



BHARAT COKING COAL LIMITED

(A Subsidiary of Coal India Ltd.)

Office of the General Manager

Govindpur Area No. III

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Ref: BCCL: AR.III: AGM: ENV: 14: 329

Dated: 01.11.2014

To,
Dy. GM(Envt.)
Koyla Bhawan, Dhanbad.

Sub: - Six monthly Reports on Implementation of environmental measures for the period from April '14 to Sept' 14 in respect of Cluster III group of mines EC Order no. J-11015/213/2010-1 A.II (M) dated 06.02.13.

Dear Sir,

Enclosed please find herewith six monthly Reports on Implementation of environmental measures for the period from April '14 to Sept '14 in respect of Cluster III group of mines EC Order no. J-11015/213/2010-1 A.II (M) dated 06.02.13 for your kind perusal.

Yours faithfully,

Addl. General Manager
Govindpur Area, BCCL

Sri M. Kumar.
28/11/14

Sri J. K. Singh.
P.D. Desai.
5/11/14

COMPLIANCE OF EC CONDITIONS: - CLUSTER-III

EC Letter No. J – 11015/213/2010- IA. II (M), Dated 06.02.2013

S. no.	A. Specific Conditions by MOEF:	Compliance
i	The maximum production from the two opencast sections in the cluster shall not exceed beyond that for which environmental clearance has been granted	The approved normative production and peak production are 2.10 MTPA & 2.73 MTPA respectively. The total production of the two opencast projects is 0.53 MT in the year 13-14 which is well within the limit.
ii	The measure to identify in the Environmental Plan for Cluster- III 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.
iii	<p>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.</p> <p>Measures to prevent ingress of air (Ventilation) in such areas, to prevent restart fresh/spread fires in other areas including in mines of cluster III 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.</p>	<p>Work has been started by NRSC (earlier NRSA). Copy of work order enclosed as (Annexure-A)</p> <p>Action is being taken as specified in EC and as per Jharia Master Plan. Further fire patches are under operation to dig out the fiery coal and combustible materials 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.</p>
iv	Underground mining should be	It shall be complied.

	taken up after completion of reclamation of Opencast mine area.	
v	The OB material should be crushed like sand and be used for stowing in underground mines.	The methods of utilization of OB material for stowing are being explored. It will be used when pillar extraction below important surface features/town/village etc. will be carried out.
vi	A detailed calendar plan of production with plan for OB dumping and backfilling (for OC mines) and reclamation and final mine closure plan for each mine of cluster-III 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-B.1 Mine closure plan as per the guidelines of Ministry of Coal is finalized and circulated 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.
vii	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 as specified in EC
viii	The rejects of washeries in Cluster -III should be send to FBC based plant.	Coal washery does not exist in this cluster at present.
ix	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 including old OB dump areas 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).
x	There shall be no external OB dumps. OB produce from the whole cluster will be 80Mm ³ . OB from 2 OCP in mixed mines 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. It was observed that most of the OBs are not reclaimed and abandoned. The proponent should dump all the OB material in abandoned mines.	It shall be complied. Action is being taken as specified in EMP. For Backfilling of OB concurrent with and reclaimed.
xi	Number of voids present in cluster - III at the end of mining should be backfilled up to ground level and no void should be left at the end of mining.	It shall be complied.
xii	A detailed calendar plan	Calendar plan of production has been formulated and hereby

	Of production with the plan for OB dumping and backfilling (for O/C mines) and reclamation and final mine closure plan for each mine of cluster-III shall be drawn up and implemented. The schedule of backfilling should be clearly brought out and submit the same to MoEF.	enclosed in annexure – 'B1,' OB dumping and backfilling (for O/C mines) and reclamation is already under preparation and CMPDIL has prepared a final mine closure plan.
xiii	Mining shall be carried out as per statute 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. Embankments have been constructed as specified in EC
xiv	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. The OB dumps created earlier already stabilized & further action has been taken for their eco-restoration work as per Road Map prepared by FRI, Dehradun and as per the action plan of Prof. CR Babu ,Professor Emirates CEMDE, Delhi University. Details of programme of eco-restoration are enclosed as annexure-C.
xv	Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. A total area of 854.72 ha shall be reclaimed and afforested.	It shall be complied. Yearly plantation is being done for development of green belts as per EC. Green belt development programme is enclosed as annexure-B.2
xvi	Details of transportation, CSR, R&R and implementation of environmental action plan for the clusters-III should be brought out in a booklet form within a year and regularly updated.	It shall be complied.
xvii	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 III shall be implemented.	Dhanbad Action Plan has been prepared in consultation with Jharkhand Pollution Control Board for entire BCCL and not cluster wise. It is being implemented comprehensively for all the mines of BCCL. Some of the salient actions of this cluster are as under: <ol style="list-style-type: none"> 1. Construction of pucca road 2. Construction of water reservoir for mine water utilization 3. Plantation.

