



File No: IA-J-11011/386/2023-IA-II(IND-I)

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

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Dated 29/09/2024



To,

M/s. SHAMBHAVI ISPAT  
C/O AMIT TRADING COMPANY GANDHI GANJ RAIGARH , Gerwani , RAIGARH,  
CHHATTISGARH, , 496001  
E-mail: shambhaviispat@gmail.com

Subject: **Expansion of Steel Plant by Backward Integration of steel plant comprising of establishment of 2 x 350 TPD DRI Kilns to manufacture 2,31,000 TPA of Sponge Iron along with 2 x 10 MW WHRB Power Plant, 1 x 10 MW FBC Power Plant, 1 x 9 MVA Ferro Alloys Unit to manufacture FeSi - 7,000 TPA / FeMn - 25,200 TPA/ SiMn - 14,000 TPA / FeCr - 15,000 TPA / Pig Iron - 25,200 TPA, Briquetting Plant - 100 Kg/Hr., Brick Manufacturing unit (25,000 Bricks/day) & Slag Crushing Unit (40,000 TPA) by M/s Shambhavi Ispat, located at Village: Gerwani, Tehsil and District: Raigarh, Chhattisgarh – Grant of TOR -Regarding.**

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Expansion of Steel Plant by Backward Integration of steel plant comprising of establishment of 2 x 350 TPD DRI Kilns to manufacture 2,31,000 TPA of Sponge Iron along with 2 x 10 MW WHRB Power Plant, 1 x 10 MW FBC Power Plant, 1 x 9 MVA Ferro Alloys Unit to manufacture FeSi - 7,000 TPA / FeMn - 25,200 TPA/ SiMn - 14,000 TPA / FeCr - 15,000 TPA / Pig Iron - 25,200 TPA, Briquetting Plant - 100 Kg/Hr., Brick Manufacturing unit (25,000 Bricks/day) & Slag Crushing Unit (40,000 TPA) submitted to Ministry vide proposal number IA/CG/IND1/478592/2024 dated 13/07/2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO24A1001CG5752202N
(ii) File No.	IA-J-11011/386/2023-IA-II(IND-I)
(iii) Clearance Type	TOR
(iv) Category	A
(v) Project/Activity Included Schedule No.	3(a) Metallurgical Industries (ferrous and non ferrous),1(d) Thermal Power Plants,1(d) Thermal Power Plants
(vi) Sector	Industrial Projects - 1

**(vii) Name of Project**

Expansion of Steel Plant by Backward Integration of steel plant comprising of establishment of 2 x 350 TPD DRI Kilns to manufacture 2,31,000 TPA of Sponge Iron along with 2 x 10 MW WHRB Power Plant, 1 x 10 MW FBC Power Plant, 1 x 9 MVA Ferro Alloys Unit to manufacture FeSi - 7,000 TPA / FeMn - 25,200 TPA/ SiMn - 14,000 TPA / FeCr - 15,000 TPA / Pig Iron - 25,200 TPA, Briquetting Plant - 100 Kg/Hr., Brick Manufacturing unit (25,000 Bricks/day) & Slag Crushing Unit (40,000 TPA)

**(viii) Name of Company/Organization**

SHAMBHAVI ISPAT

**(ix) Location of Project (District, State)**

RAIGARH, CHHATTISGARH

**(x) Issuing Authority**

MoEF&CC

**(xii) Applicability of General Conditions**

no

**(xiii) Applicability of Specific Conditions**

no

3. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous and non-ferrous) and 1(d) Thermal Power Plants under Category "A" of the schedule of the EIA Notification, 2006 and being appraised at Central Level.

4. The proposal was considered in the 64th EAC Meeting held during 21 – 23rd August, 2024. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed at <https://parivesh.nic.in>.

**Details submitted by Project proponent**

5. The project of M/s. Shambhavi Ispat located at Village: Gerwani, Tehsil and District: Raigarh, Chhattisgarh is for expansion of Steel Plant by Backward Integration of steel plant comprising of establishment of 2 x 350 TPD DRI Kilns to manufacture 2,31,000 TPA of Sponge Iron along with 2 x 10 MW WHRB Power Plant, 1 x 10 MW FBC Power Plant, 1 x 9 MVA Ferro Alloys Unit to manufacture FeSi - 7,000 TPA / FeMn - 25,200 TPA/ SiMn - 14,000 TPA / FeCr - 15,000 TPA / Pig Iron - 25,200 TPA, Briquetting Plant - 100 Kg/Hr., Brick Manufacturing unit (25,000 Bricks/day) & Slag Crushing Unit (40,000 TPA).

6. The environmental setting of the proposed project is given at **Annexure-II** and the Unit configuration and capacity is at **Annexure-III**.

7. Water required for EC permitted capacity is 435 KLD and same being sourced from Ground water. NOC from CGWA for withdrawing of ground water is obtained vide NOC no. CGWA/NOC/IND/ORIG/2021/13107 dated 30.08.2021 and same is valid till 29.08.2024. Water required for the proposed expansion project will be 870 KLD and same will be sourced from Ground Water and Kelo River (which is at a distance of 1.5 Kms. from the project site). Total water requirement after the proposed expansion will be 1,305 KLD. Out of this 490 KLD will be sourced from Ground water and remaining 815 KLD from Kelo river. Water drawl permission for expansion proposal will be obtained from CGWA & Water Resource Department, Govt. of Chhattisgarh before final appraisal for EC.

