

GM (Env.)  
(8)



## भारत कोकिंग कोल लिमिटेड

(A Subsidiary of Coal India Ltd)

Office of the General Manager

Eastern Jharia Area,

P.O. Bhowra, Dist: Dhanbad (Jharkhand) 828302

Ref.No. BCCL/GM/EJA/2013/

4087

Date- 25/11/2013

To  
The Director (S)  
Ministry of Environment & Forest  
Govt. of India,  
Eastern region Office  
A/3, Chandrasekharpur, Bhubneshwar-751023.



Subject:- Six monthly report on implementation of Environmental protection Measures for the period from April, 2013 to September 2013 in respect of Cluster X group of mines of BCCL.

Ref:- EC-Order No.- J-11015/380/2010-IA.II(M) dated 06.02.2013.

Dear Sir,

Kindly find enclosed here with the Six monthly report on implementation of Environmental protection Measures for the period from April, 2013 to September 2013 in respect of Cluster X group of mines of BCCL.

Hope you will find same in order.

Encl:- as above.

Yours Faithfully

General Manager  
E. J. Area, BCCL  
Cluster X

Circ. to:-

✓ 1) G.M. (Env.) BCCL, Koyla Bhawan, Dhanbad.

Sri J.K. Singh. AM (Env.)  
11/11/13

G.M. Kumar  
Date 21/11/13

**ENVIRONMENTAL CLEARANCE COMPLIANCE OF CLUSTER X**  
**(GRANTED VIDE J-11015/380/2010-IA.II (M) Dated 06.02.2013)**  
**(Upto September 2013)**

Sl. No.	A. Specific Conditions by MOEF:	Compliance
i	The maximum production from the opencast and underground section in the cluster shall not exceed beyond that for which environmental clearance has been granted for the cluster X as below:	The production from the cluster is within the limit for which environmental clearance has been granted.
ii	All the void /water bodies should be backfilled upto ground level and no OB dump at the end of mining.	It shall be complied. Action is being taken as specified in EMP.
iii	Extensive plantation should be provided on either side of Damodar River;	Action has been taken for their eco-restoration work as per Road Map prepared by FRI,
iv	Details of impact of mining on Damodar River should be assessed and provided;	Study on Damodar River will be taken up by CMPDI.
v	Impact of mining on ground water of the area (Impact Zone) should be provided;	Study will be taken up by CMPDI.
vi	A Garland drain should be provided and the drain water should not be discharged in to Damodar River;	It will be provided.
vii	Excess water from mine after treatment should be supplied to the villagers;	It shall be complied.
viii	Rejects of washery along with dry carbon slurry should be utilized in power plant and other recognized vendors;	It shall be complied.
ix	There should be no discharge from the Washery (slurry) in to the Damodar River. The entire washery water should be recycled;	It is being complied.
x	Damodar River should be protected by plantation on both sides;	It shall be complied.
xi	A herbal garden with medicinal plants be developed;	Being complied. Action has already been taken for identification of land for development of herbal garden for the inhabitants/ nearby society under the CSR activity of the company.
xii	A time schedule for filling of existing and abandoned quarries be done;	It is being complied. Yearly plantation is being done for development of green belts as per EMP.
xiii	Of the total water body area of 286.54 ha in the post-mining land use, consist of 243.97 ha of natural water bodies like Damodar river and no. of water ponds. Only 42.57 ha of mine voids were proposed to be converted to artificial water bodies for catering to domestic use of local villagers. Keeping in view the Damodar river in the vicinity, there should be no additional water bodies are created from mine.	It shall be complied.
xiv	The measure identified in the environmental plan for cluster X groups of mine and the conditions given in this environmental clearance letter shall be	Master Plan is dovetailed with environmental clearance conditions.

	<p>detailed to the implementation of the Jharia Action Plan.</p>	
xv	<p>As there is no fire in Cluster X but the measure should be adopted by proponent to control spread of neighbouring fire to this Cluster X. 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 from/ spread fires in other areas including in mines of cluster Xv shall be undertaken.</p>	<p>Work has been awarded to NRSC (earlier NRSA). A MoU is to be entered with the NRSC for start of the work. For this purpose, duly signed MoU has been sent to NRSC for necessary processing at their end and to start the work immediately. (Copy enclosed as Annexure-A)</p> <p>Action is being taken as specified in the Master Plan and EMP.</p>
xvi	<p>Underground mining should be taken up after completion of reclamation of Opencast mine area after 2 years.</p>	<p>It is being complied. Mining is being done as per the guidelines and approval/permission of Directorate General of Mines Safety (DGMS).</p>
xvii	<p>No mining shall be undertaken where underground fires continue. Measures shall be taken to prevent/ check such fire including in old OB dump.</p>	<p>It is being complied.</p>
xviii	<p>A part of cluster X 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.</p>	<p>CMPDI RI-2 has been requested to conduct study of permeability and seepage of water of River Damodar.</p>
xix	<p>The rejects of washeries in Cluster -X should be sent to FBC based plant.</p>	<p>It shall be complied.</p>
xx	<p>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.</p>	<p>Action is being taken as specified in EMP. Backfilling of OB is going on with mining. At the end of mining there shall be no void and area will be re-vegetated and reclaimed.</p>
xxi	<p>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- X shall be drawn up and implemented.</p>	<p>Calendar plan has been prepared. Mine closure plan as per the guidelines of Ministry of Coal and on the basis of cluster concept is under preparation by Central Mine planning and Design Institute (CMPDI).</p>
xxii	<p>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 recognized with plantation and the periphery of the reservoir fenced. The abandoned pits and voids should be backfilled with OB and biologically reclaimed with</p>	<p>It shall be complied. A part of the void will be converted into the water body as specified in EMP.</p>

