

BHARAT COKING COAL LTD.

A Mini Ratna Company

(A Subsidiary of Coal India Ltd.)

REGD. Office: Koyla Bhawan, Koyla Nagar, Dhanbad-826005

CIN No. U10101JH1972GO1000918

OFFICE OF THE GENERAL MANAGER

BARORA AREA

Ref No. GM/AR -1/ENV/2019/169

Dated: - 30/11/19

To
The Director
Ministry of Environment, Forest & CC
Regional Office (ECZ), Bungalow No.-2
Shyamali Colony
Ranchi- 834002

**Sub: Six monthly reports on implementation of Environmental measures for the
Period from Apr'2019 to Sep'2019 in respect of Cluster -I group of mines.**

Ref: -EC Order No. J-11015/93/2009-IA.II (M)

Dear Sir,

Kindly find enclosed herewith the six monthly reports on implementation of Environmental measures for the period from Apr'2019 to Sep'2019 in respect of Cluster -I group of mines.

Hope you will find the same in order.

Yours faithfully,

General Manager
Barora Area

Encl: as above

C.C to

1. The Director, 1A monitoring cell ,
Paryavaran Bhawan CGO Complex, New Delhi-110003
2. Regional office, JSPCB ,Housing colony, Dhanbad
3. Dy.GM (Env.) BCCL Koyla Bhawan, Dhanbad.
4. Environment Officer, Damoda colliery

Compliance of Conditions of Environmental Clearance Granted by

MoEF for Cluster-1 (01.04.19 to 31.09.19)

EC Order No. J-11015/93/2009-IA.II (M)

Sl. no.	A. Specific Conditions by MOEF:	Compliance
i	Production shall not exceed beyond that for which environmental clearance has been granted for the 3 mines of cluster-1.	The production for the cluster is within the limit for which environment clearance has been granted. Mines operation discontinued from 25.01.2017 due to Failure of Hired HEMM agency, Development of underground working has been completed and OCP working discontinued due to land related problems.
ii	The measures identified in the environmental management plan for Cluster-I group of mines 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. Action like trench cutting & water flushing is being taken to control, mine fires including old OB dump & areas as specified in Jharia Master Plan
iii	(a)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. (b) And monitoring temperatures of 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 re-start fresh/spread fires in other areas including in mines of cluster-I shall be undertaken.	Time -series maps of the Jharia Coalfields is prepared by NRSA for 2012 &17 and will continue. As per study conducted by NRSA, there is no fire in the leasehold area of cluster 1. (Soft copy of NRSA report is enclosed as Annexure-I)
iv	No mining shall be undertaking where underground fires continue. Measures shall be taken prevent/check such fires including in old OB dump areas where fire could start due to presence of coal/ shale with sufficient carbon content.	It shall be complied. Mines operation discontinued from 25.01.2017 due to Failure of Hired HEMM agency, Development of underground working has been completed and OCP working discontinued due to land related problems.
v	There shall be no external OB dumps. OB from the 2 patches 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.	Action is being taken as specified in EMP. At the end of the mining, there shall not be voids and area will be re-vegetated and reclaimed with the proper eco-restoration techniques suggested by the experts available in BCCL and in external agencies i.e. FRI Dehradun, CEMDE Delhi.
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-1 shall be drawn up and implemented	Mines operation discontinued from 25.01.2017 due to Failure of Hired HEMM agency, Development of underground working has been completed and OCP working discontinued due to land related problems. Calendar plan has been prepared. Mine closure plan as per the guidelines of Ministry of Coal have been prepared by Central Mine Planning and Design Institute (CMPDI) and it is being implemented.
vii	Mining shall be carried out as per statuette from the streams/nalas flowing within the lease and	It is being followed. Since mines is discontinued from 25.01.2017 due to Failure of Hired HEMM agency,


