

No.J-11015/367/2008-IA.II(M)
Government of India
Ministry of Environment & Forests

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

Dated: 26th December 2008

To
Director (Tech.)
M/s Western Coalfields Ltd.,
Coal Estate, Civil Lines,
Nagpur- 440001.

Sub: Ghorawari Opencast Coal Mine Project (from 0.45 MTPA to 1.50 MTPA) of M/s Western Coalfields Ltd. (WCL), located in village Ghorwari Khurd, Tehsil Junnardeo, District Chindwara, Madhya Pradesh - Environmental clearance – reg.

Sir,

This has reference to letter No. 43011/65/2008-CPAM dated 30.07.2008 forwarding the application and letters dated 18.11.2008 and 18.11.2008 on the above-mentioned subject. The Ministry of Environment & Forests has considered the application. It has been noted that the project proposal is to mine coal from patches of old UG-workings by opencast operations **and expansion in production of coal from 0.45 MTPA to 1.50 million tonnes per annum(MTPA)**. EC was granted for 0.45 MTPA capacity project on 19.02.2008. The total lease area is 1296.011 ha of which 178.10 ha is agricultural land, 593 ha is forestland, 192 ha is grazing land, and 332.911 ha is Govt. land. Forestry clearance has been applied for for renewal of lease. There area no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone. River Kanhan flows at a distance of 6-7km from the ML. It is not proposed to modify the existing natural drainage.

There is no change in the geo-mining characteristics of the working of the various patches within the ML. Of the total lease area, area for excavation is 750.36 ha, area for OB dumps 217.86 ha, infrastructure is 12.34 ha, roads is 2.65 ha, area for green belt is 497.049 ha, area for township is 140 ha, and area for rationalisation is 172.80 ha. The proposal is to mine coal from patches of old UG workings by opencast operations as given below:

S.N.	Name of OC Patch	Quarry Area (ha)	TOTAL		Quarry Depth (m)		Final Backfilled Area (ha)	Final Void (ha)
			Balance Coal in LTPA	Balance OB in Lakh M3	Present	Max.		
A. Present Working Patches								
1.	No. 16/17	17	Nil	Nil	45	50	9.50	7.50
2.	No. 6A & 6B	20	0.89	17.45	30	52	18	2
	TOTAL =	37	0.89	17.45			27.50	9.50
B. Proposed upto 2015-16								
1.	No. 16 & 17 B. Ph.III	40.50	8.57	60.75	--	54	40.50	Nil
2.	Ghogra OC Patch	8.0	2.99	13.13	--	53	6	2
3.	Kathideo OC Patch	12.50	5.12	17.83	--	34	10	2.50
	TOTAL =	61	16.68	91.71			56.50	4.50

C. Proposed beyond 2015-16 upto 2025-26

1.	Ghorawari Kalan OC Patch	15	4.50	28.45	--	30	10.44	4.56
2.	Dungariya OC Patch	39	10.60	109.50	--	50	27.13	11.87
3.	Panara OC Patch	12.50	4.25	39.75	--	54	8.70	3.0
4.	Bharat Colliery OC Patch	79.20	24.0	198.0	--	48	55.10	24.10
5.	Chikalam AU OC Patch	21.25	6.55	61.58	--	67	14.61	6.39
6.	South Panara OC Patch	21.25	7.69	81.29	--	62	14.778	6.472
TOTAL =		187.95	55.84	518.48			130.758	57.192

D. Proposed beyond 2015-16 upto 2025-26

1.	Vegin Patch	168	Individual Schemes will be firmed up after 2014-15					
2.	Datla East	139.994						
TOTAL =		424.594						

E. Abandoned Patches

1.	No. 16 & 17 OC Patch Phase-I	12.50	Not Applicable				12.50	Nil
2.	No. 6 & 7 OC Patch Ph.I & II	7.50					7.50	Nil
3.	Gh-2 OC Patch	6.0					6.0	Nil
4.	Gh-3 OC Patch	4.50					4.50	Nil
5.	Kolhiya OC Patch	4					4	Nil
6.	DQ-3 OC Patch	5.316					5.316	Nil
TOTAL =		39.816					39.816	Nil
GRAND TOTAL (A+B+C+D+E)		750.36	82.90	679.11			254.574 =552.074	71.192 =198.288

Mineral transportation of **1100 TPD** of coal is by road to railway siding covering a distance of 12 km and the balance 270 TPD is by road. Ultimate working depth of the mine is 45m below ground level (bgl). Present working depth is 40m bgl. Water table is in the range of 4.05m-17.20 m bgl during pre-monsoon season and 0.05-8m bgl during post-monsoon. Mining has intersected water table. Peak water requirement is 440 m³/d, which will be met from mine pit water. Presently a total of 11.82 Mm³ of OB has been generated of which 11 Mm³ has been used for backfilling and 0.82 Mm³ has been dumped in ext. OB dump. An estimated 64.64 Mm³ of OB would be generated in the balance life of mine, which be backfilled simultaneously.

