

**BY SPEED POST**

No. J-11015/651/2007-IA.II (M)  
**Government of India**  
**Ministry of Environment & Forests**

Paryavaran Bhawan,  
CGO Complex, Lodhi Road  
New Delhi-110510.  
Dated: 26<sup>th</sup> February, 2013

To

The Chief General Manager (CP&P)  
Mahanadi Coalfields Ltd.  
At/PO.: Jagruti Vihar, Burla  
Distt: Sambalpur  
Orissa – 768020

**Sub: Hirakhand Bundia UGP (0.95 MTPA in an ML area of 422.35 ha) of M/s Mahanadi Coalfields Ltd. located in Ib Valley Coalfields, villages Bundia, Ainapali and Kudopal, Tehsil Brajrajnagar, district Jharsuguda, Orissa (EC based on TOR granted on 16.11.2007)**

Sir,

This has reference to letter No 43011/95/2007-CPAM dated 28.06.2007 of Ministry of Coal forwarding your application for TOR, which was granted on 16.11.2007 and your application for environmental clearance dated 28.01.2011 and letter dated 12.12.2011 on the abovementioned subject. The Ministry of Environment & Forests has considered your application. It is noted that the application is for environmental clearance for **Hirakhand Bundia Underground Coalmine Project for a production capacity of 0.95 million tonnes per annum (MTPA) in a lease of 422.35 ha**. The mine is presently producing at 0.54 MTPA. There are no ecologically sensitive areas such as National Parks, Wildlife Sanctuary, Biosphere Reserves found within the 10 km buffer zone. A large number of Reserve Forests and protected Forests are found in the 10 km radius of the buffer zone. The drainage of the coal mine is controlled by the Ib river which flows from North to South towards eastern part of block. Lilari nala flows in south at 1.5km. The project does not involve nala diversion. Hirakud Reservoir is at a distance of 4km from the ML. It is not proposed to modify the natural drainage of the area. Of the total ML area, 303.314 ha falls in the ML area of Hirakhand Bundia mine and the balance area of 119.36 ha comprising of lower seams of Samleshwari Opencast Coalmine Project. The break-up of ML area is given below:

S.N.	Land Use	Hirakhand Bundia UGP (ha)	Samleshwari (ha)	TOTAL (ha)
1.	Agricultural land	35.385	-	35.385
2.	Forest land	88.435	51.245	139.608
3.	Wasteland	-	-	-
4.	Grazing	-	-	-
5.	Surface Water Bodies	1.0	-	1.0
6.	Others (including tenancy)	178.494	67.791	246.285
	<b>TOTAL (ha)</b>	<b>303.314</b>	<b>119.036</b>	<b>422.35</b>

Underground mining is being carried out in an area of 303.314 ha falling within Hirakhand Bundia and in 119.036 ha of Samleshwari OCP. The inter-seam parting between the lowest seam of Samleshwari OCP and the topmost seam of Hirakhand Bundia UGP is 90m. Grade of coal is 'D'. Mining methodology is Board & Pillar until 2011-12, and thereafter by continuous miner. Depillaring would be with stowing. Ultimate working depth is 240m bgl. Forestry clearance for 145.82 ha of forestland has been obtained on 17.02.2009. A township of 6.03 ha is at Hingir Rampur Colliery at a distance of 3 km. Water requirement is 1091 m<sup>3</sup>/d of which 711 m<sup>3</sup>/d is for domestic use and 380 m<sup>3</sup>/d is for mine operations. Water table is in the level of 1.30m-8.39m bgl during pre-monsoon and 1.1m-4.20m bgl during post-monsoon. Subsidence study has been carried out and it has been determined that the tensile strain as per prediction is within the prescribed limit of 20mm/m for protection of forest cover. Coal is loaded from mine face by LHD on belt conveyor and transferred to surface bunkers, from where a total of 300 TPD of coal is dispatched by road to miscellaneous consumers and the balance 1500 TPD is transported by road to the Railway Siding at a distance of 11 km. Balance life of the mine is 26 years. Mine Plan has been approved on 28.08.2009. Project has been approved by M/s MCL on Public Hearing was held on 18.06.2010. An amount of Rs 10.63 crores would be spent on CSR for the balance life of mine. A revenue expenditure of Rs 5/tonne of coal is proposed.