8. Power requirement in exiting plant & EC permitted capacity is 44.0 MW and same is being sourced from State Grid. The Power requirement for the proposed expansion project is estimated as 14.0 MW. Total power consumption after expansion is 58.0 MW and same will be sourced partly from Captive power plant (30.0 MW) and remaining from the State Grid (28.0 MW).

9. The capital cost of the for the expansion project is Rs.325.5 Crores. And the capital cost for Environmental Protection measures is proposed as Rs.30 Crores. The Employment generation from the proposed expansion project will be 250 nos. through direct employment and 500 nos. through indirect employment.

10. It is reported that there is no violation under EIA, 2006/court case/show cause/direction related to the project under consideration.

### **Deliberation by the Committee**

11. The Committee noted the following:

1. The instant proposal is for expansion of Steel Plant by Backward Integration of steel plant comprising of establishment of 2 x 350 TPD DRI Kilns to manufacture 2,31,000 TPA of Sponge Iron along with 2 x 10 MW WHRB Power Plant, 1 x 10 MW FBC Power Plant, 1 x 9 MVA Ferro Alloys Unit to manufacture FeSi - 7,000 TPA / FeMn - 25,200 TPA/ SiMn - 14,000 TPA / FeCr - 15,000 TPA / Pig Iron - 25,200 TPA, Briquetting Plant - 100 Kg/Hr., Brick Manufacturing unit (25,000 Bricks/day) & Slag Crushing Unit (40,000 TPA).
2. The existing project was initially accorded CTE from CECB vide letter no. 1072/RO/TS/CECB/2019 dated 23.10.2019 for establishment of 30,000 TPA Rolling Mill to manufacture MS Bars and Rods (TMT Bars). Subsequently, Environmental Clearance was obtained from SEIAA, Chhattisgarh vide OL/EC/IND/RAIGARH/1167 dated 21.10.2022 for establishment of Induction Furnace to produce Billets - 3,96,000 TPA, expansion of Rolling Mill expansion from 30,000 TPA to 3,60,000 TPA and Coal Gasifier – 2 x 9900 Nm<sup>3</sup>/Hr. Consent to Operate was issued by CECB for 30,000 TPA Rolling Mill to manufacture MS Bars and Rods (TMT Bar) vide no. 1509/RO/TS/CECB/2021 dt. 16.11.2021. Consent to Operate for Induction Furnaces (4 x 15 T) to produce Billets of 1,98,000 TPA and Rolling Mill – 1,95,000 TPA was issued by CECB vide no. 9965/TS/CECB/2024 Naya Raipur dt. 12.03.2024 which is valid till 31.01.2027.
3. The EAC took into consideration the drone survey of the project site and kml file on the Google Earth presented by the project proponent along with DSS of the project site on PARIVESH and made following deliberations accordingly.
4. The total area for the proposed plant is 10.417 Ha [Existing Plant land – 8.223 Ha. and Additional land – 2.194 Ha.], which is registered in the name of the company. PP has reported that 8.223 Ha. of existing plant land is already diverted and remaining 2.194 Ha. of private land will also be diverted. The EAC is of the opinion that land conversion for industrial purpose shall be completed and the related documents shall be submitted with EIA/EMP report.
5. Gerwani (V) is at a distance of 0.5 km from the project site along with other sensitive areas within the study area of the project site. The EAC is of the opinion that PP shall prepare and include in the EIA/EMP Report the environmental safeguard measures to minimise the impact of the project activities on these sensitive areas.
6. Kelo river is at a distance of 1.5 km in East of project site along with other water bodies within the study area of the project site. The EAC is of the opinion that water bodies shall not be disturbed. Mitigation measures w.r.t. safeguarding the water bodies shall be prepared and submitted.
7. The total water requirement after the proposed expansion will be 1,305 KLD. Out of this 490 KLD will be sourced from Ground water and remaining 815 KLD from Kelo river. The EAC is of the opinion that PP shall obtain necessary permission in this regard. PP shall also explore the possibility to draw complete water from the surface water to minimise the dependency on ground water.

### **Recommendations of the Committee**

12. After deliberations, the Committee **recommended** the project proposal for prescribing specific ToRs for undertaking detailed EIA and EMP study **along with Public Hearing** in addition to the generic ToRs enclosed at **Annexure-I** read with additional ToRs:

### **Decision of MoEF&CC**

13. The undersigned is directed to inform that Ministry of Environment, Forest and Climate Change has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the Expert Appraisal Committee (Industry-1) hereby decided to accord above-said specific ToRs, in addition to the standard ToRs and Sector Specific ToRs as enclosed at **Annexure-I** read with

additional ToRs for carrying out detailed EIA/EMP for the above project.