	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 Damoda (Albion Section) OC shall be protected to the extent feasible and the embankment proposed along water body shall be strengthened with stone pitching.	Development of underground working has been completed and OCP working discontinued due to land related problems. A proposal is being initiated for the construction of garland drain along the OB dump and will be completed before the start of mining operation.								
viii	Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. A total area of 237.79 ha shall be reclaimed and afforested.	It is being complied. Green belt of 6.00 Ha exists in Damoda lease hold area and Eco restoration of 12.68 Ha has been already developed and being maintained properly.								
ix	Specific imitative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted area and relevant for Cluster-1 shall be implemented.	Dhanbad Action Plan is being implemented. The salient actions of this area: <div><div>1. Covered transportation of Coal.</div><div>2. Water sprinkling.</div><div>3. Plantation.</div><div>4. Utilization of surplus mine water.</div></div>								
x	A detailed CSR Action Plan shall be prepared for Cluster-I group of mines. Specific activities shall be identified for CSR for the budget of Rs 13.75 crores provided for CSR for 2010-11 and Rs 5/T of coal as recurring expenditure. The 190.51 ha of area within Cluster-I 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. In addition to afforesting 237.79 ha of are at the post-mining stage, the 204.67 ha of fallow/abandoned land and 40.64 ha waste land/barren land within Cluster-I ML shall berehabilitated/reclaimed as forest/agricultural land under CSR Plan in consultation with local communities. Third party evaluation shall be got carried out regularly for the proper implementation of activities undertaken in the project area under CSR. Issues 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.	BCCL is implementing CSR activities, as per Govt. norms with a CSR Committee being evaluated by Tata Institute of Social Science. A CSR department has been established at the headquarter level and area level for proper executing the CSR activities. All welfare/ CSR activities are also uploaded in Company web site. (CSR Booklet Soft Copy Enclosed as Annexure II) TISS, Mumbai has conducted the baseline survey and accordingly an action plan is being formulated.								
xi	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.	Mine water is being stored at sump of Albion OCP and after treatment through Pressure Filter is being used for domestic purpose. A work order has been issued to CMPDIL, Ranchi. Regular monitoring of Water Quality Parameters is being carried out by CMPDIL. Max. value of parameters of mine discharge is given in the table below: <table><tr><td>Total Suspended Solids</td><td>34</td></tr><tr><td>pH</td><td>8.10</td></tr><tr><td>Oil & Grease</td><td>< 2</td></tr><tr><td>COD</td><td>40</td></tr></table> (Soft copy of monitoring report is enclosed as Annexure III)	Total Suspended Solids	34	pH	8.10	Oil & Grease	< 2	COD	40
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xii	<p>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.</p>	<p>Surface mine water is being used for industrial purpose and domestic purposes. Mine water after treatment through Filtration by Pressure Filters is supplied to villagers or nearby communities.</p> <p>Two nos. pressure filter of capacity 10,000 litre /day have already been installed at Damoda Colliery.</p> <div data-bbox="805 426 1542 871" data-label="Image"> </div>
xiii	<p>Continuous monitoring of long-term impacts of dumping of fly ash (for life of the mine) and leaching of heavy metals on soil and water quality of the study area shall be undertaken and the details of which shall be submitted to the Central Ground Water Board, SPCB and to the Regional Office of this Ministry at Bhubaneswar, as part of the compliance report. Permanent monitoring arrangements such as peizometers shall be established in and around mine areas covering potential impact zone for contamination of heavy metals due to leachates from fly ash. In case of increasing levels of heavy metals detected in groundwater, further dumping of fly ash shall be stopped immediately. Independent third party monitoring of impacts of dumping of fly ash shall also be undertaken and reported to the regulatory authorities and uploaded on the company website. In case, the disposal of fly ash into the de-coaled voids is not found to be an environmentally suitable option, the balance void shall be converted into water reservoir of a maximum depth of 35m which shall be gently sloped. The upper benches of the reservoir shall be stabilized with plantation and the periphery of the reservoir fenced.</p>	<p>At present there is no fly ash being dumped.</p>


