



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/2021-22/63

Date: 29.05.2021

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

Subject: Six Monthly report on Compliance of Environmental Conditions for the period of October'2020 to March'2021 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 & 15.11.2020.

Dear Sir,

Please find enclosed herewith six monthly report on compliance conditions laid down in Environmental Clearance for the period from October'2020 to March'2021 in respect of Cluster VIII group of mines of BCCL.

Thanking you.

Yours' faithfully,

Encl: As above

General Manager  
Bastacolla Area

Copy to:

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



OFFICE OF THE GENERAL MANAGER  
gmbastacolla.bccl@coalindia.in

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

<b>A. Specific Conditions</b>																	
<b>Sl. No.</b>	<b>Condition</b>	<b>Compliance/ Action Taken Report</b>															
<b>i</b>	The Maximum production shall not exceed beyond that for which environmental clearance has been granted.	<p><b>It is being complied.</b>  The production from the cluster is within the limit for which environmental clearance has been granted. Month wise production of six months is enclosed as <b>Annexure-I.</b></p> <table border="1"> <thead> <tr> <th>Year</th><th>Peak Production Capacity (MTPA)</th><th>Actual Production (MTPA)</th></tr> </thead> <tbody> <tr> <td>2017-18</td><td>5.603</td><td>4.02</td></tr> <tr> <td>2018-19</td><td>5.603</td><td>2.44</td></tr> <tr> <td>2019-20</td><td>5.603</td><td>2.05</td></tr> <tr> <td>2020-21</td><td>5.603</td><td>2.23</td></tr> </tbody> </table>	Year	Peak Production Capacity (MTPA)	Actual Production (MTPA)	2017-18	5.603	4.02	2018-19	5.603	2.44	2019-20	5.603	2.05	2020-21	5.603	2.23
Year	Peak Production Capacity (MTPA)	Actual Production (MTPA)															
2017-18	5.603	4.02															
2018-19	5.603	2.44															
2019-20	5.603	2.05															
2020-21	5.603	2.23															
<b>ii</b>	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.	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>➤ Presently coal transportation has been done by trucks with tarpaulin cover. Covering of truck has been made mandatory in the transportation contract.</li> <li>➤ Avenue Plantation has been done along the roads and it shall be continuously carried out as per availability of space.</li> <li>➤ In current FY, 1500 Nos of Avenue Plantation has been developed along major coal transporting route to BNR Railway Siding (Photographs Enclosed at <b>Annexure- XIX</b>)</li> </ul>															
<b>iii</b>	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.	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>➤ Company is organizing training on regular basis through Vocational Training Centre and Human Resource Department.</li> </ul>															
<b>iv</b>	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.	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>➤ Details of Transportation, CSR, R&amp;R and Implementation of Environmental Action Plan is sent on the annual basis along with the Compliance report of October to March.</li> </ul>															
<b>v</b>	A study should be initiated to analyze extent of reduction in pollution load every year by reducing road transport.	<p><b>It has been complied.</b></p> <ul style="list-style-type: none"> <li>➤ The study has been completed by the CMPDIL to analyze the extent of reduction in pollution load every year by reducing road transport. <b>Enclosed as Annexure II.</b></li> </ul>															
<b>vi</b>	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.	<p><b>Compliance is under process.</b></p> <ul style="list-style-type: none"> <li>➤ 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 &amp; subsidence control for which no bidder has qualified to take up the work. <b>Enclosed as Annexure-III.</b></li> <li>➤ <b>Recommendations of NRSC is being implemented to control fire in JCF.</b></li> </ul>															

## Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020

Period: October 2020 to March 2021

vii	The abandoned pits and voids should be backfilled with OB and reclaimed with plantation and or may be used for pisciculture.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>➤ Backfilling process in abandoned pits and voids are continuously carried out along with the mining operation.</li> <li>➤ Ecological restoration and Plantation is being carried out at the stable OB dumps.</li> <li>➤ Grass Seed Balls are broadcasted on Slopes of OB Dumps for stabilization and further taking it up for Biological Reclamation (Photographs enclosed at <b>Annexure XXI</b>).</li> <li>➤ Abandoned Pits will be utilized for Pisciculture in Post Mining Phase.</li> </ul>
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.	<b>It has been complied.</b> <ul style="list-style-type: none"> <li>➤ 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 for implementation of Environment Policy of the company.</li> <li>➤ One Executive in each area has also been nominated as Nodal Officer (Environment) for looking after routine environment related jobs along with an Environment Management Cell at Area Level.</li> <li>➤ For implementing and look after Socio-Economic Issues, an executive of Community Development Cadre is also posted at area level.</li> </ul>
ix	The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board.	<b>It has been complied.</b> <ul style="list-style-type: none"> <li>➤ The optimum location of monitoring stations in Jharia Coal Field has been finalized with the approval of Jharkhand State Pollution Control Board. <b>Enclosed as Annexure IV.</b></li> </ul>
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.	<b>Compliance is under progress.</b> <ul style="list-style-type: none"> <li>➤ NEERI, Nagpur has already initiated Source Apportionment Study. NEERI Nagpur has completed the data collection for Summer Season and winter season. NEERI also submitted its first Interim Draft report. The final report of Source Apportionment Study is awaited. Details enclosed as <b>Annexure V.</b></li> </ul>
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.	<b>Compliance is under progress.</b> <ul style="list-style-type: none"> <li>➤ Mineralogical Composition Study is also a part of Source Apportionment Study as mentioned above. Details enclosed as <b>Annexure V.</b></li> </ul>

## Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020

Period: October 2020 to March 2021

<b>xii</b>	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.	<b>It has been complied.</b> <ul style="list-style-type: none"> <li>➤ NRSC has been 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.</li> <li>➤ NRSC has delineated surface fire and associated land subsidence in Jharia Coalfield using satellite based remote sensing techniques. Latest Report of Jan'2018 by NRSC is enclosed. Enclosed as <b>Annexure XI.</b></li> <li>➤ NRSC has again started the delineation of surface fire in Jharia Coalfield and final report will be submitted by June'2021.</li> </ul>
<b>xiii</b>	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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>➤ 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.</li> <li>➤ Old UG Workings have been sealed off to prevent ingress of Air in other areas.</li> </ul>
<b>xiv</b>	Underground mining should be taken up after completion of reclamation of Opencast mine area after 15 years.	<b>It shall be complied.</b> <ul style="list-style-type: none"> <li>➤ Underground Mining will be done after extraction of upper seams and beneath backfilled and reclaimed area.</li> </ul>
<b>xv</b>	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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>➤ Mining is being carried out by OC Method where UG fire is present with due permission from DGMS.</li> <li>➤ Action is being taken to control, mine fires including old OB dump &amp; areas as specified in Jharia Master Plan.</li> </ul>
<b>xvi</b>	The rejects of washeries in Cluster –VIII should be send to FBC based plant.	<b>Not applicable.</b> <ul style="list-style-type: none"> <li>➤ Coal washery does not exist in this cluster.</li> </ul>
<b>xvii</b>	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 re-vegetated. Areas where opencast mining was carried out and completed shall be reclaimed immediately thereafter.	<b>It shall be complied.</b> <ul style="list-style-type: none"> <li>➤ Progressive mine closure activities are being carried out as per approved Mine Closure Plan.</li> <li>➤ At the end of the mining, there shall be no void and area will be re-vegetated and reclaimed with the proper reclamation techniques as per approved Mine Closure Plan.</li> </ul>



# Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020

Period: October 2020 to March 2021

<p><b>xviii</b></p>	<p>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.</p>	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>➤ Mining operation is being done as per approved Calendar Plan.</li> <li>➤ Mine closure plan as per the guidelines of Ministry of Coal has been prepared by Central Mine Planning and Design Institute (CMPDI).</li> <li>➤ Progressive mine closure activities is being implemented regularly as per approved Mine Closure Plan considering present geo-mining conditions.</li> </ul>
<p><b>xix</b></p>	<p>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.</p>	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>➤ Abandoned pits are regularly filled with over burden.</li> <li>➤ Plantation has been done on periphery of voids converted into reservoir.</li> <li>➤ 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.</li> <li>➤ Abandoned Pits/Voids will be utilized for Pisciculture in Post Mining Phase.</li> </ul>
<p><b>xx</b></p>	<p>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.</p>	<p><b>It is being complied.</b></p> <p>Mining is being done as per the guidelines and permissions of Directorate General of Mines Safety (DGMS) in accordance with Coal Mines Regulation, 2017.</p> <ul style="list-style-type: none"> <li>▪ Embankment has been constructed in some areas and further embankment and stone pitching work will be carried out.</li> </ul> <div data-bbox="884 1234 1525 1626" data-label="Image"> </div> <div data-bbox="884 1664 1525 2040" data-label="Image"> </div>

