



**Bharat Coking Coal Limited**  
(A subsidiary of Coal India Limited)  
**Office of the General Manager**  
**Kusunda Area, P.O.- Kusunda (Dhanbad)**

Ref No. BCCL/KA-6/Env./2014/ 456

Date : 28-04-2014

To,  
**The Director(s)**  
**Ministry of Environment & Forest**  
**Govt. of India**  
**Eastern Region Office**  
**A/3, Chandrashekharapur,**  
**Bhubaneswar- 751023**

**Sub :Six monthly compliance reports on environmental clearance conditions**  
**for the period from Oct.2013 to March'2014 in respect of Cluster-VI**  
**Group of mines EC order no.: J-11015/183/2011-1A.II(M), dated 26-08-**  
**2013**

Dear Sir,

Enclosed please find herewith six monthly compliance reports on environmental clearance conditions for the period from Oct.2013 to March'2014 in respect of Cluster-VI Group of mines EC order no.: J-11015/183/2011-1A.II(M), dated 26-08-2013 for your kind perusal.

With regards,

**Encl.:** as above

  
Addl. General Manager  
Kusunda Area, BCCL

**Copy:**

- 1) Dr.SunitaAulock  
Director, 1A Monitoring Cell,  
ParyavaranBhawan,  
CGO Complex, New Delhi- 110003
- 2) General Manager, Kusunda Area
- 3) Dy.GM(Environment), BCCL, KoylaBhawan
- 4) Office copy

## COMPLIANCE OF EC CONDITIONS of CLUSTER-VI

Sl. no.	A. Specific Conditions by MOEF:	Compliance
i	The maximum production from the two opencast section in the cluster shall not exceed beyond that for which environmental clearance has been granted.	The approved normative production and peak production for East Bassuriya OC and Gondudih Khas Kusunda OC under Kusunda Area are total 3.50 MTPA & 4.55 MTPA respectively and for whole cluster consisting of East Bassuriya Colliery, Bassuriya Colliery, Gondudih Khas Kusunda Colliery and Godhur Colliery, that figure is 5.87 MTPA and 7.631 MTPA respectively. Total production of all mines of the cluster is 1.40086 MT in '13-'14 which is well within the limit.
ii	The two nallahs passing through the mines should be preserved and made functional to drain the water.	Complied.
iii	The coal transport to the siding will continue by road to the siding within 2 km with pay loader loading into Rly. Wagons for a period of 5 years by which time the proposed silo in Rly. Siding not being affected in the Jharia Action Plan will be constructed for RLS loading into railway wagons.	Coal transport to siding is being done by road to siding with pay loader loading into rly.wagons.
iv	As subsidence is on higher side in Godhur colliery, special attention should be given for control and monitoring of subsidence.	For control and monitoring of threat of subsidence at fire affected area within Godhur lease hold special attention has been made by mine management. Director of CIMFR, Dhanbad has been requested for scientific study for formulating time schedule of work to prevent propagation of fire. JRDA has completed survey the basties at fire affected area for evacuation & rehabilitation of the inhabitants under Jharia Action Plan and partially distributed Identity Cards. Colliery Management have allotted quarters at other safe place to employees residing at/near fire affected area for their early evacuation. Besides, one special team headed by senior mine official has been made at Colliery for inspection/supervision of the lease hold area of Godhur for early detection of any pot hole, fume and report to mine management for early action.
v	All old dumps will be filled back in mine voids. At the end of mining there should not be any OBD and should be only one void which shall not exceed 30 m deep.	It shall be complied. Action is being taken as specified in EMP.



