office Memorandum dated 14/02/2022.
12.1.9	In case of canal/ nala/ seasonal drain and any other water body passing through project site, the PP shall submit the suitable steps /conservation plan/mitigation measures along with contouring, Run -off calculations, disposal etc. A robust and full proof Drainage Conservation scheme to protect the natural drainage/water bodies and its flow parameters; along with Soil conservation scheme and multiple Erosion control measures shall be provided in the report.
12.1.10	Type of land, land use of the project site needs to be submitted.

S. No..	Terms of Reference
12.1.11	Status of acquisition of land. If acquisition is not complete, stage of the acquisition process as per the MoEF&CC O.M. dated 7/10/2014 shall be furnished.
12.1.12	Project proponent shall prepare Engineering layout plan showing all internal roads minimum 6 m width and 9 m turning radius for smooth traffic flow inside including fire tender as per NBC. Road network shall connect all service areas in layout. This drawing shall include area statement showing plot area, area under roads, parking, green belt with calculations and % with respect to plot area of project site and proper indexing. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
12.1.13	Project proponent shall submit contour map of project site along with drainage disposal system with calculations and drawings supported with proper indexing including Rain Water Harvesting details with calculations mentioning about GW recharge along with relevant drawing.
12.1.14	A detailed report covering all aspects of Fire Safety Management and Fire Emergency Plan shall be submitted.
12.1.15	Details of drone survey for the site, needs to be included in report and presented before the EAC during appraisal of the project.

### 13. Project description

#### 13.1. Forest and wildlife related issues (if applicable)

S. No..	Terms of Reference
13.1.1	Status of Forest Clearance for the use of forest land shall be submitted.
13.1.2	Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife if the project site located within notified Eco-Sensitive Zone, 10 km radius of national park/sanctuary wherein final ESZ notification is not in place as per MoEF&CC Office Memorandum dated 8/8/2019.
13.1.3	The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, Eco-sensitive Zone and Eco-sensitive areas, the project proponent shall submit the map duly authenticated by Divisional Forest Officer showing the distance between the project site and the said areas.
13.1.4	Wildlife Conservation Plan duly authenticated by the Competent Authority of the State Government for conservation of Schedule I fauna along with budget and action plan, if any exists in the study area.

### 14. Project description

#### 14.1. Salient features of the project

S. No..	Terms of Reference
14.1.1	Products with capacities in Tons per Annum for the proposed project.
14.1.2	If expansion project, status of implementation of existing project, details of existing/proposed products

S. No..	Terms of Reference
	with production capacities in Tons per Annum.
14.1.3	Site preparatory activities.
14.1.4	List of raw materials required and their source along with mode of transportation.
14.1.5	Other than raw materials, other chemicals and materials required with quantities and storage capacities.
14.1.6	Manufacturing process details along with process flow diagram of proposed units.
14.1.7	Consolidated materials and energy balance for the project.
14.1.8	Total requirement of surface/ ground water and power with their respective sources, status of approval.
14.1.9	Water balance diagram
14.1.10	Details of Emission, effluents, hazardous waste generation and mode of disposal during construction as well as operation phase.
14.1.11	Man-power requirement.
14.1.12	Cost of project and scheduled time of completion.
14.1.13	In case of expansion projects, project proponent shall submit structural stability certificate showing whether existing structure withstand for proposed expansion activity.
14.1.14	<p>Brief on present status of compliance (Expansion/modernization proposals) a. Cumulative Environment Impact Assessment for the existing as well as the proposed expansion/modernization shall be carried out. b. Cumulative Impact Assessment need to be carried out by greenfield projects considering the nearby industries. c. In case of ground water drawl for the existing unit, action plan for phasing out of ground water abstraction in next two years except for domestic purposes and shall switch over to 100 % use of surface water from nearby source. d. Copy of all the Environment Clearance(s) including Amendments/validity of extension/transfer of EC, there to obtained for the project from MoEF&amp;CC/SEIAA shall be attached as Annexures. A Certified Compliance Report (CCR) of the Integrated Regional Office of the Ministry of Environment, Forest and Climate Change/ or concerned authority as per OM No. IA3-22/10/2022-IA.III [E 1772581], dated 8th June, 2022 on the status of compliance of conditions stipulated in all the existing environment clearances including amendments shall be provided. A Certified Compliance Report (CCR) issued by the concerned Authority shall be valid for a period of one year from the date of inspection. e. In case the existing project has not obtained Environment Clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. A proper justification needs to be submitted along with documentary proof. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 1994 or 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of CTO from the Regional Office of the SPCB shall be submitted, as per OM No. IA3-22/10/2022-IA.III [E 1772581], dated 8th June, 2022. CCR on CTO conditions issued by the concerned SPCBs/PCCs shall be valid for a period of one year from the date of inspection of the project.</p>

