



**Bharat coking coal Limited**  
(A Subsidiary of Coal India Limited)  
OFFICE OF THE GENERAL MANAGER  
CHANCH-VICTORIA AREA-XII  
P.O.-BARAKAR – 713324, DIST-BURDWAN ( W.B.)  
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Ref. No: BCCL/CV/ ENVT/2016/ 1568

Date: 28.11.2016

To,  
The Director,  
Ministry of Environment, Forest, Climate Change,  
Regional Office (ECZ), Bungalow No. A-2,  
Shyamali Colony,  
Ranchi, Jharkhand- 834002

Sub:- Six Monthly Report On Implementation Of Environmental Measures For The Period From April 2016 To September 2016 In Respect Of Cluster-XVI Group Of Mines Of BCCL.

Dear Sir,

Enclosed please find herewith the six monthly reports on implementation of environmental protection measure for the period from April 2016 To September 2016 in respect of Cluster-XVI group of mines of BCCL.

Hope you will find the same in order.

Yours Faithfully

  
General Manager  
CV Area

- CC to: - (1) Dr. Sunita Aulock, Director IA monitoring cell, Paryavaran Bhawan CGO Complex, New Delhi-110003  
(2) The Incharge, Zonal Office, CPCB, Southernd Conclave, Block 502, 5<sup>th</sup> & 6<sup>th</sup> Floors, 1582 Rajdanga Main Road Kolkata – 700107 (W.B)  
(3) The Regional Officer, JSPCB, Hirapur, Dhanbad- 826001, Jharkhand  
(4) Dy.GM (Environment), BCCL, Koyla Bhawan, Dhanbad.  
(5) AGM, CV Area.  
(6) Project Officer, DBOCP  
(7) Nodal Officer (Env), CV Area.  
(8) Office Copy

**COMPLIANCE OF EC CONDITIONS OF CLUSTER- XVI**  
**EC order no- J-11015/185/2010-IA.II (M) Dated 06.02.2013**  
**Upto September 2016.**

Sl. no.	A. Specific Conditions by MOEF:	Compliance															
i	The maximum production shall not exceed beyond that for which environmental clearance has been granted for the 5 mines of cluster XVI as below:	The approved peak production of coal for Cluster XVI is 1.963 MTPA. The total production of coal for the cluster XVI for the FY 2015-16 is 1.084 MT which is well within the limit. Production of the coal in this FY 2016-17 during April'16 to September'16 is 0.611 MT.															
ii	All the void /water bodies should be backfilled upto ground level and no OB dump at the end of mining.	DBOCP (NLOCP) is the only operating OC project in Cluster XVI and backfilling is being done simultaneously.															
iii	Extensive plantation should be provided on either side of River;	It is being complied. Yearly plantation is being done for development of green belts as per EMP. 15000 saplings have been rooted at JOCP Eco-restoration site till September 2015 & 16000 saplings have been rooted at NLOCP siding Eco-Restoration Site till September 2016.															
iv	Impact of mining on ground water of the area (Impact Zone) should be provided;	The work of monitoring of ambient environment (Air & Water) including ground water monitoring is being done by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EP Rules.															
v	A Garland drain should be provided	Garland drain as well as toe wall has been provided at old OB dumps. Proposal has been moved for construction of garland drain for new OB dumps.															
vi	Excess water from mine after treatment should be supplied to the villagers;	At present excess water from mine is supplied to the villages through settling pond. Location of pond is at the south of Palasia incline & Palasia village is beneficiary.  Apart from this an action plan for Utilization and treatment of surplus mine water has been prepared. In this regard, 26 mines have been identified for the implementation of the action plan in the Phase –I of the scheme.															
vii	Rejects of washery along with dry carbon slurry should be utilized in power plant and other recognized vendors.	There is no washery in operation at present.															
viii	A time schedule for filling of existing and abandoned quarries be done.	Old abandoned Quarry no. 1, 2, 3 & 3/4 of Kalimati Seam at Basantimata Mine has been filled upto ground level. NLOCP, JOCP & KOCP abandoned quarry has been filled up.  Year wise Backfilling till now is as below:- <table border="1"> <thead> <tr> <th>Sl No.</th><th>Year</th><th>Quantity (Lakh M<sup>3</sup>)</th></tr> </thead> <tbody> <tr> <td>1.</td><td>2012-13</td><td>7.25</td></tr> <tr> <td>2.</td><td>2013-14</td><td>55.00</td></tr> <tr> <td>3.</td><td>2014-15</td><td>85.75</td></tr> <tr> <td>4.</td><td>2015-16</td><td>5.00</td></tr> </tbody> </table>	Sl No.	Year	Quantity (Lakh M <sup>3</sup> )	1.	2012-13	7.25	2.	2013-14	55.00	3.	2014-15	85.75	4.	2015-16	5.00
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1.	2012-13	7.25															
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ix	The measure identified in the environmental plan for cluster XVI groups of mine and the conditions given in this environmental clearance letter shall be dovetailed to the	Master Plan activities are dovetailed with compliance of environmental clearance conditions.															

