



File No: EC/SEIAA/2025-26/4071/2026

State Environment Impact Assessment Authority (SEIAA), Jharkhand

(Constituted as per the provision of EIA Notification, 2006, as amended by the Ministry of Environment, Forest and Climate Change, Government of India)



Dated: 16/06/2026

To,

Rahul Kumar Bagaria
RAMKRISHNA FORGINGS LIMITED
23, Circus Avenue, KOLKATA, WEST BENGAL, 700017
navin.sinha@ramkrishnaforgings.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 Expansion of Existing plant for Manufacturing of Grey, SG, CI and ADI Iron Casting Component by electric furnaces from 23,520 TPA to 50,000 TPA by increasing the capacity of Casting Line at Village: Bholadih, P.O: Kolabira, P.S: Saraikela, Dist.: Saraikela Kharswan, Jharkhand by M/s Ramkrishna Forgings Limited (Plant-VIII). submitted to Ministry vide proposal number SIA/JH/IND1/564289/2026 dated 10/03/2026.

2. The particulars of the proposal are as below:

(i) TOR Identification No.	TO26B1011JH5873800N
(ii) File No.	EC/SEIAA/2025-26/4071/2026
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	3(a) Metallurgical Industries (ferrous and non ferrous) Expansion of Existing plant for Manufacturing of Grey, SG, CI and ADI Iron Casting Component by electric furnaces from 23,520 TPA to 50,000 TPA by increasing the capacity of Casting Line at Village: Bholadih, P.O: Kolabira, P.S: Saraikela, Dist.: Saraikela Kharswan, Jharkhand by M/s Ramkrishna Forgings Limited (Plant-VIII).
(vi) Name of Project	RAMKRISHNA FORGINGS LIMITED SARAIKELA KHARSAWAN, JHARKHAND
(vii) Name of Company/Organization	SEIAA
(viii) Location of Project (District, State)	
(ix) Issuing Authority	

(x) Applicability of General Conditions	no
(xi) Applicability of Specific Conditions	yes

Plot/Survey Khasra Nos.:

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the Ministry for an appraisal by the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee (SEIAA) in the Ministry under the provision of EIA notification 2006 and its subsequent amendments.
4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) Appraisal Committee of SEIAA in the meeting held on 02/06/2026. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B, Part C EIA, EMP)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
5. The brief about configuration of plant/equipment, products and byproducts and salient features of the project along with environment settings, as submitted by the Project proponent in Form-1 (Part A, B and C)/EIA & EMP Reports/presented during SEIAA are annexed to this EC as Annexure (1).
6. The SEIAA, in its meeting held on 02/06/2026, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Terms of Reference under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of specific and general conditions as detailed in Annexure (2).
7. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee hereby decided to grant Terms of Reference for instant proposal of M/s. Rahul Kumar Bagaria under the provisions of EIA Notification, 2006 and as amended thereof.
8. The Ministry reserves the right to stipulate additional conditions, if found necessary.
9. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
10. This issues with the approval of the Competent Authority.

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Annexure 1

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.
1.2	Besides, following points shall be compiled as per QCI/NABET norms: a. Disclaimer by the EIA

S. No	Terms of Reference
	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.

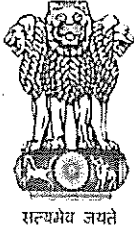
Additional Terms of Reference

N/A

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission
Grey, SG, CI and ADI Iron Casting Component	Grey, SG, CI and ADI Iron Casting Component	23520	26480	50000	Tons per Annum (TPA)	Road



State Level Environment Impact Assessment Authority, Jharkhand

Nursery Complex, Near Dhurwa Bus Stand, P.O+P.S-Dhurwa, Ranchi, Jharkhand-834 004

E-mail: msseiaa.jhk@gmail.com / website: www.jseiaa.in

Letter No.-EC/SEIAA/2025-26/4071/2025/ 61

Ranchi, Date: 08.06.2026

To: M/s Ramkrishna Forgings Limited,
Shri Rahul Kumar Bagaria,
Executive Director,
23, Circus Avenue, Kolkata : 700017, West Bengal,

Sub: Prescribing of ToR to "Expansion of existing plant from 23,520 TPA to 50,000 TPA Manufacturing of Grey, SG, CI and ADI Iron Casting Component by using electric furnaces by M/s Ramkrishna Forgings Limited (Plant VIII), Mauza : Bholadih, P.S. : Saraikela, District : Saraikela-Kharsawan, Jharkhand (Proposal no.: SIA/JH/IND1/ 564289/2026) - regarding.