## 15. Description of the Environment

S. No..	Terms of Reference												
15.1	Study period												
15.2	<p>Approach and methodology for data collection as furnished below</p> <table border="1"> <thead> <tr> <th data-bbox="263 331 518 365">Attributes</th> <th data-bbox="630 331 734 365">Network</th> <th data-bbox="794 320 914 353">Sampling Frequency</th> <th data-bbox="1217 320 1329 353">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="263 398 518 1037">           Air Environment            Micro-Meteorological           <ul style="list-style-type: none"> <li>• Wind speed (Hourly)</li> <li>• Wind direction</li> <li>• Dry bulb temperature</li> <li>• Wet bulb temperature</li> <li>• Relative humidity</li> <li>• Rainfall</li> <li>• Solar radiation</li> <li>• Cloud cover</li> <li>• Environmental</li> <li>• Lapse Rate</li> </ul> </td> <td data-bbox="630 701 734 801">           Minimum 1 site in the project impact area         </td> <td data-bbox="794 701 914 768">           hourly continuous         </td> <td data-bbox="1082 566 1473 902">           IS 5182 Part 1-20           <ul style="list-style-type: none"> <li>• Site specific primary data is essential</li> <li>• Secondary data from IMD, New Delhi</li> <li>• CPCB guidelines to be considered.</li> </ul> </td> </tr> <tr> <td data-bbox="263 1317 518 1765">           Pollutants           <ul style="list-style-type: none"> <li>• PM10</li> <li>• SO2</li> <li>• NOx</li> <li>• CO</li> <li>• HC</li> <li>• Other parameters relevant to the project and topography of the area</li> </ul> </td> <td data-bbox="630 1518 734 1585">           At least 8-12 locations         </td> <td data-bbox="794 1462 914 1641">           As per National Ambient Quality Standards, CPCB Notification.         </td> <td data-bbox="1082 1104 1473 2011"> <ul style="list-style-type: none"> <li>• Sampling as per CPCB guidelines</li> <li>• Collection of AAQ data (except in monsoon season)</li> <li>• Locations of various stations for different parameters should be related to the characteristic properties of the parameters.</li> <li>• The monitoring stations shall be based on the NAAQM standards as per GSR 826(E) dated 16/11/2009 and take into account the predominant wind direction, population zone and sensitive receptors including reserved forests,</li> <li>• Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAAQM Notification of 16/11/2009 along with min., max.,</li> </ul> </td> </tr> </tbody> </table>	Attributes	Network	Sampling Frequency	Remarks	Air Environment Micro-Meteorological <ul style="list-style-type: none"> <li>• Wind speed (Hourly)</li> <li>• Wind direction</li> <li>• Dry bulb temperature</li> <li>• Wet bulb temperature</li> <li>• Relative humidity</li> <li>• Rainfall</li> <li>• Solar radiation</li> <li>• Cloud cover</li> <li>• Environmental</li> <li>• Lapse Rate</li> </ul>	Minimum 1 site in the project impact area	hourly continuous	IS 5182 Part 1-20 <ul style="list-style-type: none"> <li>• Site specific primary data is essential</li> <li>• Secondary data from IMD, New Delhi</li> <li>• CPCB guidelines to be considered.</li> </ul>	Pollutants <ul style="list-style-type: none"> <li>• PM10</li> <li>• SO2</li> <li>• NOx</li> <li>• CO</li> <li>• HC</li> <li>• Other parameters relevant to the project and topography of the area</li> </ul>	At least 8-12 locations	As per National Ambient Quality Standards, CPCB Notification.	<ul style="list-style-type: none"> <li>• Sampling as per CPCB guidelines</li> <li>• Collection of AAQ data (except in monsoon season)</li> <li>• Locations of various stations for different parameters should be related to the characteristic properties of the parameters.</li> <li>• The monitoring stations shall be based on the NAAQM standards as per GSR 826(E) dated 16/11/2009 and take into account the predominant wind direction, population zone and sensitive receptors including reserved forests,</li> <li>• Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAAQM Notification of 16/11/2009 along with min., max.,</li> </ul>
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S. No..	Terms of Reference
	<p style="text-align: right;">average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.</p> <p>Noise</p> <p>Hourly equivalent noise levels At least 8-12 locations s per CPCB norms</p> <p>Water</p> <p>Parameters for water quality</p> <ul style="list-style-type: none"> <li>• pH, temp, turbidity, magnesium hardness, total alkalinity, chloride, sulphate, nitrate, fluoride, sodium, potassium, salinity</li> <li>• Total nitrogen, total phosphorus, DO, BOD, COD, Phenol</li> <li>• Heavy metals</li> <li>• Total coliforms, faecal coliforms</li> <li>• Phyto plankton</li> <li>• Zoo plankton</li> </ul> <p>For River Bodies</p> <ul style="list-style-type: none"> <li>• Total Carbon</li> <li>• pH</li> <li>• Dissolved Oxygen</li> <li>• Biological Oxygen Demand</li> <li>• Free NH<sub>4</sub></li> <li>• Boron</li> <li>• Sodium Absorption Ratio</li> <li>• Electrical Conductivity</li> </ul> <p>For Ground Water</p> <p>Traffic Study</p> <p>Type of vehicles</p> <p>Land Environment</p> <p>Surface water quality of the nearest River (60m upstream and downstream) and other surface water bodies</p> <p>Standard methodology for collection of surface water (BIS standards)</p> <p>Yield of water sources to be measured during critical season</p> <p>IS: 2488 (Part 1-5) methods for sampling and testing of Industrial effluents</p> <p>Standard methods for examination of water and wastewater analysis published by American Public Health Association</p> <p>Samples for water quality should be collected and analyzed as per:</p>