	plantation and or may be used for pisciculture	
Xxii i	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.	It is being followed. Action for construction of embankment has been taken as specified in EMP.
xxi v	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.	No OB is being dumped near water bodies. Further action has been taken for their eco-restoration work as per Road Map prepared by FRI, Dehradun.
xxv	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.	It is being complied. Yearly plantation is being done for development of green belts as per EMP.
xxv i	The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.	It shall be complied.
Xxv ii	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.	Dhanbad Action Plan is being implemented. The salient actions of this cluster 1. Covered transportation of coal. 2. Water sprinkling 3. Plantation.
xxv iii	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, fly ash 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.	The locations of monitoring stations in the Jharia Coalfields have been identified with the Jharkhand State Pollution Control Board.  The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is having CSIR laboratory recognized under the EP Rules. For the source apportionment study the action has been taken with help of CMPOIL.  Presently ambient air is being monitored through BCCCL own Laboratory at HQ level.
Xxi x	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	It is being complied and mine water is being used for the industrial purpose. Further Mine water is also utilized for the community and irrigation purposes.



	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.	Following actions has been taken by the company 1. Installation of Pressure filters for utilisation of mine water 2. Rain water Harvesting
Xxx	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. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.	It is being complied. The work of monitoring will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is having CSIR laboratory recognized under the EP Rules. Presently CMPDI is monitoring the ground water level.  The monitoring stations for this purpose have been identified with Jharkhand State Pollution Control Board.
Xxx	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.	It is being complied. Jharkhand State Pollution Control Board has been consulted for this purpose.  The monitoring will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is having CSIR laboratory recognized under the EP Rules. Presently mine water is being monitored through BCCL own Laboratory at HQ level.
Xxx ii	ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to conform to prescriptive standards in case discharge into the natural water course.	Construction of ETP/ Oil grease Trap is being taken-up.
Xxx iii	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 cement and clayey soil/suitable material.	At present only development districts are operational at UG mines in Cluster X and no depillaring district is taken up. However regular monitoring of subsidence will be undertaken on operating depillaring districts.
Xxx iv	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.	Sufficient coal pillars have been left around air shafts as per the statutes and DGMS guidelines.
Xxx v	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	Identification of high root density Plant and its plantation in subsidence prone area will be taken-up at the time of depillaring operations.
Xxx	Depression due to subsidence resulting in water	It shall be complied.

vi	accumulating within the low lying areas shall be filled up or drained out by cutting drains.	
Xxx vii	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	It is being followed. Sufficient barriers are left for saving the surface installation and other structures as per the statute and DGMS guidelines.
Xxx viii	No depillaring operation shall be carried out below the township/colony.	It is being followed.
Xxx ix	The Transportation Plan for conveyor-cum-rail for Cluster- X 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.	Action has been taken for formulating adequate transportation plan for conveyor cum rail system of dispatch. CMPDI has been requested to prepare the plan. By that time transportation is being done by covering vehicle with tarpaulin cover. Action for mechanically covered trucks has been taken.
Xi	A study should be initiated to analyse extent of reduction in pollution load every year by reducing road transport.	CMPDI RI-2 has been requested for Source Apportionment Study.
Xli	R&R of 1670 nos of PAF's involved. They should be rehabilitated at cost of Rs 7087.75 Lakhs as per the approved Jharia Action Plan.	Implementation is being done as per the Master plan.
xlii	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.	It is being followed.
Xliii	A detailed CSR Action Plan shall be prepared for Cluster X 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.	It is being complied. BCCL is implementing CSR activities. A separate CSR committee has been formed at Area level for Cluster-X.
xliv	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	Complied. Presently a time series map of vegetation cover in the Jharia Coal field is being carried out through CMPDI Ranch.