14. 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 and thereafter further necessary action may be taken for obtaining Environment Clearance in accordance with the procedure prescribed under the EIA Notification, 2006 as amended.

15. 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.

16. This issue with the approval of the Competent Authority.

(Dinesh Runiwal)  
Scientist 'F'/Director  
Tel: 011-20819346  
E-mail: d.runiwal@gov.in

### **Copy To**

1. The Secretary, Govt..of Chhattisgarh, Department of Housing and Environment & Chairman, Chhattisgarh Environment Conservation Board, Room No- 0S/23, Mahanadi Bhawan, Nava Raipur Atal Nagar, Dist-Raipur, Chhattisgarh.
2. The Principal Chief Conservation of Forest (Wildlife & Biodiversity Conservation) cum Chief WildLife Warden, Forest & Climate Change Department, Government of Chhattisgarh, Aranya Bhawan, North Block, Sector-19, Nava Raipur Atal Nagar, Chhattisgarh.
3. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Sub Office – Raipur, Ground Floor, Aranya Bhawan, North Block, Sector- 19, Naya Raipur, Atal Nagar, Chhattisgarh – 492002.
4. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
5. The Chairman, Chhattisgarh Environment Conservation Board, North Block Sector-19, Atal Nagar Dist- Raipur, Chhattisgarh-492001.
6. The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.
7. The District Collector, Collectorate Parishar, Raigarh – 496001, Chhattisgarh.
8. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi.
9. Guard File/Monitoring File/Website/Record File/Parivesh Portal.

(Dinesh Runiwal)  
Scientist 'F'/Director

### **Annexure 1**

#### **Specific Terms of Reference for (Metallurgical Industries (Ferrous And Non Ferrous))**

#### **1. Specific**

S. No	Terms of Reference
1.1	Land conversion for industrial purpose for the remaining land shall be completed and the related documents shall be submitted with EIA/EMP report.
1.2	Gerwani (V) is at a distance of 0.5 km from the project site along with other sensitive areas within the study area of the project site. Proponent shall prepare appropriate environmental safeguard measures to minimise the impact of the project activities on these sensitive areas.
1.3	Kelo river is at a distance of 1.5 km in East of project site along with other water bodies within the study area of the project site. The PP shall include in the EIA/EMP report suitable steps /conservation plan along with contouring (close intervals), Run -off calculations, disposal etc. A robust and full proof Drainage Conservation scheme to protect the natural drainage and its flow parameters; along with Soil conservation scheme and multiple Erosion control measures shall be prepared and included in EIA/EMP Report.
1.4	PP shall submit a NOC from the State Forest Department certifying that there is no involvement of forest land in the proposed land. The certificate shall also carry the geographical coordinates of the proposed project site.
1.5	Water requirement of 1305 KLD is proposed to be met from Ground Water (490 KLD) & Kelo River (815 KLD). PP shall obtain necessary water permission from the Competent Authority. PP shall also explore the possibility to draw complete water from the surface water to minimise the dependency on ground water.
1.6	The annual Wind Rose Diagram must be included in the E.I.A. Report. Data for this may be obtained from secondary sources such as IMD.
1.7	The “inversion height” and “mixing height” must be reported in eth E.I.A. Report without any ambiguity.
1.8	The “input” parameters for the AAQ modelling must be given in the E.I.A. Report.
1.9	“CO” sensors with alarms must be installed at strategic locations inside the Plant.
1.10	Source analysis of PM must be carried out f the PM level exceeds 90% of the permissible upper limit.
1.11	The estimated specific CO2 emission and water consumption (per tonne of steel produced) must be included in the E.I.A. Report.

#### Standard Terms of Reference for Industrial Projects - 1

##### 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.

S. No	Terms of Reference
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.

### 2.1 Introduction

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

### 2.2 Project Description

S. No	Terms of Reference
2.2.1	Resource requirements (Land; water; fuel; manpower)
2.2.2	Operational activity
2.2.3	Key pollution concerns

### 2.3 Baseline Environment Studies

S. No	Terms of Reference
2.3.1	Ambient air quality
2.3.2	Ambient Noise quality
2.3.3	Traffic study
2.3.4	Surface water quality
2.3.5	Ground water quality
2.3.6	Soil quality

S. No	Terms of Reference
2.3.7	Biological Environment
2.3.8	Land use
2.3.9	Socio-economic environment

#### 2.4 Anticipated Impacts

S. No	Terms of Reference
2.4.1	Impact on ambient air quality
2.4.2	Impact on ambient noise quality
2.4.3	Impact on road and traffic
2.4.4	Impact on surface water resource and quality
2.4.5	Impact on ground water resource and quality
2.4.6	Impact on terrestrial and aquatic habitat
2.4.7	Impact on socio-economic environment

#### 2.5 Alternative Analysis

S. No	Terms of Reference
2.5.1	No Data Found

#### 2.6 Environmental Monitoring Program

S. No	Terms of Reference
2.6.1	Ambient air, noise, water and soil quality
2.6.2	Noise quality management plan
2.6.3	Emission and discharge from the plant
2.6.4	Green Belt
2.6.5	Social Parameters

#### 2.7 Additional Studies

S. No	Terms of Reference
2.7.1	Risk assessment

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

### 2.8 Project Benefits

S. No	Terms of Reference
2.8.1	No Data Found

### 2.9 Environment Management Plan

S. No	Terms of Reference
2.9.1	Air quality management plan
2.9.2	Noise quality management plan
2.9.3	Solid and hazardous waste management plan
2.9.4	Effluent management plan
2.9.5	Storm water management plan
2.9.6	Occupational health and safety management plan
2.9.7	Green belt development plan
2.9.8	Socio-economic management plan
2.9.9	Project cost and EMP implementation budget.

