



**Ministry of Environment & Forests (MOEF)**

No. J-11015/300/2007-IA.II(M)

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

Dated: 12<sup>th</sup> August 2010

To,

Chief General Manager (&F)  
**M/s South Eastern Coalfields Ltd.,**  
Bilaspur, Chhattisgarh.

**Sub: Expansion of Laxman Opencast Coal Mine Project (2.4 MTPA to 3.0 MTPA in an ML area of 357.741 ha) of M/s South Eastern Coalfields Ltd., village Gevra, Tehsil Kathghora, District Korba, Chhattisgarh - Environmental Clearance – reg.**

Sir,

This is with reference to letter No. 43011/54/2007-CPAM dated 20.03.2007 of Ministry of Coal forwarding the application for Terms of Reference (TOR) and this Ministry's letter dated 17.06.2007 granting TOR to the above-mentioned project and subsequent letter No. SECL/BSP/ENV./Laxman Extn OC/1642 dated 06.01.2010 of M/s SECL forwarding the application for environmental clearance and letters dated 10.03.2010, 21.04.2010, 29.07.2010 and 30.07.2010 on the above-mentioned subject. The Ministry of Environment and Forests has considered your application. The proposal is for expansion of production capacity of the existing **Laxman OCP from 2.4 MTPA to 3.0 MTPA** within the existing ML area of **357.741 ha**. Of the total ML area, 142.721 ha is agricultural land, 191.61 ha is forest land, 16.34 ha is grazing land, 2.57 ha is surface water bodies, and 4.50 ha is for village settlement. Forestry clearance for 191.61 ha has been applied for. There is no National Park, WL Sanctuary or Protected Area found within the core zone or 15km buffer zone. The area is dominated by tropical moist deciduous and tropical dry deciduous forest. There is no Schedule-I fauna reported in the study area. Laxman nala traverses adjacent to ML area flowing from South West to North East is and Kolhar nalla is on North-West side, and outfall into Ahiran Nadi flowing towards north-east and are tributaries of River Hasdeo flowing at a distance of 7km from ML. It is not proposed to modify the natural drainage. Of the total ML area, 86.36 ha is for quarry, 95.70 ha is for external OB dumps, 7.251 ha is for mineral storage, 2.50 ha is for roads, 7.42 ha is for infrastructure, 8.31 ha is for R&R colony, and 150.20 ha is for township (30.667 ha) and vacant area 109.533 ha. Mineral transport of 8500 TPD of coal is by road to Kusumunda Railway Siding and from there by rail. Mining will be opencast by mechanised by shovel and dumper combination. Grade of coal is 'F'. Ultimate working depth is 85m bgl. Present working depth is 60m bgl. Water requirement is 2760 m3/day of which 1260 m3/d is from Ahiran River and 1500 m3/d is from mine water. Groundwater table in the buffer zone varies from 4.89-7.76m bgl during pre-monsoon and from 2.43-4.76m bgl during post-monsoon. Peak mine water discharge is 10,350 m3/d. Total estimated OB generation is 60.92 Mm3 of which 46.92 Mm3 of OB has been generated and accumulated in 4 external OB dumps and the balance estimated OB of 14 Mm3 would also be stored in the existing dump area of 44.20 ha of maximum height of 45mt. It is not proposed to undertake backfilling since the lower seams would continue to be mined as part of the Gevra OCP which would extend its leasehold to include the area of this project by realignment of lease boundary, and hence there is no proposed mine closure plan. Balance life of mine at the rated capacity is 4 years. Project involves R&R of 354 PAFs and 715 land oustees of Bhasmakhar village and of which 196 PAFs have been resettled in the R&R colony at Laxman Nagar and Yamuna Nagar, 115 PAFs resettled elsewhere and the balance 43 PAF are yet to be resettled. R&R would be completed by 2011. An amount of Rs 232.3399 lakhs has been

earmarked for R&R. Funds earmarked for environmental protection measure is Rs 5.45 Lakhs and for CSR is Rs 1.5 crores/year. Public hearing was held on 26.8.2009. Project has been approved by M/s SECL on 08.04.2006. Capital Cost of Project is **Rs. 366.55 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 of **expansion of Laxman Opencast Coal Mine Project of M/s South Eastern Coalfields Ltd. for expansion in production of coal from 2.4 MTPA to 3.0 MTPA rated capacity in a total ML area of 357.741 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) The maximum production of coal shall not exceed 3 MTPA without prior environmental clearance.
- (ii) No mining operations shall be undertaken in 191.61 ha forestland, until forestry clearance has been obtained under the provisions of FC Act, 1980.
- (iii) Prior approval of the State Government shall be taken for use of 1260 m<sup>3</sup>/d water from Ahiran River for the mining operations.
- (iv) No groundwater shall be used for mining operations. Any additional water requirement shall be met from mine water and from rainwater harvesting systems.
- (v) Mining shall be carried out as per statute at a safe distance from the surface water bodies flowing in and near the mine lease area.
- (vi) Top soil shall be stored in the earmarked site and shall be used within a year of its generation for green belt development and for plantation/reclamation.
- (vii) OB shall be stacked at the earmarked external OB dumpsites. 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.
- (ix) Garland drains (size, gradient and length) around the safety areas 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.
- (x) 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 utilized 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.
- (xi) 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.

