

No.J-11015/134/2007-IA.II(M)
Government of India
Ministry of Environment & Forests

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

Dated: 31st October 2007

To
M/s Mahanadi Coalfields Ltd.,
Kaniha OCP, Lingraj Area,
PO: Deulbera Colliery,
Dist. Angul, ORISSA – 759102.

Sub: Kaniha Opencast Project (expansion in production from 3.5 MTPA to 10 MTPA and lease area from 677 ha to 1880 ha) of M/s Mahanadi Coalfields Ltd. (MCL), located in villages Dandasingha, Jarada, Kamrei, Patharmuda, Telisingha, Gandaberna, Ambapal, and Chhelia, Tehsil Talcher, District Angul, Orissa- environmental clearance – reg.

Sir,

This has reference to letter No. 43011/13/2007 dated 31.01.2007 forwarding your application and subsequent letter of M/s CIL dated 15.06.2007 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 Kaniha Opencast Coal Project in terms of production **capacity from 3.5 MTPA to 10 MTPA and lease area from 677 ha to 1880 ha**. The project obtained EC vide letter dated No. J-11015/42/2001-IA.II(M) dated 12.04.2002. The total land requirement of the project is 1880 ha. of which 501.77 ha is agricultural, 1094.89 ha is wasteland, 18.80 ha is surface water bodies and 22.94 ha is settlements. Of the total mining lease area, 1131 is area for excavation, 312.26 ha is for ext. OB dumps, 75.40 ha is for infrastructure, 9.30 ha is for diversion of road, and 343.98 ha is for safety zone and 8.06 ha is area for rationalisation of ML boundary. A township of an area of 40 ha with 312 dwelling units is located at a distance of 4 km from the ML and resettlement site of 276 ha also form part of the project. 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 the core zone and 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 River Brahmani River flows at a distance of 1 km from the ML boundary and Tikra nadi at a distance of 0.6 km and Bhalutungri Nadi at a distance of 0.2 km from the ML boundary. It is not proposed to modify the existing drainage by construction of an embankment alongside the River/Nadis. The project involves R&R for 8 villages - Dandasingha, Jarada, Kamrei, Patharmuda, Telisingha, Gandaberna, Ambapal, and Chhelia. Mining will be opencast by mechanised method and involves conventional shovel-dumper involving drilling and blasting and crushing operations at the mine face. Expansion of the rated capacity of the mine is from 3.5 million tonnes per annum (MTPA) to 10 MTPA of coal production. Mineral transportation of 30,303 TPD of coal is by road to nearest railway siding and by Silo loading and transportation by rail. Ultimate working depth of the mine is 260 m below ground level (bgl). Water table is in the range of 5.50 -8.70 bgl in the study area. Peak water requirement is 2960 m³/d of which 1200m³/d is for dust suppression, 321m³/d is for mine operation, 73m³/d is for drinking and 817 m³/d is for domestic consumption and is proposed to be met from River Brahmani (890 m³/d) and from mine sump water (2090 m³/d). An estimated 17926 m³/d of mine water would be discharged from the mine

2)

premises during peak monsoon. OB generation has not begun and the entire 1071.71 Mm³ of OB to be generated over the life of the mine shall be backfilled (85%) and the balance stored in external OB dumps. Backfilling will begin from the 3rd year. NOC was granted on 28.09.2006. Public Hearing was held on 16.05.2006. Life of mine at the rated capacity of 10 MTPA is 70 years. The project has been approved by M/s MCL on 09.11.2005 for expansion to 10 MTPA. Capital cost of the project is **Rs. 892.66 crores.**

2.0 The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned **Kaniha Opencast Coalmine Project of M/s MCL for expansion in production of coal from 3.5 MTPA to 10 MTPA rated capacity and lease area from 677 ha to 1880 ha.** 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) Mining shall not be carried out in forestland for which forestry clearance has not been obtained under the provisions of FC Act, 1980.
- (ii) Topsoil, if any, should be stacked properly with proper slope at earmarked site(s) and should 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 embankment is being constructed along the River Brahmani River flowing at a distance of 1 km from the ML boundary, Tikra nadi at a distance of 0.6 km and Bhalutungri Nadi at a distance of 0.2 km from the ML boundary. A detailed Management Plan for prevention and management of Disaster due to mining carried adjacent to river(s) shall be prepared and implemented.
- (v) Monitoring and management of existing reclaimed dumpsite should 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.
- (vi) 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 utilised for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly.
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) All approach roads (existing and proposed) 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) Drills should be wet operated.
- (xi) Controlled blasting should 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 should be implemented.
- (xii) The total area brought under afforestation shall be not less than 1270.16 ha which includes backfilled area (868 ha), OB dumps (312.26 ha), along ML boundary (8.06 ha), infrastructure (15.08 ha) and along roads (4 ha), safety zone (3.56 ha) and vacant area (173.75 ha), area around infrastructure (30.58 ha) and area in township outside the lease (4 ha) and in resettlement site by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (xiii) A Progressive Mine Closure Plan shall be implemented and OB generated shall be backfilled from 3rd year of mining operation so as to backfill and reclaim 868 ha of decoaled area and the balance 30.66 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.
- (xiv) Prior permission of the competent authority, Govt. of Orissa shall be obtained before drawing water from River Brahmani (890 m³/d) for the mine operations.
- (xv) Mine water discharged during peak monsoon season (17926 m³/d) shall be treated to meet prescribed standards before discharge into any natural water course.
- (xvi) Study on sediment flow from this mine including during peak monsoon season and other coal mines in the Angul-Talcher Region and impacts on River Brahmani and surface hydrology of the region shall be studied and the Report submitted to this Ministry along with a copy to the Regional Office, Bhubaneshwar.
- (xvii) 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.
- (xviii) 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.

xix (xiv) Sewage treatment plant should be installed in the colony. ETP should also be provided for workshop and CHP wastewater.

(xx) 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 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 Bhubaneswar.

(xvii) A detailed Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years before mine closure

(xviii) R&R of the 8 villages - Dandasingha, Jarada, Kamrei, Patharmuda, Telisingha, Gandaberna, Ambapal, and Chhelia shall be prepared and completed within the specified time schedule and shall be based on the latest Policy approved by the State Govt. R&R should involve vocational training in areas such as horticulture, typing, tailoring, driving, computers, electrical and electronics, carpentry, etc..

B. General Conditions

- (i) No change in mining technology and scope of working should 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 should be made.
- (iii) Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO₂ and NO_x monitoring. Location of the stations should 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, RPM, SO₂ and NO_x) should 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.
- (v) Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points should be provided and properly maintained.
- (vi) Adequate measures should 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 should be provided with ear plugs/muffs.

- (vii) Industrial wastewater (workshop and wastewater from the mine) should 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 should be installed before discharge of workshop effluents.
- (viii) Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.
- (ix) Environmental laboratory should 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 should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
Occupational health surveillance programme of the workers should 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 should 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 should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should 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 should 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 should 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.

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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