### 3. Introduction

S. No	Terms of Reference
3.1	Background about the project
3.2	Need of the project
3.3	Purpose of the EIA study
3.4	Scope of the EIA study

### 4. Project Description

#### 4.1 Site Details

S. No	Terms of Reference
4.1.1	Location of the project site covering village, Taluka/Tehsil, District and State.
4.1.2	Site accessibility
4.1.3	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).
4.1.4	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.
4.1.5	Environment settings of the site and its surrounding along with map.
4.1.6	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.
4.1.7	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.
4.1.8	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.
4.1.9	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.
4.1.10	Type of land, land use of the project site needs to be submitted.
4.1.11	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.
4.1.12	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.
4.1.13	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

S. No	Terms of Reference
	drawing.
4.1.14	A detailed report covering all aspects of Fire Safety Management and Fire Emergency Plan shall be submitted.
4.1.15	Details of drone survey for the site, needs to be included in report and presented before the EAC during appraisal of the project.

#### 4.2 Forest And Wildlife Related Issues (If Applicable)

S. No	Terms of Reference
4.2.1	Status of Forest Clearance for the use of forest land shall be submitted.
4.2.2	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.
4.2.3	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.
4.2.4	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.

#### 4.3 Salient Features Of The Project

S. No	Terms of Reference
4.3.1	Products with capacities in Tons per Annum for the proposed project.
4.3.2	If expansion project, status of implementation of existing project, details of existing/proposed products with production capacities in Tons per Annum.
4.3.3	Site preparatory activities.
4.3.4	List of raw materials required and their source along with mode of transportation.
4.3.5	Other than raw materials, other chemicals and materials required with quantities and storage capacities.
4.3.6	Manufacturing process details along with process flow diagram of proposed units.
4.3.7	Consolidated materials and energy balance for the project.
4.3.8	Total requirement of surface/ ground water and power with their respective sources, status of

S. No	Terms of Reference
	approval.
4.3.9	Water balance diagram
4.3.10	Details of Emission, effluents, hazardous waste generation and mode of disposal during construction as well as operation phase.
4.3.11	Man-power requirement.
4.3.12	Cost of project and scheduled time of completion.
4.3.13	In case of expansion projects, project proponent shall submit structural stability certificate showing whether existing structure withstand for proposed expansion activity.
4.3.14	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&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.

## 5. Description Of The Environment

S. No	Terms of Reference												
5.1	Study period												
5.2	<p>Approach and methodology for data collection as furnished below</p> <table border="1"> <thead> <tr> <th>Attributes</th> <th>Network</th> <th>Sampling Frequency</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Air Environment</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Micro-Meteorological</td> <td>Minimum 1</td> <td>site hourly continuous</td> <td>IS 5182 Part 1-20</td> </tr> </tbody> </table>	Attributes	Network	Sampling Frequency	Remarks	Air Environment				Micro-Meteorological	Minimum 1	site hourly continuous	IS 5182 Part 1-20
Attributes	Network	Sampling Frequency	Remarks										
Air Environment													
Micro-Meteorological	Minimum 1	site hourly continuous	IS 5182 Part 1-20										

S. No	Terms of Reference
	<p style="text-align: center;">in the project impact area</p> <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> <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 style="text-align: center;">At least 8-12 locations</p> <p style="text-align: center;">As per National Ambient Air Quality Standards, CPCB Notification.</p> <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> <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</li> </ul>

S. No	Terms of Reference
	<p style="text-align: right;">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 NH4</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>Standard methods for examination of water and wastewater analysis published by American Public Health Association</p> <p>IS: 2488 (Part 1-5) methods for sampling and testing of Industrial effluents</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: right;">Soil samples be collected as per BIS specifications</p>