- (xii) Crushers at the CHP shall be operated with high efficiency bag filters/water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system which shall be closed, haulage roads, transfer points, etc.
- (xiii) Drills shall be wet operated only.
- (xiv) 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.
- (vi) Road used for transportation of coal from CHP to railway siding shall be black topped and developed with 3-tier avenue plantation using a mix of species suitable for controlling fugitive dust emissions.
- (xv) A Plan for afforestation of the mine lease shall be implemented, which includes ext. OB dump (44.20 ha), along ML boundary, green belt, along roads, infrastructure (6.30 ha), safety zone (59.568 ha), Colony (8.31 ha), township (30 ha) ha undisturbed/vacant land (14.731 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) 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.
- (xix) 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.
- (xx) ETP shall also be provided for treatment of effluents from workshop, CHP and an STP shall be provided for treating wastewater from the township and the treated effluents shall be used for green belt development. Wastewater generated from the mine shall be treated and recycled for mine operations to the extent possible and the balance shall be treated to prescribed standards before discharge into the surface waters/agricultural use.
- (xxi) 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, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.
- (xxii) 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 Bhopal.
- (xxiii) A detailed project specific R&R Plan for an amount not less than Rs 232.3399 lakhs shall be prepared for the balance 43 PAF of Bhasmakhar village yet to be resettled and implemented in consultation with the stakeholders. R&R shall not be inferior than that in the National R&R Policy and shall be completed within the agreed time-frame of 2010 as their present location is exposed to pollution from the mining operations. R&R shall include specific income generation schemes. A Corpus Fund shall be created for maintenance of the R&R colony.

Annuities shall be provided for the vulnerable sections of the displaced population. Alternate livelihood schemes shall be implemented for the persons not being absorbed for employment.

- (xxiv) A detailed Plan for CSR for the 7 adjoining villages – Bishrampur, Jailpara, Dharmapur, Bhatapara, Laxman Nagar, Yamuna Nagra and Akharapali, with specific budgetary allocation (capital and revenue) which is not less than Rs 1.50 crores per annum for various skill development and alternate livelihood programmes and schemes and implemented through establishment of cooperatives and SHGs shall be implemented. The total recurring expenditure for major CSR work shall not be less than Rs 1.5 Crores or Rs 5 per tonne of coal whichever is more. CSR activities shall not overlap for the villages falling in the study area of the coal mine projects located in the study area. Tribal Development Plan for the tribals shall be prepared as part of CSR. Monitoring of the socio-economic status of the local communities living in the villages near the project area shall be based on a scientific methodology such as the UNDP Human Development Index. Report of the monitoring of the impacts of project on the socio-economic and human development of the local communities shall be regularly reflected in the Annual Report of the company and also furnished as part of the Monitoring Report submitted to MOEF.
- (xxv) In case the project does not start within 3 years of completion of the existing project for mining the lower seams as part of the Gevra OCP by extension of its leasehold to include the area of this project by realignment of lease boundary, a Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests three years before completion of this project. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem, which were conserved in-situ and ex-situ in an identified area within the lease for reintroduction in the mine during mine reclamation and at the post mining stage for habitat restoration. including grazing land and agricultural land.

## **B. General Conditions**

- (i) No change in 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 quantum of mineral coal and waste being produced 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. 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. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in particulates shall be carried out at least once in six months.
- (iv) Data on ambient air quality (PM<sub>10</sub>, PM 2.5, SO<sub>2</sub> and NO<sub>x</sub> and heavy metals such as Hg, As, Ni, Cr, etc) and other monitoring data 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. Random verification of samples through analysis from independent laboratories recognised under the EP Rules, 1986 shall be furnished as part of the compliance report.
- (v) 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.
- (vi) Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge

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. Oil and grease trap shall be installed before discharge of workshop effluents.

- (vii) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.
- (viii) Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EP Rules, 1986.
- (ix) 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.
- (x) 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.
- (xi) 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.
- (xii) 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>
- (xiii) A copy of the environmental clearance letter shall be marked to concerned Panchayat/Zila Parishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.
- (xiv) A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.
- (xv) The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.
- (xvi) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.
- (xvii) 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.

(xviii) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.

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. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

(Dr.T.Chandini)  
Scientist F

**Copy to:**

1. Secretary, Ministry of Coal, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Chhattisgarh, Secretariat, Raipur.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arear Colony, Bhopal – 462016.
4. Chairman, Chhattisgarh Environment Conservation Board, 1-Tilak Nagar, Shiv Mandir Chowk, Main Road, Avanti Vihar, RAIPUR-Chhattisgarh – 492001.
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, Korba, Government of Chhattisgarh, New Delhi.
8. Monitoring File      9.      Guard File      10.      Record File.

(Dr.T.Chandini)  
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