

No. J-11015/10/2010-IA.II (M)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan,  
CGO Complex, Lodhi Road,  
New Delhi-110003.

To

Date 06<sup>th</sup> June, 2013

The General Manager (E&F)  
M/s Bharat Coking Coal Ltd.,  
Koyaia Bhawan,  
Dhanbad-826005  
Jharkhand

Sub. : Cluster XIV (2 mines(One Underground & One proposed Patch of OC Section (Mine) of a peak production of 0.526 MTPA in a combined ML area of 1517.96 ha (1577.22 ha - 59.26 ha = 1517.96 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, Dist. Dhanbad, Jharkhand (EC based on TOR granted on 28.05.2010) -Environment Clearance -reg.

Sir,

This is with reference to letter no.43011/02/2010-CPAM dated 13.01.2010 along with the application for Terms of Reference (TOR) and this Ministry's letter Dated 28.05.2010 granting TOR. Reference is invited to the letter no. BCCL/GM (Env.)/EMP F-2012/210(A) dated 22.03.2012, 04.07.2012 and 25.12.2012 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment & Forests has considered the application. It is noted that the proposal is for grant of Environmental Clearance for new Cluster XIV of 2 Mines (Lohapatti Colliery having one existing UG section and one proposed OC section) and for lease renewal of the existing Lohapatti UG and for opening a new Lohapatti OC mine for a period of 20 months at a peak production capacity of 0.487 MTPA to mine the outcropped coal reserves in 35.63 ha of the total ML area of 1577.22 ha, which are susceptible to illegal mining. The proponent informed that:

- i. This proposal does not involve increase in lease hold area, change in technology or change in product mix in the mines.
- ii. The Cluster XIV mine of BCCL consists of a single mine having one proposed opencast section and one existing underground section of Bharat Coking Coal Limited in the Dhanbad District of Jharkhand. The area has undulating topography. The cluster has ML area of 1577.22 ha and production capacity of 0.405 MTPA (normative) and 0.526 MTPA (peak) as given below:

CC Cluster XIV BCCL

*indicated*

MINES IN CLUSTER XIV						
S.N.	Name of Mine		Production capacity (MTPA)		Mining Lease Area (ha)	Life of Mine (years)
			Normative	Peak		
1	Lohapatty	UG Section	0.03	0.039	1577.22	>30
2.		OC Section (proposed)	0.375	0.487	35.63 within the (Included in total ML area)	2
Total			0.405	0.526	1577.22	

- iii. The cluster is bound in the east by Cluster-XIII mines, in the west by southerly flowing River Jamunia, in the north by Cluster-XV mines and in the south by easterly flowing Damodar River.

THE MAJOR PROJECT PARAMETERS OF THE MINES OF CLUSTER XIV			
Name of Mines	LOHAPATTI		Total
	UG Section	OC Section	
Lease Area (Ha)	1577.22	35.63 within the (Included in total ML area)	1577.22
Life (years)	>30	2	-
Maxm. Depth (m)	180	76	-
Method of Mining	Bord & Pillar	Shovel & Dumper	-
Production in 1993-94 (MTPA)	0.142	nil	0.142
Production in 2010-11 (MTPA)	0.019	nil	0.019
Proposed peak Production (MTPA)	0.039	0.487	0.526
Manpower	402	138	
Seam gradient	1 in 6	Lohapatti middle : 1 in 7 Lohapatti Bottom : 1 in 4.75	
Mineable Reserve (MT)	2.64 MT	0.541 MT	
Linkage	Power Plants	Steel/Power Plants	
Grade of Coal	B(LF)	W-III	
Seams to be worked	Pathorgoria 'A' Seam	Lohapatti middle Lohapatti Bottom	
Cost of Production (Rs/te)	4758.62	1091.27	
Selling Price- (Rs./ Te) (2010-11)	1949.20	1480.00	

- iv. The cluster is drained by Jamunia River flowing southerly along its western boundary and River Damodar flowing easterly along its southern boundary.

