

ANNEXURE - III

J-11015/ 363/ 2005- 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 June 27, 2007

To

Shri Gajanana S.Padiyar
Mine Owner- Proprietor
House no.121, Paroda
Goa

Sub: Vagxep Dando Amabeya Temto Molcornem iron ore and manganese ore mining project by M/s Gajanana P Adiar in district South Goa in Goa- reg environmental clearance

Sir,

The undersigned is directed to refer to your letter no. GSP/Molcornem/MOEF/2005 dated 8.10.2005 and subsequent communication dated 25.7.2006 and 4.4.2007 regarding the subject mentioned above. The Ministry of Environment and Forests has examined the application.

2. It has been noted that proposal is for environmental clearance of "Vagxepe Dando Amabeya Temb Molcornem iron and manganese ore mining project with production capacity of 350 TPA of manganese ore in district South Goa in Goa. The total lease area of the mine is 65.24 ha. Proposal is for renewal of mine. Out of 65.24 ha of mine lease area, 52.927 ha is private waste land and 12.311 ha for government land. About 5.32 ha is for excavation, 1.05 ha is for roads, 1.09 ha for waste dumps, 14.80 ha for green belt and 42.978 ha is unutilized land. Life of the mine is 85 years. It is also noted that no eco sensitive area /wildlife Sanctuary/ Biosphere reserve etc is located within 10km radius of the core zone. Method of mining is opencast and manual. No Drilling and blasting is involved. Present working depth of the mine is 87m MSL(23m BGL) from top level of 110m msl and ultimate depth of the mine would be 70m msl (40m bgl) from top level of 110m msl. Water table depth in the core zone will be 55 m a bgl from top level of 110m above msl in the core zone and 5-8m bgl from general level of 50m above msl in the buffer zone. Working will not intersect the ground water table. Water requirement of 6m³/d will be met from the ground water source. About 265m³/m of solid waste will be generated which will be dumped on barren, non-mineralized land and will be backfilled into the exhausted pit. Overall slope of the dump will be 28 deg. It is noted that Public hearing of the project was held on 5.5.2005. IBM has approved the mining scheme on 29.11.2002. Capital cost of the project is Rs.15 lakhs.

3. The project has been considered as per Sub-para 2.1.1 of the Interim Operational Guidelines dated 13th October, 2006 issued by the Ministry of Environment and Forests under Para 12 of the EIA Notification, 2006.

4. Based on the information submitted by you, the Ministry of Environment and hereby accords environmental clearance for the above project under the provisions of the EIA Notification dated 14th September, 2006 subject to implementation of the following conditions/safeguards.

A. Specific conditions

- (i) Top soil shall be stacked properly with proper slope with adequate safeguards and shall be used for reclamation and rehabilitation of mined out areas.
- (ii) Over burden shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The maximum height of the dump shall not exceed 30 m, each stage shall preferably be of 10 m and over all slope of the dump shall not exceed 28°. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. Backfilling shall start concurrently. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. 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 on six monthly basis.
- (iii) Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. Garland drain (size, gradient and length) shall be constructed for both mine pit and for waste dump and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.
- (iv) Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation shall be based on the rain fall data.
- (v) No drilling and blasting shall be involved.

- (vi) Plantation shall be raised in an area of 21.335 ha including a green belt of adequate width by planting the native species around the ML area, roads, OB dump sites etc. in consultation with the local DFO / Agriculture Department. The density of the trees shall be around 2500 plants per ha. Survival rate of the plantation shall be monitored and recorded.
- (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 by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out 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, Central Ground Water Authority and Regional Director Central Ground Water Board.
- (ix) Prior permission from the competent authority shall be obtained for drawl of ground water, if any.
- (x) 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. The vehicles shall be covered with a tarpaulin and shall not be overloaded.
- (xi) 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 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 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, SO₂, 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.
- v. Data on ambient air quality (RPM, SPM, SO₂, NO_x) should be regularly submitted to the Ministry including its Regional office located at Bangalore 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 control of noise levels in the work environment. Workers engaged in operations of HEMM, 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 19th May, 1993 and 31st 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. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xi. 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.
- xii. The project authorities shall inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

- xiii. 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 Bangalore.
 - xiv. The project authorities shall inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
 - xv. The Regional Office of this Ministry located at Bangalore 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.
 - xvi. 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.
 - xvii. 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.
 - xviii. 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 Bangalore.
5. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
 6. 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.

7. 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. Ahujara
(Dr. P.L. Ahujarai)
Director

Copy to:

1. Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Goa, Panji.
3. Secretary, Department of Mines and Geology, Government of Goa, Panji.
4. Secretary, Department of Forests, Government of Goa, Panji.
5. Chief Wildlife Warden, Government of Goa, Panji, Goa.
6. Chief Conservator of Forests, Regional Office (SZ), Kendriya Sadan, 4th Floor E&F, Wings 17th Main Road, 1 Block, Koranmangala, Bangalore-560 034.
7. Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
8. Chairman, Goa State Pollution Control Board, House no. 243, Patto, Panaji, Goa - 403001.
9. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
10. Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
11. District Collector, District South Goa, Goa.
12. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
13. Monitoring File.
14. Guard File.
15. Record File.

(Dr. P.L. Ahujarai)
Director