Ref: Your application no.- RKFL/JSR/2025-2026/181, dated : 26.02.2026.

Sir,

It is in reference to the project "Expansion of existing plant from 23,520 TPA to 50,000 TPA Manufacturing of Grey, SG, CI and ADI Iron Casting Component by using electric furnaces by M/s Ramkrishna Forgings Limited (Plant VIII), Mauza : Bholadih, P.S. : Saraikela, District : Saraikela-Kharsawan, Jharkhand" submitted by you for seeking Terms of Reference (ToR).

This is an expansion project which has been taken for appraisal on 26.04.2026.

Project Category: 3 (a) Metallurgical Industries (Ferrous & Non ferrous), Category :B1 as per EIA Notification, 2006.

M/s Ramkrishna Forgings Limited (Plant VIII) (RKFL) has made ToR Application vide proposal no. SIA/JH/IND1/564289/2026 dated 06.01.2026 along with Form – 1, copy of Pre – Feasibility Report and other required documents for undertaking detailed study as per the EIA Notification, 2006 for the above mentioned project. The proposed project activity is listed as S.No. 3(a) Metallurgical Industry, under Category 'B' of the schedule of the EIA Notification, 2006 and amendments thereof.

The project of M/s Ramkrishna Forgings Limited located at Mauza- Bholadih, P S -Saraikela, District-Seraikela Kharsawan, Jharkhand is for Expansion of existing plant from 23,520 TPA to 50,000 TPA for Manufacturing of Grey, SG, CI and ADI Iron Casting Component by using electric furnaces.

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Project Requirement Details :

Sl. No.	Type	Requirement	Permission details	Remark
1	Fuel	HSD: 20 liters/hr. (For Emergency Back-up)	Local filling stations	Through tankers
2	Power Requirement	Existing: 6MW Proposed: 10 MW Total: 16 MW	Source: Jharkhand Bijli Vitran Nigam Limited	Company has obtained permission For 16 MW Vide Letter No. 2143 dated 28/10/2023
3	Water Requirement	Existing: 90 KLD Proposed: 90 KLD Total: 180 KLD	Source: Groundwater, permission from CGWA will be obtained for proposed requirement.	Company has obtained permission for drawl of 95 KLD ground water from CGWA Vide NOC No.:CGWA/NOC/IND/ORIG/2024/20628 dated 08/01/2024 valid up to 31/07/2027
4	Manpower Requirement	Existing: 296 Nos. Proposed: 461 Nos. Total: 757 Nos.	--	--
5	Cost of the project	Existing: Rs. 17343.97 lakhs Proposed: Rs. 37,278.56 lakhs	--	--

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		Total: Rs. 54,622.53 lakhs		
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Environmental site settings of the project:

Sl.No.	Particulars	Details			Remarks
1.	Total Land	7.21 Ha. (17.83 Acres)			Land Use: Industrial.
2.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Total Area – 7.21 Ha. (17.83 Acres) [Existing - 5.94 Ha. & Proposed 1.27 Ha. of the land area is under the possession of the project proponent]			--
3.	Land Details (Khata No. and Khasra No.)	Sr. No.	Khata No.	Khasra No.	--
		1	21	328,330	
		2	34	318,320,329	
		3	40	289,290,291,300,302,303,305,306, 307,308,309,310,316,292,296,327, 313,317,293,346,323,311,314,294, 347,326,312,315,295,348	
		4	31	319	
		5	42	288	
		6	43	89,90,287	
		7	11	298,299,304	
		8	17	301	

