



Ministry of Environment & Forests (MOEF)

BY SPEED POST

No. J-11015/537/2008-IA.II (M)

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

To,

Dated: 21st June 2011

Chief General Manager
M/s Western Coalfields Ltd.
Coal Estate, Civil Lines,
NAGPUR - 440001.

Sub: Dinesh (Makardokhra-III) (3 MTPA in an ML area of 1636.97 ha) M/s Western Coalfields Limited located in Tehsil Umrer Dist. Nagpur, Maharashtra - Environment Clearance - reg.

Sir,

This is with reference to letter No. 43011/122/2008-CPAM dated 19.12.2008 of Ministry of Coal forwarding the application for Terms of Reference (TOR) and this Ministry's letter dated 09.02.2009 granting TOR to the above-mentioned project and subsequent letter No. WCL/ENV./HQ/9-G/520 dated 31.12.2010 of M/s WCL forwarding the application for environmental clearance and letters dated 06.03.2011 and 14.06.2011, on the above-mentioned subject. The Ministry of Environment and Forests has considered your application. **The proposal is for opening a new opencast coal mine of 3 MTPA production capacity in an ML area of 1636.97 ha**, of which 1385.37 ha is agricultural land, 140.78ha is forestland (zudpi jungle), and 69.85 ha is Government land. There are no ecologically sensitive areas within the 10km of the study area. Drainage of the block is controlled by River Amb. Of the total ML area of 1636.97 ha, area for excavation is 674.05 ha, external OB dump is 582.73ha, infrastructure is 10 ha, and area needed for rationalisation and blasting zone is 350.19 ha, and area for colony is 20 ha. Mining is opencast using shovel-dumper combination. Grade of cola is D-E. Total estimated OB generation is 660.32 Mm³ of which 314.69 Mm³ of OB would be stored in two external OB dumps of a max. height of 90m height. Backfilling of 345.63 Mm³ of OB is proposed from the 7th year onwards into the decoaled quarry area of 450 ha. The upper tiers (+30m above GL & +60m above GL) of the decoaled area would get merged with the external dump proposed in the western side of mine. Ultimate working depth is 200m bgl. The final void to be left would be 224.05 ha and 200m depth as the mine proposes to extend along the dip side. Total water requirement for the project would be 260 m³/d (for mine use -141m³/day and for drinking -119m³/day). A total 1146.73 ha of ML area would be reclaimed with plantation. A new railway line is proposed to be established in Umrer Area within 10 years, however, the same Railway Siding would cater to wagon loading. Until then, the present system of coal transportation by road to Umrer Railway Siding at a distance of 2km would continue. A CHP is proposed for the project. Capital costs for environmental protection measures would be Rs 61 lakhs. It is proposed to resettle Hevti village consisting of 512 PAFs to a

new site as the proposed OB dump site is in close proximity. R&R Plan for an estimated Rs 84.9081 crores has been prepared. CSR would cover 6 villages – Makardokhra, Sayaki, Dahegaon, Udas, Gandali, Sirpur and a provision of Rs 5/T of coal would be earmarked for CSR activities. Life of OC mine is 32 years. Project approved by WCL on 1.4.2009. Public Hearing was held on 22.10.2010. Total cost of project is Rs. 502.22 crores.

2. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned **Dinesh (Makardokhra-III) of M/s Western Coalfields Limited for a production capacity of 3 MTPA in an ML area of 1636.97 ha** under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars there under and subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) No mining activities shall begin in the 69.85ha is forestland (zudpi jungle) until forestry clearance has been obtained under the provisions of the Forest (Conservation) Act, 1980.
- (ii) Production shall not exceed 3 MTPA without prior environmental clearance from this Ministry.
- (iii) CHP shall be established within 2 years.
- (iv) No washery shall be established within the ML without prior environmental clearances from this Ministry.
- (v) Topsoil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.
- (vi) An estimated 314.69 Mm³ of the total OB generated shall be stored in two external OB dumps in the earmarked 582.73 ha of area within the ML and shall be reclaimed with plantation using native species. The maximum height of external dump shall not exceed 90m. The ultimate slope of the dumps shall not exceed 28°. The upper tiers (+30m above GL & +60m above GL) of the decoaled area would get merged with the external dump proposed in the western side of mine. Monitoring and management of reclaimed dumpsites shall continue until the vegetation becomes self-sustaining and compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office at Bhopal on a yearly basis.
- (vii) 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.
- (viii) 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.



