

By Speed Post

F. No. J-11015/171/2011.IA-II (M)
Government of India
Ministry of Environment, Forests & Climate Change
Impact Assessment Division

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Dated: 07th May, 2015

To,

M/s Essel Mining & Industries Limited
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**Subject: Koira iron ore mine of M/s Essel Mining & Industries Ltd.
District Sundargarh, Odisha (90.143 ha) (1.5 MTPA to 4.0
MTPA) -Environmental Clearance regarding.**

Sir,

This has reference to your letter No. JLIM/GEOL/768/2011-12 dated 27.06.2011 on the subject mentioned above and subsequent letters dated 24.07.2013, 26.10.2013, 21.02.2014, 18.03.2014 and 30.05.2014. The proposal was considered for TOR by the Expert Appraisal Committee in its meeting held during 21-23 September, 2011 and TOR was issued vide letter No. J-11015/171/2011-IA.II (M) dated 25th October, 2011. Extension of validity of TOR was considered in EAC meeting held during September 25-27, 2013. The extension of validity of TOR was granted vide letter dated 18th November 2013. The proposal was considered in the EAC in the meeting held during 27-28 January, 2014 and re-considered during May 28-30, 2014 wherein the Committee recommended the proposal for environmental clearance.

2. The Mine site is located at Koira, Nuagaon, Kadodiha & Harischandrapur Villages, Koira Taluk, Sundergarh District, Odisha with an average msl of about 560 - 630 m. The site falls between latitude 21° 53' 40" to 21° 54' 20" N and longitude 85° 13' 20" to 85° 14' 00" E and part of study area falls within the Survey of India Toposheet No. 73 G/1. The prior environment clearance for 1.5 MTPA was granted to the project vide letter no. J-11015/599/2007-IA.II (M) dated 24th September 2008. The certified compliance report of the EC was discussed during the EAC meeting.

3. The proposal is for enhancement of the Iron ore production from 1.5 to 4.0 MTPA by adopting deep hole drilling & blasting with fully mechanized open cast mining method. Area of the mining lease is 90.143 ha. Out of 90.143 ha, 59.458 ha is forest land, 30.685 ha non-forest land 10.81 ha private land. The FC for 59.458 ha forest land has been obtained vide letter no. 8-102/2010-FC dated 02.02.2011. The Iron ore produced from the mine will be transported to the crusher located at 1.5 km from the mine pit. The crushed Iron ore will be transported to different destinations by road from mines-head to different Railway sidings as well as plants as per buyer's requirement.

4. During the entire period of the mining, a total of about 0.37 million tonnes of waste will be generated and will be utilized for backfilling. The waste material generated during the earlier mining operations is dumped over an area of 2.934 ha. The old mature dumps are protected and rehabilitated by plantation programme. This area will be reduced to 1.515 ha during the course of mining as part of the dump area is located on mineralized area. The waste from this dump area will be backfilled in mined out quarry in SE part of the lease. Total reclaimed area up to 31.3.2013 is 2.196 ha. The Mining plan is approved by IBM vide letter dated 29.03.2011 no. 314(3)/2010MCCM/SP.

5. The main sources of water supply are dug wells and bore wells within the mining lease area equipped with pumping arrangement. The mine is presently using 100 m³/day of water for various purposes at mine-sites and colony. With the increase in production, the total water requirement will increase to 500m³/day and this requirement will be met from the above sources. Koira Iron ore mine has obtained NOC from CGWA for withdrawal 500 KLD Water vide letter dated 05.03.2008 no. 21-4(29)/SER/CGWA/ 2008-588. The mine working will not intersect the Ground Water Table. It was reported by the PP that no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves existing/proposed, are located within 10 km of the mine lease boundary.

6. Baseline studies were carried out during post monsoon season 2012 (September, October and November 2012). The Public Hearing for the Project was conducted on 26.09.2013. The Public Hearing was presided over by Shri Rabindra Nath Mishra, OAS(S), Additional District Magistrate, Rourkela, Sundargarh. The issues raised during public hearing were also considered and discussed during the meeting, which inter-alia, included, air pollution control measures to be adopted, raising of plantation, sprinkling of water etc. It was informed by the PP that they would give preference to local people for employment and also provide facilities related to health issues, education, vocational training etc. These have been incorporated in the Project Plan with budgetary provisions.