		4. Transportation of coal in covered vehicles
xviii	<p>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 (PM₁₀ and PM_{2.5}) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate Mitigative measures could be taken.</p>	<p>The work of monitoring of ambient environment has already started by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules.</p> <p>For the source apportionment study the action has been taken to conduct with help of CMPDIL, RI-II.</p>
xix	<p>The Plan for conveyor-cum-rail for Cluster-III 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</p>	<p>Action has been taken for the transportation plan for conveyor cum rail system of dispatch. CMPDIL, RI-II has been requested to conduct study and prepare the plan in this regarding. Conversion of existing truck in to mechanically covered trucks in a phased manner has been taken up. By that time transportation is being done by covered vehicle with a tarpaulin cover.</p>
xx	<p>3756 nos of PAF's should be rehabilitated at cost of Rs 27012.66 Lakhs as per the approved Jharia Action Plan.</p>	<p>It is being followed as per the approved Jharia action plan.</p>
xxi	<p>Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and</p>	<p>The work of monitoring of ambient environment including ground water monitoring has already started by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR</p>

	<p>construction of new peizometers. 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.</p>	<p>laboratory recognized under the EP Rules. Monitoring stations have been set up and Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EPA Rules has been keeping a constant check.</p>
xxii	<p>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.</p>	<p>At present, only one depillaring district is operational at UG mines in Cluster III and others are development districts. Regular monitoring of subsidence over depillared area is being done as per stipulation.</p>
xxiii	<p>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.</p>	<p>Sufficient coal pillars have been left around air shafts as per the statutes and DGMS guidelines.</p>
xxiv	<p>High root density tree species shall be selected and planted over areas likely to be affected by subsidence.</p>	<p>Identification of high root density Plant and its plantation in subsidence prone area is in the process. The plantation programme will include such plants.</p>
xxv	<p>Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.</p>	<p>It is complied.</p>
xxvi	<p>Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.</p>	<p>It is being followed. Sufficient barriers are left for saving the surface installation and infra structures as per the statute and DGMS guidelines.</p>
xxvii	<p>No depillaring operation shall be carried out below the township/colony.</p>	<p>It is followed.</p>
xxviii	<p>A detailed CSR Action Plan shall be prepared for Cluster III group of</p>	<p>BCCL is implementing CSR activities. The details of activities are as enclosed in Annexure-E.</p>

	<p>mines. Specific activities shall be identified for CSR for the budget of Rs 139 Lakhs per year@ Rs 5/T of coal provided for CSR for 2012-2013 and Rs. 5/T of coal as recurring expenditure. The 491.91ha of area within Cluster III 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. 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>	<p>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.</p> <p>TISS, Mumbai has informed that the process of interviewing, short listing and selection of Program Managers and Program Officers has been completed and their Officers are expected to report on field duty soon.</p>
xxix	Central recreation park with herbal garden should be developed for use of all inhabitants.	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.
xxx	The mine water should be treated properly before supply to the villager.	<p>Mine water has been channelized through pipelines and through delivery in to the ponds for it is 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"> 1. Installation of Pressure filters: BCCL has installed 25 pressure filter plants of total capacity of 16 MGD at the cost of Rs. 2.75 crores to meet the drinking water requirements in the area. Further installation of 28 more pressure filters with the capacity of 5 MGD are in the process.

