State Level Environment Impact Assessment Authority, Jharkhand
Nursery Complex, Near Dhurwa Bus Stand, P.O+P.S-Dhurwa, Ranchi, Jharkhand-834 004
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सत्यमेव जयते

Letter No.-**EC/SEIAA/2021-22/2480/2021** Ranchi, Date:

To: **M/s The Tinplate Company of India Limited,**
Sri Somenath Bose,
Chief (Safety, Project & BE),
Golmuri Works, Village - Golmuri,
Jamshedpur, District – East Singhbhum,
Jharkhand – 831003.

Sub: Prescribing of ToR to **"Operation of current plant of capacity 415,000 TPA and proposed phase-wise expansion to 1015,000 TPA capacity of Electrolytic Tinplate and Tin-Free Steel material including 28,000 TPA Printed and Lacquered sheets of M/s The Tinplate Company of India Limited at Golmuri Works, Jamshedpur, East Singhbhum, Jharkhand" (Proposal No. : SIA/JH/IND/60643/2021) - regarding.**

Ref: Your application no.- Nil dated – 02.02.2022.

Sir,

It is in reference to the project **"Operation of current plant of capacity 415,000 TPA and proposed phase-wise expansion to 1015,000 TPA capacity of Electrolytic Tinplate and Tin-Free Steel material including 28,000 TPA Printed and Lacquered sheets of M/s The Tinplate Company of India Limited at Golmuri Works, Jamshedpur, East Singhbhum, Jharkhand"** submitted by you for seeking Terms of Reference (ToR).

This is a expansion project which has been taken for appraisal on 11.05.2022.

The proposal was considered by the committee to determine the "Terms of Reference (TOR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendments thereafter. For this purpose the Project Proponent has submitted the prescribed Form - I & PFR the proposed project falls under item 3 (a) Metallurgical Industries (Ferrous & Non-Ferrous) as per EIA Notification, 2006.

Project background :

M/s The Tinplate Company of India Limited (TCIL) located at Golmuri, Jamshedpur installed an Electrolytic Tinning Line (ETL-1) coupled with a shearing line in the year 1979 to produce Tinplate (TP) and Tin-free steel (TFS) with imported Tin Mill Black Plate (TMBP) coils. It continued to produce ETP and TFS in various coating weight, thickness and width. A captive upstream Cold Rolling Mill Complex (CRMC) was added by TCIL in its premises in 1996 to produce the TMBP coils as required for its ETL to do away with the import of costly TMBP coilsas a cost saving measure.

The installed capacity of 90,000 TPA of ETL -1 was enhanced to 180,000 TPA through operational excellence, debottlenecking and balancing of facilities. Tinplating capacity has been expanded to 380,000 TPA in 2008 through installation of 200,000 TPA ETL-2. For feeding TMBP subsequently in 2010-11, CRM complex was expanded to rated capacity of 380,000 TPA through installation of CRM-2 facilities. The capacity achieved was 355,784 TPA which is almost 94% of the rated production capacity of 380,000 Ton / year. The major reason for achieving the rated production capacity is by streamlining the flow of Raw material in the form of Hot Rolled coils from Tata Steel our parent company and focus on the equipment availability and performance rate. In view of the above and improvement in operational efficiencies & better product mix, the existing infrastructure and facilities is capable to produce around 415,000 TPA for which we have Consent to Operate.

There is a proposal for expansion by 300,000 TPA in Phase 1 & 300,000 TPA in Phase 2, (additional about 600,000 TPA capacity) . The total capacity post expansion would be 1,015,000 TPA of Electrolytic Tinplate and Tin-Free Steel.

Executive Summary :

1.	Name of the Company	**M/s The Tinplate Company of India Limited.**
2.	Address of the Registered Office	4, Bankshall Street, Kolkata, West Bengal - 700001.
3.	Address of Factory	Golmuri Works, Village: Golmuri, Jamshedpur, District: East SinghbhumJharkhand – 831003.
4.	Present Business	Manufacturer of Electrolytic Tinplate and Tin-Free Steel Sheets
5.	Area of the Plant	Total Plant area is 53.94 Ha inclusive of 8.50 Ha of land to be used forexpansion.
6.	Topo Sheet No	73 J/1
7.	Latitude	22^{0} 47' 22.77'' N - 22^{0} 47' 50.57''N