	<b>implementation of the Jharia Action Plan.</b>	
x	<b>As there is no fire in Cluster XVI but the measure should be adopted by proponent to control spread of neighbouring fire to this Cluster XVI. 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.</b>	NRSC has submitted final report in which fire has been reduced to 2.18 sqkm in year 2013 from 9.0 sqkm ( 2006 ). Further measures to prevent the fire are being taken up by BCCL. Further, the next survey by NRSC shall start soon (2016-17). The work has already been awarded. An MOU in this regard will be entered soon. Also, measures to prevent the fire are being taken up by BCCL. <b>(Annexure-1)</b>  Action is being taken as specified in EC and as per Jharia Master Plan.
xi	<b>Underground mining should be taken up after completion of reclamation of Opencast mine area after 2 years.</b>	It shall be complied. Mining is being done as per the guidance and approval/permission of DGMS.
xii	<b>No mining shall be undertaken where underground fires continue. Measure shall be taken to prevent/ check such fire including in old OB dump</b>	It is being complied. However, Mining is being done through opencast excavation method where underground fire exists. The fire control measures are being taken through opencast excavation method to prevent /check its further spread.
xiii	<b>A part of cluster XVI is under Barakar River and Damodar River. 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 waster of River Damodar.</b>	At present there is no underground mining operation below the River Damodar & Barakar. The data of dugwell near Khudia River is being monitored for ground water level.
xiv	<b>The rejects of washeries in Cluster –XVI should be send to FBC based plant.</b>	Washery is yet to be started.
xv	<b>There shall be no external OB dumps. OB produce from the whole cluster will be 29.01 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.</b>	There are seven OB dump in the cluster. All the OB dumps are within the leasehold area and are on de-coaled area. These dumps are created outside/externally to excavation area for reasons of safety and to facilitate mining. At the end of mining all the dumps will be leveled and backfilled in opencast excavated area. Action is being taken as specified in EMP for Backfilling of OB concurrent with mining. No fresh land is used for OB dumping. Proper vegetation is being developed on the OB dump to avoid erosion of soil and gully formation and also to stabilize sufficiently the OB slope.
xvi	<b>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- XVI shall be drawn up</b>	Calendar plan has been prepared. Mine closure plan as per the guidelines of Ministry of Coal has been prepared by CMPDI and it is being followed. Calendar plan for coal production and OB removal is attached as <b>Annexure 2</b> .

	<b>and implemented.</b>	
xvii	<b>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</b>	It shall be complied. Continuous process of the backfilling has been adopted. A part of the void will be converted into the water body as specified in EMP.
xviii	<b>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.</b>	Mining is being carried out as per Statute from the streams/Nalas following within the lease and maintaining a safe distance from the nalas flowing along the lease boundary.
xix	<b>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.</b>	Presently No OB is being dumped near water bodies. The OB dumps created earlier already stabilized & further action has been taken for their eco-restoration work as per Road Map prepared by FRI, Dehradun and as per the action plan of Prof. CR Babu ,Professor Emirates CEMDE, Delhi University.
xx	<b>Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. During post mining stage, a total of 242.09ha 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.</b>	Tree plantation and Eco-restoration job is being undertaken at JOCP in 5.6 Ha under the guidelines of FRI, Dehradun. New Eco-restoration site on NLOCP railway siding OB dump of a total area of 16.50 Ha is being developed. 1700 gabion trees were planted by DFO along the transportation road and siding in cluster XVI.
xxi	<b>The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.</b>	1700 gabion trees were planted by DFO along the transportation road and siding in cluster XVI. <b>(Annexure-3)</b>
xxii	<b>Specific mitigative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted are and relevant for Cluster -XVI shall be implemented.</b>	Dhanbad Action Plan has been prepared in consultation with Jharkhand Pollution Control Board for entire BCCL and not cluster wise. It is being implemented comprehensively for all the mines of BCCL.
xxiii	<b>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</b>	The locations in the Jharia coalfield have been finalized in consultation with the Jharkhand State Pollution Control Board. CIL has entered a MoU with NEERI to carry out such study. <b>(Annexure-4)</b> NEERI Nagpur has been contacted for carrying out the Source