S. No..	Terms of Reference
	<ul style="list-style-type: none"> <li>• Frequency of vehicles for transportation of materials</li> <li>• Additional traffic due to proposed project</li> </ul> <p>Soil</p> <ul style="list-style-type: none"> <li>• Particle size distribution</li> <li>• Texture</li> <li>• pH</li> <li>• Electrical conductivity</li> <li>• Cation exchange capacity</li> <li>• Alkali metals</li> <li>• Sodium Absorption Ratio (SAR)</li> <li>• Permeability</li> <li>• Water holding capacity</li> <li>• Porosity</li> </ul> <p>Land use/Landscape</p> <ul style="list-style-type: none"> <li>• Location code</li> <li>• Total project area</li> <li>• Topography</li> <li>• Drainage (natural)</li> </ul> <p>Cultivated, forest, plantations, water bodies, roads and settlements</p> <p>Biological Environment</p> <p>1. Aquatic</p> <ul style="list-style-type: none"> <li>• Primary productivity</li> <li>• Aquatic weeds</li> <li>• Enumeration of phyto plankton, zoo plankton and benthos</li> <li>• Fisheries</li> <li>• Diversity indices</li> <li>• Trophic levels</li> </ul> <ul style="list-style-type: none"> <li>• Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. Indicator species which indicate ecological and environment degradation should be identified and included to clearly state whether the proposed project would result in to any adverse effect on any species.</li> <li>• Samples to collect from upstream and downstream of discharge point, nearby tributaries at downstream, and also from dug wells close to activity site.</li> <li>• For forest studies, direction of wind should be considered while</li> </ul> <p style="text-align: center;">Soil samples be collected as per BIS specifications</p>

