



Ministry of Environment & Forests (MOEF)

No.J-11015/652/2007-IA.II(M)

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

Dated: 4th March 2010

To
M/s Eastern Coalfields Ltd.,
SP Mines Area,
PO Chitra, District Deoghar,
Jharkhand - 815 351.

Sub: **Expansion of Chitra East OCP Mine (Expn. in production from 1.2 MTPA to 2.5 MTPA and ML area from 209.50 ha to 780.80 ha) of M/s Eastern Coalfields Ltd. located in Saharjuri Coalfields, P.O. Chitra, District Deoghar, Jharkhand - environmental clearance -reg.**

Sir,

This has reference to letter No. 43011/93/2007-CPAM dated 28.06.2007 of Ministry of Coal forwarding your application for Terms of Reference (TOR) this Ministry's grant of TOR vide letter dated 22.10.2007 and letter dated 23.09.2009 of M/s Coal India Ltd. along with application for environmental clearance based on TOR on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It has been noted that the project is for **expansion of the existing Chitra East Opencast Coal Mine project in terms of production capacity from 1.2 MTPA to 2.5 MTPA and ML area 209.50 ha to 780.80 ha.** Of the total lease area, 503.40 ha is agricultural land, 155.60 ha is forestland, 81.80 ha is Govt. land, and 40 ha is wasteland. Forestry clearance has not been obtained. A number of old abandoned quarries and underground workings exists in the ML area. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 15 km buffer zone. There are no endangered fauna reported in the study area. River Ajay flows towards south-east outside the block and forms the main drainage of the area. No modification of the natural drainage by diversion of any water courses or construction of an embankment is proposed. Of the total mining lease area, 376 ha is quarry area, 245 ha is for external OB dumps, 66.60 ha is for infrastructure including buildings, CHP and roads and 26.40 ha is for green belt. A township exists outside the ML area. Mining would be carried out in three quarries and will be opencast by mechanised method involving shovel-dumper and involving drilling and blasting. No coal washery is proposed within the ML, however a CHP of 2.5 MTPA is proposed. Mineral transportation of 30,000 TPD of coal would be by road covering a distance of 26 km to Jamtara Railway Siding and thereafter by rail. Water table is in the range of 1.40-14.05m bgl during pre-monsoon and 2.95-12.25m bgl during post monsoon in the study area. Ultimate working depth of the mine is 250m below ground level (bgl). Present working depth is 60m -80m bgl. Peak water requirement is 1088 m³/d of which will be met from mine pit water. An estimated 181.20 Mm³ of OB will be generated over the life of mine, of which 48.10 Mm³ (86%) would be backfilled into three quarries in an area of 204 ha and the balance 133.10 Mm³ would be stored in three external OB dumps of a combined area of 239 ha. The project involves R&R of 586 PAFs from six villages - Bhawanipur (92), Tulsidabar (94), Khoon (90), Chitra (part) (105), Jamua (110), and Tarabad (95) from the existing and the proposed expansion project. Life of mine is 26 years. Public Hearing was held on 17.03.2009. M/s CIL has approved the project on 31.10.2007. Capital cost of the project is Rs. 181.29 cores.

22.12.2009
महाप्रबंधक/General Manager
पर्यावरण विभाग / ईसीएल मुख्यालय
Environment Deptt./ECL HQ.

22-12-2009
GENERAL MANAGER
S P MINES AREA, ECL

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned Chitra East Opencast Coal Mine project of M/s Eastern Coalfields Limited in terms of production capacity from 1.2 MTPA to 2.5 MTPA and ML area 209.50 ha to 780.80 ha under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and under MOEF Circulars there under subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) No mining operations shall be undertaken in 155.60 ha of forestland until prior clearance has been obtained under the provisions of FC Act, 1980.
- (ii) Mining shall be carried out as per statuette from the streams/nallahs flowing within the lease. No modification of the natural drainage by way of diversion or construction of an embankment shall be undertaken without the prior approval of this Ministry.
- (iii) No washery shall be established within the ML without prior environmental clearance from this Ministry.
- (iv) 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.
- (v) OB shall be stacked at earmarked three external OB dumps in the existing dump, upto 8 years (dump 2), upto 12 years (dump 3). The dumps shall not exceed max. height of 90m consisting of 3 benches, and the ultimate slope of the dumps shall not exceed 28°. The external dumps shall be reclaimed using native species thereafter and monitoring and management of reclaimed dumpsite 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 Bhubaneswar on 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.
- (vii) 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 provided adequate retention period to allow proper settling of silt material.
- (viii) 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.
- (ix) Mineral transportation from mine to Jamtara Railway Siding by road shall be by trucks of a minimum capacity of 20-T and covered with tarpaulin. All internal roads and approach road shall be black topped. A 3-tier Green belt shall be developed on both sides of the roads. Green belt shall be developed at the Railway siding.
- (x) High efficiency water sprinkling system provided to check fugitive emissions at the transfer points, haulage roads, etc shall be provided for crushing/loading operations for dust control at the CHP.
- (xi) Drills shall be wet operated only.
- (xii) Controlled blasting 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.