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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.	<b>It is being complied.</b> <ul style="list-style-type: none"><li>Active OB dumps near water bodies and rivers shall be rehandled for backfilling of abandoned mine voids as per approved Mine Closure Plan.</li><li>The OB dumps created earlier near water body are already stabilized and biologically reclaimed.</li></ul>						
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.	<b>It is being complied.</b> <ul style="list-style-type: none"><li>Plantation has been regularly done on mined out areas, OB dumps in scientific manner.</li><li>Presently Bastacolla area is carrying out the ecological restoration i.e. Three-Tier Plantation in an area of 20 Ha.</li><li>Action Plan for Plantation as per present geo-mining conditions:</li></ul> <table><tr><td>Year</td><td>Area (In Ha.) (Tentative)</td></tr><tr><td>2021-22</td><td>6.00</td></tr><tr><td>2022-23</td><td>12.00</td></tr></table>	Year	Area (In Ha.) (Tentative)	2021-22	6.00	2022-23	12.00
Year	Area (In Ha.) (Tentative)							
2021-22	6.00							
2022-23	12.00							
xxiii	The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.	<b>It shall be complied.</b> <ul style="list-style-type: none"><li>Avenue plantation has been partly done in non-coal bearing areas as well as in colonies.</li><li>Action Plan for Avenue Plantation:</li></ul> <table><tr><td>Year</td><td>No of Plants to be Planted (Tentative)</td></tr><tr><td>2020-21</td><td>3000*</td></tr><tr><td>2021-22</td><td>5190*</td></tr></table> <p>*1500 Nos of Avenue Plantation has been raised through State Forest Department on Major Coal Transportation Route to BNR Railway Siding. *The proposal for 5190 Nos of Avenue Plantation has been initiated and will be planted through State Forest Department. The above proposed plantation scheme is for four years.</p>	Year	No of Plants to be Planted (Tentative)	2020-21	3000*	2021-22	5190*
Year	No of Plants to be Planted (Tentative)							
2020-21	3000*							
2021-22	5190*							
xxiv	Specific mitigative measures identified for Jharia Coalfields in the Environmental Action plan prepared for Dhanbad as a Critically polluted area and relevant for Cluster VIII shall be implemented.	<b>It is being complied.</b> <p>Action Plan has been prepared in consultation with Jharkhand Pollution Control Board for entire BCCL and not on cluster basis. It is being implemented comprehensively. Some of the salient actions of this cluster are as under:</p> <ol style="list-style-type: none"><li>Covered Truck Transport</li><li>Construction of Pucca Road wherever feasible.</li><li>Construction/Maintenance of water reservoir for mine water utilization</li><li>Plantation. Etc.</li></ol>						

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<b>xxv</b>	<p>The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuel wood, coal, fly ash from TPPs, silica from natural dust, etc) and a Source Apportionment Study should be got carried out 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.</p>	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>Establishment of ambient environment quality monitoring stations has been finalized in consultation with Jharkhand State Pollution Control Board.</li> <li>NEERI, Nagpur has already initiated Source Apportionment Study. NEERI Nagpur has completed the data collection for Summer Season and winter season. NEERI also submitted its first Interim Draft report. The final report of Source Apportionment Study is awaited. Enclosed as <b>Annexure V.</b></li> <li>Mineralogical Composition Study is also part of Source Apportionment Study.</li> </ul>
<b>xxvi</b>	<p>No groundwater shall be used for the mining activities. Additional water required, if any, shall be met from mine water or by recycling/reuse of the water from the existing activities and from rainwater harvesting measures.</p> <p>The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry to dewatering of mine.</p>	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>A MoU has been signed between Coal India Ltd. &amp; Govt. of Jharkhand for providing mine water to nearby villages. A copy of MoU has been enclosed as <b>Annexure VII.</b></li> </ul>
<b>xxvii</b>	<p>Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), Post-monsoon (November) and Winter (January) seasons and for quality including Arsenic and Fluoride during the month of May. Data, thus collected shall be submitted to the Ministry of Environment &amp; Forest and to the Central Pollution Control Board/SPCB quarterly within one month of monitoring. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.</p>	<p><b>Compliance under progress.</b></p> <ul style="list-style-type: none"> <li>For Construction of Piezometers, tender has been cancelled thrice. The estimate is being revised in association with CMPDI for re-tendering for aforesaid work. The tender for aforesaid work will be floated by January 2021.</li> <li>CMPDI is regularly conducting study of groundwater level and quality of areas within Cluster VIII. Groundwater monitoring data has been enclosed as <b>Annexure VIII.</b></li> </ul>
<b>xxviii</b>	<p>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.</p>	<p><b>It is being complied.</b></p> <ul style="list-style-type: none"> <li>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 &amp; Rapid Sand Filter.</li> <li>The monitoring of water quality parameters is regularly carried out by CMPDIL. Mine water quality data has been enclosed as <b>Annexure XV.</b></li> </ul>

