

No.J-11015/630/2007-IA.II(M)
Government of India
Ministry of Environment & Forests

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

Dated, 31st October 2008

To
M/s Mahanadi Coalfields Ltd.,
Bharatpur OCP Expn.,
Bharatpur Area, P.O. N.S. Nagar,
Talcher, Dist. Angul,
ORISSA – 759148.

Sub: Bharatpur Opencast Expn. Project (15 MTPA to 20 MTPA) of M/s Mahanadi Coalfields Ltd. (MCL), located in villages Anantaberini, Lachmanpur, Baideswar, Pabitrapur, Padmabatipur, Dasarathipur, Danara, Rakas, Nakeipasi, Chintamanipur, Badajorada, Mahendrapur, Baulpur, Badasingada, Jambubaha.i, Kuiojungle, & Kochinali Tehsil Talcher, District Angul, Orissa- environmental clearance – reg.

Sir,

This has reference to letter No. 43011/92/2007 of Ministry of Coal dated 27.06.2007 forwarding the application and subsequent letters dated 13.09.2007, 05.08.2008 and 23.10.2008 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It has been noted that the project is for expansion of the existing Bharatpur Opencast Coal Project in terms of production capacity from 15 MTPA to 20 MTPA. EC was granted for the project for 15 MTPA on 27.03.2006. The total land requirement of the project is 1324.80 ha which remain unchanged in the expansion project. Of the total project area, 61.50 ha is agricultural land, 185.08 ha is forestland, 490 ha is wasteland, 2.40 ha is surface water bodies and 585.82 ha is others (infrastructure, OB dumps, etc.). Of the total mining lease area, 774.80 is area for excavation, 49.50 ha is for ext. OB dumps, 149.30 ha is for infrastructure, 8.40 ha is for rationalisation of boundary, and 342.80 ha is safety zone for blasting. A township of an area of 20 ha with 874 dwelling units is located at a distance of 4-5 km from the ML. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. A number of Reserve Forests (RF) are found within 10km of the buffer zone. The ML falls in the Angul-Talcher Region, which is identified as one of the most critically polluted areas. The main drainage of the mine is River Brahmani River which flows at a distance of 10.50 km from the ML boundary. Singhara Jhor flows at a distance of 6.30 km and Nandira Jhor flow at a distance of 5.60 km from the mine lease. Bhangaru Jhor flows adjoining the lease. It is not proposed to modify the natural drainage by diversion, construction of embankment, etc. The project involves R&R for 860 PAFs from 3 villages (land and homestead losers)- Padmabatipur, Dasarathipur and Rakas. Mining will be opencast by mechanised method and involves drilling and blasting and crushing operations at the mine face. Expansion of the rated capacity of the mine is from 15 million tonnes per annum (MTPA) to 20 MTPA of coal production. Mineral transportation of 60,606 TPD of coal is by rail (45455 TPD) to nearest railway siding and then transported is by rail and by conveyors and MGR (15151 TPD). Ultimate working depth of the mine is 165 m below ground level (bgl). Present working depth is 80 m bgl. Water table in the study area is in the range of 3.42 m – 10.20 bgl during pre-monsoon and 2.87 m- 5.10 m bgl during post-monsoon. Peak water requirement is 3590 m³/d of which 970 m³/d is for to be met from Integrated Water Supply Scheme of Talcher and the balance 2620 m³/d would be met from mine water discharge. Average minewater discharge would be about 6092 m³/d of mine water is discharged from the mine premises and about 19,389 m³/d during peak monsoon. The entire amount of OB of 259.27 Mm³, estimated to be generated over the balance life of mine will be backfilled. No new OB dumps will be created for the expansion project. Public Hearing was held on 15.01.2007. Balance life of mine at the rated capacity of 20 MTPA is 16 years. The project has been approved by M/s MCL on 12.01.2006 for expansion to 20MTPA. Capital cost of the project is Rs. 43.425 crores.

2. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned Bharatpur Opencast (Expansion) Coal Project of M/s MCL for expansion in production of coal to 20 MTPA rated capacity under the provisions of Section 12 of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and under 2.1.1 of MOEF Circular dated 13.10.2006 subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) No mining activities shall be undertaken in the forestland for which forestry clearance has not been obtained under the provisions of FC Act, 1980.
- (ii) Topsoil, if any, 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.
- (iii) 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) No modification of natural drainage by construction of an embankment or diversion of nullahs, Jhors, drains shall be undertaken in the expansion project.
- (v) Monitoring and management of existing reclaimed dumpsite 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 Bhubaneshwar on yearly basis.
- (vi) 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 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 shall be based on the rainfall data.
- (vii) Crushers at the CHP shall be operated with high efficiency bag filters, water sprinkling system provided to check fugitive emissions from crushing operations, haul roads and at transfer points shall be of mist-spray type, and the conveyor system shall be closed type.
- (ix) Drills shall be wet operated. Approach roads shall be black topped and mechanical sweepers shall be regularly deployed to clear the dust off the main approach roads and mineral transportation roads. Water sprinkling (fixed and mist type, mobile) shall be regularly done along the main haul roads.
- (x) The total area brought under afforestation shall be not less than 694.28 ha which includes backfilled area (659.14 ha), infrastructure and along roads, safety zone and vacant area (35.14 ha), and area in township outside the lease (4.40 ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall 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 659.14 ha of the decoaled area and the balance 9.60 ha being converted into a water reservoir shall be protected by peripheral fencing and the upper benches of the reservoir shall be gently sloped and stabilised with plantation.

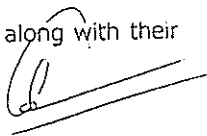
- (xii) Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) 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.
- (xiii) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities shall continue to meet water requirement of the affected villages in case the village wells go dry due to dewatering of mine.
- (xiv) Sewage treatment plant shall be installed/augmented in the existing colony for the expansion project. ETP shall also be provided/augmented for workshop and CHP wastewater.
- (xv) 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.
- (xvi) 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 Bhubaneshwar.
- (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 balance 860 PAFs from 3 villages – Padmabatipur (502 including 30 tribal), Dasarthipur (35) and Rakas (353) shall be prepared and implementation within a specified time-frame. R&R norms shall be not less than of the National R&R Policy. The socio-economic status of the displaced communities should be monitored over the life of the project for all the 17 villages being displaced and a report furnished once every 3 years on the key socio-economic parameters/indices based on the UNDP Human Development Report in comparison to pre-project scenario.

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 heavy metals such as Hg, Pb, Cr, As, 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, Pb, Cr, As, etc.) shall be regularly submitted to the Ministry including its Regional Office at Bhubaneshwar and to the State Pollution Control Board and the Central Pollution Control Board once in six months.

- (v) Fugitive dust emissions (SPM, RSPM, SO₂, NO_x and heavy metals such as Hg, Pb Cr, As, 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) 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.
- (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 Bhubaneswar.
- (xiii) A copy of the environmental clearance letter shall be marked to concerned Panchayat/ Local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.
- (xiv) 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.
- (xv) 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 & 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. Shri M.K. Shukla, CGM, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxminagar, New Delhi.
8. District Collector, Angul, Government of Orissa.
9. Monitoring File 10. Guard File 11. Record File