EC\_Cluster XIV\_BCC

- v. The Cluster-XIV has a forest land of 59.26 ha. Application has been made for stage-I clearance (Vide letter no: BCCL/MLD/CCO/08/3999 (A) dated 29.10.2008) The matter is pending with MOEF (Forest Division-Stage-I FC)

DETAILS OF PRE- MINING AND POST-MINING LAND USE OF MINES IN CLUSTER XIV			
S.N	Type Land Use	Present Mining Landuse (in ha)	Post- Mining Land use (in ha)
1.	Fallow	1124.95	1089.32
2.	Barren land	70.62	53.62
3.	Water body	77.89	82.89
4.	Forest land	59.26	59.26
5.	Homestead land	232.57	232.57
6.	Infrastructure	11.93	11.93
7.	Plantation	---	47.63
	<b>Total</b>	<b>1577.22</b>	<b>1577.22</b>

- vi. Of the total ML area of 1577.22 ha, 1124.95 ha is agricultural land (fallow) and 59.26 ha is forestland. FC has been applied vide letter dated 16.03.2010. Lohapatty UG would have a peak production of 0.039 MTPA and mining would be over the entire ML area of 1577.22 ha of which agricultural land is 1124.95ha, forest land 59.26 ha, barren land is 70.62 ha, water bodies is 77.89, homestead land 232.57 ha and land for infrastructure is 11.93 ha.
- vii. A total area of 47.63 ha will be reclaimed and afforested. Eco-restoration for all clusters of BCCL mines 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 as per road map prepared by Forest Research Institute, Dehradun.
- viii. No fire exists in the cluster. Measures will be taken to prevent the outbreak of fire in the existing UG section and the proposed OC section of the mine. A minimum safety distance of 60m would be maintained between opencast and underground operations. The details of post-mining land use of Cluster-XIV are given below:

Parameter	Details
Total void	Nil
Total external dumps	Nil
Unstable sites	8
Affected area	648300 Sqm
Fire affected sites	Nil
No. of Houses to be rehabilitated	713 as per JAP
Cost of Rehabilitation	Rs 5035.38 Lakhs
Mine Closure cost	Rs2140.93 lakhs
CSR	Rs. 20.25 lakhs/year

EC\_Cluster XIV\_BCCL

- ix. The ground water level is in the range of 6.14 to 14.47m bgl (pre-monsoon) and in the range of 3.56 to 15.88m bgl (post-monsoon). Water requirement would be 375 m<sup>3</sup>/day, of which 220 m<sup>3</sup>/day is for mining operations and 155m<sup>3</sup>/day is for domestic use from treated mine water. The total water discharge from the mine in the cluster is 2600 cum.
- x. The transportation is by road upto Mohuda washery at the distance of 10 km from Lohapatti UG.
- xi. Total 7.29 Million m<sup>3</sup> of OB will be generated from the proposed Lohapatti opencast mine with a life of 20 months of which 1.38 Million m<sup>3</sup> of initial OB will be in two no of proposed external OB dumps having an area of 17 ha. Rest will be dumped internally over the de-coaled area concurrent with the mining operation. 1.38 Mm<sup>3</sup> of OB in the external OB dump will be backfilled during post mining period. The backfilled OB will be physically and biologically reclaimed.
- xii. The area of the existing natural water body is 77.89 ha area. But in the post- mining stage, void will be left in an area of 5.0 ha and of 15-20m depth for creation of additional water body for community use/Pisciculture. At the end mining there will be no void.
- xiii. The coal produced from the mine in the cluster will be transported by road. The entire coal of 0.487 MTPA (peak) produced from the proposed Lohapatti OCP, which has a life of only 20 months will be transported by road to Mahuda washery at a distance of 12 km. Coal of 0.039 MTPA (peak) produced from the existing Lohapatti UG mine will be transported to Mahuda & Moonidih washeries at distances of 10 & 18 km respectively.
- xiv. In underground mining, Maximum subsidence, slope and tensile strain over the mining area due to coal extraction in Lohapatti UG would be 2.737m, 41.79 mm/m and 21.94mm/m respectively. It is planned to take up an additional 47.63 ha under plantation with 119075 nos of plants. The Action Plan has also been prepared for Ecological Restoration of OB dumps and voids. It was informed that the BCCL has formulated its Corporate Environment Policy.
- xv. R&R is involved. Out of 595 unstable sites identified in the Master Plan, 8 unstable sites consisting of 713 no. PAF's are affected in this cluster. There are villages/habitation within the ML which are to be shifted under Jharia Action Plan. 714 PAFs would be rehabilitated as per as per JAP at the cost of Rs 5035.38 lakhs. R&R would be completed in 2017 and thereafter a separate project would be drawn up for the locked up reserves for which exploration is going on. It was informed that a Task Force has been constituted to control illegal mining.
- xvi. The maximum subsidence over the mining area due to extraction would be 2.75 mm. The maximum possible tensile strain likely to occur is 7.78mm/m.
- xvii. At the end of 20 months after extraction of the outcropped reserves, it is proposed to leave an area of 5 ha as a water body.
- xviii. The cost of Environment Management Plan is Rs 588.92 lakhs (capital) and Rs 133.4 lakhs initially as recurring costs for the first year and Rs 25 lakhs from 7th year onwards. CSR of Rs 20.25/year @ of Rs 5/ton of coal production. Capital cost of project is Rs 603.44 lakhs.
- xix. The Public Hearing was held on 17.2.2012.
- xx. It was informed that Cluster-XIV falls in Dhanbad critically polluted area.
- xxi. The proponent, vide letter no. BCCL/HoD (Env)/F-EMP/13/315 dated 11.3.2013 and BCCL/HoD (Env)/F-EMP/13/373 dated 28.3.2013, informed that there is no

