



सत्यमेव जयते

File No: 2023/TOR/F/04
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), PUNJAB)



Dated 22/02/2024



To,

Ashok Kumar Aggarwal
BHAWANI CASTING PVT LIMITED
Village Ambey majra Tehsil Sirhind Mandi Gobindgarh District Fatehgarh Sahib Punjab
castingbhawani@gmail.com

Subject: Grant of Terms of Reference under the provision of the EIA Notification 2006-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 M/S.BHAWANI CASTINGS (P) LIMITED submitted to Ministry vide proposal number SIA/PB/IND1/450654/2023 dated 29/12/2023.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO23B1010PB5143872N
(ii) File No.	2023/TOR/F/04
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	3(a) Metallurgical Industries (ferrous and non ferrous)
(vii) Name of Project	M/S.BHAWANI CASTINGS (P) LIMITED
(viii) Name of Company/Organization	BHAWANI CASTING PVT LIMITED
(ix) Location of Project (District, State)	FATEHGARH SAHIB, PUNJAB
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	yes
(xiii) Applicability of Specific Conditions	yes

3. This is in reference to your online application bearing proposal no SIA/PB/IND1/450654/2023 submitted on 29.12.2023 for issuance of Terms of References (TORs) for carrying out EIA study for obtaining Environmental Clearance under the provisions of EIA Notification 14.09.2006 for expansion of steel manufacturing unit namely M/s Bhawani Casting Pvt. Ltd. having existing capacity @72,000

TPA of MS Billets and @72,000 TPA of TMT Rebars/Wire Rods/Bars to 1,76,750 TPA of MS Billets and 1,70,000 TPA of TMT Rebars/Wire Rods/Bars by addition of one induction furnace of 20 TPH (in two phases- In 1st phase @10 TPH & in 2nd phase 10 TPH will be upgraded to 20 TPH) with the existing 17 TPH induction furnace and existing two No. rolling mills located at Village Ambey Majra, Mandi Gobindgarh, Tehsil-Amloh, District-Fatehgarh Sahib, Punjab . The Project is covered under Activity 3(a) & Category 'B1' as per EIA notification-2006. The details of the project are given as under:

Sr. No.	Description	Details		
	Nature of project (Fresh EC/EC for Expansion/New)	Expansion of existing Steel manufacturing unit.		
	a) Category b) Activity	(a) B1 (b) Metallurgical Industries (ferrous & non-ferrous), Schedule 3(a) as per EIA notification-2006.		
	Whether project falls within 5km from the boundary of critically polluted area	Yes		
	Project Area	11.75 Acres (46336.89 sqm)		
	Classification/Land use pattern as per Master Plan	The project site falls in Industry zone as per master plan of Mandi Gobindgarh (2010-2031).		
	Cost of the project (After Expansion)	Rs. 66.56 Cr.		
	Man Power	200 persons		
	Working days	350		
	Power load (After Expansion)	19 MW will be supplied by PSPCL		
	Total Water Demand (After Expansion) & Source	67 KLD & Borewells		
	Total Plot area, Built-up area and Green area	Sr. No.	Description	Area (in sqm)
		1.	Covered/Shed Area	14640.32
		2.	Green Area	18745.91
		3.	Other Area	12,950.66
		Total		46,336.89
	Latitude & Longitude	A: 30°38'01.67"N & 76°19'09.42"E B: 30°38'01.56"N & 76°19'14.40"E C: 30°37'56.72"N & 76°19'19.95"E D: 30°37'52.81"N & 76°19'18.33"E E: 30°37'52.56"N & 76°19'09.21"N		
Raw Material requirement				
Sr. No.	Raw Material	Existing (TPA)	Additional (TPA)	Total After expansion (TPA)
1.	MS Scrap, Sponge Iron & Ferro Alloys	78,700	1,15,900	1,94,600
Production Capacity				
Sr. No.	Product Name	Existing (TPA)	Additional (TPA)	Total After expansion (TPA)

