

पर्यावरण विभाग/ENVIRONMENT DEPTT
महानदी कोल्फील्ड्स लिमिटेड
Mahanadi Coalfields Limited
मासिक सं/Receipt No. 4639
दिनांक/Date 05/03/13

BY SPEED POST

No. J-11015/189/2008-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex, Lodhi Road
New Delhi-110510.
Dated: 25th February, 2013

To

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

Sub: Belpahar Opencast Coalmine Expansion Project (4.5 MTPA to 6 MTPA in an area of 1503.683 ha) of M/s Mahanadi Coalfields Ltd located in Ib Valley Coalfields, in villages Darlipali, Chharla, Jurabaga (South) and Kirarama, Tehsil Banaharpali, District Jharsuguda, Orissa- (EC based on TOR granted on 11.07.2008) Environmental Clearance - reg.

Sir,

This has reference to letter No. 43011/25/2008 dated 15.08.2008 of Ministry of Coal forwarding your application for Terms of Reference (TOR) and this Ministry's grant of TOR on 11.07.2008 and subsequent letter NO.CIL/DLI/EMP-TOR/2009/23 of M/s Coal India Ltd. dated 28.1.2009 and subsequent letters dated 02.06.2011, 29.08.2011 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It is noted that the project obtained EC vide letter No.J-11 015/187/2005-IA.II(M) dated 16.08.2005 for 4.5 MTPA rated capacity in an area of 1503.683 ha, which includes an ML area of 1444.053 ha and an area of 59.63 ha outside the ML for township. The present project is for expansion of the existing Belpahar Opencast Coalmine Project in terms of production capacity from 4.5 MTPA to 6 MTPA within the existing ML area of 1444.053 ha. Of the total ML area of 1444.053 ha, 558.23 ha is agricultural land, 125.313 ha is forestland, 720.51 ha is wasteland and 40 ha is surface water bodies. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. A number of Reserve Forests (Bikramkhol RF, Chhengapahar RF, Burisipalna RF and Giripahar RF) and Protected Forests (Rampur PF and Rajpur PF) are found within 10km of the buffer zone. The ML falls in the Ib Valley Coalfields, which is identified as one of the most critically polluted areas. A large number of mines are located within the study area. Lilara nala flows through the Mine lease and Pandren Nala flows at a distance of 1.98km from the ML, which ultimately join River Ib. Hirakud Reservoir is at a distance of 2.96 km in the south. It is proposed to modify the natural drainage of Lilara Nala flowing through the ML and realign it to its natural course at the ML boundary. Of the total mining lease area, 606.503 is area for excavation, 55.33 ha is for external OB dumps, 382.51 ha is for infrastructure and 399.71 ha is for safety zone and area for rationalisation. A township of 59.63 ha with 867 dwelling units is located at a distance of 2 km from the ML. Grade of coal is mostly F. Mining is open cast by mechanised method and involves mainly (75%) use of surface miner and balance by shovel-dumpers. There is no additional machinery or equipment involved for the expansion, which would operate on 365 days instead of 300 days. Mineral transportation of 2000 TPD of coal is by road to nearby consumers, and by road to UTLS at the railway siding and involves silo loading and the balance 8000 TPD of coal is by rail from nearest railway siding. Transportation of 5000 TPD of coal from mine at a distance of 1 km by road to Unit Train Loading System (UTLS) at UTLS Railway Siding for dispatch to thermal power stations and 8000 TPD of coal to

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ii) C.G.M (Exp)

iii) P.O Belpahar.

Sri Jaidev All F.D.s. and C.M.D.

Y-Curve Railway siding by road for a distance of 6 km. Ultimate working depth of the mine is 103m below ground level (bgl). Present working depth is 67 m bgl. Water table is in the range of 1.53-8.99m bgl during pre-monsoon and 0.98-5.15m bgl during post-monsoon. Peak water requirement is 2385 m³/d, of which 699m³/d is for dust suppression, 406m³/d is for mine operation, 145m³/d is for drinking, 350 m³/d is for other uses and 785 m³/d for domestic consumption and for green belt in the colony. A total requirement of 930 m³/d is met from the Integrated Water Supply Scheme of Ib valley Coalfields. An estimated 21,881 m³/d of mine water is discharged from the mine premises during peak monsoon after treatment in settling ponds. Of the total 238.51 mm³ of OB, 71.13 Mm³ has been generated and the remaining 142.80 Mm³ would be generated during the balance life of the project, which would be entirely backfilled in 473.603 ha of decoaled quarry area and no new external OB dumped would be created for the expansion project. Existing external OB dump of an area of 55.33 ha has been reclaimed with plantation. Backfilling is in progress and an area of 93.80 ha has been biologically reclaimed and an area of 379.803 ha is to be reclaimed with plantation. At the post mining stage, an area of 720.435 ha would be afforested which includes 473 ha of backfilled area, 70 ha of safety zone, 55.33 ha of ext. OB dumps, 76.502 ha of infrastructure area, 35 ha of area after rationalisation, and 10 ha outside the ML in colony. Of the total quarry area, an area of 65.70ha is to be converted into a water body of 180m depth and an area of 67.20 ha would be left along the dip side for future mining. No flyash dumping is proposed in the decoaled void, instead, the left out void at the end of project life is to be backfilled with OB generated from the proposed integrated Belpahar-Lakhanpur Project. The project involves R&R for 509 PAFs from the villages of Chharla (154), Darlipali (231), Jurabaga (88), Kirarama (05) and Kusuraloi (31), of which 367 PAFs are to be resettled. Resettlement site has been constructed with all basic amenities. Balance life of mine at the rated capacity of 6 MTPA is about 12 years (from 01.04.2008). CSR at a rate of Rs 5IT of coal would be implemented for the adjoining villages. A provision of Rs 1930 lakhs has been earmarked for 2011-2016 and Rs. 534 lakhs beyond 2016 for CSR activities. Project has been approved by Mis MCL on 06.06.2008. Public Hearing was conducted on 07.03.2003. Capital cost of the existing project is Rs 166.78 crores with no additional capital investment. Total forest land in Belpahar OC Expn. 6 MTY mining lease area of 1444.053 is 123.22 ha. The Forest Clearance for 123.22 ha has been obtained vide letter no. 8-104/91-FC dated 2.6. 2000 and FC for the remaining 19.70 ha has been obtained vide latter no. 8-104/1991-FC (vol.I) dated 17.2.2012. The proponent has, vide letter no. MCL/HQ/Envt/F-73/2013/2313 dated 08.02.2013 has informed that the forest area has been reduced by 2.093 ha which has been taken as non-forest area. The final break-up of the mining area of Belpahar OC expansion 6.0 MTY in terms of forest and non-forest area shall be Forest area: 123.220 ha and non-forest area : 1320.833 ha and the total ML area shall be 1444.053 ha.

