

**By Speed Post**

**No. J-11015/141/2014-IA.II (M)**  
**Government of India**  
**Ministry of Environment, Forests & Climate Change**  
**Impact Assessment Division**

3<sup>rd</sup> Floor, Vayu Wing,  
Indira Paryavaran Bhawan,  
Jorbagh Road, Aliganj,  
New Delhi-110 003

**Dated: 12<sup>th</sup> August, 2014**

To

**M/s. NMDC Ltd.**  
Khanij Bhavan, 10-3-311/A,  
Castle Hills, Masab Tank,  
Hyderabad-500028

**Subject: Bailadila Iron Ore Mine of M/s. NMDC Ltd., located at Bachel, South Bastar Dantewada District, Chhattisgarh (309.340 ha)(Capacity expansion of Bailadila Deposit-10 Mine from existing 4.2 MTPA to 6.0MTPA)-regarding TOR.**

The Proposal was received in the Ministry on 09.04.2014. The Proposal is to determine the Terms of Reference for which the proponent had submitted information in the prescribed format (Form-1) along with Pre-feasibility report.

2. Bailadila Iron Ore Mine, Deposit-10 mining lease falls in SOI Tope sheet no: 65F/2. The area lies between Latitude 18° 41'40" to 18° 43'15" North and Longitude 81° 13'15"- 81° 13' 45" East. The proposal is for enhancement of production of iron ore from Deposit no: 10 from existing 4.2 MTPA capacity to 6.0 MTPA. The mine lease area is 309.340 ha which is a forest land and the lease is valid upto 10-09-2015. Application for obtaining renewal of mining lease and forest clearance for further period of 20 years have already been submitted.

3. Earlier, Environmental Clearance for Bailadila Deposit-10 project was obtained from MoEF for expansion in production capacity from 3.3 MTPA to 4.2 MTPA vide letter no. J-11015/506/2008-IA.II(M) dated 13th October 2011 and amendment dated 19th February 2014. The proposed capacity expansion of mine does not warrant any increase in HEMM, addition of extra screening line, creation of additional stock pile for fine ore, etc. The production capacity of Deposit no 10 mine will be enhanced by increasing Net Utilization of HEM machinery. The life of mine will be 37 years with a production rate of 6.0 million tones. At present, the water requirement for the project is 12,375 KLD which is obtained from surface water sources such as Galle calla and is sufficient for catering to the additional iron ore production.

4. It is reported by PP that no National Parks / Sanctuary / Eco-sensitive Zone area are located within 10km of the mine lease area. The capital cost of the project is about Rs. 385.44 Crores.

5. The proposal was placed before Expert Appraisal Committee in its 20<sup>th</sup> meeting held during, July 8<sup>th</sup>-9<sup>th</sup>, 2014, the Committee prescribed the following TORs for undertaking detailed EIA study:

- 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 and mining technology 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 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) Does the company have 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.
- 6) 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.
- 7) 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.
- 8) 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.
- 9) 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.
- 10) 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.

- 11) 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.
- 12) 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.
- 13) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 14) 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.
- 15) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, 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 State Wildlife Department/Chief Wildlife Warden under the Wildlife (Protection) Act, 1972 and copy furnished.
- 16) 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, 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 schedule-I fauna found in the study area, the necessary plan 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. The Conservation Plan for Schedule-I species shall be approved by the Chief Wildlife Warden of the State Government.
- 17) 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.
- 18) 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).
- 19) 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 located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&R and socio-economic aspects should be discussed in the report.
  - 20) One season (non-monsoon) primary baseline data on ambient air quality (PM10, SO2 and NOx); 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 PM10, particularly for free silica, should be given.
  - 21) 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.
  - 22) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the project.
  - 23) 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.
  - 24) Necessary clearance from the Competent Authority for draw of requisite quantity of water for the Project should be provided.
  - 25) 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.
  - 26) 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.

- 27) 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. 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.
- 28) 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.
- 29) 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.
- 30) 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.
- 31) 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.
- 32) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA report.
- 33) 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.
- 34) 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.
- 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.
- 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 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 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 clearly be spelt out.
- 42) Provide a brief background of the project, financial position, group companies and legal issues etc.; past and current important litigations.

6. Besides the above, the below mentioned general points are also to be followed:-

- a) All documents to be properly referenced with index and continuous page numbering.
- b) Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
- c) Where the documents provided are in a language other than English, an English translation should be provided.
- d) The Questionnaire for environmental appraisal of industrial projects as devised earlier by the Ministry shall also be filled and submitted.
- e) 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 also be followed.
- f) 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 MoEF 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.
- g) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, you are requested to submit certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project by the Regional Office of Ministry of Environment & Forests, if applicable.

7. 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.

8. The prescribed TORs would be valid for a period of two years for submission of the EIA/EMP reports, as per the O.M. No. J-11013/41/2006-IA.II(I) dated 22.3.2010.

9. 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.



**(Dr. V.P. Upadhyay)**  
**Scientist 'F'**

**Copy to:**

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi-110 001.
- (ii) The Secretary, Department of Environment, Government of Chhattisgarh,
- (iii) The Secretary, Department of Mines and Geology, Government of Chhattisgarh, Chhattisgarh.
- (iv) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cumoffice complex, East Arjun Nagar, Delhi-110032
- (v) The Chairman, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh
- (vi) The Chief Conservator of Forests (Eastern), Regional Office (Western Zone), E-3/240, Arera Colony Bhopal-462016, Madhya Pradesh
- (vii) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- (viii) The Member Secretary, Chhattisgarh State Pollution Control Board, Commercial Complex, Chhattisgarh Housing Board Colony, Kabir Nagar, Raipur, Chhattisgarh.
- (ix) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (x) The District Collector, Dantewada District, Chhattisgarh.
- (xi) Guard File

**(Dr. V.P. Upadhyay)**  
**Scientist 'F'**