

### BHARAT COKING COAL LIMITED

### (A subsidiary of CIL)

REGD. Office: Koyla Bhawan, Koyla Nagar, Dhanbad-826005 CIN No. U10101JH1972GOI000918

## Office of the General Manager Bastacolla Area



Ref. No: BCCL/BA/IX/GM/EC Compliance/18/102

Date: 01.12.2018

To,
The Regional Officer,
Ministry of Environment, Forest & Climate Change,
Regional Office, ECZ
Bunglow No. A-2, Shyamli Colony
Ranchi – 834002.

Subject: Six Monthly report on compliance of Environmental Conditions for the period of April, 2018 to September, 2018 in respect of Cluster VIII Coal Mining Project of BCCL.

Ref.: EC Order No. J-11015/298/2010-IA. (M) Dated 15.02.2013 later amended on 15.06.2018.

Dear Sir,

Please find enclosed herewith six monthly report on compliance conditions laid down in Environmental Clearance for the period from April, 2018 to September, 2018 in respect of Cluster VIII Coal Mining Project of BCCL.

Thanking you.

Encl: As above alongwith CD.

Yours' faithfully,

General Manager Bastacolla Area

### Copy to:

- 1. The Director I A, Monitoring Cell, Paryavaran Bhawan, CGO Complex, New Delhi-110003.
- 2. The Member Secretary, Jharkhand State Pollution Control Board, Ranchi
- 3. The Scientist "E" /In-Charge, Zonal Officer Kolkata, Central Pollution Control Board, Kolkata

A. Spec	A. Specific Conditions		
SI. No.	Condition	Compliance/ Action Taken Report	
i	The Maximum production shall not exceed beyond that for which environmental clearance has been granted.	It is being complied. The production from the cluster is within the limit for which environmental clearance has been granted. Enclosed as Annexure I.	
ii	The road transportation of coal during Phase-I should be by mechanically covered trucks. The road used for coal transportation should be developed with avenue plantation on both sides.	It is being complied. Presently coal transportation has been done by trucks with tarpaulin cover. Covering of truck has been made mandatory in the transportation contract. Avenue Plantation has been done along the roads.	
iii	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.	Company is organizing training and other professional awareness programs to carry out work in future.	
iv	Details of transportation, CSR, R&R and implementation of environmental action plan for each of the 17 clusters should be brought out in a booklet form.	It is being complied. Details of Transportation, CSR, R&R and Implementation of Environmental Action Plan is being sent on Annual Basis i.e., Compliance Report of 2nd Half Year Ending in March.	
V	A study should be initiated to analyse extent of reduction in pollution load every year by reducing road transport.	It is being complied. The study has been completed by the CMPDIL to analyse the extent of reduction in pollution load every year by reducing road transport. Enclosed as Annexure II.	
vi	The expertise available internationally should be utilized for control of fire in Jharia Coalfields and for their reclamation and to further minimize time for fire and subsidence control.	It is under process. Global Expression of Interest had been opened for the international experts/firms/consultants/agencies to deal with coal mine fire in Jharia Coalfield with vision of reclamation, further minimization of spread of fire & subsidence control for which no bidder has qualified to take up the work. Enclosed as Annexure-III.	
vii	The abandoned pits and voids should be backfilled with OB and reclaimed with plantation and or may be used for pisciculture.	It is being complied. Backfilling process in abandoned pits and voids are continuously carried out along with the mining operation. Ecological restoration practices is being carried out at the stable OB dumps from where coal has been extracted upto combined seam and grass seed are also sown on the slopes of the dumps for slope stability. Abandoned Pits will be utilized for Pisciculture in Post Mining Phase.	
viii	BCCL may consider setting up 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 Dy.GM (Environment) along with a suitable qualified multi-disciplinary team of executives have been established at Company Headquarters.  One Executive in each area has also been nominated as Nodal Officer (Environment) for looking after routine environment related jobs. The activities are monitored on regular basis at Area and at Headquarter levels.	

ix	The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board.	It has been complied. The optimum location of monitoring stations in Jharia Coal Field has been identified with the consultant advisory of CMPDIL and also finalized with the permission of Jharkhand State Pollution Control Board. Enclosed as Annexure IV.
x	The 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.	NEERI, Nagpur has submitted the proposal regarding source apportionment study under the MoU Signed between NEERI, Nagpur and CIL. Proposal has been approved by competent authority and work order is issued. Enclosed as <b>Annexure V</b> .
xi	Mineralogical composition study should be undertaken on the composition of the suspended particulate matter (PM <sub>10</sub> and PM <sub>2.5</sub> ) 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.	NEERI, Nagpur has submitted the proposal regarding source apportionment study under the MoU Signed between NEERI, Nagpur and CIL. Proposal has been approved by competent authority and work order is issued. Enclosed as <b>Annexure V</b> .
xii	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.	It has been complied. NRSC was engaged for preparation of time series maps to monitor and prevent fire problems of Jharia Coalfield by Isothermal mapping/imaging and monitoring temperatures of the coal seams and NRSC has submitted their final report in March'2014 in which the area of fire has been reduced from 9.00 Km² to 2.18 Km². A MoU has been signed between BCCL and NRSC and in this connection a work order has been given to NRSC to delineate surface fire and associated land subsidence in Jharia Coalfield using satellite based remote sensing techniques. The aforesaid work has been initiated by NRSC. Enclosed as <b>Annexure VI</b> .
xiii	Measures to prevent ingress of air (Ventilation) in such areas, to prevent restart fresh/spread fires in other areas including in mines of cluster VIII shall be undertaken.	Action is being taken as per Jharia Master Plan approved by GOI and State Govt. of Jharkhand. Excavation/ Open Cast mining is being done in the fire/subsidence affected mines to dig out combustible materials to save the coal from burning and to prevent further spread of the fire. Once the fiery coal is dugout/excavated there will be no chance of further restarting/spreading of fresh fire into other areas.
xiv	Underground mining should be taken up after completion of reclamation of Opencast mine area after 15 years.	It shall be complied. Underground Mining will be done after extraction of upper seams and beneath backfilled and reclaimed area.
xv	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. Action is being taken to control, mine fires including old OB dump & areas as specified in Jharia Master Plan and the open cast mining is being done in fire affected areas.

xvi	The rejects of washeries in Cluster –VII should be send to FBC based plant.	<b>Not applicable.</b> Coal washery does not exist in this cluster.
xvii	There shall be no external OB dumps. At the end of the mining there shall be no void and the entire mined out area shall be revegetated. Areas where opencast mining was carried out and completed shall be reclaimed immediately thereafter.	It shall be complied. At the end of the mining, there shall be no void and area will be re-vegetated and reclaimed with the proper reclamation techniques suggested by the experts available across the globe.
xviii	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-VIII shall be drawn up and implemented.	Mining operation is being done as per approved Calendar plan. Mine closure plan as per the guidelines of Ministry of Coal has been prepared by Central Mine Planning and Design Institute (CMPDI). Progressive mine closure activities is being implemented regularly as per approved Mine Closure Plan considering present geomining conditions.
xix	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 biologically reclaimed with plantation and or may be used for pisciculture.	It is being complied. Abandoned pits are regularly filled with Over burden. At present extraction of coal by opencast method is being done in overlying seams. Old quarries where coal is already extracted is converted into water reservoir. Water from these old quarries/water reservoir is being used by local community. Abandoned Pits/Voids will be utilized for Pisciculture in Post Mining Phase.
xx	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 long water body shall be strengthened with stone pitching.	It is being followed. Mining is being done as per the guidelines and permissions of Directorate General of Mines Safety (DGMS) in accordance with Coal Mines Regulation, 1957. Action for construction of embankment will be done as specified in EMP.
xxi	Active OB dumps near water bodies and rivers should be rehandled for backfilling of abandoned mine voids. However, those which have been biologically reclaimed need not be disturbed.	It is being complied. The OB dumps created earlier are already stabilized. Fresh OB dumps will be taken for their eco-restoration work as per Road Map prepared by FRI, Dehradun.
xxii	Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. During post mining stage, a total of 704.48 Ha area would be reclaimed. The total additional area under plantation would be 345.06ha (67.79 Ha abandoned quarry area, 277.27 Ha active quarry area, 48.55 ha OB dump outside quarry area, 6.30 ha service building/mine infrastructure area/coal dump etc, 108.26 ha green belt around OCP, 196.31 ha barren area), by planting 1761200 plants in 704.48 ha at a total cost Rs. 7202.46 lakhs.	It is being complied. Plantation has been regularly done on mined out areas, OB dumps in scientific manner to minimize the effects of pollutants (Particulate Matters, SOx & NOx etc.). Presently Bastacolla area is carrying out the ecological restoration projects in an area of 19.65 Ha. Every year, Sites for Ecological Restoration is taken up for the improvement of environment and reclamation of degraded lands/OB Dumps. Three Tier plantation has been done in order to protect environment from pollutant and develop a self-sustained ecosystem.

xxiii	The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.	It shall be complied. Avenue plantation has been partly done in non-coal bearing areas as well as in colonies.  Carbon sequestration study may be conducted to assess the impact of plantation to reduce the pollutants.
xxiv	Specific mitigative measured identified for Jharia Coalfields in the Environmental Action plan prepared for Dhanbad as a Critically polluted are and relevant for Cluster VII shall be implemented.	It is being complied in the name of Dhanbad Action Plan. It has been prepared in consultation with Jharkhand Pollution Control Board for entire BCCL and not on cluster basis. It is being implemented comprehensively for all the mines of BCCL. Some of the salient actions of this cluster are as under:  1. Covered Truck Transport 2. Construction of Pucca Road. 3. Construction of water reservoir for mine water utilization 4. Plantation. Etc.
xxv	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 the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition for the suspended particulate matter (PM10 and PM2.5) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate mitigative measures could be taken.	It is being complied. Establishment of ambient environment quality monitoring stations has been finalized with the consultation of Jharkhand State Pollution Control Board.  NEERI, Nagpur has submitted the proposal regarding source apportionment study under the MoU Signed between NEERI, Nagpur and CIL. Proposal has been approved by competent authority and work order is issued.  CMPDIL is presently carrying out the ambient environment monitoring work. Enclosed as Annexure IV.
xxvi	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. Mine water is being used for the industrial as well as domestic purpose. Mine water is also supplied to colonies and community after filtration through pressure filters, slow sand filters and rapid sand filters. Proposal for mine water supply to nearby village/community is taken up under CSR Policy of the company. An MoU has been signed between Coal India Ltd. & Govt. of Jharkhand for providing mine water to nearby villages. A copy of MoU has been enclosed as Annexure VII.

xxvii	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 premonsoon (May), monsoon (August), Postmonsoon (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 is being complied. CMPDI RI-II is regularly conducting study of groundwater level and quality of areas within Cluster VIII. Groundwater monitoring data has been enclosed as Annexure VIII.
xxviii	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. Mine discharge water is being allowed to settle down in the mine sumps before filtration through various types of filter viz. Pressure Filter, Slow Sand Filter & Rapid Sand Filter. The monitoring of water quality parameters was being done through CMPDIL. Mine water quality data has been enclosed as <b>Annexure XV</b> .
xxix	ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to confirm to prescribe standards in case discharge into the natural water course.	It shall be complied. Presently workshops are on Coal bearing area and they will be dismantled soon due to fire and subsidence. New workshop at Non Coal Bearing area will be equipped with ETP.
xxx	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.	It is being complied. Regular subsidence monitoring has been done at underground mines. In cluster VIII, presently subsidence monitoring has been done at Bastacolla Colliery.
xxxi	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.	It is being complied. Sufficient coal pillars have been left around air shafts as per the statutes and DGMS guidelines.
xxxii	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	It is being complied. Planation is regularly done in leasehold area of Cluster VIII. High root density plants are regularly planted as per the roadmap prepared by Forest Research Institute, Dehradun.