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<b>xxix</b>	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.	<b>Complied</b> <ul style="list-style-type: none"> <li>Effluent Treatment Plant for HEMM Workshop is constructed.</li> </ul>
<b>xxx</b>	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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Regular subsidence monitoring is being done at underground mines. In cluster VIII, presently subsidence monitoring has been done at Bastacolla Colliery.</li> </ul>
<b>xxxi</b>	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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Sufficient coal pillars have been left around air shafts as per Coal Mines Regulations 2017 and DGMS Orders.</li> </ul>
<b>xxxii</b>	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>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.</li> </ul>
<b>xxxiii</b>	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Time to time depression created by the mining operations have been filled by the locally available material and over burden.</li> </ul>
<b>xxxiv</b>	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Sufficient barriers are left for saving the surface installation and infra structures as per Coal Mines regulation 2017 and DGMS Orders.</li> </ul>
<b>xxxv</b>	No depillaring operation shall be carried out below the township/colony.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Prior permission is always obtained from DGMS for depillaring.</li> </ul>
<b>xxxvi</b>	The Transportation Plan for conveyor-cum-rail 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.	<b>It shall be complied.</b> <ul style="list-style-type: none"> <li>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.</li> <li>At present, Transportation is being done by covering vehicle with tarpaulin cover and it is made mandatory in Transportation Contracts. <b>Annexure IX.</b></li> </ul>

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<b>xxxvii</b>	A study should be initiated to analyze extent of reduction in pollution load every year by reducing road transport.	<b>Complied.</b> <ul style="list-style-type: none"> <li>The study has been completed by the CMPDIL to analyze the extent of reduction in pollution load every year by reducing road transport. <b>Enclosed as Annexure II.</b></li> </ul>
<b>xxxviii</b>	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.	<b>Compliance is under progress.</b> <ul style="list-style-type: none"> <li>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 1243 Nos of PAFs have been rehabilitated. <b>Enclosed as Annexure X.</b></li> </ul>
<b>xxxix</b>	A detailed CSR Action Plan shall be prepared for Cluster VIII group 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 VIII 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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>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 (Swachh Bharat Abhiyan) initiated by Hon'ble Prime Minister of India.</li> <li>Under CSR Initiatives, preventive health care of public living in command area has been undertaken extensively through Company as well as State Govt. Self-Protection Kit including Mask, Hand wash, Soap, Detergent etc were provided to needy villagers around the coal mines.</li> <li>During pandemic situation, hunger eradication programme were undertaken under CSR/Welfare activities. Dry Food as well as prepared food was distributed among people living in command area. The total nos of beneficiary under this programme was around 10500.</li> </ul>
<b>xL</b>	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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>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. <b>Enclosed as Annexure XI.</b></li> </ul>

## Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project

EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020

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<b>xLi</b>	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.	<b>It shall be complied.</b> <ul style="list-style-type: none"> <li>▪ CMPDI has prepared “Mine Closure Plan” for all the mines of Cluster VIII.</li> <li>▪ In order to restore the original ecological system, Bastacolla Area has initiated ecological restoration at various sites having area of 24.65 Ha as per roadmap prepared by Forest Research Institute. Native species of flora and fauna can be seen on these sites.</li> <li>▪ Photographs are enclosed as <b>Annexure XX</b>.</li> </ul>
<b>xLii</b>	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.	<b>Complied.</b> <ul style="list-style-type: none"> <li>▪ 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 for implementation of Environment Policy of the company.</li> <li>▪ One Executive in each area has also been nominated as Nodal Officer (Environment) for looking after routine environment related jobs along with an Environment Management Cell at Area Level.</li> <li>▪ For implementing and look after Socio-Economic Issues, an executive of Community Development Cadre is also posted at area level.</li> </ul>
<b>xLiii</b>	Implementation of final mine closure plan for Cluster VIII, subject to obtaining prior approval of the DGMS in regard to mine safety issues.	<b>It shall be complied.</b> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Prior approval from DGMS shall be obtained before final mine closure with due regard to mine safety issues.</li> </ul>