		<ol style="list-style-type: none"> 2. An R&D/ pilot project taken up by CIMFR, Dhanbad at Putki colliery for mine water treatment for its utilization for drinking water is also being supported. CIMFR has further requested to BCCL for Rs 20 Lakh/annum for its maintenance and bottling of purified drinking water. This fund will be met through CSR fund of BCCL 3. BCCL is in the process of entering into multiple Patents of this scheme and technology with CIMFR for further replication of this scheme in other mines to use mine water fully. 4. There is a water filter plant already in operation at Sinidih. After filtration, drinking water is being supplied to different colonies and villages for drinking purposes.
xxxi	Details of transportation, CSR, R&R and implementation of environmental action plan for each of the clusters-III should be brought out in a booklet form within a year and regularly updated.	It shall be complied.
xxxii	Central recreation park with herbal garden should be developed for use of all inhabitants.	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.
xxxiii	The mine water should be treated properly before supply to the villager.	<p>Mine water has been channelized through pipelines and through delivery in to the ponds for it is 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"> 1. Installation of Pressure filters: BCCL has installed 25 pressure filter plants of total capacity of 16 MGD at the cost of Rs. 2.75 crores to meet the drinking water requirements in the area. Further installation of 28 more pressure filters with the capacity of 5 MGD are in the process. 2. An R&D/ pilot project taken up by CIMFR, Dhanbad at Putki colliery for mine water treatment for its utilization for drinking water is also being supported. CIMFR has further requested to BCCL for Rs 20 Lakh/annum for its maintenance and bottling of purified drinking water. This fund will be met through CSR fund of BCCL 3. BCCL is in the process of entering into multiple Patents of this scheme and technology with CIMFR for further replication of this scheme in other mines to use mine water fully. 4. There is a water filter plant already in operation at Sinidih. After filtration, drinking water is being supplied to different colonies and villages for drinking purposes.

xxxiv	Details of transportation, CSR, R&R and implementation of environmental action plan for each of the clusters-III should be brought out in a booklet form within a year and regularly updated.	It shall be complied.
xxxv	Mine discharge water shall be treated to meet standards prescribed before discharge into natural water courses/agriculture. The quality of the water discharged shall be monitored at the outlet points and proper records maintained thereof and uploaded regularly on the company website.	The work for keeping a check on the mine water quality is being done by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EPA Rules. The result of analysis report is enclosed as Annexure-E. The quality of water is within prescribed standards.
xxxvi	No groundwater shall be used for the mining activities. Additional water required, if any, shall be met from mine water or by recycling/reuse of the water from the existing activities and from rainwater harvesting measures. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	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 in to the ponds for it is for the community and irrigation purposes. Drinking water is being purchased from the Mineral Area Development Authority (MADA). Further for the utilization of mine water following actions has been taken by the company <ol style="list-style-type: none"> 1. Installation of Pressure filters: BCCL has installed 25 pressure filter plants of total capacity of 16 MGD at the cost of Rs. 2.75 crores to meet the drinking water requirements in the area. More pressure filters shall be put in to operation. 2. Rain water Harvesting: to catch run-off water in colonies Rain water Harvesting is being done. BCCL has already awarded work for 138 houses at Koyla Nagar Township covering surface area of 14450 sq. mts. of roof top with total cost of Rs77.36 lakhs. It has been estimated that the system will recharge 13150 cum of water per annum to the ground water. 3. Further approximately 2000 quarters of BCCL under different Areas of BCCL will be taken up in the 2013-14 for Rain Water Harvesting.
xxxvii	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.	Continuous process of the backfilling has been adopted. A part of the void will be converted into the water body as specified in EC.
xxxviii	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a	The work of monitoring of ambient environment including ground water monitoring has already started by Central Institute

	<p>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.</p>	<p>of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EPA Rules. The monitoring stations have been set up and proper check is being maintained in this regard.</p>
xxxix	<p>ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to conform to prescribe standards in case discharge into the natural water course.</p>	<p>Construction of ETP/ Oil grease Trap is being taken up.</p>
xl	<p>The location of monitoring stations in the Jharia coalfield should be finalized in consultation with Jharkhand State Pollution Control Board.</p>	<p>It will be complied.</p>
xli	<p>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.</p>	<p>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. The last map of the year 2010-11 has been uploaded on the official website of company. Further CMPDI has been requested to prepare "Time series of land use maps based on satellite imagery of the core zone and buffer zone in the scale 1:5000."</p>
xlii	<p>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</p>	<p>CMPDI, Ranchi has prepared "Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund". Which will be sent shortly to your good office.</p>

	mine reclamation and at the post mining stage for habitat restoration.	
xlili	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.	CMPDI, Ranchi has prepared "Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund". Which will be sent shortly to your good office.
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 (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 Headquarters 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.
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.