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S. No..	Terms of Reference
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> <li>• Wet bulb temperature</li> <li>• Relative humidity</li> <li>• Rainfall</li> <li>• Solar radiation</li> <li>• Cloud cover</li> <li>• Environmental</li> <li>• Lapse Rate</li> </ul> <p>Pollutants</p> <ul style="list-style-type: none"> <li>• PM10</li> <li>• SO2</li> <li>• NOx</li> <li>• CO</li> <li>• HC</li> <li>• Other parameters relevant to the project and topography of the area</li> </ul> <p>Noise</p> <p>Hourly equivalent noise levels</p> <p>Water</p> <p>Parameters for water quality</p> </div> <div style="width: 45%;"> <p>New Delhi</p> <ul style="list-style-type: none"> <li>• CPCB guidelines to be considered.</li> </ul> <ul style="list-style-type: none"> <li>• Sampling as per CPCB guidelines</li> <li>• Collection of AAQ data (except in monsoon season)</li> <li>• Locations of various stations for different parameters should be related to the characteristic properties of the parameters.</li> <li>• The monitoring stations shall be based on the NAAQM standards as per GSR 826(E) dated 16/11/2009 and take into account the predominant wind direction, population zone and sensitive receptors including reserved forests,</li> <li>• Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAAQM Notification of 16/11/2009 along with min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.</li> </ul> <p>As per National Ambient Air Quality Standards, CPCB Notification.</p> <p>At least 8-12 locations</p> <p>At least 8-12 locations</p> <p>Samples for water quality should be collected and analyzed as per:</p> </div> </div>

S. No..	Terms of Reference
	<ul style="list-style-type: none"> <li>• pH, temp, turbidity, magnesium hardness, total alkalinity, chloride, sulphate, nitrate, fluoride, sodium, potassium, salinity</li> <li>• Total nitrogen, total phosphorus, DO, BOD, COD, Phenol</li> <li>• Heavy metals</li> <li>• Total coliforms, faecal coliforms</li> <li>• Phyto plankton</li> <li>• Zoo plankton</li> </ul> <p>For River Bodies</p> <ul style="list-style-type: none"> <li>• Total Carbon</li> <li>• pH</li> <li>• Dissolved Oxygen</li> <li>• Biological Oxygen Demand</li> <li>• Free NH<sub>4</sub></li> <li>• Boron</li> <li>• Sodium Absorption Ratio</li> <li>• Electrical Conductivity</li> </ul> <p>For Ground Water</p> <p>Traffic Study</p> <p>Type of vehicles</p> <ul style="list-style-type: none"> <li>• Frequency of vehicles for transportation of materials</li> <li>• Additional traffic due to proposed project</li> </ul> <p>Soil</p> <ul style="list-style-type: none"> <li>• Particle size distribution</li> <li>• Texture</li> <li>• pH</li> </ul> <p>IS: 2488 (Part 1-5) methods for sampling and testing of Industrial effluents</p> <p>Standard methods for examination of water and wastewater analysis published by American Public Health Association</p> <p>Yield of water sources to be measured during critical season</p> <p>Standard methodology for collection of surface water (BIS standards)</p> <p>Surface water quality of the nearest River (60m upstream and downstream) and other surface water bodies</p> <p>Ground water monitoring data should be collected at minimum of 8 locations (from existing wells /tube wells/existing current records) from the study area and shall be included.</p> <p>Soil samples be collected as per BIS specifications</p>