	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 <sub>10</sub> and PM <sub>2.5</sub> ) 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.	Apportionment Study for BCCL. The proposal in this regard is awaited.
xxiv	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.	No ground water is being utilized for the purpose of industrial use of the water. Mine water has been channelized through pipelines and through discharge in to the ponds for its use for the community and irrigation purposes. During summer season filter water as well as raw water is being supplied through water tanker to local adjacent villages where required. Pressure Filters have been installed for the filtration of mine water being supplied to nearby habitat. Aalready 6 Nos. filters have been installed and in operation. Additional 3 Nos. of pressure filters will be installed shortly.
xxv	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 peizometers. The monitoring for quantity shall be dome 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. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.	Groundwater level and quality are being monitored by CMPDIL, Ranchi. Regarding establishing a network of existing wells and construction of new piezometers, the design and locations has been finalized by CMPDI, Ranchi and for drilling of new wells the estimation is under process for tendering. Project is very particular of doing the monitoing of ground water quality and level as per the condition instead of doing it unsystematically. Rain water harvesting measure will be undertaken. <b>(Annexure-5)</b>
xxvi	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.	The monitoring of the mine water discharge was carried out by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules. Presently, the monitoring work has been taken over by CMPDIL.
xxvii	ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to	Proposal for Construction of ETP/Oil grease Trap at DBOCP & WTP at Basantimata UG is under process.

	<b>confirm to prescribe standards in case discharge into the natural water course.</b>	
xxviii	<b>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.</b>	There is no depillaring is going on in underground mines of Cluster XVI, hence no mining induced subsidence is taking place. There has been no subsidence occurred during Environmental Clearance compliance period till now. Regular monitoring of the area is being done by mine officials in this regard. Cracks is being filled and stabilized. <b>(Annexure-6)</b>
xxix	<b>Sufficient coal pillars shall be left un-extracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.</b>	Sufficient coal pillars have been left around air shafts as per the statutes and DGMS guidelines.
xxx	<b>High root density tree species shall be selected and planted over areas likely to be affected by subsidence.</b>	It is being complied. The plantation programme includes such plants.
xxxi	<b>Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.</b>	It is being complied.
xxxii	<b>Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.</b>	It is being followed. Sufficient barriers are left for saving the surface installation and infra structures as per the statute and DGMS guidelines.
xxxiii	<b>No depillaring operation shall be carried out below the township/colony.</b>	No depillaring operation is being carried out below township/colony.
xxxiv	<b>The Transportation Plan for conveyor-cum-rail for Cluster-XVI 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 transpiration of coal during phase-I should be by mechanically covered trucks.</b>	<p>Action has been taken for formulating adequate transportation plan for conveyor cum rail system of dispatch. CMPDIL, RI-II has been requested to conduct study and prepare the plan in this regarding.</p> <p>Conversion of existing truck in to mechanically covered trucks in a phased manner has been taken up. By that time transportation is being done by covered vehicle with tarpaulin cover. <b>(Annexure-7)</b></p>
xxxv	<b>A study should be initiated to analyze extent of reduction in pollution load every year by reducing road transport.</b>	CMPDIL has taken up the job and study is being done.

xxxvi	R&R of 1193 nos of PAF's involved. They should be rehabilitated at cost of Rs 10171.88 lakhs as per the approved Jharia Action Plan.	R&R is being done as per the approved Jharia Action Plan. <b>(Annexure-8)</b>
xxxvii	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.	CSR, Environmental and R&R activities for whole BCCL consisting 17 clusters has been brought out in a booklet form. CMPDIL has been requested to formulate transportation plan for BCCL. <b>(Annexure-9)</b>
xxxviii	A detailed CSR Action Plan shall be prepared for Cluster XVI 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 242.09ha of area within Cluster XVI 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.	It is being complied. BCCL is implementing CSR activities.  TISS has been conducted the survey report for preparation of CSR action plan. <b>(Annexure-10)</b>
xxxix	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.	Presently a time series map of vegetation cover in the Jharia Coal Field is being carried out through CMPDI Ranchi using satellite imagery for every 3 years. It is being uploaded on the official website of company. Further CMPDI has been requested to prepare "Time series of land use maps based on satellite imagery of the core zone and buffer zone in the scale 1:5000.
xl	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	Mine closure plan as per the guidelines of Ministry of Coal has been prepared by CMPDI and it is being followed.