xxxiii	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	It is being complied. Time to time depression created by the mining operations have been filled by the locally available material and over burden removed from active quarry.
xxxiv	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	It is being followed. Sufficient barriers are left for saving the surface installation and infra structures as per Coal Mines regulation 1957 and DGMS guidelines.
xxxv	No depillaring operation shall be carried out below the township/colony.	It is being complied. Prior permission is always obtained from DGMS for depillaring.
xxxvi	The Transportation Plan for conveyor-cumrail for Cluster-VIII 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. The Plan for conveyor-cum-rail for Cluster-VII should be dovetailed with Jharia Action Plan. The road transpiration of coal during phase-I should be by mechanically covered trucks.	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 regard.  Transportation is being done by covering vehicle with tarpaulin cover and it is made mandatory in Transportation Contracts. Annexure IX.
xxxvii	A study should be initiated to analyze extent of reduction in pollution load every year by reducing road transport.	It is being complied. The study has been completed by the CMPDIL to analyse the extent of reduction in pollution load every year by reducing road transport. Enclosed as Annexure II.
xxxviii	R&R of 4959 nos of PAF's involved. They should be rehabilitated at cost of shifting to safe areas at the cost of Rs 29948 Lakhs as per the approved Jharia Action Plan.	Implementation of master plan has already been started through Jharia Rehabilitation and Development Authority (JRDA), Dhanbad PAFs (Non-BCCL) have been rehabilitated at well-established Jharia Vihar Township located at Belgoria and other places. Till date 1007 Nos of PAFs have been rehabilitated. <b>Enclosed as Annexure X.</b>

xxxix	A detailed CSR Action Plan shall be prepared for Cluster VIII croup of mines. Specific activities shall be identified for CSR the budget of Rs. 215.5 Lakhs per year@Rs. 5/T of coal as recurring expenditure. The 265.25 ha of area within Cluster VIIII 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 250.57 ha of area at the post-mining stage, the waste land/barren land within Cluster VIII ML 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.	It is being complied. BCCL is implementing CSR activities at various scale. A separate CSR committee has been formed at area level, which is looking after the works being executed under CSR. Bastacolla area is constructing 238 Nos. of toilets under CSR activity in different schools in Simdega district of Jharkhand under flagship program (Swachch Bharat Abhiyan) initiated by Hon'ble Prime Minister of India.
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 particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneswar.	It is being complied. Land Use Map of Cluster VIII has been prepared by CMPDIL using remote sensing data for monitoring of land use pattern and for post mining land use. Enclosed as Annexure XI.
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.	It shall be complied. CMPDI, Ranchi has prepared "Mine Closure Plan". In order to restore the original ecological system, Bastacolla Area has initiated restoration project at various sites having area of 24.67 Ha. Native species of flora and fauna can be seen on these sites.

xLii	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 for implementing environment policy and socio-economic issues and the capacity building required in this regard.	A full-fledged Environment Department, headed by a Dy.GM (Environment) along with a suitable qualified multi-disciplinary team of executives and technicians has been established at Company Headquarters. One Executive in each area has also been nominated as Nodal Officer (Environment) for implementing environment policy. The activities are monitored on regular basis at Area and at Headquarter levels.
xLiii	Implementation of final mine closure plan for Cluster VIII, subject to obtaining prior approval of the DGMS in regard to mine safety issues.	Mine Closure Plan, has been prepared for each Mine in this cluster. Progressive mine closure has been implemented regularly as per the approved Mine Closure Plan prepared by CMPDIL. Prior information/intimation to DGMS will be given before final mine closure with due regard to mine safety issues.
xLiv	Corporate Environment Responsibility: - a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.  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. 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. 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 uploaded on company's website. Enclosed as Annexure XII.  It is being complied.  A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists.  It is being complied.
B. Gener	ral Conditions:	It shall be complied as parths approved FC of Oliveter
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	It shall be complied as per the approved EC of Cluster VIII.
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	Production is being done as per the approved calendar programme/ MoU target.

iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> 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.	It has been complied. The optimum location of monitoring stations in Jharia Coal Field has been identified with the consultant advisory of CMPDIL and finalized with the approval of Jharkhand State Pollution Control Board. Enclosed as Annexure IV. Air quality Monitoring report has been enclosed as Annexure XIII.
iv	Data on ambient air quality (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NOx) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EPA rules, 1986 shall be furnished as part of compliance report.	It is being complied. Data is regularly submitted to ministry along with 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.	It is being complied. Personnel operating HEMMs, drilling machine and other machines comply with safety regulation and are equipped with Personal Protective Equipment. Noise monitoring data has been enclosed as <b>Annexure XIV</b> .
vi	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	It is being complied. Effluents discharge standards are regularly monitored by CMPDIL for cluster VIII group of mines. Mine water is being treated using filter plants (Pressure, Sand filters etc.) for its further use in industrial purpose and supply to the community. Mine water monitoring report has been enclosed as Annexure XV.
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. Vehicles used for transportation of coal are always covered by tarpaulin and being monitored for the vehicular emission by the transporter and BCCL. Copy of some Emission Under Control Certificate has been enclosed as <b>Annexure</b> XVI.
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 complied. Ambient environmental monitoring is being done by CMPDIL. Monitoring data have been enclosed as Annexures.

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.	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 the workers working in the mines. Enclosed as Annexure XVII.
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.	It is being Complied. Periodical medical Examination (PME) of all the mining and other personnel is being carried out regularly at Area Hospital, Tisra as per the Statutes and Director General of Mines Safety (DGMS) guideline. Enclosed as Annexure XVIII.
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.	It has been complied. A full-fledged Environment Department, headed by a Dy.GM (Environment) along with a suitable qualified multi-disciplinary team of executives and technicians has been established at Company Headquarters. One Executive in each area has also been nominated as 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 Headquarter levels.
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 compiled. Funds for environmental protection measures area kept in separate head which is only used in environmental management activities. These funds are not diverted into any other works.
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 has also been done.

	A copy of the environmental electrons	It has been complied.
xiv	A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	it has been complied.
xv	A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.	It has been 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 PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NOx (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.	Environmental clearance and six monthly compliance of the EC conditions of the cluster have been uploaded on the company's website (www.bcclweb.in)
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 Offices of CPCB and the SPCB.	It is being complied. Six monthly compliance report is regularly send to (twice in a year) the Regional Office of MoEFCC, Ranchi along with required data and information both in hard copy along with soft copy.
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.	Project will extend its all possible support and cooperation to the Regional Office in any kind of monitoring/visit/data collection etc.

xix	The Environment 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.	It is being complied. It is being submitted for all the mines of cluster VIII to Head Office of Jharkhand State Pollution Control Board for every Financial Year ending on 31st March. Copy of the same have been also submitted to Regional Office.
C. Other	Conditions by MOEF	
i	The Ministry or any other Competent Authority may stipulate any further condition(s) for environmental protection.	Agree
li	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 interalia, 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.	Agree
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.

Project Officer Bastacolla Colliery Project Officer Bera Colliery Project Officer Dobari Colliery Project Officer Kuya Colliery Project Officer Ghanoodih Colliery

r Project Officer Kujama Colliery

## Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013

Period: April 2018 to September 2018

## Annexure- I Coal Production from Cluster VIII

Month	Production (In Tonnes)
April 2018	341055
May2018	363695
June 2018	262307
July 2018	304914
August 2018	309342
September 2018	352208
Total	1933521

### Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines

### EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013 Period: April 2018 to September 2018

**Annexure-II** 

### Study to Analyze the Extent of Pollution Reduction



संस्कृतन मार्चन प्रानिंग प्रश्न किजाइन इन्य-टीन्यूट निर्मिटेड (क्लेन र्याचन क्लिटेट की अनुस्ती क्ष्मती / पान ग्रम्था का एवं लोग क्राच्या) ग्रम्थाना प्रस्त, नर्वेच राज, रांची - 8,34 0.31, क्षाप्यंड (क्षाप्य) Central Mine Planning & Design Institute Limited (Asubsidary of Scalindia Linited / Sov. of India Public Sector Underlaking) Gondwans Place, Kanke Rosel, Ranchi - 834 0.31, Jharkhand (INDIA) CORPORATE IDENTITY HUMBER - U142427H1975601001223

Letter No.: पर्याबरण/18/3000 € - 196651

Dated: 20/07/2018

सेवा मे.

उप महाप्रबन्धक (पर्यावरण) बो. सी. सी. एल. कोयल: अतन धनवाड-826005

চিক্স: Study to analyze the Extent of Reduction of Pollution Load every year by reducing coal transportation by Road (Job No.-094214112).

(BCCL/Dy.GM(Env.)/F-/14/713 dated 21/23.08.2014)

महोदय,

Please find attached soft copy of the report on "Study to analyze the Extent of reduction of pollution load every year by reducing coal transportation by Road" for the cluster VII and Cluster-VIII:

SI. No.	Name of the Cluster	Peak Production (MTY)
1.	Cluster –VII	8,161
2.	Cluster –VIII	5.603

The above report has been prepared based on the data provided by BCCL and meeting held in the first week of November 2018 at BCCL (HQ) Dhanbad.

You are requested to provide data of remaining clusters (CLUSTER WISE) at the earliest to enable us to submit the remaining reports.

सध्ज्यवाद,

संसरनकः यथीक्त

महाप्रबन्धक (मर्यावरण)

प्रतिलिपि:

1. क्षेत्रीय निदेशक, आर.आई- II, क्षेत्रला भवल, धनबाद- For Kind information.



ਯੰਗ ਗਸਵੇਵ /Phone No. : +91 651 2233055 ਯੋਕਾਸ਼ ਗਸਵੇਵ / Fax No. : +91 651 2231447 \$-ਸੇਜ਼ /ਲ-mail. gmenv.cmpdi@coalindia in, gmenv.cmppi@gmail.com: ਰੇਕਸ਼ਾਉਟ / Wabsite Address: <u>www.cmpdi.co.n</u>

Scanned by CamScanner

## Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013

Period: April 2018 to September 2018

**Annexure-III** 

#### Global Expression of Interest (EoI)

For

Dealing with coal mine fires in lease hold of BCCL in Jharia Coalfield, Dhanbad, Jharkhand, India. Detailed scope of work as given in the document.

LAST DATE OF SUBMISSION: 28.04.2014

### 1. BHARAT COKING COAL LIMITED: A PROFILE

Bharat Coking Coal Limited incorporated in January, 1972 is a fully owned subsidiary of Coal India Limited a 'Maharatna' Public Sector Undertaking under the Ministry of Coal, Government of India. Being the sole repository of prime coking coal in the country, BCCL, at present operates 66 coal mines spread over in Jharia Coalfield and part of Raniganj Coalfield apart from 6 coking coal washeries & 2 non-coking coal washeries. The mines are grouped under 12 areas for administrative convenience. BCCL has some unique inherent and perennial characteristics which are adversely affect the normal operation of the Company. Difficult geo-mining conditions involving large number of overlaying coal seams, preponderance of old workings, high degree of gassiness, coal fires affecting working seams, water logged upper seams above current places of working, etc, restricts coal production and productivity. Besides, high density of population in the coal bearing areas limits the equipment size of opencast operations apart from being an impediment to acquisition of land for uninterrupted operations. In the year 2012-13, the company achieved a coal production of 31.21 million tone and offtake of 32.99 million tone thereby registering the highest ever the Turnover and Profitability (PAT) of Rs 10176.62 Cr. and Rs 1709.06 respectively. A brief description of the organizational structure and the detailed activities of Bharat Coking Coal Limited can be viewed in the website http://www.bccl.gov.in.

The mission is to produce planned quantity of coal efficiently and economically in an Ecofriendly manner with due regard to Safety, Conservation & Quality. The company strives to meet the growing demand of thermal as well as metallurgical coal in the country in a environmentally and socially sustainable manner.

8

SC-10

#### 2.2. Bidder's Credential Requirement:

- i) The bidder(s) must have successfully dealt with mine fire in at least two coal mines, one open cast and one underground mine. The annual capacity of opencast and underground mines should be at least 2 Mt and 0.5 Mt respectively during last seven years of last financial year. The documentary proof of successful dealing with fire shall be submitted along with the bid.
- ii) The bidders in their name must have a thieved a minimum average annual financial turnover of INR One Hundred Million or equivalent USD during last 3 years ending 31st March of previous financial year. The documentary evidence to this effect would be copies of audited Balance Sheet and Profit & Loss A/c duly countersigned by the authorized representative of bidding company and a declaration to the above affect duly signed by the authorized representative of bidding company & counter signed by a Chartered Accountant or equivalent.
- iii) The bidder must possess "key personnel" (minimum number) of the following categories with requisite qualification and experience :-

Sl. No	Skill of key personnel	Requisite Quantification	Minimum Experience	Minimum Nos. for eligibility
1.	Technical Expert (Mining/ Fire dealing/ Mine Rescue)	B.E /B.Tech (Mining) or equivalent	10 years.	10
2.	Trelinical Expert (Geology/Remote Sensing)	M. Sc (Geology) or equivalent	10 years	2
4	Technical expert (Unvironment)	B. Tech/BE/M.Sc.(Envr) or equivalent	10 years	1
1.	echnical Expert (Infrastructure)	B.E./B.Tech (Mechanical / Electrical / Livil) or equivalent	10 years	3 ,
5.	IT Expert	B.E /B. Tech/ M.Sc (Computer) or equivalent	10 years	1
6.	Financial Expert	MBA(Finance)/Chartere d Accountant/ICWA or equivalent	10 years	1

Note: The bidder shall designate me of the team members as the team leader.