	until end of mine life shall be prepared once in 3 years (for any one particular season which is convenient in the mine series), and the report submitted to MCD, and its Regional office at Shubhashwar.	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 1:50000 for every 3 years.
Xiv	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.	CMPDI has been requested to prepare "Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund".
Xv	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.	A full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives (12 nos.) which includes Environment, Mining, Excavation, Civil, Survey, Electrical & 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. 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.
Xvi	Implementation of final mine closure plan for Cluster X, subject to obtaining prior approval of the DGMS in regard to mine safety issues	For the purpose of safety issues related to the closure of mine prior approval of DGMS will be taken.
Xvii	Corporate Environment Responsibility:  A The Company shall have a well laid down Environment Policy approved by the Board of Directors.	A well defined Corporate Environment Policy has already been laid down and approved by the

	<p><b>B</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><b>C</b> 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><b>D</b> 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.</p>	<p>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>
<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.	Being complied.
ii	No change in the calendar plan of production for quantum of mineral coal shall be made	Being complied.
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 fixing up of locations of monitoring stations in the Jharia Coalfields has been identified with the Jharkhand State Pollution Control Board.</p> <p>The work of monitoring of ambient environment will be done through Central Institute of Mining &amp; Fuel Research (CIMFR), Ranchi which is having CSIR laboratory recognized under the EP Rules.</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.	It shall be complied.
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.	Being Complied.
vi	<b>Industrial wastewater (workshop and wastewater</b>	The fixing up of locations of monitoring stations

	from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GOR 422 (E) dated 15 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1999 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	In the Jharia Coalfields has been identified with the Jharkhand State Pollution Control Board. The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is having laboratory recognized under the EP Rules. Presently mine effluent is being monitored through BCCL own Laboratory at HQ level.
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the miners shall be covered with tarpaulins and optimally loaded.	It shall be Complied.
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 10 recognized under EPA Rules, 1986.	It is being done.
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.	Being Complied. Vocational training Centers under separate Human Resource Development Deptt. Is conducting regular training programme on these issues.
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.	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.
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.	A full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives (12 nos.) which includes Environment, Mining, Excavation, Civil, Survey, Electrical & 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

	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.	in the Jharia Coalfields has been identified with the Jharkhand State Pollution Control Board. The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is having laboratory recognized under the EP Rules. Presently mine effluent is being monitored through BCCL own Laboratory at HQ level.
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.	It shall be Complied.
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 10 recognized under EPA Rules, 1986.	It is being done.
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.	Being Complied. Vocational Training Centers under separate Human Resource Development Deptt. is conducting regular training programme on these issues.
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.	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.
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.	A full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives (12 nos.) which includes Environment, Mining, Excavation, Civil, Survey, Electrical & 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

		<p>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. 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	<p>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 Shubaneswar.</p>	<p>It is being complied.</p>
Xiii	<p>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>.</p>	<p>It has been complied.</p> <p>Advertisement in local newspaper is enclosed as annexure-B.</p>
Xiv	<p>A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal corporation or Urban local body and local NGO, if any, from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.</p>	<p>Complied.</p>
Xv	<p>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.</p>	<p>Complied.</p>



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.	Complied.
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.	Being complied.
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.	Shall be complied.
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	Being complied.
	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.	

  
 General Manager  
 E. J. Area  
 H.C.C. Ltd.

## Annexure- A

BCCL



**Bharat Coking Coal Limited**  
(A Subsidiary of Coal India Limited)  
Office of HOD(Environment)  
Koyla Bhawan, Koyla Nagar  
Dhanbad 826006

Ref. No.BCCL/HOD(Env)/F- MP/13/ 610

Dated 21.03.2013

To,

Dr Vinod Kumar,  
Group Head, Geosciences group  
Sc/Eng-SG  
National Remote Sensing Centre  
Indian Space Research Organization  
Dept of Space,Govt Of India,Balanagar,Hyderabad  
Andhra Pradesh-500625

**Subject : Regarding proposal for "Delineation" of Surface Coal Fire and associated Land Subsidence in Jharia coalfield, Jharkhand using satellite based remote sensing techniques at a cost of Rs 19.70 Lakhs submitted by e-mail on 15.05.2013**

D/Sir,

We are in receipt of the aforesaid proposal, sent by email on 15.05.2013, covering two components of the scope of study and subsequent communication by BCCL letter no. BCCL/D (T) Op/F-Env/2012/148(A) dated 11.02.2013:

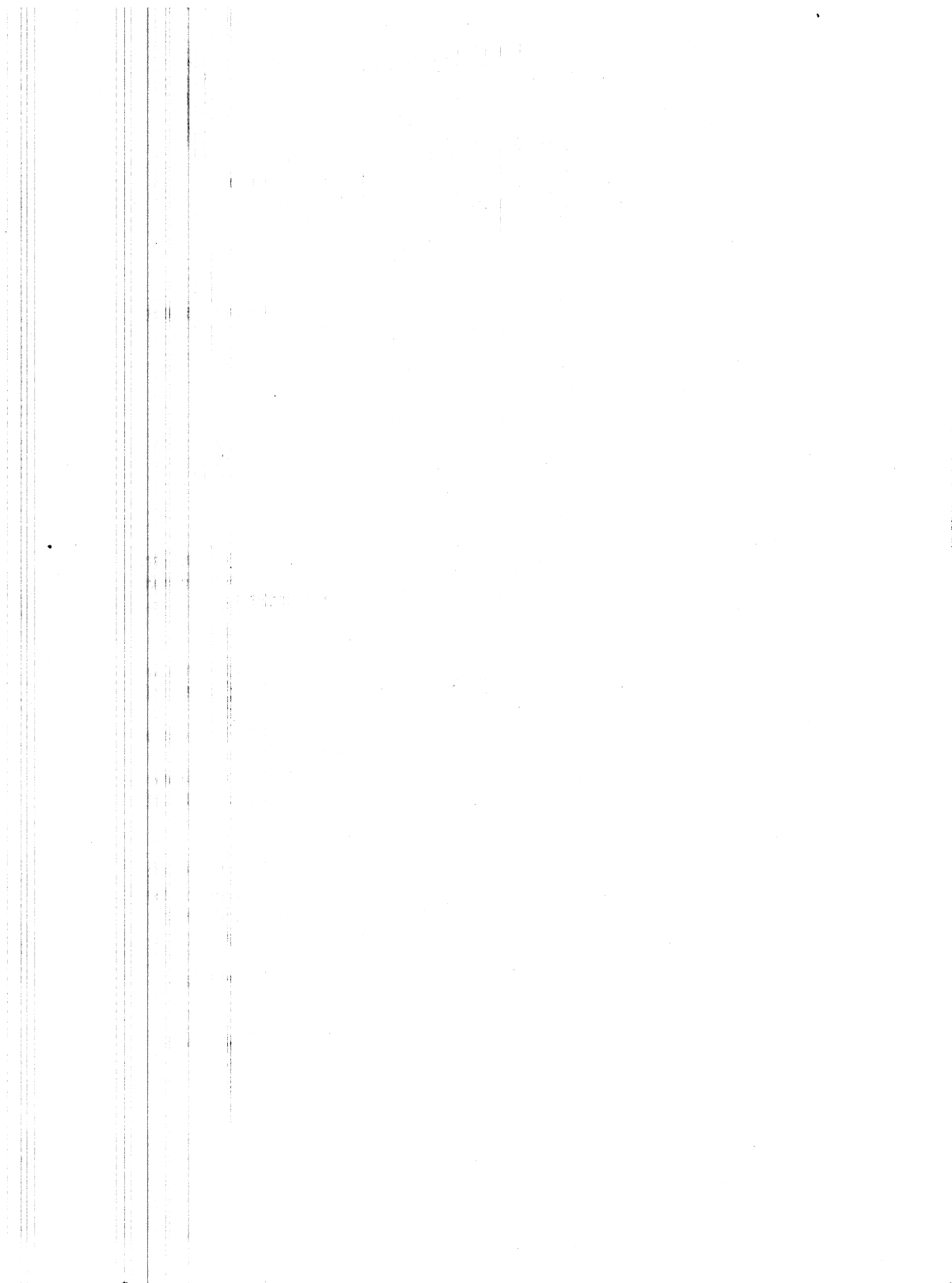
**Part 1:** Coal Fire mapping of Jharia Coalfield using Thermal infra-red data - for a cost of Rs. 6,70,721=00. The study is proposed to be completed within 8 months and  
**Part 2:** Land subsidence mapping of Jharia Coalfield using Interferometric SAR data - for a cost of Rs. 12,98,571=00. The study is proposed to be completed within 12 months.

Competent authority of BCCL has approved both the two components as above. You are therefore requested to submit your invoice for 90% amounting to 17.73 Lakhs, of the cost of the project Rs 19.00 Lakhs at the earliest for placing the work order and releasing the 90% amount.