xiv	<p>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 done four times a year in pre-monsoon (May), monsoon (August), post monsoon (November) and winter (January) seasons and for quality including As and F during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forests 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>Groundwater level and quality is being monitored by CMPDIL. Tender has been cancelled thrice. The estimate is being revised in association with CMPDI for re-tendering.</p> <p>Water level monitoring at 4 hydrograph stations has been done in the months of February, April, August & November'2018 and the Ground water level data is enclosed in the table below:</p> <table><tr><th rowspan="2">Sl No.</th><th rowspan="2">Well No.</th><th rowspan="2">Location</th><th colspan="4">Water level (bgl in meters)</th></tr><tr><th>Feb'18</th><th>Apr'18</th><th>Aug'18</th><th>Nov'18</th></tr><tr><td>1</td><td>B-15</td><td>BeraBasti</td><td>1.56</td><td>1.85</td><td>0.75</td><td>0.85</td></tr><tr><td>2</td><td>B-21A</td><td>Dugdha</td><td>6.73</td><td>9.65</td><td>3.45</td><td>2.65</td></tr><tr><td>3</td><td>B-51</td><td>Taranga</td><td>3.00</td><td>5.02</td><td>2.25</td><td>2.42</td></tr><tr><td>4</td><td>B-53</td><td>Karmatanr</td><td>2.52</td><td>3.92</td><td>1.62</td><td>1.42</td></tr><tr><td colspan="3">Average WL (bgl)</td><td>3.45</td><td>5.11</td><td>2.02</td><td>1.84</td></tr></table> <p>(Soft copy of Ground level monitoring report is enclosed as Annexure IV)</p>	Sl No.	Well No.	Location	Water level (bgl in meters)				Feb'18	Apr'18	Aug'18	Nov'18	1	B-15	BeraBasti	1.56	1.85	0.75	0.85	2	B-21A	Dugdha	6.73	9.65	3.45	2.65	3	B-51	Taranga	3.00	5.02	2.25	2.42	4	B-53	Karmatanr	2.52	3.92	1.62	1.42	Average WL (bgl)			3.45	5.11	2.02	1.84
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xv	<p>ETP shall also be provided for workshop, and CHP, if any. Effluents from the mines shall be treated to conform to prescribed standards if is discharged into any water course outside the lease area. The quality of effluent/water discharged shall be monitored at outlet points. Proper records shall be maintained thereof and uploaded regularly on the company's website.</p>	<p>Mines operation discontinued from 25.01.2017 due to Failure of Hired HEMM agency, Development of underground working has been completed and OCP working discontinued due to land related problems</p> <p>Construction of ETP/Oil grease Trap will be taken-up as mine will be continuing in operation.</p>																																														
xvi	<p>For monitoring the land use pattern and post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 50000) of the core zone and buffer zone, from the start to the end of mine life, shall be prepared once in 3 years (for anyone particular season which is consistent in the time series). The report shall be 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 & it has been uploaded on the official website of company.</p> <p>Further CMPDI has been requested to prepare "Time series of land use maps based on satellite imagery of the core zone and buffer zone in the scale 1:50000</p> <p>(Soft copy of land reclamation report is enclosed as annexure V)</p>																																														
xvii	<p>A Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests for approval before the final mine closure. The species selected for Habitat Restoration for post-mining land shall</p>	<p>BCCL has deposited the amount in a separate ESCROW ACCOUNT for corpus fund as per Mine Closure Guidelines as specified in the mine closure Plan.</p> <p>A Final Mine Closure Plan along with details of Corpus Fund will be submitted to the Ministry of Environment & Forests five year before mine closure for approval.</p>																																														

