

**BY SPEED POST**

J-11015/93/2009-IA.II (M)  
Government of India  
**Ministry of Environment & Forests**

Paryavaran Bhawan,  
CGO Complex, Lodhi Road  
New Delhi-110003.  
Dated: 6<sup>th</sup> February, 2013

To

The Chief General Manger (Env.),  
**M/s Bharat Coking Coal Ltd.,**  
Koyla Bhawan, Koyla Nagar,  
DHANBAD - 826005.

**Sub: Cluster-I (Damoda Group of 3 Mines - Damoda (Albion Section) OCP, Damoda UGP and Damuda BJ Section OCP) Group of Mines (of 0.9 MTPA normative and 1.17 MTPA (peak) in a combined ML area of 575 ha) of MIs Bharat Coking Coal Ltd. located in Jharia Coalfields, Block Chandrapur, dist. Dhanbad, Jharkhand - Environmental Clearance - reg.**

Sir,

This has reference to letter no. 43011/23/2009-CPAM dated 24.03.2009 of Ministry of Coal along with the application for Terms of Reference (TOR), this Ministry's grant of TOR dated 03.07.2009; letter no. BCCL/GM (Env.)/EMP/F-/2011/954 dated 30.09.2011 along with the application for environmental clearance and subsequent letter dated 30.01.2012 on the above-mentioned subject. The Ministry of Environment & Forests has considered your application. It is noted that the proposal is for environmental clearance for renewed lease for Damoda Group of mines which is a cluster (Cluster-I) of 4 mines, of which 2 are operating mines - Damoda (Albion Section) OCP and Damoda UG mine, the third is a proposed mine - Damuda BJ Section OCP within a total ML area of 575 ha and one mine- Ghutway Section is a closed mine which is although part of the cluster but not included in the application for EC. There are no ecologically sensitive areas within 10km radius in the buffer zone. There is no reported presence of endangered flora and fauna within the study area.

<b>Cluster-I (Damoda Group of Mines)</b>				
<b>S.N</b>	<b>Mines in Cluster-I</b>	<b>MI Area (ha)</b>	<b>Normative Prod. (MTPA)</b>	<b>Peak capacity (MTPA)</b>
1.	Ghutway OCP (closed for production)	575	-	-
2.	Damoda (Albion Section)		0.20	0.26
3.	Damoda UG		0.10	0.13
4.	Damoda (BJ Section) OCP proposed		0.60	0.78
	<b>TOTAL</b>	<b>575</b>	<b>0.90</b>	<b>1.17</b>

The mines fall under single lease hold area and are separated from other mines of Jharia Coal

fields by river Jamunia which is the 4<sup>th</sup> order river that flows along the boundary of Cluster and joins River Damodar near the eastern boundary of Cluster-I. A seasonal nala, Podo Jore, originates from the centre of the ML and joins the river Jamunia. The entire infrastructure including the project colony is shared by all the mines and fall within the lease area. The mines have common transport system consisting of common transportation road and despatch points. The ML area consists of 354 ha of wasteland, 1 ha of surface water bodies, 5 ha of rail/road, 159 ha of agricultural land, and 56 ha of settlements. No forest land is involved.

SUMMARISED DATA OF CLUSTER -I (Damoda Group of Mines)				
S.N.	Particulars	Damoda (Albion Section) OC	Damoda UG	Damoda (BJ Section) OCP proposed
1.	Quarry area (ha)	66	-	51
2.	Ultimate depth (m)	85	240	105
3.	Mineable reserve (MT)	2.00	1.59	5.04
4.	Grade of coal	W-IV	W-II & W-IV	W-III
5.	Cost of production (lakhs)	1060	5986	577.92

The present land use of combined ML area of 575 ha of the cluster includes 77.25 ha of active mining area (abandoned, running, OB dump, coal dump, pit/CHP), 88.57 ha is settlements, 1 ha is water body, 204.67 ha is agricultural land, 4 ha is plantation, 9 ha is rail/road, 190.51 ha is wasteland/barren land. The entire 204.67 ha has not been acquired. Backfilling of OB in Damoda OC and development of Damoda UG is on-going. OC mining is by shovel-dumper and underground mining is by Board and Pillar involving depillaring. Four seams upto 105m depth would be undertaken by OC mining. Most of the 190 ha of barren land would be reclaimed and finally reduced to 40.64 ha. One water body of 20.84 ha would be left as a water body at the end of mining.