The documentary evidence to the effect would be self-attested CVs including necessary competency certificate for work in Indian mines duly countersigned by the authorized representative of bidding company.

5

- iv) Copy of PAN (Permanent Account Number) with Income Tax Authority in India for bidder(s) from India.
- Copy of PAN Based Service Tax Registration Number in India for bidder (s) from India.

### 3.0 Availability of details for EOI:

Details for EOI including Terms and Conditions of EOI can be collected from the following place during the period as stated below:

Date: From 27.01.2014 to 26.02.2014.

Time: 10.00 AM to 1.00 PM (on all working days)

Office of the GM (CMC) Contract Management Cell, BCCL Level-V, Koyla Bhawan, Dhanbad - 826005

Details for EOI including Terms and Conditions of EOI can also be downloaded directly from the BCCL web-site http://www.bccl.gov.in and NIC Portal, website http://www.tenders.gov.in during the period as mentioned above.

### 4.0 Pre - EOI submission meeting :

Pre - EOI submission meeting will be held on 14.02.2014 at 11:00AM in the office of GM (CMC), BCCL, Level-V, Koyla Bhawan, Dhanbad for clarifications and discussion.

## 5.0 GENERAL INSTRUCTIONS FOR SUBMISSION OF EOI:

Expression of Interest (EOI) shall be submitted by the Consultants / agencies / firms / organizations in a sealed envelope superscribed with "EOI for Dealing with coal mine fires in lease hold of BCCL in Jharia Coalfield, Dhanbad, Jharkhand, India. Detailed scope of work as given in the document." giving EOI reference no. with date and full postal address & telephone nos, on the envelope.

### RECEIPT OF EOI

EOI will be received in sealed envelopes up to 28.04.2014 at the following address only:

Office of the GM (CMC) Contract Management Cell, BCCL Level-V, Koyla Bhawan, Dhanbad - 826005

The offers may be submitted through post also. BCCL takes no responsibility for delay, loss or non receipt of the offers send by post. Fax offers or offers sent through e-mail shall not be accepted.

6.

## 7.0 OPENING OF THE EOL:

EOU will be opened on 29.04.2014 at 04.00 PM in the office of the GM (CMC), BCCL, Level-V Zoyla Bhawan, Dhanbad-826005.

- 8% Sidders are requested to go through the details of EOI document & enclose all the required documents along with the proposal. Each page of the proposal shall be signed with scal.
- 9.0 Prospective parties may note that mere submission of EOI and / or submission of additional information do not automatically entitle them to claim for pre-qualification. BCCL reserves the right to seek for any other information during the process of evaluation, if required.
- 10.0 BCCL reserves the right to reject any / all the applications to EOI without assigning any reason(s) whatsoever thereof.

General Manager (Contract Management Cell)

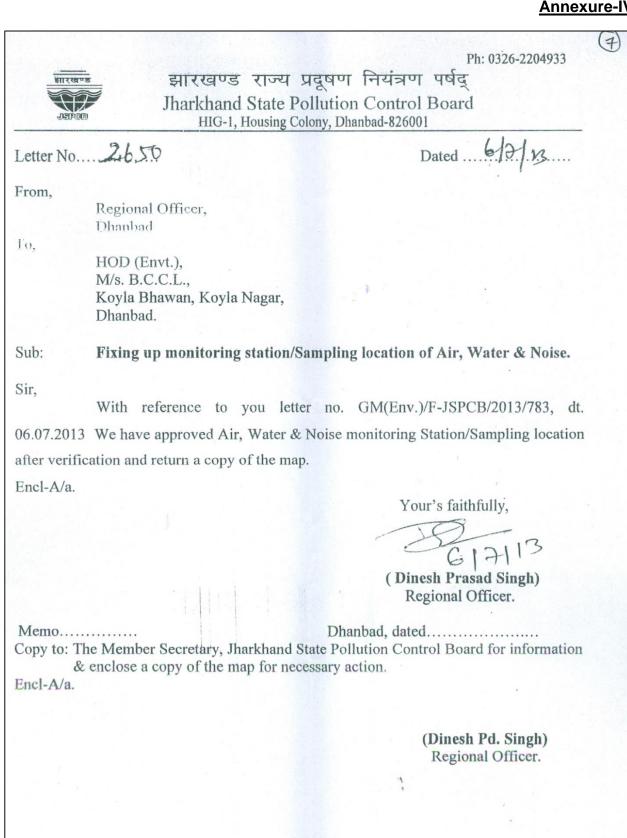
#### Distribution:

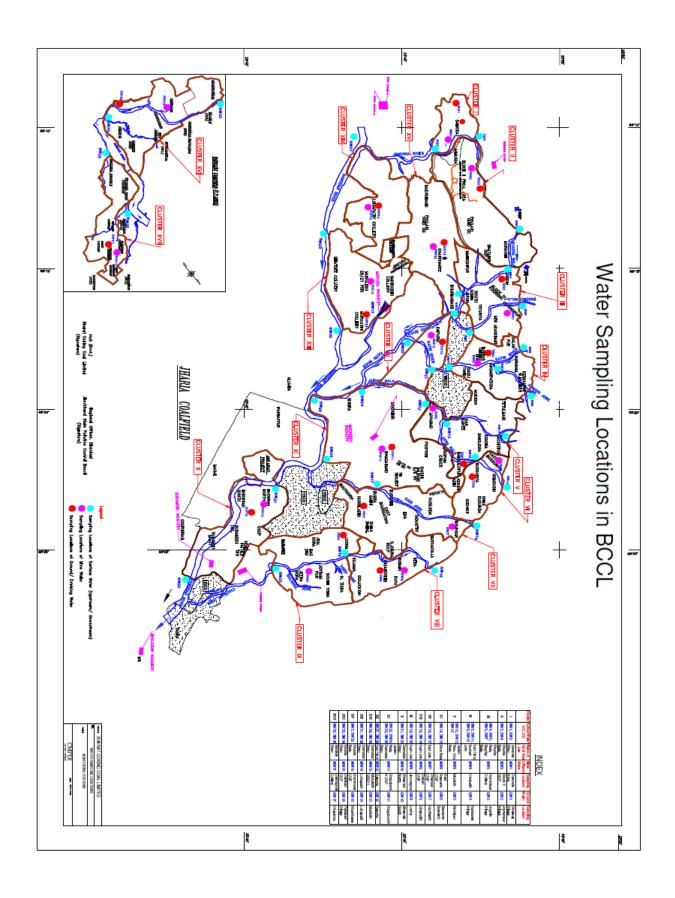
- PRO With a request to publish the abridged EOI as enclosed in local as well as National dailies as per norms of the Company and also arrange to send the paper cutting of publication to the Contract Management Cell.
- $D(T)OP \, / \, D(T)P\&P \, / \, D(F) \, / \, D(P) \, / \, CVO.$ 2.
- GM(Co-ordn) / GM(S&M) / GM(F)I/C / GM(M&M) / GM(E&M) / GM(Excv) / GM(P&P) / GM(IE) / GM(System) / Dy. GM (Envt.), BCCL
- Sr.ES to CMD for kind information of CMD.
- HOD (Admn) with a request to display this EOI in Koyla Bhawan Notice Boards. 4.
- All CGMs/GMs of the Areas including Washery Zones for wide circulation through 5.
- Inspector, CISF- with a request to deploy security personnel at the office of GM (CMC), Level-V, Koyla Bhawan on 28.04.2014 from 9:30A.M to 4:00P.M and on 29.04.2014 7. from 3:30 PM till completion of the meeting.
- Desk In-Charge, BCCL, M M Division, 4th floor, 6, Lyons Range, Kolkata. 8.
- CGM / GM (Contract Management Cell), WCL/SECL/NCL/MCL/ECL/CCL & CIL Sri R.K. Choubey, Sr.DEO / Sri B N Banerjee, DEO, CMC Deptt. - to upload this EOI in
- BCCL Website and forward soft copy of NIC format to GM (System) for uploading the same at NIC portal website (soft copy of the same is enclosed for needful).

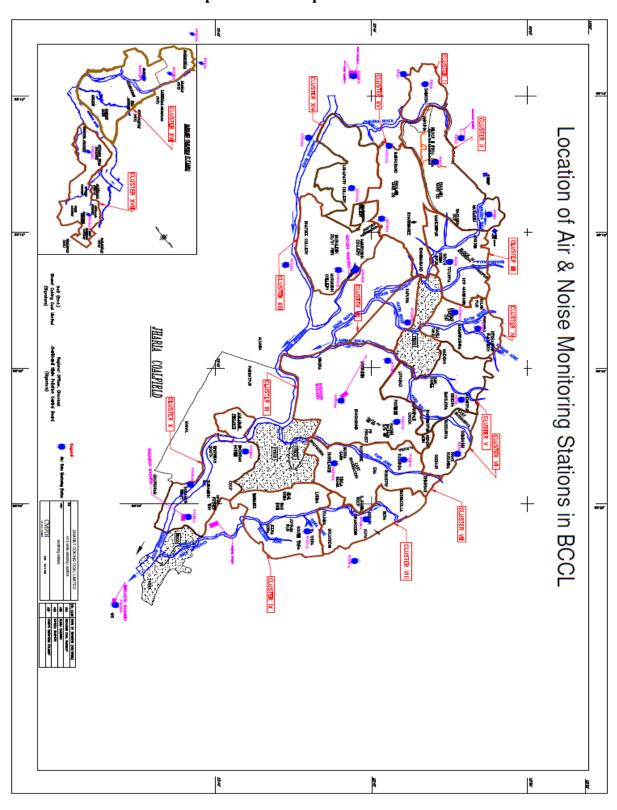
Sd/-General Manager. (Contract Management Cell)

7

### **Annexure-IV**







### Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013

Period: April 2018 to September 2018

Annexure-V



COAL INDIA LIMITED कोल इण्डिया लिमिटेड ENVIRONMENT DIVISION पर्यावरण बिभाग

Corporate Identity Number: L23109WB1973GOI028844 COAL BHAWAN, Premises No -04MAR Plot no - AF-III, Action Area- IA RAJARHAT, NEW TOWN KOLKATA - 700156, E-mail: cgmenv.cil@gov.in, Web:www.coalindia.in

TEL: 033-23246638 / FAX: 033-23244232

CIL/ENV/2015-16/ 7000

09//12/2015

प्रति,

General Manager(Environment)/ HOD (Environment), ECL, BCCL, CCL, NCL, SECL, WCL, CMPDIL, NEC, MCL,

Sub: MoU between Coal India Ltd.& NEERI for "Sustainable Coal Mining in Coal India Ltd."

महोदय,

In view of the directive of 321 th CIL Board held on 15 th October 2015 pertaining to enter into a long term MoU between CIL and CSIR -NEERI for identification of environmental issues through assessment of monitoring data of CIL and preparing an action plan for implementing the same in coal mining, MoU has been signed between Coal India Ltd and National Environmental Engineering Research Institute Ranchi, on 3/12/2015.

Copy of the MoU is enclosed herewith for your information.

म्ख्यप्रबंधक /पर्यावरण सी. आई. एल.,

संलग्न : उपयेक्त

## Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013

Period: April 2018 to September 2018

## भारत कोर्किंग कोल लिमिटेड

एक मिनी रत्न कम्पनी (कोल इंडिया लिमिटेड का एक अंग) उप महाप्रबंधक (पर्यावरण) का कार्यालय कोयला भवन,कोयला नगर, धनबाद-826005



### **Bharat Coking Coal Limited**

A Mini Ratna Company
(A Subsidiary of Coal India Limited)
Office of the Dy. GM (Environment)
Koyla Bhawan, Koyla Nagar, Dhanbad -826005

CIN: U10101JH1972GOI000918

पत्र संख्या :भाकोकोलि/उपमहाप्रबंधक)पर्या/( SOURCE APPORTIONMENT (MoU) /NEERI /2018/

दिनांक:12.05.2018

To, The Director, CSIR-NEERI, Nehru Marg, Nagpur- 440020 Maharashtra

Sub.: Work Order for the Project "Source Apportionment of ambient air particulate matter in Jharia coalfields region, Jharkhand".

Ref:

- (i)Memorandum of Understanding between CIL & NEERI dated 03.12.2015 (ii)your proposal vide email dated 12.09.2016 and subsequent amendment including GST rates
- (iii) "Terms of reference for the Project "Source Apportionment of ambient air particulate matter in Jharia coalfields region, Jharkhand" dated 09.03.2018.
- (iv) NEERI's acceptance of "TOR" vide email dated 08.05.2018

Dear Sir,

This has reference to proposal "Source Apportionment of ambient air particulate matter in Jharia coalfields region, Jharkhand" vide email dated 12.09.2016. The Competent Authority has approved the award of work to NEERI namely "Source Apportionment of ambient air particulate matter in Jharia coalfields region, Jharkhand" for One Crore forty one Lakh and sixty thousand only inclusive of GST( Rs. 1,41,60,000/-) for a period of Twelve(12) months under the MOU dated 03.12.2015 between CIL & NEERI, extended to all subsidiaries of CIL & the terms of reference. The Project-incharge will be HOD(Environment) or any of his authorized representative.

