

FROM :

FAX NO. :

Feb. 16 2012 04:50AM P1

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Ministry of Environment & Forests (MOEF)

No.J-11015/154/2008-IA.II (M)

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

Dated: 16th February 2011

To,
CGM (E&F)
M/s Western Coalfields Ltd.,
Coal Estate, Civil Lines,
NAGPUR 440001.

Sub: Sharda Underground Coalmine Project (0.315 MTPA in an ML area of 307.50 ha) of M/s Western Coalfields Ltd., located in Pench-Kanhan Coalfields, Tehsil Junardeo, District. Chindwara, Madhya Pradesh

Sir,

This is with reference to your application vide letter No. 43011/18/2008-CPAM dated 25.03.2008 for Terms of Reference, which was granted vide letter dated 11.07.2008 and with reference to your application for environmental clearance based on the prescribed Terms of Reference vide letter No. CIL/DLI/ENV/2009 dated 22.12.2009 on the above-mentioned subject and your letters dated 05.03.2010, 09.07.2011 and MOEF letter No. 11-164/2010-FC dated 17.06.2011 with Report of Coal Mining in Pench-Kanhan Coalfields. The Ministry of Environment & Forests has considered the application. It is noted that the present proposal is for opening a new underground coalmine of a total ML area is 307.50 ha, of which 289.65 ha is agriculture land, 8.35 ha is wasteland and 9.50 ha is forestland. An area of 297 ha is under mining rights and 10.50 ha is surface rights of which 9.50 ha is forestland. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 15 km buffer zone. The proposed project is 15 km from Satpura Tiger Reserve and 61.25 Km from Pench Tiger Reserve. The Pench-Satpura Tiger Corridor is at a distance of about 20km from the mine identified by the National Tiger Conservation Authority. River Pench flows at a distance of 8-9 km from the ML boundary. It is not proposed to modify the natural drainage. Stage- I Forestry Clearance for 9.50 ha of forestland of surface rights has been obtained vide FC letter dated 23.06.2010. Coal would be extracted by Board & Pillar method with caving by conventional drilling and blasting and transported to surface by belt conveyors. Coal would be transported to Palachauri Railway Siding at a distance of 8 km, which would be black topped and avenue plantation developed. Ultimate working depth of the mine is 338 m below ground level (bgl). Water table in the core zone is in the range of 6.05-18.10m bgl during pre-monsoon and 1.75-17.65m bgl during post-monsoon. Estimated water requirement for the project is 75 m³/day, which is to be met from mine water discharge. There are seven Reserve Forests Dhob, Khajari Phulsa, Kotakhari, Marwa, Kohania, Kotak and Gardei - located at a distance of 1.5 -10 km in the buffer zone. Subsidence study has been carried out in the adjacent mine with similar geo-mining characteristics and found to have no impact on subsidence. The project does not involve R&R. A provision of Rs 5/tonne of coal has been made for undertaking socio-economic activities for the adjoining villages under CSR. Life of the mine is 28 years. Public Hearing was held on 25.02.2009. The project has been approved by M/s WCL on 25.04.2008. Capital Cost of EMP is Rs 18.50 lakh. Capital Cost of the project is Rs 50.95 crores.

5-2/5

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned **Sharda Underground Coalmine Project of Western Coalfields Ltd., for 0.315 MTPA production Mining lease area of 307.50 ha** under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments and Circulars thereto and subject to conditions specified below:

A. Specific Conditions

- (i) The project proponent shall contribute on proportionate basis the amount required for implementation of the plans prepared by the National Tiger Conservation Authority (NTCA) for rejuvenation and restocking of the viable corridor and the mitigative measures to eliminate/minimise the adverse impacts of coal transportation mined from Pench-Kanhan coalfields on the viable corridor, the precise boundary of which shall be identified by NTCA.
- (ii) Study of site specific aquifer characteristics, well inventories, pumping test at site, and correlation of subsidence prediction with hydrological attributes shall be undertaken and appropriate preventive and mitigative measures implemented.
- (iii) Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.
- (iv) Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.
- (v) Coal extraction shall be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No coal depillaring shall be undertaken below areas of habitation.
- (vi) High root density tree species shall be selected and planted over areas likely to be affected by subsidence.
- (vii) Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be designed keeping 50% safety margin over an above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also be provided adequate retention period to allow proper settling of silt material.
- (viii) Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Mobile sprinklers shall be provided in major haul roads and with high levels of PM₁₀/PM_{2.5}.
- (ix) Major approach roads shall be black topped and properly maintained. A 3-tier plantation using native which are effective as a shield in trapping fugitive dust shall be developed along all major roads, near CHP, coal bunker, infrastructure. A mist spray water sprinkling system shall be installed at the CHP and at transfer points.
- (x) Drills shall be wet operated only to avoid fugitive dust emissions.
- (xi) Areas along roads, infrastructure, along ML boundary and township outside the lease area, etc shall be developed as green belt by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Plantations shall be carried out immediately after the onset of monsoon.

- (xii) Regular monitoring of groundwater level and quality of the mine area and the surrounding villages in the impact zone shall be carried out by establishing a network of existing wells and construction of new piezometers. 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. Parameters such as F, TDS shall be also monitored and if levels are found to be high shall be treated before discharging in to surface water/land. 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.
- (xiii) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring of water table indicates a declining trend. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xiv) Mine discharge water particularly TDS shall be treated to conform to prescribed levels before discharge into the natural environment.
- (xv) ETP shall also be provided for treatment of effluents from workshop and the treated effluents shall be used for green belt development. Mine discharge water particularly TDS shall be treated to conform to prescribed levels before discharge into the surface waters/agricultural use.
- (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 any health agency/institution in the district/State 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 6 months of grant of environmental clearance.
- (xix) The project proponent shall undertake a socio-economic survey for identifying and taking up need based specific socio-economic activities/ programmes/ schemes, which are required in the area. Monitoring of the impacts of activities under CSR shall be carried out periodically. Educational centers shall be established in the area to create awareness and for organising workshops, etc.

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 PM₁₀, PM_{2.5}, SO_x and NO_x monitoring. 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) Fugitive dust emissions (PM₁₀ and PM_{2.5}) 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.
- (v) Data on ambient air quality (PM₁₀, PM_{2.5}, SO_x and NO_x) 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.
- (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) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.
- (ix) Environmental laboratory shall 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 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 and records maintained thereof.
- (xi) 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.
- (xii) 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.
- (xiii) 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.
- (xiv) 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.
- (xv) 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.
- (xvi) 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>.

3. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

FROM :

FAX NO. :

Feb. 16 2012 04:51AM P3

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S-5/5

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, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Madhya Pradesh, Secretariat, Bhopal.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arera Colony, Bhopal - 462016.
4. Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal 462016.
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. Dr. R. K. Garg, Advisor, Coal India Limited, SCOPE Minar, New Delhi
8. District Collector, Chindwara, Government of Madhya Pradesh.
9. Monitoring File 10. Guard File 11. Record File