S. No	Terms of Reference															
	<ul style="list-style-type: none"> <li>• Rare and endangered species selecting forests.</li> <li>• Marine Parks/ Sanctuaries/ closed areas /coastal regulation zone (CRZ)               <ul style="list-style-type: none"> <li>• Secondary data to collect from Government offices, NGOs, published literature.</li> </ul> </li> </ul> <p>2. Terrestrial</p> <ul style="list-style-type: none"> <li>• Vegetation-species list, economic importance, forest produce, medicinal value</li> <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> <p>Approach and methodology for data collection as furnished below</p> <table border="1" data-bbox="331 1787 1473 2027"> <thead> <tr> <th data-bbox="338 1809 683 1843">Attributes</th> <th data-bbox="691 1809 1106 1865">Sampling</th> <th data-bbox="1114 1809 1466 1821">Remarks</th> </tr> <tr> <td></td> <td data-bbox="691 1832 1106 1865">Network Frequency</td> <td></td> </tr> </thead> <tbody> <tr> <td data-bbox="338 1877 683 1910">Air Environment</td> <td></td> <td></td> </tr> <tr> <td data-bbox="338 1921 683 1955">Micro-Meteorological</td> <td data-bbox="691 1921 1106 1955">Minimum 1 site</td> <td data-bbox="1114 1921 1466 1944">IS 5182 Part 1-20</td> </tr> <tr> <td data-bbox="338 1977 683 2011"> <ul style="list-style-type: none"> <li>• Wind speed (Hourly)</li> </ul> </td> <td data-bbox="691 1966 1106 2022">in the project hourly continuous impact area</td> <td data-bbox="1114 1977 1466 2011"> <ul style="list-style-type: none"> <li>• Site specific primary data</li> </ul> </td> </tr> </tbody> </table>	Attributes	Sampling	Remarks		Network Frequency		Air Environment			Micro-Meteorological	Minimum 1 site	IS 5182 Part 1-20	<ul style="list-style-type: none"> <li>• Wind speed (Hourly)</li> </ul>	in the project hourly continuous impact area	<ul style="list-style-type: none"> <li>• Site specific primary data</li> </ul>
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S. No	Terms of Reference
	<ul style="list-style-type: none"> <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> <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>At least 8-12 locations</p> <p>As per National Ambient Air Quality Standards, CPCB Notification.</p> <p>is essential</p> <ul style="list-style-type: none"> <li>• Secondary data from IMD, New Delhi</li> <li>• CPCB guidelines to be considered.</li> <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</li> </ul>

S. No	Terms of Reference
	<p style="text-align: right;">annexure to the EIA Report.</p> <p>Noise</p> <p>Hourly equivalent noise levels At least 8-12 locations 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 NH4</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 Land Environment transportation of materials</li> </ul> <p>Surface water quality of the nearest River (60m upstream and downstream) and other surface water bodies</p> <ul style="list-style-type: none"> <li>• IS: 2488 (Part 1-5) methods for sampling and testing of Industrial effluents</li> <li>• Standard methods for examination of water and wastewater analysis published by American Public Health Association</li> <li>• Yield of water sources to be measured during critical season</li> <li>• Standard methodology for collection of surface water (BIS standards)</li> </ul> <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>

S. No	Terms of Reference
	<ul style="list-style-type: none"> <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 phytoplankton, zoo plankton and benthos</li> <li>• Fisheries</li> <li>• Diversity indices</li> <li>• Trophic levels</li> <li>• Rare and endangered species</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,</li> </ul> <p>Soil samples be collected as per BIS specifications</p>

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	<ul style="list-style-type: none"> <li>• Marine Parks/ Sanctuaries/ areas /coastal regulation zone (CRZ) published literature.</li> </ul> <p>2. Terrestrial</p> <ul style="list-style-type: none"> <li>• Vegetation-species list, economic importance, forest produce, medicinal value</li> <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>
5.3	<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>
5.4	<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>

**6. Anticipated Environment Impacts And Mitigation Measures (In Case Of Expansion, Cumulative Impact**

**Assessment Shall Be Carried Out)**

S. No	Terms of Reference												
6.1	<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" data-bbox="331 367 1471 483"> <thead> <tr> <th data-bbox="331 367 730 405">Activity</th> <th data-bbox="730 367 970 405">Environment</th> <th data-bbox="970 367 1209 405">Ecological</th> <th data-bbox="1209 367 1471 405">Socio-economic</th> </tr> </thead> <tbody> <tr> <td data-bbox="331 405 730 443">Construction phase</td> <td></td> <td></td> <td></td> </tr> <tr> <td data-bbox="331 443 730 483">Operation phase</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Activity	Environment	Ecological	Socio-economic	Construction phase				Operation phase			
Activity	Environment	Ecological	Socio-economic										
Construction phase													
Operation phase													
6.2	<p>Impact on ambient air quality (Sources; Embedded control measures; Assessment; Mitigation measures; 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.</p>												
6.3	<p>Impact on ambient noise quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
6.4	<p>Impact on traffic (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
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6.6	<p>Impact on land use (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
6.7	<p>Impact on surface water resource and quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
6.8	<p>Impact on ground water resource and quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
6.9	<p>Impact on terrestrial and aquatic habitat (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
6.10	<p>Impact on socio-economic environment (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
6.11	<p>Impact on occupational health and safety (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												

**7. Analysis Of Alternatives (Technology & Site)**

S. No	Terms of Reference
7.1	No project scenario
7.2	Site alternative
7.3	Technical and social concerns
7.4	Conclusion

### 8. Environmental Monitoring Program

S. No	Terms of Reference																		
8.1	Details of the Environment Management Cell																		
8.2	Performance monitoring schedule for all pollution control devices shall be furnished.																		
8.3	<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>																		
8.4	<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														
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Operation phase																			