Thanking you,

Yours faithfully,

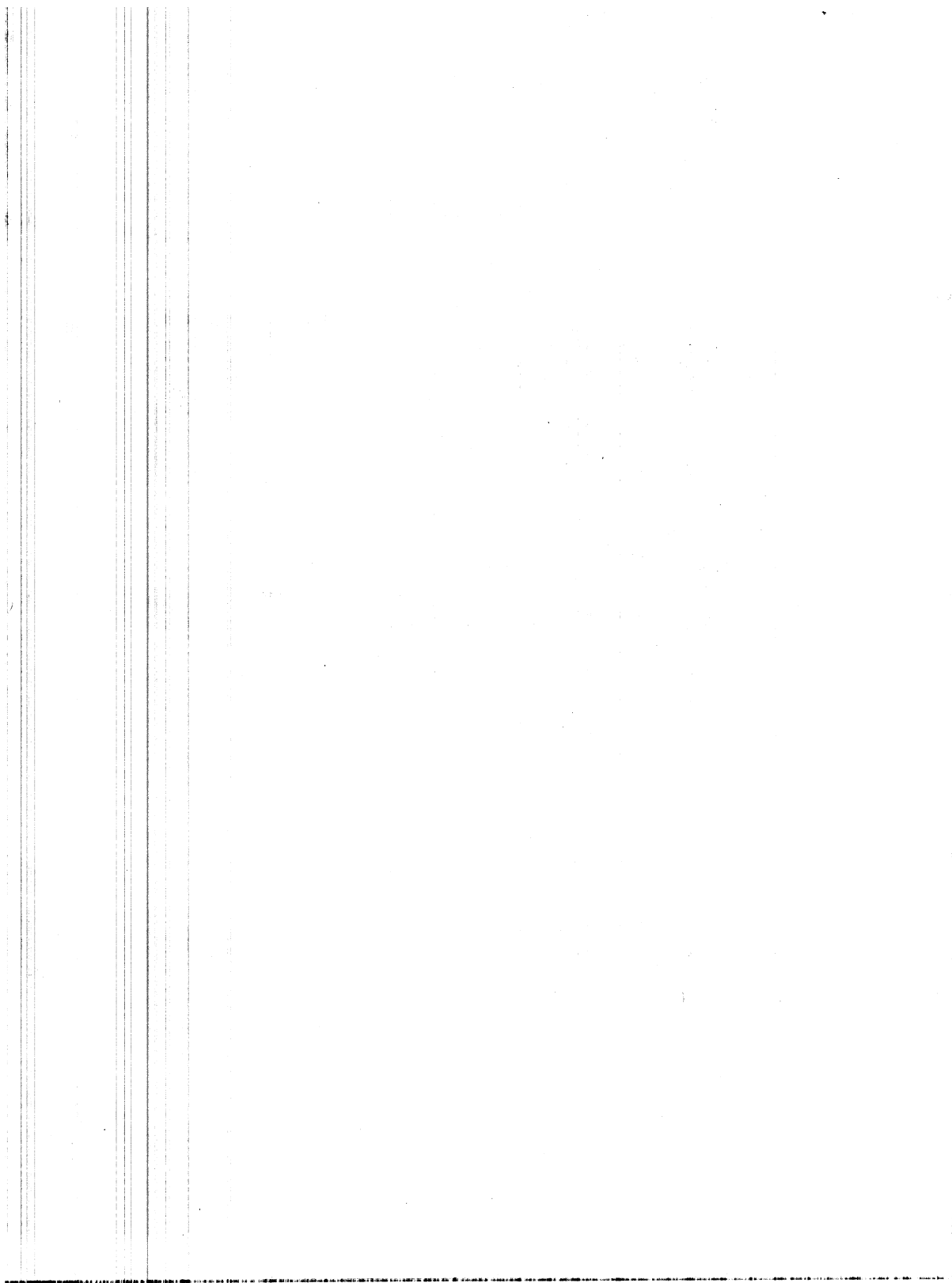
  
HOD (Environment)



## **Annexure- B**

[illegible]

<b>Bharat Coking Coal Limited</b> <b>(A Subsidiary of Coal India Limited)</b>		
<b>This is bringing in notice of all concerned that the following (Nine) Clusters of BCCL consisting of 61 Mines and 07 waste-to-energy plants Environmental Clearances by Ministry of Environmental and forest.</b>		
Sl. No.	Name of the Cluster	Section order number and date
1	Cluster-I (consisting of 06 Mines, 01 waste-to-energy plant) DCP, Barhwa, Jharkhand. 1. Barhwa, 2. Barhwa-O, 3. Barhwa of Mines, 4. Barhwa, 5. Barhwa, 6. Barhwa, 7. Barhwa, 8. Barhwa, 9. Barhwa, 10. Barhwa, 11. Barhwa, 12. Barhwa, 13. Barhwa, 14. Barhwa, 15. Barhwa, 16. Barhwa, 17. Barhwa, 18. Barhwa, 19. Barhwa, 20. Barhwa, 21. Barhwa, 22. Barhwa, 23. Barhwa, 24. Barhwa, 25. Barhwa, 26. Barhwa, 27. Barhwa, 28. Barhwa, 29. Barhwa, 30. Barhwa, 31. Barhwa, 32. Barhwa, 33. Barhwa, 34. Barhwa, 35. Barhwa, 36. Barhwa, 37. Barhwa, 38. Barhwa, 39. Barhwa, 40. Barhwa, 41. Barhwa, 42. Barhwa, 43. Barhwa, 44. Barhwa, 45. Barhwa, 46. Barhwa, 47. Barhwa, 48. Barhwa, 49. Barhwa, 50. Barhwa, 51. Barhwa, 52. Barhwa, 53. Barhwa, 54. Barhwa, 55. Barhwa, 56. Barhwa, 57. Barhwa, 58. Barhwa, 59. Barhwa, 60. Barhwa, 61. Barhwa, 62. Barhwa, 63. Barhwa, 64. Barhwa, 65. Barhwa, 66. Barhwa, 67. Barhwa, 68. Barhwa, 69. Barhwa, 70. Barhwa, 71. Barhwa, 72. Barhwa, 73. Barhwa, 74. Barhwa, 75. Barhwa, 76. 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**BHARAT COKING COAL LIMITED**  
(A Subsidiary of Coal India Limited)  
Office of the General Manager, Western Jharia Area  
PO: Moonidih, Dist: Dhanbad - 828 129 (Jharkhand)