You are required to comply the scope, objective & terms and conditions in respect of above mentioned work as agreed in the "Terms of Reference" as given below.

### 1. Scope of the Work:

 To conduct Source Apportionment Study for varying sources of gasses/smoke/dust emission from source to source (fuel wood, coal, fly-ash, TPPs, coke plants, traffic, silica from natural dust etc., but not limited to this) for the entire Jharia Coalfields (within and up to 10 Km from the periphery / boundary of BCCL mines)

- Study of Mineralogical composition of the suspended particulate matter (PM10 and PM2.5) with their characterization and quantification.
- Ascertaining sources(fuel wood, coal, fly-ash, TPPs, coke plants, traffic, silica from natural dust etc., but not limited to this) and extent of the air pollution of Jharia coalfield with suggesting cluster-wise appropriate techno-economically viable, mitigation management plan including action plan for the control of pollution level.
- The Environment Clearance has been granted to mines of BCCL on Cluster Basis, the final report must be submitted to BCCL on Cluster Basis. JCF has been divided into Clusters. The study to include the entire Jharia Coalfield along with area up to 10 Km from the periphery / boundary of BCCL mines (Key Plan showing Clusters in Jharia Coalfield enclosed)
- Two Presentations to be made by NEERI- One to BCCL Management before submission of Final report & another to the various stake holders including regulatory agencies after submission of the report.
- The dispersion Model should be on GIS platform
- The Hotspots/bottleneck points to be identified where there is increased pollution on GIS platform.
- Skill transfer and capacity building training for BCCL personnel.
- Accomodation, travel, local transport, other incidental cost and anciallary expenditures to be borne by NEERI.

#### 2. Objectives of the study:

The major objective of the study is to assess the current ambient air quality, sources of air pollution and propose the priorities for the actions for improvement of air quality. The study to include the entire Jharia Coalfield along with area up to 10 Km from the periphery / boundary of BCCL mines. The detailed objectives are as following;

#### A) Ambient Air Monitoring related

- Monitoring of ambient air quality at selected receptor locations for pollutants including PM10, PM 2.5(limited), SO2, NOx, PAHs to establish the current status of the air quality in Jharia Coalfields along with area up to 10 K.M from the periphery / boundary of BCCL mines. Also review of the available air quality monitoring data from Central Pollution Control Board(CPCB) /Jharkhand State Pollution Control Board(JSPCB).
- To calibrate dispersion modelling predictions using measured air quality parameters
- To draw supportive data through specific site related monitoring regarding impact causing sources such as kerbside monitoring.
- To establish the impact of meteorological conditions on a few select indicator pollutants in different micro meteorological conditions of the Jharia Coalfileds.
- B) Emission Inventory related of Jharia Coalfields along with area up to 10 Km from the periphery / boundary of BCCL mines

- To identify the pollution load grid wise for point, line and area source
- To establish possibilities of receptor level concentrations of air pollutants by matching dispersion modelling and air quality monitoring data.
- C) Source apportionment related
- To identify and apportion the pollution load at receptor level to various sources in the Jharia Coalfields along with area up to 10 Km from the periphery / boundary of BCCL mines.
- To carry out the source apportionment using molecular markers for a limited number of samples through a time resolved sample collection at various period of the day and day-of-the-week.
- D) Any other item in consensus between both BCCL/CIL & NEERI evolved during the study

#### 3. TERMS & CONDITIONS:

- You would assist BCCL in clarifying/defending/justifying data of report submitted to regulatory authority or information under RTI, Act or reply of parliamentary Questions or any other litigations if required by Dy. GM (Env).
- CSIR-National Environmental Engineering Research Institute (NEERI) shall associate BCCL in projecting the reports/findings at various national & international forums, Conferences, Seminars, CSIR-National Environmental Engineering Research Institute (NEERI) newsletters & annual reports, meetings of regulatory authorities etc.
- All the materials required with regard to monitoring/analysis, videography, photography and presentation for the work shall be arranged by NEERI at its own cost and shall be of appropriate quality.
- The responsibility for the arrangement of the all equipment tools and plants etc. required for monitoring/analysis, videography, photography and presentation for the work lies on NEERI.
- GST and cess as applicable shall be paid as per rule. The Duration of the project is 12 Months.
- The progress report of the work should be submitted every 3 months. These reports shall be
  in the form of a booklet and soft copies along with videography and photography. Reports
  should be in line with the scope of work.
- BCCL shall not have any liability in case of any accident etc. towards CSIR-National Environmental Engineering Research Institute (NEERI)'s personnel/ staffs during filed visits
- Child labour is prohibited under Mines Act, therefore, NEERI Nagpur shall not deploy any child labour in the aforesaid work.

- Reports /findings shall be sole property of BCCL and hence the publishing of the reports /findings in any forum (i.e. hard copy / electronic or in any other form) shall be done only with prior permission of BCCL and shall acknowledge BCCL in all such activities.
- Matter relating to any dispute or difference arising out of this work order and subsequent contract awarded based on this work order shall be subject to the jurisdiction of Dhanbad court only
- All other terms and conditions of the MoU executed between CIL and CSIR-National Environmental Engineering Research Institute (NEERI) on 03.12.2015 and extended to its subsidiaries shall be applicable.

#### 4. ARBITRATION:

Disputes between the parties arising from this agreement shall be settled amicably through negotiations in good faith. Failing the above, the dispute shall be referred to arbitration of three arbitrators one each to be appointed by each party and the two arbitrator shall appoint a third arbitrator in accordance with the provisions of Arbitration and Conciliation Act, 1996 or any subsequent *amendment* thereof. The decision of the three arbitrators shall be final and binding on the parties hereto. The place of arbitration shall be at Nagpur and shall be conducted in English language

### 5. FORCE MAJEURE:

\_Force majeure is herein defined as any cause which is beyond the reasonable control of BCCL or CSIR/NEERI as the case may be, which with a reasonable amount of diligence could not have been foreseen and which substantially affects the performance of the respective obligations of the parties, such as but not limited to:

- Act of God such as flood, drought cyclone, lighting, earthquake, etc.
- Rebellion, civil mutiny, commotion, riot, accident by fire, explosion, epidemic, or any other cause beyond the control of parties.
- Acts of any Government including but not limited to war, declared or undeclared priorities, quarantines.
- Any direction, order of any court or Authority adversely affecting the enforcement of this agreement in any manner.
- Strikes and Lockouts for a continuous period of 30 days

Provided that either party shall within 7 days from the occurrence or cessation of such a cause notify the other in writing of the same.

In the event Force Majeure event continue for more than 30 days, the parties shall mutually discuss and decide the future course of action. If not mutually agreed, the parties shall have the right to terminate this agreement.

BCCL or NEERI shall not be liable for non-performance of their respective obligations or delays in respect thereof as a result of force majeure as referred to and / or defined above

#### 6. INDEMNITY

- BCCL shall-indemnify and keep indemnified CSIR/NEERI from and against any and all loss damage or liability (whether criminal or civil) suffered and legal fees and costs incurred by CSIR/NEERI resulting from a breach of any of this agreement between BCCL and its licensors/consultants/contractors or any other third party.
- Notwithstanding anything in this agreement, in the event of any liability, claim
  or damage arising out of this agreement, the liability of CSIR/NEERI to BCCL shall
  under any circumstance exceed the amount received by CSIR-NEERI

#### 7. CONFIDENTIALITY

The Parties, to the extent of their respective rights to do so, shall exchange such technical information and data as is reasonably required of each Party to perform its responsibilities under this agreement. Each Party agrees to keep in confidence and to use the same degree of care as it uses with respect to its own proprietary data to prevent the disclosure to third Parties of all technical information, data and confidential business information (hereinafter referred to as "Consolidated Data"). Exchange, use and maintenance of Confidential Data shall be mutually discussed and agreed to by the parties. The preceding provisions of confidentiality and restriction on use of Consolidated Data shall not apply to

- Information in the public domain or information, which subsequently enter into public domain without committing breach of this Article.
- Information in possession of the Party at the time of disclosure and was not acquired, directly or indirectly, from the other Party.
- Information, which a Party requires to disclose under law, rules or regulations or court orders.
- Information provided to Consultants / advisors, provided they, in turn, sign undertaking of confidentiality

### 8. OWNERSHIP OF INTLECTUAL PROPERTY -

- Any intellectual property rights obtained by the respective parties hereto pertaining to the PROJECT prior to signing of the agreement shall remain the property of the respective organizations. On mutual consent foreground IP shall be deployed for the project purpose.
- The intellectual property that is generated in the PROJECT shall be owned by BCCL.
- If an IP is generated the relevant IP clause shall be built in a project specific agreement mutually, as the, case arises.
- In the case of Intellectual Property developed independently by CSIR/NEERI in which BCCL
  has an interest, CSIR/NEERI shall grant to BCCL/CIL a non-exclusive license to manufacture
  and sell the product, and CSIR/NEERI reserves the right to grant similar license at its
  discretion to others.
- During the work as envisaged under this agreement in the event of CSIR/NEERI scientists exploring, inventing, or discovering results other than the specific objectives of the Project, CSIR/NEERI shall retain absolute rights on such results. CSIR/NEERI shall first offer such results to BCCL on negotiated terms by entering into a separate Agreement. In case BCCL does not accept the offer, CSIR/NEERI shall be free to negotiate the release of such results to other parties without any obligations to CIL.

• In case BCCL intends to renounce its interest in the Project, it shall give notice to NEERI of its intention upon receipt of which notice NEERI shall be free to work further on its own on such Projects and or enter into a licensing or joint development Agreement with any other interested third party.

### 9. Deliverables:

- Emission Inventory and Dispersion Modeling
- Source apportionment for identification of sources impact and prioritization of actions.
- Time-bound action plan guidelines for implementing measures for improving air quality
- 2 copies of Draft Report
- 15 copies of Final Report- Since the Environment Clearance has been granted to mines of BCCL on Cluster Basis, the final reports must be submitted to BCCL on Cluster Basis.

#### **10. TERMS OF PAYMENT**

Project Cost	Rs. 120 Lakhs (Rupees One Crore Twenty Lakhs Only)  Rs. 21.6 Lakhs (Rupees Twenty One Lakhs Sixty Thousand Only)	
GST @18%		
Total Cost (including GST)	Rs. 141.6 Lakhs (Rupees One Crore Forty One Lakhs Sixty Thousand Only)	
Payment Terms	1st Installment: 50% + GST + All applicable Cess & surcharges  - (After identification of stations in Jharia Coalfield and submission of its report)  2nd Installment: 30% + GST + All applicable Cess & surcharges  - (After completion of field data collection)  3rd & Final Installment: 20% + GST + All applicable Cess & surcharges  - (After submission of final report and its acceptance by BCCL.)	
Project Duration	12 months	

• All the payment will be made by ELECTRONIC MODE through bank. The CSIR-National Environmental Engineering Research Institute (NEERI) must furnish the details in the proforma as given in the Annexure-3.

### 11. PERFORMANCE SECURITY/SECURITY DEPOSIT

- 11.1 Security Deposit shall consist of two parts:
- a) Performance Security to be submitted at award of work and

b) Retention Money to be recovered from running bills.

The security deposit shall bear no interest.

- 11.2 Performance Security should be 5% of annualized value of contract amount and should be submitted within 28 days of issue of this term of reference by NEERI in any of the form given below
- A Bank Guarantee in the form given in the bid document from any scheduled Bank payable at its Branch at Dhanbad.
  - Govt. Securities, FDR (Scheduled Bank) or any other form of deposit stipulated by the owner.
  - Demand Draft drawn in favour of Bharat Coking Coal Limited on any Scheduled Bank payable at its Branch at Dhanbad.

If performance security is provided by NEERI in the form of bank guarantee it shall be issued either –

- (a) at Bidder's option by a Scheduled Bank payable at its branch at Dhanbad, or
- (b) by a foreign bank located in India and acceptable to the employer.
- (c) the validity of the Bank Guarantee shall be for a period of one year or ninety days beyond the period of contract or extended period of contract (if any), whichever is more.

Failure on the part of NEERI to comply with the requirement as above shall constitute sufficient ground for cancellation of this agreement.

11.3 All bills shall be paid at 95%. The balance 5% shall be treated as retention Money and will be second part of security deposit.