### 9. Additional Studies

S. No	Terms of Reference
9.1	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.

S. No	Terms of Reference																								
9.2	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.																								
9.3	Implementation status/measures adopted for avoiding the generation of single used plastic waste.																								
9.4	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.																								
9.5	Public consultation details (Entire proceedings as separate annexure along with authenticated English Translation of Public Consultation proceedings).																								
9.6	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.																								
9.7	<p>Summary of issues raised during public consultation along with action plan to address the same as per MoEF&amp;CC O.M. dated 30/09/2020</p> <table border="1"> <thead> <tr> <th rowspan="2">S.No</th> <th rowspan="2">Physical activity and action plan Name of the Physical Activity</th> <th rowspan="2">Year of implementation (Budget in INR)</th> <th colspan="3">Year of implementation</th> <th rowspan="2">Total Expenditure (Rs. in Crores)</th> </tr> <tr> <th>1st</th> <th>2nd</th> <th>3rd</th> </tr> </thead> <tbody> <tr> <td></td> <td>Name of the Physical Activity</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>of the Physical Targets</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	S.No	Physical activity and action plan Name of the Physical Activity	Year of implementation (Budget in INR)	Year of implementation			Total Expenditure (Rs. in Crores)	1st	2nd	3rd		Name of the Physical Activity							of the Physical Targets					
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9.8	<p>Risk assessment</p> <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>																								
9.9	Emergency response and preparedness plan																								

## 10. Project Benefits

S. No	Terms of Reference
10.1	Environment benefits
10.2	Social infrastructure
10.3	Employment and business opportunity

S. No	Terms of Reference
10.4	Other tangible benefits

#### 11. Environment Cost Benefit Analysis

S. No	Terms of Reference
11.1	Net present value
11.2	Internal rate of return
11.3	Benefit cost ratio
11.4	Cost effectiveness analysis

#### 12. Environment Management Plan (Construction And Operation Phase)

S. No	Terms of Reference
12.1	Air quality management plan
12.2	Noise quality management plan
12.3	Action plan for hazardous waste management
12.4	Action plan for solid waste management
12.5	Action plan for e-waste management.
12.6	Action plan for plastic waste management, considering the Plastic Waste Management Rules 2016.
12.7	Action plan for construction and demolition waste management.
12.8	Effluent management plan
12.9	Storm water management plan
12.10	Rain water harvesting plan
12.11	Plan for maximum usage of waste water/treated water in the Unit
12.12	Occupational health and safety management plan
12.13	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 %.

S. No	Terms of Reference
12.14	Socio-economic management plan
12.15	Wildlife conservation plan (In case of presence of schedule I species)
12.16	Total capital cost and recurring cost/annum for environment pollution control measures shall be included.
12.17	Explore possibilities for recycling and reusing of treated water in the unit to reduce the freshwater demand and waste disposal.
12.18	An Action Plan for improving the house-keeping activities in the raw material handling area need to be submitted
12.19	Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
12.20	Action plan to limit the dust emission from all the stacks below 30 mg/Nm <sup>3</sup> shall be furnished.
12.21	Action plan for fugitive emission control in the plant premises shall be provided.

### 13. Conclusion Of The Eia Study

S. No	Terms of Reference
13.1	No Data Found

**14. In Addition To The Above, Any Litigation Pending Against The Project And/or Any Direction/order Passed By Any Court Of Law Against The Project, If So, Details Thereof Shall Also Be Included. Has The Unit Received Any Notice Under The Section 5 Of Environment (Protection) Act, 1986 Or Relevant Sections Of Air And Water Acts? If So, Details Thereof And Compliance/atr To The Notice(s) And Present Status Of The Case.**

S. No	Terms of Reference
14.1	No Data Found

### 15. Air Cooled Condensers Shall Be Used In The Power Plant.

S. No	Terms of Reference
15.1	No Data Found

### 16. Details Of Dry Ash Handling System Along With Supplementary Coal Handling System Shall Be Submitted.

S. No	Terms of Reference
16.1	No Data Found

**17. Plan For Transportation Of Coal Shall Be Submitted.**

S. No	Terms of Reference
17.1	No Data Found

**18. Plan Along With Technical Details Of Scr Shall Be Submitted.**

S. No	Terms of Reference
18.1	No Data Found

**19. In Case Of Expansion Project, Status Of Ash Utilization Of Previous Years (Up To 5 Years), Action Plan For 100% Ash Utilization Along With Timeline Need To Be Submitted**

S. No	Terms of Reference
19.1	No Data Found

**Standard Terms of Reference for (Metallurgical Industries (ferrous and non ferrous))**

1.

