

No.J-11015/381/2008-IA.II(M)
Government of India
Ministry of Environment & Forests

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

Dated: 10th December 2008

To
Chief General Manager
Dudhichua Project
M/s Northern Coalfields Ltd.,
P.O. Khadia, District Sonbhadra - 231222,
Uttar Pradesh.

Sub: Expansion of Dudhichua Opencast Coal Mine Project (expansion in production from 12.5 MTPA to 15.5 MTPA) of M/s Northern Coalfields Ltd. (NCL), located in village Dudhichua in Tehsil Singrauli, District Sidhi, Madhya Pradesh and in village Chilkadand, Tehsil Dudhi, district Sonbhadra, Uttar Pradesh- environmental clearance - reg.

Sir,

This has reference to the letter No. 43011/89/2008-CPAM dated 29.08.2008 from Ministry of Coal forwarding your application and letters dated 22.11.2008 and 25.11.2008 on the above-mentioned subject. The Ministry of Environment & Forests has considered the application. It is noted that the application is for seeking environmental clearance under Section 7.2 for expansion in production in the existing Dudhichua Opencast Coalmine Project from 12.5 MTPA to 15.5 MTPA within the existing lease area of 1752 ha without additional requirement of land. The project is located in two States - Uttar Pradesh and Madhya Pradesh. Of the total lease area of 1752 ha, 555 ha (forestland) falls in the state of U.P. and the balance 1197 ha consisting of 195 ha of forestland, 538 ha is agricultural land, 366 ha is wasteland (Govt.), and 98 ha is tenancy land and falls in the State of M.P. Environmental clearance was obtained on 30.07.1990 (Phase-I) and on 17.03.1994 (Phase-II), and on 28.02.2008 (Phase-III for 12.5 MTPA). There are no ecologically sensitive areas such as National Parks, Wildlife Sanctuaries, Biosphere Reserves, etc. within the core zone and 10km of the buffer zone. Reserve Forest is found within the core zone and within 10km buffer zone. Forestry clearance was obtained on 30.07.1990 for 1305 ha and on 16.11.1994 for 224 ha and on 17.11.2005 for 194.78 ha. No endangered flora and fauna has been found in the mine lease area. Of the total lease area of 1752 ha, area for excavation is 868 ha, 152 ha is for external OB dump, 3 ha is mineral storage area, 160 ha is for green belt, 116 ha is for infrastructure, 10 ha is for roads, 15 ha is for railways, 1 ha is for ETP, 20 ha is for CHP, 198 ha is for township and 209 ha is for safety zone. The project does not involve mineral beneficiation. Govind Ballabh Sagar is located at a distance of 8 km and Motwani Dam at a distance of 4 km. The project does not involve modification of the natural drainage.

Mining is opencast by mechanised method. Annual rated capacity of the mine is 15.5 MTPA of coal production. The expansion project involves no change in mining area, mining method and technology by using higher capacity equipment such 120-T dumpers and use of dragline. OB removal has been outsourced. Modalities of technical and biological reclamation of OB dump would remain the same. Existing project involves R&R for 4 villages - Dudhichua, Chilkadand, Karwari & Medhauri involving 370 land losers, 257 homestead losers and 159 land & homestead losers has been completed. There is no additional R&R for the expansion project. The entire mineral transportation of 43000 TPD of coal (in 365 man days) to CHP within the mine is by dumpers and from CHP is by rail through controlled Silo loading system and MGR. Capacity of existing CHP is adequate for the expansion in capacity. Present working depth is below 150m below ground level (bgl). Ultimate working depth of the mine is 229m bgl. Water table is in the range of 6.14m-9.20m bgl during pre-monsoon and 4.58m-8.50m bgl during post-monsoon. The total peak water requirement for the expansion project would be 7100 m3/d, of which 5000 m3/d would be for mine use and met from mine pit water and the balance 2100 m3/d for domestic consumption is from GBP Sagar through Integrated Water Supply Scheme of the Company.

Sri. Y. Mishra, SE (Env.)
Dudhichua Project

Of the total OB generation of 1164.41 Mm³, a total of 134 Mm³ of OB has been stored in 6 OB dumps of 152 ha and a max. height of 150m with 5 decks of 30m each and the balance 1030.41 Mm³ generated in the balance life of mine would be completely used for backfilling into the decoaled void, of which 428.92 Mm³ of OB has been already backfilled. The conceptual plan at the end of mine life would have 1106 ha as forest/vegetated area, 63 ha as water body, 233 ha for public use, and 351 ha with infrastructure and vacant land. Balance life of the mine at the rated capacity of 15.5 MTPA is 14 years. Public Hearing was held in two districts - Sidhi, M.P. on 14.09.2006 and in Sonbhadra in U.P. on 10.10.2006 by M.P. SPCB on 18.12.2005. The project has been approved by M/s NCL on 15.11.2008. No additional capital investment is required for the expansion project. Capital cost of the expansion project is Rs. 1283 crores.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned Dudhichua Opencast Coal Mine Expansion Project of M/s Northern Coalfields Ltd. for expansion in production of coal from 12.5 MTPA to 15.5 MTPA rated capacity in a total lease area of 1752 ha under Section 7.2 of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and under Para 2.1.1 of MOEF Circular dated 13.10.2006 subject to the compliance of the terms and conditions mentioned below:

Specific Conditions

- (i) No mining shall be carried out in the forestland for which forestry clearance has not been obtained.
- (ii) 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.
- (iii) A total of 134 Mm³ of OB generated which has been stored in the two existing external OB dumps of 152 ha. There shall be no external OB dumping in the existing external OB dumps which shall be stabilised with plantation and reclamation completed by 2010. The balance 1030.44 Mm³ of OB generated shall be only backfilled into the decoaled void of 748 ha which is planned for a max. height of 90 m from ground level and the ultimate slope of the dump shall not exceed 28°. Slope stability studies shall be undertaken before increasing the height of the internal dump beyond 90m and prior approval of MOEF obtained. 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 Bhopal on an yearly basis.
- (iv) 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.
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.
- (v) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine check run-off and siltation shall be based on the rainfall data.
- (vi) Crusher at 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.
- (vii) The entire coal of 43000 TPD shall be transported by MGR with Silo loading facility on. There shall be no mineral transportation by road.
- (viii) Major approach roads and haul roads shall be black topped.
- (ix) Drills shall be wet operated only.

- (x) 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.
- (xi) A progressive afforestation plan shall be implemented covering a total area of not less than 1105 ha, which includes reclaimed external OB dump and backfilled area (900 ha), along ML boundary, along roads and infrastructure, green belt (160 ha), along undisturbed area (45 ha) and 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.
- (xii) Of the excavated area, major part of the decoaled void shall be backfilled and reclaimed with plantation and the balance 63ha of the decoaled void being converted into a water reservoir shall be gently sloped along the higher benches and stabilised by plantation/afforestation 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.
- (xiii) The company shall obtain approval of CGWA/CGWB Regional Office for use of groundwater if any, for mining operations. Sanction of the competent authority shall be obtained for use of water from the integrated Water Supply Scheme of the G.B. Pant Sagar.
- (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 installed in the existing colony shall be of adequate capacity and CHP. The total wastewater of 6940 m³/d being discharged from the mine shall be treated to conform to prescribed standards for discharge.
- (xvi) The project authorities shall carry out a study for zero discharge from NCL mines by considering various options for using excess treated effluents including artificial recharge and the report on the same shall be submitted to this Ministry within six months of issue of this clearance letter.
- (xvii) 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 two years and the results reported to this Ministry and to DGMS.
- (xviii) For monitoring land use pattern and for post mining land use, a time series of landuse 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.
- (xix) R&R for the remaining PAPs shall be completed by 2012-13. The R&R will be based on norms not less than that stipulated under the National R&R Policy/State Govt. /CIL whichever is higher. Monitoring of impact of implementation of various activities and measures outlined in R&R and CSR over the life of the project shall be based on key indices of UNDP Human Development Report using pre-project status of socio-economic and human development as the base line and report submitted once every 5 years to the MOEF Regional Office, Bhopal.

- (xx) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests within one year 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 SPM, RPM, SO₂ and NO_x and heavy metal such as Hg, Pb, Cr, As, etc). 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.
- (iv) Fugitive dust emissions (SPM and RPM and heavy metal such as Hg, Pb, Cr, As, etc) from all the sources shall be controlled regularly monitored and data recorded properly. 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 (SPM, RPM, SO₂, NO_x and heavy metal such as Hg, Pb, Cr, As, etc) 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.
- (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) Environmental laboratory 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.
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 Bhopal.
- (xiii) 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.
- (xiv) A copy of the environmental clearance letter shall be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.

State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.

- (xvi) 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>. The compliance status shall also be uploaded by the project authorities in their website so as to bring the same in the public domain.

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)
Director

Copy to:

1. Secretary, Ministry of Coal, Government of India, Shastri Bhawan, New Delhi.
2. Secretary, Environment Department, Government of Uttar Pradesh, Secretariat, Lucknow
3. Secretary, Environment Department, Government of Madhya Pradesh, Secretariat, Bhopal
4. Chief Conservator of Forests (Western), Ministry of Environment & Forests, Regional Office, E-2/240 Arera Colony, Bhopal - 462016.
5. Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, B-1/272, Sector K, Aliganj, Bhopal - 226020.
6. Chairman, U.P. State Pollution Control Board, Lucknow.
7. Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462016.
8. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110032.
9. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
10. Shri M.K. Shukla, CGM, Coal India Limited, SCOPE Minar, Core-I, 4t Floor, Vikas Marg, Laxminagar, New Delhi.
11. District Collector, Sidhi, Government of Madhya Pradesh.
12. District Collector, Sonbhadra, Government of Uttar Pradesh.
13. Monitoring File
14. Guard File
15. Record File