vi	An increase in the CSR	BCCL is taking up activities from the HQ level and through its administrative areas for the implementation of CSR activities. For this purpose A CSR cell is functioning which is headed by General Manger(CSR) under the direct control of Director(Personnel) of the company.
vii	Dhanbad Action Plan, as CEPI, be implanted where ever is applicable.	Dhanbad Action Plan has been prepared in consultation with Jharkhand Pollution Control Board for entire BCCL and not clusterwise. It is being implemented comprehensively for all the mines of BCCL. Some of the salient actions of this cluster are enclosed.
viii	Since the cluster is situated close to Dhanbad, thick green belt and residential areas should be done along the periphery of ML area. Avenue-plantation should be done along the roads which are used for coal transport and measures to arrest coal dust while transporting by covering the trucks and water sprinkling measures etc.	It shall be complied. Plantation at degraded area and avenue plantation is already being executed for development of green belts as per EC. Adequate water sprinkling is being done at coal transportation road regularly by mobile water sprinklers, and coal transportation is being done by covering trucks by tarpaulin as measures to arrest coal dust. Details of plantation done and programme of eco-restoration are enclosed .
ix	Whereas laudable efforts have been made in drawing skill development programmes along with Planning Commission of Gol , all out efforts should be made to ensure that they are suitably employed either with the PP or elsewhere.	Training programmes for all employees are being conducted regularly at mine vocational training centre as per Mine VT Rule and special training are being conducted at mine VT Centre, at HRD Deptt. of BCCI HQ.and outside of Company for development of their skill.
x	The measure to identify in the Environmental Plan for Cluster- VI groups of mine and the conditions given in this environmental clearance letter shall be dovetailed to the implementation of the Jharia Action Plan.	Master Plan activities are dovetailed with compliance of environmental clearance conditions. The master plan deals with fire control and rehabilitation activities of fire affected areas in the leasehold of BCCL. By implementing the fire control measures at pollution and emission of Green House Gases (GHGs) from the fire affected areas are being prevented. Further rehabilitation of the families from the fire endangered area to the safe places is being taken-up with the help of State Govt. of Jharkhand. The Master plan is being implemented for BCCL as per the prioritization of fire and rehabilitation activities in the approved Master Plan. The brief status of Rehabilitation and Fire control measures are enclosed.
xi	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	NRSC are conducting survey of fires and subsidence by remote sensing methods and preparing coal fire mapping of Jharia coalfield using thermal infra-red data.

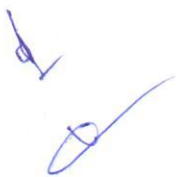


	the coal seams (whether they are close to spontaneous ignition temperatures) and based on which, areas with potential fire problems shall be identified. Measures to prevent ingress of air (Ventilation) in such areas, to prevent restart fresh/spread fires in other areas including in mines of cluster VI shall be undertaken. Expertise available internationally could also be utilized 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	Action is being taken as specified in EC and as per Jharia Master Plan. For control and monitoring of fire affected area within Godhur lease hold special attention has been made by mine management. Director of CIMFR, Dhanbad has been requested for scientific study for formulating time schedule of work to prevent propagation of fire below NH-32, basties & other structures situated both sides of NH-32 within the lease hold of Godhur Colliery. Under Jharia Master Plan, fire patch of V/VI/VII/VIII seam at Gareria Section of East Bassuriya, Kusunda Area about 1,70,00 m <sup>3</sup> have been filled by mitti/incombustible OB, rest void will be filled up by quarry OB of East Bassuriya OC.
xii	Underground mining should be taken up after completion of reclamation of Opencast mine area.	It shall be complied.
xiii	The OB material should be crushed like sand and be used for stowing in underground mines.	At present no mining operation with stowing is being done in underground mines of Kusunda Area ; only development work are being done there.
xiv	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-VI shall be drawn up and implemented. The schedule of backfilling should be clearly brought out and submit the same to MoEF.	Calendar plan has been prepared and enclosed as annexure Mine closure plan as per the guidelines of Ministry of Coal is prepared by Regional Institute –II , Central Mine planning and Design Institute, Dhanbad. The financial provisions required for the implementation of mine closure plan are being kept in accounts.
xv	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 stabilized with plantation so as to withstand the peak water flow and prevent mine inundation	It is being followed. Embankments have been constructed and maintained as specified in EC
xvi	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.	It shall be complied. Action is being taken to control, mine fires as specified in Jharia Master Plan and the mining is being done as per the guidelines and permissions of Directorate General of Mines Safety (DGMS).
xvii	There shall be no internal OB dumps. There will be 8 external OB Dumps covering an	It shall be complied. Action is being taken as specified in EMP. Backfilling of OB is going on concurrent with