S. No..	Terms of Reference
	<ul style="list-style-type: none"> <li>• Electrical conductivity</li> <li>• Cation exchange capacity</li> <li>• Alkali metals</li> <li>• Sodium Absorption Ratio (SAR)</li> <li>• Permeability</li> <li>• Water holding capacity</li> <li>• Porosity</li> </ul> <p>Land use/Landscape</p> <ul style="list-style-type: none"> <li>• Location code</li> <li>• Total project area</li> <li>• Topography</li> <li>• Drainage (natural)</li> </ul> <p>Cultivated, forest, plantations, water bodies, roads and settlements</p> <p>Biological Environment</p> <p>1. Aquatic</p> <ul style="list-style-type: none"> <li>• Primary productivity</li> <li>• Aquatic weeds</li> <li>• Enumeration of phyto plankton, zoo plankton and benthos</li> <li>• Fisheries</li> <li>• Diversity indices</li> <li>• Trophic levels</li> <li>• Rare and endangered species</li> <li>• Marine Parks/ Sanctuaries/ closed areas /coastal regulation zone (CRZ)</li> </ul> <p>2. Terrestrial</p> <ul style="list-style-type: none"> <li>• Vegetation-species list, economic importance, forest produce, medicinal</li> </ul> <ul style="list-style-type: none"> <li>• Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. Indicator species which indicate ecological and environment degradation should be identified and included to clearly state whether the proposed project would result in to any adverse effect on any species.</li> <li>• Samples to collect from upstream and downstream of discharge point, nearby tributaries at downstream, and also from dug wells close to activity site.</li> <li>• For forest studies, direction of wind should be considered while selecting forests.</li> <li>• Secondary data to collect from Government offices, NGOs, published literature.</li> </ul>

S. No..	Terms of Reference
	<p>value</p> <ul style="list-style-type: none"> <li>• Importance value index (IVI) of trees</li> <li>• Fauna</li> <li>• Avi fauna</li> <li>• Rare and endangered species</li> <li>• Sanctuaries / National park / Biosphere reserve</li> <li>• Migratory routes</li> </ul> <p>socio-economic Demographic structure</p> <ul style="list-style-type: none"> <li>• Infrastructure resource base</li> <li>• Economic resource base</li> <li>• Health status: Morbidity pattern</li> <li>• Cultural and aesthetic attributes.</li> <li>• Education</li> </ul> <p>Socio-economic survey is based on proportionate, stratified and random sampling method.</p> <ul style="list-style-type: none"> <li>• Primary data collection through questionnaire</li> <li>• Secondary data from census records, statistical hard books, topo sheets, health records and relevant official records available with Govt. agencies</li> </ul>
15.3	<p>Interpretation of each environment attribute shall be enumerated and summarized as given below: • Ambient air quality • Ambient Noise quality • Surface water quality • Ground water quality • Soil quality • Biological Environment • Land use • Socio-economic environment</p>
15.4	<p>The PP should submit the photograph of monitoring stations &amp; sampling locations. The photograph should bear the date, time, latitude &amp; longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.</p>

**16. Anticipated Environment Impacts and mitigation measures (In case of expansion, cumulative impact assessment shall be carried out)**

S. No..	Terms of Reference																
16.1	<p>Identification of potential impacts in the form of a matrix for the construction and operation phase for all the environment components</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 20%;">Environment</th> <th style="width: 20%;">Ecological</th> <th style="width: 30%;">Socio-economic</th> </tr> </thead> <tbody> <tr> <td>Activity</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Construction phase</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Operation phase</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Environment	Ecological	Socio-economic	Activity				Construction phase				Operation phase			
	Environment	Ecological	Socio-economic														
Activity																	
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16.2	<p>Impact on ambient air quality (Sources; Embedded control measures; Assessment; Mitigation measures;</p>																