	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.	
xli	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.	<p>A full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives which includes Environment, Mining, Excavation disciplines executives and technicians has been established in Headquarters. They are also trained in ecological restoration, sustainable development, rainwater harvesting methods etc. At the project level, one Executive in each area has also been nominated as Project Nodal Officer (Environment) and is also entrusted with the responsibility of compliance and observance of the environmental Acts/ Laws including environment protection measures .The activities are monitored on regular basis at Area and at Head quarters levels. GM (Environment) at head quarter level, co-ordinates with all the Areas and reports to the Director (Technical) and in turn he reports to the CMD of the company.</p> <p>The team is multidisciplinary and very much motivated under the guidance of company's Director (Technical) and CMD. Further capacity building at both corporate and operating level is being done.</p>
xlii	Implementation of final mine closure plan for Cluster XVI, subject to obtaining prior approval of the DGMS in regard to mine safety issues.	Final Mine Closure Plan, as per the guideline will be submitted 5 years before the closure of the Mine. For the purpose of safety issues related to the closure prior approval of DGMS will be taken in this regard.
xliii	<p><b>Corporate Environment Responsibility:</b></p> <p>a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.</p> <p>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.</p> <p>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.</p> <p>d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of</p>	<p>A well defined Corporate Environment Policy has already been laid down and approved by the Board of Directors. This is also posted on BCCL website.</p> <p>Complied.</p> <p>A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists.</p> <p>Being complied.</p>

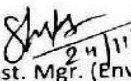


	environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	
<b>B</b>	<b>General Conditions by MOEF:</b>	
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	It is being followed.
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	Being followed. Production is being done well within the peak production capacity as per EC.
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> 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.	<p>The location of monitoring stations has been finalized after the consultation with JSPCB.</p> <p>The work of monitoring of ambient air quality was being done by Central Institute of Mining &amp; Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules and presently, CMPDIL has taken up the monitoring work.</p> <p><b>(Annexure-11)</b></p>
iv	Data on ambient air quality (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> ) 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 recognized under the EPA rules, 1986 shall be furnished as part of compliance report.	<p>The location of monitoring stations has been finalized after the consultation with JSPCB.</p> <p>The work of monitoring of ambient air quality was being done by Central Institute of Mining &amp; Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules and presently, CMPDIL has taken up the monitoring work.</p>
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.	It is being complied. All the workers engaged in noisy operations are provided with the 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.	<p>The location of monitoring stations has been finalized after the consultation with JSPCB.</p> <p>The work of monitoring of ambient air quality was being done by Central Institute of Mining &amp; Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules and presently, CMPDIL has taken up the monitoring work.</p>
vii	Vehicular emissions shall be kept under control and regularly	It is being complied. Only tarpaulin covered vehicles all allowed carrying minerals and they are optimally loaded.

	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.	Earlier CIMFR, Dhanbad has conducted the monitoring work. BCCL has already communicated a sum of Rs 4.63 crores to CMPDI, Ranchi for establishment of environmental laboratory at Dhanbad for BCCL.
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.	Dust masks are provided to persons working in dusty areas. Training on safety & health is imparted at regular intervals at VTCs and at work place.
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.	<p>Initial Medical Examination (IME) and Periodical Medical Examination (PME) of all the personnel are carried out as per the Statutes and Director General of Mines Safety (DGMS) guideline. Records of IME &amp; PME are also being maintained.</p> <p>Also NIOH Ahmedabad has been awarded the work order to carry out the Health surveillance Study to analyse the occupational disease and hearing impairment of coalmine workers of BCCL directly involved in active mining operations.</p> <p>There is no occupation Health issues related to mining under Cluster XVI. <b>(Annexure-12)</b></p>
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.	<p>A full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives (30 nos.) which includes Environment, Mining, Excavation, Civil, Survey ,Electrical &amp; mechanical, Forestry disciplines executives and technicians (4 nos.) has been established in Headquarters. They are also trained in ecological restoration, sustainable development, rainwater harvesting methods etc. At the project level, one Executive in each area has also been nominated as Project Nodal Officer (Environment) and is also entrusted with the responsibility of compliance and observance of the environmental Acts/ Laws including environment protection measures .The activities are monitored on regular basis at Area and at Head quarters levels. GM (Environment) at head quarter level, co-ordinates with all the Areas and reports to the Director (Technical) and in turn he reports to the CMD of the company.</p> <p>The team is multidisciplinary and very much motivated under the guidance of company's Director (Technical) and CMD. Further capacity building at both corporate and operating level is being done.</p>
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.	It has been complied. The funds were earmarked as per EMP plan and kept in separate finance head for the expenditure to maintain environmental protection measures. <b>(Annexure-13)</b>


