

No.J-11015/276/20085-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O.Complex,
New Delhi -110510.

Dated: 10th February 2009

To
Head of Department Env./CE(Civil),
M/s Western Coalfields Ltd.,
Coal Estate, Civil Lines,
NAGPUR - 440001.

Sub: Makardhokra-II Opencast Coal Mine Expansion Project (0.50 MTPA to 1.5 MTPA) of M/s Western Coalfields Ltd. (WCL), located in village Kanhwa, Tehsil Umrer, District Nagpur, Maharashtra- environmental clearance - reg.

Sir,

This has reference to letter No. 43011/47/2007-CPAM dated 13.06.2008 of Ministry of Coal forwarding your application and letters dated 26.09.2008, 31.12.2008 and 23.01.2009 on the above-mentioned subject. The Ministry of Environment & Forests has considered the application. It has been noted that the application is for environmental clearance u/s 7 (ii) of the EIA Notification 2006 for expansion in production in the existing Makardhokra-II Opencast Coalmine Project within the existing lease area of 258.23 ha which is an amalgamation of part of Makardhokra-II Underground Coalmine Project (225.35 ha) and part of existing Umrer OCP of 32.88 ha). Environmental clearance was obtained for Makardhokra-II OCP for 0.5 MTPA rated capacity on 14.03.2006. The entire ML area consists of agricultural land. No forestland is involved. Of the total lease area, area for excavation is 91.95 ha, 94.96 ha is for OB dumps (which includes 32.88 ha of Umrer OCP leasehold), 2.75 ha is for infrastructure, 32.85 ha is for embankment, 17.40 ha is for diversion of nala, and 18.32 ha is area for rationalisation. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 15 km buffer zone. The area is drained by the River Amb flowing at a distance of 100m from the lease boundary. An embankment is proposed along the river where the quarry surface RL is less than 277.85 m (3 m above HFL of 274.85m). Project involves R&R of land oustees only. Mining is opencast by mechanised method involving shovel-dumper. The rated capacity of the mine is 1.5 million tonnes per annum (MTPA) of coal production. Mineral transportation of coal is by road. Ultimate working depth of the mine is 145m below ground level (bgl). Water table is in the range of 4-7 m bgl in the core zone and 1-10 m bgl in the buffer zone. Average water requirement is 260 m³/d, which is met from Water Supply Scheme. The total OB generation over the life of mine is estimated as 40.637 Mm³ of which 21.309 Mm³ will be dumped in 2 external dump and balance 19.329 Mm³ (47.5 %) would be backfilled. Backfilling has begun. Public Hearing was held on 23.09.2004 for 0.5 MTPA capacity project. Balance life of the mine at 1.50 MTPA rated capacity is 5 years. The project has been approved by M/s WCL on 07.01.2006. The capital cost of the project is Rs. 4462.39 lakhs.

2. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned Makardhokra-II Opencast Coal Mine Project of M/s WCL for expansion in production of coal from 0.5 MTPA to 1.5 MTPA rated capacity in a lease area of 258.23 ha under the provisions of the Environmental Impact Assessment Notification, 1994 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) The embankment constructed along the river boundary shall be of suitable dimensions and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.

- (ii) OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall 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 size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly.
Garland drains (size, gradient and length) and sump capacity shall 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 shall also provide adequate retention period to allow proper settling of silt material.
- (iv) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.
- (v) Crushers at the CHP shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
- (vi) Drills shall be wet operated.
- (vii) The project authorities shall undertake repairing and tarring of roads used for mineral transportation.
- (viii) Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
- (ix) A progressive afforestation plan shall be implemented covering an area of 170.26 ha, which includes reclaimed external OB dump (62.08 ha within the ML and 32.88 ha outside the mine in Umrer OCP), backfilled area (19.95 ha), along ML boundary, along roads and infrastructure 1 ha), embankment (32.50 ha) and along diverted nallah (9 ha) vacant land (12.50 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and avenue plantation along the main approach roads to the mine.
- (x) The backfilled quarry area of 19.95 ha shall be reclaimed with plantation and a void of 25.65 ha which is propose to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xi) An action Plan shall be prepared for protection of the plantation after the same has been taken over by the Company from the State Forest Agency after three year of their initial control. The cost for its maintenance shall be appropriately reflected in the cost of EMP.
- (xii) The company shall obtain approval of CGWA/CGWB Regional Office for use of groundwater if any, for mining operations.
- (xiii) Regular monitoring of groundwater level and quality shall be carried out by establishing a network of exiting wells and construction of new peizometers. The monitoring for quantity shall 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 shall be

submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.

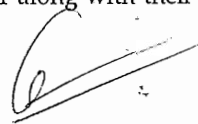
- (xiv) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xv) Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- (xvi) Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS.
- (xvii) For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhopal.
- (xviii) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests within six months from date of environmental clearance for approval.
- (xix) The project authorities shall in consultation with the panchayat of the local villages identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.

B. General Conditions

- (i) No change in mining technology and scope of working shall 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 shall be made.
- (iii) Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring SPM, RSPM, SO₂ and NO_x and heavy metals such as Hg, As, Ni, Cr, etc. Location of the stations shall 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 (SPM, RSPM, SO₂ and NO_x and heavy metals such as Hg, As, Ni, Cr, etc) shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months.
- (v) Fugitive dust emissions (SPM and RSPM and heavy metals such as Hg, As, Ni, Cr, etc) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points shall be provided and properly maintained.
- (vi) Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.

- (vii) Industrial wastewater (workshop and wastewater from the mine) shall 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 before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- (viii) Environmental quality monitoring (air, water, soil) shall also include random verification of samples through analysis from independent laboratories recognised under the E(P)A Rules, 1986 and shall be furnished as part of the Report.
- (ix) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.
- (x) Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
- (xi) 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.
Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.
- (xii) 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 company.
- (xiii) The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhopal.
- (xiv) The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.
- (xv) A copy of the will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.
- (xvi) State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/ Tehsildar's Office for 30 days.
- (xvii) The Project authorities shall 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 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 the website of the ministry of Environment & Forests at <http://envfor.nic.in>. The compliance status shall also be uploaded by the project authorities in their website so as to bring the same in the public domain. The data shall also be displayed at the entrance of the project premises and mines office and in corporate office.
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 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)
Director

Copy to:

1. Secretary, Ministry of Coal, New Delhi.
2. Secretary, Department of Environment, Government of Maharashtra, 15th Floor, New Admn. Bldg., Madam Cama Road, MUMBAI - 400032.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arear Colony, Bhopal - 462016.
4. Chairman, Maharashtra State Pollution Control Board, Kalapataru Point, 3rd & 4th Floors, Sion, Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai - 400002.
5. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. Shri M.K. Shukla, CGM, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxminagar, New Delhi.
8. District Collector, Nagpur, Government of Maharashtra.
9. EI Division, Ministry of Environment & Forests, New Delhi.
10. Monitoring File 10. Guard File 11. Record File