

BY SPEED POST

No. J-11015/205/2008-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex, Lodhi Road
New Delhi-110510.
Dated: 25th February, 2013

To

The Chief General Manager (CP&P)
Mahanadi Coalfields Ltd.
At/PO.: Jagruti Vihar, Burla
Distt: Sambalpur
Orissa – 768020

Sub: Basundhara (West) Opencast Coalmine Expansion Project (2.4 MTPA to 8 MTPA and expansion in ML area from 401 ha to 437.10 ha and an area of 21.90 ha outside the ML) of M/s Mahanadi Coalfields Ltd., located in villages Sardega, Tiklipara, Kulapara Basti of Gopalpur, Tehsil Hemgiri, District Sundergarh, Orissa (EC based on TOR granted on 11.07.2008)

Sir,

This is with reference to this Ministry's letter dated 28.03.2007 granting TOR to Basundhara (West) OCP for expansion from 2.4 MTPA to 5 MTPA and subsequent revised application for TOR received vide letter No. 43011/35/2008-CPAM dated 06.05.2008 from the Ministry of Coal **for expansion of production capacity from 2.4 MTPA to 8 MTPA and increase in lease area from 401 ha to 437.10 ha** and this Ministry's grant of TOR there to dated 11.07.2008 and subsequent letter No. CIL/DLI/EMP-TOR/2010/02 dated 02.03.2010 of M/s Coal India Ltd., forwarding your application for environmental clearance on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It is noted that Basundhara (West) was granted an EC for 2.4 MTPA on 12.04.2002. **The total project area is 459 ha of which 437.10 ha is ML area and 21.90 ha is outside the ML for colony and R&R site.** Of the total ML area of 437.10 ha, 196.39 ha is agricultural land, 149.50 ha is forestland, 86.36 ha is wasteland, 2.73 ha is surface water bodies and 2.12 ha is settlements. Forestry clearance for the 149.50 ha has been obtained on 21.04.2003. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. A number of Reserve Forests - Jamkani RF, Ghogharpalli RF, Kalatpani RF, Garjanpahar RF, Lalma RF, Jhatikhol RF, Burhapahar RF, Balijori RF, Garjan RF, Punjijiohar RF and Panikhula RF are found within 10km of the buffer zone. River Basundhara flows adjacent to the ML boundary at a distance of 100m along the western and southern boundary. Telendra nala also flows at distance of 100m from the ML. An embankment adjoining River Basundhara along the western and southern boundaries of Basundhara (W) OCP has been constructed and is 15.52 ha for a total length of 4000m (approx.) which would be developed with avenue plantation on both sides. Of the total mining lease area, 214.30 is area for excavation, 39.15 ha is for ext. OB dumps, 96.63 ha is for infrastructure, 15.52 ha is for embankment and 52.90 ha is for safety zone and 18.60 ha is for roads. An area of 21.90 ha of non-forestland outside the ML is for residential colony (16 ha) consisting of 656 dwelling units at a distance of about 1km from the ML and for R&R colony (5.90 ha). Mining is opencast by mechanised method by surface miner for the expansion project and use of shovel-dumper for existing project. Coal reserves would be exhausted by 2013-14. Mineral transportation of 3250 TPD of coal is by road to nearby consumers and the balance 3325 TPD of coal is by rail from nearest railway siding and then transported is by rail. Ultimate working depth of the mine is 85m below ground level (bgl). Present working depth is 50 m bgl. Water

table is in the range of 2.45m-7.65m bgl during pre-monsoon and 1.05m-12.44m bgl during post-monsoon. Peak water requirement is 1670 m³/d of which 400m³/d is from River Basundhara and the balance 1270 m³/d is from mine sump water. Of the total water requirement of 1670 m³/d includes 696 m³/d is for dust suppression, 359 m³/d is for the colony, 228 m³/d is for mine operations and 41 m³/d is for drinking water for the mine. An estimated 7961 m³/d of mine water is discharged from the mine premises during peak monsoon after treatment in settling ponds. Of the total OB generation of 39.63 Mm³, 9.91 Mm³ of OB has been already generated of which 3.52 Mm³ has been stored in 5 external OB dumps and 6.39 Mm³ of OB has been backfilled. Of the 29.72 Mm³ of OB to be generated in the expansion project, 4.59 Mm³ of OB has been dumped externally and 25.13 Mm³ is being backfilled. At the post-mining stage, of the total ML area, an area of 226.47 ha would be brought under plantation which includes 133.80 ha of reclaimed quarry area, 3.72 ha along roads, 19.32 ha in built-up area, 10.58 ha is for safety zone, 4 ha is for embankment and 39.15 ha is in undisturbed area and a water body of 48.21 ha of the excavated void would be left as a water body at the post-mining stage. At the mine closure stage, all the external OB dumps of 39.15 ha would be re-handled and backfilled and there would be no external OB dump at the post mining stage and the area afforested. The reclamation of mined out voids in the dip side would reduce the void depth from 83 to 32m at the post mining stage. R&R for the expansion project involves 556 PAFs for 3 villages, of which R&R for Tiklipara (258) and Kulapara (58) has been completed to relocate to R&R colony at Basundhara Nagar (Tiklipara) and R&R for the remaining 207 PAFs in village Sardega is underway. Balance life of mine at the rated capacity of 8 MTPA is about 2 years. An amount of Rs 16.86 crores has been earmarked for CSR for last 4 years. Project has been approved by Mis MCL on 14.03.2008. Public hearing was conducted on 30.05.2009. Capital cost of the expansion project is Rs 46.92 crores.