change in the present and future land use pattern for mining in cluster XIV which is for 1577.22 ha that includes 59.26 ha of forest land. The proponent has mentioned that the land use details as provided in its application vis-à-vis the minutes of the EAC meeting indicate the presence of 59.26 ha of forest land. It further clarified that mining activity shall not require any diversion of forest land for mining purpose. Therefore, the forest land present within the mining lease area of cluster XIV shall not be disturbed and will remain intact in the post mining land use also.

3. It was further stated that the Jharia Action Plan, which consists of all fire dousing projects/plans had been surveyed by DGMS and DGMS is also the monitoring and scrutinizing agency constituted by the Hon'ble Supreme Court of India under the WP(PIL) 387/1997 i.e. Haradhan Roy Vs UOI. It was clarified that any new scheme of fire dousing would need the approval of DGMS.

4. 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.

5. Reference is invited to the letter no. BCCL/HoD (Env)/F-EMP/13/315 dated 11.3.2013 and BCCL/HoD (Env)/F-EMP/13/373 dated 28.3.2013 clarifying that there is no change in the present and future land use pattern for mining in cluster XIV which is for 1577.22 ha that includes 59.26 ha of forest land. The proponent has mentioned that the land use details as provided in its application vis-à-vis the minutes of the EAC meeting indicate the presence of 59.26 ha of forest land. It further clarified that mining activity shall not require any diversion of forest land for mining purpose. Therefore, the forest land present within the mining lease area of cluster XIV shall not be disturbed and will remain intact in the post mining land use also.

6. Since the BCCL letter no. BCCL/HoD (Env)/F-EMP/13/315 dated 11.3.2013 and BCCL/HoD (Env)/F-EMP/13/373 dated 28.3.2013 stating that 59.26 ha of forest land is a part of the ML area and will not be required for mining activity under the project, the proponent in this regard, is required to follow the guidelines issued by the FC Division of the EC Cluster XIV BCCL.

