



सत्यमेव जयते

Ministry of Environment & Forests (MOEF)

No.J-11015/355/2007-IA.II(M)

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

Dated: 27th April 2010

To
Director (P&P)
M/s Singareni Collieries Company Ltd.,
Kothagudam Collieries – 507 101,
Bhadrachalam Road Railway Station,
Khammam District, A.P.

Sub: Ramagundam Opencast-II (RG OCP-II) Coalmine Extension Project (expansion in production from 2 MTPA to 4 MTPA (normative) and a peak production of 4.5 MTPA and extension in ML area from 453.65 ha to 2252 ha) of M/s Singareni Collieries Company Ltd., dist. Karimnagar, A.P. – environmental clearance – reg.

Sir,

This is with reference to your application vide letter No. CRP/ENV/A/405/276 dated 17.04.2007 for Terms of Reference, which was granted vide MOEF letter dated 19.10.2007 and with reference to your application for environmental clearance based on the prescribed Terms of Reference vide letter No. CRP/ENV/A/465/230 dated 13.04.2009 and letters dated 15.12.2009, and 09.03.2010 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. The application is for extending the existing Ramagundam OC-II coalmine project to dip side to a depth of 400m involving an expansion in ML area from 453.65 ha to 2252 ha and increase the annual production capacity from 2 million tonnes per annum (MTPA) to 4 MTPA (normative) with a peak **production of 4.5 MTPA**. Grade of coal is D-E-F. Of the total lease area of 2255.90 ha, 1922 ha consists of 1689.31 ha of agricultural land, 3.34 ha of wasteland, 166.83 ha of grazing land, 25.41 ha is water bodies, and 37.53 ha of Govt. land (in SCCL possession) and 333.48 ha of forestland of a density of 0.1 to 0.2 and 1 ha is water bodies. Forestry clearance has been obtained for 186.06 ha and has applied for the balance forestland. Of the total lease area, area for excavation is 345.79 ha, 479.51 ha is for external OB dumps, 6.28 ha is Flood Protection embankment, 228.28 ha is safety zone, 9.60 ha is area for diversion of nala and SRSP Canal, and 10.16 ha is for diversion of road. One CHP of 6 MTPA exits within the ML. One coal transportation road for a length of 6km requires to be diverted. There area no National Parks, Wildlife Sanctuary, Biosphere Reserves found within the 10 km buffer zone. A number of streams flow within/adjoining the ML form a part of Bakkala Vagu along the north-western part of the ML and forms the main drainage of the area, which joins River Godavari. The project involves modification of the natural drainage by diversion of the Vagu flowing within the ML. The mining is opencast by mechanised method involving High Wall Miner and also involving in-pit crushing and transport to surface by closed conveyors. Mineral transportation of 15,000 TPD of coal is by conveyors only. Peak water requirement is 2495 m³/d of which 2304 m³/d is for dust suppression and would be met from mine pit water. The water table in the study area during pre-monsoon is 2.48 m -12.70m bgl and during post-monsoon is in the range of 0.85 m – 11 m bgl. The area is 'safe' from groundwater development. Clearance from the State Ground Water board has been obtained on 11.04.2008. An estimated 830.68 Mm³ of OB would be generated over the life of the mine; of which about 30.87 Mm³ of the OB would be backfilled into a void of 120m depth and the balance would be dumped in four external dump of a max. height of 120m in 4 benches of 30m each. Backfilling will begin from 1st year onwards. The existing RG OC-II would reach a max. depth of 220m and the extension along the dip side would

