

J-11015/337/2007- IA, II(M)
Government of India
Ministry of Environment & Forests

Tel no. 24363973

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Paryavaran Bhavan, C.G.O. Complex,
Lodi Road, New Delhi-110003
Dated the August 9, 2007

To

M/s Hindalco Industries Limited
P O and dist Lohardaga 835302
Jharkhand
Hindalco Lohardaga

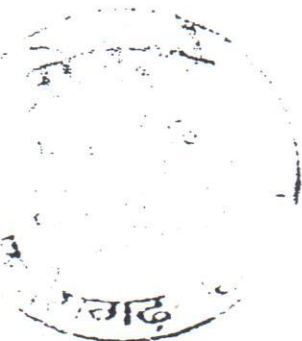
Sub: Tatijharia Bauxite Mine (M L area 1218.762 ha and increase in production of bauxite from 50,000 TPA to 4,00,000 TPA) of M/s Hindalco Industries Ltd., at villages Tatijharia and Betpani, Tehsil Kushmi in Sagurja Distt., Chhattisgarh: req Environmental Clearance

Sir

The undersigned is directed to refer to your letter no. HIL/Samant/Enw dated 5th February, 2007 and subsequent communication dated 13.6.2007 on the above mentioned subject. The Ministry of Environment and Forests has examined the application.

2 It has been noted that proposal is for environmental clearance for expansion of Tatijharia Bauxite mine which is captive to alumina refinery at Renukoot in Uttar Pradesh. The mine is located in district Sagurja in Chhattisgarh. Envisaged production capacity of the mine after expansion will be 4.0 LTPA. The total mine lease area of the project is 1218.762 ha of which 685.284 ha is agricultural land, 514.019 ha is revenue forest land and 19.459 ha is government waste land. Forestry clearance under Forest (Cons.) Act, 1980 has been obtained on 12th March, 1996. Out of 1218.762 ha of mine lease area 132.064 ha is for mining activity, 19th ha for infrastructure, 0.3 ha for roads, 45.240 ha for green belt and 1084.448 ha for future mining activity. No eco-sensitive areas, such as National Park, Wildlife sanctuary and biosphere reserve etc. is located within the core zone. However, intended Mahuakorra Wolf Sanctuary is located at a distance of 9.8 km in East of the mine in the Jharkhand State. The life of the mine is 8 years. Topography of the area is flat. Working is opencast by semi-mechanized method involving controlled drilling/blasting. Water requirement of 68 m³ will be met from the mine water and natural springs and surface water source. The present working depth of the mine is 11.11m above MSL (9.0 m bgl). The ultimate working depth would be 14.5m (1125.5 m above MSL). The water table in the core and buffer zone during pre-monsoon is 52-54m and 48-50m respectively and during post monsoon, it is 50-52m and 40-48m respectively. The mining will not intersect the ground water table. About 6.7 million m³ of OB will be generated which will be backfilled concurrently. It is noted that public hearing of the project was held on 3.8.2006. IRM has approved the mining scheme and post mine closure plan on 20.10.2004. Capital cost of the project is Rs. 218.05 lakhs.

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



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(221(i)(a)) of interim operational guidelines vide Circular no J-11013/41/2006-IA II(I) dated 13th October, 2006 and hereby accords environmental clearance under the provisions thereof to the Tarigharia Bauxite mine of M/s Hindalco Industries Limited for annual production capacity of 4,00,000 TPA involving total lease area of 1218.76 ha subject to implementation of following conditions and safeguards:

A. Specific conditions

- (i) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority.
- (ii) Environmental clearance is subject to final order of the Honible Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ petition (Civil) No. 460 of 2004 as may be applicable to this project.
- (iii) Conservation plan for schedule I fauna (if found in the study area) shall be prepared in consultation with Wildlife Department for implementation.
- (iv) The mining operations shall be restricted to above ground water table and it shall not intersect ground water table. Prior approval of the Ministry and CGWA should be obtained for mining if any below water table.
- (v) Top soil, if any shall be stacked properly with proper slope with adequate safeguards and shall not be used for reclamation and rehabilitation of mined out areas.
- (vi) 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.
- (vii) Gullied 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. Gullied 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 gullied drains and desilted at regular intervals.
- (viii) The project proponent shall ensure that no natural water course shall be obstructed due to mining operation.

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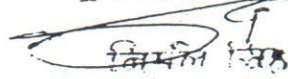
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- (v) Blasting operations shall be carried out only during the day time. Controlled blasting shall be practiced. The drills should be operated with drill extractors. The mitigative measures for control of ground vibrations and to arrest fly rocks shall be implemented. Blasting scheme based on peak particle velocity, charge per delay and blast geometry shall be evolved for maximum production. The same shall be submitted to the Ministry within six months.
- (vi) Plantation shall be raised in an area of 40.84 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. Selection of plant species shall be as per CPCB guidelines. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation.
- (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 water sprinkling shall be carried in critical areas prone to air pollution and having high levels of SPM and RSPM such as haul road, loading, unloading and transfer points and other vulnerable areas. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in this regard.
- (ix) 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 ASSEF, Central Ground Water Authority and Regional Director Central Ground Water Board.
- (x) Rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, CGWB.
- (xi) Prior permission from the competent authority shall be obtained for draw of ground water, if any.
- (xii) Existing ecological status of the project area shall be conserved and protected. The project proponent should take all possible precautionary measures during mining operation for conservation and protection of endangered fauna.
- (xiii) 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.
- (xiv) 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.

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- (xv) 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 bowrite ore 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 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 arrangements 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.

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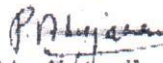
- xii. The project authorities shall inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work
- xiii. The funds earmarked for environmental protection measures shall 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. Ahujara)
Director



-6-

Copy to:

1. Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi
2. The Principal Secretary, Environment, R No. 153 Dau, Kalyan Singh Bhawan, Secretariat, Government of Chhattisgarh, Raipur-492001
3. Secretary, Department of Mines and Geology, Government of Chhattisgarh, Raipur
4. Chairman, Chhattisgarh Environment Conservation Board, Nanak News, Civil Line, Raipur.
5. Secretary, Department of Forests, Government of Chhattisgarh, Raipur.
6. Chief Wildlife Warden, Government of Chhattisgarh, Raipur.
7. Chief Wildlife Warden, Govt. of Jharkhand, Ranchi.
8. Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjan Nagar, New Delhi-110 032.
9. Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, E-3/240, Arena Colony Bhopal-462016.
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 Bhawan, Civil Lines, Nagpur-440001.
12. District Collector, Surguja district, Chhattisgarh.
13. EI Division, Ministry of Environment & Forests, New Delhi.
14. Monitoring File.
15. Guard File.
16. Record File.

(Dr. P. L. Abujaral)
Director

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