	<p>area of 32.84 Ha. The height of the dumps shall be 16 m and the total quantity shall be of 5.247 Mm<sup>3</sup>. The final mine voids will have an area of 66.76 ha (Filled up with water). with depth of 25 m bgl. The entire mined out area shall be re-vegetated. Areas where opencast mining was carried out and completed shall be reclaimed immediately thereafter. It was observed that most of the OB are reclaimed total area 441.24 ha at the end of mining where reclaimed external OB dump 32.84 ha and internal OB Dump 120.34 ha. Green Belt over an area of 66.12 ha. Density of tree plantation 2500 trees/ ha of plants which of and abandoned. The proponent should dump all the OB material in abandoned mines.</p>	<p>mining and at the end of mining activity the area will be re-vegetated and reclaimed as per EMP. Plantation work are already being done with the help of DFC Dhanbad.</p>
xviii	<p>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.</p>	<p>It is being followed. Embankments have been constructed as specified in EC</p>
xix	<p>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.</p>	<p>No OB is being dumped near water bodies.</p>
xx	<p>Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation.</p>	<p>It is being complied. Yearly plantation is being done for development of green belts as per EC. Green belt development programme is enclosed as annexure-B. Details of programme of eco-restoration are enclosed</p>
xxi	<p>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 VI shall be implemented.</p>	<p>Dhanbad Action Plan has been prepared in consultation with Jharkhand Pollution Control Board for entire BCCL and not clusterwise. It is being implemented comprehensively for all the mines of BCCL. Some of the salient actions of this cluster are enclosed.</p>
xxii	<p>The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board.</p>	<p>The work order for environmental monitoring of mines/washeries/units of BCCL as per the requirement of environmental Acts, Law Environmental Clearance conditions, etc has been</p>

		issued by BCCL HQ. to Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules and they have started work.
xxiii	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 (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.	The work of monitoring of ambient environment has already been awarded to Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EP Rules and they have started work.
xxiv	The Plan for conveyor-cum—rail for Cluster-VI should be dovetailed with Jharia Action Plan. The Committee desired that road transportation of coal during Phase—I should be by mechanically covered trucks, which should be introduced at the earliest. Coal dispatch shall be diverted from the present rail sidings to Rapid Loading System (RLS) soon after the construction and commissioning of the RLS at Maheshpur is completed. The railway siding order issued and same would come in 3 years. The details of same should be provided to ministry. The mode of transportation of coal by truck till Railway Siding should be by mechanically covered trucks.	CMPDIL, RI-II has been requested to conduct study and prepare the plan in this regard. By that time transportation is being done by covering vehicle with tarpaulin cover.
xxv	1387 no. of PAF's should be rehabilitated at cost of Rs 10,768.17 Lakhs as per the approved Jharia Action Plan.	It is being complied.





xxvi	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.	No depillaring process is in operation in any ug mines of this Area. For control and monitoring of threat of subsidence at fire affected area within Godhur lease hold special attention has been made by mine management. Director of CIMFR, Dhanbad has been requested for scientific study for formulating time schedule of work to prevent propagation of fire. JRDA has completed survey the basties at fire affected area for evacuation & rehabilitation of the inhabitants under Jharia Action Plan and partially distributed Identity Cards. Colliery Management have allotted quarters at other safe place to employees residing at/near fire affected area for their early evacuation. Besides, one special team headed by senior mine official has been made at Colliery for inspection/supervision of the lease hold area of Godhur for early detection of any pot hole, fume and report to mine management for early action.
xxvii	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.	It shall be complied. Action is being taken as specified in EMP.
xxviii	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	It will be complied, if required
xxix	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	It will be complied, if required
xxx	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	It will be complied.
xxxi	No depillaring operation shall be carried out below the township/colony.	It will be complied,
xxxii	A detailed CSR Action Plan shall be prepared for Cluster VI group of mines. As stated by the Proponent, it is formulating a detailed Corporate Social Responsibility (CSR) Action Plan through Tata Institute of Social Sciences (TISS), Mumbai which will consist of need-based base-line survey, CSR Action Plan, CSR Auditing and monitoring mechanism etc. Director (Per.), BCCL. along with a team visited TISS/ National CSR Hub, Mumbai on 18th Jun, 2012 for finalizing the MoU with TISS and National CSR Hub for	CSR activities are being taken up on priority basis. The details of activities is enclosed . Further a detailed project specific CSR Action Plan shall be formulated and for this purpose, BCCL has approached TATA INSTITUTE OF SOCIAL SCIENCES, MUMBAI which is also the focal agency of the National CSR Hub and their Programme Manager has reported for field duty.



