

**No. J-11015/192/2016-IA.II (M)**

Government of India  
Ministry of Environment, Forest and Climate Change  
Impact Assessment Division  
\*\*\*

Indira Paryavaran Bhavan,  
Vayu Wing, 3<sup>rd</sup> Floor, Aliganj,  
Jor Bagh Road,  
New Delhi-110 003

Dated: 16<sup>th</sup> January, 2017

To,

**M/s Essar Steel India Ltd.**  
Ore Club, Bhadrasahi Chowk,  
Near Bank of India ATM, Barbil,  
District – Keonjhar,  
Odisha – 768 035

Email [pdpmining@essar.com](mailto:pdpmining@essar.com)

**Sub.:- Ghoraburhani - Sagasahi Iron Ore with proposed production of 7.16 Million TPA of Iron ore (ROM) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA Capacity by M/s Essar Steel India Limited, located at village- Ghoraburhani, Sagasahi and Kalmang, Tehsil Koira, District Sundargarh, Odisha (MLA 139.165ha)- prescribing TOR regarding.**

**Ref.:- Online proposal no. IA/OR/MIN/56152/2016**

Sir,

This has reference to above mentioned online proposal for determining 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. For this purpose, the Proponent had submitted information in the prescribed format (Form-1) along with a Pre-feasibility Report.

2. The proposal is for Ghorabhurani - Sagasahi Iron ore block with proposed production of 7.16 Million TPA of Iron ore (ROM) along with Crushing & Screening Plant and Beneficiation Plant with capacity of 6.7 Million TPA Capacity in mine lease area of 139.165ha. The mine lease area is located at Ghorabhurani, Sagasahi and Kalmang villages, Koira tehsil of Sundargarh district of Odisha. The lease area is bounded by Latitude 21°56'08.83896" - 21°57'09.61956" North and Longitude 85°17'02.52096"- 85°17'48.99336" East and falls in Survey in India Topo Sheet No. 73 G/1 & 73 G/5. The allotted block is a highly rugged terrain, with elongated hills trending ENE-WSW direction, low mounds and narrow valleys. The highest elevation of ridges in the area is 745m. The low lying valleys occur at an elevation of around 600m.

3. The proposal of TOR was earlier considered in the EAC meeting held during September 19-20, 2016 wherein the Committee noted that there are discrepancies in

the online Form I and hard copy submitted in the Ministry. It was also observed by the Committee that 0.50 ha lease area had already been mined out as per land use pattern mentioned in the PFR and the Committee is of the view State Govt. of Mines and Geology may be requested to ascertain whether mining activities were carried out or not to check the violation, if any as per the provisions of E (P) Act, 1986 and F(C) Act.

4. The Project Proponent, vide letter dated 21.11.2016, has submitted the revised Form-I and PFR. The Directorate of Mines, Government of Odisha, vide letter dated 21.11.2016, *inter-alia*, mentioned that there are few old quarries/excavations of very low and negligible depth have been observed in the area of 0.5ha under question are very old and the depth of excavation therein is negligible. The excavations are presently covered with bushy outgrowth and vegetation. Therefore, it may not be proper to attribute the excavations over the said 0.5ha area to any type of mining operation in violation of the E(P) Act, 1986 and FC Act, 1980. Further, the area over 139.165ha in Goraburhani-Sagasai was not held under any mining lease earlier and therefore, no mining operation has been allowed by the State Government over the area as on date.

5. Govt. of Odisha has issued letter of Intent under Rule 10(2) of Mineral Auction Rules 2015 to M/s Essar Steel India Ltd. on 28<sup>th</sup> March'2016 for grant of Mining Lease for Ghoraburhani - Sagasahi Block. Project Proponent reported that Iron ore produced from this proposed ML area will be fully utilized in the Integrated Steel Plant of M/s Essar Steel India located at Hazira, Gujarat. The total mine lease area is 139.165ha. Out of which 126.401 ha is forest land and rest 12.764 ha non-forest land (private tenant land @ 3.257 ha; Government land @ 6.063 ha; and Gochar land @ 3.444 ha). Application for diversion of forest land for mining purpose is already made and under consideration with the State Government. Mining will be carried out by mechanized opencast method by removal of topsoil, drilling and blasting of ore zone, excavation, loading and haulage of run of mine ore. The total water requirement will be 3230m<sup>3</sup> /day out of which 430m<sup>3</sup>/day is needed for mining, domestic & allied activities and 2800m<sup>3</sup>/day is needed as make up water for Beneficiation plant. The total resource of +45%Fe is estimated to be 98.61 Million tones and the mineable reserve is estimated to be 78.24 million tones. Considering this, the life of the mine is expected to be about 12 years.

