

J-11015/408/2(07-IA,II(M)  
Government of India  
Ministry of Environment & Forests

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Paryavaran Bhavan, C.G.O. Complex,  
Lodi Road, New Delhi-110003.  
Dated the 12<sup>th</sup> September, 2007

To

M/s Manganese Ore (India) Ltd  
3, Mount Road, Extension  
Post Box 34,  
Nagpur 440001

Sub: Expansion and renewal of Kandri Manganese Mine (ML area 83.06 ha and increase in production capacity of manganese Ore from 4000 MTPM to 5250 MTPM.) of M/s Manganese Ore India Ltd., at village Kandri, Tehsil Ramtek, district Nagpur in Maharashtra - reg. environmental clearance

Sir,

This has reference to your letter no. D(P&P)/MOEF/EIA-EMP/07-08/22 dated 28.4.2007 on the above mentioned subject. The Ministry of Environment & Forests has examined the environmental clearance application.

2. It is noted that the proposal is for environmental clearance for enhancement of manganese ore production from 4000 TPM to 5250 TPM and for renewal of mine in district Nagpur in Maharashtra. The total mine lease area is 83.06 ha of which 32.61 ha is government non-forest land, 12.63 ha is agriculture land and 37.87 ha is forest land. Out of 83.06 ha of area, 10.916 ha is for mining activity, 21.731 ha is OB dump, 4.541 ha for mineral storage, 2.717 ha for infrastructure, 2.70 ha for roads, 2.280 ha for railways, 19.470 ha for green belt and 11.737 ha for township. Crushing and screening plant is located within ML area. No National park/wildlife sanctuary/biosphere reserve etc is located within 10km radius of the core zone. Method of mining is underground by conventional cut and fill method. Water requirement of 163 m<sup>3</sup>/d will be met from the ground water source. The mining activity being underground, the water table is already intersected, Hydrogeological study of the area has been carried out. The ground water development in the area is 22% which falls under the safe category. The mine water will be utilized for sand stowing operations. The solid waste will be generated in the form of mangniferrous and non-mangniferrous waste. The mangniferrous waste will be stored in the non-mineralised area for future is used. The non- mangniferrous waste will be utilized as filling material. Annual requirement of filling material is 20,000 m<sup>3</sup> while waste generation is 3000 m<sup>3</sup>. Rest of the filling will be by sand stowing. It is noted that the Public hearing of the project was held on 19.8.2006. IBM has approved the mining plan on 1.4.2003. Cost of the project is Rs. 5.19 crore.

3. The Ministry of Environment and Forests has examined the application in accordance with Section 12 of the Environmental Impact Assessment Notification, 2006 read with para (2.2.1(i) (a)) of interim operational guidelines vide Circular no. J-11013/41/2006-IA III(I) dated 13<sup>th</sup> October, 2006 and hereby accords environmental clearance under the provisions thereof to the Kandri Manganese Mine of M/s Manganese Ore (India) Limited for annual production capacity of 5250 TPM of manganese ore involving total lease area of 83.06 ha subject to implementation of following condition: and safeguards:

For: SHRI C.P.N. PATIL, Dir (S&P)  
Per: SHY A.K. BISWAL, Dy. H.C.P.  
Rt: SHRI S. MUMTAZ, Dy. S&P  
Dm: Mr. N. S. Bhat

File No. 13/9107.