	conducting base-line survey, empanelment of NGOs and formulating the project specific CSR action plan for BCCL. The Action Plan for Corporate Social Responsibility will include 5% of the retained earnings of the previous year subject to minimum of Rs. 5 per tonne of coal production of the previous year will be provided for Corporate Social Responsibility (CSR), an amount of Rs. 381.55 lakhs/year has been year marked for the CSR activities.	
xxxiii	The area within Cluster VI ML existing as waste land and not being acquired shall be put for productive use under CSR and developed with fruit bearing and other useful species for the local communities. A 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 expenditures there on 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.	<p>CSR activities are being taken up on priority basis..</p> <p>The details of activities as enclosed annexure-F</p> <p>Further a detailed project specific CSR Action Plan shall be formulated and for this purpose, BCCL has approached TATA INSTITUTE OF SOCIAL SCIENCES, MUMBAI which is also the focal agency of the National CSR Hub and their Programme Manager has reported for field duty.</p> <p>It shall be complied. Plantation at degraded area and avenue plantation is already being executed with the help of DFO, Dhanbad for development of green belts as per EC. Eco-restoration work at OB dump area has been started.</p> <p>Details of plantation to be done and programme of eco-restoration are enclosed .</p>
xxxiv	The mine water should be treated properly before supply to the villager.	Mine water is treated by water filter plant before supply to villagers.
xxxv	Details of transportation, CSR, R&R. and implementation of environmental action plan for each of the clusters-V1 should be brought out in a booklet form within a year and regularly updated.	It shall be complied.
xxxvi	Central recreation park with herbal garden should be developed for use of all inhabitants.	It shall be complied.
xxxvii	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	It shall be complied. The work of monitoring of ambient water has already been awarded to Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EP Rules.



	outlet points and proper records maintained thereof and uploaded regularly on the company website.	Mine water been monitored through BCCL own Laboratory at HQ level. The quality of water is within prescribed standards.
xxxviii	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.	<p>No ground water is being utilized for the purpose of industrial use of the water. Mine water has been channelized through pipelines and through delivery for its use for the community and irrigation purposes. Drinking water is being purchased from the Mineral Area Development Authority (MADA).</p> <p>Further for the utilization of mine water following actions has been taken by the company</p> <ol style="list-style-type: none"> <li>1. <b>Installation of Pressure filters:</b> In Kusunda Area one Pressure Filter, two Slow Sand Filter and one Rapid Gravity Filter Plant are in operation. At East Bassuriya New Colony, proposal for installation of two nos. Pressure Filters of each 15000 GPH capacity is under process.</li> <li>2. <b>Rain water Harvesting:</b> to catch run-off water in colonies Rain water Harvesting is being done BCCL has already developed rain water harvesting at Koylanagar Township In Kusunda Area, proposal for rain water harvesting at two colonies is under process from Civil Deptt.</li> </ol>
xxxix.	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 stabilized 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.	It shall be complied.
xl	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.	The work of monitoring of ambient environment including ground water monitoring has been awarded to Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EP Rules.



xli	ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to confirm to prescribe standards in case discharge into the natural water course.	It shall be complied.
xlii	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. 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.
xliii	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 eco system 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;	CMPDI, Ranchi has been requested to prepare "Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund".
xliv	A separate management structure 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 which includes Environment, Mining, Excavation, Civil, Survey, Electrical & mechanical, Forestry disciplines executives and technicians has been established in Headquarters. They are also trained in ecological restoration, sustainable development, rainwater harvesting methods etc. At the Area level, one Executive in each area has also been nominated as Nodal Officer (Environment) under General Manager of Area and at Project level, concerned Safety Officer under Project Officer is looking after the environment related jobs and 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. HoD (Environment) at head quarter level, co-ordinates with all the Areas and reports to the Director



		<p>(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 CMD and Director (Technical). Further capacity building at both corporate and operating level is being done.</p>
Xlv	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 Board of Directors. This is also posted on BCCL website.
(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.	Complied.
(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.	A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists.
(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.	Being complied.
B.	<u>General Conditions</u>	
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. 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 PM10, PM2.5, SO2 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 work order for establishing air quality monitoring stations and for monitoring of ambient environment has been issued by BCCL HQ. to Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EP Rules and they have started work.



iv	Data on ambient air quality (PM10, PM 25, SO2 and NOX) 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	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.	It shall be complied.
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 analyzed through a laboratory recognized under EPA Rules, 1986.	The work order for establishing monitoring station and for monitoring of ambient environment has been issued by BCCL HQ. to Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EPA Rules. Presently environmental quality has been monitored through BCCL own Laboratory at HQ. level.
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. A separate full-fledged Human Resource Development Deptt. is conducting regular training programme on these issues. Apart from this Vocational Training Centers are existing in the Area which provides periodical training on the safety and occupational health issue to each of the workers working in the mines.