8.	Longitude	86^0 13` 33.09`` E - $86^0$ 14` 15.67`` E
9.	Elevation	561 ft.
10.	Existing Production	Electrolytic Tinplate and Tin Free Steel - 4,15,000 TPA including Lacquered sheets and Printed Sheets – 28,000 TPA
11.	Proposed Expansion	Electrolytic Tinplate and Tin Free Steel - 6,00,000 TPA (Phase 1 : 300,000 TPA & Phase 2 : 300,000 TPA) Total Capacity :- Existing Production + Proposed expansion : 1,015,000 TPA
12.	Cost of the Project	Existing – Rs. 1408.78 Crores Estimated cost for Expansion – Rs. 1787 Crores (Net) for Phase 1 and Rs. 950 Crores (Net) for proposed Phase 2 expansion. The total estimated cost is Rs.2737 Crores including 100 Crores for EMP. Cost (Existing + Expansion) – Rs. 4145.78 Crores
13.	Man Power Requirement	**Existing Manpower** Existing Man Power (Direct) - 1380 persons. Existing Man Power (Indirect) - 800 persons. Total Existing Manpower – 2180 **Proposed Expansion (Estimated)** Construction phase (Proposed expansion) Direct – 100, Indirect - 2300 Operation phase (Proposed expansion) Man Power (Direct) - 761 persons Man Power (Indirect) - 200 persons Total Manpower – 961 (Inclusive of Phase 1 & 2) **Total Manpower post expansion –3141**
14.	Power Requirement & DG Sets	**Power Requirement** – Existing – 24 MVA Estimated for Expansion:55 MVA **Total – 79 MVA** DG Sets - Existing : 3.0 MVA DG Set for Expansion shall be at 415 V level for individual units Fuel – HSD for D.G Sets Presently TCIL is receiving power from Tata Steel

		at 33 kV level from Golmuri Sub- Station through buried cables. Present power requirement at TCIL is approx. 24 MVA which is fed through both feeders from Golmuri Sub Station. In case of outage of one of the feeders, the remaining feeder feeds the total power requirement. Considering the additional power demand of around 55 MVA, the power distribution scheme has been planned in accordance.
15.	Water Requirement	Existing Makeup Water – 6600 KLD from JUSCOEstimated for Expansion – 5400 KLD (Inclusive of Phase 1 & 2) Total Water Requirement post expansion- 12000 KLD
16.	Waste Water Generation	**Domestic Waste Water (Sewage)** About 96 KLD Sewage is generated in the Existing Plant. This sewage is sent to Bara STP. After Expansion about 142 KLD Sewage will be generated in the Plant. It will also be sent to Bara STP. **Industrial Effluent after expansion** From ETL Total Wastewater Generation will be 5880 KLD. From CRM Total Wastewater Generation will be 2160 KLD. From Boiler Wastewater Generation will be 120 KLD. From Water Treatment Plant & Other Generation will be 132 KLD. Total Industrial effluent generation after expansion will be 8292 KLD. Currently the waste water is treated in Effluent Treatment Plant and part ofthe treated water is recycled into the system and balance is discharged as per norms. It is proposed to treat the entire water in ETP with RO System and the treated Water will be recycled within the process (ZLD).

Solid Waste Generation and Disposal

Non Hazardous Solid Waste (TPA)

Sr. No.	Type of Waste	Source	Existing	Proposed expansion	Total	Utilization
1	Red Oxide (by product of ARP)	ARP	1826	2640	4466	Sold to Competent Party
2	Steel Scrap	CRM & ETL	52416	75782	128198	Sold to Competent Party
3	Tin sludge and dross	ETL	30	42	72	To be sold out
4	Fly ash	AFBC boiler	19857	0	19857	Handed over to Fly ash Brick Manufacturers
5	Bottom Ash	AFBC boiler	2920	4867	7787	Partly used in boiler bed and remaining part is handed over to Brick Manufacturers
6	CRM Sludge	CRM WWTP	3180	4597	7777	Dumped in designated yard within the plant

Hazardous Solid Waste(Annual generation)

Sr. No.	Type of Waste	Source	Existing	Proposed expansion	Total	Utilization
1.	Waste Emulsion Oil	Plants & CRM WWTPs	500 MT	600 MT	1110 MT	Disposal to authorized vendor.
2.	ETL Sludge	ETL ETP	753MT	1088MT	1841 MT	Disposal through CHWTSDF