S. No..	Terms of Reference
	Residual impact) a. Construction phase b. Operation phase • Details of stack emissions from the existing as well as proposed activity. • Assessment of ground level concentration of pollutants from the stack emission based on AQIP Modelling The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any along with wind rose map for respective period • Impact on ground level concentration, under normal, abnormal and emergency conditions. Measures to handle emergency situations in the event of uncontrolled release of emissions.
16.3	Impact on ambient noise quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.4	Impact on traffic (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.5	Impact on soil quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.6	Impact on land use (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.7	Impact on surface water resource and quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.8	Impact on ground water resource and quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.9	Impact on terrestrial and aquatic habitat (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.10	Impact on socio-economic environment (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase
16.11	Impact on occupational health and safety (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase

#### 17. Analysis of Alternatives (Technology & Site)

S. No..	Terms of Reference
17.1	No project scenario
17.2	Site alternative
17.3	Technical and social concerns
17.4	Conclusion

#### 18. Environmental Monitoring Program

S. No..	Terms of Reference																		
18.1	Details of the Environment Management Cell																		
18.2	Performance monitoring schedule for all pollution control devices shall be furnished.																		
18.3	<p>Corporate Environment Policy</p> <p>a. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.</p> <p>b. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environment or forest norms / conditions? If so, it may be detailed in the EIA.</p> <p>c. What is the hierarchical system or Administrative order of the company to deal with the environment issues and for ensuring compliance with the environment clearance conditions? Details of this system may be given. Page 9 of 10</p> <p>d. Does the company have system of reporting of non compliances / violations of environment norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report</p>																		
18.4	<p>Action plan for post-project environment monitoring matrix:</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Aspect</th> <th>Monitoring Parameter</th> <th>Location</th> <th>Frequency</th> <th>Responsibility</th> </tr> </thead> <tbody> <tr> <td>Construction phase</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Operation phase</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Activity	Aspect	Monitoring Parameter	Location	Frequency	Responsibility	Construction phase						Operation phase					
Activity	Aspect	Monitoring Parameter	Location	Frequency	Responsibility														
Construction phase																			
Operation phase																			

#### 19. Additional Studies

S. No..	Terms of Reference
19.1	Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage after offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.
19.2	Details of adoption/ implementation status/plan to achieve the goal of Glasgow COP26 Climate Submit with regard to enhance the non-fossil energy, use of renewable energy, minimization of net carbon emission and carbon intensity with long-term target of "net Zero" emission.
19.3	Implementation status/measures adopted for avoiding the generation of single used plastic waste.
19.4	In cases the project is located in Critically and Severely Polluted Areas, additional mitigation measures adopted and detailed action plan to be submitted in the EIA/EMP Report as per MoEF&CC O.M. No. 22-23/2028-IA.III dated 31/10/2019 and MoEF&CC O.M. No. 22-23/2028-IA.III dated 5/07/2022 has to be submitted.
19.5	Public consultation details (Entire proceedings as separate annexure along with authenticated English

S. No..	Terms of Reference
	Translation of Public Consultation proceedings).
19.6	As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration. In this regard, time bound action plan as per the MoEF&CC Office Memorandum dated 30/09/2020 shall be submitted.
19.7	Summary of issues raised during public consultation along with action plan to address the same as per MoEF&CC O.M. dated 30/09/2020 <b>Physical activity and action plan</b> <b>Year of implementation (Budget in INR)</b> <b>Total Expenditure (Rs. in Crores)</b> S.No      Name of the Physical Activity      Targets      1st      2nd      3rd
19.8	Risk assessment <ul style="list-style-type: none"> <li>• Methodology</li> <li>• Hazard identification</li> <li>• Frequency analysis</li> <li>• Consequence analysis</li> <li>• Risk assessment outcome</li> </ul>
19.9	Emergency response and preparedness plan

## 20. Project Benefits

S. No..	Terms of Reference
20.1	Environment benefits
20.2	Social infrastructure
20.3	Employment and business opportunity
20.4	Other tangible benefits