Signature
22.12.2021
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पर्यावरण विभाग / ईसीएल मुख्यालय
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Signature

- (xiii) The total area that shall be brought under afforestation at the time of mine closure shall be not less than 329.30 ha and include reclaimed external OB dump (201.63 ha), backfilled area (112.17 ha), along ML boundary, safety zone and undisturbed area, along roads and infrastructure, green belt (15.5 ha) and in township and in the R&R colony and in Railway Siding outside the lease by planting native species found in the study area in consultation with the local DFO/ Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xiv) A Progressive Mine Closure Plan shall be implemented by reclamation of the three quarries of an area of 84 ha, 50 ha and 242 ha. The voids of Q-I and Q-II shall be backfilled using the OB from Q-III. Backfilling of void in Q-III shall start from the 12th year. Of the total quarry area, an area of 112.17 ha being backfilled, shall be reclaimed with plantation in addition to already backfilled area, and 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. An area of 8.4 ha of the void being left as a lagoon shall be gently terraced and shall be gently sloped and the upper benches of the reservoir shall be terraced and stabilised with plantation. The balance 90m void of Q-III shall be backfilled using OB from future mining or from a neighbouring mine.
- (xv) In addition a Final Mine Closure Plan shall be prepared and implemented for the number of Old abandoned quarries and underground workings existing in the ML area and details thereof submitted to MOEF and its Regional office at Bhubaneswar
- (xvi) No groundwater (bore well) shall be used for mining operations. Rainwater harvesting structures shall be erected within and around the ML including check dams for recharge of ground water and for additional use if any during mining operations along with mine sump water.
- (xvii) 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.
- (xviii) The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xix) Sewage treatment plant of adequate capacity shall be installed in the colony. ETP shall also be provided for workshop and CHP wastewater. Treated wastewater meeting prescribed norms only shall be permitted to be discharged in to the natural watercourses.
- (xx) 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.
- (xxi) A detailed CSR Plan shall also be prepared for and in consultation with the local communities. The annual revenue expenditure on CSR should be for a minimal Rs.5/tonne of coal which is to be adjusted for the depreciation in the value of the rupee over the life of the project. The activities undertaken for the specific villages adopted under CSR should be displayed on the company website and updated at least once a year.
- (xxii) R&R involving 586 PAFs from six villages - Bhawanipur (92), Tulsidabar (94), Khoon (90), Chitra (part) (105), Jamua (110), and Tarabad (95) from the existing and the proposed

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expansion project shall be completed within an agreed time-frame and shall not be less than the norms specified in the National R&R Policy. Provision of annuities instead of one-time compensation shall be examined. A Corpus Fund for the maintenance of the R&R colony shall be created. The details of the progress made in the status and implementation of the R&R Plan shall be regularly updated (at least twice in a year) on the company's website including the costs incurred on the various activities.

(xxiii) 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 Bhubaneswar.

(xxiv) 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.

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 of air quality. 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. In addition, heavy metals such as Hg, Pb, Cd, As, etc from the particulates shall be monitored at least twice in a year. The data thereon recorded properly.

(iv) 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 and heavy metals such as Hg, Pb, Cr, As, etc shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar 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) The environmental quality parameters shall be got analysed from a recognised environmental laboratory or 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.

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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 Bhubaneswar.
- (xiii) A copy of the clearance letter shall be marked to concerned Panchayat, Zila Parishad, Municipal Corporation/Urban Local Body, local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. The clearance letter shall also be displayed on the company's website.
- (xiv) A copy of the clearance letter shall also be sent to the Regional Office of the MOEF, the respective zonal offices of the CPCB and the SPCB. The concerned State Pollution Control Board shall display a copy of the clearance letter on their website. Copies shall also be displayed at District Industry Centre and Collector's Office/Tehsildar's Office for 30 days. A copy of the clearance letter may also be seen at the website of the Ministry of Environment & Forests at <http://envfor.nic.in>.
- (xv) 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.
- (xvi) A copy of the EC letter shall be uploaded on the company's website. The compliance status of environmental clearance conditions shall also be uploaded by the project authorities in their website so as to bring the same in the public domain and regularly updated at least once every six months. The monitoring data on environmental quality parameters such as air (including PM 10, PM 2.5, NOx and SOx), water, noise and soil or critical sectoral parameters indicated for the project shall also be displayed at the entrance of the project premises and mines office and in corporate office and also regularly uploaded on the company's website.
- (xvii) The project proponents shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitoring data (both by hard copies and by E-mail) to the respective Regional Office of MOEF, respective Zonal Office of the CPCB and SPCB.
- (xviii) The Regional Office of this Ministry located at Bhubaneswar 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.
- (xix) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 and its subsequent amendments, shall also be put on the company's website.

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.

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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 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)

Copy to:

1. DC, Jharkhand, Ranchi.
2. Secretary, Ministry of Coal, New Delhi.
3. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.
4. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarpur, Bhubaneswar - 751023.
5. Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), H.E.C., Dhurwa, Ranchi - 834004.
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. Shri M.K. Shukla, CGM, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxminagar, New Delhi.
9. District Collector, Deoghar, Government of Jharkhand.
10. Monitoring File 11. Guard File 12. Record File

22.12.2021
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