1.	MS Billets	72,000	1,04,750	1,76,750
2.	TMT Rebars/ Wire Rods Bars1	72,000	98,000	1,70,000
Details of major productive machinery/plant				
Sr. No.	Particulars	Existing	Proposed	After Expansion
1.	Induction Furnace	17 TPH	20 TPH (In two Phases: Ist Phase 10 TPH and IInd Phase upgrade 10 TPH to 20 TPH)	17 TPH & 20TPH (In two phases: Ist Phase 10TPH & IInd Phase upgrade 10TPH to 20TPH)
2.	Rolling mill	2 No. Rolling Mill (20 TPH each)	Nil	2 No. Rolling Mill (20 TPH each)

The case was considered by the SEAC in its 272nd meeting held on 08.01.2024 and decided to categorize the project under Activity 3(a); B-1 with public consultation as required for the project. The Committee approved the Terms of Reference for expansion of steel manufacturing unit namely M/s Bhawani Casting Pvt. Ltd. having existing capacity @72,000 TPA of MS Billets and @72,000 TPA of TMT Rebars/Wire Rods/Bars to 1,76,750 TPA of MS Billets and 1,70,000 TPA of TMT Rebars/Wire Rods/Bars by addition of one induction furnace of 20 TPH (in two phases- In 1st phase @10 TPH & in 2nd phase 10 TPH will be upgraded to 20 TPH) with the existing 17 TPH induction furnace and existing two No. rolling mills located at Village Ambey Majra, Mandi Gobindgarh, Tehsil-Amloh, District-Fatehgarh Sahib, Punjab for preparing Environmental Impact Assessment (EIA) report for the proposed project and recommended to SEIAA to issue ToRs.

The case was considered by the SEIAA in its 277th meeting held on 15.01.2024 and decided to accept the recommendations of SEAC and to issue additional specific "Terms of Reference" for the preparation of detailed EIA report and EMP, as proposed by SEAC and certain additional ToR.

Accordingly, SEIAA, Punjab hereby accords Terms of References (ToRs) for the preparation of the Environment Impact Assessment (EIA) Report and EMP for the aforesaid project under the provisions of EIA Notification dated 14.09.2006 and its subsequent amendments as per the details given in Annexure-1.

Copy To

1. The Secretary to Govt. of India, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi-110003
2. The Joint Director, Northern Regional Office, Ministry of Environment & Forests, Bays No. 24-24, Sector 31-A, Dakshin Marg, Chandigarh. The name and contact details of the applicant is as under:
 - a) Name of the applicant: Sh. Ashok Kumar Aggarwal, Director
 - b) Phone Number: 8725022555
 - c) Email id castingbhawani@gmail.com
 - d) Email ID of consultants cptleia@gmail.com
3. The Member Secretary, Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala, 147001 (Punjab).
4. Parivesh Portal/Record File.

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

1. Additional Specific Tor

S. No	Terms of Reference
1.1	The project proponent shall propose the Additional Environmental Activities to be undertaken under the expansion project (@ 1% of the expansion cost of the project) as per the list of AEA activities approved by SEIAA.

Standard Terms of Reference for Industrial Projects - 1

1. Preliminary Requirements

S. No	Terms of Reference
1.1	EIA/EMP report cover page shall consist 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.

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)

S. No	Terms of Reference
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
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 Environmental Monitoring Program

S. No	Terms of Reference
2.5.1	Ambient air, noise, water and soil quality

S. No	Terms of Reference
2.5.2	Noise quality management plan
2.5.3	Emission and discharge from the plant
2.5.4	Green Belt
2.5.5	Social Parameters

2.6 Additional Studies

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

2.7 Environment Management Plan

S. No	Terms of Reference
2.7.1	Air quality management plan
2.7.2	Solid and hazardous waste management plan
2.7.3	Effluent management plan
2.7.4	Storm water management plan
2.7.5	Occupational health and safety management plan
2.7.6	Green belt development plan
2.7.7	Socio-economic management plan
2.7.8	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

S. No	Terms of Reference
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

S. No	Terms of Reference
	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 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.