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Sl.No.	Particulars	Details			Remarks						
4.	Existence of habitation & involvement of R&R, if any	Project Site: Nil Study Area: <table><tr><th>Nearest Habitation</th><th>Distance</th><th>Direction</th></tr><tr><td>Baliguma village</td><td>0.12 km</td><td>SSE</td></tr></table>			Nearest Habitation	Distance	Direction	Baliguma village	0.12 km	SSE	R&R: Not Involved.
Nearest Habitation	Distance	Direction									
Baliguma village	0.12 km	SSE									
5.	Latitude and longitude of all corners of the project site	S. No.	Latitude	Longitude	--						
A	22°47'55.75"N	86° 1'42.35"E									
B	22°48'0.34"N	86° 1'33.20"E									
C	22°48'3.97"N	86° 1'33.68"E									
D	22°48'4.36"N	86° 1'30.80"E									
E	22°48'5.04"N	86° 1'30.77"E									
F	22°48'5.73"N	86° 1'31.05"E									
G	22°48'5.84"N	86° 1'31.22"E									
H	22°48'5.70"N	86° 1'32.30"E									
I	22°48'5.86"N	86° 1'32.33"E									
J	22°48'5.75"N	86° 1'34.23"E									
K	22°48'5.38"N	86° 1'34.65"E									
L	22°48'5.34"N	86° 1'34.96"E									
M	22°48'5.48"N	86° 1'34.97"E									
N	22°48'5.36"N	86° 1'38.37"E									
O	22°48'5.43"N	86° 1'38.92"E									
P	22°48'5.04"N	86° 1'41.65"E									
Q	22°48'3.81"N	86° 1'41.59"E									
R	22°48'3.55"N	86° 1'43.63"E									
S	22°48'3.20"N	86° 1'43.60"E									
T	22°48'2.92"N	86° 1'45.72"E									
U	22°48'2.82"N	86° 1'45.79"E									
6.	Elevation of the project site	186 meters above mean sea level			--						

Sl.No.	Particulars	Details	Remarks									
7.	Involvement of Forest Land, if any	No Involvement of Forest Land	--									
8.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	Project Site: Nil Study Area: <table><thead><tr><th>Water-body</th><th>Distance (Km)</th><th>Direction</th></tr></thead><tbody><tr><td>Sanjai Nadi</td><td>2.16 km</td><td>SSE</td></tr><tr><td>Kharkai River</td><td>6.22</td><td>SE</td></tr></tbody></table>	Water-body	Distance (Km)	Direction	Sanjai Nadi	2.16 km	SSE	Kharkai River	6.22	SE	--
Water-body	Distance (Km)	Direction										
Sanjai Nadi	2.16 km	SSE										
Kharkai River	6.22	SE										
9.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	Study area: There is no national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve within the study area. List of Protected Forest <u>Protected Forest</u> Few Protected Forest within the 10 km study area — • Protected forest near, Nandidih village is at 2.22 km in North direction. • Protected forest near Muria village is at 3.84 km in SW direction • Protected forest near Khuchidih village is at 3.90 km in East direction.	--									

Land Details :

Khata no.	Plot no.
21	328 & 330
34	318, 320 & 329
40	289,290,291,300,302,303,305,306,307,308, 309,310,316,292,296,

af

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	327,313,317,293,346,323,311,314,294,347, 326,312,315,295,348
31	319
42	288
43	89, 90 & 287
11	298, 299 & 304
17	301

The plant was installed and operating as per CTE& CTO of JSPCB as the project did not attract any conditions for EC as per EIA Notification, 2006 and amendments thereof. The existing project was accorded with Consent to Establish (CTE) having ref no. JSPCB/HO/RNC/CTE-18236565/2024/307 dated on 25/06/2024 from Jharkhand State Pollution Control Board (JSPCB) for the production of Grey, SG, CI and ADI Iron Casting Component – 23520 TPA by using electric furnace. Consent to Operate (CTO) was obtained from JSPCB vide ref no JSPCB/HO/RNC/CTO-21722160/2025/1803 dated 01.07.2025 for the production of Grey, SG, CI and ADI Iron Casting Component – 23520 TPA, valid till 31.03.2026.