Ph: 0326-2273483, 2273445; Fax: 0326-2273445; E-Mail: [gm.wj@bccl.gov.in](mailto:gm.wj@bccl.gov.in)

**SPEED POST**

Date: 17.12.2013

23

Ref: WJA/MND/GM/2013/5748

To,

The Director(s),

Ministry of Environment & Forest, Govt. Of India

Eastern Region Office

A/3, Chandrashekharapur, Bhuvaneshwar-751023

Sub:- Submission of 6 monthly report on implementation of environmental measures for the period from April'13 to September'13 in respect of cluster XI group of mines of BCCL.

Ref: EC Order No- J-11015/77/2011- IA.II(M) DATED 26/08/2013.

Dear Sir,

Please find enclosed herewith the six monthly report on implementation of environmental protection measures for the period from April'2013 to Sep'2013 in respect of Cluster XI group of mines of BCCL. We hope you will find in order.

Thanking You,

Encl: As Above

Sri I.K. Singh AM (ECM).

1/1/14

Sh. H. Kumar  
26/11/13

Yours faithfully

General Manager

WJ Area

CC to:- 1. Dr. Sunita Aulock, Director, 1A Monitoring Cell, Paryavaran Bhawan, CGO Complex, New Delhi-110003 (By speed Post)

✓ 2. HOD (Envn.), BCCL, Koyla Bhawan, Dhanbad.

3. G.M., P.B. Area.

4. Nodal Officer (Env), WJ Area, P.B. Area and W.W.Z. 5) Project officer, Moonidih colly. and washery

**ENVIRONMENTAL CLEARANCE COMPLIANCE OF  
CLUSTER-XI (GRANTED VIDE J-  
11015/77/2011-IA.II (M) Dated 26.08.2013).**

*(April, 2013 to September, 2013)*

Sl. No.	A. Specific Conditions by MOEF:	Compliance
i.	No mining shall be undertaken in/under the forestland until prior forestry clearance has been obtained under the provisions of FC Act 1980.	Agreed. Application for Forest clearance was applied vide ref. no. WJA/MND/GM/2011/21 dt. 22.9.11 to D.F.O., Dhanbad. D.F.O. demanded jungle-jhari report for the whole lease -hold area of the unit. Report for the same was submitted after getting it from C.O., Dhanbad. C.O. reported us inavailability of Khatiyan in 22 Mouzas out of 24 Mouzas. Hence DFO directed to get it from D.C.'s office, Dhanbad. D.C.'s office provided above report for 3 Mouzas and will provide it for 2 Mouzas showing inavailability, tearing off of Khatiyan for rest Mouzas. As soon as above report for rest Mouzas will be received, we will report it to D.F.O., Dhanbad for further process.
ii.	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 1.2.2013 i.e. date of issue of FC Division's guidelines vide no. 11-362/2012-FC, 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.	Agreed
iii.	The maximum production in the cluster shall not exceed beyond that for which environmental clearance has been granted for the cluster XI as per given below:	Agreed
iv.	The open cast quarries of the abandoned mines should be backfilled to the ground level and restored with native species.	N.A
v.	All coal from smaller UG mines should be transported by high capacity and mechanically	Agreed



vi.	Green belts shall be developed on both sides of the roads.	Agreed
vii.	Action plan for quenching of fires and rehabilitation alongwith the details of master plan be submitted to the MoEF for monitoring purpose.	Agreed. Will be submitted soon ( Plan is already submitted in respect of all mines of P.B. Area )
viii.	Presently coal to Munidih washery from other mines of the cluster is taking place through NH. An alternate route for coal transportation may be explored.	Agreed
ix.	For understand the composition of emissions from coal mine fires, BCCL may.	Agreed
x.	Initiate action as proposed in the visit report of the EAC to Dhanbad.	Action as proposed in the visit report of EAC initiated to Dhanbad.
xi.	The approved mining plan be submitted to the MoEF.	Will be submitted soon.
xii.	The measure to identify in the Environmental Plan for Cluster- XI groups of mine and the conditions given in this environmental clearance letter shall be dovetailed to the implementation of the Jharia Action Plan.	Environmental plan for Cluster XI group of mines and the condition given on the environment clearance has been dovetailed.
xiii.	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 II shall be undertaken. Expertise available internationally could also be utilised for control of fire in Jharia Coalfields and for their reclamation and to further minimize time for fire and subsidence control. Isothermal mapping using thermal imaging has been got done by NRSA. Measures would be taken to prevent ingress of air (ventilation) in such areas, which may re-start fresh fires.	Agreed.  Being Implemented.
xiv.	The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.	Agreed.

