

No.J-11015/234/2006-LA,II(M)
Government of India
Ministry of Environment & Forests

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

Dated: 7th May 2007

To
Dr. A.K. Purohit,
Sr. Manager (Env.),
M/s Gujarat Mineral Development Corp. Ltd.,
Khanij Bhawan, 6th Floor, A Tower, Ring Road
Near University Ground, Vastrapur,
AHMEDABAD - 380 052.

Sub: Surkha (North) Lignite Mine Project (3 MTPA) of M/s Gujarat Mineral Development Corporation Ltd., located in village Surkha, Tehsil Ghogha, District Bhavnagar, Gujarat- Environmental clearance - reg.

Sir,

This has reference to your letter No. GMDC/ENV/15982/06-07 dated 24.07.2006 enclosing your application and your subsequent letters dated 13.10.2006 and 12.01.2007 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It has been noted that the project is for opening a new lignite mine - Surkha (North) Lignite Mine. The total mine lease is 4690 ha of which 3851.8946 ha is agricultural land, 294.9940 ha is wasteland, 288.1957 ha is grazing land and 254.9157 ha is surface water bodies. There is no forestland falling within the lease area. No township/colony is proposed. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. Arabian Sea is 5 km from the lease area. Site clearance was granted on 01.11.2004. Three seasonal rivulets flow through the lease area. It is proposed to temporarily reroute the drain which falls under the pit area. The project does not involve R&R. Of the total lease area, area for excavation is 938.48 ha, area for storage of topsoil is 4.60 ha, 321.65 ha is for OB dumps, 1.65 ha is for infrastructure, 1.22 ha is for roads, 28 ha is for natural drain, 60 ha is for greenbelt. Of the balance 2483.88 ha, an area of 1018 ha (Block C) is to be surrendered, 1040.61 ha consists of uneconomical reserves, 264.27 ha is unexplored and 161 ha consists of a Block D, which is non-mineralised. The final area for which M/s GMDC will execute the lease deed would be 3672 ha. Rated capacity of the mine is 3 million tonnes per annum (MTPA) of lignite. Mining will be opencast by mechanised method and does not involve drilling and blasting. Project does not involve ancillary operation or mineral processing such as washery. Existing road is adequate. Mineral transportation of about 10000 TPD of lignite is by road. Ultimate working depth of the mine is 156m below ground level (bgl). Water table is in the range of 14.30m - 16.70m bgl in the core zone and 2.60 - 4.0m bgl in the buffer zone. Mining will intersect

groundwater table. Average water requirement is 310 m³/d for dust suppression (250 m³/d), green belt (50 m³/d), domestic consumption (10 m³/d) and is to be met from mine sump water (300 m³/d) and from dam (10 m³/d). Groundwater will not be used for the project. Of the estimated 725.40 Mm³ of OB to be generated, an estimated 10% of OB will be dumped in five external OB dumps of a max. height of 30m consisting of 10m each and the balance 90% of OB will be backfilled. Backfilling will begin from the 4th year onwards. An estimated 4.60 Mm³ of topsoil generated will be used for reclamation and greenbelt development and for plantation. Life of mine at the rated capacity of 0.30 MTPA is 25 years. Public Hearing was held on 09.02.2005. NOC was granted by the Gujarat SPCCB. Mining Plan was approved by Ministry of Coal on 17.07.2006. Capital cost of the project is Rs. 13000 lakhs.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned Surkha (North) Lignite Mine Project of M/s Gujarat Mineral Development Corp. Ltd. for production of lignite at 3 MTPA rated capacity involving a lease area of 4690 ha under Section 12 of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and under Para 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) Non-mineralised/areas of uneconomical mineral reserves of 1018 ha shall be surrendered before start of the project activities. Mining shall be carried out in the revised lease area of 3672 ha only.
- (ii) Mining shall be carried out as per statuette at a safe distance from the seasonal nallah/stream flowing within the lease boundary.
- (ii) Topsoil shall 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.
- (iv) OB should be stacked at earmarked five external OB dumpsite within ML area. OB dump shall be a maximum height of 30m only and consist of three benches of 10m each. The ultimate slope of the dump shall not exceed 28°. The OB dumps shall be vegetatively reclaimed. Monitoring and management of 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 Bhopal on an 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 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..

- (vi) 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.
- (vii) Mining operations shall not involve mineral processing.
- (viii) Mining shall not involve drilling and blasting operations.
- (ix) High efficiency water sprinkling system should be provided to check fugitive emissions from haulage roads, transfer points, etc.
- (x) The total area brought under afforestation at the end of mine life (post mining land use) shall include reclaimed external OB dump, reclaimed quarry area, progressive green belt development (60 ha) including plantation along ML boundary, roads, and vacant/undisturbed areas planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha.
- (xi) Backfilling shall begin from the 4th year of mining operations. A Progressive Mine Closure Plan shall be implemented from the 4th year of mining operation and the OB generated shall backfilled. Plantation shall be developed over the backfilled area.
- (xii) The project authorities shall provide land/areas for for grazing, if required, in the reclaimed land/quarry area, in consultation with local villagers.
- (xiii) No groundwater shall be used for mining operations. Prior approval of the competent authority such as the SGWB/CGWA shall be obtained for using groundwater for the project.
- (xiv) Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing wells and construction of new peizometers. 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.
- (xv) 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.

- (xvi) 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 report submitted to MOEF and its Regional office at Bhopal.
- (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 agency such as NIOH, Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS.
- (xviii) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.
- (xix) Consent to Operate shall be obtained before starting mining operations.

B. General Conditions

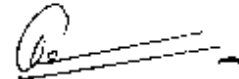
- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral and waste should be made.
- (iii) Four ambient air quality monitoring stations should 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 Bhopal 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 Bhopal.
- (xiii) 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.
- (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.
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 Rajasthan, Secretariat, Gandhinagar.
3. Chief Conservator of Forests, Regional office (WZ), Ministry of Environment & Forests, Bhopal.
4. Chairman, Gujarat State Pollution Control Board, Sector 10-A, Gandhinagar - 382043.
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. District Collector, Bhavnagar, Government of Gujarat.
8. Monitoring File 9. Guard File 10. Record File