### 11.4 Refund of Security Deposit:

The refund of security deposit shall be subject to company's right to deduct/appropriate its dues against the NEERI under this terms of reference/any other works. On completion of the work and certified as such by the Project-in-Charge *i.e* HOD(Env) or his authorized representative, the security deposit remaining with the company shall be refunded as below:

- Performance Security (1st part of security deposit) shall be refunded within 60 days of the submission of final report and its acceptance by BCCL management (As certified by the Project-in-charge *i.e* HOD(Env) or his authorized representative)
- ➤ Retention Money (2nd part of security deposit) shall be refunded after 180 days of the submission of final report and its acceptance by BCCL management (As certified by the Project-in-charge *i.e* HOD(Env) or his authorized representative.)

You are advised to furnish Performance Security/Security Deposit in the Office of HoD (Env), BCCL in the form detailed as under within 28 (twenty eight) days from the date of receipt of this terms of reference to enable the HoD (Env), BCCL to issue a formal work order to you and sign the contract/agreement executed between the company and you (NEERI, Nagpur) with the terms and conditions including, Integrity Pact, etc.

You have to sign the Integrity Pact. This is as per the CVC guidelines. Name, address & contact No. of the Independent External Monitor(s) for this purpose is as given below:

1. Name: Prof (Dr.) L.C. Singhi, IAS (Retd.)

Address: L-31, Third Floor, Kailash Colony, New Delhi-110048

2. Name: Shri Pramod Deepak Sudhakar, IAS (Retd.)

Address: A-002, Stellar Park Apartments, C-58/24 Sector-62, Noida-201301

This terms of reference is given to you in duplicate. You are advised to submit your consent by returning second copy of the terms of referenceduly signed by you as a token of acceptance of the award within 7(seven) days from the date of receipt of this letter.

Failure to comply with the requirement as above shall constitute sufficient ground for cancellation of the award.

### Enclosed:

- 1. Annexure-1 (Proforma of bank guarantee for performance security)
- 2. Annexure-2 FORMAT FOR CONTRACT AGREEMENT
- 3. Annexure -3 (Proforma for collecting payment through electronic mode including electronic fund transfer (ETF) & electronic clearing system (ECS))
- 4. Annexure -4 INTEGRITY PACT

Yours faithfully,

Dy. GM (Env.)

### Copy to:

1) TS to D (T) OP/ D (F)/ D (T) P&P

..... for kind information

2) ES to CVO, BCCL

...... for kind information

3) TS to CMD, BCCL

..... for kind information

4) GM (Finance) I/C, BCCL, Koyla Bhawan

5) HOD(Fin)Pay.

6) GM(Env.), CIL

..... for kind information

- 7) Prof (Dr.) L.C Singhi, IAS (Retd.), L-31 Third Floor, Kailash Colony, New Delhi-1100481. Address: L-31, Third Floor, Kailash Colony, New Delhi-110048.
- 8) Concerned Fille.

### **Annexure-VI**

भारत कोर्किंग कोल लिमिटेड

एक मिनीरत्न कंपनी

(कोल इंडिया लिमिटेड का एक अंग)

पंजीक्रत कार्यालय कोयला भवन ,कोयला

नगर,

(धनबाद )झारखंड826005(

CIN:U10101JH1972GOI000918

Tele: 0326 2230174 FAX: 0326 2230176

01/6

ईमेल :cgmsafety@bccl.gov.in



Bharat Coking Coal Limited
A Miniratna Company
(A subsidiary of Coal India Ltd)
Office of GM I/C(S&R)
Koyla Bhawan, Koyla Nagar,
Dhanbad, Jharkhand-826005
CIN:U10101JH1972GOI000918
Tele: 0326 2230174 FAX: 0326

2230176 Email: cgmsafety@bccl.gov.in

पत्र संख्या भाकोकोलि/उप महाप्रबंधक(एस&आर)।/C/संचिका-MP/17 323

दिनांक-:07.04.2017

To, Dr, Vinod Kumar, Group Head, Geosciences group National Remote Sensing Center India Space Research Organization Dept of Space, Govt of India, Balanagar, Hyderabad - 500037

Sub:- Work -Order for "Delineation of Surface Coal Fire and associated Land Subsidence in Jharia Coalfield, Jharkhand using satellite based remote - sensing techniques"

Dear Sir.

Consequent upon competent approval of proposal on aforesaid subject and subsequent signing o MOU between BCCL and NRSC, the aforesaid work is awarded to NRSC for Rs.18,10500/- (Eighteen lac ten thousand five hundred) only, against 100% payment in advance subject to terms and conditions listed in MOU. As per agreed payment terms and Demand Note No. 07/2016-17,

You are therefore requested to initiate all necessary activities for commencing the subject work as early as possible.

Thanking you,

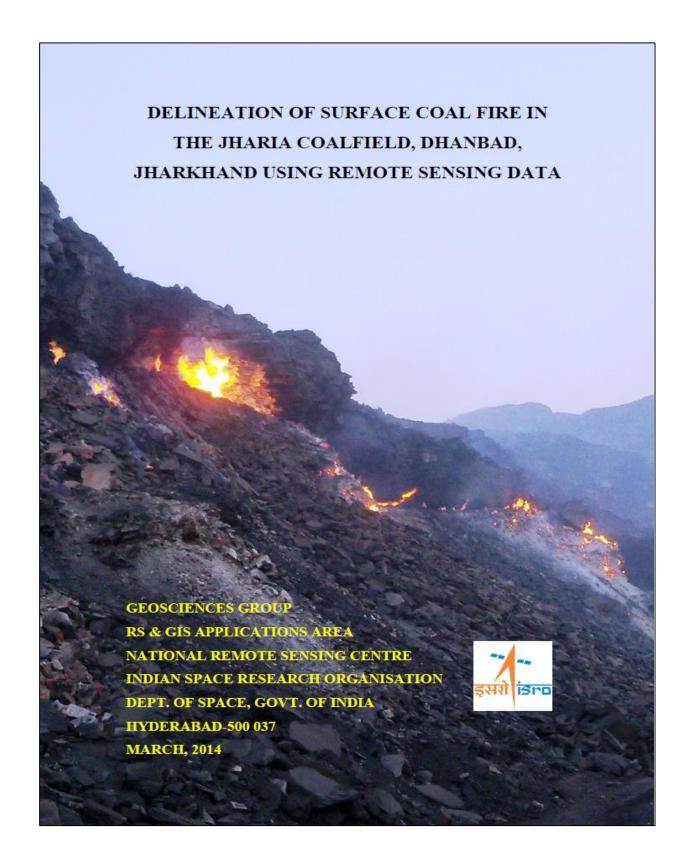
General Manager I/C (S&R

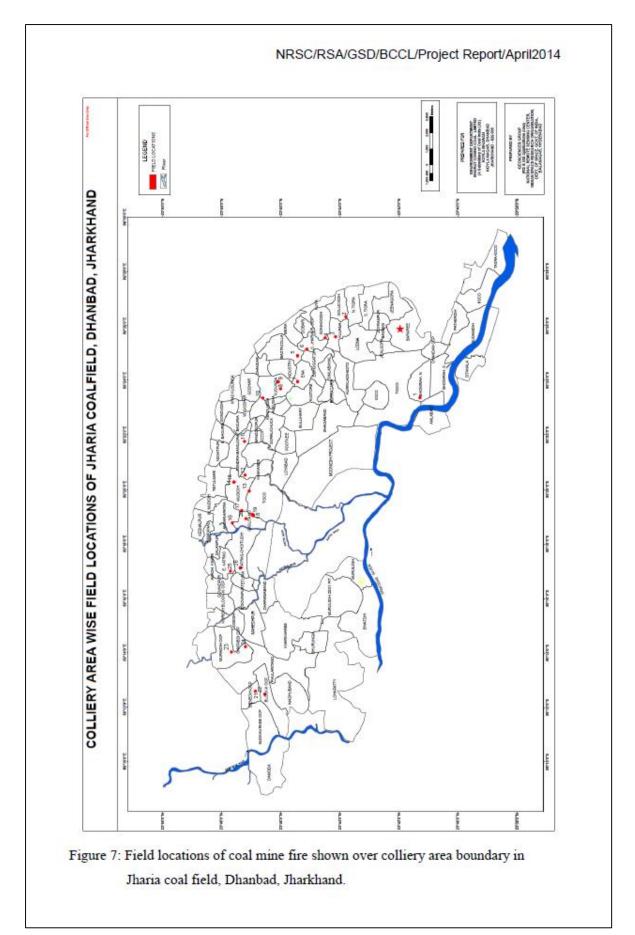
Cc to:

1. Director (T) P&P, BCCL- for kind information.

2. TS to CMD, BCCL – for kind information.

Sri Mithilesh Kumar, Sr.Mgr.(M),Safety.Deptt., KoylaBhawan





### NRSC/RSA/GSD/BCCL/Project Report/April2014

5. There is a decrease in areal extent of the fire (Figure 10) from 2006 to 2012.

Note: Estimations of fire extent (in terms of sq.km.) both in 2006 and in the present 2012 study are pixel based. They do not represent the actual ground area under fire. These estimations are made for comparative purpose only, to indicate the increase or decrease of areal disposition of fire. Hence, they should not be quoted as fire area on the ground.

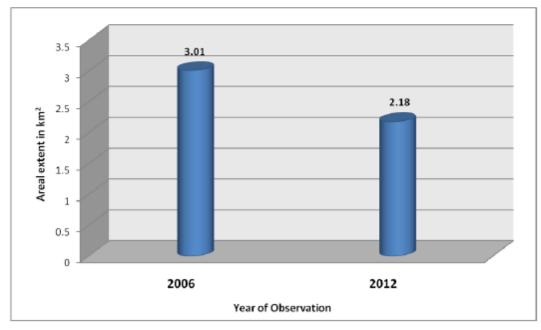


Figure 10: Total fire area statistics

## Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013

Period: April 2018 to September 2018

**Annexure-VII** 

## Memorandum of Understanding

for

Utilization of mine water by villages situated near mines of CIL in command area of Central Coalfields Limited, Bharat Coking Coal Limited and Eastern Coalfields Limited in the State of Jharkhand

This Memorandum of Understanding "MoU" ("Agreement") is made on 30<sup>th</sup>day of October 2017at Ranchi

### By and Between

Government of Jharkhand (hereinafter referred to as "GoJ"), represented through Department of Industries, Mines & Geology and Department of Drinking Water & Sanitation, Government of Jharkhand having its office at Ranchi which expression shall, unless the context otherwise requires, includes its successors and assignees of the FIRST PART;

### And

Coal India Limited (hereinafter referred to as "CIL"), a Government of India Enterprise having its Registered Office at Coal Bhawan, Premise No-04 MAR, Plot No- AF-III, Action Area- 1A, Newtown, Rajarhat, Kolkata-700156 and represented by General Manager, Corporate Social Responsibility, which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors, and permitted assignees of the SECOND PART:

The expressions GoJ and CIL shall hereinafter, as the context may admit or require, be individually referred to as the 'The Party' and collectively as 'the Parties'.

### Whereas:

- A. The Government of Jharkhand (GoJ) and Coal India Limited (CIL), both parties have agreed in principle to the objective of achieving the common goal of providing surplus water from suitable mines for use by habitations, located in the command area of subsidiaries of CIL in the state of Jharkhand for their various needs. These subsidiaries are Central Coalfields Limited (CCL), Bharat Coking Coal Limited (BCCL) and Eastern Coalfields Limited (ECL).
- B. Mine wateravailable in mine voids and from mine discharge in Central Coalfields Limited (CCL), Bharat Coking Coal Limited (BCCL) and Eastern Coalfields Limited (ECL), subsidiaries of CIL are presently supplied to several colonies of these subsidiary companies of CIL. At some places mine water is drawn by Department of Drinking Water & Sanitation and other agencies/ organizations of Government of Jharkhand.Surplus mine water available at other mines can be used by surrounding habitations for their various needs.
- C. Presently, about 25250 million gallon of water is estimated to be available in 88 opencast mine voids of CCL, and about 31million gallon/ day of water is estimated to be available as surplus/excess mine water discharge at 23 mine sites of BCCL and 07mine sites of ECL in State of Jharkhand . The list ofmines where water is available in mine voids in CCL and in mine water discharge in BCCL and ECLare enclosed at Annexure I, Annexure II, and Annexure III respectively.

