

No.J-11015/5/2000-IA.II (M)
Government of India
Ministry of Environment & Forests
I A Division

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

Dated 3rd May 2005

To,

Chief General Manager(Envr.),
M/s Mahanadi Coalfields Limited
Jagriti Vihar, P.O.U.E.C.Burla
District Sambalpur-768 018
ORISSA

Subject: Garjanbahal Open Cast Coal Mining Project of M/s Mahanadi Coalfields Limited located in Village (s) Garjanbahal, Balinga, Bankibahal,, Karlikachhar, Bangurkela and Tumulia, Tehsil Hemgiri, District Sundergarh in Orissa -environmental clearance reg.

Sir,

This has reference to the Ministry of Mines and Minerals, Department of Coal letter No. 43011/38/97-CPAM dated 25.02.2000, MCL letters dated 16.02.2000, 26.05.2000, 12.06.2000, 15.06.2000, 08.08.2000, 30.11.2000, 19.05.2001, 30.10.2001, 12.01.2002, 09.02.2002, 19.03.2002, 09.11.2002, 22.05.2003, 01.08.2003, 20.03.2004 and 15.12.2004 and Coal India Limited letter No. CIL/DLI/ENV/MCL/2005/17 dated 22.03.2005 on the subject mentioned above. The Ministry of Environment & Forests has examined the application. It has been noted that the total land requirement for the project is 705.0 ha, which comprises lease area of 603.45 ha, 33.05 ha area for township and 68.50 ha for rehabilitation colony out side the lease area. Out of the total lease area of 603.45 ha, 88.90 ha is forestland and remaining 514.55 ha is Government and tenancy land. Area proposed for excavation is 366.87 ha, 55.62 ha for OB dumps , 30.50 ha is for infrastructure, 6.24 ha for roads, 122.46 ha for safety zone for blasting and 21.76 ha for rationalization of project boundary. The excavation area excludes 34.62 ha of non forest Government land to be acquired separately for safety zone for blasting. Township is outside the mine lease area, about 4-5 km from the mine site comprising an area of 33.05 ha and 1218 dwelling units. Annual production capacity of the mine is 10.0 million tonnes. Working will be opencast by mechanised method. There are 512 families from four villages comprising population of 1799 people will be affected by the project. The R&R will be followed as per the norms of the State Government of Orissa and CIL. No ecologically sensitive area such as national park, sanctuary, biosphere reserve etc. reported within 10 km radius of the proposed project. It has been mentioned that about 225.08 million cubic meter of OB will be generated throughout of the mine life of which 202.02 million cubic meter will be backfilled and 23.06 million cubic meter will be kept as external dump. Backfilling of OB will start from the 4th year of the operation. Total water requirement for the project envisaged is 2790 m³ /day which will be met from the proposed State Government dam site of the Basundhara River. Consent to Establish from the Orissa State Pollution Control Board has been obtained on 28.11.2001. The CIL Board has approved project report on 23.05.2001. Public hearing was held on 29.12.1999. Capital cost of the project is Rs. 76369.41 lakhs (March 1998).

2. The Ministry of Environment and Forests hereby accords environmental clearance to the above mentioned mechanised opencast coal mine of M/s Mahanadi Coalfields Limited for 10.0 million TPA production involving lease area of 603.45 ha under the provisions of the Environment Impact Assessment Notification, 1994 as amended on 04.05.1994 and 10.04.1997 subject to the compliance of the terms and conditions mentioned below:

A. Specific conditions

- (i) Top soil should be stacked with proper slope at earmarked site(s) and adequate measures should be used for reclamation and rehabilitation of mined out area.
- (ii) OB dumps should be stacked at earmarked dump site(s) only and should not be kept active for long period. The total height of the dumps should not exceed 120 m in four stages of 30 m each. Overall slope of the dump should not exceed 28°. Concurrent back-filling should be started from the fourth year of operation. 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 yearly basis.
- (iii) Catch drains, and siltation ponds of appropriate size 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 and 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 mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.
- (iv) 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.
- (v) Permission from competent authority should be obtained for drawl of water for the project.
- (vi) Green belt should be raised by planting the native species around the ML area, coal handling plant, roads, OB dump sites, etc., in consultation with the local DFO/Agriculture Department. The density of the tree should be around 2500 plants per ha.
- (vii) The proponent should undertake regular monitoring of ground water level (in January, May, August and November) and quality (in May) by establishing a network of piezometers in an around the mine lease area. The ground water monitoring data should be furnished to the CGWB, SER, Bhubneshwar, CGWA and Ministry of Environment and Forests on annual basis. The ground water data generated during pre and post project period should also be used by the

project proponent for ground water modeling studies and the findings to be submitted to CGWA, New Delhi for further necessary action.

- (viii) The project proponent should undertake suitable artificial recharge measures in the project area for augmentation of ground water resources.
- (ix) The proponent should withdraw the estimated mine seepage only i.e., 0.16 million cubic meter per year for dewatering purposes and explore the possible reuse of the mine seepage water for gainful utilisation.
- (x) Coal handling plant (CHP) should be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (xi) Drill should be wet operated or with dust extractors and Controlled blasting should be practiced.
- (xii) Project authority should undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.
- (xiii) A comprehensive R&R plan should be submitted to the Ministry as per the final package finalized in consultation with the State Government for rehabilitation of project effected families within 3 months.
- (xiv) 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 MOEF and its Regional Office.
- (xv) Sewage Treatment Plant should be installed for the colony. ETP should also be provided for workshop and CHP waste water.
- (xvi) 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) Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest department and experts.
- (iv) Five 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, and CO 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.

Data on ambient air quality (RPM, SPM, SO₂, NO_x, and CO) should be regularly submitted to the Ministry including its Regional Office at Bhubneshwar and to 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 monitored and data recorded properly. Water spraying arrangements on haul roads, wagon loading, dump trucks (loading & unloading) 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 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 effluents from workshop.
- (viii) Acid mine water, if any has to be treated and disposed of after conforming to the standard prescribed by the competent authority.
- (ix) 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 coal dust and take corrective measures, if needed.

- (x) Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
- (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 organization.
- (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 Bhubneshwar.
- (xiii) 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 requisite data/information/monitoring reports.

- (xiv) A copy of the clearance letter will be marked to the concerned Panchayat /local NGO, if any, from whom any suggestions/representation has been received while processing the proposal.
- (xv) 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.
- (xvi) State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's/Tehsildar's Office for 30 days.
- (xvii) 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 may also be seen 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.

Yours faithfully,



(Dr.T.Chandini)

Additional Director

Copy to:

1. Secretary, Ministry of Coal & Mines, Department of Coal, Government of India, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Orissa, Bhubaneshwar.
3. Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharpur, Bhubaneshwar-751023.