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 an records maintained thereof. The quality of environment due to outsourcing and he health and safety issues of the outsourced manpower should be addressed by the company white outsourcing.	Initial Medical Examination (IME) and Periodical Medical Examination (PME) of all the personnel of the Area is carried out at Bhuli PME Centre, Bhuli, Dhanbad as per the Statutes and guidelines of Director General of Mines Safety (DGMS).
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 HoD (Environment) along with a suitable qualified multidisciplinary team of executives which includes Environment, Mining, Excavation, Civil, Survey ,Electrical & mechanical, Forestry disciplines executives and technicians has been established in Headquarters. They are also trained in ecological restoration, sustainable development, rainwater harvesting methods etc. At the Area level, one Executive in each area has also been nominated as Nodal Officer (Environment) under General Manager of Area and at Project level, concerned Safety Officer under Project Officer is looking after the environment related jobs and 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. HoD(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.
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	A separate fund under the environmental protection measures has already been allocated.
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	It has been complied.



	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> .	
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 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, SO2 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 the stipulated environmental clearance conditions (both in hard copy and in e-mail) to view 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 Form —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.	Being complied.
6.	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.	Agree
7.	The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project.	Agree
8.	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Agree
9.	Failure to comply with any of the conditions mentioned above may result in the withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.	Agree
10.	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981. The Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.	It is being complied
11.	The Environmental Clearance is subject to the outcome of the Writ Petition filed by M/S Bharat Coking Coal Limited (BCCL) in response to the closure orders issued by the Jharkhand State Pollution Control Board which is pending in the Jharkhand High Court.	Agree






## Annexure-A

1. Coal Production of the Cluster will be well within the limit for which environmental clearance has been granted.
2. PROGRAMME FOR OB DUMPING

### **Backfilling Programme: (in Mm<sup>3</sup>)**

Year	Gondudih Khas Kusunda OC	East Bassuriya OC	Godhur Mixed	Total
2014-15	2.0	0.15	–	2.15
2015-16	2.0	0.50	–	2.5
2016-17	2.5	0.50	0.50	3.5
2017-18	2.58	0.50	0.54	3.62
2018-19	3.0	0.50	0.54	4.04

### **3. GREENBELT DEVELOPMENT PROGRAMME**

Plantation Programme(Cluster-VI & part of VII mines of Kusunda Area) :

Year	Decoaled area after back filling		Avenue Plantation along road side		Total area(Ha)	Total No.of saplings
	Area (Ha)	No.of saplings	Area(Ha)	No.of saplings		
'14-'15	-	-	0.2	500	0.2	500
'15-'16	1.0	2500	0.2	500	1.2	3000
'16-'17	2.0	5000	-	-	2.0	5000
'17-'18	2.0	5000	-	-	2.0	5000
'18-'19	2.0	5000			2.0	5000



#### **4. CSR ACTIVITIES OF BCCL**

Bharat Coking Coal Limited (BCCL) is committed to good corporate citizenship and makes constant efforts to build and nurture long lasting relationships with members of the society in general and it's peripheral communities in particular.

BCCL is taking up activities from the HQ level and through its administrative areas for the implementation of CSR activities. For this purpose A CSR cell is functioning which is headed by General Manger(Welfare) under the direct control of Director(Personnel) of the company.

The CSR activities are specific to the village, depending on the need assessed for the people by local Hon'ble M.Ps and M.L.As. Further as suggested by the MOEF Committee, a detailed project specific CSR Action Plan shall be formulated and for this purpose, BCCL approached TATA INSTITUTE AND SOCIAL SCIENCES, MUMBAI which is also the focal agency of the National CSR Hub and they have started their field work. CSR Action Plan shall be formulated for the whole Jharia Coalfield and also project-wise which will include need-based/ stakeholder base line survey, monitoring, evaluation, auditing, etc.