Ministry of Environment & Forests vide no. 11-362/2012-FC dated 01-02-2013 "Guidelines for diversion of forest land for non-forest purposes under the Forest (Conservation) Act 1980. Submission of proposals to obtain forest land located within the mining lease and grant of environment clearance to mining projects" addressed to the Principal Secretary (Forests), Principal Secretary (Environment) of all the States/UT Govts. and copy to concerned Government Departments/Organisations which prescribes, inter-alia, the following:

" (iii) As regards Environment Clearance (EC) cases of existing mining operations, where approval under the FC Act for the full forest area in the mining lease area is not available, granting of EC may be considered and the following process will be adopted for processing such cases:

- a) Grant of EC may be considered only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which the FC is not available; and
- b) The project proponent will seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, the project proponent will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed."

7. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 53rd meeting held on 16-17 July, 2012 for granting Environmental Clearance. The Ministry of Environment & Forests has examined the application in accordance with the EIA Notification 2006 and under the provisions thereof, hereby accords environmental clearance for the above-mentioned Cluster XIV (2 mines/One Underground & One proposed Patch of OC Section Mine) of a peak production of 0.526 MTPA in a combined ML area of 1517.96 ha (1577.22 ha- 59.26 ha= 1517.96 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, Dist. Dhanbad, Jharkhand under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars issued thereon and subject to the compliance of the terms and conditions in addition to the general conditions as mentioned below. You will need to seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines (i.e. 01 February, 2013), failing which the mining lease area will be reduced to the non-forest area plus the forest area for which you have been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, you will need to get a revised mining plan approved from the Competent Authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed.

#### A. Specific Conditions:

- (i) No mining shall be undertaken in/under the forestland until prior forestry clearance has been obtained under the provisions of FC Act 1980.
- (ii) The maximum production from the opencast section in the cluster shall not exceed beyond that for which environmental clearance has been granted for the cluster XIV as below:

EC\_Cluster XIV\_BCCCL

S.N	MINES IN CLUSTER XIV				
	Name of Mine		Production capacity (MTPA)		ML (ha)
			Normative	Peak	
1.	Lohapatti	UG Section	0.03	0.039	1577.22
2.		OC Section (Proposed)	0.375	0.487	
	Total		0.405	0.526	1577.22

- (iii) The measure identified in the environmental plan for cluster XIV groups of mine and the conditions given in this environmental clearance letter shall be dovetailed to the implementation of the Jharia Action Plan.
- (iv) As there is no fire in Cluster XIV but the measure should be adopted by proponent to control spread of neighbouring fire to this Cluster XIV. 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 the 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 restart fresh/spread fires in other areas including in mines of cluster XIV shall be undertaken.
- (v) Underground mining should be taken up after completion of reclamation of Opencast mine area after 2 years.
- (vi) No mining shall be undertaken where underground fires continue. Measure shall be taken to prevent/ check such fire including in old OB dump
- (vii) A part of cluster XIV is under River Damodar. It was clarified that although the mine is underground, there is no coal underneath River Damodar, which would be mined. The Committee desired that the data of bore wells near River Damodar require to be monitored for permeability and seepage of water of River Damodar.
- (viii) The rejects of washeries in Cluster -XIV should be send to FBC based plant.
- (ix) There shall be no external OB dumps. OB produce from the whole cluster will be 7.29 Mm<sup>3</sup>. OB from One Patch OCP mine 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.
- (x) 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- XIV shall be drawn up and implemented.
- (xi) The void in 5 ha area shall be converted into a water reservoir of a maximum depth of 15-20 m in post mining stage and shall be gently sloped and the upper benches of the reservoir shall be stabilised with plantation and the periphery of the reservoir fenced. The abandoned pits and voids should be backfilled with OB and biologically reclaimed with plantation and or may be used for pisciculture

CC\_Cluster XIV\_BCL

- (xii) 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 OC shall be protected to the extent feasible and the embankment proposed along water body shall be strengthened with stone pitching.
- (xiii) Active OB dumps near water bodies and rivers should be rehandled for backfilling abandoned mine voids. However, those which have been biologically reclaimed need not be disturbed.
- (xiv) Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. During post mining stage, a total of 47.63 ha area would be reclaimed by planting native species in consultation with the local DFO/Agriculture Department/institution with the relevant discipline. The density of the trees shall be around 2500 plants per ha.
- (xv) The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.
- (xvi) Specific mitigative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted area and relevant for Cluster -XIV shall be implemented.
- (xvii) The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuel wood, coal, flyash from TPPs, silica from natural dust, etc) and a Source Apportionment Study should be got carried out for the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition of the suspended particulate matter ( $PM_{10}$  and  $PM_{2.5}$ ) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate mitigative measures could be taken.
- (xviii) 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 to dewatering of mine.
- (xix) 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 Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forest and to the Central Pollution Control Board/SPCB quarterly within one month of monitoring. Rain water harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.
- (xx) 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.