S. No	Terms of Reference
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 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	Approach and methodology for data collection as furnished below

S. No	Terms of Reference		
	Attributes	Network	Remarks
	<p>Air Environment Micro-Meteorological</p> <ul style="list-style-type: none"> • Wind speed (Hourly) • Wind direction • Dry bulb temperature • Wet bulb temperature • Relative humidity • Rainfall • Solar radiation • Cloud cover • Environmental • Lapse Rate <p>Pollutants</p> <ul style="list-style-type: none"> • PM10 • SO2 • NOx • CO • HC • Other parameters relevant to the project and topography of the area 	<p>Frequency</p> <p>Minimum 1 site in the project hourly continuous impact area</p> <p>At least 8-12 locations</p>	<p>IS 5182 Part 1-20</p> <ul style="list-style-type: none"> • Site specific primary data is essential • Secondary data from IMD, New Delhi • CPCB guidelines to be considered. • Sampling as per CPCB guidelines • Collection of AAQ data (except in monsoon season) • Locations of various stations for different parameters should be related to the characteristic properties of the parameters. • 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, • Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAAQM Notification of

S. No	Terms of Reference
	<p data-bbox="1157 235 1476 515">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.</p> <p data-bbox="335 548 406 582">Noise</p> <p data-bbox="335 604 1109 660">Hourly equivalent noise levels At least 8-12 locations per CPCB norms</p> <p data-bbox="335 672 406 705">Water</p> <p data-bbox="335 705 662 739">Parameters for water quality</p> <ul data-bbox="343 772 694 952" style="list-style-type: none"> • pH, temp, turbidity, magnesium hardness, total alkalinity, chloride, sulphate, nitrate, fluoride, sodium, potassium, salinity <p data-bbox="694 907 1444 940">Samples for water quality should be collected and analyzed as per:</p> <ul data-bbox="343 974 1476 1332" style="list-style-type: none"> • Total nitrogen, total phosphorus, DO, BOD, COD, Phenol • Heavy metals • Total coliforms, faecal coliforms • Phyto plankton • Zoo plankton <p data-bbox="335 1377 534 1411">For River Bodies</p> <ul data-bbox="343 1433 678 1904" style="list-style-type: none"> • Total Carbon • pH • Dissolved Oxygen • Biological Oxygen Demand • Free NH4 • Boron • Sodium Absorption Ratio • Electrical Conductivity <p data-bbox="335 1971 550 2004">For Ground Water</p> <p data-bbox="694 1523 1476 1780">Surface water quality of the nearest River (60m upstream and downstream) and other surface water bodies</p> <ul data-bbox="901 1545 1476 1612" style="list-style-type: none"> • Yield of water sources to be measured during critical season <p data-bbox="933 1691 1476 1758">Standard methodology for collection of surface water (BIS standards)</p> <p data-bbox="694 1937 1476 2049">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
	<p>Traffic Study</p> <p>Type of vehicles</p> <ul style="list-style-type: none"> • Frequency of vehicles for transportation of materials Land Environment • Additional traffic due to proposed project <p>Soil</p> <ul style="list-style-type: none"> • Particle size distribution • Texture • pH • Electrical conductivity • Cation exchange capacity Soil samples be collected as per BIS specifications • Alkali metals • Sodium Absorption Ratio (SAR) • Permeability • Water holding capacity • Porosity <p>Land use/Landscape</p> <ul style="list-style-type: none"> • Location code • Total project area • Topography • Drainage (natural) <p>Cultivated, forest, plantations, water bodies, roads and settlements</p> <p>Biological Environment</p> <ol style="list-style-type: none"> 1. Aquatic <ul style="list-style-type: none"> • Primary productivity • Aquatic weeds • Enumeration of phyto plankton, zoo plankton and benthos • Fisheries <ul style="list-style-type: none"> • 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. • Samples to collect from upstream and downstream of discharge point, nearby tributaries at downstream, and also from dug wells

