

BHARAT COKING COAL LIMITED

(A Subsidiary of Coal India Limited)

OFFICE OF THE GENERAL MANAGER

BLOCK-II AREA,PO-NAWAGARAH,DHANBAD-828306

CIN:U10101JH1972GO1000918

Tel. No-0326-2393108/Fax No-0326-2393108

Ref: GM/B-II/19-20/ אנעו

Date: 08.05.2019

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

Sub: Six monthly EC compliance reports for the period from October 2018 to

March 2019 in respect of Cluster -II group of mines of BCCL.

Ref: EC order no. J/11015/35/2011- IA.II(M) dt. 06/02/2013

Dear Sir,

Kindly find enclosed herewith the Six monthly EC compliance report for the period October 2018 to March 2019 in respect of Cluster -II group of mines of BCCL.

Hope you will find the-same-in-order.

Yours faithfully,

General Manager

Encl: as above

C.C to

1. The Director, 1A monitoring cell
Paryavaran Bhawan CGO Complex, New Delhi-110003

2. The Regional Officer, JSPCB, HIG- I, Housing colony Dhanbad-826001

3. Dy.G.M (Env.) BCCL Koyla Bhawan, Dhanbad.

ENVIRONMENTAL CLEARANCE COMPLIANCE OF CLUSTER-II MINING AREA OF BCCL (GRANTED VIDE: J-11015/35/2011-IA II (M) dated 06.02.13 (01.10.2018 to 31.03. 2019)

Sl. no.	A. Specific Conditions by MOEF:	Compliance
i	The maximum production by opencast mining shall not exceed beyond that for which environmental clearance has been granted for the 5 mine of Cluster- II.	The production from the Cluster is within limit for which environment clearance has been granted.
ii	The measure to identify in the Environmental Plan for Cluster- II 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 condition.
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 utilized for control of fire in Jharia Coalfields and for their reclamation and to further minimize time for fire and subsidence control. Monitoring of fire should be carried out regularly. Underground mining should be taken up after completion of reclamation of Opencast mine area.	It shall be complied. Presently only Open Cast working is being practiced.
v	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	It is being followed. Action for construction of Embankments have been taken as specified in EMP.
vi	inundation. The rejects of washeries in Cluster –II should be send	
vii	to FBC based plant. 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.	working is being practiced, However sufficient precaution is being taken to guard against fire.
viii	There shall be no external OB dumps. OB produce from the whole cluster will be 484.89Mm ³ . OB from 3 OCP and 2 patches in mixed mine shall be backfilled. At the end of the mining there shall be no void and the entire mined out area shall be re-vegetated. Areas where opencast mining was carried out and completed shall be reclaimed immediately thereafter.	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 ecorestoration techniques suggested by the experts available in BCCL and in external agencies i.e. FRI Dehradun, CEMDE Delhi.
ix	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-II shall be drawn up and implemented.	Institute (CMPDI) and it is being implemented
х	Mining shall be carried out as per statute from the streams/nalas flowing within the lease and maintaining	It is being followed.

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	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 taking into account the highest flood level, based on past data, so as to guard against mine inundation. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 3 m higher than the HFL. The embankment to be constructed by OB /solid waste shall be strengthened with stone pitching. Slope stability of the embankment shall be done by planting suitable grass and shrubs using native species selected from the study area.	
xi	Active OB dumps near water bodies and rivers should be re-handled 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. It is being complied. Total area of 79.40 ha has been
xii	Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. A total area of 1237.48ha shall be reclaimed and afforested.	planted. A total area of 76.15 ha is being eco- restored.
xiii	The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.	In monsoon, it is planned to plant 1000 no of saplings along permanent transportation roads of mines. 2 nos. of Plantation sites are present along road connecting mine to state govt road and also there are plantation site along permanent road in mines. Most of the coal is being transported through railway siding .Road transport is being carried out through existing network of NH/SH where avenue plantation already exist.
xiv	Specific mitigative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted are and relevant for Cluster- II shall be implemented.	Dhanbad Action Plan is being implemented. The salient actions of this area: 1. Covered transportation of Coal. 2. Water sprinkling. 3. Plantation. 4. Utilization of surplus mine water.
xv	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	Establishment of ambient environment quality monitoring stations has been finalized with the consultation of Jharkhand State Pollution Control Board. The work of monitoring of ambient environment is being done by CMPDIL, Ranchi. The work of source apportionment was awarded to NEERI, Nagpur on 12.05.2018. The reconnaissance survey has started on 24.09.2018. The project duration is one year. (Soft copy of work order is enclosed).
xvi	be taken. The Transportation Plan for conveyor-cum-rail for Cluster-II should be dovetailed with Jharia Action Plan. Road transportation of coal during Phase—I should be by mechanically covered trucks, which should be introduced at the earliest.	CMPDIL, RI-II has been requested to conduct study and prepare the plan in this regarding. No OEM is provided for mechanically covered trucks, transportation is being done by covering vehicle with tarpaulin.
xvii	R&R of 1137 nos of PAF's involved. They should be rehabilitated at cost of Rs 45.08 Crores as per the approved Jharia Action Plan.	Implementation of master plan has already been started through Jharkhand Rehabilitation and Development Authority, Dhanbad and 547 families (Non-BCCL) has been rehabilitated at well-