Great Objection  
14/9/07

**A. Specific Conditions**

- (i) Regular monitoring of subsidence movement on the surface over working area and impact on water bodies/vegetation/structures/surrounding shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate measures should be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.
- (ii) Garland drains shall be constructed around the mine to prevent ingress of surface run-off.
- (iii) Conceptual Mining Plan for every 5 years for the life of the mine shall be prepared and submitted to the Ministry within six months.
- (iv) A green belt of adequate width in 19.47 ha of area shall be raised by planting the local species along the mine boundary, waste rock dumps, ventilation fan, roads and in selected open areas in consultation with local DFO/Agriculture Department. Density of tree shall be at least 2500 plants/ha. Green belt development and selection of plant species shall be as per CPCB guidelines. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation.
- (v) Study report on subsidence and stage wise development plan starting from 5<sup>th</sup> year of operation till the end of the mine at an interval of 5 years shall be submitted to the Ministry within six months.
- (vi) 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.
- (vii) Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The interval of monitoring should be four times in a year - pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF and to the Central Ground Water Authority.
- (viii) Water quality shall be periodically tested (every six months) for contamination when mining intersect ground water table and testing result shall be submitted to the Ministry as well as the concerned dept. of the State Government.
- (ix) Adequate measures for safety shall be provided for storage, handling and use of explosives during the project period.
- (x) Vehicular emissions shall be kept under control and regularly monitored. To control the dust emissions regular water spraying shall be carried at the haul roads and crushing and screening plant.
- (xi) Drilling and blasting shall be by dust extractors and wet drilling.

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- (xii) Permission from the competent authority shall be obtained for drawl of ground water if any, required for the project.
- (xiii) A detailed mine decommissioning plan shall be submitted to the Ministry of Environment and Forests five years in advance for approval.
- (xiv) Suitable rainwater harvesting measures on long-term basis shall be planned and implemented in consultation with Regional Director, CGWB.
- (xv) Sewage treatment plant shall be installed for the colony. ETP should also be provided for workshop and mineral separation plant wastewater. The effluent from workshop shall be treated and shall conform to prescribed standards.
- (xvi) Bio-Monitoring of Manganese in urine of the mine workers shall be regularly conducted and records maintained.
- (xvii) Occupational health and safety measures for the workers including training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The company shall engage a full time qualified doctor who is trained in occupational health surveillance and health records of the workers shall be maintained.

#### B General Conditions

- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.
- ii. No change in the calendar plan including excavation, quantum of mineral manganese ore and waste shall be made.
- iii. Conservation measures for protection of flora and fauna in the core & buffer zone shall be drawn up in consultation with the local forest and wildlife department.
- iv. Four ambient air quality-monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub> monitoring. Location of the stations shall 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.
- v. Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub>) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.
- vi. Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points shall be provided and properly maintained.
- vii. Measures shall be taken for controlling noise levels in the work environment. Workers engaged in operations of MERM, etc. shall be provided with ear plugs / muffs.

- viii. Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.
- ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
- x. A separate environmental management cell with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- xi. The project authorities shall inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- xii. The funds earmarked for environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and its Regional Office located at Bhopal.
- xiii. The project authorities shall inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- xiv. The Regional Office of this Ministry located at Bhopal 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.
- xv. A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
- xvi. State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.
- xvii. The project authorities should advertise at least in two local newspapers 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 shall be forwarded to the Regional Office of this Ministry located Bhopal.

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

5. 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.

6. 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

Yours faithfully,  
*P. L. Ahujara*  
(Dr. P.L. Ahujara)  
Director

Copy to:

1. Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Maharashtra, Mumbai.
3. Secretary, Department of Mines and Geology, Government of Maharashtra, Mumbai.
4. Secretary, Department of Forests, Government of Maharashtra, Mumbai.
5. Chief Wildlife Warden, Government of Maharashtra, Mumbai.
7. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, Link Road No.3, E - 5, Arera Colony, Bhopal - 462 016.
8. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar New Delhi - 110 032.
9. The Chairman Maharashtra Pollution Control Board, Kalpataru Point, 3<sup>rd</sup> & 4<sup>th</sup> Floor, Sion Matunga Scheme, Road No.8, Opp. Cine Planet Cinema, Near Sion Circle, Sion(East), Mumbai- 400 022.
10. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
11. Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
12. District Collector, Nagpur district, Maharashtra.
13. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
14. Monitoring File.
15. Guard File.
16. Record File.

(Dr. P.L. Ahujara)  
Director