

No. J-11015/54/2006-IA-II (M) pt. file
Government of India
Ministry of Environment, Forest & Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi-3

Dated: 26th November, 2015

To,

The General Manager (Environment),
M/s Western Coalfields Ltd.,
Coal Estate, 9th Floor, Civil Lines,
NAGPUR – 440 001 (Maharashtra)

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Sub: Expansion under 7(ii) of EIA Notification, 2006 of Makardhokra - I Open Cast Coal Mine Project from 1 MTPA to 2 MTPA in a lease area 660.70 ha located in District Nagpur (Maharashtra) of M/s Western Coalfields Ltd. - Environmental Clearance - reg.

Sir,

This is with reference to your application No. IA/MH/CMIN/9246/2006 dated 27.09.2015 and subsequent letters dated 01.10.2015; 09.10.2015 and 16.10.2015 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment, Forest & Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance for **Expansion of Makardhokra-I Open Cast Coal Mine Project from 1 MTPA to 2 MTPA in a lease area 660.70 ha (Latitude 20° 51' 06" & 20° 52' 30" N and Longitude 79° 14' 17" & 79° 15' 52" E) located in District Nagpur (Maharashtra) of M/s Western Coalfields Ltd.**

3. The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining Projects, in its 44th EAC meeting held on 8th - 9th October, 2015. The details of the project, as per the documents submitted by the project proponent (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

- i. The project of 1.0 MTPA was earlier accorded EC vide letter No.J-11015/54/2005-IA.II (M) dated 2.8.2006.
- ii. The latitude and longitude of the project are 20° 51' 06" & 20° 52' 30" N and 79° 14' 17" & 79° 15' 52" E respectively.
- iii. Joint Venture: no Joint Venture.
- iv. Coal Linkage : Thermal power plants of MAHAGENCO & Miscellaneous consumers.



- v. Employment generated/to be generated: Required Manpower for the project is 168 Nos.(From Internal &/ land oustees) Indirect – Approximately 200 (contractual & misc. Works related to Mining operations).
- vi. Benefits of the project: This project will bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non – coking coal for power houses & other bulk consumers of Western as well as Southern part of the country.
- vii. The land usage of the project will be as follows:

Pre-Mining:

Particulars	Total Area (ha)
Agricultural Land	589.97 ha
Waste Land	29.22 ha
Settlements	Nil
Total	619.19 ha

Post- Mining:

Particulars	Total Area (ha)
Quarry/exposed Area	252.96ha
External OB	197.95ha
Infrastructure& Road	8 ha
Blasting/ safety zone	44.39 ha
Rationalisation of boundary	115.89 ha
Total	619.19 ha (Out of Total 619.19 ha project Area, Plantation will be done in 344.06 ha Area)

- viii. The total geological reserve is 45.10 Mt. The mineable reserve 22.74 MT, extractable reserve is 22.74 MT. The per cent of extraction would be 85.50 %.
- ix. The coal grade is GCV –(4420-5142) Kcal/kg. The stripping ratio is 1: 6.30 m³/t. The average Gradient is 1:9. There will be Five seams with thickness ranging from 2.65m to 6.27m.
- x. The total estimated water requirement is 460 m³/day. The level of ground water ranges from 1.45 m to 8.60 m.
- xi. The Method of mining would be Opencast with Shovel – Dumper Combination (Semi mechanized)
- xii. There is Three external OB dump with Quantity of 145.31 Mm³ in an area of 197.95 ha with height of 60 meter above the surface level and Two internal dump with Quantity of 45.21 Mm³ Mbcm in an area of 95.10 ha.
- xiii. The final mine void would be in 177.96 Ha with depth 100.00 m. and the Total quarry area is 252.96 Ha (on surface). Backfilled quarry area of 75 Ha shall be reclaimed with plantation. A void of 177.96 ha with depth 100 m depth which is proposed to be converted into a water body.
- xiv. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xv. The life of mine is 16 Years.

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- xvi. Transportation: Coal transportation in pit by through Dumpers from in pit to pit head coal handling plant, Surface to Siding by Tippers to Pre-weigh Bin and loading at siding by Pay Loaders.
- xvii. There is R & R involved. There are 444 PAFs.
- xviii. Cost: Total capital cost of the project is Rs. 266.2308 Crores. CSR Cost Rs. 2.00 per tone of coal production. R&R Cost Nil. Environmental Management Cost (capital cost Rs. 97.09 Lakhs and Revenue @ Rs 6.00 per tone).
- xix. Water body: River Amb flows adjacent to the proposed mine.
- xx. Approvals: Board's approval obtained on 27.09.2014 Mining plan has been approved on 27.09.2014. Mine closure plan is an integral part of mining plan.
- xxi. Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xxii. Forestry issues: there is no forest area involved.
- xxiii. Total afforestation plan shall be implemented covering an area of 344.06 ha at the end of mining. Green Belt (Out of Total 619.19ha Area, Plantation will be done at 344.06 ha Area. i.e., 55.56% of Project Area)ha. Density of tree plantation 8,60,150 Nos. of trees will be planted over 344.06 ha area (At 2500 plants per ha).
- xxiv. There are no court cases/violation pending with the project proponent.
- xxv. Public Hearing was held on 23.08.2005. The issues raised in the PH includes, regular monitoring of pollution levels in ambient air, mine discharge, noise level, land outstees have not been paid compensation/given employment against land acquired by WCL, effects of vibration due to blasting, provision of water supply to the affected areas, etc. Already covered in the existing EC.
- xxvi. Mine Plan and Mine Closer Plans for 2.0 MTPA approved by WCL on 27.09.2014.
- xxvii. EC compliance report: The certified compliance report of the Regional Office, MoEFCC at Bhopal vide letter No.3-53/2006(ENV)/64 dated 06.07.2015 was deliberated in the EAC meeting. The Committee noted the following:-

- (i) Makardhokra I & II are adjoining projects. Piezometers have already been commissioned in Makardhokra II. Regular monitoring of groundwater level (4 times in a year i.e. May, Aug, Nov and Jan) and quality (Once in a year i.e. May) is being carried out by CMPDI, RI-IV, Nagpur since May, 2003 from existing dug wells in adjacent Umrer OC and Makardhokra-II OC.