The proponent has proposed to fill the mined out area with flyash and a leachability test has been carried out through Central Institute of Mining and Fuel Research, Dhanbad, Jharkhand. Permission from DGMS for dumping flyash has been obtained. Leachability study has been carried out on dumping of flyash in an abandoned area and the study has found no detrimental effect on the water quality or presence of heavy metals were found in the flyash. A recent study was carried by CMPDI wherein the flyash dumping was found to be feasible. No mining would be undertaken in fire affected areas. Isothermal mapping, using thermal imaging, has been carried out by NRSA. Measures would be taken to prevent ingress of air (ventilation) in such areas, which may re-start fresh fires. Opencast mining is proposed before start of underground mining. There would be no external OB dumps. OB from the 2 patches would be backfilled. At the end of the mining there would be no void and the entire mined out area re-vegetated. A minimum safety distance of 60m would be maintained between opencast and underground operations. The details of post-mining land use of Cluster-1 are given below:

COMBINED LAND USE OF CLUSTER –I (Damoda Group of Mines)			
Particulars	Type Land Use	Present Mining Land Use (ha)	Post- mining Land Use (ha)
Mining	Abandoned quarry	77.25	123.64 ha area would be backfilled and reclaimed
	Running quarry		
	OB dump		
	Coal dump		

	<b>Pit/CHP</b>		
Settlement	Services Home stead Land	88.7	78
Water body	Water body	1	20.8
Fallow Land	Fallow Land	204.67	204
Plantation	Plantation	4	98.2
Others(Rail Road)	Others(Rail Road)	9	9
Waste land /Barren	Waste land /Barren	190.51	40.6
	<b>Total</b>	<b>575</b>	<b>575</b>

A total area of 237.79 ha would be reclaimed and afforested. eco-restoration of BCCL mine areas is to be implemented in two phases over a period of 10 years, of which, phase-I is from 2011-16 and phase-II from 2016-2021. During phase-I, development of a model restoration plantation is being carried out and thereafter 90 ha area of the area would be restored by BCCL in their 3 mining areas. During Phase-II (2016-2021), replication/expansion of proposed restoration models in the 126 ha area spread over 13 mines area of BCCL would be taken up.

The ground water level is in the range from 1.37m to 8.75 m during pre-monsoon and 0.37m to 4.79 m during post-monsoon in the core zone. Total water requirement is 1383 m<sup>3</sup>/day, of which 533 m<sup>3</sup>/day is for mining operations and 850 m<sup>3</sup>/day is for domestic use. Most of the coal produced from Damoda OC mine is, to be dispatched by rail through Damoda Railway siding located within the ML area. Some coal is also being sold through local sale which is dispatched by road. The project involves R&R of 52 PAFs, to be rehabilitated near Ghutway in 4.42 ha of area in Phase-I at the cost of Rs 3.5 crores. Funds allocated for EMP is Rs 2.50/T of coal in case of UG mine and Rs 5.50/T of coal in case of OC mine. A provision of Rs 5/T of coal has been made. The life of Damoda (Albion section OC) is 8 years and the life of the Damoda underground mine is 10 years. The life of the proposed Damoda (BJ - Section) OCP is 10 years. The project has been approved by BCCL Board. The Public Hearing was held on 27.6.2011.