2. The Forestry Clearance has been obtained by the proponent vide no. 8-82/2012 dated 29th January, 2013. Stage-I FC has been accorded to diversion of 1300.935 ha of forest land for underground mining including 99.06 ha of forest land for surface breaking pertaining to the following mines:

- i. Orient underground mine no. 1&2
- ii. Mine No. 3
- iii. Hingir Rampur Colliery
- iv. Hirakhand-Bundia Mine (combine)

3. This is a violation case. As per the Office Memorandum dated 12.12.2012, issued by the Ministry of Environment and Forests, with regard to the consideration of proposals for ToR/Environment clearance/CRZ clearance involving violation of the Environment (Protection) Act, 1986/EIA notification, 2006/CRZ notification, 2011, the Environmental Clearance will be granted after the written commitment in the form of a formal resolution by the Board of Directors submitted to the MoEF to ensure that violations will not be repeated and the State Government concerned initiates credible action on the violation by invoking powers under Section 19 of the Environment (Protection) Act, 1986 for taking legal action under section 15 of the Act for the period for which the violation has taken place and evidence provided to the MoEF of the action taken. In this case, the Board's resolution has been received. As regards credible action, the Forest and Environment Department of Govt. of Orissa, vide its letter no.1-37/2012-2231/F&E dated 02.02.2013 has intimated that the District Collectors concerned have filed complaint against the coal mine of Mahanadi Coalfields Ltd in the Court of S.D.J.M., Jharsuguda and Sundergarh for trial under relevant provisions of E(P), Act, 1986.

4. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 41<sup>st</sup> meeting held on 23-24 January, 2012 for granting Environmental Clearance. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned **Hirakhand Bundia Underground Coal Mine of M/s Mahanadi Coalfields Ltd.** for production of coal at a rated capacity of 0.95 MTPA in an area of **422.35 ha** under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and circulars there under subject to the compliance of the terms and conditions mentioned below:

**A. Specific Conditions:**

- (i) Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and

surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.

- (ii) No mining shall be carried out in the area which does not have valid Forestry Clearance.
- (iii) Mining shall be carried out as per statuette at a safe distance from the river/nallah flowing adjacent to the lease boundary.
- (iv) High root density tree species shall be selected and planted over areas likely to be affected by subsidence.
- (v) Coal extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No coal depillaring shall be undertaken below areas of habitation.
- (vi) Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement with the landowners.
- (vii) Garland drains (size, gradient and length) around the safety areas such as mine shaft 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 provide adequate retention period to allow proper settling of silt material.
- (viii) Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.
- (ix) A progressive afforestation plan shall be prepared and implemented over the mine lease area acquired and shall include areas under green belt development, areas along roads, infrastructure, along ML boundary and township etc, by planting native species in consultation with the local DFO/Agriculture Department.
- (x) Regular monitoring of groundwater level and quality 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 quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and tot eh Central Pollution Control Board quarterly within one month of monitoring.
- (xi) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource, in case water table shows a declining trend. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xii) Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected. to ‘health checkup for occupational diseases and hearing ‘impairment, if any, through an agency in the district State and the results reported to this Ministry and to DGMS.
- (xiii) Activities under CSR undertaken for the neighboring villages shall be for not less than Rs 5/tonne of coal and the progress made thereon shall be uploaded on the company annually on the company website.
- (xiv) 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 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>25</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 RSPM etc. shall be carried out at least once in six months.
- (iv) Data on ambient air quality (PM<sub>10</sub>, PM<sub>25</sub>, 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 Bhubaneswar 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 E (P) 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.
- (x) 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) 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>
- (xiv) A copy of the environmental clearance letter shall be marked to concerned PanchayaUZila

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.

- (xv) 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.
- (xvi) 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>25</sub>, SO<sub>2</sub> and NO<sub>x</sub> (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.
- (xvii) 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.
- (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 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.

5. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

6. 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.

7. 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.

8. The Environmental Clearance is subject to the outcome of the complaint filed by the District Collectors concerned against the coal mine of Mahanadi Coalfields Ltd in the Court of S.D.J.M., Jharsuguda and Sundergarh for trial under relevant provisions of E(P), Act, 1986.

(Dr. Manoranjan Hota)  
Director

**Copy to:**

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31,

Chandrashekarapur, Bhubaneswar - 751023.

4. Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/11S, Nilkanthanagar, Unit VIII, Bhubaneswar - 751012.
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. Dr.R.K.Garg, Advsiior, M/s Coal India Limited, SCOPE Minar, Core-I, 4<sup>th</sup> Floor, Vikas M'arg, Laxminagar, New Delhi.
8. District Collector, Jharsuguda, Government of Orissa.
9. Monitoring File      10. Guard File    11. Record File

(Dr. Manoranjan Hota)  
Director