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No.J-11015/412/2005-IA.II (M) File No.....
Government of India
Ministry of Environment & Forests

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

Dated the 5th April, 2007

To,

M/s Aryan Mining & Trading Corporation Private Ltd.,
61, Strand Road,
Kolkata-700 006

Subject: Mahulsukha Manganese Ore Mining Project of M/s Aryan Mining & Trading Corporation Private Ltd. located in Village(s) Randa, Rantha & Bhutuda, Tehsil Bonai, District Sundergarh, Orissa -environmental clearance reg.

Sir,

This has reference to your letter No. 412/M.Sukha/05-06 dated 16.11.2005 and subsequent letters dated 22.06.2006, 27.06.2006 and 01.11.2006 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 falls due from February, 2005 for extraction of 40,000tonnes per annum(TPA) (0.04 million TPA) of manganese ore. The total mine lease area of the project is 399.838ha, out of which 340.332ha is forestland, 55.556ha is wasteland and 3.95ha is road. Area proposed for mining is 157.783ha, an area of 10.586ha is kept for storage of sub grade minerals, 49.881ha for OB dumps, 38.267ha for mineral storage, 6.984ha for infrastructure, 3.95ha for roads, 110.267ha for green belt and 22.12ha is others (public purpose including village road and nalla). No ecologically sensitive area such as national park/wildlife sanctuary/BR/TR/ER etc. is reported to be located within core and buffer zone. There are four reserve forests namely Khandadhar RF, Khajurdihi RF, Tohra RF and Sarkand RF are in the buffer zone. It has been envisaged that the applied area does not form part of elephant corridor. The targeted production capacity of the mine is 40,000TPA(0.04 million TPA) and life of mine is 24.5 years. Working is opencast by semi-mechanized method involving drilling and blasting. Approximately 130TPD of mineral will be transported through road. Topography of the area is hilly at an elevation above mean sea level ranging from 455m to 807m. Present working depth of mine is 60m from the top of the hill(550m above MSL) and ultimate working depth of mine will be 70m (540m above MSL). Water table is in the range of 175m bgl (435m above MSL) to 185m bgl (425 m above MSL) in core zone. Working will not intersect groundwater table. There are three villages in the core zone having no population, R&R is not involved. The water requirement for the project is estimated as 10m³ per day, which will be met from Bhutuda nallah. It is estimated that a total of 64,98,258m³ of wastes will be generated during the life of the mine. The already accumulated waste of

2/-

31,27,466m³ dumped in the form of two external OB dumps in an area of 32.84ha. There will be no additional land earmarked for OB dump. The OB likely to be generated will be backfilled. Plantation will be raised in an area of 366.784ha at the end of the mine life and there will be no water body left at post mining stage. The State Pollution Control Board, Orissa issued consent to establish to the project on 19.05.2006 for operation of mine at the existing production capacity of 40,000TPA of manganese ore involving lease area of 399.838 ha. Public hearing of the project held on 24.01.2006. The Indian Bureau of Mines has approved mining plan of the project on 25.05.2004 and progressive mine closure plan of the project on 26.05.2005 for lease area of 399.838ha. Forestry clearance for diversion of 227.0 ha forestland for third renewal of lease was granted by the Ministry of Environment and Forests on 16.02.2005. Capital cost of the project is Rs.2000.0 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 2.1.1(i) of the 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 Mahulsukha Magnanese Ore Mining Project of M/s Aryan Mining & Trading Corporation Private Ltd. for an annual production capacity 40,000tonnes (0.04 million tonnes) of manganese ore by opencast semi-mechanised method involving mining lease area of 399.838ha subject to implementation of the following conditions and environmental safeguards.

A. Specific conditions

- (i) All the conditions stipulated by the State Pollution Control Board in their Consent to establish should be effectively implemented.
- (ii) The environmental clearance is subject to grant of forestry clearance. The project proponent shall obtain necessary forestry clearance under the Forest (Conservation) Act, 1980 for entire area of 340.332 ha forestland before starting mining operation in that area. Till such time mining activities shall be restricted to an area of 227.0ha forestland for which forestry clearance has been obtained from the Ministry of Environment and Forests on 16.02.2005.
- (iii) The mining operations shall not intersect groundwater 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, if any, shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

8.3/-

- (vi) The already generated over burden stacked at earmarked dump site(s) should be scientifically vegetated with suitable native species to prevent erosion and surface run off. The waste likely to be generated in future shall be backfilled. The maximum height of the dump should not exceed 15 m having 3 terraces of 5m each. The 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. 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 and its Regional Office, Bhubneswar 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, OB and mineral dumps. 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.
- Garland drain (size, gradient and length) shall be constructed for mine pit, OB and mineral dumps 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) Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation should be based on the rain fall data.
- (ix) Plantation shall be raised in an area of 366.784 ha including a green belt of adequate width by planting the native species around ML area, OB dumps, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (x) 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.
- (xi) 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 Ministry of Environment and

Forests and its Regional Office, Bhubneshwar, Central Ground Water Authority and Regional Director, Central Ground Water Board.

- (xii) Permission from the competent authority should be obtained for drawal of water from Bhutuda nallah and also ground water, if any.
- (xiii) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, CGWB.
- (xiv) 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.
- (xv) 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.
- (xvi) Drills shall either be operated with dust extractors or equipped with water injection system.
- (xvii) Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubneshwar.
- (xviii) Consent to operate should be obtained from SPCB prior to start of production from the mine.
- (xix) Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated during mining operation.
- (xx) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as elephant, leopard, sloth bear, 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 and/or Regional Wildlife Management Plan of the State Government 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, Bhubneshwar within 3 months.
- (xxi) 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 manganese ore 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.
- (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 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.
- (xi) 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.
- (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) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubneshwar, Central Pollution Control Board and State Pollution Control Board.
- (xiv) 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.
- (xv) 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.
- (xvi) 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 should be forwarded to the Regional Office of this Ministry located at 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 Orissa, Secretariat, Bhubneshwar.
3. Secretary, Department of Mines and Geology, Government of Orissa, Secretariat, Bhubneshwar.
4. Secretary, Department of Forests, Government of Orissa, Secretariat, Bhubneshwar.
5. Chief Wildlife Warden, Government of Orissa, Bhubneshwar.
6. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
7. Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharpur, Bhubaneshwar-751023.
8. Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneshwar-751012.
9. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
10. District Collector, Sudnergarh District, Government of Orissa.
11. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
12. Monitoring File.
13. Guard File.
14. Record File.