xiii	<b>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&amp; Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>.</b>	It has been complied.
xiv	<b>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.</b>	A copy of Environmental Clearance letter has been already sent to the concerned Panchayat.
xv	<b>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.</b>	It has been complied.
xvi	<b>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.</b>	Copy of Environmental Clearance along with the conditions compliances has been uploaded on the company website aAnd they are updated on every six month.
xvii	<b>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.</b>	It is being complied. Six monthly Environmental Clearance compliance report is sent for the period of April to September in the month of October and for the period of October to March in the month of April for each Financial year.
xviii	<b>The Regional Office of this</b>	Full cooperation will be provided for the regional office authorities for

	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.	monitoring of Environmental Clearance conditions compliances.
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 by E-mail	Environmental Statement for each financial year is submitted to the regional office of Jharkhand State pollution control board by 30 <sup>th</sup> June.

  
24/11/16  
Asst. Mgr. (Env)  
CV Area

  
Project Officer  
Basantimata- Dahibari Colliery

  
Nodal Officer (Env)  
Basantimata- Dahibari Colliery

  
25/11/16  
Addl. General Manager  
CV Area

  
Area Manager (Estate)  
CV Area

  
25/11/16  
Area Civil Engineer  
CV Area

  
25/11/16  
General Manager  
CV Area

ANNEXURE - 2



BHARAT COKING COAL LIMITED  
(A Subsidiary of Coal India Limited)  
Office of the Director (Tech.) Op.  
KOYLA BHAWAN, KOYLA NAGAR  
DHANBAD - 826005  
Phone: 0326-2230163, FAX: 2230165

Ref: BCCL/D1(OP)/F-Dev/2012/ 142 (A)

Date: 11<sup>th</sup> February 2013

To,  
The Director,  
National Remote Sensing Centre,  
Indian Space Research Organisation,  
Balanagar,  
Hyderabad- 500 037.  
Email: [director@nrsr.gov.in](mailto:director@nrsr.gov.in)  
Fax: 040-23677210

Subj: Conducting of coal mine fires/ Thermal Infra Red Survey  
In Jharia Coalfield.

Dear Sir,

This has reference to the meeting held on 08-01-2013 at NRSC regarding coal fire monolog, subsidence using satellite / airborne data between BCCL officials and NRSC team.

Though we have not yet received the minutes from you, but as per the E-mail received from Dr. K.Vinod Kumar, Head, Geo-Sciences Division, NRSC, the following points have been concluded from your end.

1. NRSC can carry out satellite based study using ASTER data (available for 2011-12 time period) and compare with the results of 2006 ASTER data analysis.
2. NRSC will also explore the possibility of hiring/ procurement of thermal sensor (high resolution).
3. NRSC can carry out studies using DINSAR techniques to understand the area of subsidence.
4. NRSC can carry out high resolution survey for the area using DC camera for creating a base line information and can also provide high resolution DEM for the area for future monitoring of subsidence.
5. NRSC will also provide expertise for hosting the above data sets through the Bhuvan portal for Jharia Coalfield.
6. A proposal for the all above aspects will be submitted by NRSC after receiving formal request letter from BCCL for all the above aspects.



**Bharat coking coal Limited**

(A Subsidiary of Coal India Limited)

OFFICE OF THE GENERAL MANAGER

CHANCH-VICTORIA AREA-XII

P.O.-BARAKAR – 713324, DIST-BURDWAN ( W.B.)


Phone : 0341-2520061/62; FAX 0341-2520063


Ref No. : BCCL/CV/ ENVT/2016/


Date: 04.03.2016

**Overburden Generation & Backfilling Quantity for the next 5 years, Cluster XVI**

Year	Coal Production (MT)	O.B Excavation (Mm <sup>3</sup> )	Stripping Ratio (m <sup>3</sup> /T)	Backfilling Quantity (Mm <sup>3</sup> )
2015-16	2.232	10.044	4.5	0.5
2016-17	2.232	10.490	4.7	0.7
2017-18	2.232	10.714	4.8	1.0
2018-19	2.232	10.714	4.8	1.2
2019-20	2.232	11.160	5	1.4

  
7/5/2016  
Area Survey Officer  
CV Area

  
02/03  
Project Officer  
DBOCP

  
5/3/16  
Surveyor  
DBOCP

**BACKFILLED QUANTITY**

SL NO.	Year	Quantity (Lakh M <sup>3</sup> )
1.	2012-13	7.25
2.	2013-14	35.00
3.	2014-15	60.00