S. No	Terms of Reference												
	<p>Diversity indices close to activity site.</p> <ul style="list-style-type: none"> • Trophic levels • Rare and endangered species • Marine Parks/ Sanctuaries/ closed areas /coastal regulation zone (CRZ) <p>• For forest studies, direction of wind should be considered while selecting forests.</p> <p>• Secondary data to collect from Government offices, NGOs, published literature.</p> <p>2. Terrestrial</p> <ul style="list-style-type: none"> • Vegetation-species list, economic importance, forest produce, medicinal value • Importance value index (IVI) of trees • Fauna • Avi fauna • Rare and endangered species • Sanctuaries / National park / Biosphere reserve • Migratory routes <p>socio-economic</p> <p>Demographic structure</p> <ul style="list-style-type: none"> • Infrastructure resource base • Economic resource base • Health status: Morbidity pattern • Cultural and aesthetic attributes. • Education <p>Socio-economic survey is based on proportionate, stratified and random sampling method.</p> <ul style="list-style-type: none"> • Primary data collection through questionnaire • Secondary data from census records, statistical hard books, topo sheets, health records and relevant official records available with Govt. agencies <p>Approach and methodology for data collection as furnished below</p> <table border="1" data-bbox="319 1859 1484 2060"> <thead> <tr> <th data-bbox="319 1859 670 1904">Attributes</th> <th data-bbox="670 1859 798 1904">Network</th> <th data-bbox="798 1859 1197 1904">Sampling Frequency</th> <th data-bbox="1197 1859 1484 1904">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="319 1904 670 1948">Air Environment</td> <td data-bbox="670 1904 798 1948"></td> <td data-bbox="798 1904 1197 1948"></td> <td data-bbox="1197 1904 1484 1948"></td> </tr> <tr> <td data-bbox="319 1948 670 2060">Micro-Meteorological</td> <td data-bbox="670 1948 798 2060">Minimum 1</td> <td data-bbox="798 1948 1197 2060">site hourly continuous</td> <td data-bbox="1197 1948 1484 2060">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"> • Wind speed (Hourly) • Wind direction • Dry bulb temperature • Wet bulb temperature • Relative humidity • Rainfall • Solar radiation • Cloud cover • Environmental • Lapse Rate <p>Pollutants</p> <ul style="list-style-type: none"> • PM10 • SO2 • NOx • CO • HC • Other parameters relevant to the project and topography of the area <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"> • Site specific primary data is essential • Secondary data from IMD, New Delhi • CPCB guidelines to be considered. • Sampling as per CPCB guidelines • Collection of AAQ data (except in monsoon season) • Locations of various stations for different parameters should be related to the characteristic properties of the parameters. • 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, • 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

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"> • pH, temp, turbidity, magnesium hardness, total alkalinity, chloride, sulphate, nitrate, fluoride, sodium, potassium, salinity • Total nitrogen, total phosphorus, DO, BOD, COD, Phenol • Heavy metals • Total coliforms, faecal coliforms • Phyto plankton • Zoo plankton <p>For River Bodies</p> <ul style="list-style-type: none"> • Total Carbon • pH • Dissolved Oxygen • Biological Oxygen Demand • Free NH4 • Boron • Sodium Absorption Ratio • Electrical Conductivity <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"> • Frequency of vehicles for transportation of materials • Additional traffic due to proposed project <p>Soil</p> <ul style="list-style-type: none"> • Particle size distribution • Texture • pH • Electrical conductivity • Cation exchange capacity • Alkali metals • Sodium Absorption Ratio (SAR) • Permeability • Water holding capacity • Porosity <p>Land use/Landscape</p> <ul style="list-style-type: none"> • Location code • Total project area • Topography • Drainage (natural) <p>Cultivated, forest, plantations, water bodies, roads and settlements</p> <p>Biological Environment</p> <p>1. Aquatic</p> <ul style="list-style-type: none"> • Primary productivity • Aquatic weeds • Enumeration of phyto plankton, zoo plankton and benthos • Fisheries • Diversity indices • Trophic levels <ul style="list-style-type: none"> • 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. • Samples to collect from upstream and downstream of discharge point, nearby tributaries at downstream, and also from dug wells close to activity site. • For forest studies, direction of wind should be considered while <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"> • Rare and endangered species selecting forests. • Marine Parks/ Sanctuaries/ closed areas /coastal regulation zone (CRZ) <ul style="list-style-type: none"> • Secondary data to collect from Government offices, NGOs, published literature. <p>2. Terrestrial</p> <ul style="list-style-type: none"> • Vegetation-species list, economic importance, forest produce, medicinal value • Importance value index (IVI) of trees • Fauna • Avi fauna • Rare and endangered species • Sanctuaries / National park / Biosphere reserve • Migratory routes <p>socio-economic Demographic structure</p> <ul style="list-style-type: none"> • Infrastructure resource base • Economic resource base • Health status: Morbidity pattern • Cultural and aesthetic attributes. • Education <p>Socio-economic survey is based on proportionate, stratified and random sampling method.</p> <ul style="list-style-type: none"> • Primary data collection through questionnaire • Secondary data from census records, statistical hard books, topo sheets, health records and relevant official records available with Govt. agencies
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 & sampling locations. The photograph should bear the date, time, latitude & 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</p>