##### **The CSR activities presently being done by BCCL**

- To meet the acute shortage of drinking water in peripheral villages' drinking Water is provided through deep borewells, tubewells, pumps/motors, in the peripheral villages of BCCL. Water supply through pipeline, through water tanker is provided also to the villages.
- **Education:** BCCL adopts a multi-pronged approach to promote quality education in backward areas. The measures taken by BCCL comprise Construction, Extension, and Renovation of school buildings etc are done to promote quality education in the nearby villages. BCCL is Extending financial aid for educational facilities to 83 nos. Private Committee Managed schools. Measures are taken to promote women literacy and carrier development.
- **Health Care:** BCCL Conducts medical/health camps for dwellers of peripheral villages for rendering free medical consultancy. CSR Clinics, wellness clinics, artificial limbs centers are organized for the benefit of the needy section of the society.. Mobile medical vans are deployed as special arrangement for medical services. AIDS awareness camps are organized as special drive to develop awareness and to render free consultancy. In Kusunda Area many medical /health camps in peripheral villages and in collieries and various awareness programmes have already been conducted, and is being conducted regularly by Area Medical Team.
- **Occupational health:** awareness programme are organized.
- **Other Welfare Activities:** this includes Construction / renovation of Community Halls, construction / repair of roads, construction of Health-sub centres, construction of drain, construction of Chhat Ghat in the ponds, Construction of Boundary wall, providing Choupal for community gatherings, etc.



- **Mashla Chakki centres :** Mashla Chakki centres are established with machines to promote self employment.
- **Blankets:** During winter, Blankets are distributed among poor section of the society.
- **Sports & Cultural:** Various activities are organized to propagate sports and cultures. Sports/games items and instruments are also provided with play ground.
- **Village adoption:** Lahbera – A SC/ST village nearby Dhansar Mine has been adopted for its all round development and a number of development activities have been carried out including school, health care and Ambulance facility, Mashla Chakki Centre, Community Centre, Play ground, etc.

#### **IN KUSUNDA AREA :**

A lot of CSR activities have been done in the peripheral villages in the field of medical and civil and welfare and proposals for doing many activities are under process.

#### **Health Campaigning at surrounding villages by MMV (Mobile Medical Van) :**

<u>Year</u>	<u>No. of MMV camps</u>	<u>Beneficiaries</u>
2013-'14	298	11,171 patients

#### **Special Health Camps & Wellness Clinics**

<u>Year</u>	<u>No. of camps</u>	<u>Beneficiaries</u>
2013-'14	19	1814

Total Cost involve in MMV Camps and Spl.Health Camps & Wellness Clinic (excluding POL cost)  
= Rs.671878.00

#### **In 2013-'14 & '14-'15 following civil work have been completed and some work are under process/ proposal under CSR Activity :**

- Construction of compound wall for Lahbera School at Dhansar -- work completed
  - Deeping of Pond at Lahbera Basti at Dhansar --work completed
  - Constr. of pcc road from Dom tola to Kali Mandir at Barki Bowa Village --proposal under process
  - Constr. of pcc road from near house of Vikash Rajak to main road at Satitand Village --proposal under process
  - Constr. of pcc road from Parduman Singh Chowk to near house of Sri Kishore Pandey at Ranguni Panchayat --proposal under process
  - Providing & fixing grill and grill gate at Satitarh Hari Mandir At N Bauwa Kala Panchayat -- proposal under process
  - Constr. of Yatri shed at Dutta Tola near Hanuman Mandir of Ranguni Panchayat -- proposal under process
  - Constr. of boundary wall , Chabutra and a shed near Gram Dewata at Dhansar -- proposal under process
  - Construction of PCC drain from Godhur Basti to Panchayat Bhawan -- proposal under process
  - Providing & laying of drinking water pipe line from KTS link to Tiwary Basti -- proposal under process
  - Providing & fixing GI pipe line for pit water at Harizan Basti,Godhur -- proposal under process
  - Repair & maintenance of Sanjay Gandhi Sanskrit Madhya Vidyalay, Godhur -- proposal under process
- etc.



**Financial assistance to Private Committee managed Schools in villages during the year 2013-'14:**

<u>Name of School</u>	<u>Amount (Rs.)(fig.provided by Area Finance Deptt.)</u>
L.P.School, Dhansar	63000.00
Vikash H.A.School, Bassuriya	120000.00
Bal Vikash P.V.Industry CO	30000.00
Sanjay Gandhi S.M.V.,Godhur	180000.00
Gandhi M.K.E.S.E.,Bassuriya	93000.00
Madhya Vidyalay, Kurmidih	192000.00
Bassuriya Vidyalay,Bassuriya	123000.00
Shishu Vikash M.Vidyalay	90000.00
J.N.Vidyalay, Gondudih	1500.00
DAV School, Kusunda	375000.00
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<b>TOTAL :</b>	<b>12,67,500.00</b>







## Annexure-B

- Plantation- At Gondudih- Khas Kusunda Colliery Plantation has been done by DFO, Dhanbad at about 10.5 Ha area of OB dump. 500 no. plants have been planted as Avenue plantation and further 500 no. of plants will be planted soon as Avenue plantation in road side by DFO, Dhanbad.