<p>भारत कोकिंग कोल लिमिटेड (कोल इंडिया लिमिटेड का एक अंग) महानगरपालिका का कार्यालय वायु विस्तारिता क्षेत्र - XII बाराक</p>		<p>BHARAT COKING COAL LIMITED (A Mini Ratna Company) (A Subsidiary of Coal India Ltd.) Office of the General Manager Chanch Victoria Area-XII Barakar, Burdwan - 713324 (West Bengal)</p>
--	---	---

Ref.No-GM:XII:Envrmt:16/22

Date: 14.05.16

To,

The Divisional Forest Officer,

Dhanbad,

Sub: Work order for plantation of 1400 bamboo gabion & 300 Brick gabion along Haul road from Dahibari Coal Stock to NLOCP Rly. Sdg and at newly constructed Ashok Bihar Colony.

Dear Sir,

Kindly refer to the application reference no. PO:NLOCP-DBOCP:05:16:99 dt 11-01-16 and subsequent estimate given by your good office vide letter no 235 dt 13-10-2016 for plantation of 1400 Bamboo gabion and 300 Brick gabion along Haul road from Dahibari Coal stock to NLOCP Railway Siding and at newly constructed Ashok Bihar Colony, Dahibari Colliery. In this connection it is to state ~~that~~ that budget has been approved by the H/Q vide BC no. 1148/F dt 05-05-16 and FC no. IC/FC/16-17/2700/plantation dt 12-05-16 and IC/FC/16-17/2700/plantation/06 dt 13-05-16 for an amount of Rs. 4523633.52 and the same has been communicated to us for the job and payment will be made to your office through Area Finance Manager, CV Area. An inspection has been done by Range Officer, Sri. Umesh Kumar on dt 12-05-16.

We will be submitting the desired amount of Rs 4523633.52 (Rupees Forty Five Lac Twenty Three Thousand Six Hundred Thirty three and Paise fifty two) only either through cheque or through RTGS within a week's time. The block plantation over 12.5 Hectares area will be done at NLOCP side through Departmental means.

In the view of the above you are kindly requested to give us permission for dumping of the Over Burden on the plantation filled OB dump of Dahibari Mine, so that work of OCP does not get hindered for the same.

You are further requested to take up the job so that it is completed during this monsoon.

Thanking you,

Copy to:

1. Project Officer, DBOCP/NLOCP,
2. A.F.M, CV Area,
3. M.T(Environement), DBOCP/NLOCP

Yours faithfully

  
General Manager,  
CV Area

6/15/16





পশ্চিমবঙ্গ পশ্চিম বঙ্গাল WEST BENGAL

V 030816

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (hereinafter referred to as "MoU") entered into on this 3rd day of December 2015 by and between :

Coal India Limited, a company incorporated under the Companies Act, 1956, having its registered office at Coal India Limited, Coal Bhawan, 3rd Floor, Premises No.04 MAR, Plot No.AF-III, Action Area-IA, New Town, Rajarhat, Kolkata-700156, India (hereinafter referred to as 'CIL' which expression shall, unless repugnant to the context or meaning thereof be deemed to mean and include its successors and permitted assigns), of the First party;

AND

Council of Scientific and Industrial Research, a Society registered under the Societies Registration Act (XXI of 1860), having its registered office at Anusandhan Bhavan, 2, Rafi Marg, New Delhi-110001 through its constituent laboratory, National Environmental Engineering Research Institute, having its office and laboratory at Nagpur, India (hereinafter called as 'CSIR' which the expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors and permitted assigns) of the Second Party.

CIL and CSIR are hereinafter individually referred to as the 'party' and collectively as 'parties'.

WHEREAS

- i) CIL is a premier coal mining and coal supply company in India having expertise and strength in areas such as coal mining.

*[Handwritten signature]*  
C.N. Das



#### 4.0 GROUNDWATER LEVEL SCENARIO

During the month of February'2015 the depth to water level (in bgl) varies from 0.30 m to 9.83 m with an average varies from of 1.94 m to 6.15 m. During the month of April'2015 the depth to water level varies from 1.38 m to 17.20 m with an average varies from 4.52 m to 10.30 m. During the month of August'2015 the depth to water level varies from 0.35 m to 6.81 m with an average varies from 1.95 m to 4.18 m. During the month of November'2015 the depth to water level varies from 0.45 m to 14.58 m with an average varies from 2.08 m to 7.47 m. The summarized water level data of all clusters are given in **Table No – 4**.