	<p>b) The Environment Policy shall prescribe for standard operating process/ procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.</p> <p>c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.</p> <p>d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.</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	General Conditions by MOEF::	
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 PM ₁₀ , PM _{2.5} , SO ₂ and NO _x monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr ,etc carried out at least once in six months.	<p>Establishment of Four ambient air quality monitoring stations by CIMFR has been completed.</p> <p>The work of monitoring of ambient environment has already started by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EPA Rules.</p>
iv	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x) and heavy	The work of monitoring of ambient environment has already started by Central Institute of Mining & Fuel Research (CIMFR),

	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.	Dhanbad having CSIR laboratory recognized under the EPA Rules. The stations for air quality check have been set and constant check is being maintained by CIMFR.
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 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	The work of monitoring of ambient environment has already been accepted by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EPA Rules. Monitoring stations have been set up by CIMFR and constant check is being maintained by them.
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.	Being 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 recognised under EPA Rules, 1986.	Establishment of monitoring stations is already in process and Jharkhand State Pollution Control Board is being pursued in this regard. The work of monitoring of ambient environment has already started by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad having CSIR laboratory recognized under the EPA Rules.
ix	Personnel working in dusty areas	Being Complied. A separate full-fledged Human Resource

	shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Development Deptt. Is conducting regular training programme on these issues. Apart from this Vocational Training Centers are existing in all the Areas of BCCL which provide 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 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 is 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 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.
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	It has been complied. Advert in local newspaper is enclosed as annexure-G.

	<p>newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in.</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>	Complied.
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>	Complied.
xvi	<p>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, PM_{2.5}, SO₂ and NO_x (ambient) and</p>	Complied.

	critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	
xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.	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.
C	Other Conditions by MOEF:	
i	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Agree.
ii	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions	Agree.

	of the Environment (Protection) Act, 1986.	
iii	The above conditions will be enforced <i>inter-alia</i> , 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.
iv	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

BCCL



Bharat Coking Coal Limited
(A Subsidiary of Coal India Limited)
Office of HOD(Environment)
Koyla Bhawan, Koyla Nagar
Dhanbad 826005

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

Dated 21.05.2013

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 vide 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

1. CALENDER PROGRAMME FOR OB DUMPING

- Backfilling programme : (in M cu. m)

YEAR	New Akashkinari OCP	Block- IV OCP	TOTAL
2014-15	1.88	5.06	6.94
2015-16	2.76	5.12	7.88
2016-17	3.52	5.24	8.76
2017-18	4.04	5.48	9.52

2. GREENBELT DEVELOPMENT PROGRAMME

Plantation Programme

Year	Quarry land (abandoned)		Active Quarry Area		OB dumped out side quarry area		Service Building/ Mine Infrastructure / Coal dump		Green belt (around OCP)		Barren Land		Total Plantation	Total Area Under Additional Plantation (Ha)	Total Plantation cost @ Rs.5510 1/Ha (in Rs.Lakh s)
	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings	Area (ha)	Trees/saplings			
1	10	25000	18	45000	6	15000			25	62500	2	5000	152500	61	33.61
2	10	25000	18	45000	6	15000			25	62500	2	5000	152500	61	33.61
3	10	25000	18	45000	5	12500			25	62500	2	5000	150000	60	33.06
4	10	25000	18	45000	4	10000			25	62500	2	5000	147500	59	32.51
5	10	25000	18	45000	4	10000			15	37500	2	5000	122500	49	27.00

Annexure-C

5. FIVE YEAR ECOLOGICAL-RESTORATION PLAN OF BCCL

Year	Barora	Block-II	Govindpur	Katras	Sijua	Kusunda	PB UG	Basta-kola	Lodna	EJ	CV
	CLUSTER- I & II	CLUSTER- III	CLUSTER- IV	CLUSTER- V	CLUSTER- VI, VII VIII & XI	CLUSTER- IX	CLUSTER- X	CLUSTER- XI & XVII			
2012-13	7.00	-	-	-	8.00	-	-	-	-	-	-
2013-14	2.50	3.60	3.00	3.40	-	2.00	2.00	10.00	3.20	8.73	9.00
2014-15	10.80	7.40	4.00	4.60	2.00	6.00	-	10.00	4.80	3.56	2.00
2015-16	10.00	6.00	3.00	6.00	2.00	6.00	-	7.50	3.5	6.49	2.00
2016-17	9.50	5.00	5.00	8.00	2.00	6.00	-	7.50	3.5	3.22	2.00
Total	39.80	22.00	15.00	22.00	14.00	20.00	2.00	35.00	15.00	22.00	15.00

