

BY SPEED POST

J-11015/264/2008-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex, Lodi Road,
New Delhi - 110003
Dated: 26th August, 2013

To

Chief General Manager,
North Eastern Coalfields,
M/s Coal India Ltd.,
P.O. Margharita,
Dist. Tinsukia,
ASSAM

Sub: Lekhapani Opencast Coal Mine Project (0.25 MTPA in an ML area of 235 ha) of North-Eastern Coalfields of M/s Coal India Ltd. located in village Lekhapani, P.O. Margherita, Dist. Tinsukia, Assam - Environmental Clearance -reg.

Sir,

This is with reference to letter No. 43011/130/2007-CPAM dated 13.06.2008 of Ministry of Coal forwarding the aforesaid application and this Ministry's grant of Terms of Reference (TOR) dated 25.04.2008 and letter No. CIL/DLI/EMP-TOR/2012/03 dated 08.03.2010 of M/s CIL forwarding the application for environmental clearance and letters dated 16.04.2010, 22.07.2010, 13.10.2010, 23.10.2010, 01.11.2010, e-mail dated 08.09.2011 from Advisor, CIL, New Delhi and 28.09.2011 on the aforesaid subject. Reference is also invited to the letter vide no. NEC/EMLR/51(E)/713 dated 11.04.2013 forwarding the FC.

2. It is noted that the proposal is for opening a new **Lekhapani Opencast Coal Mine Project** located in Makum Coalfields **at an annual rated capacity of 0.25 million tonnes per annum (MTPA) of high-grade coal in a total lease area of 235 ha.** Makum Coalfields consists of 23 coalmines over an area of 4.5 sq. km. The project is adjoining the State of Arunachal Pradesh. The entire lease falls in lekhapani RF and forms a part of Elephant Reserve of Digboi Division. The forests in the study area support rich wildlife and many Schedule I and II mammals, butterflies and threatened orchids. Of the total ML area of 235 ha, 80 ha is quarry area, 120 ha is external OB dumps, 25 ha is infrastructure, 10 ha is for approach roads. The ultimate working depth is 335 m bgl. The project is adjoining Tirap and Tikak OCP. River Lekhapani flows at a distance of 0.5 km from the ML and joined River Tirap. River Dehri flows along the northern side. It is not proposed to modify the natural drainage through diversion of the river(s) or by construction of an embankment. Mining would be opencast and mechanised using shovel-dumper. Grade of coal is A. Sulphur content in the coal in Makum Coalfields varies from 1.5-7%. Peak mine discharge water is 26,648 m³/d. pH of River Tirap is acidic in the range of 3.0-3.3. It is also a gassy mine. An external OB dump of 120 ha and a maximum height of 30 m is proposed. The project is located on a hilly terrain and because of the steep gradient it is difficult to backfill the decoaled void and hence at the post mining stage, a water body is proposed. The total water requirement is 60m³/d for mining and 16m³/d for drinking/domestic consumption. Coal transportation would initially be by road. A Railway Siding is under construction at Tirap at a distance

of 7-8km and after 3 years of mine operation, road transportation of coal would cease. Life of the mine at a rated capacity of 0.25 MTPA is 23 years. Public Hearing was held on 14.10.2009. The project was approved by CIL Board on 10.07.2008. Capital cost of the project is Rs 56.3895 crores. The Forest Clearance for diversion of 235 ha of forest land for Lekhapani open cast project of North Eastern Coalfield has been accorded vide MoEF letter no. 8-5/2012 dated 28th March, 2013.

3. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 50th meeting held on 18-19 June, 2012 for granting Environmental Clearance. The Ministry of Environment & Forests hereby accords environmental clearance for the abovementioned **Lekhapani Opencast Coal Mine Project of Northern Coalfields of M/s Coal India Ltd. for production of coal at 0.25 MTPA rated capacity in a lease area of 235 ha** under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and Circulars there under and subject to compliance of the terms and conditions mentioned below:

A. Specific Conditions:

- i. Environmental clearance to the proposal is subject to obtaining clearance under the Wildlife (Protection) Act, 1972, as applicable.
- ii. There shall be no diversion of the River Lekhapani or River Dehri.
- iii. The approach road to the mine shall be provided with a thick 3-tier green belt along the side of the ML, colony within the mine
- iv. Railway Siding at Tirap shall be constructed within three years and there shall be no coal evacuation from the Lekhapani OCP by road thereafter
- v. 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
- vi. No underground mining shall be undertaken below the Lekhapani OC mining' without prior environmental clearance
- vii. OB shall be stacked at earmarked external OB dumpsites within ML area of a maximum height of 30m. Slope stability tests may be undertaken and the feasibility of backfilling depending on the type of cost effective technology available during the life of the mine shall be re-examined. The ultimate slope of the dump shall not exceed 28°. No external OBD shall be allowed to remain for long periods of time and the OB from the external OB dumps shall be used to backfill the void in order to avoid problems of Acid Mine Drainage (AMD). Until the OB from external OB dumps is rehandled, the OB dumps shall be vegetated with grasses, bamboos and species as *Macaranga*, *Osbeckia/Melastoma* and ferns such as *Glechnia Dryopteris*, etc.
- viii. The original topographic features such as slope of the hills, valleys and peaks shall be taken into consideration while creation of external OB dumps. The Mining Plan shall be revised to incorporate re-handling of OB to remove external OB dumps to the extent possible.
- ix. Catch drains, rainwater channels and siltation ponds of appropriate size and well pitched with stones shall be constructed based on the rainfall data 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.
- x. Garland drains (size, gradient and length), siltation ponds and sump capacity and ETP shall be designed keeping 50% safety margin over and above the peak sudden rainfall (based on 100 years IMD data) and maximum discharge from the area. Sump/ETP/settling pond capacity shall provide for adequate retention period to allow proper settling of silt material. Mine discharge water shall be treated for pH, TDS, TSS, etc in settling ponds/lime dosing tanks/ETP to meet the norms prescribed in the General Standards in Environment

- (Protection) Rules, 1986, before discharge of the treated water into streams/rivers/other surface waters.
- 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. Major haul roads shall be fitted with high efficiency water sprinkling system to check fugitive emissions at the transfer points, haulage roads, etc. Dry fogging System/Mist spray arrangements shall be provided for crushing/loading operations for dust control at the CHP.
 - xiii. Drills shall be wet operated only.
 - xiv. Controlled blasting for OB shall be practiced with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
 - xv. The total area that shall be brought under afforestation shall include reclaimed backfilled area to the maximum extent feasible, green belt along ML boundary, safety zone and undisturbed area, along roads and infrastructure and in township within 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.
 - xvi. The entire water requirement of the mine shall be met from treated mine water or from the river(s)/streams or from rainwater harvesting. No groundwater shall be used for the mine operations.
 - xvii. The mine water discharged from the ML (from the garland drains, rainwater channels and various outlet points) and river/stream upstream and downstream of the mine, where it is being discharged shall be monitored for water quality, particularly for pH, TDS, TSS, etc at the discharge points and treated with lime dosing before their discharge into the rivers/streams/channels so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 and further amendments. Records of details of monitoring of water quality at all the outlet points and of the river water quality upstream and downstream of the mine shall be regularly uploaded/displayed on company website.
 - xviii. Regular monitoring of groundwater level and quality particularly for Acid Mine Drainage (AMD) 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 water quality at least once a year (post-monsoon). 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. A study on Acid Mine Drainage of the area shall be carried out for the life of the project and mitigative measures taken thereon and their impacts on water quality of the rivers, shall be reported as part of the Monitoring Report submitted to MOEF regional Office.
 - xx. Water quality of the ground and surface water shall be got analyzed at least once in a year through an independent laboratory recognised under EPA and records thereof furnished as part of the Compliance Report submitted to the MOEF RO, Bhubaneswar.
 - xxi. Monitoring of the species of fish (type and population) found in River Lekhapani, River Dehri and River Tirap before start of mine operations, shall be carried out over the life of the mine and records thereof maintained and furnished as part of the Compliance Report to the MOEF, RO, Shillong.
 - xxii. The project authorities shall undertake rainwater-harvesting measures and shall also meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine or quality deteriorates due to mining operation.
 - xxiii. Sewage treatment plant of adequate capacity shall be installed in the colony. ETP shall also be provided for workshop and CHP wastewater. Wastewater meeting General Standards prescribed under E (P) Rules, 1986 alone shall be permitted to be discharged into the natural water courses.

- xxiv. Rare, endangered/threatened and endemic species found in the region shall be conserved in ex-situ conservation areas such as Orchidarium, Butterfly Parks and Arboretums before the mining operation begin and shall be reintroduced after completion of mine operations.

In addition, an in-situ Conservatory for Orchids, endangered, rare plants and genetic resources found in the Eastern Himalayas shall be established in consultation with the Regional Offices of BSI, ZSI at Shillong or avail their expertise. Budgetary provision shall be made for the creation of an Orchid House, Herbal Garden and an in-situ Conservatory for the rare and endangered plant species of the north-eastern region in consultation with experts.

- xxv. After backfilling, restoration of the entire mined out area to original forest ecosystem shall be carried out by using about 140-170 native species reported from the pre-mining ecosystem, the saplings of which are available in the nurseries of Digboi Forest Division and maintained at Arboretum of Digboi town. These shall include: (1) *Macaranga*, (2) *Sterculia*, (3) *Duabanga*, (4) *Melastoma/Osbeckia*, (5) *Morus*, (6) *Terminalia myriocarpas*, (7) *Eugenia*, (8) Bamboos and others. After the above species are planted in the first instance, the other native species should subsequently be introduced. Even the other native species could also be introduced simultaneously if the substratum has some top soil. The saplings of 140 - 170 native species, already established at Arboretum of Digboi town, should be procured forthwith from the nurseries of Digboi Forest Division and from the forest floor of reserve forests by deploying women folk as a part of CSR activity.