### ECOLOGICAL-RESTORATION PLAN OF BCCL

YEAR	CLUSTER VI & CLUSTER VII(Part under Kusunda Area)
2014-15	2.00 Ha(already started at Gondudih OB dump)
2015-16	2.00 Ha
2016-17	2.00 Ha
2017-18	6.00 Ha
2018-19	6.00 Ha

## Annexure-C

### 1. ANALYSIS REPORT OF MINE DISCHARGE WATER

Colliery	Location	Date	Temp	pH	TDS	Sp.Cond	TSS	Chloride	Hardness
Bassuriya	At 1 Pit	17-01-2013	21.8	7.8	ND	1431	20	26.4	634
East Bassuriya	3 seam Incline	18-01-2013	21.9	7.9	ND	680	15	54.7	202
Godhur	Pit water	11-10-2013	27.3	6.7	750	1063	ND	88.62	400
Gondudih Khas Kusunda	Gondudih OCP	24-01-2013	21.7	7.6	ND	1775	15	70.7	460

### 2. ANALYSIS REPORT OF AMBIENT AIR QUALITY

Colliery	Location	Date1(Started)	Date2(Ending)	Period1	Hrs1	RPM	SPM	TSPM1	SO2-1	NOx1
Bassuriya	Near 1 Pit	16-01-13	17-01-13	12:30 PM to 11:30 AM	22.5	273.8	134.9	408.7	34	32.3
East Bassuriya	Near SafetyOffice	04-10-13	05-10-13	12:55PM to 1:00PM	24	194.2	321.4	515.6	28.7	32.1
Godhur	Near Attendance Room	23-01-13	24-01-13	12:15PM to 12:30 PM	20.0	157.6	163.9	321.5	38.6	40.6
Gondudih Khas Kusunda	Near Gondudih Survey Office	07-10-13	08-10-13	12:30 PM to 11:45AM	23.0	164.5	311.7	476.2	26.2	29.5

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## ANNEXURE--- D

### STATUS OF JHARIA MASTER PLAN DOVETAILED WITH ENVIRONMENT CLEARANCE CONDITIONS

#### Rehabilitation and Fire control measures

##### Socio-economic Survey :

Survey of fire affected families at Kusunda Area has been completed by JRDA and distribution of ID Card has been partially done by JRDA.

##### Accommodation provided in Satellite Township:

- At East Bassuriya permanent rehabilitation site, 600 quarters are in construction for employees residing in coal bearing zone of diff.collieries under Kusunda Area and some families have been shifted in constructed quarters there.
- In temporary rehabilitation site at decoaled zone of East Bassuriya about 15 PAF have been shifted.

JRDA is unable to shift non-BCCL persons/ encroachers from endangered and fiery zones under the approved Master Plan, due to non-availability of houses / land for rehabilitation. BCCL has decided to temporarily shift those persons (whose socio-economic survey has been done by JRDA) to 'Reclaimed Sites' in various collieries of BCCL.

##### Status of fire dealing :

Under Master Plan, many Fire schemes have been formulated / prepared /implemented for dealing fires sites spread in collieries of BCCL. Further for expediting the fire dealing process, excavation methods has been resorted to by deploying Hired HEMM at various mines of BCCL.

NRSC are conducting survey of fires and subsidence by remote sensing methods and preparing coal fire mapping of Jharia coalfield using thermal infra-red data and land subsidence mapping of Jharia coalfield using Inter-ferometric SAR data.

At Kusunda Colliery and Ena OC, total firey coal are being digged out as a measure of fire dealing with the deployment of hired HEMM. For control and monitoring of threat of subsidence at fire affected area within Godhur lease hold special attention has been made by mine management; Director of CIMFR, Dhanbad has been requested for scientific study for formulating time schedule of work to prevent propagation of fire. Scientific study by CIMFR for thermo-compositional monitoring of borehole at Gondudih is under process.