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

Plant Equipment/Facility	Existing facilities		Proposed Units		Final (Existing + Proposed)	
	As per CTE Dated 25.06.2024 and CTO dated 01.07.2025					
	Config.	Cap. TPA	Config.	Cap. TPA	Config.	Cap. TPA
Casting Line						
Induction Furnace	3x4T 12 ton/hour	23,520 (Manufacturing of Grey, SG, CI and ADI Iron Casting Component by using electric furnaces)	2x3T 6 ton/hour	26,480 (Manufacturing of Grey, SG, CI and ADI Iron Casting Component by using electric furnaces)	2x3T +3x4T 18 ton/hour	50,000 (Manufacturing of Grey, SG, CI and ADI Iron Casting Component by using electric furnaces)
Moulding Plant	90 moulds/hour		250 moulds/hour		340 moulds/hour	
Sand Plant	55 ton/hour		53 ton/hour		108 ton/hour	
Core Shooter	40 litre capacity		Existing Core Shooter will cater the requirement		Existing Core Shooter will cater the requirement	

The details of the raw material requirement for the proposed expansion project along with its source and mode of transportation are given as below:

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Sl. No.	Item	Quantity (TPA)			Source of Raw Material	Distance (km)	Mode of Transport
		Existing	Proposed	Total after Proposed expansion			
1	Pig Iron	4876	5490	10366	Local market	50 km	By road in covered trucks
2	Steel Scraps	22946	25834	48780	Local market	50 km	By road in covered trucks
3	Ferro Alloys (Additive)	860	969	1829	Local market	50 km	By road in covered trucks
4	Silica Sand	337841	380359	718200	Local market	50 km	By road in covered trucks
5	Bentonite	3387	3813	7200	Local market	50 km	By road in covered trucks
6	Coal Dust	1129	1271	2400	Local market	50 km	By road in covered trucks

Baseline data collection period: 1st December 2025 to 28th February 2026. The summary of baseline data is provided below.

Parameters	No. of Sites	Description	Permissible Level
Ambient Air Quality	8	- PM_{2.5} -26.0 to 53.0 µg/m³ - PM₁₀ -43.4 to 85.0 µg/m³ - SO₂ – 6.1 to 23.8 µg/m³ - NO₂ - 10.6 to 40.8 µg/m³ - CO - 0.40 to 1.28 mg/m³	60 µg/ m ³ 100 µg/ m ³ 80 µg/ m ³ 80 µg/ m ³ 02 mg/m ³
Ambient Noise Quality	8 (Project site Values)	Day Time (6:00 a.m. to 10:00 p.m.) 70.26 Leq dB(A) Night Time (10:00 p.m. to 6:00 a.m.) 61.55 Leq dB(A)	75 Leq dB (A) 70 Leq dB (A)
Surface Water Quality	8	- pH varies from 7.44 to 7.84, - DO varies from 5.4 to 6.6 mg/l, - BOD varies from 3.56 to 22.0 mg/l and - COD varies from 14.0 to 64.0 mg/l. - Total Coliform 130-600 MPN/100ml	IS:2296 Class C Norms

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Ground Water Quality	8	• pH varies from 7.10 to 7.56, • Total Hardness varies from 100.0 to 196.2 mg/l , • Total Dissolved Solid varies from 218.0 to 450.0 mg/l., • Chloride varies from 32.60 to 101.0 mg/l • Fluoride varies from 0.34 to 0.65 mg/l.	6.5-8.5 200-600 mg/L 500-2000 mg/L 250- 1000mg/L 1.0-1.5mg/l
Soil Quality	8	• pH: 7.30 to 7.95 • Potassium K: 105.14 to 145.10 kg/ha. • Available nitrogen N: 166.52 to 212.0 (kg/ha.) • Phosphorus: 21.63 to 29.44Kg/Ha. • Organic matter: 0.35% to 0.52%	--

It has been informed by the project proponent that no court case, litigation or show cause is pending against the unit or land.