4. The EAC, after detailed deliberations in its 44th EAC meeting held on 8th - 9th October, 2015, recommended the project for grant of Environmental Clearance. The Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the **Expansion of Makardhokra-I Open Cast Coal Mine Project from 1 MTPA to 2 MTPA in a lease area 660.70 ha (Latitude 20° 51' 06" & 20° 52' 30" N and Longitude 79° 14' 17" & 79° 15' 52" E) located in District Nagpur (Maharashtra) of M/s Western Coalfields Ltd.** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions and environmental safeguards mentioned below:

A. Specific Conditions:

- i. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.

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- ii. The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006, whichever is earlier.
- iii. ***The final mine void has been given 177.96 ha & 100 m deep should be backfilled from the external OBD and brought to the ground level to reduce land degradation***
- iv. Efforts be made to explore the availability of mechanically covered trucks.
- v. Coal transportation in pit by dumper, Surface to Siding by dumper and siding at loading by pay loader.
- vi. The production shall be within the same Mining Lease area.
- vii. The OB shall be completely re-handled at the end of the mining.
- viii. Final mine void depth will not be more than 40 m. The void area will be converted into water body. The rest of the area will be back filled upto the ground level and covered with about a meter thick top soil and put to use.
- ix. Garland drains be provided.
- x. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.
- xi. The land after mining shall be brought back for agriculture purpose.
- xii. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xiii. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
- xiv. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xv. Dust mask to be provided to everyone working in the mining area.
- xvi. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xvii. People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.
- xviii. The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.
- xix. The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.
- xx. There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.
- xxi. OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forests & Climate Change and its concerned Regional office on yearly basis.
- xxii. 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 provide adequate retention period to allow proper settling of silt material.
- xxiii. 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.

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- xxiv. Crushers at the CHP of adequate capacity for the expansion project 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.
- xxv. Drills shall be wet operated.
- xxvi. The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads,
- xxvii. 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.
- xxviii. A Progressive afforestation plan shall be implemented covering an area of **344.06 ha** at the end of mining, Green belt and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around **2500** plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.
- xxix. An estimated total **190.52 Mm³** of OB will be generated during the entire life of the mine. Out of which **145.31 Mm³** of OB will be dumped in three external OB Dumps an earmarked area covering **197.95 Ha** of land. **45.21 Mm³** of OB will be dumped in two internal OB Dumps an earmarked area covering **95.10 Ha** of land. The maximum height of external OB dump will not exceed **60 m**. The maximum slope of the dump shall not exceed **28 degrees**. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self- sustaining and compliance status shall be submitted to MOEFCC and its Regional Office on yearly basis.
- xxx. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
- xxxi. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
- xxxii. The mining should be phased out in sustainable manner.
- xxxiii. No groundwater shall be used for mining operations.
- xxxiv. The total quarry area of **252.96 ha**. The final mine void **177.96 ha** which is proposed to be converted into a water body with the maximum depth of **40 m** having gently sloped and the upper benches shall be terraced and stabilised with 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.
- xxxv. 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 & Climate Change and tot eh Central Pollution Control Board quarterly within one month of monitoring.
- xxxvi. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xxxvii. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- xxxviii. 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 specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.

- xxxix. Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.
- xl. 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 MOEFCC and its concerned Regional office
- xli. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forests & Climate Change within 6 months of grant of Environmental Clearance.
- xl.ii. The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.
- xl.iii. Corporate Environment Responsibility:
- a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
 - d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

B. General Conditions:

- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate Change.
- ii. No change in the calendar plan of production for quantum of mineral coal 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 PM₁₀, PM_{2.5}, SO₂ and NO_x monitoring. 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, etc 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, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office 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 EPA rules, 1986 shall be furnished as part of 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, 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.
- vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting 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 EPA 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 and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.
- 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 concerned Regional Office.
- 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 & Climate Change at <http://envfor.nic.in>.
- xiv. A copy of the environmental clearance letter shall be marked to concern 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 company's website.
- xv. A copy of the environmental clearance letter shall be shall also 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 Sector 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 environmental clearance 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 public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.
- xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.
- xviii. The Regional Office of this Ministry located in the Region 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 March in For –V is mandated to be submitted by the project proponent for 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&CC by e-mail.

5. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.

6. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent

7. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.


8. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.

9. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

10. 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 and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Court of Law relating to the subject matter. 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.

11. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


12. This EC supersedes the earlier EC, vide letter no. J-11015/54/2005-IA.II (M) dated 02.08.2006 for 1.0 MTPA.


26/11/2015
(S. K. Srivastava)
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Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. The Secretary, Department of Environment, Government of Maharashtra, 15th Floor, New Admn. Bldg., Madam Cama Road, MUMBAI – 400 032.
3. The Chief Conservator of Forests, Regional office (EZ), Ministry of Environment, Forest & Climate Change, E-2/240 Arera Colony, Bhopal – 462 016.

4. The Member Secretary, Maharashtra State Pollution Control Board, Kalapataru Point, 3rd & 4th Floors, Sion, Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai – 400 002.
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi -110 032.
6. The Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. The Advisor, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi Nagar, New Delhi.
8. The District Collector, **Nagpur**, Government of Maharashtra.
9. Monitoring File 10. Guard File 11. Record File 12. Notice Board.


26/11/2015
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