



Ministry of Environment & Forests (MOEF)

No.J-11015/268/2007-IA.II(M)

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

Dated: 28th March 2010

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

Sub: Jalagam Vengalrao Opencast Project-II (4 MTPA Normative and 5 MTPA peak) in a project area of 1409.81 ha) of M/s Singareni Collieries Company Ltd., located in village Kommepalli, Mandal Sathupalli, district Khammam, Andhra Pradesh - environmental clearance - reg.

Sir,

This is with reference to your application vide letter No. CRP/ENV/A/405/228 dated 29.03.2007 for Terms of Reference, which was granted vide MOEF letter dated 29.06.2007 and with reference to your application for environmental clearance based on the prescribed Terms of Reference vide letter No. CRP/ENV/A/405/530 dated 31.08.2009 and letters dated 07.10.2009 and 09.03.2010 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. The application is for opening a new opencast mine - Jalagam Vengala Rao Opencast Coalmine-II Project with an annual production capacity of 4 million tonnes per annum (MTPA) (normative) with a peak production of 5 MTPA in a total lease area of 1409.81 ha. Grade of coal is D and E. Of the total project area, 540.01 ha is agricultural land, 788.22 ha is forestland, 14.61 ha is grazing land, 13.32 ha is water bodies, 4.10 ha is for roads and 50 ha is for colony to be established outside the lease. Forestry clearance has been obtained for 12.02 ha and applied for 776 ha of forestland. Of the total lease area, area for excavation is 749.38 ha, 411.49 ha is for external OB dumps, 22.12 ha is for infrastructure, 4.13 ha is for roads, 16.76 ha is for conveyor & railways, 126.47 ha is for safety zone, 6.94 ha is for magazine, 22.52 ha is for infrastructure, and 50 ha is for colony outside the ML. A pithead CHP of 6 MTPA is also proposed within the ML. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found within the 10 km buffer zone. A number of streams flow such as the Tammileru and Kattaleru flow adjoining the ML and join River Godavari and form the main drainage of the area. The project involves modification of the existing drainage due to diversion of the Batupalli Flood Flow Canal. The mining is opencast by mechanised method involving shovel-dumper. Mineral transportation of 12121 TPD of coal is by conveyor-cum rail from CHP. Ultimate working depth of the mine is 363.45 m below ground level (bgl). Water table in the study area during pre-monsoon is in the range of 2.50-12.10m bgl and during post monsoon period is in the range of near surface 0.75-10.80m bgl. Peak water requirement is 2370 m³/d of

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which 2100 m³/d is for dust suppression and would be met from mine pit water. Clearance from the State Ground Water Board has been obtained. An estimated 1045.68 Mm³ of OB would be generated over the life of the mine; of which about 835.59 Mm³ of the OB would be backfilled which includes 225.17 Mm³ of OB to be used to fill the void of JVR OC-I and the balance 261.73 Mm³ would be dumped in external dump of a max. height of 90m in 3 benches of 30m each of which 55.28 Mm³ of OB would be rehandled from west ext. OB dump to leave a void of a max. depth of 35m at the final mine closure stage. Backfilling will begin from 10th year onwards. The project involves R&R of one village Kommepalli and land losers from 4 villages - Kommepalli, Kistaram, Errakunta & Rejerla. Life of the mine is 54 years. Public Hearing was held on 21.05.2009. Mining Plan has been approved by Ministry of Coal on 16.03.2010. Capital cost of the project is Rs. 474.64 crores.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned Jalagam Vengalrao Opencast Project-II (4 MTPA Normative and 5 MTPA peak) in a project area of 1409.81 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 776.20 ha of forestland until prior clearance has been obtained under the provisions of FC Act, 1980.
- (ii) 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.
- (iii) Adequate safety distance/barrier shall be maintained from the drainage along the ML boundary. Diversion Bathupalli Flood Flow Canal flowing across the lease and its realignment at the boundary of the lease shall be carried out in consultation with the State Flood and Irrigation Department.
- (iv) OB shall be stacked at earmarked external OB dumpsite of 411.49 ha within ML area and shall not exceed a maximum height of 90m consisting of 3 benches of 30m each. An estimated 55.28 Mm³ of OB shall be rehandled from west ext. OB dump to backfill the decoaled void. The ultimate slope of the dump shall not exceed 28°. Slope stability studies shall be carried out and monitoring of the stability of the dumps continuously undertaken 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 a yearly basis.
- (v) 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.

- (vi) 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.
- (vii) Crushers at the proposed CHP shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, and transfer points.
- (viii) No coal transportation shall be undertaken 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) Afforestation shall cover a total area of not less than 790.75 ha which includes reclaimed external OB dump (411.49 ha), reclaimed topsoil dump, backfilled quarry area (296.17), along ML boundary, along roads and along service buildings and CHP, and other areas within the lease (83.09 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.
- (xii) A Progressive Mine Closure Plan shall be implemented by reclamation of quarry area of 296.17 ha which shall be backfilled from the 10th year of mining and backfill the void and by rehandling 55.28 Mm³ OB from the external OB dump and leaving a final mine void of 35m depth at the final mine closure stage. The backfilled quarry area 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.
- (xiii) 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.
- (xiv) 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.
- (xv) 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.
- (xvi) Mine discharge water 28,450 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.

- (xvii) 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.
- (xviii) 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.
- (xix) 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.
- (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) An amount not less than a capital expenditure of Rs 3625.39 lakhs and a revenue expenditure of Rs 902 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.
- (xxii) The costs for implementation of a Project specific R&R Plan of for R&R of one village Kommepalli involving 120 PAFs and land losers from 4 villages - Kommepalli, Kistaram, Errakunta & Rejerla shall not be less than Rs 12.40 crores. The yearly activities undertaken and progress made on R&R along with details of expenditure made on the various activities undertaken under R&R shall be uploaded on the company's website and updated at least once in six months.
- (xxiii) 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.
- (xxiv) 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 to be taken up under CSR once every three years and maintain records thereof and report in their Annual Report, the socio-economic impact of CSR activities. The yearly activities undertaken and progress made on CSR along with details of expenditure made on the various activities undertaken under CSR 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, PM_{2.5}, SO₂ and NO_x 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 NO_x) 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, Khammam, Government of Andhra Pradesh.
8. Monitoring File 9. Guard File 10. Record File