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reach a depth of 400m bgl. The mine is to be operated on a relay concept- involving sequential backfilling of OB of one mine into the void of another. The project involves R&R comprising 1007 PAFS of 3 villages from Akkapalli, Siddapalli and Rajapur which includes 296 land losers. Life of the mine is 27 years. Public Hearing was held on 27.06.2009. Mining Plan has been approved by Ministry of Coal on **23.07.2009**. Capital cost of the project is **Rs. 423.96 crores**.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned **Ramagundam Opencast-II (RG OCP-II) Coalmine Extension Project (expansion in production from 2 MTPA to 4 MTPA (normative) and a peak production of 4.5 MTPA and extension in ML area from 453.65 ha to 2252 ha) of M/s Singareni Collieries Company Ltd.** under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and MOEF Circulars thereunder subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) No mining operations shall be undertaken in 147.42 ha of forestland until prior forestry clearance has been obtained under the provisions of FC Act, 1980.
- (ii) Adequate safety distance/barrier shall be maintained from the drainage along the ML boundary. Diversion tributary of river and SRSP Irrigation Canal flowing across the lease involving an area of 9.60 ha and its realignment at the boundary of the lease shall be carried out in consultation with the State Flood and Irrigation Department. The Embankment of 6.28 ha to be constructed along the river shall be based on peak flow data and shall be at least 3m above the HFL. The slope of the embankment shall at least 2:1 towards the ML, compacted and stone pitching done towards the river and shall be stabilised with plantation. Materials such as OB shall be tested for strength before using for construction of embankment.
- (iii) Topsoil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.
- (iv) Necessary permission shall be obtained from DGMS based on the detailed investigation report of the Pit Slope and Dump Slope Stability and monitoring.
- (v) Overall angle of slope of the external and internal dump of a combined 520m depth shall be kept within 28°.
- (vi) OB shall be stacked at earmarked four external OB dumpsites of 479.51 ha within ML area and shall not exceed a maximum height of 120m consisting of 4 benches of 30m each. An additional 364.29 Mm³ of OB shall be also rehandled from Quarry C from GDK-10 and backfilled into the void and the final void at the post mining stage would be reduced to 35 m depth over an area of 470 ha. The ultimate slope of the dump shall not exceed 28°. A 30m safe berm width shall be maintained for every bench of 30m height in the external OB dump of a max. height of 90m to 120m bgl and each bench shall be properly compacted and stabilised and also biologically reclaimed. Slope stability studies shall be carried out and stability of the dumps continuously monitored and particularly during monsoon and post-monsoon seasons to ascertain its stability. Monitoring and management of existing reclaimed dumpsites 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 Bangalore on an yearly basis.
- (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 of suitable 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 provided for 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) In-pit crushers shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, haulage roads, and transfer points. Transfer of coal from the pit to surface shall be by closed conveyors only. No mineral transportation shall be by road.
- (ix) Drills shall be wet operated only.
- (x) Controlled blasting shall be practiced only during daytime with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
- (xi) Mine discharge water of 3810 m³/d and 18,340 m³/d during peak monsoon shall be treated in a three-stage sedimentation tank along with coagulants, if required and shall meet standards prescribed especially with respect to pH, As, F and Total Suspended Solids (TSS) before discharge into natural water courses/agriculture.
- (xii) No groundwater shall be used for the mining/project activities. Additional water required, if any, shall be met by recycling/reuse of the water from the existing activities and from rainwater harvesting measures.
- (xiii) Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. 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.
- (xiv) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring of groundwater level indicates decline in the water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xv) 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) ETP shall also be provided for workshop and CHP wastewater. Mine discharge water shall be treated to prescribed standards before discharge into any natural water course.
- (xvii) Afforestation shall cover a total area of not less than 1615.44 ha which includes reclaimed external OB dump (1132.59 ha), reclaimed topsoil dump (30.02 ha), backfilled quarry area (140.59 ha), along ML boundary, along roads and along service buildings and CHP, and in areas within the lease (312.24 ha) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xviii) A Mine Closure Plan shall be implemented by reclamation of quarry area which shall be backfilled from 1st year of mining and backfill the void of an area of 140.59 ha which shall be afforested 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.

- (xix) 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 Bangalore.
- (xx) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.
- (xxi) The costs for implementation of a Project specific R&R Plan of Akkapalli, Siddapalli and Rajapur for the 1007 PAFs of the 3 villages which includes 296 land losers shall not be less than Rs 19.10 crores.
- (xxii) An amount not less than a capital expenditure of Rs 27.52 crores and a revenue expenditure of Rs 584.21 lakhs shall be earmarked and utilised for environmental protection measures, the status of which shall be uploaded regularly on the company website and also furnished as part of the Monitoring report.
- (xxiii) The project authorities shall carry out a pre-mining socio-economic survey based on the UNDP Human Development Report and monitor the socio-economic status of the adjoining villages once every three years and maintain records thereof and report in their Annual Report, the socio-economic impact of R&R and CSR activities. The yearly activities undertaken and progress made on R&R and on CSR for the villages identified under this project shall be uploaded on the company's website and updated at least once in six months.

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 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 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 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, 4th Floor, F-Wing, Kenriya 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, Karimnagar, Government of Andhra Pradesh.
8. Monitoring File 9. Guard File 10. Record File