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		established Jharia Vihar Township located at Belgoria.							
xviii	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be dome four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forest and to the Central Pollution Control	monitored by CMPDIL. Tender for installation of new peizometers was done on 28.04.2017. Only one bidder applied who could not fulfill the eligibility criteria. Hence, that tender was cancelled and retendering is in process. Water level monitoring at 5 hydrograph stations has been done in the months of February, April, August & November 2018 and the Ground water							
	Board/SPCB quarterly within one month of monitoring. Rainwater harvesting measures shall be	[SI	Wel	Location	Wate	er level	(bgl in m	eters)
	undertaken in case monitoring of water table indicates a declining trend.		No ·	l No.		Feb '18	Apr '18	Aug'	Nov'
			1	B-1	Muraidih	1.68	2.88	1.48	2.08
			2	B- 59	Khodovaly	1.38	5.47	0.90	1.10
			3	B- 60	Bahiyardih	8.21	13.6	3.13	4.23
			4	B- 61A	Kesargora	1.27	2.57	2.62	2.02
			5	B- 62A	Sadiyardih	5.87	8.27	4.00	4.78
			Aver	age WI	L (bgl)	3.68	6.57	2.43	2.84
		(Soft copy of ground water monitoring report is enclosed)							
xix	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.	Su	s th	e are	s mere.			nes, h	ence 1
xx	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.				ly OCP work				
xxi	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	As the area is having O/C mines, hence no subsidence is there. As the area is having O/C mines, hence no							
xxii	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	su	ıbside	ence is	there.				2000
xxiii	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.		L -! d.		a is having there.				
xxiv	No depillaring operation shall be carried out below the township/colony.								
xxv	A detailed CSR Action Plan shall be prepared for Cluster II croup of mines. Specific activities shall be	BCCL is implementing CSR activities, as per Govt. norms with a CSR Committee being evaluated by Tata Institute of Social Science.							

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xxvi	per year@ Rs 5/T of coal provided for CSR for 2012-2013 and Rs. 5/T of coal as recurring expenditure. The 416.98 ha of area within Cluster II 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 1237.48 ha of area at the post-mining stage, the 122.18ha of fallow/abandoned land and 416.98 ha waste land /barren land within Cluster- II mining lease area shall be rehabilitated/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. 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. Details of transportation, CSR, R&R and implementation of environmental action plan for the clusters-II should be brought out in a booklet form within a year and regularly updated 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.	All welfare/ CSR activities are also uploaded in Company web site. Booklet form is being maintained. (Soft copy of booklet is enclosed) Mine discharge water is being allowed to settle down in the mine sumps and is being used for domestic purpose after treatment through Pressure Filter. Regular monitoring of Water Quality Parameters is being carried out by CMPDILand reports are being uploaded regularly on company website. Max. value of parameters of mine discharge is given in the table below: Total Suspended Solids 42 pH 8.66 Oil & Grease < 2 COD 44 (Soft copy of recent monitoring report is enclosed)
xxviii	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	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. Following action has been taken by the Company: 1. Utilization of surplus mine water for irrigation, pisciculture purpose.
xxix	wells go dry to dewatering of mine. The void shall be converted into a water reservoir of a maximum depth of 15-20 m and shall be gently sloped and the upper benches of the reservoir shall be stabilised with plantation and the periphery of the reservoir fenced. The abandoned pits and voids should be backfilled with OB and reclaimed with plantation and or may be used for pisciculture.	. The void will be converted into the water body as specified in EMP at the end of the mining.