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## **COMPLIANCE OF DHANBAD ACTION PLAN**

### **(1) Covering of loaded transport vehicles**

It has been complied. The clause of covering of loaded coal transport vehicle has also been incorporated in the transport agreement/ contract.

### **(2) Coal transport roads shall be made pucca**

In Kusunda Area more than 1000 mtrs. Pucca coal transportation road have been made.

### **(3) All drillings to be done with dust containment and suppression systems. Sprinklers will be installed including at all coal stock & sidings**

**Complied.** Water sprinkling at all coal stock and sidings is being done by mobile water tankers and through pipe lines. Proposal for installation of fixed sprinklers at sidings are under process.

**DUST EXTRACTION :** Regarding drilling it has already been complied in all mines. Drill machines are having OEM fitted DUST EXTRACTION system

### **MOBILE SPRINKLERS**

Sl. no.	Mine	Haul road length in Km	No. of mobile sprinklers	Total Capacity (KL)	Trips per day
1	Kusunda/Godhur	3.0-3.5	3	45	9
2	Dhansar/Industry	2.5-3.0	3	36	9
3	Gondudih	1.5-2.0	2	30	6
4	Alkusa	UG mine	2	6	6
5	Ena	1.5-2.0	3	30	9
6	East Bassuriya	1.0-1.5	1	12	3

### **(5) The direction of surface run-off of the premises of collieries shall be diverted to created water bodies.**

Creation of water bodies in coal bearing area will pose safety threats to nearby mine and it will be violation of mines act. This will also create grave danger of inundation of the adjacent mines since the mines are 100 years old and interconnected with each other. So this action cannot be complied .

**However to catch run-off water in colonies proposal for Rain water Harvesting in two colonies is under process**

### **(6) Dealing of mine fires**

A Master plan for Dealing with fires and subsidence and rehabilitation in the Leasehold of BCCL has been approved by Govt. of India vide letter no- 22020/1/2005-CRC dated 12 08 09. In fire patch of V/VI/VII/VIII seam of Gareria Secn. at East Bassuriya about 1,70,000 cu.m. mitti has been filled, rest will be filled by quarry OB of Patch A.

In Kusunda OC, fire patch is being dug out for the purpose of dealing with fire and combustible materials are extracted out to save the coal from burning and to stop further spread of the fire. Once



the fiery coal is dug-out/excavated there will be no more chance of re-starting of fresh/ spreading of fire into other areas.

At Alkusa mine, measures have been taken as per CMR'57 and DGMS Guidelines to control ug fire and entrances have been filled/sealed to stop ingress of air into fire affected area.

**(7) The waste water shall be passed through oil separator-cum-filtration system**

-- proposal for construction of oil & grease trap at Dhansar W/shop under process

**(8) The removed OBs shall be utilized for low land filling or for making roads.**

Complied.

**(9) Tree plantation on the dumps**

Complied. 26,250 nos. saplings planted at 10.5 Ha OB dump area and 500 nos.plants as avenue plantation done In Gondudih-Khas Kusunda Mine. Ecological restoration work in 2.0 Ha OB dump area at Gondudih has been started.

In '14-'15, 500 plants will be planted as avenue plantation at Gondudih by DFO, Dhanbad

**(10) All hazardous wastes shall be disposed off**

Complied.

- 1.All units has applied for authorization as per rule .
2. Burnt oil is used for lubrication of haulage system in underground mine, thus reducing quantity required to be disposed. Remaining burnt oil is disposed as per rule.
3. Disposal of Hazardous waste, burnt Oil / batteries is being done through E-auctioning to authorized recycler/ re-processor having valid authorization from CPCB/ SPCB. Return are also being filed.

**(11) Monitoring and Reporting six monthly**

1. Monitoring has been done by Own laboratory. Also baseline data are being generated through CIMFR/ISM/PDIL. Environmental monitoring has been started by CIMFR as per work order.

**(12) Introduction of GIS/ GPS**

Geomatic department CMPDI, HQ has been given the job of satellite surveillance of the Jharia coal field through NRSA Hyderabad and the information is being uploaded in the website.

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**KUSUNDA AREA**

Mines under Cluster-VI	Total PME done for the period April'13 to March'14	Vocational Training done for the period April'13 to March'14
Bassuriya, East Bassuriya, Godhur and Gondudih Khas Kusunda	819	420





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