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No.J-11015/574/2007-IA.II(M)
Government of India
Ministry of Environment & Forests

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

Dated: 29th March 2010

To
General Manager (W.B.P/Env.),
M/s South Eastern Coalfields Ltd.,
Bilaspur, Chhattisgarh.

Sub: Expansion of Kanchan Opencast Coal Mine Project (0.32 MTPA to 0.65 MTPA with a peak production of 0.75 MTPA and increase in lease area from 144.53 ha to 203.93 ha) of M/s South Eastern Coalfields Ltd., located in village, Tehsil Bandavgarh, district Umaria Madhya Pradesh - environmental clearance – reg.

Sir,

This is with reference to letter of Ministry of Coal forwarding the application for Terms of Reference (TOR) and this Ministry's letter dated 22.10.2007 granting TOR to the above-mentioned project and subsequent letter No. CIL/EMP-TOR/2009/08 of M/s CIL dated 01.07.2009 forwarding the application for environmental clearance and letters of M/s SECL dated 18.10.2009, 02.02.2010, 18.02.2010, 02.03.2010, 10.03.2010 and 19.03.2010 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. **The proposal is for expansion of Kanchan OCP from 0.32 MTPA to 0.65 MTPA with a peak capacity of 0.75 MTPA.** The project obtained EC for 0.32 MTPA on 08.06.2004. **The project also involves expansion in lease area from 144.53 ha to 203.93 ha.** There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 15 km buffer zone. Bandhavgarh Tiger Reserve is situated at a distance of about 51.5km. A number of RF- Baderchuha, Rahata and Sohagpur RF exist at a distance of 5km from the ML (core zone) and a number of wild fauna such as the Sloth Bear, Hyeana are found in the study area. Of the total project area, 157.914 ha is agricultural land, 32.043 ha is forestland which is entirely revenue forest of which 8.311 ha is for safety zone and will not be disturbed, 7.035 ha is grazing land, 5.94 ha is surface water bodies, and 1.03 ha is others. Forestry clearance for 23.732 ha has been applied for. A number of first/second order streams which are tributaries of Johilla River are found in the lease area. A seasonall nala - Chhuhia would be diverted in the proposed expansion. Of the total project area, 170.20 ha is for quarry which includes 54.68 ha, 16.84 ha is for ext. OB dump, 7 ha is for roads, 4.50 ha is for infrastructure and buildings, and 5.422 ha is for R&R colony. A township of 5.422 ha exists at a dittance of 6 km from the project area. The project involves R&R of four villages - Chhuihai, Lahangi, Dhanwahi and Navsemar involving 255 land oustees and 97 PAFs of which 45 have been resettled.

Mining will be both opencast by semi-mechanised method using shovel-dumper and involving blasting. The mine would be operated as two quarries - I and II and would be mined in sequence. Entire mineral transportation of **2273 TPD** of coal from mine is by road to Vindhya CHP located at a distance of 4km from the mine. Ultimate working depth of the mine is 60 m below ground level (bgl). Water table is in the range of 1.20-3.90 m3/d m bgl during pre-monsoon and 3.41m-6.58m bgl during post-monsoon. Peak water demand is 897 m³/d of water, of which 340 m³/d is for land reclamation, 290 m³/d is for green belt, 30m³/d is for dust suppression, 212 m³/d is for domestic consumption, and balance for other uses. Of the total water demand, 620 m³/d would be met from mine water, and water for domestic consumption would be met from groundwater. The peak mine water discharged is estimated to be 2000 m³/d into a seasonal nala flowing along the ML. Of the total 31.47 Mm³ of OB to be generated over the life of the project, 2.540 Mm³ of OB has been accumulated and the balance 28.93 Mm³ of OB would be generated over the balance life of the mine, of which 27.19Mm³ (94%) would be would be backfilled and the balance stored in external OB dump of a max. height of 30m from ground level. Backfilling has begun in the existing project. The expansion project envisages no ext. OB dumps as the entire OB would be backfilled. Of the total

10

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11
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quarry area of 115.52 ha, an area of 93.09 ha of quarry area would be reclaimed with vegetation and the balance 22.43 ha would be left as a void/water body. Balance life of the project is 9 years. Project was approved by SECL on 22.10.2007. Public Hearing was conducted on 06.03.2009. Capital cost of the project is Rs. 26.01 crores

2. The Ministry of Environment & Forests has examined the application in accordance with the EIA Notification 2006 and under the provisions thereof, hereby accords environmental clearance for the above-mentioned **Kanchan Opencast Coalmine project of M/s South Eastern Coalfields Ltd. for expansion in production of coal from 0.32 MTPA to 0.65 MTPA with a peak capacity of 0.75 MTPA and increase in project area from 144.53 ha to 203.93 ha** under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars issued thereon and subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) No mining operations shall be undertaken in 23.732 ha of forestland (revenue forest) yet to be acquired, until forestry clearance has been obtained under the provisions of FC Act, 1980.
- (ii) Mining shall be carried out as per statuette at a safe distance from the surface water bodies flowing in and near the Mine Lease/ project area. Diversion of Nala shall be done in consultation and approval of the concerned State Flood and irrigation Department.
- (iii) Top soil shall be stored in the earmarked area and used for green belt development and for plantation/reclamation within a year of its generation
- (iv) OB stacked at the earmarked external OB dumpsite of 16.84 ha within ML area for the opencast operations of a maximum height of 30m. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites including slope stability 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 Bhopal on a yearly basis. There shall be no external OB dumps for the expansion project as the entire OB would be backfilled.
- (v) Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be designed keeping 50% safety margin over an above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also be provided adequate retention period to allow proper settling of silt material.
- (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 provide 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.
- (viii) Water sprinkling system (mist type) shall be provided to check fugitive emissions from crushing operations, conveyor system which shall be closed, haulage roads, transfer points, etc.
- (ix) Drills shall be wet operated only.