S. No	Terms of Reference
1.1	A 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
1.2	Plan for the implementation of the recommendations made for the proposed Unit in the Corporate Responsibility for Environmental Protection (CREP) guidelines.
1.3	Plan for solid wastes utilization.
1.4	Plan for utilization of energy in off gases (coke oven, blast furnace)
1.5	System of coke quenching adopted with full justification.
1.6	Details on environmentally sound technologies for recycling of hazardous materials, as per CPCB Guidelines, may be mentioned in case of handling scrap and other recycled materials.
1.7	Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
1.8	Details on toxic content using Toxicity Characteristic Leaching Procedure (TCLP), composition and end use of slag.
1.9	100 % dolo char generated in the plant shall be used to generate power.
1.10	Fourth Hole fume extraction system shall be provided for SAF.WHR system shall be installed to

S. No	Terms of Reference
	recover sensible heat from flue gases of EAF. Provision for installation of jigging and briquetting plant to utilise the fines generated in the process.
1.11	No tailing pond is permitted for Iron ore slimes. Dewatering and filtration system shall be provided.
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 for developing connecting and internal road in terms of MSA as per IRC guidelines shall be submitted.
1.14	Action plan to limit the particulate matter emission from all the stacks below 30 mg/Nm <sup>3</sup> shall be furnished.
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.
1.17	Iron ore/coal linkage documents along with the status of environment clearance of iron ore and coal mines, if applicable.
1.18	Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact, if applicable.
1.19	Details on environmentally sound technologies for recycling of hazardous materials, as per CPCB Guidelines, may be mentioned in case of handling scrap and other recycled materials, if applicable.