						(M/s Adityapur Waste Management Pvt. Ltd.)
3.	Waste Pickle Liquor (WPL)	Pickling unit	18000 KL	20000 KL	38000 KL	Regenerated at ARP and Reused in Pickling
4.	Process residue	Solution Centre	12 MT	-	12 MT	Disposal to authorized vendor
5.	Alkali residue	CRM plant	4380 KL	6332 KL	10712KL	Treatment at CRM WWTPs

Land use (Area) break-up :

The Plant area is 53.94 Ha and within the land around 8.50 Ha of the land will to be used for expansion. Further Plan is in place and area identified for extending Green Coverage by 4.75 Ha post expansion of Phase 2. Proposal for developing Water body post Phase 2 expansion is also in place.

Sr. No.	Particular	Existing land utilization (Ha.)	Land utilization post expansion (Ha.)
1.	Plant area	19.95	28.45
2.	Green belt	15	18.1
3.	Water body	0.6	0.6
4.	Open area	18.39	6.79
	Total	**53.94**	**53.94**

Khata no. & Plot no. of the project :

SN	Ward No	Khata No	Plot No	Area in Hect
1	12	61	4208 (P)	22.151
2	12	61	4209	0.842
3	12	61	4211 (P)	0.025
4	12	61	4212 (P)	0.001

5	12	61	4213	0.258
6	12	61	4336	0.115
7	12	61	4338	0.052
8	12	61	4339	0.075
9	12	61	4340	0.049
10	12	61	4341	0.014
11	12	61	4342	0.01
12	12	61	4343	0.015
13	12	61	4344	0.01
14	12	61	4345	0.013
15	12	61	4346	0.01
16	12	61	4347	0.013
17	12	61	4348	0.01
18	12	61	4349	0.013
19	12	61	4350	0.01
20	12	61	4351	0.013
21	12	61	4352	0.01
22	12	61	4353	0.012
23	12	61	4354	0.01
24	12	61	4355	0.012
25	12	61	4356	0.01
26	12	61	4357	0.012
27	12	61	4358	0.012
28	12	61	4359	0.012
29	12	61	4360	0.114
30	12	61	4361	0.068
31	12	61	4362	0.013
32	12	61	4363	0.017
33	12	61	4364	0.002
34	12	61	4365	0.018
35	12	61	4366	0.03
36	12	61	4367	0.02
37	12	61	4368	0.006
38	12	61	4369	0.017
39	12	61	4370	0.006
40	12	61	4371	0.015
41	12	61	4372	0.005
42	12	61	4373	0.015
43	12	61	4374	0.007
44	12	61	4375	0.017
45	12	61	4376	0.005
46	12	61	4377	0.017
47	12	61	4378	0.005
48	12	61	4379	0.017
49	12	61	4380	0.007

50	12	61	4381	0.017
51	12	61	4382	0.006
52	12	61	4383	0.015
53	12	61	4384	0.005
54	12	61	4385	0.017
55	12	61	4386	0.088
56	12	61	4387	0.048
57	12	61	4388	0.075
58	12	61	4389	0.072
59	12	61	4390 (P)	0.26
60	12	61	4391	0.05
61	12	61	4392	0.133
62	12	61	4393	0.014
63	12	61	4394	0.014
64	12	61	4395	0.1
65	12	61	4396	0.047
66	12	61	4397	0.006
67	12	61	4398	0.049
68	12	61	4399	0.006
69	12	61	4400	0.049
70	12	61	4401	0.006
71	12	61	4402	0.046
72	12	61	4403	0.018
73	12	61	4404	0.058
74	12	61	4405	0.38
75	12	61	4406	0.123
76	12	61	4407	2.579
77	12	61	4408 (P)	1.817
78	12	61	4414	0.118
79	12	61	4415	0.12
80	12	61	4416	0.094
81	12	61	4417	0.012
82	12	61	4418	0.06
83	12	61	4419	0.012
84	12	61	4420	0.056
85	12	61	4421	0.012
86	12	61	4422	0.056
87	12	61	4423	0.012
88	12	61	4424	0.116
89	12	61	4425	0.061
90	12	61	4426	0.009
91	12	61	4427	0.065
92	12	61	4428	0.011
93	12	61	4429	0.063
94	12	61	4430	0.011

