

No.J-11015/135/2006-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O. Complex, Lodi Road,
New Delhi - 110 003

Dated the 24th January, 2007

To,

M/s Hindalco Industries Ltd.
UCO Bank Building,
4th Floor, Parliament Street,
New Delhi-110 001

Subject: Pakhar Bauxite Mining Project of M/s Hindalco Industries Limited located in Village Pakhar, Tehsil Kisko, District Lohardaga, Jharkhand - environmental clearance reg.

Sir,

This has reference to your letter No. 'Nil' dated 20.04.2006 and subsequent letters dated 22.06.2006, 12.09.2006 and 04.10.2006 on the subject mentioned above. It has been noted that the proposal is for grant of environmental clearance under the provisions of EIA Notification, 1994, for renewal of mining lease which fall due from May 2005 and for enhancement of production of bauxite ore to 80,000 tonnes per annum (TPA). The total mine lease area of the project is 8.09 ha, out of which 6.98 ha is an agricultural land, 0.7 ha is wasteland and 0.41 ha is others (roads). No forestland is involved. Area proposed for mining is 6.35 ha, an area of 0.41 ha is kept for roads and 1.33 ha is others (possible future mining). No ecologically sensitive area such as national park, wildlife sanctuary/biosphere reserve, tiger reserve etc. is reported to be located in the core and buffer zone of the mine and also the project area does not form the corridor for Schedule- I fauna. There is no population in the core zone, therefore, displacement of population and R&R is not involved. The annual targeted production capacity of the mine is 80,000 tonnes (0.08 million tonnes) of bauxite ore and life of mine is 1.2 years. Working is open cast by semi-mechanised method involving blasting. The ultimate working depth of mine will be 1049 m above MSL. The groundwater table is at 971 m above MSL. Working will not intersect groundwater. Peak water requirement of the project is 15 m³ per day, which will be met from mine water and others surface water bodies. It is estimated that 1,03,110 m³ per year of OB will be generated which will ultimately be backfilled. There will be no external OB dump at the end of the mine life. An area of 6.35 ha will be reclaimed at the end of the mine life and afforested and there will be no water body left at the post mining stage. NOC from Jharkhand State Pollution Control Board obtained on 15.04.2006 for production of 271 TPD (0.8 LTPA) of bauxite ore involving lease area of 8.09 ha. Public hearing is not applicable as per the old notification as the lease area of the project is less than 25.0 ha. Indian

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Bureau of Mines has approved mining plan of the project on 18.06.2004 and progressive mine closure plan of the project on 09.12.2005 for lease area of 8.09 ha. Capital cost of the project is Rs.32.22 lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with Section 12 of the EIA Notification 2006 read with para 1.1 of Circular No.J-11013/41/2006-IA.II(I) dated 13.10.2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Pakhar Bauxite Mining Project of M/s Hindalco Industries Ltd. for production capacity of 80,000 tonnes per annum(0.08 million TPA) of bauxite ore by opencast semi-mechanised method involving total lease area of 8.09 ha subject to implementation of the following conditions and environmental safeguards.

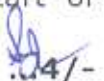
A. Specific conditions

- (i) All the conditions stipulated by SPCB in their NOC shall be effectively implemented.
- (ii) The environmental clearance is subject to approval of the State Landuse Department, Government of Jharkhand for diversion of agricultural land for non-agricultural use.
- (iii) Mining shall not intersect groundwater. The mine working shall be restricted to above ground water table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.
- (iv) The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations.
- (v) Top soil shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.
- (vi) The waste generated shall be concurrently backfilled in the mined out area. There shall be no external OB dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.
- (vii) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly.

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Garland drain (size, gradient and length) shall be constructed for mine pit and sump capacity should 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 should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.


- (viii) Plantation shall be raised in an area of 6.35 ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.
- (ix) The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.
- (x) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should 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.
- (xi) Prior permission from the competent authority should be obtained for drawal of water from the surface water bodies.
- (xii) Vehicular emissions should 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 should be covered with a tarpaulin and shall not be overloaded.
- (xiii) Drills should either be operated with dust extractors or should be equipped with water injection system.
- (xiv) Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
- (xv) Consent to operate should be obtained from SPCB prior to start of enhanced production from the mine.


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- (xvi) Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated from mining operations.
- (xvii) The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Indian Python etc. 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. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.
- (xviii) A Final Mine Closure Plan along with details of Corpus Fund should 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 should 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 should be made.
- (iii) Four ambient air quality-monitoring stations should 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.
- (iv) Data on ambient air quality (RPM, SPM, SO₂, NO_x) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central Pollution Control Board once in six months.
- (v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
- (vi) 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.

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- (vii) 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 should be installed before discharge of workshop effluents.
- (viii) 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.


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.

- (ix) 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.
- (x) The project authorities should inform to the Regional Office located at Bhubneshwar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (xi) 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 Bhubneshwar.
- (xii) The Regional Office of this Ministry located at Bhubneshwar 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.
- (xiii) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom and suggestion/ representation has been received while processing the proposal.
- (xiv) 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.
- (xv) 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

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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 Bhubneshwar.

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


 (SATISH C. GARKOTI)
 Additional Director (S)

Copy to:

1. Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Jharkhand, Secretariat, Ranchi.
3. Secretary, Department of Mines, Government of Jharkhand, Secretariat, Ranchi.
4. Chief Conservator of Forests, Ministry of Environment & Forests ,Regional Office (EZ), A/3, Chandra Shekar, Bhubneshwar-751 023.
5. Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), HEC Campus , P.O. Dhurwa, Ranchi – 834004, Jharkhand.
7. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.

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8. Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
9. District Collector, Lohardaga District, Jharkhand.
10. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
11. Monitoring File.
12. Guard File.
13. Record File.