Depth to water level (in bgl) values described that water level goes down to maximum 17.20 m during pre-monsoon and maximum upto 14.58 m during post-monsoon. Un-confined aquifer is affected around 20 m to 30 m maximum close to active opencast mining areas, showing steep gradient towards mine void. Other than that, there is no mining effect in the water level within JCF area and RCF area (part). Historical water level data and hydrograph of permanent observation stations from CGWB shown in **Annexure–III**.

Monitoring groundwater (quantity & quality) to assess the present condition and resource has been done regularly in the coalfield areas. Well hydrographs (**Annexure–III**) are prepared and studied to identify potentially adverse trends so that appropriate action can be taken to protect groundwater resource. According to the hydrograph trend analysis of CGWB monitoring wells, no significant decline trend of water level is noticed in any particular area for the last 10 years within the coalfield area. Regarding quality monitoring, the water sample location map (**Figure No–2**) with collection points details (dug wells) are given in **Annexure–IV**.



**Bharat coking coal Limited**

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OFFICE OF THE GENERAL MANAGER

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P.O.-BARAKAR - 713324, DIST-BURDWAN ( W.B.)

Phone : 0341-2520061/62; FAX 0341-2520063

Ref No. : BCCL/CV/ ENVT/2015/

Date: 27.01.2016

**Subsidence Certificate**

There is no depillaring is going on in underground mines of Cluster XVI, hence no mining induced subsidence is taking place. There has been no subsidence occurred during Environmental Clearance compliance period till now. Regular monitoring of the area is being done by mine officials in this regard.

Project Officer  
DBCL, Barantimata, UG  
DCCV Area, BCCL



**Bharat Coking Coal Limited**

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**P.O.-BARAKAR - 713324, DIST-BURDWAN (W.B.)**  
**Phone : 0341-2520061/62; FAX : 0341-2520063**

Ref No. : BCCL/CV/ENVT/2015/ 1413

Date: 25.10.2016

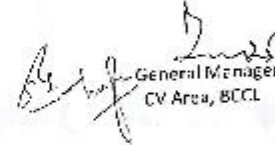
To,  
The Dy. General Manager (Environment),  
BCCL HQ, Koyla Bhavan,  
Dhanbad

Dear Sir,

With reference to the letter no. CL/C 5/16/973 dated 22.10.2016 from GM (Prod), CL, it is to inform that as per the guidelines of Hon'ble NEI court, Dhanbad action Plan conditions, Environment Clearance Conditions & State pollution board guidelines, the road transportation of coal are being done only by tarpaulin covered Trucks/Tippers in CV Area, BCCL.

This is for your kind information and further necessary action.

Yours Faithfully

  
General Manager  
CV Area, BCCL

CC:-

1. PO, DBOCP/DDCF.
2. AM (Env), CV Area.
3. Office Copy.

**R&R as per EMP 2012. For cluster XVI**

Oth.	Site name & no.	Affected Area (sq.m.)	No. of Houses				Land for Resettlement		Status as on 25.02.2016
			BCCL	Pvt.	Enchr.	Total	BCC (Ha)	Non BCC (Ha)	
Basanti mata	Company Colony near Office/O2	3929	0	3	0	0	3	0.00	The work of Rehabilitation & Resettlement of these houses has been taken by JHARIA REHABILITATION & DEVELOPMENT AUTHORITY (JRDA), of Jharkhand state government under Master plan. Presently they are surveying the household (1 Family = 4 or 5 Household) of Cluster XVI and final report is yet to be submitted by JRDA to the District collector, Dhanbad.
Lakdi	Kutugram/O1	74956	0	428	0	0	428	0.00	
New Lakdi	Jogind Batee/O2	5388	0	26	1	0	27	0.00	
New Lakdi	Office	14590	0	0	0	11	11	0.00	
	Complex W/S, CHF/O2		0	29	0	0	29	0.00	
Chanch	Baudh J/O4	11368	0	0	0	0	0	0.00	
Chanch	Yedavur Luchi Bag/O6	18009	0	0	0	80	80	0.00	
Chanch	Baudh J/O5	39961	0	143	0	0	143	0.00	
Chanch	Reliance Factory J/O2	8535	0	14	0	0	14	0.00	
Chanch	Reliance Factory J/O3	59769	0	86	1	2	89	0.00	
Lakdi	Humarkunda & company								
	Qura, DA&AB	38585	18	0	14	3	35	0.29	
Lakdi	Humarkunda Village/2A&2B	78517	0	114	0	40	154	0.00	
Lakdi	Manhi Batee/O6	12295	0	43	0	0	43	0.00	
New Lakdi	CMW Colony/O6	52138	94	0	43	0	137	1.50	
TOTAL	13	451335	94	886	59	136	1193	1.79	