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<b>xLiv</b>	<p>Corporate Environment Responsibility: -</p> <p>a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.</p> <p>b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/ deviation/ violation of the environmental or forest norms/ conditions.</p> <p>c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.</p> <p>d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.</p>	<p>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. <b>Enclosed as Annexure XII.</b></p> <p><b>It is being complied.</b></p> <p>A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists.</p> <p><b>It is being complied.</b></p>
<b>B. General Conditions:</b>		
<b>i</b>	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	<b>It shall be complied.</b>
<b>ii</b>	No change in the calendar plan of production for quantum of mineral coal shall be made.	<p><b>It shall be complied.</b></p> <ul style="list-style-type: none"> <li>▪ Production is being done as per the approved calendar program/ MoU target.</li> </ul>
<b>iii</b>	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 NO <sub>x</sub> monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	<p><b>It has been complied.</b></p> <ul style="list-style-type: none"> <li>▪ The optimum location of monitoring stations in Jharia Coal Field has been finalized with the approval of Jharkhand State Pollution Control Board. <b>Enclosed as Annexure IV.</b></li> <li>▪ Air quality Monitoring report has been enclosed as <b>Annexure XIII.</b></li> </ul>



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iv	Data on ambient air quality (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> ) 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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Data is regularly submitted to ministry along with compliance report.</li> </ul>
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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>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>.</li> </ul>
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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>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 <b>Annexure XV</b>.</li> </ul>
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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Vehicles used for transportation of coal are always covered by tarpaulin and being monitored for the vehicular emission by the transporter and BCCL.</li> <li>For Compliance of Motor Vehicle Act/MMDR Act, All transportation vehicles are registered on <a href="https://parivahan.gov.in">https://parivahan.gov.in</a> and <a href="https://portal.jharkhandminerals.gov.in">https://portal.jharkhandminerals.gov.in</a></li> </ul>
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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Ambient environmental monitoring is being done by CMPDIL. Monitoring data have been enclosed as <b>Annexure XIII, XIV &amp; XV</b>.</li> </ul>
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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>A separate full-fledged Human Resource Development Department is conducting regular training program on these issues.</li> <li>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 <b>Annexure XVI</b>.</li> </ul>



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<b>x</b>	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.	<b>It is being Complied.</b> <ul style="list-style-type: none"> <li>Periodical medical Examination (PME) of all the mining and other personnel is being carried out regularly at Area Hospital, Tisra as per the Coal Mines Regulation 2017 and Director General of Mines Safety (DGMS) guidelines. Enclosed as <b>Annexure XVII.</b></li> </ul>
<b>xi</b>	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.	<b>Complied.</b> <ul style="list-style-type: none"> <li>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 for implementation of Environment Policy of the company.</li> <li>One Executive in each area has also been nominated as Nodal Officer (Environment) for looking after routine environment related jobs alongwith an Environment Management Cell at Area Level.</li> <li>For implementing and look after Socio-Economic Issues, an executive of Community Development Cadre is also posted at area level.</li> </ul>
<b>xii</b>	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.	<b>It is being compiled.</b> <ul style="list-style-type: none"> <li>Funds for environmental protection measures area kept in separate head which is only used in environmental management activities.</li> </ul>
<b>xiii</b>	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 <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	<b>It has been complied.</b> <ul style="list-style-type: none"> <li>Advertisement in local newspaper has also been done.</li> </ul>

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<b>xiv</b>	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.	<b>It has been complied.</b> Enclosed as <b>Annexure XVIII.</b>
<b>xv</b>	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.	<b>It has been complied.</b>
<b>xvi</b>	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 NO <sub>x</sub> (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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Environmental clearance and six monthly compliance of the EC conditions of the cluster have been uploaded on the company's website (<a href="http://www.bcclweb.in">www.bcclweb.in</a>).</li> </ul>
<b>xvii</b>	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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>Six monthly compliance report is regularly send to (twice in a year) the Regional Office of MoEFCC, Ranchi along with required data and information.</li> </ul>
<b>xviii</b>	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.	<b>Agreed.</b>