95	12	61	4431	0.092
96	12	61	4432	0.01
97	12	61	4433	0.044
98	12	61	4434	0.085
99	12	61	4435	0.01
100	12	61	4436	0.056
101	12	61	4437	0.01
102	12	61	4438	0.056
103	12	61	4439	0.011
104	12	61	4440	0.058
105	12	61	4441	0.011
106	12	61	4442	0.056
107	12	61	4443	0.128
108	12	61	4444	0.006
109	12	61	4445	0.09
110	12	61	4446	0.012
111	12	61	4447	0.06
112	12	61	4448	0.011
113	12	61	4449	0.06
114	12	61	4450	0.011
115	12	61	4451	0.059
116	12	61	4452	0.011
117	12	61	4453	0.06
118	12	61	4454	0.152
119	12	61	4455	0.14
120	12	61	4456	0.071
121	12	61	4457	0.223
122	12	61	4458	0.043
123	12	61	4459	0.013
124	12	61	4460	0.27
125	12	61	4461	1.842
126	12	61	4462	0.096
127	12	61	4463	0.065
128	12	61	4464	0.042
129	12	61	4465	0.057
130	12	61	4466	0.09
131	12	61	4467	0.104
132	12	61	4468 (P)	0.232
133	12	61	4469 (P)	0.138
134	12	61	4474	0.018
135	12	61	4730 (P)	9.34
136	12	61	4731 (P)	0.216
137	12	61	4732 (P)	0.013
138	12	61	4733	0.004
139	12	61	4734	0.106

140	12	61	4735	0.013
141	12	61	4738	0.52
142	12	61	4739	0.057
143	12	61	4767	0.23
144	12	61	5243	0.482
145	12	61	6210 (P)	0.893
146	12	61	6233 (P)	0.17
147	12	61	6234	0.044
148	12	61	6235	0.005
149	12	61	6236	0.044
150	12	61	6237	0.005
151	12	61	6238	0.044
152	12	61	6239	0.005
153	12	61	6240	0.044
154	12	61	6241	0.11
155	12	61	6242	0.057
156	12	61	6243	0.005
157	12	61	6244	0.044
158	12	61	6245	0.004
159	12	61	6246	0.045
160	12	61	6247	0.173
161	12	61	6248	0.009
162	12	61	6249	0.197
163	12	61	6250	0.046
164	12	61	6251	0.005
165	12	61	6252	0.046
166	12	61	6253	0.004
167	12	61	6254	0.046
168	12	61	6255	0.081
169	12	61	6256	0.062
170	12	61	6257	0.005
171	12	61	6258	0.041
172	12	61	6259	0.099
173	12	61	6260	0.069
174	12	61	6261	0.322
175	12	61	6262	1.35
176	12	61	6263	0.162
177	12	61	6264	0.069
178	12	61	6265	0.127
179	12	61	6266	0.112
180	12	61	6267	0.246
181	12	61	6268	0.118
182	12	61	6269	0.047
183	12	61	6270	0.009
184	12	61	6271	0.036

185	12	61	6272	0.008
186	12	61	6273	0.063
187	12	61	6274	0.009
188	12	61	6275	0.064
189	12	61	6276	0.009
190	12	61	6277	0.113
191	12	61	6278	0.01
192	12	61	6279	0.056
193	12	61	6280	0.011
194	12	61	6281	0.092
195	12	61	6282	0.01
196	12	61	6283	0.047
197	12	61	6284	0.052
198	12	61	6285	0.109
199	12	61	6286	0.093
200	12	61	6287	0.01
201	12	61	6288	0.097
202	12	61	6289	0.01
203	12	61	6290	0.061
204	12	61	6291	0.011
205	12	61	6292	0.063
206	12	61	6293	0.117
207	12	61	6294	0.063
208	12	61	6295	0.014
209	12	61	6296	0.067
210	12	61	6297	0.014
211	12	61	6298	0.095
212	12	61	6299	0.014
213	12	61	6300	0.098
214	12	61	6301	0.109
215	12	61	6304 (P)	0.267
216	12	61	6305	0.005
217	12	61	6306	0.018
218	12	61	6307	0.104
219	12	61	6308	0.014
220	12	61	6309	0.015
221	12	61	6310	0.01
222	12	61	6311	0.015
223	12	61	6312	0.03
224	12	61	6313	0.015
225	12	61	6314 (P)	0.078