7. Capital budget for proposed increase in production of Iron Ore from 1.5 to 4.0 MTPA is 50 Crores. A case for violation of provisions of Environment (Protection) Act, 1986 at Koira Iron Mines was registered vide no. Crl. Case No.2 (C) C.C. 38/13 in the court of Sub-Divisional Judicial Magistrate, Bonai.

8. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification, 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned proposal of Koira iron ore mine of M/s Essel Mining & Industries Ltd. located at Koira, Nuagaon, Kadodiha & Harischandrapur Villages, Koira Taluk, Sundergarh District, Odisha for enhancement of production of Iron ore from 1.5 MTPA to 4.0 MTPA over the mine lease area of 90.143 ha subject to implementation of the following conditions and environmental safeguards.

A. Specific Conditions

- (i) The project proponent shall obtain Consent to Establish and Consent to Operate from the State Pollution Control Board, Odisha and effectively implement all the conditions stipulated therein.

- (ii) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.
- (iii) Traffic density on the route of mineral transportation shall be regularly monitored and report shall be submitted along with compliance report.
- (iv) As part of ambient air quality monitoring during operational phase of the project, the air samples shall also be analysed for their mineralogical composition and records maintained.
- (v) Mineral handling plant shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (vi) Effective safeguard measures such as conditioning of ore with water, regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (vii) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.
- (viii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezo meters during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.
- (ix) The project proponent shall regularly monitor the flow rate of the natural water streams Kurarhi Nadi and water stream flowing adjacent to the mine lease and maintain the records.
- (x) The reclaimed and rehabilitated area shall be afforested. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.
- (xi) Dimension of the retaining wall at the toe of temporary over burden dumps and OB benches within the mine to check run-off and siltation shall be based on the rain fall data.
- (xii) Plantation shall be raised in an specified area including a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around the higher benches of excavated void to be converted in to water body, roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per Ha.
- (xiii) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM such as haul road, loading and unloading point and transfer

points. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

- (xiv) Process water discharge and/or any waste water shall be properly treated to meet the prescribed standards before reuse/discharge. The runoff from temporary OB dumps and other surface run off shall be analyzed for iron and in case its concentration is found higher than the permissible limit, the waste water should be treated before discharge/reuse.
- (xv) Regular monitoring of the flow rate of the springs and perennial nallahs shall be carried out and records maintained.
- (xvi) Regular monitoring of water quality, upstream and downstream of river shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.
- (xvii) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water Board.
- (xviii) Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral from mine face to the beneficiation plant. The vehicles shall be covered with a tarpaulin and shall not be overloaded.
- (xix) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for workshop and wastewater generated during mining operation.
- (xx) Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubaneswar.
- (xxi) Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.
- (xxii) The project proponent shall undertake all the commitments made during the public hearing and effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project, while implementing the project.
- (xxiii) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. All the safeguard measures brought out in the Wildlife Conservation Plan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar.
- (xxiv) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

B. General Conditions

- (i) No change in Iron Ore Processing and scope of working should be made without prior approval of the Ministry of Environment & Forests.
- (ii) No change in the calendar plan including Processing/Beneficiation of mineral iron ore and waste should be made.
- (iii) At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e., PM₁₀) and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board. The data so recorded should be regularly submitted to the Ministry including its Regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.
- (iv) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.
- (v) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- (vi) Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- (vii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- (viii) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.
- (ix) The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (x) The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (xi) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.
- (xii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were


- received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xiii) The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.
- (xiv) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.
- (xv) The project authorities should advertise at least in two local newspapers of the District or State in which the project is located and widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.

10. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

11. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

12. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Odhisa and any other Court of Law relating to the subject matter.

13. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


(Dr. U. Sridharan)
Scientist 'F'

Copy to:

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- (ii) The Secretary, Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.

- (iii) The Secretary, Department of Mines and Geology, Government of Odisha, Secretariat, Bhubaneswar.
- (iv) The Secretary, Department of Forests, Government of Odisha, Secretariat, Bhubaneswar.
- (v) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- (vi) The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharapur, Bhubaneswar-751023.
- (vii) The Chairman, Odhisa State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
- (viii) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- (ix) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (x) The District Collector, Sundergarh District, Government of Odisha.
- (xi) Record File.
- (xii) MoEF Website



(Dr. U. Sridharan)
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