- D. The Parties hereby agree, undertake and affirm as under:-
  - I. That sampling and analysis of quality of water available at variousmine sites(volds ormine discharge), to assess the suitability for potability, agricultural or other uses will be done by a third party having a recognized environmental laboratory andthe party will be selected by mutual consent between CIL(represented by its subsidiaries CCL, BCCL and ECL) and GoJ.
  - ii. The report of analysis of quality of water of various mine sites will be submitted by the selected third party to GoJ and CIL (represented by its subsidiaries CCL, BCCL and ECL).
  - That cost of sampling and analysis of quality of water of various mine sites will be borne by CIL (represented by its subsidiaries CCL, BCCL and ECL).
- iv. That CIL (represented by its subsidiaries CCL, BCCL and ECL) shall bear all initial cost for construction of civil works like foundation, platform and shed for installation of motor and pumps for drawal of water at identified mine sites.
- v. That Government of Jharkhand shall bear the cost of pumps, motors, associated power supply, pipelines and their installation at identified mine sitesfrom where water is to be drawn. The cost of running these facilities would be borne byGovernment of Jharkhand or community benefitted.
- vi. The construction, operation and maintenance cost for treatment and distribution facilities of water from identified mine sites will be borne by GoJ.

- vii. The list of mine sites where water is available in voids or as mine discharge are placed at Annexure I, Annexure II, and Annexure III for CCL, BCCL, and ECL respectively. The number of mine sites may increase / decrease in future. So modalities for pumping water from the additional sites will be same as laid down at serial no D (i) to D (vi).
- viii. In case of dispute, the matter shall be mutually resolved and either party will not be held responsible for non discharge of responsibility under this agreement.
- ix. In case of force majeure or an Act of God, preventing the parties from fulfilling part or all the obligations, both parties shall be exonerated from carrying out further action as per MoU until the force majeure no longer exists.
- The MoU will be in force for 30 (thirty) years. The MoU may be renewed as mutually agreed upon by CIL (represented by its subsidiaries CCL, BCCL and ECL) and GoJ beyond the mentioned period of MoU.
  - Provided further that in case dewatering is required to start coal production in national interest from these mines then the parties will sit together and mutually decide modalities for the same.
- xi. The sustainability of mine sites in respect of future availability of water will be assessed/ studied by CIL.
- xii. This MoU shall be in accordance with applicable Acts, Rules and Guidelines for coal mining including mine closure guidelines and shall not be in contravention with provisions made therein.

IN WITNESS THEREOF, both parties hereto have signed this MoU in two original copies in English on the date indicated above. For Government of Jharkhand For Coal India Limited Department of Industries, Mines & Geology 1. Siddh Nath Singh, General 1. AboobackerSiddique P., I.A.S. Manager, CSR, Mines Commissioner, Coal India Limited Mines & Geology Department, Government of Jharkhand. Drinking Water Sanitation Department 2. Ramesh Kumar. Engineer in Chief, Drinking Water & Sanitation Department, Government Jharkhand. 30/10/ws Nath The. Witness 1 Witness 2 Witness 2

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013 Period: April 2018 to September 2018

**Annexure-VIII** 



# GROUNDWATER LEVEL & QUALITY REPORT FOR CLUSTER OF MINES, BCCL

(Assessment year - 2017)

[CLUSTER – I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XIII, XIV, XV & XVI of Mines, BCCL]

JHARIA COALFIELD AND RANIGANJ COALFIELD (PART)

For

### (BHARAT COKING COAL LIMITED)

(A Subsidiary of Coal India Limited)

**KOYLA BHAWAN (DHANBAD)** 

**MARCH - 2018** 

Prepared by

Hydrogeology Department

Exploration Division

CMPDI (HQ), Ranchi

Period: April 2018 to September 2018

CMPDI

#### 3.3 H Monitoring of Ground Water Levels of Cluster-VIII

Cluster-VIII consists of ten mines namely; Bastacolla mixed mines (OC & UG), Bera mixed mines (OC & UG), Dobari UG, Kuya mixed (OC & UG), proposed Goluckdih (NC) OC, Ghanoodih OC and Kujama OC under the administrative control of Bastacolla Area of BCCL. This Cluster of mines is located in eastern part of Jharia Coalfield in Dhanbad district of Jharkhand.

The present leasehold area of Cluster-VIII is 1200.41 Ha. The area has a general undulating topography with general slope towards south and south-west. The ground elevation in the area ranges from 175 m to 221 m AMSL. Chatkari Jore, Tisra Jore and its tributaries controlling the drainage pattern of the area. The area comes under the watershed of Chatkari Jore.

4 hydrograph stations (**D-8, D-43, D-49 and D-51**) are located in the core zone of the mine area. Water level monitoring in these monitoring stations has been done in the months of February, April, August & November 2017 and the Ground water level data is enclosed in the table below:

SI	Well	Location	Water level (bgl in meters)				
No.	No.		Feb'17	Apr'17	Aug'17	Nov'17	
1	D-8	Alokdiha	4.45	5.15	2.35	1.85	
2	D-43	Alagdih	2.85	7.50	2.75	3.60	
3	D-49	Galucdih	2.25	2.70	1.48	2.05	
4	D-51	Chankuiya	9.05	10.45	5.07	5.43	
Average WL (bgl)		4.65	6.45	2.91	3.23		

Ground Water Level (in bgl) varies from 2.25 to 9.05 m during February, 2.70 to 10.45 m during April, 1.48 to 5.07 m during August and 1.85 to 5.43 m during November within the Core Zone of Cluster-VIII area.

Period: April 2018 to September 2018

CMPDI

#### 4.0 GROUNDWATER LEVEL SCENARIO

During the month of February'2017 the depth to water level (in bgl) within 15 nos Cluster of mines varies from 0.10 m to 10.68 m with an average varies from of 1.32 m to 5.23 m. During the month of April'2017 the depth to water level varies from 0.67 m to 16.28 m with an average varies from 2.51 m to 9.26 m. During the month of August'2017 the depth to water level varies from 0.20 m to 5.17 m with an average varies from 0.43 m to 2.91 m. During the month of November'2017 the depth to water level varies from 0.15 m to 6.97 m with an average varies from 1.23 m to 3.51 m. The summarized water level data of all clusters are given in **Table No – 4**.

Depth to water level (in bgl) values described that water level goes down to maximum 16.68 m during pre-monsoon'2017 and maximum upto 6.97 m during post-monsoon'2017. Un-confined aquifer is affected around 20 m to 30 m maximum close to active opencast mining areas, showing steep gradient towards mine void. Other than that, there is no mining effect in the water level within JCF area and RCF area (part). Historical water level data and hydrograph of permanent observation stations from CGWB shown in **Annexure–III**.

Monitoring groundwater (quantity & quality) to assess the present condition and resource has been done regularly in the coalfield areas. Well hydrographs (Annexure–III) are prepared and studied to identify potentially adverse trends so that appropriate action can be taken to protect groundwater resource. According to the hydrograph trend analysis of CGWB monitoring wells, no significant decline trend of water level is noticed in any particular area for the last 10 years within the coalfield area. Regarding quality monitoring, the water sample location map (Figure No–2) with collection points details (dug wells) are given in Annexure–IV. Locations of proposed Piezometers to monitor deeper aquifers in and around active coal mining area in JCF and RCF (part) is given in Figure No–3.

Period: April 2018 to September 2018

CMPDI

#### Table No-4: Groundwater level data Cluster-wise

SI. No.	Cluster of BCCL	No. of Monitoring Wells	Water level fluctuation Below ground level (Feb, Apr, Aug & Nov'17)	Formation
1	I	4 nos.	0.15 to 10.00 m	Barakar
2	II	5 nos.	0.60 to 13.23 m	Barakar
3	III	5 nos.	0.55 to 6.38 m	Barakar
4	IV	5 nos.	0.75 to 9.05 m	Barakar
5	V	4 nos.	0.27 to 3.65 m	Barakar
6	VI	2 nos.	0.10 to 4.40 m	Barakar
7	VII	6 nos.	0.35 to 8.86 m	Barakar
8	VIII	4 nos.	1.48 to 10.45 m	Barakar
9	IX	6 nos.	0.75 to 9.25 m	Barakar
10	Х	4 nos.	0.40 to 8.80 m	Barakar
11	XI	5 nos.	0.55 to 12.45 m	Barakar &
''	7			Barren Measure
12	XIII	5 nos.	0.20 to 11.87 m	Raniganj
13	XIV	3 nos.	1.04 to 10.03 m	Raniganj
14	XV	4 nos.	0.62 to 16.28 m	Barakar &
14		4 1105.	0.62 (0 16.26 111	Barren Measure
15	XVI	4 nos.	0.80 to 5.80 m	Barakar

									CMPDI	
_	Tak	ole No-6	: Cluster-v	vise Gro	undwat	er devel	opment	scenar	io	
Cluster/ Area	Adminis- trative Blocks/Stage Of GW	Total Water demand (cum/da		Excess	Avg. GW level (bgl in m) 2017		declinir	level ng trend -2017	Remarks	
	Develo- Pment (SOD)	Discharge	Water Source	Use (Domestic +Industrial +Others)	Or other use	Pre- monsoon	Post- monsoon	Pre- monsoon	Post- monsoon	
Cluster- I	Bermo (SOD: Over- exploited)	2950	NIL	2123	827	5.21	2.57	NO	NO	-
Cluster-	Baghmara	8350	Jamunia river	7265	1085	6.34	2.12	NO	NO	-
Cluster- III	(SOD: Critical)	10,960	NIL	7290	3670	5.90	2.01	NO	NO	-
Cluster- IV		5900	MADA (Damodar river)	5900	NIL	4.97	1.55	NO	NO	
Cluster- V		11,025	MADA	9214	1811	2.51	1.80	YES	NO	Excess water stored into abandoned UG
Cluster- VI	Dhanbad (SOD:	4150	MADA (Damodar river)	4150	NIL	3.40	1.23	YES	YES	Artificial recharge structure needed
Cluster- VII	Over- exploited)	14,920	MADA	14,639	281	3.30	2.00	NO	NO	
Cluster- VIII	Jharia (SOD:	9320	MADA	5474	3846	6.45	3.23	NO	NO	Excess water stored into abandone UG & FF
Cluster- IX	Over- exploited)	12,980	MADA	9714	3266	5.40	3.21	NO	NO	Excess water stored into abandone UG & FF
Cluster- X		11,825	Damodar river	6525	5300	5.74	2.91	YES	NO	Excess water stored into abandone UG & OC
Cluster- XI	Dhanbad	31,530	MADA & DVC	18,825	12,705	4.72	2.20	NO	YES	Excess water use
Cluster- XIII	Baghmara	4774	Damodar river	4115	659	7.22	3.51	NO	NO	-
Cluster- XIV	(SOD: Critical)	2600	DVC	1875	725	9.26	2.77	NO	NO	
Cluster- XV		6200	Jamunia river	4147 +1800 (ponds)	253	8.60	2.60	NO	YES	Excess water store in surface waterbodie
Cluster- XVI	Nirsa (SOD:Safe)	3380	DVC (Barakar river)	2450	930	3.25	2.47	NO	NO	

#### Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013 Period: April 2018 to September 2018

#### **Annexure-IX**

#### **Transportation Plan for Conveyor**



सेंट्रस्त माईन प्रतानिंग एण्ड डिजाइन इंस्टीच्यूट लिमिटेड ( कोल इंडिया लिमिटेड की अनुषंगी कम्पनी / भारत सरकार की एक लोक उपक्रम ) पंजीकृत कार्यालय : गोन्दवाना प्लेस , काँके रोड , राँची - 834031 ( झारखण्ड ) भारत क्षे त्रीय संस्थान-2, पत्रा. बीसीसीएल टाउनशीप, कोयला नगर, धनवाब 826005 (झारखण्ड ) भारत Central Mine Planning & Design Institute Limited (A Subsidiary of Coal India Limited / Govt. of India Public Sector Undertaking ) Registered Office : Gondwana Place, Kanke Road, Ranchi -834031(Jharkhand) India Corporate Identity No. U14292JH1975GOI001223

पत्रांकः आर.आई.-2/पर्यावरण/एम-30/1150

्रसेवा में, उप महाप्रबंधक (पर्यावरण) बी. सी. सी. एल. कोयला भवन धनबाद ।



दिनांकः 20.06.2015

विषयः Study of installation of Rail-cum-Conveyor System in BCCL for transportation of coal.

महोदय.

This has reference to your letter no. BCCL/GM(Env.)/F-EC/13/622, dated 25.05.2013 for conducting the study and preparation of plan for installation of Rail-cum-Conveyor System for coal transportation in BCCL as a part of compliance of environmental clearance (EC) conditions stipulated by MoEF & CC in EC orders of different clusters. In this regard, we would like to inform you the following:

- a. As per EC clearance order transportation plan for Rail-cum-Conveyor system should dovetailed with Jharia Action Plan (Master Plan). The system of transportation is required to be installed in 2<sup>nd</sup> phase of EC implementation i.e. after completion of Master Plan (10 years) and 5 years of gestation period.
- JRDA has issued direction to RITES for traffic survey and data collection to initiate feasibility study regarding Diversion of Railway lines from fire affected and subsidence prone areas
- c. Coal transportation route / conveyor installation layout will be finalized after liquidation of coal mine fire, rehabilitation of 595 unstable sites, road and rail route alignment and location of Rly. Sidings of BCCL.