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, Jharkhand State Pollution Control Board, has issued directions of closure of collieries of M/S Bharat Coking Coal Limited under section 31A & 33A of Air (Prevention and Control of Pollution) Act, 1981 & Water (Prevention and Control of Pollution) Act, 1974 respectively for operating without obtaining environmental clearance. M/S BCCL has filed a Writ Petition (No. 4944/11) challenging the Board's directions of closure. The Jharkhand High Court has passed interim order on 25.08.2011 that "Till then, status quo, as on today, shall be maintained by the parties" and passed order on 18.01.2012 that "Until further orders, the interim order dated 25.08.2011 shall continue". In the light of interim orders of the Jharkhand High Court, the State Pollution Control Board is seeking legal opinion for initiating legal action against the collieries of BCCL in the Court of Law in terms of the OM of the MoEF. The State Government has been asked to expedite taking legal opinion and taking action under intimation to the MoEF.

3. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 43<sup>rd</sup> meeting held on 21-22

February, 2012 for granting Environmental Clearance. The Ministry of Environment & Forests hereby accords environmental clearance for the abovementioned Damoda Group of mines which is a cluster (Cluster-1) of 4 mines of which 2 are operating mines - Damoda (Albion Section) OCP and Damoda UG mine and the third is a proposed mine - Damoda BJ Section OCP within a total ML area of 575 ha of M/s Bharat Coking Coal Ltd. under the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and various MoEF Circulars there under subject to the compliance of the terms and conditions as mentioned below:

**A. Specific Conditions:**

- i. Production shall not exceed beyond that for which environmental clearance has been granted for the 3 mines of cluster-1, as given below:

S.No.	Mines in Cluster-1	Normative Prod. Capacity (MTPA)	Peak Prod. Capacity (MTPA)
1.	Damoda (Albion Section) OCP	0.20	0.26
2.	Damoda UG	0.10	0.13
3.	Damoda (BJ Section) (new/proposed)	0.60	0.78
	TOTAL	0.90	1.17

- ii. The measures identified in the environmental management plan for Cluster-I group of mines and the conditions given in this environmental clearance letter shall be dovetailed to the implementation of the Jharia Action Plan.
- iii. The proponent shall prepare time-series maps of the Jharia Coalfields through NRSA to monitor and prevent fire problems in the Jharia Coalfields by Isothermal mapping/imaging and monitoring temperatures of coal seams (whether they are close to spontaneous ignition temperatures) and based on which, areas with potential fire problems shall be identified. Measures to prevent ingress of air (ventilation) in such areas, to prevent re-start fresh/spread fires in other areas including in mines of cluster-I shall be undertaken.
- iv. No mining shall be undertaken where underground fires continue. Measures shall be taken prevent/check such fires including in old OB dump areas where fire could start due to presence of coal/ shale with sufficient carbon content.
- v. There shall be no external OB dumps. OB from the 2 patches shall be backfilled. At the end of the mining there shall be no void and the entire mined out area shall be re-vegetated. Areas where opencast mining was carried out and completed shall be reclaimed immediately thereafter.
- vi. A detailed calendar plan of production with plan for OB dumping and backfilling (for OC mines) and reclamation and final mine closure plan for each mine of cluster-1 shall be drawn up and implemented
- vii. Mining shall be carried out as per statuette from the streams/nalas flowing within the lease and maintaining a safe distance from the Nalas flowing along the lease boundary. A safety barrier of a minimum 60m width shall be maintained along the nalas/water bodies. The small water bodies in Damoda (Albion Section) OC shall be protected to the extent feasible and the embankment proposed along water body shall be strengthened with stone pitching.
- viii. Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. A total area of 237.79 ha shall be reclaimed and afforested.
- ix. Specific imitative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted area and relevant for Cluster-1 shall be implemented.