2. This is a violation case. As per the Office Memorandum dated 12.12.2012, issued by the Ministry of Environment and Forests, with regard to the consideration of proposals for ToR/Environment clearance/CRZ clearance involving violation of the Environment (Protection) Act, 1986/EIA notification, 2006/CRZ notification, 2011, the Environmental Clearance will be granted after the written commitment in the form of a formal resolution by the Board of Directors submitted to the MoEF to ensure that violations will not be repeated and the State Government concerned initiates credible action on the violation by invoking powers under Section 19 of the Environment (Protection) Act, 1986 for taking legal action under section 15 of the Act for the period for which the violation has taken place and evidence provided to the MoEF of the action taken. In this case, the Board's resolution has been received. As regards credible action, the Forest and Environment Department of Govt. of Orissa, vide its letter no.1-37/2012-2231/F&E dated 02.02.2013 has intimated that the District Collectors concerned have filed complaint against the coal mine of Mahanadi Coalfields Ltd in the Court of S.D.J.M., Jharsuguda and Sundergarh for trial under relevant provisions of E(P), Act, 1986.

3. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 37th meeting held on 28-29 November, 2011 for granting Environmental Clearance. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned Basundhara (West) Opencast Coalmine Expansion Project of Mis Mahanadi Coalfields Ltd. for expansion in production of coal from 2.4 MTPA to 8 MTPA and expansion in ML area from 401 ha to 437.10 ha and for an area of 21.90 ha outside the ML under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and Circulars there under subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions:

- (i) No diversion of River Basundhara or Telendra Nala shall be taken up. The embankment constructed along the River Basundhara shall be stabilized by vegetation consisting of a mix of native species found in the study area.
- (ii) Topsoil, if any created in the balance life of the mine, should be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used within a year of its

generation for mine reclamation and development of green belt.

- (iii) Balance OB shall be simultaneously backfilled in the decoaled area. No new OB dumps shall be created for the OB to be generated in the balance life of mine.
- (iv) At the mine closure stage, all the external OB dumps of 39.15 ha shall be re-handled and backfilled and there shall be no external OB dump at the post-mining stage and the area reclaimed and afforested. Monitoring of the reclamation shall continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneswar on yearly basis.
- (v) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly.
- (vi) Garland drains (size, gradient and 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 mine site. Sump capacity should also provided adequate retention period to allow proper settling of silt material.
- (vii) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.
- (viii) 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, conveyor system, haulage roads, transfer points, etc.
- (ix) Drills should be wet operated. Roads shall be metal topped and mechanical sweepers shall be regularly deployed to clear the dust off the main approach and mineral transportation roads. Water sprinkling (fixed and mist type, mobile) shall be regularly done along the main haul roads.
- (x) Of the total ML area, an area not less than 226.47 ha shall be brought under plantation which includes 133.80 ha of reclaimed quarry area, 3.72 ha along roads, 19.32 ha in built-up area, 10.58 ha is for safety zone, 4 ha is for embankment by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (xi) A Progressive Mine Closure Plan shall be implemented and OB generated shall be simultaneously backfilled so as to backfill and reclaim 133.80 ha of decoaled area and stabilized with plantation, leaving an area of 32.30 ha of quarry area along dip side being left for future mining and a water body of 48.21 ha of the excavated void being left as a water body at the post-mining stage shall be gently sloped and the upper benches stabilized with plantation using a mix of native species.
- (xii) 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 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. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xiv) ETP should be provided to treat workshop effluents and for CHP wastewater to prescribed standards before discharge.
- (xv) Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an agency within the district/State and the results reported to this Ministry and to DGMS.
- (xvi) 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 anyone

particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneswar.

- (xvii) A detailed 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 this letter for approval.
- (xviii) R&R for the expansion project for the remaining 207 PAFs in village Sardega shall be completed during the year. R&R norms shall be not less than that of the National R&R Policy. Details of the status of R&R shall be furnished as part of the Compliance Report to MOEF RO, Bhubaneswar and also uploaded on the company website.
- (xix) CSR shall be implemented for the balance life of the mine for the villages near the mine. Details of village-wise activities under CSR shall be furnished as part of the Compliance Report to MOEF RO, Bhubaneswar and also uploaded on the company website.

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 PM_{10} , $PM_{2.5}$, SO_2 and NO_x . 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 (PM_{10} , $PM_{2.5}$, SO_2 and NO_x 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 Bhubaneswar 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 recognized 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 analyzed through a laboratory recognized 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 Bhubaneswar.

- (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 PM_{2.5}, SO₂ and NO_x (ambient and stack if any) 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 Bhubaneswar 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.
4. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
5. 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.
6. 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.
7. The Environmental Clearance is subject to the outcome of the complaint filed by the District Collectors concerned against the coal mine of Mahanadi Coalfields Ltd in the Court of S.D.J.M., Jharsuguda and Sundergarh for trial under relevant provisions of E(P), Act, 1986.

(Dr. Manoranjan Hota)
Director

Copy to:

1. Secretary, Ministry of Coal, Sashtri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Orissa, Secretariat,

Bhubaneswar.

3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarapur, Bhubaneswar - 751023.
4. Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar - 751012.
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, Advsiior, M/s Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi Nagar, New Delhi.
8. District Collector, Sundergarh, Government of Orissa.
9. Monitoring File 10. Guard File 11. Record File

(Dr. Manoranjan Hota)
Director