Name of the EIA consultant: M/s Vardan Environet LLP [S.No. 37 in List of ACOs, Certificate no. NABET/EIA/2326/RA 0284_Rev.01, valid up to 04.05.2026].

STATUTORY CLEARANCES :

1	Land docs	:	Owned land :M/s Ramkrishna Forgings Limited.
2	CO	:	The CO, Saraikela vide letter no. 1489, dated 12.11.2025 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyon.
3	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 1783, dated 25.11.2025 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
4	DFO Territorial	:	DFO, Saraikela Forest Division vide letter no. 272, dated 16.02.2026 certified that the distance of notified forest is more than 250 meters from project site.
5	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-18236565/2024/307, dated 25.06.2024.
6	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTO-21722160/2025/1803, dated 01.07.2025.

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7	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction issued by CGWA vide NOC No. CGWA/NOC/IND/ORIG/2024 /20628, dated 08.01.2024 valid up to 31.07.2027.
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SEAC, Jharkhand has recommended the ToRs in its 131st meeting held on 24th, 25th, 26th, 27th and 28th April, 2024 for undertaking detailed EIA / EMP study and SEIAA, Jharkhand has granted the ToRs in its 131st meeting held on 02nd & 03rd June, 2026. The SEAC has recommended following conditions:

The TORs prescribed for undertaking detailed EIA study are as follows:

A. Standard Terms of Reference

1. Executive Summary

2. Introduction

- Details of the EIA Consultant including NABET accreditation.
- Information about the project proponent.
- Importance and benefits of the project.

3. Specific Conditions:

- In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign “*Ek Ped Ma Ke Naam*” and the details of the same shall be uploaded in the MeriLiFE Portal (<https://merilife.nic.in>). 10% of the total green belt proposed shall be allocated under this clause.

4. Project Description

- Cost of project and time of completion.
- Products with capacities for the proposed project.
- If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- List of raw materials required and their source along with mode of transportation.
- Other chemicals and materials required with quantities and storage capacities
- Details of Emission, effluents, hazardous waste generation and their management.
- Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
- Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided.
- Hazard identification and details of proposed safety systems.
- Expansion/modernization proposals:

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[Signature]

[Signature]

- a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment, Forest and Climate Change as per OM no. F.no. IA3-22/10/2022-IA.III [E 177258], dated 08th June, 2022 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing / existing operation of the project from SPCB shall be attached with the EIA-EMP report.
- b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification, 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

5. Site Details

- i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places).
- iii. Details w.r.t. option analysis for selection of site
- iv. Co-ordinates (lat-long) of all four corners of the site. .
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
- ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
- x. Geological features and Geo-hydrological status of the study area shall be included.
- xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30

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- years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
- xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xiii. R&R details in respect of land in line with state Government policy.

6. Forest and Wildlife related issues (if applicable):

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable).
- ii. Landuse map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha).
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

7. Environmental Status:

- i. Determination of atmospheric inversion level at the project site and site-specific micro- meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 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.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF & CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF & CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.

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- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. 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. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

8. Impact and Environment Management Plan:

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling - in case of discharge in water body
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor- cum-rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control.
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 2500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.



- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

9. Occupational health:

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

10. Corporate Environment Policy:

- i. 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.
- ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
- iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
- iv. Does the company have system of reporting of non compliances / violations of environmental 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

11. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

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12. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

13. Enterprise Social Commitment (ESC)

- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

14. 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.

15. A tabular chart with index for point wise compliance of above TOR.

A. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR METALLURGICAL INDUSTRIES (FERROUS & NON FERROUS)

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management -Non-ferrous metal
7. Complete process flow diagram describing production of lead/zinc/copper/aluminium, etc.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling
12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.

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16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water.

B. Other

1. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.R for securing the TOR) should be brought to the attention of SEIAA, Jharkhand with reasons for such changes and permission should be sought, as the TOR may also have to be altered.
2. The Prescribed ToRs is valid as per O.M. F. No. IA3-22/10/2022-IA.III[E177258], dated 08.06.2022. of MoEF & CC, Govt. of India.