2. 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.

3. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 37th meeting held on 28-29 November, 2011 for granting Environmental Clearance. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned **Belpahar Open cast Coalmine Project of M/s MCL for expansion in production of coal from 4.5 MTPA to 6 MTPA rated capacity within the existing ML area of 1444.053 ha** and an area of **59.63 ha** outside the ML for township 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. The forest area has been reduced by 2.093 ha which has been taken as non-forest area. The final break-up of the mining area

of Belpahar OC expansion 6.0 MTY in terms of forest and non-forest area shall be Forest area: 123.220 ha and non-forest area : 1320.833 ha and the total ML area shall be 1444.053 ha.

A. Specific Conditions:

- (i) Topsoil, if any, created during the balance life of the mine, shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used within a year of its generation for mine reclamation and development of green belt.
- (ii) The modification of the natural drainage of Lilari Nala flowing through the ML by its proposed diversion shall be done so that it is realigned to its natural course at the mine boundary and ensure that the downstream users of the water from Lilari Nala are not affected by the proposed diversion. Any embankment constructed along the Lilari Nala shall be stabilised by vegetation.
- (iii) OB generated during the balance life of the mine shall be simultaneously backfilled into the decoaled quarry area. No new external 06 dumps shall be created for the 06 generated in the balance life of mine.
- (iv) Monitoring and management of existing reclaimed dumpsites of an area of 55.33 ha 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.
- (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.
- (vi) 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.
- (vii) 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.
- (viii) 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, haulage roads, transfer points, etc.
- (ix) Drills shall be wet operated. Roads shall be metal topped and mechanical sweepers shall be regularly deployed to clear the dust off the main approach and mineral transportation roads. Water sprinkling (fixed and mist type, mobile) shall be regularly done along the main haul roads.
- (x) At the post mining stage, an area of 720.435 ha shall be afforested which includes 473 ha of backfilled area, 70 ha of safety zone, 55.33 ha of ext. OB dumps, 76.502 ha of infrastructure area, 35 ha of area after rationalisation, and 10 ha outside the ML in colony. by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xi) A Progressive Mine Closure Plan shall be implemented and OB generated shall be simultaneously backfilled in an area of 379.803 ha so as to backfill and reclaim 473 ha of decoaled quarry area and stabilised with plantation.
- (xii) No fly ash shall be dumped into the decoaled void without feasibility studies on long-term impacts on the aquifers and life systems and without prior approval of the Ministry.
- (xiii) 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 to the Central Pollution Control Board quarterly within one month of monitoring.

- (xiv) The Company shall put up ^{artificial} groundwater recharge measures for augmentation of groundwater resource. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xv) Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- (xvi) 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 within the district/State and the results reported to this Ministry and to DGMS.
- (xvii) 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.
- (xviii) A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests within 6 months of grant of this letter for approval, in case expansion in ML area is not implemented.
- (xix) R&R for the balance 367 PAFs from the villages of Chharla (154), Darlipali (231), Jurabaga (88), Kirarama (05) and Kusuraloi (31) shall be resettled within an agreed time-frame. R&R norms shall be not less than that of the National R&R Policy.

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 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 recognized 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 analyzed through a laboratory recognized 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 Bhubaneswar.
 - (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 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.
 - (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 Ministry or any other competent authority may stipulate any further condition for environmental protection.

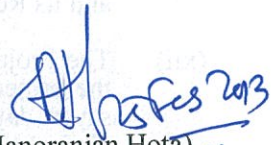
5. Failure to comply with any of the conditions mentioned above may result in withdrawal of this

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clearance and attract the provisions of the Environment (Protection) Act, 1986.


6. 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.

7. 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, Chandrashekarpur, Bhubaneswar - 751023.
4. Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, 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, 4th Floor, Vikas Marg, Laxminagar, New Delhi.
8. District Collector, Jharsuguda, Government of Orissa.
9. Monitoring File 10. Guard File 11. Record File.


(Dr. Manoranjan Hota)
Director