CMPDI will be able to submit the plan / study for installation of Rail-cum-Conveyor System in BCCL for transportation of coal only after diversions and re-alignments of roads and railway lines and relocation of railway sidings

This is for your kind information.

Sti Amarkanshu 86.

For comphance pendose

**電: (+91) 0326-2230850** 

Фен /Fax: (+91) 0326-2230500

क्षेत्रीय निदेशव

वेब साइट / Website : www.cmpdi.co.in ईमेज / Email : ri2@cmpdi.co.in

### Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines

### EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013 Period: April 2018 to September 2018

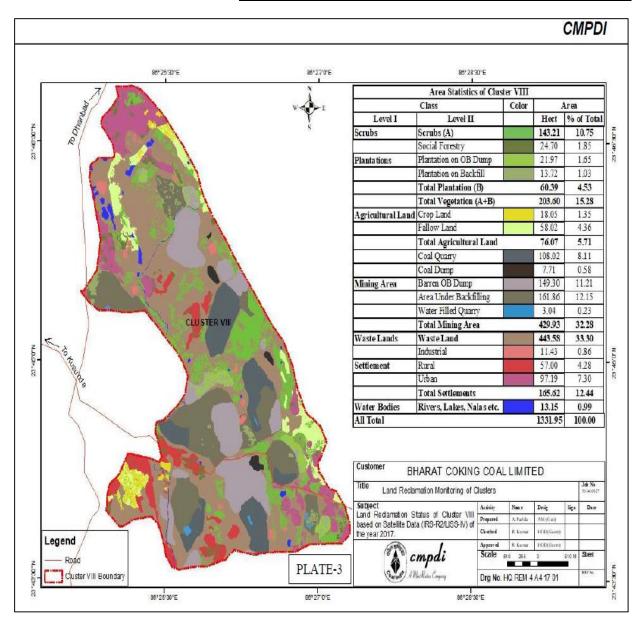
### **Annexure-X**

#### **R&R of PAFs**

SI. No.	Name of Colliery	No of PAFs Rehabilitated/Shifted till date
1	Bastacolla Colliery	Nil
2	Bera Colliery	Nil
3	Dobari Colliery	122
4	Ghanoodih Colliery	572
5	Kuya Colliery	308
6	Kujama Colliery	164
	Total	1166

#### **Annexure-XI**

#### Landuse Map generated from Remote Sensing Data



### Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013 Period: April 2018 to September 2018

**Annexure-XII** 



#### CORPORATE ENVIRONMENTAL POLICY

Bharat Coking Coal Limited (BCCL), a subsidiary of Coal India Limited, is a Public Sector Undertaking engaged in mining of coal and allied activities. It is the only producer of Prime Coking Coal in India. BCCL was incorporated in 1972 to operate coking coal mines operating in the Jharia and Raniganj Coalfields. Currently, the Company operates 66 coal mines and 8 Coal Washeries.

Our mission is to produce the planned quantity of coal efficiently and economically with due regard to safety, conservation and quality. BCCL affirms its commitment for environment friendly mining with right mitigation of pollution, reclamation of the degraded land, preservation of biodiversity and proper disposal of waste following the best environmental practices including judicious use of the non-renewable energy on the path of continual improvement. Towards this commitment, BCCL shall endeavor to:

- Conduct mining and associated operations in an environmentally responsible manner to comply with applicable laws and other requirements related to environmental aspects.
- Design projects with due consideration of Sustainable Development by integrating sound environmental management practices in all our activities.
- Prevent pollution of surrounding habitation by continuous monitoring and adopting suitable measures for environment protection.
- Ensure compliance of all applicable Environmental and Forest Clearance conditions and other statutory conditions issued by regulatory agencies.
- Implement the Environmental Management Plans in all our mines effectively to mitigate pollutions on air, water and noise; proper disposal of wastes and reclamation and ecological restoration of degraded land; and by also dovetailing the Jharia action/ Master Plan for dealing with Fires, Subsidence and Rehabilitation of affected people with the Environmental Management Plans under the Cluster Concept.
- Strive to conserve Bio-Diversity through Ecological restoration methods.
- Conserve natural resources through recycling of wastes on the principle of Reduce, Recycle and Reuse. Put special thrusts on efficient energy utilization as a measure to reduce carbon foot-print.
- Strive for continual improvement in our environmental performances by setting targets, measuring progress and taking corrective action.
- Create environmental awareness among the employees and the local communities through pro-active communication and training and encourage our business associates to adopt similar approach for environmental protection.

Place: Dhanbad Date: 25.5.12 Chairman-cum-Managing Director

Cheirman-cum-Mg. Director BHARAT COIGNG COAL LIMITED Koyla Bhawan, Dhanbad-826 905

Period: April 2018 to September 2018

**Annexure-XIII** 

#### **Air Quality Data**

#### AMBIENT AIR QUALITY MONITORING

#### 2.1 Location of sampling station and their rationale:

(As per G.S.R. 742 (E) dt. 25th December, 2000)

#### 2.1.1 Ambient Air Quality Sampling Locations

- I. CORE ZONE Monitoring Location
- i) Dobari UGP (A11) : Industrial Area

The location of the sampling station is 23°45′50.00" N & 86°26′ 1.00" E. The sampler was placed at Ground level of Safety Office.

- II. BUFFER ZONE Monitoring Location
- i) Jeenagora (A13) : Industrial Area

The location of the sampling station is 23° 42′ 31.00″ N & 86° 25′ 48.00″ E. The sampler was placed at a height of 1.5 m from the ground level at the Safety Office.

ii) Hurriladih UGP (A28) : Industrial Area

The location of the sampling station is 23°44′ 4.18" N & 86° 24′ 6.21" E. The sampler was placed at a height of 1.5 m from the ground level of the mine office.

iii) Kusmatand Village (A12): Industrial Area

The location of the sampling station is 23°45′ 4.65″ N & 86° 26′ 42.10″ E. The sampler was placed at a height of 1.5 m from the ground level of the village.

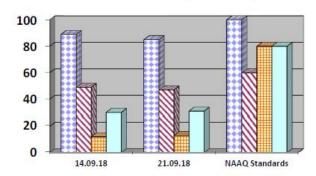
JOB NO. 200316028

Cluster -VIII, BCCL Environmental Monitoring Report

#### AMBIENT AIR QUALITY DATA

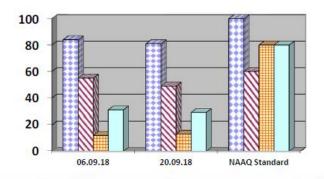
Cluster-VIII, Bharat Coking Coal limited Month: SEP. 2018 Year: 2018-19.

Station Name: Dobari UGP (A11)		Zone	: Core	Category: Industrial	
SI. No.	Dates of sampling	PM 10	PM 2.5	SO2	NOx
1	14.09.18	89	49	12	30
2	21.09.18	85	47	13	31
	NAAQ Standards	100	60	80	80



☐ PM 10 ☐ PM 2.5 ☐ SO2 ☐ NOx

Station Name: A13 – Jeenagora		Zone:	Buffer	Category: Industrial	
SI. No.	Dates of sampling	PM 10	PM 2.5	so <sub>2</sub>	NO <sub>X</sub>
1	06.09.18	84	55	12	31
2	20.09.18	81	49	13	29
	NAAQ Standard	100	60	80	80



☐ PM 10 ☐ PM 2.5 ☐ SO2 ☐ NOx

खुमन सीभैन, राद्र

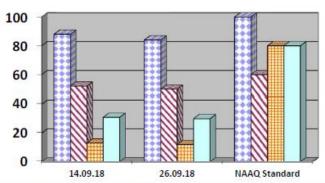
Analysed By JSA/SA/SSA Checked By Lab In Charge RI-2, CMPDI, Dhanbad

Approved By HOD(Mining/Environment) RI-2, CMPDI, Dhanbad

JOB NO. 200316028

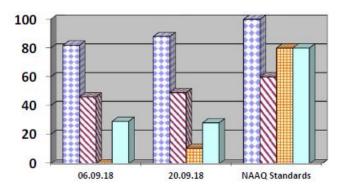
Cluster -VIII, BCCL Environmental Monitoring Report

Station Name: Hurriladih UGP (A28)		Zone: Buffer		Category: Industrial	
SI. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>X</sub>
1	14.09.18	88	52	13	31
2	26.09.18	84	50	12	30
7)	NAAQ Standard	100	60	80	80



■ PM 10
☑ PM 2.5
<b>■ SO2</b>
□NOx

StationName:A12 Kusmatand Village		Zone	Buffer	Category: Residential	
SI. No.	Dates of sampling	PM 10	PM 2.5	SO2	NOx
1	06.09.18	82	46	<10	29
2	20.09.18	88	49	11	28
	NAAQ Standards	100	60	80	80



□ PM 10
□ PM 2.5
□ SO2
□ NOx

- All values are expressed in microgram per cubic meter.
- 24 hours duration

खुमा सीमैन, रुद्

Analysed By JSA/SA/SSA Checked By Lab In Charge RI-2, CMPDI, Dhanbad

Approved By HOD(Mining/Environment) RI-2, CMPDI, Dhanbad

Ambient Air Quality Standards for Jharia Coal Field
As per the Environment (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742(E), dated 25.9.2000.

Category	Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4	5
Coal mines located in the coal fields of  • Jharia	Suspended Particulate Matter (SPM)	Annual Average * 24 hours	500 μg/m <sup>3</sup> 700 μg/m <sup>3</sup>	- High Volume Sampling (Average flow rate not less than 1.1
<ul><li>Raniganj</li><li>Bokaro</li></ul>	Respirable Particulate Matter (size less than 10 µm) (RPM)	Annual Average * 24 hours	250 μg/m <sup>3</sup> 300 μg/m <sup>3</sup>	Respirable Particulate Matter sampling and analysis
	Sulphur Dioxide (SO <sub>2</sub> )	Annual Average * 24 hours	80 μg/m <sup>3</sup> 120 μg/m <sup>3</sup>	1.Improvedwest and Gaeke method 2.Ultraviolet fluorescene
	Oxide of Nitrogen as NO <sub>2</sub>	Annual Average * 24 hours **	80 μg/m <sup>3</sup> 120 μg/m <sup>3</sup>	1. Jacob & Hochheiser Modified (Na- Arsenic) Method 2. Gas phase Chemilumine- scence

#### Note:

JOB NO. 200316028

Cluster -VIII, BCCL Environmental Monitoring Report

Annual Arithmetic mean for the measurements taken in a year, following the guidelines for frequency of sampling laid down in clause2.

<sup>\*\* 24</sup>hourly/8hourlyvaluesshallbemet92%ofthetimeinayear.However,8% of the time it may exceed but not on two consecutivedays.

### Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines

#### EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013 Period: April 2018 to September 2018

**Annexure-XIV** 

#### **Noise Monitoring Data**

#### NOISE LEVEL QUALITY MONITORING

- 4.1Location of sampling sites
  - 1. Dobari UGP (N11)
  - 2. Jeenagora (N13)
  - 3. Hurriladih UGP (N28)
  - 4. Kusmatand Village (N12)

#### Methodology of sampling and analysis

Noise level measurements in form of 'L<sub>EO</sub>' were taken using Integrated Data Logging Sound Level Meter (NL-52 OF RION CO. Ltd. Make) during day time. Noise levels were measured for about one hour time in day time. Noise levels were measured in Decibels, 'A' weighted average, i.e. dB (A).

#### 4.2 Results & Interpretations

Ambient noise levels were recorded during day time and the observed values were compared with standards prescribed by MoEF&CC. The results of Noise levels recorded during day time on fortnightly basis are presented in tabular form along with the applicable standard permissible limits. The observed values in terms of  $L_{\text{EQ}}$  are presented. The observed values at all the monitoring locations are found to be within permissible limits.

#### NOISE LEVEL DATA

	TO OL LEVEL DATA								
Nam	ne of the Project: Clu	uster -VIII	Month: SEP. 2018						
SI. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)				
1	Dobari UGP (N11)	Industrial area	14.09.18	58.2	75				
2	Dobari UGP (N11)	Industrial area	21.09.18	56.8	75				
3	Kusmatand Village (N12)	Residential area	06.09.18	51.7	55				
4	Kusmatand Village (N12)	Residential area	20.09.18	52.1	55				
5	Jeenagora (N13)	Industrial area	06.09.18	63.9	75				
6	Jeenagora (N13)	Industrial area	20.09.18	61.9	75				
7	Hurriladih UGP (N28)	Industrial area	14.09.18	47.1	75				
8	Hurriladih UGP (N28)	Industrial area	26.09.18	48.6	75				

\*Permissible limits of Noise Level as per MOEF Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control) Rules, 2000.