XV.	No mining shall be undertaken where underground fires continue. Measure shall be taken to prevent/check such fire including in old OB dump areas where the fire could start due to presence of coal/shale with sufficient carbon content.	Complied. Agreed
XVI.	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.	Complied . Agreed
XVII.	Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. A total area of 254.67 ha shall be reclaimed and afforested.	Already developed in respect of Moonidih u/g mine. Green belt is being developed in respect of all mines of P.B. Area .Agreed.
XVIII.	Details of transportation, CSR, R&R and implementation of environmental action plan for the clusters- XI should be brought out in a booklet form within a year and regularly updated.	Being Implemented.
XIX.	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 XI shall be implemented.	Being Implemented.
XX.	The locations of monitoring stations in the Jharia Coalfields should be finalised 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 (PM10 and PM2.5) 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.	At BCCL level ,work is under progress.
XXI.	The proponent will continue the existing Road-Rail transport network system in view of the implementation of the Master Plan (for 10 years) and another 5 years gestation period after the completion of Master Plan for	Action is being taken at corporate level.

	consolidation of the backfilled dug out fire areas and unstable areas is required. All mitigation measures (like covered trucks, green belting on either sides of the roads, enhanced water sprinkling, strengthening and maintaining the roads etc.) shall be adopted up to 15 years (phase-I) with the existing road-rail transport system. In phase-II, BCCL shall implement conveyor-cum-rail transport to avoid movement of trucks within the cluster for coal transportation in Phase-II which shall start after 15 years. Transportation of coal shall be by Rail and Conveyor belt, minimizing the existing road transport system in all the mines of the cluster and shall continue after 15 years. Loading of coal by pay loaders shall be discontinued. Adequate number of suitably designed off-take points shall be provided.	
XXII.	16944 nos of PAFs should be rehabilitated at cost of Rs 53776.60 Lakhs as per the approved Jharia Action Plan.	Agreed for PAPs .
XXIII.	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.	Implemented and will be implemented as the case may be .
XXIV.	Coal Extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring & coal extraction should be carried out below habitation, H.T. Lines & beneath road, water bodies	Agreed
XXV.	Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement with the landowners.	Agreed
XXVI.	3-tier plantation should be developed 2 km stretch of road from the mine using native species.	Developed in respect of Moonidih Mine .It is under progress in respect of all mines of P.B.Area.

xxvii.	Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.	Already provided in respect of Moonidih Mine (Approach road already blacktopped and maintained). Already provided in Moonidih washery.  Agreed in respect of all mines of P.B. Area
xxviii.	A progressive afforestation plan shall be prepared and implemented over the mine lease area acquired and shall include areas under green belt development, areas along roads, infrastructure, along ML boundary and township etc, by planting native species in consultation with the local DFO/Agriculture Department.	It is under progress
xxix.	Acid Water Treatment Plant, volume of water to be treated and disposal of brine should be provided.	Agreed

Xxx.	Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.	Agreed
Xxxi.	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource, in case water table shows a declining trend. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	Agreed
xxxii.	Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.	Agreed
xxxiii.	The mining in the existing mines would be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analysed and monitored for compliance of conditions, having bearing with movement of wild life until such time they are closed/phased out.	Agreed

xxxiv.	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.	Already implemented in case of Moonidih Mine  Agreed in respect of all mines of P.B. Area.
xxxv.	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	Agreed
xxxvi.	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	Agreed
xxxvii.	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	Agreed
xxxviii.	The CSR Action Plan shall consist of need-based CSR Action Plan, CSR Auditing and monitoring mechanism etc. The proponent will spend 5 % of the retained earning of the previous year subject to a minimum of Rs. 5/- per tonne of coal production which should be adjusted as per the annual inflation The progress made thereon shall be uploaded on the company annually on the company website. Monitoring of the impacts of activities under CSR shall be carried out periodically.	Agreed
xxxix.	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. The gap/space available between the entire mine area should be suitably planted with native species. Plantation should also be made in vacant area and along the road side so as to reduce dust pollution.	Agreed

xl.	Central recreation park with herbal garden should be developed for use of all inhabitants.	Agreed
Xli.	The mine water should be treated properly before supply to the villager.	Already done in respect of Moonidih mine .Arrangements are being done to full fill the requirement in respect of P..B.Area
Xlii	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.	Already implemented,monitored and records maintained regularly in respect of Moonidih mine . Work is under Progress in respect of all mines of P.B.Area
Xliii	The void shall be converted into a water reservoir of a maximum depth of 15-20 m 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 reclaimed with plantation and or may be used for pisciculture.	Agreed
Xliv	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.	Agreed