2.Eco – Restoration to be done through Nodal agency of Centre of Excellence programme of MoEF. (2013-14)

Cluster	Name of Area	Name of the Project/Site	Location	Area in Ha	Availability of water
Cluster II	Barora.	Phularitand	Adjacent of KKC – Link siding	2.50	Water will be provided from adjacent Incline(about 150m)
			Total	2.50.	
Cluster II	Block-II.	Block-II.	Beside the Explosive Magazine	2.00+1.60	Water will be provided from adjacent Pipeline which is feeding water to filter plant(about 150m)
			Total	3.60.	
Cluster IV	Katras.	AKWMC OCP.	1. Near Explosive Magazine.	3.40	Water will be provided from adjacent Pipeline which is feeding water to adjacent colony. (about 450m)
			Total	3.40	
Cluster VI	Kusunda.	Khas Kusunda	Ghanudih	2.00	Water will be provided from nearby CHP water spraying point (about 350m)
			Total	2.00.	
Cluster IX	Lodna.	North Tisra & South Tisra	Beside temporary R & R Site / In front of Work shop.	6.00	Water will be provided from proposed R&R site(about 200m)
			Total	6.00	
Cluster X	EJ (Bhowra & Sudamdih).	Bhowra(South)	1. OB dump of water pumping plant of Bhowra(south) 3 pit OCP	8.73.	Water will be provided from river side pump (already in operation). About 800m pipe is require.
			Total	8.73.	

cluster XIII	W.J.Area	Murulidih colliery		4.20	Water will be provided from adjacent Pipeline which is feeding water to adjacent colony. (about 500m)
			Total	4.20	
cluster VII & VIII	Bastacola.	South Jharia/ R.O.C.P	above the Bank of Chatkari Jore	10.00	Water will be provided from adjacent jore or a bore well may be installed.
				10.00	
Cluster XVI	C.V.Area	Abundant Junkundar OCP.	Embankment of Junkundar	13.00	Water will be provided from pond
				5.00	Water will be provided from pond (Integrated Farming)
				18.00	
Total= 58.43 Ha (53.43 for Eco – Restoration & 5.00 for Integrated Farming)					

Annexure- E

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 has approached TATA INSTITUTE AND SOCIAL SCIENCES, MUMBAI which is also the focal agency of the National CSR Hub. 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.
- **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, Installation of road side Water Kiosks during summer 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. To promote sports, children parks are constructed.
- **Village adoption:** Lahbera – A SC/ST village in Dhanbad has been adopted for its all round development and a number of development activities have been carried out.
- **Skill development training programs by BCCL for Project Affected persons, fire affected persons and nearby communities:** Bharat Coking Coal Limited (BCCL) has signed a Memorandum of Understanding with Construction Industry Development Council (CIDC), New Delhi, a body promoted by Planning Commission, on 20.03.2012 for employment linked training program in the Construction Sector for poor and downtrodden people of the Jharia coalfield including project affected persons and fire affected people. BCCL in coordination with the CIDC is identifying the project affected persons to undergo the required training programs to be conducted by CIDC.

In this regard BCCL will bear the training cost @ Rs.42960/ per candidate which includes all expenses including lodging and boarding and after training the CIDC has to ensure a minimum of 75 % of sustainable placement for a period of six months. In case of placement below 75%, pro rata payment is to be made. All training are mandatorily residential. In the year 2012-13 5000 youths will be trained and in the subsequent years no. Of trainees will be scaled up @ 15% per annum.