## 21. Environment Cost Benefit Analysis

S. No..	Terms of Reference
21.1	Net present value
21.2	Internal rate of return
21.3	Benefit cost ratio

S. No..	Terms of Reference
21.4	Cost effectiveness analysis

## 22. Environment Management Plan (Construction and Operation phase)

S. No..	Terms of Reference
22.1	Action plan for hazardous waste management
22.2	Action plan for solid waste management
22.3	Action plan for e-waste management.
22.4	Action plan for plastic waste management, considering the Plastic Waste Management Rules 2016.
22.5	Action plan for construction and demolition waste management.
22.6	Rain water harvesting plan
22.7	Plan for maximum usage of waste water/treated water in the Unit
22.8	Green belt development plan: An action plan for Green Belt development consisting of 3 tiers of plantations of native species all along the periphery of the project of adequate width shall be raised in 33% of total area with a tree density shall not less than 2500 per ha within a time frame of one year shall be submitted. Survival rate of green belt shall be monitored on periodic basis to ensure that survival rate not be less than 80 %.
22.9	Wildlife conservation plan (In case of presence of schedule I species)
22.10	Total capital cost and recurring cost/annum for environment pollution control measures shall be included.
22.11	Explore possibilities for recycling and reusing of treated water in the unit to reduce the freshwater demand and waste disposal.
22.12	An Action Plan for improving the house-keeping activities in the raw material handling area need to be submitted
22.13	Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
22.14	Action plan to limit the dust emission from all the stacks below 30 mg/Nm <sup>3</sup> shall be furnished.
22.15	Action plan for fugitive emission control in the plant premises shall be provided.

## Standard Terms of Reference for conducting Environment Impact Assessment Study for Cement plants and information to be included in EIA/EMP report

1.

Sr. No.	Terms of Reference
1.1	Limestone and coal linkage documents along with the status of environment clearance of limestone and coal mines.
1.2	Quantum of production of coal and limestone from coal & limestone mines and the projects they cater to;
1.3	Present land use shall be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
1.4	If the raw materials used have trace elements, an environment management plan shall also be included.
1.5	Plan for the implementation of the recommendations made for the cement plants in the Corporate Responsibility for Environmental Protection (CREP) guidelines shall be prepared.
1.6	Energy consumption per ton of clinker and cement grinding
1.7	Provision of waste heat recovery boiler
1.8	Arrangement for co-processing of hazardous waste in cement plant.
1.9	Provision of Alternate fuels.
1.10	Details of Implementation of Fly Ash Management Rules
1.11	Emission/Effluent norms as per GSR 496 (E) dated 9/5/2016 [EPA Rules 1986].
1.12	Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
1.13	Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm <sup>3</sup> shall be furnished.
1.14	PP shall explore the possibility of plastic waste utilization in the Plant/Unit process.
1.15	Action plan for 100 % solid waste utilization shall be submitted.
1.16	PM (PM <sub>10</sub> and P <sub>2.5</sub> ) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM <sub>10</sub> to be carried over.

**Standard Terms of Reference for conducting Environment Impact Assessment Study for Thermal Power Plants and information to be included in EIA/EMP report**

**1. Statutory compliance**

Sr. No.	Terms of Reference
1.1	The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.
1.2	Vision document specifying prospective long term plan of the project shall be formulated and submitted.
1.3	Latest compliance report duly certified by the Regional Office of MoEF&CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.

## 2. Details of the Project and Site

Sr. No.	Terms of Reference
2.1	The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.
2.2	Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
2.3	Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
2.4	The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.
2.5	Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
2.6	Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
2.7	Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be

Sr. No.	Terms of Reference
	specifically submitted. Status of land acquisition and litigation, if any, should be provided.
2.8	If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
2.9	The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
2.10	Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
2.11	Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.