STATUTORY CLEARANCES

1	DC, Jamshedpur	:	In absence of non availability of Khatiyan / Revenue record DC, Jamshedpur has given a certificate vide memo no. 270/TL, dated 30.07.2021 that if any part of land belongs to forest land / jangal jhari in future the project proponent is bound to follow the direction of Forest (Conservation) Act, 1980. This certificate was based on the directives of Revenue, Registration and Land Reforms Deptt., Govt. of Jharkand issued vide letter no. 05 / स०भू० लातेहार (विविध)–181 / 2018(छाया संचिका)4792 / रा०रांची, दिनांक 04.12.2018.
2	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 1977, dated 20.12.2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
3	DFO Forest Distance	:	DFO, Jamshedpur Forest Division vide letter no. 3231 dated 11.12.2021 certified that the distance from the nearest Reserved Forest / Protected Forest from the project site is more than 250 m.

This proposal was earlier considered in 93rd meeting of SEAC held during 18-27.02.2022 in which PAs were asked to submit additional requisite documents. The PAs have submitted the required documents.

After submission of desired documents following discripencies were identified during the presentation :

I. Receipt copy of certified copy of CTO compliance from JSPCB to be provided.
II. Revised plant layout showing existing & proposed green belt in the expansion project site to be provided.
III. Envisage possibility of 100% harvesting of rain water to be provided.
IV. Provide for additional Ash Silo for fly ash storage and disposal to be provided.
V. Recalculate & submit correct figure for quantom of fly ash generation and its utilization to be provided.

The PA's have provided the same.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 10, 11, 12, 13 & 14.05.2022, the Committee recommends for issuing of TOR for consideration of SEIAA for undertaking detailed EIA / EMP study and alongwith the following specific conditions as recommended by SEAC:

i. Unit to explore possibility of reusing hazardous sludge generated within the premises & promote its reuse.
ii. TCLP test report of the slag from existing plant to be provided in the EIA / EMP report.
iii. Environment management cell should be established with suitably qualified staff. HoD of the Department to report directly to the CEO.

SEAC, Jharkhand has suggested the ToRs in its 94th meeting dated 10th, 11th, 12th, 13th and 14th May, 2022 and SEIAA, Jharkhand has approved the ToRs in its 95th meeting held on 14th, 15th & 16th June, 2022.

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

A. Standard Terms of Reference

1. Executive Summary

2. Introduction

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

3. Project Description

i. Cost of project and time of completion.
ii. Products with capacities for the proposed project.
iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
iv. List of raw materials required and their source along with mode of transportation.
v. Other chemicals and materials required with quantities and storage capacities
vi. Details of Emission, effluents, hazardous waste generation and their management.
vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided.
ix. Hazard identification and details of proposed safety systems.
x. Expansion/modernization proposals:
    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 and Forests as per circular dated 30th May, 2012 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.

4. 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 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.

5. **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.

6. **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.

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.

7. 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 1,500 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.

8. Occupational health:

i. 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 heath status of workers with special reference to Occupational Health and Safety.

9. 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.

10. 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.

11. 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.

12. 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.

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

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

C. ADDITIONAL TOR FOR INTEGRATED STEEL PLANT

1. Repairable Suspended particulate matter (RSPM) present in the ambient air must be analyzed for source analysis - natural dust/RSPM generated from plant operations (trace elements). The RSPM shall also be analyzed for presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction, where applicable. Chemical characterization of RSPM and incorporating of RSPM data.
2. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
3. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
4. Plan for slag utilization
5. Plan for utilization of energy in off gases (coke oven, blast furnace).

D. 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. After preparing the draft EIA (as per the generic structure prescribed in Appendix- III of the EIA Notification, 2006) covering the above mentioned issues, the proponent will get the public hearing conducted and take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
3. The prescribed TORs would be valid for a period of three years for submission of the EIA / EMP reports, as per the O.M. No. J-11015/109/2013-IA.II(M) , dated 12.01.2017.

Sd/-
Member Secretary
State Level Environment Impact
Assessment Authority, Jharkhand.

Memo No.-**EC/SEIAA/2021-22/2480/2021** 163 Dated: 18/06/2022

Copy to:

1. Member Secretary, Jharkhand State Pollution Control Board, Ranchi for information and necessary action.
2. Secretary, SEAC, Jharkhand, Ranchi for information and necessary action.

18/06/2022
Member-Secretary
State Level Environment Impact
Assessment Authority, Jharkhand