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No.J-11015/312/2007-IA.II(M)  
Government of India  
Ministry of Environment & Forests

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

Dated: 31<sup>st</sup> October 2008

3/12  
To  
**M/s Singareni Collieries Company Ltd.,**  
Kothagudam Collieries – 507 101,  
Bhadrachalam Road Railway Station,  
Khammam District, A.P.



**Sub: Kakatiya Khani-5 (KTK-5) Incline Underground Coal Mine Expansion Project (0.6 MTPA peak) of M/s Singareni Collieries Company Ltd., located in village & Mandal Bhupalpalli, District Warangal, Andhra Pradesh- environmental clearance – reg.**

Sir,

This is with reference to letter No. CRP/ENV/A/534/183 dated 05.03.2007 for Terms of Reference, which was granted vide MOEF letter dated 28.08.2007 and with reference to application for environmental clearance based on the prescribed Terms of Reference vide letter No. CRP/ENV/A/469/451 dated 16.08.2008 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It has been noted that the project is for expansion in production of the existing Kakatiya Khani-5 (KTK-5) Incline Underground Coal Mine Expansion Project from 0.270 million tonnes per annum (MTPA) to 0.30 MTPA with a peak production of 0.60 MTPA of coal. Expansion of lease area is from 208 ha to 316.65 ha. Of the total ML area of 316.65ha, 34.09 ha is private land, 144 ha is forestland, which forms a part of Tadicherla RF, 4.70 ha is Govt. land, and 133.86 ha is SCCL land. Forestry clearance has been obtained on 20.03.2001 for 144 ha. A seasonal stream passes through the lease which is on a higher elevation. It is not proposed to modify the natural drainage.

Mining is by underground method and is semi-mechanised. Mineral transportation of 2000 TPD of coal from the mine is by partially road to RG OC-1 CHP by 35-T tippers covering a road length of 80 km. Ultimate working depth of the mine is 345m below ground level (bgl). Water table of the study area is in the range of 2.25-13.90 bgl during the pre-monsoon and in the range of 0.47-6.35m bgl during post-monsoon period. Water requirement for domestic, dust suppression and green belt development would be met from mine it water. No R&R is involved. Balance life of the mine at a peak production of 0.6 MTPA is 17 years. Mining Plan was approved on 08.01.2008. Public Hearing was held on 11.04.2008. Capital cost of the project is Rs. 32.26 crores.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned **Kakatiya Khani-5 (KTK-2) Incline Underground Coal Mine Project of M/s Singareni Collieries Company Ltd. for a peak production of coal at 0.60 MTPA within a lease area of 316.65ha** 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) Sufficient coal pillars shall be left unextracted around the airshaft (within the subsidence influence area) to protect from any damage from subsidence, if any.

- (ii) Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.
- (iii) Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.
- (iv) While extracting panels in the lower seam, all water bodies in the low-lying/subsidence area shall be drained. Dewatering of the old goaves of the upper seam shall be continued as long as the lower seam is worked to prevent accumulation of large water bodies over working area.
- (v) Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings should be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoid loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.
- (vi) Garland/surface drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity should 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 should also provided adequate retention period to allow proper settling of silt material. Sufficient number of pumps of adequate capacity shall be deployed to pump out mine water during peak rainfall.
- (vii) 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.
- (viii) Drills should be wet operated.
- (ix) A progressive afforestation plan shall be prepared and implanted for the undisturbed area and shall include area brought under green belt development, areas along roads, infrastructure, over surface where mining is being done below, along ML boundary an township outside the lease areas, etc, by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (x) Conservation Plan for endangered species found in and around the project area shall be formulated in consultation with the State Forest and Wildlife Departments.
- (xi) Regular monitoring of groundwater level and quality should be carried out by establishing a network of exiting 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 tot eh Central Pollution Control Board quarterly within one month of monitoring.
- (xii) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case the groundwater table shows a declining trend. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xiii) The company shall obtain approval of CGWA/CGWB Regional Office for use of groundwater if any, for mining operations.
- (xiv) Sewage treatment plant should be installed in the existing colony. ETP should also be provided for workshop and CHP wastewater.

- (xv) 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 Bangalore.
- (xvi) 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.
- (xvii) Monitoring of impact of R&R and CSR over the life of the project shall be based on key indices of UNDP Human Development Report using pre-project status of socio-economic and human development as the baseline.

**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, RPM, SO<sub>2</sub> and NO<sub>x</sub> and heavy metal 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) Fugitive dust emissions (SPM and RSPM and heavy metal 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.
- (v) Data on ambient air quality (SPM, RSPM, SO<sub>2</sub> and NO<sub>x</sub> and heavy metal such as Hg, Pb, Cr, AS, etc) shall be regularly submitted to the Ministry including its Regional Office at Bangalore and to the State Pollution Control Board and the Central Pollution Control Board once in six months.
- (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 19<sup>th</sup> May 1993 and 31<sup>st</sup> 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 Bangalore.
- (xiii) The Regional Office of this Ministry located at Bangalore 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, 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 Andhra Pradesh, Secretariat, Hyderabad.
3. Chief Conservator of Forests, Regional office (SZ), Ministry of Environment & Forests, 4<sup>th</sup> Floor, F-Wing, Kendriya Sadan Block, Kormangala, Bangalore - 560034.
4. Chairman, Andhra Pradesh State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanatnagar, Hyderabad - 500038.
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, Warangal, Government of Andhra Pradesh.
8. Monitoring File      9. Guard File      10. Record File

(Dr.T.Chandini)  
Director