Exotics such as *Acacia auriculiformis*, *Cassia siamea*, Neem and other exotics shall not be planted. Only species found in high rainfall areas where the biologically productive rainforest communities thrive very well shall be selected for habitat restoration.

- xxvi. A detailed Wildlife Conservation Plan prepared covering the entire Makum Coalfields for the elephants and other Schedule-I fauna found/reported/visiting the Makum Coalfields shall be implemented. The Wildlife Conservation Plan shall include specific conservation measures for creation of corridors for the elephants which may pass through the Makum Coalfields to enter neighbouring forests.

In addition, Coal India Ltd. shall deposit at least Rs 2 crores as Corpus Fund to Divisional Forest Officer, Digboi Division who shall keep it in a separate fixed deposit bank account and the interest accrued shall be used for wildlife conservation in the Dehing Patkai Elephant Reserve and the Dibru-Saikowa National Park. A Committee comprising DFO, Digboi, DFO, Dibrugarh and DFO, Tinsukia Wildlife Divisions and Conservator of Forest, Eastern Assam Circle shall operate the account and oversee the implementation of the Plan.

- xxvii. 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/institutions found in the district within a period of one year and the results reported to this Ministry and to DGMS.

- xxviii. A detailed CSR scheme shall be formulated for the project by identifying villages adjoining the project area wherein specific activities would be undertaken including skill development, training programmes for alternate employment, formation of SHGs and co-operatives and acting as a facilitator between buyers and sellers (local communities), i.e. access to markets for the local produce and goods.

In addition, a pre-mining socio-economic survey of the local population shall be carried out which shall be monitored to study the impact of CSR initiatives over the life of the project. The village-wise activities and progress made thereon along with budgetary provisions and expenditure shall be uploaded on the company website. In addition, the NEC shall establish a Centre for promoting traditional cultures of the region as a part of CSR activity.

- xxix. A revenue expenditure of not less than Rs 5 per tonne of coal shall be earmarked for undertaking socio-economic activities for the adjoining villages under CSR. Separate head

- (budget) Rs 25 lakhs shall be created as one time expenditure for CSR and the interest of same will be utilised for development of surrounding villages. Broad requirements of the nearby villagers such as employment in mining of the proposed projects, road connectivity, drinking water supply, electricity, etc shall be covers in the CSR Action Plan. Villages located in isolated areas and with difficulty in accessing piped drinking water supply, could be in consultation with local authorities, provided with pipes fitted onto natural springs and supplied to isolated habitations/hamlets.
- xxx. Third Party evaluation of the environmental quality/status in NEC shall be carried out through recognised/reputed institutions. Yearly Social audit of CSR activities undertaken by NEC shall be got carried out through a nearby reputed Institute or University.
 - xxxi. 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 anyone particular season which is consistent in the time series), and the report submitted to MOEF and its Regional *office* at Shillong.
 - xxxii. 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. The void of 47 ha and a depth of 35m proposed to be left as a water body at the post mining stage shall be completely backfilled with OB to prevent oxidation of pyrite from the exposed rocks/earth of formation of leachates and post-project monitoring for a period of at least 3 years shall be carried out on the water quality in and around the project area and details thereof reported to MOEF RO, Shillong, Assam SPCB and to the CGWB.
 - xxxiii. Corporate Environment Responsibility:
 - a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
 - d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

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 PM₁₀, PM_{2.5}, SO₂ and NO_x. 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 (PM₁₀, PM_{2.5}, SO₂ and NO_x 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 Shillong 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 19th May 1993 and 31st 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 Shillong.
- 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 PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient and stack if any) 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 Shillong 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 31st 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.
4. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.
 5. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project.
 6. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
 7. 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.
 8. 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. Manoranjan Hota)
Director

Copy to:

1. Secretary, Ministry of Coal, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Assam, Shillong.
3. Chief Conservator of Forests, Ministry of Environment & Forests Regional Office (EZ), Shillong.
4. DFO, Digboi, DFO, Dibrugarh and DFO, Tinsukia Wildlife Divisions and Conservator of Forests, Eastern Assam Circle, Government of Assam.
5. Chairman, Assam State Pollution Control Board, Bamuni Maidan, Guwahati - 781021.
6. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110032.
7. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
8. Dr. R. K. Garg, Advisor, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi Nagar, New Delhi.
9. District Collector, Tinsukia, Government of Assam.
10. Monitoring File 11. Guard File 12. Record File 13. Notice Board

(Dr. Manoranjan Hota)
Director