\* Day Time: 6.00 AM to 10.00 PM,

Analysed By JSA/SA/SSA

Checked By Lab In Charge RI-2, CMPDI, Dhanbad

Approved By HOD(Mining/Environment) RI-2, CMPDI, Dhanbad

JOB NO. 200316028

Cluster -VIII, BCCL Environmental Monitoring Report

### Six Monthly Environmental Clearance Compliance Report of Cluster VIII Group of Mines

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013 Period: April 2018 to September 2018

**Annexure-XV** 

#### **Water Quality Data**

#### WATER QUALITY MONITORING

#### 3.1 Location of sampling sites

(Refer Plate No. - II)

#### i) Mine Discharge of Dobari UGP (MW8)

A sampling point is fixed to assess the effluent quality of Mine discharge. This location is selected to monitor effluent discharge in to Kashi jore.

#### 3.2 Methodology of sampling and analysis

Water samples were collected as per standard practice. The effluent samples were collected and analyzed for four parameters on fortnightly basis at the Environmental Laboratory of CMPDI RI-II, Dhanbad.

#### 3.3 Results & Interpretations

The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC. Results show that most of the parameters are within the permissible limits.

#### WATER QUALITY DATA

#### (EFFLUENT WATER- FOUR PARAMETERS)

N	lame of the Cluster: Cluster -VIII	Month: SEP. 2018		ine Discharge of Dobari GP
SI. No.	Parameters	MW8 First Fortnight	MW8 Second Fortnight	As per MOEF General Standards for
		15/09/2018	21/09/2018	schedule VI
1	Total Suspended Solids	34	36	100 (Max)
2	pН	7.9	7.83	5.5 - 9.0
3	Oil & Grease	<2.0	<2.0	10 (Max)
4	COD	40	36	250 (Max)

All values are expressed in mg/lit except pH.

खुमन सीमैन , राद्र

Analysed By JSA/SA/SSA Checked By Lab In Charge RI-2, CMPDI, Dhanbad Approved By HOD(Mining/Environment) RI-2, CMPDI, Dhanbad

**Annexure-XVI** 

### GOVERNMENT OF JHARKHAND

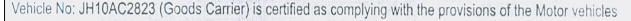
State Transport Department
DHANBAD

FORM 38

[See Rule 62(1)]

### CERTIFICATE OF FITNESS (DUPLICATE)

(Applicable in the case of transport vehicles only)



Act, 1988 and the rules made there under.

Certificate will expire on : 21-Sep-2019

Next Inspection Due Date : 23-Aug-2019

Inspection Fee Receipt : JH10R18100001821

No

Application No : JH18100603147478

Receipt Date : 06-Oct-2018

Chassis No : MAT448086B3G21037
Engine No : B591803111G63165098
Seating Capacity : 2 (Including Driver)

Type of Body : TIPPER

Registration No : JH10AC2823 Manufacturing Year : 2011

Category of Vehicle : HGV Inspected on : 22-Sep-2018

Inspected by : MVI DHANBAD

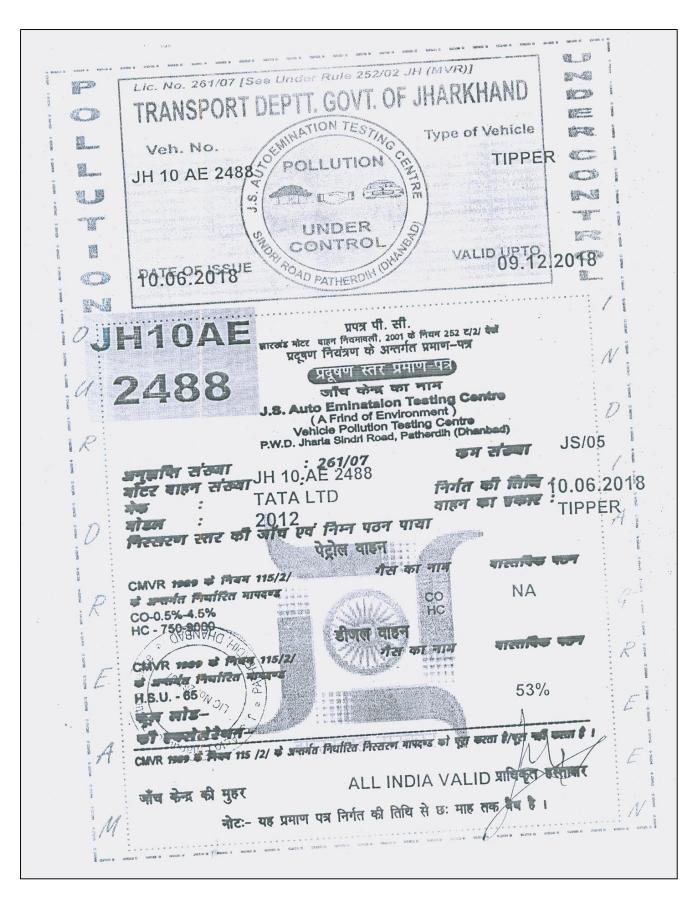
Printed on: 13-Oct-2018 17:57:45

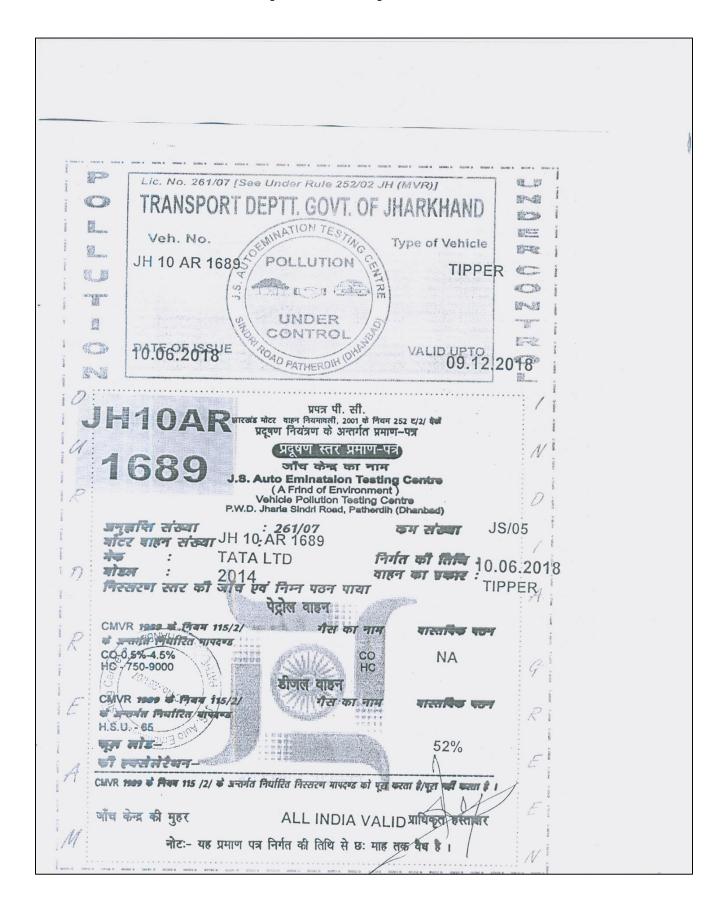
Signature of Inspecting Authority

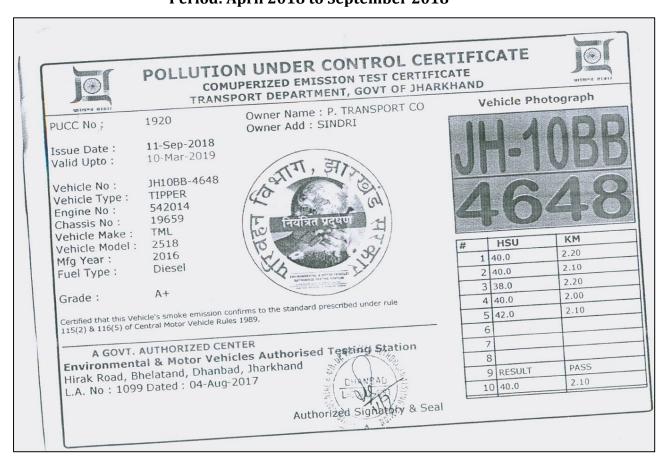
DHANBAD

Inspector of mond. with

Dhanbad, Jharkhand









#### GOVERNMENT OF JHARKHAND

State Transport Department DHANBAD **FORM 38** [See Rule 62(1)]

#### CERTIFICATE OF FITNESS

(Applicable in the case of transport vehicles only)

Vehicle No: JH10BB4648 (Goods Carrier) is certified as complying with the provisions of the Motor vehicles Act, 1988 and the rules made there under.

Certificate will expire : 05-Sep-2019

Next Inspection Due

Date

Inspection Fee

Inspected by

Receipt No

Application No : JH18082132677021 Receipt Date : 21-Aug-2018

Chassis No : MAT448059G2H19659 Engine No : B591803261H63542014 : 2 (Including Driver) Seating Capacity

: 07-Aug-2019

: JH10R18080003794

: TIPPER Type of Body

Registration No : JH10BB4648 Category of Vehicle : HGV

Manufacturing Year Inspected on

: 2016 : 06-Sep-2018

: MVI DHANBAD

Signature of Inspecting Authority Interpretation of Motor Vehicle Dhanbad, Jharkhand

Printed on: 08-Sep-2018 16:15:03



FORM 38

000837

[See Rule 62(1)]

#### CERTIFICATE OF FITNESS

(Applicable in the case of Transport Vehicles only)

Vehicle No JH10AA-7663 TIPPER is certified as complying with

Provision of sec 56 of the motor Vehicles Act.1988 and the rules made there

Under The certificate will expire on 22.07.2019

Dated: **23.07.2018** 

Holder of the Letter of Authority
Highway Fitness Centre Authorised

Signature Station of inspecting authority or Pajganj, Dhanbad (Jharkhand)

Signature of the holder of the letter of authority of

The authorised testing station

The certificate of fitness is hereby renewed:-

From

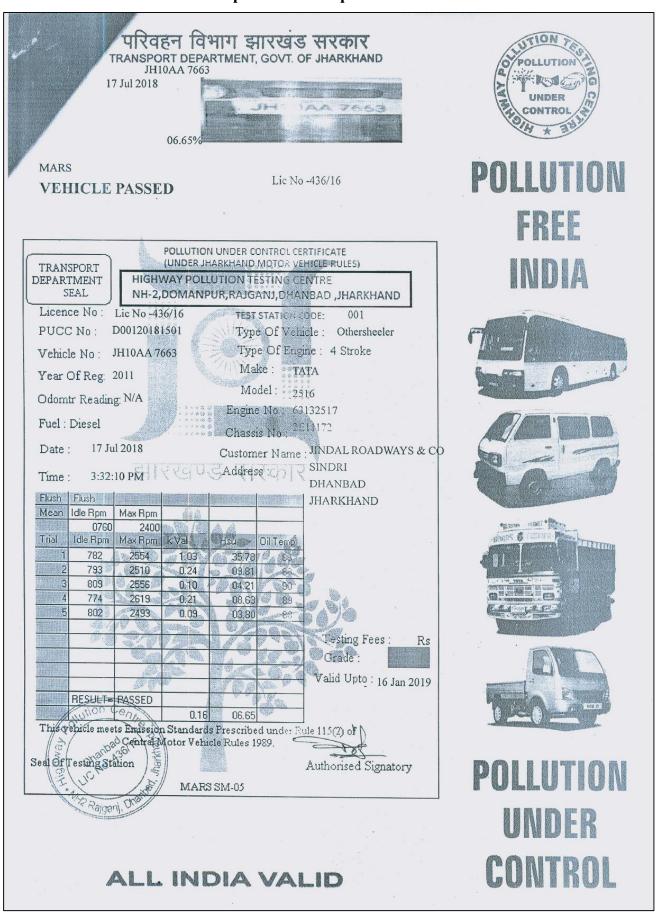
To

C.S.

Signature and designation of inspecting authority or

Signature of the holder of the letter of authority of

Inspector of Motor Vehicle the authorised testing station Dhanbad, Jharkhand



### **Annexure-XVII**

### Training (VTC)

No of employees received training in Cluster VIII (April'2018 to September'2018)	
Name of Colliery	Numbers
Bastacolla	128
Bera	85
Dobari	36
Kuya	97
Ghanoodih	58
Kujama	12

### **Annexure-XVIII**

### <u>PME</u>

No of employees undergone PME in Cluster VIII (April'2018 to September'2018)	
Name of Colliery	Numbers
Bastacolla	290
Bera	75
Dobari	43
Kuya	235
Ghanoodih	129
Kujama	8