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एन.डी.सी.एल. नौरोजाबाद उप क्षेत्र

- (x) Mineral transportation from coal mine to existing CHP by road shall be by covered trucks of a minimum 20-T capacity. The entire stretch of 4km of the mineral transportation road to Vindhya CHP shall be black topped and developed with a 3-tier avenue plantation.
- (xi) Controlled blasting shall 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 shall be implemented.
- (xii) An afforestation plan shall be implemented, which includes backfilled area (94 ha) and ext. OB dump (16 ha), along ML boundary, green belt, along roads, infrastructure, safety zone, undisturbed/vacant land and township area outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha
- (xiii) Of the total 115.52 ha of the quarry area, an area of 94 ha of excavated area shall be reclaimed with plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. The balance 22.43 ha of de-coaled the void shall be converted into a water reservoir, shall be gently sloped and the upper benches of the reservoir shall be stabilised with plantation and the periphery of the reservoir fenced.
- (xiv) A Programme for conservation of the wildlife particularly the rare and endangered species/Schedule-I fauna and endangered flora and species of medicinal importance found in the study area shall be formulated and implemented in consultation with the Forest and Wildlife Departments in the State Government. Separate funds shall be earmarked for implementation of the various activities there under and the status thereof shall be regularly reported to this Ministry and the MOEF Regional Office, Bhopal.
- (xv) Prior approval of the CGWA shall be obtained for using groundwater for domestic consumption. No groundwater shall be used for the mining operation.
- (xvi) 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.
- (xvii) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring of groundwater levels indicate decline of water table. Any additional water requirement for mining operation shall be met from rainwater/recycling of water only. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xviii) ETP shall also be provided for treatment of effluents from workshop, and an STP shall be provided for treating wastewater from the township and the treated effluents shall be used for green belt development. An estimated 2000 m³/d of peak mine water shall be treated to prescribed standards before discharge into the surface waters/agricultural use.
- (xix) 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.
- (xx) 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

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माइनिंग विभाग, कोयला विभाग, नई दिल्ली

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 Bhopal.

- (xxi) A provision of Rs 2.7082 crores shall be made for environmental protection measures as capital costs and provision for annual recurring costs thereon. The status and details of environmental protection measures and the expenditure thereon shall be uploaded on the company website every year.
- (xxii) Balance R&R of four villages – Chhuihai, Lahangi, Dhanwahi and Navsemar involving 255 land oustees and 52 PAFs shall be not less than the norms prescribed in National R&R Policy 2007 and shall be implemented within a specified agreed time schedule. The details of status of R&R and activities undertaken including the R&R colony for the displaced persons along with budgetary provisions and expenditure shall be uploaded on the company website every year.
- (xxiii) A detailed Plan for CSR with specific budgetary allocation (capital and revenue) for various skill development and alternate livelihood programmes and schemes and implemented through establishment of cooperatives and SHGs shall be implemented and the impacts of activities under CSR monitored based on a scientific methodology based on UNDP Human Development Index and monitoring the impact of project on the socio-economic and human development of the local communities, which shall be used as for monitoring the progress of the status of human and socio-economic development in the area during the project life which is reflected in their Annual Report of the company and is also furnished as part of the Monitoring Report submitted to MOEF. An amount of Rs 5 per tonne of coal produced shall be utilised for CSR activities for the adjoining villages for the balance life of the project. The details of CSR undertaken along with budgetary provisions for the village-wise various activities and expenditure thereon shall be uploaded on the company website every year.
- (xxiv) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem within the lease for reintroduction in the mine during mine reclamation and at the post mining stage.

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 PM10, PM2.5, SO2 and NOx monitoring. 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) Fugitive dust emissions (PM10 and PM 2.5) 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.
- (v) Data on ambient air quality (PM10, PM 2.5, SO2 and NOx) shall 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.

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कचन अमृतोत्पत्ति

- (vi) Adequate measures shall be taken for control of noise levels below 55 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 and records maintained thereof.
- (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 Bhopal.
- (xiii) The Regional Office of this Ministry located at Bhopal 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.
- (xiv) 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.
- (xv) 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.
- (xvi) 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,

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अथवा क्षेत्रीय पर्यावरण

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, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Madhya Pradesh, Secretariat, Bhopal.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Aera Colony, Bhopal - 462016.
4. Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462016.
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. CGM, Coal India Limited, SCOPE Minar, Core-I, 4t Floor, Vikas Marg, Laxminagar, New Delhi.
8. District Collector, Umaria, Government of Madhya Pradesh.
9. Monitoring File 10. Guard File 11. Record File.

वरिष्ठ प्रबन्धक (माइनिंग)
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