S. No	Terms of Reference
	analyze the samples.

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"> <thead> <tr> <th>Activity</th> <th>Environment</th> <th>Ecological</th> <th>Socio-economic</th> </tr> </thead> <tbody> <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>	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>												
6.5	<p>Impact on soil quality (Sources; Embedded control measures; Assessment; Mitigation measures; Residual impact) a. Construction phase b. Operation phase</p>												
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 colspan="6">Construction phase</td> </tr> <tr> <td colspan="6">Operation phase</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																			

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

S. No	Terms of Reference																	
	transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.																	
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	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 <table border="1"> <thead> <tr> <th rowspan="2">S.No</th> <th rowspan="2">Name of the Physical Activity</th> <th rowspan="2">Physical plan of the Physical Targets</th> <th colspan="3">Year of implementation (Budget in INR)</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></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	S.No	Name of the Physical Activity	Physical plan of the Physical Targets	Year of implementation (Budget in INR)			Total Expenditure (Rs. in Crores)	1st	2nd	3rd							
S.No	Name of the Physical Activity				Physical plan of the Physical Targets	Year of implementation (Budget in INR)			Total Expenditure (Rs. in Crores)									
		1st	2nd	3rd														
9.8	Risk assessment <ul style="list-style-type: none"> • Methodology • Hazard identification • Frequency analysis • Consequence analysis • Risk assessment outcome 																	
9.9	Emergency response and preparedness plan																	

10. Project Benefits

S. No	Terms of Reference
10.1	Environment benefits

S. No	Terms of Reference
10.2	Social infrastructure
10.3	Employment and business opportunity
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	Action plan for hazardous waste management
12.2	Action plan for solid waste management
12.3	Action plan for e-waste management.
12.4	Action plan for plastic waste management, considering the Plastic Waste Management Rules 2016.
12.5	Action plan for construction and demolition waste management.
12.6	Rain water harvesting plan
12.7	Plan for maximum usage of waste water/treated water in the Unit
12.8	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 %.
12.9	Wildlife conservation plan (In case of presence of schedule I species)
12.10	Total capital cost and recurring cost/annum for environment pollution control measures shall be included.

S. No	Terms of Reference
12.11	Explore possibilities for recycling and reusing of treated water in the unit to reduce the freshwater demand and waste disposal.
12.12	An Action Plan for improving the house-keeping activities in the raw material handling area need to be submitted
12.13	Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
12.14	Action plan to limit the dust emission from all the stacks below 30 mg/Nm ³ shall be furnished.
12.15	Action plan for fugitive emission control in the plant premises shall be provided.

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 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.

S. No	Terms of Reference
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 ³ shall be furnished.
1.15	Action plan for 100 % solid waste utilization shall be submitted.
1.16	PM (PM ₁₀ and P _{2.5}) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM ₁₀ 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

N/A

