

No.J-11015/177/2005-IA-II(M)  
Government of India  
Ministry of Environment & Forests

(6.0 MTPA)

Paryavaran Bhawan,  
C.G.O. Complex, Lodi Road,  
New Delhi-110003.

Dated: 29<sup>th</sup> September 2005

To  
General Manager (CP &P),  
M/s Mahanadi Coalfields Ltd.,  
At/PO: Jagruti Vihar,  
Burla, Dist. Sambalpur – 768020  
ORISSA.

**Sub: Jagannath Opencast (Expn.) Project (6.0 MTPA) of M/s Mahandai Coalfields Ltd. (MCL), in villages Balanda, Purunia, Nakshetrapur & Chandpur, Tehsil Talcher, District Angul, Orissa – application for environmental clearance –reg.**

Sir,

This has reference to Ministry of Coal's letter No. 43011/17/2001-CPAM dated 17.12.2002 and M/s Coal India Ltd.'s letter No. CIL/DLI/ENV/2005/55 dated 11.04.2005 forwarding your application and subsequent letters dated 27.04.2005 and 03.06.2005 on the above-mentioned subject. The Ministry of Environment and Forests has considered the application. It has been noted that the project is for expansion of the existing **Jagannath Opencast Coal Project to 6.0 MTPA** production capacity. The total mining lease area is **430.736 ha** of which 80.206 ha is forestland, 144.11 ha is wasteland, 55 ha is surface water bodies and 151.42 ha is others wherein afforestation has been already carried out. Forestry clearance has been obtained on 16/19.11.2004 for 58.096 ha. A number of Reserve Forests (RF) are found at a distance of 0.5 km to 4.25 km in the buffer zone. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. The lease area is part of the Angul-Talcher Region, which has been identified as a critically polluted area. Bangaru Jhar flows adjoining the ML boundary. It is not proposed to modify the existing drainage. The project involves R&R of 4 villages - Balanda, Purunia, Nakshetrapur & Chandpur, which has been already completed. Of the total lease area, area for excavation is 353.51 ha, 36.47 ha is for OB dumps, 12.32 ha is for mineral storage, 20.95 ha is for infrastructure which includes CHP, 4.680 ha is for roads and 2.80 ha is for railways. Mining will be opencast by mechanised method and involves drilling and blasting. Expansion of the rated capacity of the mine is from **4.0 million tonnes per annum (MTPA) to 6.0 MTPA of coal production**. Mineral transportation of **11182 TPD** of coal is by road and 7000 TPD is by conveyors covering a distance of 8km. Ultimate working depth of mine is 110 m below ground level (bgl). Water table is in the range of 4.90-8.70 m bgl (core zone) and 0.89-12.78m bgl (buffer zone). Average water requirement is 1752 m<sup>3</sup>/d of which 347m<sup>3</sup>/d is met from Water Supply from Brahmani and 1405m<sup>3</sup>/d is to be met from mine sump water. Public Hearing was held on 11.01.2004. Consent to Establish from Orissa State Pollution Control Board has been obtained on 04.08.2003. Life of the mine at the rated capacity of 6 MTPA is 7 years. The project has been approved by MCL on 14.03.2003 for expansion from 4 MTPA to 6MTPA. The capital cost of the project is **Rs. 71.42 crores**.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned proposed **Jagannath Opencast (Expansion) project** of M/s MCL for expansion in production of coal to **6.0 MTPA rated capacity** in a total lease area of **430.736 ha** under the provisions of Environmental Impact Assessment Notification, 1994 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below:

**A. Specific Conditions**

- (i) Mining in the forest area shall be restricted only to the portion of the land for which necessary forestry clearance under the provisions of FC Act, 1980 has been obtained.

- (ii) Top soil should be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used for reclamation and development of greenbelt.
- (iii) OB shall be stacked temporarily at earmarked sites only within the ML area and backfilled in the decoaled area. Monitoring and management of existing reclaimed dumpsites should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on yearly basis.
- (iv) Catch drains and siltation ponds of appropriate site should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilised for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly.  
Garland drains (size, gradient & length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mines site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.
- (v) 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 rainfall data.
- (vi) Crushers at the CHP should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, haulage roads, transfer points, etc.
- (vii) Drills should be wet operated or with dust extractors and operated only during daytime.
- (viii) Controlled blasting should be practiced with the use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented.
- (ix) The area that shall be brought under green belt development covering a total area 310.06 ha, shall include external OB dump and backfilled area covering an area of 310.06 ha, along ML boundary for an area of 58.82 ha, and along roads by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (x) A Progressive Mine Closure Plan shall be implemented. An area of 106.21 ha shall be additionally backfilled and reclaimed.
- (xi) Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity should be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forests and the Central Ground Water Board, Regional Office quarterly within one month of monitoring.
- (xii) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to de-watering of the mine.
- (xiii) Sewage treatment plant should be installed in the existing colony. ETP should also be provided for workshop and CHP wastewater.
- (xiv) Digital processing of the entire lease area using remote sensing techniques should be done regularly once in 3 years for monitoring land use pattern and report submitted to MOEF and its Regional Office at Bhubaneswar.

- (xv) 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 and Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral coal 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, SO<sub>2</sub>, NO<sub>x</sub>, monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.
- (iv) Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub>) should be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and the State Pollution Control Board and the Central pollution Control Board once in six months.
- (v) Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading & unloading) points should be provided and properly maintained.
- (vi) Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operations of HEMM, etc., should be provided with ear plugs/muffs.
- (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.
- (viii) Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.
- (ix) Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
- (x) 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 programme of the workers should 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 should be set-up under the control of a Senior Executive, who will report directly to the Head of the Company.
- (xii) 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 Bhubaneswar.
- (xiii) The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.

- (xiv) A copy of the clearance letter will be marked to concerned Panchayat/local NGO, if any, from whom and 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 around the project, one of which shall be in the vernacular language of the locality concerned within seven days of 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 may also be seen at web site of the Ministry of Environment & Forests at <http://envfor.nic.in>.
3. The Ministry or any other competent authority may stipulate any further condition for environmental 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 the 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.

  
(Dr. T. Chandini)  
Additional Director

Copy to:

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar.
3. Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-31, Chandrasekharapur, Bhubaneswar - 751 023.
4. Chairman, Orissa Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar-751012.
5. Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, A-2, W-3, K.G. Marg, New Delhi-110001,
7. Shri M.K. Shukla, CGM, Coal India Limited, SCOPE Minar, Core-I, 4<sup>th</sup> Floor, Vikas Marg, Laxminagar, New Delhi.
9. District Collector, Angul, Government of Orissa, Angul.
10. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
11. Monitoring File. 12. Guard File. 3. Record File.