xliv	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.	Agreed
xlvi	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.	Agreed
xlvi.	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. the mining plan and post- mining plan, closure plan should be prepared and submitted to the Ministry;	Agreed
xlvi.	A separate management structure for implementing environment policy and socio-economic issues and the capacity building required in this regard.	Agreed
xlix.	The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked	Agreed.
1.	Site(s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored minerals do not catch fire.	Agreed



li.	Hoppers of the coal crushing unit and washery unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.	Agreed.
lii.	All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned with mechanical sweepers.	Already implemented in respect of Moonidih mine .Agreed for rests of units .
liii.	Green belt of 3 ha shall be developed all along the periphery of the site, along the areas such as the washery unit, crushing unit, and stockyard. A 3-tier avenue plantation would be developed along vacant areas, near washery, storage yards, loading points and transfer points and along internal roads and main approach roads and on the road upto the railway siding and at the siding. The road between the coal washery and the main -road shall be black topped and thick 3-tier vegetation between the washery and villages/habitations shall be developed. In addition, a 10m thick green avenue plantation in the transportation route from washery to Majhri Railway Siding (of WCL) shall be provided in consultation with and approval of WCL under CSR.	Agreed. There is no Majhri Railway siding of WCL in this cluster xi
liv.	Trucks engaged for mineral transportation outside the washery upto the railway siding shall be optimally loaded. The trucks shall be properly maintained and emissions shall be below notified limits. Facilities for parking of trucks carrying raw coal from the linked coalmines shall be created within the Unit.	Agreed
lv.	Records of quantum of coal (in TPD) and ash content of raw coal being washed, clean coal and coal rejects produced from every batch of washing shall be maintained and details thereof uploaded on the company website.	Agreed

lvi.	The washery unit shall be a zero-discharge facility and no wastewater shall be discharged from the washery into the drains/natural watercourses. Recycled water shall be used for development and maintenance of green belt and in the Plant Operations.	Agreed
lvii.	Coal fines shall be recovered from the coal slurry, washery discharge and used in power generation and records of quantum of coal fines collected and used shall be properly maintained.	Stock of slurry is maintained .Linkage of slurry is policy matter.
lviii.	No additional groundwater shall be used for the Plant Operations. Any additional water requirement envisaged shall be obtained by recycle/reuse to the maximum extent and from rainwater harvesting measures.	Agreed
lix.	Heavy metal content in raw coal, and washed coal shall be analysed once in a year and records maintained thereof.	Agreed
lx.	Corporate Environment Responsibility:	Agreed
a.	The Company shall have a well laid down Environment Policy approved by the Board of Directors.	Agreed
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.	Agreed
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.	Agreed
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.	Agreed

Sl. No	B. General Conditions Conditions by MOEF:	Compliance
i.	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Being Followed.
ii.	No change in the calendar plan of production for quantum of mineral coal shall be made.	Being Followed.
iii.	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, PM 2.5, SO 2 and NOx 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.	The fixing up of locations of monitoring stations in the Jharia Coalfields has been taken up with the Jharkhand State Pollution Control Board. The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is having CSIR laboratory recognized under the EP Rules.
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.	It shall be complied.
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.	Being Complied.
vi.	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	The fixing up of locations of monitoring stations in the Jharia Coalfields has been taken up with the Jharkhand State Pollution Control Board. The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is having laboratory recognized under the EP Rules. Presently mine effluent is being monitored through BCCL own Laboratory at HQ level.
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.	Already Complied.

viii.	<p>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, 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</p>	It is being complied.
ix.	<p>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.</p>	Being Complied. Vocational training Centers under separate Human Resource Development Deptt. is conducting regular training programme on these issues.
x.	<p>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)'s guideline.
xi.	<p>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>	<p>A full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives (12 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. 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 is being complied. Agreed to report the same .
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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 <a href="http://www.envfor.nic.in">www.envfor.nic.in</a>	It has been complied.
xiv.	A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	Complied.
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.	Complied
xvi.	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant. such as PM10, PM2.5, SO 2 and NOx (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project	Complied.

	<b>premises and mine office and in corporate office and on company's website.</b>	
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>	Being complied.
xviii.	<b>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.</b>	Agreed .It shall be complied.
xix.	<b>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 compan'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.</b>	Being complied.Agreed.
7	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.	Agreed
8	The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project.	Agreed
9	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Agreed
10	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.	Agreed

11	The above conditions will be enforced Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment0020(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.	Agreed
12	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.	Agreed

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Project Officer, Moonidih colliery

*[Signature]*  
21.12.13  
Project Officer, Moonidih washery

*[Signature]*  
21.12.13  
G.M./A.G.M., P.B. Area  
**Additional General Manager**  
**POOTKEE BALIHARI AREA**  
**B.C.C.L. DHANBAD**

**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-31, Chandrashekarpur, 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. HOD Environment BCCL Koyla Bhawan.
9. Office copy.