  
Nodal Officer (R&R)  
CV Area, BCCL



**CSR, R&R AND TRANSPORTATION PLAN OF  
CLUSTER-XVI**

As per

*EC condition ( Specific Condition :37) The Details of transportation, CSR, R&R and implementation of environmental action plan for the clusters-XVI should be brought out in a booklet form within a year and regularly updated.*

January 2016

**INTRODUCTION**



# **Bharat coking coal Limited**

*(A Subsidiary of Coal India Limited)*

**OFFICE OF THE GENERAL MANAGER**

**CHANCH-VICTORIA AREA-XII**

**P.O.-BARAKAR – 713324, DIST-BURDWAN ( W.B.)**

**Phone : 0341-2520061/62; FAX 0341-2520063**

## **CSR Expenditure for Cluster XVI, CV Area.**

Year	Expenditure	
	Capital expenditure	Recurring Expenditure
2013-14	NIL	Rs.4,10,000/-
2014-15	Rs.2,03,000/-	Rs.4,20,000/-
2015-16	Rs.27,45,000/-	Rs.16,00,000/-
2016-17	Rs.72,700/-	Rs.5,40,000/-

**STRICTLY RESTRICTED**

**FOR COMPANY USE ONLY RESTRICTED**

The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL / GOVERNMENT.

**ENVIRONMENTAL MONITORING REPORT  
OF  
BHARAT COKING COAL LIMITED,  
CLUSTER – XVI**

**(FOR THE Q.E. JUNE, 2016)**

**E. C. no. J-11015/185/2010-IA.II (M) dated 06.02.2013-**

**September, 2016**



**CMPDI**

**ISO 9001 Company  
Regional Institute-II  
Dhanbad, Jharkhand**



**Bharat coking coal Limited**

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OFFICE OF THE GENERAL MANAGER

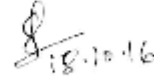
CHANCH-VICTORIA AREA-XII

P.O.-BARAKAR – 713324, DIST-BURDWAN ( W.B.)

Phone : 0341-2520061/62; FAX 0341-2520063

**CERTIFICATE**

This is to certify that there are no cases related to occupational health diseases exiting in the mines under Cluster XVI, CV Area, BCCL.

  
18.10.16

Area Medical Officer  
CV Area, BCCL





## **Bharat coking coal Limited**

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**Phone : 0341-2520061/62; FAX 0341-2520063**

Bharat Coking Coal Limited (BCCL) is a subsidiary of Coal India Limited which is a public sector Undertaking engaged in mining of coal and allied activities. Our mission is to produce the planned quantity of coal efficiently and economically with due regard to safety, conservation and quality. Cluster XVI lies in CV Area of BCCL. For the protection of environment many works have been done and many more initiatives have been taken in Cluster XVI. The works includes like Dust suppression, Plantation, Water Harvesting, Water Treatment, Tarpaulin covered transportation etc. To ensure healthy environment Environmental monitoring in aspect of Air, Water & Noise is regularly carried out by competent agencies.

Before 2013 in BCCL; the degraded land due to mining were biologically reclaimed through block plantation method by state forest department. But after 2013 the degraded land are being reclaimed biologically through 3-tier Ecological Restoration. As of now in cluster XVI a total of 27 ha area of degraded land is being reclaimed through eco-restoration.

To ensure the protection of Environment in Cluster XVI dedicated Manpower and Machineries has been permanently deployed in the work fields.

Number of manpower and machineries deployed is as follows:-

1. Dust Suppression- 48
2. Pressure Filter Plant- 18
3. Firefighting- 40
4. Eco-restoration- 38
5. No. of Water Tanker- 12

Apart from recurring work to mitigate the environmental pollution in cluster XVI recurring mine closure activities are also done simultaneously.

Expenditure on environment mitigation activities year wise is given below:-

### **Environmental Fund Expenditure in 2013-14.**

Sl No.	Activity	Expenditure Amount
1.	Eco-Restoration	50,000/-
2.	Community development expenditure	4,10,000/-
3.	Sprinkling	10,22,460/-
4.	Wages of Manpower Involved	7,00,000/-
	<b>Total</b>	<b>21,82,460/-</b>

