

No. J-11015/15/95-IA. II (M)
Government of India
Ministry of Environment & Forests

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April 12, 2002

To,

Shri S.P. Singh
Director (Technical),
Mahanadi Coalfields Limited,
Jagriti Vihar,
P.O. U.C.E. Burla,
District Sambalpur-768 018,
Orissa

Subject: Basundhara (West) opencast coal mine (2.4 MTY) of M/s Mahanadi Coalfields Limited located at Village(s) Kulapada Basti of Gopalpur, Sardega and Tikilipara, in Tehsil Hemgiri, District Sundergarh of Orissa - environmental clearance reg.

Sir,

This has reference to Ministry of Coal's letter No. 43011/120/95-CPA dated 20.06.1995 and your letters dated 13.09.1995, 17.02.1996, 02.07.1996, 21.05.1997, 30.12.1997, 24.06.1998, 05.07.1999, 04.11.1999, 29.11.1999, 10.01.2000, 02.03.2001, 19.07.2001, 11.11.2001, 16.11.2001, 07.01.2002 and 12.03.2002 on the subject mentioned above. The Ministry of Environment and Forests has examined the application. It has been noted that the mining lease area of 401.10 ha. includes 149.50 ha. of forest land. Mining will be confined to 178.30 ha. Township is outside the mine lease area comprising 16.0 ha land for 831 dwelling units. Forestry clearance has been obtained for 149.50 ha. The project involves displacement of 115 families from Sardega (17) and Kulapara (98) villages. Total number of land oustees is 1463. The R&R will be followed as per the norms of the State Government of Orissa and CIL. The annual targeted production capacity of the mine is 2.4 Million tonnes. Approval from the Orissa State Pollution Control Board has been obtained. Water requirement of 960 m³ /day will be met by pumping water from the existing pick up weir on Basundhara river and partly from mine discharge. Total OB generation will be 18.32 Mm³, out of which 18.40 Mm³ will go in internal dump. Capital cost of the project is Rs. 158.14 crores.

2. The Ministry of Environment and Forests hereby records environmental

M/s Western Coalfields Limited for 2.4 million tonnes p.a. production involving lease area of 401.10 ha under the provisions of the Environmental Impact Assessment Notification, 1994 as amended on 04.05.1994 and 10.04.1997 subject to the compliance of the terms and conditions mentioned below:

A. Specific conditions

- (i) Top soil should be stacked properly with proper slope at earmarked site(s) with adequate measures and should be used for reclamation and rehabilitation of mined out area.
- (ii) OB dumps should be stacked at earmarked dump site(s) only and should not be kept active for long period. The total height of the dumps should not exceed 50 m in two stages of 20 m each. Overall slope of the dump should not exceed 28°. Concurrent back filling should start from the 4th year of operation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on yearly basis.
- (iii) 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.

Garland drains (size, gradient & 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 provide adequate retention period to allow proper settling of silt material.
- (iv) Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation should be based on the rain fall data.
- (v) While constructing an embankment on the northern bank of Basundhara river proper stone pitching towards slope should be undertaken and a toe wall should also be erected.
- (vi) A detailed mine decommissioning plan should be submitted to the Ministry of Environment & Forests 5 years in advance for approval.
- (vii) A green belt of adequate width should be raised by planting the native species around the ML area, Coal Handling Plan, roads, OB dump sites etc. consultation with the local DFO / Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (viii) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers. The monitoring should be done four times a year in pre monsoon (April / May), monsoon (August), post-monsoon (November) and

Ministry of Environment & Forests and Central Ground Water Board quarterly.

- (ix) Project authorities should undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.
- (x) The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to de-watering of the mine.
- (xi) Appropriate mitigative measures should be taken to prevent pollution of Basundhara river in consultation with the State Pollution Control Board.
- (xii) Coal handling plant should be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (xiii) Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and CHP wastewater.
- (xiv) Digital processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern and reports submitted to MoEF and its regional office.
- (xv) Vehicular emissions should be kept under control and regularly monitored.

B. General conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.
- (iii) Five ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO₂, NO_x & CO 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 (RPM, SPM, SO₂, NO_x & CO) should be regularly submitted to the Ministry including its Regional office at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.
- (v) Drills should be wet operated or with dust extractors and controlled blasting should be practised.
- (vi) 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 & unloading) should be provided and properly maintained.

- (vii) Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operations of HEMM, etc should be provided with ear plugs and muffs.
- (viii) Industrial waste water (workshop and waste water 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. Oil and grease trap should be installed before discharge of workshop effluents.
- (ix) Acid mine water, if any, has to be treated and disposed of after conforming to the standard prescribed by the competent authority.
- (x) Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
- (xi) 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 program of the workers should be undertaken periodically to observe any contractions due to exposure to coal dust and take corrective measures, if needed.
- (xii) 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 Organization.
- (xiii) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purposes. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.
- (xiv) The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (xv) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom and suggestion / representation has been received while processing the proposal.
- (xvi) 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.
- (xvii) 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 issue 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 web site of the Ministry of Environment & Forests at <http://envfor.nic.in> and a copy

the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.

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.

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.

(K.K. Jain)
Director

Copy to:

1. Secretary, Ministry of Coal and Mines, Department of Coal, Government of India, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar.
3. Chief Conservator of Forests, Regional Office (E), Ministry of Environment and Forests, A-3, Chandrasekharpur, Bhubaneswar - 751 023
4. Chairman, Orissa Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar-751011.
5. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, A-2, W-3, Curzon Road Barracks, New Delhi - 110001.
6. Advisor (E), Ministry of Environment and Forests, New Delhi.
7. Monitoring file.
8. Guard file.
9. Record file.

(K.K. Jain)
Director

Am (C.P.R)