

J-11015/ 406/ 2006- IA.II(M)
Government of India
Ministry of Environment & Forests

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Paryavaran Bhavan, C.G.O. Complex,
Lodi Road, NewDelhi-110003.
Dated the April 13, 2007

To

The Senior President, Corporate Affairs
M/s HINDALCO Industries Limited
UCO Bank Building,
Parliament Street-110001

Sub: Dhangarwadi Bauxite Mining project by M/s HINDALCO at villages Dhangarwadi, Gholaswade, Ainwadi, Hambavali, Javali and Manoli in district Kolhapur in Maharashtra.

Sir,

The undersigned is directed to refer to your letter no. nil dated 21.10.2005 and subsequent communications dated 14.1.2006, 12.4.2006, 24.8.2006 and 2.11.2006 on the above mentioned subject. The Ministry of Environment and Forests has examined the application. It has been noted that proposal is for environmental clearance of Dhangarwadi bauxite mine in district Kolhapur in Maharashtra with production capacity of 0.60 million TPA. It is noted that total mine lease area of the mine is 122.63 involving 80.83 ha of forest land and 41.08 ha of waste land. Forestry clearance is still awaited. Elevation above mean sea level is 960m to 1020 m MSL and valley floor level is 650m msl. Presently the area is unutilized. However, at the 5th year of mining, the area for excavation will be 33.76 ha, 8 ha for OB dumps, 12.5 ha for green belt, 1 ha for roads and 67.37 ha as unutilized area. At the conceptual stage, out of 122.63 ha of mine lease area, 100.31 ha is for excavation and 22.32 ha is for green belt and 15.0 ha for water body. Active mining will be limited to an area of 10-15 ha. Topography of the area is hilly (plateau). Life of the mine is 15 years and lease period is for 30 years.

2. No ecologically sensitive area is located within core zone and 10 km radius of the mine. No rehabilitation/resettlement is involved in the mining lease area. Peak water requirement is 90.0m³/d will be met from the ground water source (30.0m³/d) and mine water (60m³/d). However, average demand is 60m³/d. Water table depth is 60m bgl (from 1000m msl). Mining operations will be limited to a maximum depth of 12m bgl and hence will not intersect ground water table. About 0.135 million tonnes of top soil will be generated and stacked separately temporarily during the first five years and thereafter concurrent backfilling will be practiced. 1.45 million tonnes of overburden will be generated during course of mining which will be 100% backfilled in to the mined out voids. The waste will be disposed of into external dump in the mineralized zone and

from 5th year onwards will be backfilled. It is noted that Public hearing of the project was held on 18.8.2005. IBM has approved the modified mining scheme on 11.11.2003. Cost of the project is Rs. 35.0 crores.

3. The project was considered as per the old EIA Notification, 1994 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 backfilled for reclamation and rehabilitation of mined out area.
- (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°. The mine pit area shall be reclaimed by back filling the OB in a phased manner. 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) Garland drains shall be constructed to arrest silt and sediment flows from soil, 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) Drilling and blasting shall be by using dust extractors/wet drilling.

- (v) Plantation shall be raised in an area of 22.32 ha including 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.
- (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 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.
- (viii) Prior permission from the competent authority shall be obtained for drawl of ground water, if any.
- (ix) 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.
- (x) At the end of the mining , the void shall be used as water body for water conservation and recharging of the ground water.
- (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.

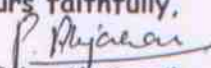
B. General conditions

- 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 bauxite 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 below 85 dBA 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 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.


- 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 Bhopal.
 - xiv. 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.
 - xv. 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.
 - 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 Bhopal.
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,

(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 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, 3rd & 4th 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, Kolhapur 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. Ahujarai)
Director