### 3. Ecology biodiversity and Environment

Sr. No.	Terms of Reference
3.1	A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.
3.2	Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.
3.3	A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
3.4	The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re- circulation of effluents.
3.5	Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be

Sr. No.	Terms of Reference
	furnished duly approved by the concerned Department of the State.
3.6	It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
3.7	Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted
3.8	Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
3.9	Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
3.10	Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished. In addition, wherever ground water is drawn, PP shall submit detailed plan of Water charging activity to be undertaken.
3.11	Feasibility of near zero discharge concept shall be critically examined and its details submitted.
3.12	Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.
3.13	Plan for recirculation of ash pond water and its implementation shall be submitted.
3.14	Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
3.15	Hazards Characterization: Past incidents of hazard events within 10km radius of project area with detailed analysis of causes and probability of reoccurrence

#### 4. Environmental Baseline study and mitigation measures

Sr. No.	Terms of Reference
4.1	One complete season (critical season) site specific meteorological and AAQ data (except monsoon season) as per latest MoEF&CC Notification shall be collected along with past three year's meteorological data for that particular season for wins speed analysis and the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM10, PM2.5, SO2, NOx, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
4.2	In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
4.3	A list of industries existing and proposed in the study area shall be furnished.
4.4	Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
4.5	Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
4.6	Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
4.7	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
4.8	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
4.9	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
4.10	Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities,

Sr. No.	Terms of Reference
	safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.

## 5. Environmental Management Plan

Sr. No.	Terms of Reference
5.1	EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
5.2	A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be prepared. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Provision for mock drills shall be suitably incorporated to check the efficiency of the plans drawn.
5.3	The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/ Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.
5.4	Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash along with monitoring mechanism.

## 6. Green belt development

Sr. No.	Terms of Reference
6.1	Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary not less than 2000 tree per ha with survival rate of more than 85% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO <sub>2</sub> and other gaseous pollutants and hence a stratified green belt should be developed.
6.2	Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action

Sr. No.	Terms of Reference
	Plans along with financial allocation and shall submit status of implementation to the Ministry every six months

## 7. Socio-economic activities

Sr. No.	Terms of Reference
7.1	Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
7.2	Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
7.3	If the area has tribal population, it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
7.4	A detailed CER plan along with activities wise break up of financial commitment shall be prepared in terms of the provisions OM No. 22-65/2017-IA.III dated 30.09.2020. CER component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified.
7.5	While formulating CER schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CER details done in the past should be clearly spelt out in case of expansion projects.
7.6	R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
7.7	Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
7.8	Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be

Sr. No.	Terms of Reference
	conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conductive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.

### 8. Corporate Environment Policy

Sr. No.	Terms of Reference
8.1	Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
8.2	Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
8.3	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
8.4	Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

### 9. Miscellaneous

Sr. No.	Terms of Reference
9.1	All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.
9.2	Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.
9.3	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.

### 10. Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)

Sr. No.	Terms of Reference
10.1	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified

Sr. No.	Terms of Reference
	and clearly demarcated w.r.t the proposed site.
10.2	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
10.3	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
10.4	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
10.5	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
10.6	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.
10.7	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
10.8	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
10.9	Impact on fisheries at various socio economic level shall be assessed.
10.10	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
10.11	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.

Sr. No.	Terms of Reference
10.12	There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

**Additional Terms of Reference**

1. This TOR is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.
2. This TOR is granted to the project/ activity based on the information submitted by the PP. This Standard TOR is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.
3. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the TOR, if any of the information submitted by is found incorrect and misleading.
4. Concealing factual data or submission of false/fabricated data and failure to comply with any of the provisions of the Rules may result in withdrawal of this TOR and attract action under the provisions of the Environment (Protection) Act, 1986.

**Annexure 2**

**Details of Products & By-products**

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Clinker	Product	8.1	8	16.1	MTPA	Inhouse clinker grinding unit	-
Cement	Product	6.5	10	16.5	MTPA	Combination of two or three modes	35 % by Road & 65% by Rail
Captive Power Plant	Product	63	60	123	Mega Watt (MW)	NA	-
Waste Heat Recovery System	Product	43	42	85	Mega Watt (MW)	NA	-