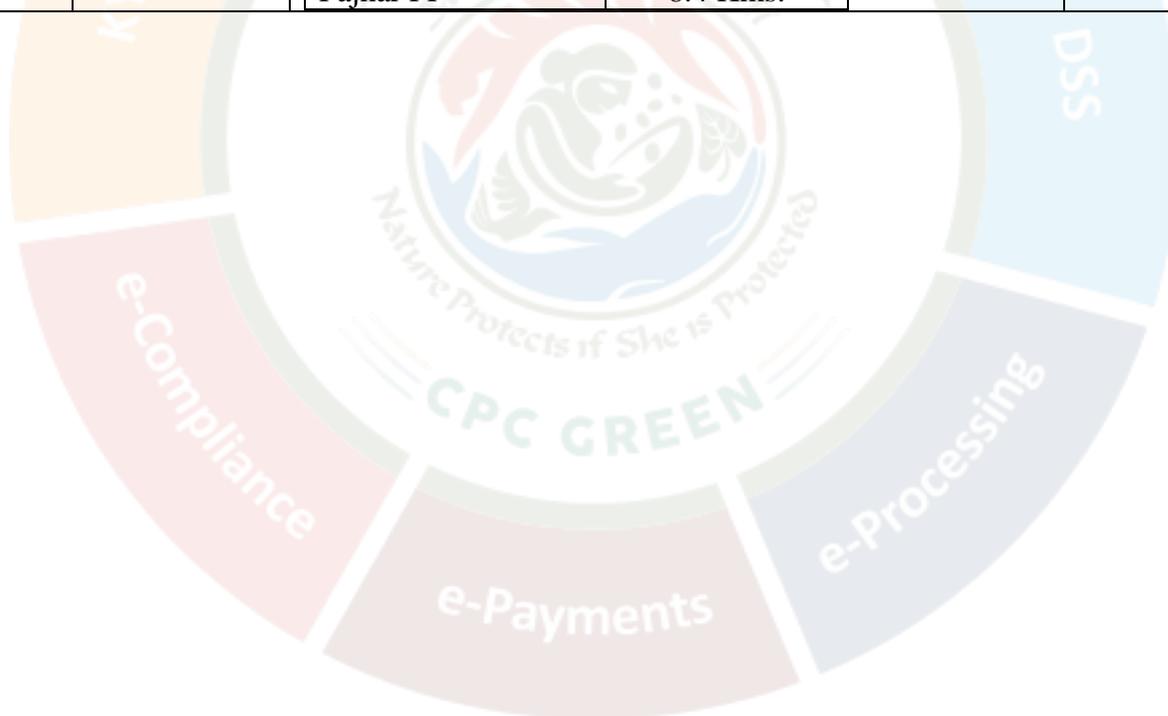
**Additional Terms of Reference**

Not Applicable

### The environmental setting of the proposed project

S.No.	Particulars	Details	Remarks																						
i.	Total Land	Existing Plant land – 8.223 Ha. Additional land – 2.194 Ha. <b>Total land after proposed expansion will be 10.417 Ha.</b>	---																						
ii.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	<ul style="list-style-type: none"> <li>8.223 Ha. of land is registered in the name of the company.</li> <li>2.194 Ha of private land is also registered in the name of the company.</li> </ul> <p><b>Status of land diversion:</b> 8.223 Ha. of existing plant land is already diverted and remaining 2.194 Ha. of private land will also be diverted and submitted in EIA report.</p>	--																						
iii.	Existence of habitation & involvement of R & R, if any	<p><b>Project site:</b> Nil</p> <p><b>Study area:</b></p> <table border="1"> <thead> <tr> <th>Habitation</th> <th>Distance</th> </tr> </thead> <tbody> <tr> <td>Gerwani (V)</td> <td>0.5 Kms.</td> </tr> </tbody> </table>	Habitation	Distance	Gerwani (V)	0.5 Kms.	---																		
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v.	Elevation of the project site	MSL of the Project area – 259.5 m to 267.6m	---																						
vi.	Involvement of Forest land, if any	No Forest land is involved in the project site.	---																						
vii.	Water body (Rivers,Lakes, Pond, Nala,Natural Drainage, Canal etc.) exists within the project site as well as study area	<p><b>Project site:</b> Nil</p> <p><b>Study area:</b></p> <table border="1"> <thead> <tr> <th>Water Body</th> <th>Distance (Kms.)</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Kelo river</td> <td>1.5</td> <td>E</td> </tr> <tr> <td>Gerwani Nala</td> <td>1.9</td> <td>N</td> </tr> <tr> <td>Kokritarai Pond</td> <td>6.5</td> <td>SW</td> </tr> </tbody> </table>	Water Body	Distance (Kms.)	Direction	Kelo river	1.5	E	Gerwani Nala	1.9	N	Kokritarai Pond	6.5	SW	---										
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	National Park/ Wildlife Sanctuary/ Biosphere Reserve/ Tiger Reserve etc. if any within the study area	<p>There are no notified National Park / Wildlife sanctuary / Biosphere reserve/ Tiger Reserve within 10 Km. radius of the plant site.</p> <p><u>However, movement of Elephants is observed within 10 Kms. radius of the plant through the secondary sources. Conservation plan will be prepared and PCCF budgetary approval will be obtained.</u></p> <p><b>List of Reserved and protected forests:</b></p> <table border="1"> <thead> <tr> <th>Name of Forest</th> <th>Distance (Kms.)</th> </tr> </thead> <tbody> <tr> <td>Lakha PF</td> <td>0.5 Kms.</td> </tr> <tr> <td>Urdana RF</td> <td>1.7 Kms.</td> </tr> <tr> <td>Barkachhar RF</td> <td>2.0 Kms.</td> </tr> <tr> <td>Taraimal RF</td> <td>2.2 Kms.</td> </tr> <tr> <td>Kharidungri PF</td> <td>2.6 Kms.</td> </tr> <tr> <td>Dungapani PF</td> <td>3.2 Kms.</td> </tr> <tr> <td>Keradungri PF</td> <td>4.4 Kms.</td> </tr> <tr> <td>Rabo RF</td> <td>6.2 Kms</td> </tr> <tr> <td>Punjipathra PF</td> <td>6.7 Kms.</td> </tr> <tr> <td>Pajhar PF</td> <td>8.4 Kms.</td> </tr> </tbody> </table>	Name of Forest	Distance (Kms.)	Lakha PF	0.5 Kms.	Urdana RF	1.7 Kms.	Barkachhar RF	2.0 Kms.	Taraimal RF	2.2 Kms.	Kharidungri PF	2.6 Kms.	Dungapani PF	3.2 Kms.	Keradungri PF	4.4 Kms.	Rabo RF	6.2 Kms	Punjipathra PF	6.7 Kms.	Pajhar PF	8.4 Kms.	
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## Unit configuration and capacity

S.No.	Unit (Product)	EC obtained (2022)	In Operation	Proposed Expansion	After Proposed Expansion
1.	DRI Kiln (Sponge Iron)	---	---	2,31,000 TPA (2 x 350 TPD)	2,31,000 TPA (2 x 350 TPD)
2.	Induction Furnace (Hot Billets / MS Billets / Steel Ingots)	3,96,000 TPA (8 x 15 T)	1,98,000 TPA (4 x 15 T)	---	3,96,000 TPA
3.	Rolling Mill (MS Bars / Rods / TMT bars / Wire Rod / Angle / Channel / Steel Structures)	3,60,000 TPA (2 x 500 TPD)	1,95,000 TPA (1,65,000 TPA i.e. 1 x 500 TPD from EC + *30,000 TPA from Consent)	---	3,60,000 TPA
4.	Coal Gasifier (Producer Gas)	2 x 9,900 NM <sup>3</sup> /Hr	---	---	19,800 NM <sup>3</sup> /Hr
5.	Ferro Alloys (FeSi/ FeMn/ SiMn/ FeCr/Pig Iron)	---	---	1 x 9 MVA (FeSi - 7,000 TPA / FeMn - 25,200 TPA / SiMn - 14,000 TPA / FeCr - 15,000 TPA / Pig Iron - 25,200 TPA)	1 x 9 MVA (FeSi - 7,000 TPA / FeMn - 25,200 TPA / SiMn - 14,000 TPA / FeCr - 15,000 TPA / Pig Iron - 25,200 TPA)
6.	Power Plant (WHRB)	---	---	2 x 10 MW	2 x 10 MW

S.No.	Unit (Product)	EC obtained (2022)	In Operation	Proposed Expansion	After Proposed Expansion
7.	Power Plant (FBC)	---	---	1 x 10 MW	1 x 10 MW
8.	Brick Manufacturing Unit			25,000 Brick/Day	25,000 Brick/Day
9.	Briquette Plant			100 Kg./Hr.	100 Kg./Hr.
10.	Slag Crushing Unit	---	---	40,000 TPA	40,000 TPA
<p><b>*Obtained Consent for 30,000 TPA Rolling Mill from Chhattisgarh Environment Conservation Board (CECB) prior to EC in 2022</b></p>					