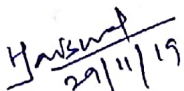
	include a specific Plan for development of agro-forestry using a mix of native species found in the study area.	Native species (Sheesham,sirish,Arjuna,grass etc) are being used in mine reclamation. (Details of amount deposited enclosed as Annexure VI)
xviii	<p>Corporate Environment Responsibility: The Company shall have a well laid down Environment Policy approved by the Board of Directors’.</p> <p>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.</p> <p>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>A well-defined Corporate Environment Policy has already been laid down and approved by the Board of Directors. This is also posted on BCCL website.</p> <p>Complied.</p> <p>A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists.</p> <p>Being complied.</p>
B	General Conditions by MoEFCC::	
i	No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	<p>Being complied.</p> <p>Mines operation discontinued from 25.01.2017. due to Failure of Hired HEMM agency, Development of underground working has been completed and OCP working discontinued due to land related problems</p>
ii	No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.	Noted.
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM ₁₀ , PM _{2.5} , SO _x and NO _x . 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, in particulates shall be carried out at least once in a year.	<p>Complied.</p> <p>The location of monitoring stations in Jharia Coal Field has been finalized in consultation with the Jharkhand State Pollution Control Board. Ambient air quality along with heavy metals such as Hg,As,Ni,Cd,Cr ,etc is regularly monitored by CMPDIL.</p> <p>(Soft copy of monitoring report is enclosed as Annexure III)</p>
Iv	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO _x and NO _x and heavy metals such as Hg, As, Ni, Cr, etc) 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 EP Rules, 1986 shall be furnished as part of	<p>Data on ambient air and other monitoring data is being regularly submitted to the Ministry and pollution control board along with compliance report.</p> <p>Mines operation discontinued from 25.01.2017</p> <p>(Soft copy of monitoring report is enclosed as Annexure III)</p>


	the 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.	<p>Mines operation discontinued from 25.01.2017. It is being Complied in mines and also the Noise levels are below the Ambient Noise Standard (Day time 75 dB & Night Time (70 dB for Industrial Area).</p> <p>Regular maintenance of vehicles and other machineries are being practiced for control of noise level. Ear plugs/muffs will be provided to the persons engaged in blasting and drilling operations, operation of HEMM, etc . after mining operation will continue again. (Soft copy of monitoring report is enclosed as Annexure III)</p>
vi	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	<p>Mines operation discontinued from 25.01.2017 The work of monitoring of ambient environment is being done by CMPDIL, Ranchi. Physico-Chemical characteristics of effluents are well within the prescribed limit.</p>
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.	<p>Mines operation discontinued from 25.01.2017 Being complied.</p>
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 EP Rules, 1986.	It is being done by CMPDIL, Ranchi having NABL accreditation.
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. 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.	<p>Mines operation discontinued from 25.01.2017. It is being complied. A separate full-fledged Human Resource Development Department is conducting regular training programme on these issues. Apart from this Vocational Training Centers are existing in all the areas of BCCL, which provides periodical training on the safety and occupational health issue to each of the workers working in the mines.</p> <p>(Training list enclosed as Annexure VII)</p>
x	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.	Complied. A full-fledged Environment cell, with a suitable qualified multidisciplinary team of executives has been established. 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. Socio economic issues and capacity building are being evaluated by Tata Institute of Social Science.
xi	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. Separate head "plantation", & "environment" is there for recurring expenditure and used for eco-restoration , environmental protection measures, statutory payments etc.

xii	The Project authorities shall advertise at least in two local newspapers that are 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	Complied. Advertisement in local newspaper has been given. 
xiii	A copy of the environmental clearance letter shall be marked to concerned Panchayat/ZilaParishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.	Complied. Clearance letter has been displayed on Company web site. Also Clearance letter has been sent to Mukhiya of different Panchayat.
xiv	A copy of the clearance letter shall 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 Centre and Collector's Office/Tehsildar's Office for 30 days.	Complied.
xv	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated 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 the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical' pollutants such as PM ₁₀ , PM _{2.5} , and NO _x (ambient and stack if any) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.	Complied. Clearance letter has been displayed on Company web site and updated regularly. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters is being displayed at the entrance of the Area office.
xvi	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.	Being complied.
xvii	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	Noted. Project authority is ready to extend its full cooperation for any kind of visit and inspection conducted by Regional Office in connection with EC Conditions Compliance.

	Regional Office by furnishing the requisite data information/monitoring reports.	Compliance.
xviii	The environmental statement for each financial year, ending 31 st March, in Form-V to be submitted mandatorily by the project proponent to the State Pollution Control Board concerned as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently. This shall also be uploaded on to the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.	Environmental Statement (Form-V) has been regularly submitted for each financial year to Jharkhand State Pollution Control Board. (Soft copy of Form V is enclosed as Annexure VIII)
C	Other Conditions by MoEFCC:	
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 <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.


General Manager
Barora Area


Asst. Mgr.(Envt.)
Barora Area


Project Officer
Damoda colliery