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No. J-11015/92/2005-1A-II(M)  
Government of India  
Ministry of Environment & Forests

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

Dated: 20<sup>th</sup> May 2005

To  
Chief General Manager (Civil/Env./Forest),  
M/s South Eastern Coalfields Ltd.,  
Bilaspur,  
Chhattisgarh.

**Sub: Jamuna Opencast Expansion Project of M/s South Eastern Coalfields Ltd. (SECL), in villages Dhaikhali & Payari, Annuppur Development Block, District Shahdol, Madhya Pradesh -application for environmental clearance -reg.**

Sir,

This has reference to Ministry of Coal's Letter No. 43011/15/2002-CPAM dated 24.03.2003 and M/s South Eastern Coalfields Ltd.'s letter dated 23.02.2005 and subsequent letters dated 18.03.2004 and of M/s Coal India Ltd. dated 15.04.2005, 28.03.2005 and 01.04.2005 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 **Jamuna Opencast Coal Mine Project** in terms of production capacity from 0.60 MTPA to 1.31 MTPA. The total mining lease area is **1052.54 ha** of which 882.80 ha is agricultural land and 169.74 ha is Government land. Of the total lease area, area for excavation is 651.0 ha, 160.0 ha is for OB dump, 71.54 ha is for infrastructure and 170 ha is for rehabilitation and township area. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. The Kewai Reserve Forest is located within 2 km in the buffer zone and the Malga RF is situated outside the lease boundary. R&R is involved for one village - Dhaikhali located in the core zone. The Gohrahi river flows at a distance of 3.5 km from ML boundary. Mining will be opencast by mechanised method. Drilling and blasting are involved. Expansion of rated capacity of the mine is from **0.60 million tonnes per annum (MTPA) to 1.31 MTPA of coal production.** Mineral transportation of **3770 TPD** of coal shall be by use of 400 tipper trucks per day. Ultimate working depth of mine is 76 m below ground level (bgl). Water table is in the range of 9.95-9.97 m bgl in pre-monsoon and 4.17-4.38m bgl in post-monsoon. Average water requirement is 2690 m<sup>3</sup>/d, which will be met from River Kewai (2045 m<sup>3</sup>/d) and from mine discharge water (645 m<sup>3</sup>/d). An estimated 53.73 Mm<sup>3</sup> of OB will be generated, of which 42.093 Mm<sup>3</sup> will be backfilled and 11.637 Mm<sup>3</sup> will be dumped in external dumps. An estimated 12.27 Mm<sup>3</sup> of OB will be generated in the remaining life of mine. Public Hearing was held on 26.8.2003. NOC from Madhya Pradesh State Pollution Control Board has been obtained on 05.12.2005. Life of the mine at the rated capacity is 7 years. The project has been approved by M/s SECL on 28.03.2005. The capital cost of the project is **Rs. 1806 lakhs.**

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned **Jamuna Opencast Expansion Coal project** of M/s SECL for expansion in production of coal to **1.31 MTPA** in a total lease area of **1052.54 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) 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.
- (ii) OB should be stacked at earmarked external OB dumpsite(s) only in an area of 160 ha within the ML area and shall be a maximum height of 30 m only and consist of two benches of 15 m each. The ultimate slope of the dump shall not exceed 28°. The rehandling of the OB for backfilling will begin at the end of 3<sup>rd</sup> year. Monitoring and management of rehabilitated dump sites 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 Bhopal on yearly basis.
- (iii) 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.
- (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) 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.
- (vi) Drills should be wet operated or with dust extractors and operated only during daytime.
- (vii) 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.
- (viii) (x) The area that shall be brought under green belt development shall include external OB dump covering an area of 160 ha, along roads along ML boundary, 2 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.
- (ix) (xi) A Progressive Mine Closure Plan shall be implemented. An area of 42.093 ha shall be backfilled and reclaimed and the quarried de-coaled area (void) of 131 ha will be developed as a water reservoir and used for recharge of groundwater. The higher benches of the void shall be terraced and plantation done to stabilise the slopes. Peripheral fencing shall be done along the excavated area.
- (x) 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.
- (xi) 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.

- (xii) Sewage treatment plant should be installed in the existing colony. ETP should also be provided for workshop and CHP wastewater.
- (xiii) R&R involving one villages -Dhaikhal shall be as per State Government and CIL norms.
- (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 Bhopal.
- (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 Bhopal 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. 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.

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- (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 Bhopal.
- (xiii) 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 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 Boards 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 & Mines, Department of Coal, Govt. of India, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Govt. of Chattisgarh, Secretariat, Raipur.

3. Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, E-2/240 Arera Colony, Bhopla-462 016.
4. Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
5. Chairman, Chattisgarh Environment Conservation Board, 14/3 Park Street, Choubcy Colony, Raipur.
6. Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001
7. Shri M.K. Shukla, CGM, Coal India Limited, Surya Kiran Building, Kasturba Gandhi Marg, New Delhi.
8. District Collector, Shahdol, Government of Chhattisgarh.
9. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
10. Monitoring File. 11. Guard File. 12. Record File.



(Dr.T.Chandini)  
Additional Director