- (xxi) ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to confirm to prescribed standards in case discharge into the natural water course.
- (xxii) Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.
- (xxiii) Sufficient coal pillars shall be left unextracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.
- (xxiv) High root density tree species shall be selected and planted over areas likely to be affected by subsidence.
- (xxv) Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.
- (xxvi) Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.
- (xxvii) No depillaring operation shall be carried out below the township/colony.
- (xxviii) The Transportation Plan for conveyor-cum-rail for Cluster- XIV should be dovetailed with Jharia Action Plan. Road transportation of coal during Phase-I should be by mechanically covered trucks, which should be introduced at the earliest. The Plan for conveyor-cum-rail for Cluster- XIV should be dovetailed with Jharia Action Plan. The road transportation of coal during phase-I should be by mechanically covered trucks.
- (xxix) A study should be initiated to analyze extent of reduction in pollution load every year by reducing road transport.
- (xxx) R&R of 713 nos of FAF's involved. They should be rehabilitated at cost of Rs 5035.38 Lakhs as per the approved Jharia Action Plan.
- (xxxi) Details of transportation, CSR, R&R and implementation of environmental action plan for each of the 17 clusters should be brought out in a booklet for and submitted to Ministry.
- (xxxii) A detailed CSR Action Plan shall be prepared for Cluster XIV group of mines. Specific activities shall be identified for CSR of Rs 20.25/Annum @ of Rs 5/ton of coal production, as recurring expenditure. The 47.63 ha of area within Cluster XIV 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. Third party evaluation shall be got carried out regularly for the proper implementation of activities undertaken in the project area under CSR. Issue 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. The company must give priority to capacity building both within the company and to the local youth, who are motivated to carry out the work in future.

- (xxxiii) 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.
- (xxxiv) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem, which were conserved in-situ and ex-situ in an identified area within the lease for reintroduction in the mine during mine reclamation and at the post mining stage for habitat restoration.
- (xxxv) 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 for implementing environment policy and socio-economic issues and the capacity building required in this regard.
- (xxxvi) Implementation of final mine closure plan for Cluster XIV, subject to obtaining prior approval of the DGMS in regard to mine safety issues
- (xxxvii) Corporate Environment Responsibility:
- The Company shall have a well laid down Environment Policy approved by the Board of Directors.
  - 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.
  - 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.
  - 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 and Forests.
- (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  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$  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 ( $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$  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 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 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 19<sup>th</sup> May 1993 and 31<sup>st</sup> 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 Regional Office at Bhubaneswar.
- (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 at <http://envfor.nic.in>.
- (xiv) A copy of the environmental clearance letter shall be marked to concern Panchayat/ZilaParishad, 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> (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 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.

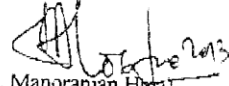
- (xix) The Environmental statement for each financial year ending 31 March in Form is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF by E-mail

8. The Ministry or any other Competent Authority may stipulate any further condition(s) for environmental protection.

9. 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.

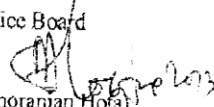
10. The above conditions will be enforced *inter-alia*, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. 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. 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

Copy to:

1. The 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-31, Chandrashekarapur, Bhubaneswar - 751023.
4. Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), H.E.C., Dhurwa, Ranchi - 834004.
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, dist. Dhanbad Government of Jharkhand.
8. Monitoring File    9.    Guard File    10.    Record File    11. Notice Board

  
(Dr. Manoranjan Hota)  
Director