ANNEXURE – G

भारत कागजिया कार्ल लिमिटेड
भारत कागजिया लिमिटेड का एक अंग

संस्थापक: 1978 में भारत कागजिया लिमिटेड का एक अंग

मुख्यालय: 111/112/113/114/115/116/117/118/119/120/121/122/123/124/125/126/127/128/129/130/131/132/133/134/135/136/137/138/139/140/141/142/143/144/145/146/147/148/149/150/151/152/153/154/155/156/157/158/159/160/161/162/163/164/165/166/167/168/169/170/171/172/173/174/175/176/177/178/179/180/181/182/183/184/185/186/187/188/189/190/191/192/193/194/195/196/197/198/199/200/201/202/203/204/205/206/207/208/209/210/211/212/213/214/215/216/217/218/219/220/221/222/223/224/225/226/227/228/229/230/231/232/233/234/235/236/237/238/239/240/241/242/243/244/245/246/247/248/249/250/251/252/253/254/255/256/257/258/259/260/261/262/263/264/265/266/267/268/269/270/271/272/273/274/275/276/277/278/279/280/281/282/283/284/285/286/287/288/289/290/291/292/293/294/295/296/297/298/299/300/301/302/303/304/305/306/307/308/309/310/311/312/313/314/315/316/317/318/319/320/321/322/323/324/325/326/327/328/329/330/331/332/333/334/335/336/337/338/339/340/341/342/343/344/345/346/347/348/349/350/351/352/353/354/355/356/357/358/359/360/361/362/363/364/365/366/367/368/369/370/371/372/373/374/375/376/377/378/379/380/381/382/383/384/385/386/387/388/389/390/391/392/393/394/395/396/397/398/399/400/401/402/403/404/405/406/407/408/409/410/411/412/413/414/415/416/417/418/419/420/421/422/423/424/425/426/427/428/429/430/431/432/433/434/435/436/437/438/439/440/441/442/443/444/445/446/447/448/449/450/451/452/453/454/455/456/457/458/459/460/461/462/463/464/465/466/467/468/469/470/471/472/473/474/475/476/477/478/479/480/481/482/483/484/485/486/487/488/489/490/491/492/493/494/495/496/497/498/499/500/501/502/503/504/505/506/507/508/509/510/511/512/513/514/515/516/517/518/519/520/521/522/523/524/525/526/527/528/529/530/531/532/533/534/535/536/537/538/539/540/541/542/543/544/545/546/547/548/549/550/551/552/553/554/555/556/557/558/559/560/561/562/563/564/565/566/567/568/569/570/571/572/573/574/575/576/577/578/579/580/581/582/583/584/585/586/587/588/589/590/591/592/593/594/595/596/597/598/599/600/601/602/603/604/605/606/607/608/609/610/611/612/613/614/615/616/617/618/619/620/621/622/623/624/625/626/627/628/629/630/631/632/633/634/635/636/637/638/639/640/641/642/643/644/645/646/647/648/649/650/651/652/653/654/655/656/657/658/659/660/661/662/663/664/665/666/667/668/669/670/671/672/673/674/675/676/677/678/679/680/681/682/683/684/685/686/687/688/689/690/691/692/693/694/695/696/697/698/699/700/701/702/703/704/705/706/707/708/709/710/711/712/713/714/715/716/717/718/719/720/721/722/723/724/725/726/727/728/729/730/731/732/733/734/735/736/737/738/739/740/741/742/743/744/745/746/747/748/749/750/751/752/753/754/755/756/757/758/759/760/761/762/763/764/765/766/767/768/769/770/771/772/773/774/775/776/777/778/779/780/781/782/783/784/785/786/787/788/789/790/791/792/793/794/795/796/797/798/799/800/801/802/803/804/805/806/807/808/809/810/811/812/813/814/815/816/817/818/819/820/821/822/823/824/825/826/827/828/829/830/831/832/833/834/835/836/837/838/839/840/841/842/843/844/845/846/847/848/849/850/851/852/853/854/855/856/857/858/859/860/861/862/863/864/865/866/867/868/869/870/871/872/873/874/875/876/877/878/879/880/881/882/883/884/885/886/887/888/889/890/891/892/893/894/895/896/897/898/899/900/901/902/903/904/905/906/907/908/909/910/911/912/913/914/915/916/917/918/919/920/921/922/923/924/925/926/927/928/929/930/931/932/933/934/935/936/937/938/939/940/941/942/943/944/945/946/947/948/949/950/951/952/953/954/955/956/957/958/959/960/961/962/963/964/965/966/967/968/969/970/971/972/973/974/975/976/977/978/979/980/981/982/983/984/985/986/987/988/989/990/991/992/993/994/995/996/997/998/999/1000/1001/1002/1003/1004/1005/1006/1007/1008/1009/1010/1011/1012/1013/1014/1015/1016/1017/1018/1019/1020/1021/1022/1023/1024/1025/1026/1027/1028/1029/1030/1031/1032/1033/1034/1035/1036/1037/1038/1039/1040/1041/1042/1043/1044/1045/1046/1047/1048/1049/1050/1051/1052/1053/1054/1055/1056/1057/1058/1059/1060/1061/1062/1063/1064/1065/1066/1067/1068/1069/1070/1071/1072/1073/1074/1075/1076/1077/1078/1079/1