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	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be dome four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forest and to the Central Pollution Control Board/SPCB quarterly within one month of monitoring. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.	Groundwater level and quality is being regularly monitored by CMPDIL. Tender for installation of new peizometers was done on 28.04.2017. Only one bidder applied who could not fulfill the eligibility criteria. Hence, that tende was cancelled and retendering is in process. Tender for installation of new peizometers was done on 28.04.2017. Only one bidder applied who could not fulfill the eligibility criteria. Hence, that tende was cancelled and retendering is in process. Water level monitoring at 5 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:					was done who could at tender was done ho could at tender a stations y, April, and water		
			SI	Wel	Location	Wate	er level	(bgl in m	eters)
			No	I No.		Feb	Apr	Aug'	Nov'
			1	B-1	Muraidih	1.68	2.88	1.48	2.08
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			4	B- 61A	Kesargora	1.27	2.57	2.62	2.02
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			Aver	age WI	(bgl)	3.68	6.57	2.43	2.84
		is	encl	losed)					g report
xxxi	ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to confirm to prescribed standards in case discharge into the natural water course.	0	il & į	grease	Trap for wo	rkshop	o is pro	vided	
xxxii	The location of monitoring stations in the Jharia coalfield should be finalized in consultation with Jharkhand State Pollution Control Board.	C	oalfie olluti	eld has	of monito been finaliantrol Board.	zed wi	th the	Jharkh	and State
xxxiii	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneswar.	Presently a time series map of vegetation cover in the Jharia Coal Field is being carried out through CMPDI, Ranchi using satellite imagery for every 3 years & it has been uploaded on the official website of company. Also CIL issued a work order to CMPDI for monitoring of land reclamation status of all the OC coal mines having production capacity of more than 5MM³ /Annum(coal+ OB) regularly on annual basis and for monitoring of less than 5 MM³ /Annum at an interval of 3 years ,based on remote sensing satellite data for sustainable development of mining. This study reveals that during 2018-19, out of the two project of Cluster II viz. Block-II and Muraidih (having production capacity of more than 5MM³ /Annum(coal+ OB)), having total mine leasehold area of 16.32 Km2; total excavated area is only 5.65							

		Km2 of which 0.68 Km2 area (12.04%) has been planted, 3.80 Km2 area (67.26%) is under backfilling and 1.17 Km2 area (20.71%) is under active mining. It is evident from the analysis that 79.29% area of the OC projects has come under reclamation and balance 20.71% area is under active mining. and balance 17.05% area is under active mining. (Soft copy of land reclamation report is enclosed)
xxxiv	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 prepare the "Final Mine Closure Plan along with a Plan for Habitat Restoration and with details of Corpus Fund". BCCL is being depositing the amount in ESCROW account as specified in the mine closure Plan.
xxxv	A separate management structure for implementing environment policy and socio-economic issues and the capacity building required in this regard.	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.
xxxvi	(A) Corporate Environment Responsibility:	
	a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.	A well defined Corporate Environment Policy has already been laid down and approved by the Board of Directors. This is also posted on BCCL website.
	b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	Complied.
	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists.
	d)To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	Being complied.
В	General Conditions by MOEF:	Princ complied
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 e z I I r e	four ambient air quality monitoring stations shall be stablished in the core zone as well as in the buffer one 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 effect carried out at least once in six months.	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.
iv	Data on ambient air quality (PM10, PM 2.5, SO2 and NOx Hg,As,Ni,Cd,Cr and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EPA rules,1986 shall be furnished as part of compliance report.	Data on ambient air and other monitoring data is being regularly submitted to the Ministry along with compliance report. (Soft copy of recent monitoring report is enclosed)
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. Noise level varies from 51.4dBA (Madhuband UGP) to 67.7 dBA(Muraidih). Regular maintenance of vehicles and other machineries are being practiced for control of noise level. Ear plugs/muffs are provided to the persons engaged in blasting and drilling operations, operation of HEMM, etc.
vi	Industrial waste water (workshop and waste water 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	(Soft copy of recent monitoring report is enclosed) Excess mine water is being stored at old quarries and ponds for community use. This will help to recharge the ground water. Oil and grease trap is installed for treatment of workshop effluents.
vii	grease trap shall be installed before discharge of workshop effluents. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	control. Coal is being transported in tarpaulin covered trucks.
viii	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EPA Rules, 1986.	- Land davises are
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 provided to personnel working in dusty areas.

	workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained	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. Medical examination of outsourcing Manpower is also being done.
ci	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 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.
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	It is being complied.
Xiii	Office at Bhubaneswar. 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 letter is available with the website of the ministry of	It has been complied. Advertisement in local newspaper has been given.
xiv	A copy of the environmental clearance letter shall be marked to concern 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	Being complied. Clearance letter has been displayed on Company web site.
xv	company's website. A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30	
x	days The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water noise and soil) and critical pollutant such as PM ₁₀ PM _{2.5} , 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	Complied.
,	office and on company's website. The project proponent shall submit six monthly compliance reports on status of compliance of the	y Being complied.

S	state Pollution Control Board as prescribed under the	
F	Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's	
١,	vehsite along with the status of compliance of EC	
10	conditions and shall be sent to the respective Regional	
10	Offices of the MoEF by E-mail	

Jour 2/19

General Manager

Barera Area

General Manager
Block-II Area