- x. A detailed CSR Action Plan shall be prepared for Cluster-I group of mines. Specific activities shall be identified for CSR for the budget of Rs 13.75 crores provided for CSR for 2010-11 and Rs 5/T of coal as recurring expenditure. The 190.51 ha of area within Cluster-I ML existing as waste land and not being acquired shall be put to productive use under CSR and developed with fruit bearing and other useful species for the local communities. In addition to afforesting 237.79 ha of area at the post-mining stage, the 204.67 ha of fallow/abandoned land and 40.64 ha waste land/barren land within Cluster-I ML shall be rehabilitated/reclaimed as forest/agricultural land under CSR Plan in consultation with local communities. Third party evaluation shall be got carried out regularly for the proper implementation of activities undertaken in the project area under CSR. Issues raised in the Public Hearing shall also be integrated with activities being taken up under CSR. The details of CSR undertaken along with budgetary provisions for the village-wise various activities and expenditure thereon shall be uploaded on the company website every year.
- xi. Mine discharge water shall be treated to meet standards prescribed standards before discharge into natural water courses/agriculture. The quality of the water discharged shall be monitored at the outlet points and proper records maintained thereof and uploaded regularly on the company website.
- xii. No groundwater shall be used for the mining activities. Additional water required, if any, shall be met from mine water or by recycling/reuse of the water from the existing activities and from rainwater harvesting measures. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xiii. Continuous monitoring of long-term impacts of dumping of flyash (for life of the mine) and leaching of heavy metals on soil and water quality of the study area shall be undertaken and the details of which shall be submitted to the Central Ground Water Board, SPCB and to the Regional Office of this Ministry at Bhubaneswar, as part of the compliance report. Permanent monitoring arrangements such as piezometers, shall be established in and around mine areas covering potential impact zone for contamination of heavy metals due to leachates from flyash. In case of increasing levels of heavy metals detected in groundwater, further dumping of flyash shall be stopped immediately. Independent third party monitoring of impacts of dumping of flyash shall also be undertaken and reported to the regulatory authorities and uploaded on the company website. In case, the disposal of flyash into the de-coaled voids is not found to be an environmentally suitable option, the balance void shall be converted into water reservoir of a maximum depth of 35m which shall be gently sloped. The upper benches of the reservoir shall be stabilized with plantation and the periphery of the reservoir fenced.
- xiv. Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new piezometers. 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 including As and F during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board/SPCB quarterly within one month of monitoring. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.
- xv. ETP shall also be provided for workshop, and CHP, if any. Effluents from the mines shall be treated to conform to prescribed standards if discharged into any water course outside the lease area. The quality of effluent/water discharged shall be monitored at outlet points. Proper records shall be maintained thereof and uploaded regularly on the company's website.
- xvi. For monitoring the land use pattern and 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 to the end of mine life, shall be prepared once in 3 years (for any one particular season which is consistent in the time series). The report shall be submitted to MOEF and its Regional office at Bhubaneswar.

- xvii. A Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests for approval before the final mine closure. The species selected for Habitat Restoration for post-mining land shall include a specific Plan for development of agro-forestry using a mix of native species found in the study area.
- xviii. 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 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>2.5</sub>, SO<sub>x</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 particulates shall be carried out at least once in a year.
- iv. Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</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 GSR422 (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 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 that are 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 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>2.5</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.
  - 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 31<sup>st</sup> March, in Form-V to be submitted mandatorily by the project proponent to the State Pollution Control Board concerned as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently. This shall also be uploaded on to 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

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 Writ Petition filed by M/S Bharat Coking Coal Limited (BCCL) in response to the closure orders issued by the Jharkhand State Pollution Control Board which is pending in the Jharkhand High Court.

(Dr. Manoranjan Hota)  
Director  
[hota@nic.in](mailto:hota@nic.in)

**Copy to:**

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A/3 Chandrashekarapur, Bhubaneswar 751023.
4. Chairman, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi.
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. District Collector, Dhanbad, Government of Jharkhand.
8. Dr.R.K.Garg, Advisor, Mis Coal India Ltd., SCOPE Minar, New Delhi.
9. Monitoring File                      10.      Guard File                      11.      Record File

(Dr. Manoranjan Hota)  
Director  
[hota@nic.in](mailto:hota@nic.in)