- (ix) 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.
- (x) Mineral transportation from mine to Railway Siding by road shall use trucks of a minimum capacity of 20-T. A 3-tier avenue plantation shall be developed along the 2-km road from mine to Umrer Railway Siding used for coal transportation. Loading shall be by bulk loading instead of pay loaders at the Railway Siding.
- (xi) The company shall shift to new railway line to be established in Umrer Area within 10 years.
- (xii) All internal roads and approach shall be black topped.
- (xiii) High efficiency water sprinkling system provided to check fugitive emissions at the transfer points, haulage roads, etc shall be provided for crushing/loading operations for dust control at the CHP.
- (xiv) Drills shall be wet operated only.
- (xv) Controlled blasting shall be practiced with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
- (xvi) Of the total ML area, an area not less than 1146.73 ha shall be brought under afforestation at the time of mine closure which shall include reclaimed backfilled area (450ha), external OB dump area (582.73 ha), infrastructure, roads, colony (4 ha), blasting zone (50 ha), area for rationalisation area (60 ha), and undisturbed area by planting native species from the 70 species found in the original ecosystem during pre-mining phase, in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xvii) A Progressive Mine Closure Plan shall be implemented and of the total quarry area of 674.05 ha, an area of 450 ha of the quarry area shall be reclaimed with plantation using native species and the balance 224.05 ha of decoaled void being converted into a water body shall be stabilised along the upper benches by planting grass and native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. If the mine is not extended along the dip side, then measures for Final Mine Closure shall be implemented within the stipulated time-frame.
- (xviii) No groundwater (bore well) shall be used for mining operations. Rainwater harvesting structures shall be erected within and around the ML including check dams for recharge of ground water and for additional use if any during mining operations along with mine sump water.
- (xix) Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing 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.

- (xx) The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xxi) Sewage treatment plant of adequate capacity shall be installed in the colony. ETP shall also be provided for workshop and CHP wastewater. Treated wastewater meeting prescribed norms only shall be permitted to be discharged in to the natural water courses.
- (xxii) 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, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.
- (xxii) A project specific R&R Plan shall be prepared for village Hevti involving 512 PAFs and implemented in consultation with the stakeholders. R&R shall not be inferior than that in the National R&R Policy/State Government R&R Norms and shall be completed within the agreed time-frame. R&R shall include specific income generation schemes. A Corpus Fund shall be created for maintenance of the R&R colony. Annuities shall be provided for the vulnerable sections of the displaced population. Alternate livelihood schemes shall be implemented for the persons not being absorbed for employment.
- (xxiii) A detailed CSR Plan shall also be prepared for and in consultation with the local communities. CSR should be for a minimal Rs. 5/T of coal or 2.5% of the retain profit. The activities undertaken for the specific villages adopted under CSR shall be displayed on the company website and updated at least once a year.
- (xxiv) 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.
- (xxv) A Final Mine Closure Plan along with details of Corpus Fund shall 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 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 quantum of mineral coal and waste being produced 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 PM10, PM2.5, SO2 and NOx. 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. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in particulates shall be carried out at least once in six months.
- (iv) Data on ambient air quality (PM10, PM 2.5, SO2 and NOx and heavy metals such as Hg, As, Ni, Cr, etc) and other monitoring data 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. Random verification of samples through analysis from independent laboratories recognised under the EP Rules, 1986 shall be furnished as part of the compliance report.
- (v) 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.
- (vi) Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.
- (vii) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.
- (viii) Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EP Rules, 1986.
- (ix) 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.
- (x) 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.
- (xi) 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.
- (xii) 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>

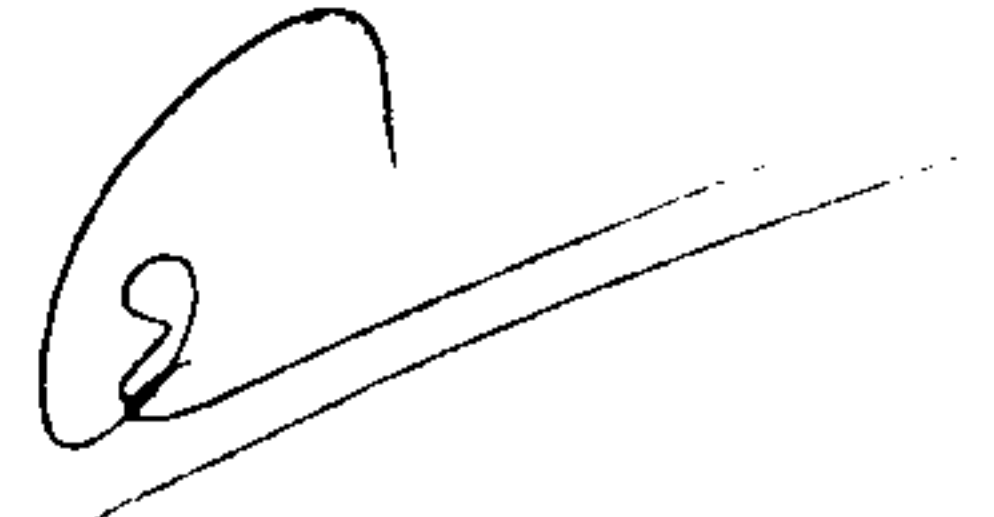
- (xiii) A copy of the environmental clearance letter shall be marked to concerned Panchayat/Zila Parishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.
- (xiv) A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.
- (xv) The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.
- (xvi) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.
- (xvii) 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.
- (xviii) The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.

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. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of

groundwater and surface water, and occupational and other diseases due to the mining operations.



(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. 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 11. Guard File 12. Record File.