6. The Project Proponent reported that there is no National Park, Wildlife Sanctuary, defense installation or sensitive area located within 10 km radius of the proposed mine. Project Proponent reported that in the 10km buffer zone, TopadihiNala - 3.1 km - N, KunduruNala-6.5 km - NE, SunaNadi-1.6 km - E, KalmangNala - 0.9 km - E, KakarpaniNala - 5.1 km - E, GahirajalaNala - 6.2 km - SE, TehereiNala - 2.9 km - SE, KhajurdihiNala - 6.3 km - S, KhuntachiraNala - 8.4 km - S, LekerapaniNala - 2.2 km - SW, ArchandaNala - 7.0 km - S, KaroNadi - 4.0 km - W are found. Few rain water drainage channels are passing through the lease area. Reserve forests like Lakrhaghat R.F - 4.8 - N, Siddhamath R.F - 4.0 km - NE, Baitarani R.F - 5.0 km - NE, Mendhamaruni R.F - adjacent to lease boundary - SW, Kathamala R. F - 4.0 km - SW, BhabaniPaharh R.F - 6.3 km - SW, Karo R. F - 3.3 km - NW, Uliburu R.F - 5.5 km - NW are located within 10 Km radius. Orissa-Jharkand Inter State Boundary is located at about 7.5 km NW from the lease boundary. Total project cost is Rs. 998.72 Crores. Project Proponent reported that they had started collection of baseline data during October-December 2016 and requested to use the baseline data. The Committee agreed the same.

7. The proposal of Terms of Reference (TOR) was considered before the Expert Appraisal Committee (Non Coal Mining Sector) in its meeting held during **December 15-16, 2016** wherein the Committee prescribed the TOR for undertaking detailed EIA study. **This Standard TOR shall be subject to carrying capacity being conducted by NEERI.**

8. It is mentioned that the Chief Secretary, Government of Odisha vide letter dated 16.07.2016 has requested to considered the TOR proposal of M/s ESSAR Steel India Limited as the LOI has been given through competitive bidding. In this context, the Ministry has considered the request of Chief Secretary, Government of Odisha to consider the TOR subject to outcome of carrying capacity study.

9. The matter was examined in the Ministry and the undersigned is directed to say that the Ministry of Environment, Forest and Climate Change after accepting the recommendations of the EAC, hereby decided to accord the Terms of Reference for the above mentioned project. **This Standard TOR shall be subject to carrying capacity being conducted by NEERI.** Accordingly, the Project Proponent is requested to prepare and submit the EIA/EMP report based on the TOR prescribed which are as under:-

#### **A. Standard TOR**

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The 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, may also be detailed in the EIA Report.
- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
- 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.
- 20) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
- 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

- 22) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM<sub>10</sub>, particularly for free silica, should be given.
- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) 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.

- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

**B. ADDITIONAL TOR**

- 44) Impact of mining activity on adjacent land with particular reference to run off, soil erosion and loss of top soil due to change in topography;
  - 45) Details of Transportation of mined out materials as per the Indian Road Congress for both the ways (loaded as well as unloaded trucks) load and its impact on Environment;
  - 46) Impact of all existing mining on the present land use in the study area;
  - 47) Updated status of Stage I FC clearance.
  - 48) Details of action plan with financial and physical breakup (2.5% of the total cost of the project) to be earmarked towards the Enterprise Social Commitment (ESC) based on local needs.
  - 49) Details of outcome of the Hon'ble Supreme Court order in WP (c) No. 114 of 2014 (Common Cause Vs. UoI and Ors),
10. Besides the above, the below mentioned general points are also to be followed:-
- a) Executive Summary of the EIA/EMP Report.
  - b) All documents to be properly referenced with index and continuous page numbering.
  - c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
  - d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
  - e) Where the documents provided are in a language other than English, an English translation should be provided.
  - f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
  - g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-

11013/41/2006-IA.II(I) dated 4<sup>th</sup> August, 2009, which are available on the website of this Ministry, should be followed.

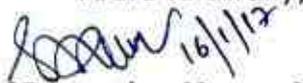
- h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
- i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

11. The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

12. The prescribed TOR would be valid for a period of three years for submission of the EIA/EMP report, as per the O.M. No. J-11013/41/2006-IA.II(I) dated 22.3.2010, 22.08.2014, 08.10.2014 and 07.11.2014. The instant TOR is valid upto **15.01.2020**.

13. 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.

Yours faithfully,

  
(Surendra Kumar)

Director

Tele-fax: 24695304

**Copy to:**

- 1). **The Secretary**, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- 2). **The Secretary**, Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.
- 3). **The Secretary**, Department of Mines and Geology, Government of Odisha, Secretariat, Bhubaneswar.
- 4). **The Secretary**, Department of Forests, Government of Odisha, Secretariat, Bhubaneswar.
- 5). **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.

- 6). **The Additional Principal Chief Conservator of Forests (C)**, Ministry of Environment, Forest and Climate Change, Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar – 751023.
- 7). **The Chairman**, Odisha State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
- 8). **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- 9). **The Member Secretary**, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- 10). **The District Collector**, District - **Sundargarh**, Odisha.
- 11). **Guard File.**
- 12). **MoEFCC website.**

  
**(Surendra Kumar)**  
**Director**