



**Ministry of Environment & Forests**

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

Dated: 6<sup>th</sup> March 2012

No. J-11015/332/2009-IA.II (M)

To  
Chief General Manager (E&F),  
**M/s Western Coalfields Ltd.,**  
Coal Estate, Civil Lines,  
NAGPUR-440001.

**Sub: Bellora Naigaon Deep Opencast Expansion Project (expansion of ML area from 398.66 ha to 626.17 ha at 1.25 MTPA (peak) production capacity) of M/s Western Coalfields Ltd., located in village Bellora, Tehsil Wani, dist. Yavatmal, Maharashtra - Environmental Clearance regarding.**

Sir,

This has reference to letter No 43011/45/2009-CPAM dated 12.11.2009 Ministry of coal forwarding your application for Terms of Reference and this Ministry's grant of TOR vide letter dated 10.12.2009 and your application for environmental clearance vide letter no.WCL/ENV/HQ/10-E/257 dated 18.06.2011 on the above mentioned subject. The Ministry of Environment & Forests has considered the application. The proposal is for **Bellora Naigaon Opencast Coalmine Project for expansion in ML area from 398.66 ha to 626.17 ha at 1.25 MTPA rated capacity.** The expansion would be carried out by extension of existing Naigaon OC mine in the dip-side from the present depth of 100 m to 170 m, thereby annexing additional land as well as coal reserves for sustaining the approved EC capacity (1.25 MTPA) for another 21 years. Of the total ML area of 626.17 ha, 40.50 ha is forestland, 536.35 ha is agricultural land and 49.32 ha is wasteland. An area of 4.58 ha of land will be acquired outside the ML area for colony. Environmental clearance was granted to Naigaon OC Expansion Project of 1.25 MTPA capacity in an ML area of 398.66 ha on 02.02.2009 and Forestry clearance for the 40.50 ha of forestland was obtained on 01.09.1993. Of the additional 227.51 ha, 11.80 ha is Govt. land and the balance is agricultural land. No additional forestland is required in the expansion project. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found within the 15 km buffer zone. The main drainage of the project area is River Wardha flowing at the distance of 400m. The project does not involve modification of the natural drainage. Of the total ML area of 626.17 ha, 225.80 ha is quarry area, 223.97 ha is for ext. OB dump, 26.00 ha is for infrastructure, 104.342 ha is area for blasting zone and for rationalisation of mine boundary, 18.45 ha is for embankment, 21.608 ha is undisturbed area and 6 ha is for township.

Mining would be opencast with shovel-dumper combination. Ultimate working depth is 170m bgl. Grade of coal is E. Of the total 124.73 Mm3 of OB, 58.04 Mm3 of OB has been already generated in the existing project, of which 24.67 Mm3 has been stored in external OB dump, 27.79 Mm3 has been backfilled and 5.94 Mm3 of OB has been used for construction of embankment. Of the OB generation of 124.73 Mm3 in the balance life of the mine, an estimated 85.20Mm3 would be stored in external OB dumps and an estimated 38.88 Mm3 would be backfilled as internal dump and 0.65 Mm3 of OB would be used in

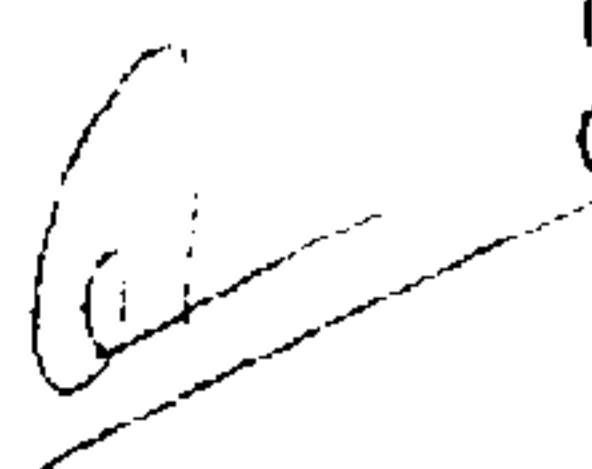
construction of embankment. Maximum height of the external OB dump is 30m. It is proposed to raise the height of backfilled area to 30m above ground level to match with the existing OB dump profile so that no additional land is required for external OB dumping. Further, the height of the backfilled area is proposed to be further raised by another 30m to match with the height of adjacent external OB dump of 60m to be created during the life so as to accommodate excavated OB during future deepening. At the post-mining stage, the total area under external OB dump would be 223.97 ha, backfilled area would be 83.12 ha and a void of 142.68 ha of a depth of 170m depth would be created. Since deeper coal deposits are found in the mine, further deepening of mine is planned to be taken up in future beyond 170m upto 250-300m. This deepening beyond 170m would be finalised in advance i.e. 3-5 years before the project reaches 170m and for which a fresh EC for additional land as well as reserves would be taken. Of the total water requirement of 335 m<sup>3</sup>/day, 215 m<sup>3</sup>/day is for mining operation and 120 m<sup>3</sup>/d is for domestic consumption. Water table is in the range of 7.20-10m bgl during pre-monsoon and 2.50-4.70m bgl during post-monsoon. R&R involves land oustees. Coal transportation of an estimated 3788 TPD of coal would be by using 190 trucks per day covering a distance of 8 km to Ghughus Railway Siding. Main linkage is TPS of MAHAGENCO. Balance life of the mine is 21 years. A budgetary provision of Rs 5 per tonne of coal has been earmarked for CSR activities and Rs 90 lakhs/annum has been provided. The total budget for CSR would be Rs. 356.96 lakhs for the entire Wani area. Project was approved by Ministry of Coal on 02.05.2009. Public Hearing was held on 22.12.2010. Capital cost of the expansion project is Rs 114.4076 crores.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above mentioned **Bellora Naigaon Opencast Coalmine Project for expansion in ML area from 398.66 ha to 626.17 ha at 1.25 MTPA rated capacity** under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and Circulars issued thereon subject to the compliance of the terms and conditions mentioned below:

**A. Specific Conditions**

- (i) The peak production capacity of the project shall not exceed 1.25 MTPA without prior EC from this Ministry.
- (ii) Further deepening of the mine in the dip side beyond 170m shall be finalised in advance i.e. 3-5 years before the project reaches 170m and for which a fresh (and prior) environmental clearance for further expansion in terms of additional land as well as reserves shall be taken from this Ministry.
- (iii) The embankment being constructed along the boundary of the mine along the River Wardha, shall be of suitable dimensions taking into account the highest flood level, based on past data, so as to guard against mine inundation and stabilised with plantation using native species so as to withstand the peak water flow and prevent mine inundation. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 3m higher than the HFL of the river. Stone pitching shall be done in the river front and in critical stretches to strengthen the embankment during peak rainfall.
- (iv) OB shall be stacked at earmarked 4 external OB dumpsites covering an area of 223.97 ha and shall not exceed the max. height of 60 m consisting of benches of 15m each. The ultimate slope of the dump shall not exceed 28°. Bamboo and other native species shall be planted on OB dumps for slope stability. Monitoring and management of the 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.



- (v) 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. 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.
- (vi) Crushers at the CHP of adequate capacity for the expansion project 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.
- (vii) Drills shall be wet operated.
- (viii) Main approach roads used for mineral transportation shall be black topped and properly maintained. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads and major haul roads and roads near Mines Office, infrastructure and other buildings.
- (ix) The capacity of an estimated 190 trucks used for transportation of an estimated 3788 TPD of coal shall be minimum 20-T capacity and shall be mechanically covered. A 3-tier plantation shall be developed under CSR for the stretch of 8km of the road from mine to Ghughus Railway Siding. A 3-tier plantation shall also be developed in and around the Railway Siding.
- (x) 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.
- (xi) A progressive afforestation plan shall be implemented covering an area not less than 308.8ha, which includes 190ha in external OB dumps, 72.20 ha in backfilled area, 21.608 ha in vacant/undisturbed area, 6ha along infrastructure and roads, 0.50 ha in township area for colony and 18.5 ha on embankment by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xii) Of the total quarry area of 225.80 ha, an area of 83.12 ha is being backfilled, of which 72.20 ha shall be reclaimed with plantation and void of 142.68 ha, which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation, in case the expansion project along the dip side does not materialise. The plantation shall consist of native plant species and shall be developed in consultation with the local DFO/Agriculture Department/suitable institution. The density of the trees shall be around 2500 plants per ha.
- (xiii) No groundwater shall be used for mining operations.
- (xiv) Monitoring of ground water regime and river flow conjunctively shall be undertaken on a regular and long term basis through a network of peizometers/wells taking into account depth and site characteristics. 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 as part of the compliance Report.
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- (xv) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xvi) Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- (xvii) 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 health institution/agency located in the region/district within a period of one year and the results reported to this Ministry and to DGMS.
- (xviii) For monitoring land use pattern and for post mining land use, a time series of landuse 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.
- (xix) 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.
- (xx) The project authorities shall in consultation with the local administration and Panchayats of the local villages prepare and implement a Plan for socio-economic and welfare measures under CSR to be carried out over the balance life of the mine. A budgetary provision of Rs 5 per tonne of coal) shall be earmarked for CSR activities for village Bellora, Naigaon. The budget and expenditure thereon village-wise and activity-wise for CSR shall be displayed on WCL website and also included as part of the Annual Plan.
- (xxi) The company shall have a well laid down Environmental Policy approved by the Board of Director. The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringement/deviation/violation of the environmental norms/conditions. To provide for checks and balances the company should have a well laid out system of reporting on non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

#### **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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> 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 ( $PM_{10}$  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 ( $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$  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 19<sup>th</sup> May 1993 and 31<sup>st</sup> 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.
- (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 Collectors 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.
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, 15<sup>th</sup> Floor, New Admn. Bldg., Madam Cama Road, MUMBAI-400032.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arera Colony, Bhopal -462016.
4. Chairman, Maharashtra State Pollution Control Board, Kalapataru Point, 3<sup>rd</sup> & 4<sup>th</sup> 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. Dr.R.K.Garg, Advisor. Coal India Limited, SCOPE Minar, New Delhi
8. District Collector, Yavatmal, Government of Maharashtra.
9. Monitoring File 10. Guard File 11. Record File.