Of the total quarry area of 750.36 ha, of which 552.07 ha would be backfilled and plantation developed thereon as per table below:

S.N.	Area (ha)	Existing	Status upto 2015-16	Status upto 2025-26	Status beyond 2025-26	Status at the end of mine life
1.	Excavation	83.36	81.00	187.95	424.594	750.36
2.	Backfilled	59.316	64.50	130.758	297.500	552.074

Balance life of the mine at the rated capacity is 12 years. A void of 198.286 ha with a max. depth of 10-15m would be left at the end of mine life which would be converted into a reservoir. Public Hearing was held on 22.11.2005. The project was approved by M/s WCL on 05.11.2008. The capital cost of the project is **Rs. 1.37 crores.**

2. The Ministry of Environment & forests hereby accords environmental clearance for the above-mentioned **Ghorawari Opencast Coal Mine Project of M/s WCL for production of coal at 1.50 MTPA rated capacity** under section 7.2 of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) No mining operations shall be undertaken in the forestland until clearance for renewal has been obtained under the provisions of FC Act, 1980.
- (ii) The environmental clearance is only for the specific patches consisting of details submitted to the Committee and summarised in the table.
- (iii) OC mining should be carried out at a safe distance for old UG workings.
- (iv) Prior permission of DGMS shall be obtained before start of the working based on the Environmental Clearance.
- (v) Safe distance shall be maintained for working adjacent to agricultural fields.
- (vi) The entire OB being generated in the balance life of mine shall be backfilled.
- (vii) No OB generated in the balance life of the mine shall be dumped in the external OB dumps. Reclamation, monitoring and management of the existing external OB dumpsite should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional office located at Bhopal on yearly basis.
- (viii) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilised for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly.
Garland drains (size, gradient and length) and sump capacity should 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 should also provided adequate retention period to allow proper settling of silt material.
- (ix) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.
- (x) Mining shall be carried out as per statuette at a safe distance from the Pench River flowing adjacent to the lease boundary.
- (xi) The road for coal transport shall be black topped and avenue trees developed on both sides.
- (xii) Drills should be wet operated or with dust extractors.
- (xiv) Controlled blasting should be practiced with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented.

- (xv) Area brought under afforestation shall be not less than 769.93 ha and includes area external OB dump (217.86 ha), backfilled area (552.074 ha), along ML boundary, infrastructure along roads and safety zone located within and outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (xvi) A Progressive Mine Closure Plan shall be implemented by reclamation of decoaled quarry area of 750.36 ha of which 552.074 ha shall be concurrently backfilled with 67.778 Mm³ of OB generated in the balance life of mine and reclaimed with plantation using native plant species in consultation with the local DFO/Agriculture Department. The number of the trees should be around 2500 plants per ha. The balance 198.286 ha of decoaled void would be converted into a water reservoir of a maximum depth of 15m, the upper benches of which shall be gently sloped and stabilised with plantation and a peripheral fencing erected all around the reservoir.
- (xvii) Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity should 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 should be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.
- (xviii) 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.
- (xix) 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 Bhopal.
- (xx) Digital processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern and report submitted to MOEF and its Regional office at Bhopal.
- (xxi) The detailed Final Mine Closure Plan along with details of Corpus Fund should be submitted within six months to the Ministry of Environment & Forests Regional Office, Bhopal.

B. General Conditions

- (i) No change in mining technology and scope of working should 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 should be made.
- (iii) Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for monitoring SPM, RPM, SO₂ and NO_x and heavy metals such as Hg, As, Pb, etc. Location of the stations should 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 metals such as Hg, As, Pb, etc.) from all the sources should be controlled regularly monitored and data recorded properly. Water

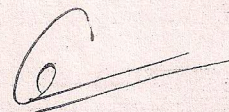
spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points should be provided and properly maintained.

- (v) Data on ambient air quality (SPM, RPM, SO₂, NO_x and heavy metals such as Hg, As, Pb, etc) should 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 should 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 should be provided with ear plugs/muffs.
- (vii) Industrial wastewater (workshop and wastewater from the mine) should 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 should be installed before discharge of workshop effluents.
- (viii) Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.
- (ix) Environmental laboratory should 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 should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
Occupational health surveillance programme of the workers should 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 should 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 should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should 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 will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.
- (xv) State Pollution Control Board should 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 should 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, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Madhya Pradesh, Secretariat, Bhopal.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, E-2/240 Arear Colony, Bhopal – 462016.
4. Chairman, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal – 462016.
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. Shri M.K. Shukla, CGM, Coal India Limited, SCOPE Minar, Core-I, 4t Floor, Vikas Marg, Laxminagar, New Delhi.
8. District Collector, Chindwara, Government of Madhya Pradesh, New Delhi.
9. Monitoring File 10. Guard File 11. Record File