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BHARAT COKING COAL LIMITED
(A (Subsidiary of Coal India Ltd.)
Office of the General Manager
Govindpur Area
SONARDIH, DHANBAD – 828125

Ref No: Ref. No.:BCCL/GM/Area III/ 2013/ 476 **Date:** 26/11/13

To,
The Director(s)
Ministry of Environment & Forest
Govt. Of India
Eastern Region Office.
A/3, Chandrashekharpur, Bhubaneshwar -751023

Sub:- Six monthly Reports on implementation of environmental measures for the period from March '13 to Sept '13 in respect of Cluster III group of mines EC Order no. J-11015/213/2010-1 A.II(M) dated 06.02.2013

Dear Sir,

Enclosed please find herewith six monthly Reports on implementation of environmental measures for the period from March '13 to Sept '13 in respect of Cluster III group of mines EC Order no. J-11015/213/2010-1 A.II (M) dated 06.02.2013 for your kind perusal.

Your's faithfully,

Addl.General Manager
Govindpur Area, BCCL.

Copy To:-

1. Dr. Sunita Aulock, Director, IA monitoring cell
   Paryavaran Bhawan CGO Complex, New Delhi – 110003.
2. GM (Envt.) BCCL, Koyla Bhawan, Dhanbad.
3. Area Manager (Plng.), Govindpur Area.
4. Nodal Officer (Envt.)

ENVIRONMENTAL CLEARANCE COMPLIANCE OF CLUSTER-III
(GRANTED VIDE J-11015/213/2010-IA.II (M) Dated 06.02.2013)
(Upto Sept 2013)

Sl.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 production from the cluster is within the limit for which environmental clearance has been granted.
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 is dovetailed with environmental clearance conditions.
Iii	The proponent shall prepare time-series maps of the Jharia Coalfields through NRSA to monitor and prevent fire problems in the Jharia Coalfields by Isothermal mapping /imaging and monitoring temperatures of the coal seams (whether they are close to spontaneous ignition temperatures) and based on which, areas with potential fire problems shall be identified. Measures to prevent ingress of air (Ventilation) in such areas, to prevent restart fresh/spread fires in other areas including in mines of cluster II shall be undertaken. Expertise available internationally could also be recognized 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.	Work has been awarded to NRSC (earlier NRSA). A MoU is to be entered with the NRSC for start of the work .For this purpose, duly signed MOU has been sent to NRSC for necessary processing at their end and to start the work immediately .(Copy enclosed as Annexure-A) Action is being taken as specified in the Master Plan and EMP.
Iv	Underground mining should be taken up after completion of reclamation of Opencast mine area.	It is being complied.
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 will be explored.
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. Mine closure plan as per the guidelines of Ministry of Coal and on the basis of cluster concept is under preparation by Central Mine planning and Design Institute (CMPDI).
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 complied.

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 is being complied.
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 OB's are not reclaimed and abandoned. The proponent should dump all the OB material I n abandoned mines.	At the end of mining there shall be no void and area will be re-vegetated and reclaimed. Action is being taken as specified in EMP.
Xi	Number of voids present in cluster – III at the end of mining should be backfilled upto ground level and no void should be left at the end of mining.	It shall be complied.
Xiii	Mining shall be carried out as per statuette from the streams/nalas flowing within the lease and maintaining a safe distance from the Nalas flowing along the lease boundary. A safety barrier of a minimum 60m width shall be maintained along the nalas/water bodies. The small water bodies in OC shall be protected to the extent feasible and the embankment proposed along water body shall be strengthened with stone pitching.	It is being followed. Action for construction of embankment has been taken as specified in EMP.
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. Eco-restoration work is under process.
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 is being complied. Plantation is being done for development of green belts as per EMP.
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 Action Plan is being implemented. The salient actions of this

	Dhanbad as a critically polluted are and relevant for Cluster III shall be implemented.	cluster Covered transportation of coal. Water sprinkling Plantation. Utilisation of surplus mine water.
xviii	**The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuel wood, coal, fly ash from TPPs, silica from natural dust, etc) and a Source Apportionment Study should be got carried out for the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition of the suspended particulate matter (PM_{10} and $PM_{2.5}$) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate mitigative measures could be taken.**	The fixing up of locations of monitoring stations in the Jharia Coalfields has been taken up with the Jharkhand State Pollution Control Board. The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules. For the source apportionment study the action has been taken with help of CMPDIL. Presently ambient air is being monitored through BCCL own Laboratory at HQ level.
Xix	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	Action has been taken for preparation of the transportation plan for conveyor cum rail system of dispatch through CMPDIL By that time transportation is being done by covering vehicle with tarpaulin cover. Action for mechanical covered trucks has been taken.
Xx	3756 nos of PAF's should be rehabilitated at cost of Rs 27012.66 Lakhs as per the approved Jharia Action Plan.	It is being followed as per the approved Jharia action plan.
Xxi	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be dome four times a year in pre-monsoon (May), monsoon (August), post-monspon (November) and winter (January) seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forest and to the Central Pollution Control Board/SPCB quarterly within one month of monitoring. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.	It shall be complied. The work of monitoring will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules. Presently CMPDI is monitoring the ground water level. Fixing up the monitoring stations for this purpose is in process with Jharkhand State Pollution Control Board.
Xxii	Regular monitoring of subsidence movement on the surface over and around the working area and impact on	It shall be complied.

	natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.	
Xxiii	Sufficient coal pillars shall be left unextracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.	Sufficient coal pillars have been left around air shafts as per the statutes and DGMS guidelines.
Xxiv	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	Identification of high root density Plant and its plantation in subsidence prone area will be taken-up at the time of depillaring operations.
Xxv	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	Subsidence affected areas been regularly monitored and any types of depressions are being filled.
Xxvi	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	It shall be complied as per the statute and DGMS guidelines.
Xxvii	No depillaring operation shall be carried out below the township/colony.	It is being followed.
Xxviii	A detailed CSR Action Plan shall be prepared for Cluster II croup of 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.	It is being complied. A separate CSR Committee to be framed for carrying out CSR works.
xxix	Central recreation park with herbal garden should be	Being complied. Action has already been

	developed for use of all inhabitants.	taken for identification of land for development of herbal garden.
Xxx	The mine water should be treated properly before supply to the villager.	It is being complied
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.
Xxxv	Mine discharge water shall be treated to meet standards prescribed standards before discharge into natural water courses/agriculture. The quality of the water discharged shall be monitored at the outlet points and proper records maintained thereof and uploaded regularly on the company website.	It is being complied. Jharkhand State Pollution Control Board has been consulted for this purpose. The monitoring will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules. Presently mine water is being monitored through BCCL own Laboratory at HQ level.
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 to dewatering of mine.	It is being complied and mine water is being used for the industrial purpose. Further Mine water is also utilized for the community and irrigation purposes.
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 recognized 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. At the end of mining a part of the void will be converted into the water body as specified in EMP.
Xxxix	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.	Proposal for Oil grease Trap for different mines of cluster-III is being taken-up.
Xxxl	The location of monitoring stations in the Jharia coalfield should be finalized in consultation with Jharkhand State Pollution Control Board.	The fixing up of locations of monitoring stations in the Jharia Coalfields has been identified by the Jharkhand State Pollution Control Board.
Xl	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	Complied. Presently a time series map of vegetation cover in the Jharia Coal Field is being carried out through CMPDI Ranchi. Further CMPDI has been requested to

	particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneswar.	prepare "Time series of land use maps based on satellite imagery of the core zone and buffer zone in the scale 1:50000 for every 3 years.
Xli	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem, which were conserved in-situ and ex-situ in an identified area within the lease for reintroduction in the mine during mine reclamation and at the post mining stage for habitat restoration.	CMPDI has been requested to prepare cluster wise "Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund".
Xlii	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 has been requested to prepare cluster wise "Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund".
Xliii	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 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.
Xliv	Corporate Environment Responsibility: The Company shall have a well laid down Environment Policy approved by the Board of Directors. The Environment Policy shall prescribe for standard operating process/ procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. 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.	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. Complied. A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists. Being complied.
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 complied.
Ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	Being complied.
Iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM_{10}, $PM_{2.5}$, SO_2 and Nox monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	Locations of monitoring stations in the Jharia Coalfields have been identified by the Jharkhand State Pollution Control Board. The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having CSIR laboratory recognized under the EP Rules.
Iv	Data on ambient air quality (PM_{10}, $PM_{2.5}$, SO_2 and NO_x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the	It shall be complied.

	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.	
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.	Locations of monitoring stations in the Jharia Coalfields have been identified by the Jharkhand State Pollution Control Board. The work of monitoring of ambient environment will be done through Central Institute of Mining & Fuel Research (CIMFR), Dhanbad who is having laboratory recognized under the EP Rules. Presently mine effluent is being monitored through BCCL own Laboratory at HQ level.
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	It is 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 recognized under EPA Rules, 1986.	It is being done.
Ix	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Being Complied. Vocational training Centers and Human Resource Development Deptt. Is conducting regular training programme in this regard.
X	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	Initial Medical Examination (IME) and Periodical Medical Examination (PME) of all the personnel are carried out as per the Statutes and Director General of Mines Safety (DGMS) guideline.

Xi	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	A full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives (12 nos.) which includes Environment, Mining, Excavation, Civil, Survey ,Electrical & mechanical, Forestry disciplines executives and technicians (4 nos.) has been established in Headquarters. They are also trained in ecological restoration, sustainable development, rainwater harvesting methods etc. At the project level, one Executive in each area has also been nominated as Project Nodal Officer (Environment) and is also entrusted with the responsibility of compliance and 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.	It is being complied.
Xiii	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in.	It has been complied. Advertisement in local newspaper is enclosed as annexure-B.
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	Complied.

	received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	
Xv	A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.	Complied.
Xvi	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM10, PM2.5, SO_2 and NO_x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	Complied.
Xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.	Being complied.
Xviii	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.	Shall be complied.
Xix	The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules,1986,as amended subsequently, shall also be uploaded 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 of the Environment (Protection) Act, 1986.	Agree.
iii	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.
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.

26/10/13.

Nodal Officer (Env)

Govindpur Area, BCCL.

26/10/13

Addl. General Manager

Govindpur Area, BCCL.