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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.	<b>It is being complied.</b> <ul style="list-style-type: none"> <li>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 31<sup>st</sup> March.</li> </ul>
<b>C. Other Conditions by MOEF</b>		
i	The Ministry or any other Competent Authority may stipulate any further condition(s) for environmental protection.	<b>Agree</b>
ii	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.	<b>Agree</b>
iii	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. The Proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.	<b>Agree</b>
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.	<b>Agree.</b>
<b>D. Other Conditions by MOEF (Ref. EC Amendment dated 15.11.2020)</b>		
i.	Adequate number of Fog Canon/Mist Sprinkler shall be installed in six months for dust suppressions at Bastacolla Colliery.	<b>Complied</b> 100 m throw capacity trolley mounted fog canon along has been procured. Installation at Bastacolla OCP is delayed due to COVID-19 pandemic. Enclosed as <b>Annexure XXIII.</b>
ii.	Fixed Long range sprinkling system along the railway siding shall be implemented.	<b>Compliance is under progress.</b> The Coal from Bastacolla Colliery is being dispatched through BNR Railway Siding. The work order has been issued for "Installation of fixed water sprinkler system at BNR Siding with pipe

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		line works and other associated civil works under administrative control of Rajapuer/S-Jharia OCP under Bastacolla Area" Vide WO No. BCCL/BA/ACE/WO/20-21/30 Dated 02-03-2021 Enclosed as <b>Annexure XXII</b>
iii.	As proposed, three Thousand (3000) Avenue Plantation and Twelve Thousand Block Plantation through State Forest Department will be done along transport route, residential colonies road, railway siding etc. in year 2020-21 (Total 15000)	<b>Compliance is under progress.</b> The proposal for 5190 Avenue Plantation and 10000 Block Plantation has been initiated. After approval by competent authority, total 15190 plantation will be done through State Forest Department along transport route, residential colonies road, railway siding etc. in current financial year.
iv.	Development of Greenbelt around quarry. Grassing of OB Dump slopes shall be done using grasses for stabilizing inactive OB Dump. Plantation will be done on external dump and reclaimed area.	<b>Compliance is under Progress.</b> <ul style="list-style-type: none"> <li>Green Belt shall be developed as per present Geo-mining Conditions.</li> </ul>
v.	Controlled Blasting shall be carried out using Electronic Detonator with appropriate design of the geometry of blast holes in daytime period to minimize ground vibration and dust generation.	<b>It is being complied.</b>
vi.	One Continuous Online PM <sub>10</sub> Analyzer shall be installed for monitoring the quality of air in Bastacolla Colliery and its data should be displayed for public domain through display panel at appropriate location.	<b>Compliance is under Progress.</b> Tendering has been done for procurement, installation and commissioning of PM <sub>10</sub> Analyzers. The Work shall be commenced soon.
vii.	Coal transportation will be done through covered trucks with tarpaulin sheets.	<b>It is being complied.</b> Presently coal transportation has been done by trucks with tarpaulin cover. Covering of truck has been made mandatory in the transportation contract.
viii.	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	<b>It is being complied.</b> Company is organizing training on regular basis through Vocational Training Centre and Human Resource Department
ix.	Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.	<b>It is being complied.</b> Periodical medical Examination (PME) of all the mining and other personnel is being carried out regularly at Area Hospital, Tisra as per the Coal Mines Regulation 2017 and Director General of Mines Safety (DGMS) guidelines. Enclosed as <b>Annexure XVII</b>
x.	A third party assessment of EC compliance shall be undertaken once in three years through reputed Government Institutes or any other expert agency identified by the Ministry.	<b>Agreed.</b>
xi.	Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles.	<b>Compliance is under progress.</b> The finalized part of OB Dump (Slopes/ Benches etc.) are vegetated by grassing.
xii.	In-active OB dump shall not be kept barren/open. They should be immediately reclaimed and re-graded to improve the land form and covered by temporary grass etc. for better land use post mine closure.	<b>Compliance is under progress.</b> The finalized part of OB Dump (Slopes/ Benches etc.) are vegetated by grassing.

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xiii.	Project proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting near to villages. There shall be no damages caused to habitation/structures due to blasting activity.	<b>It is being Complied.</b>
xiv.	The Project Proponent shall comply with all the statutory requirements and judgement of Hon'ble Supreme Court dated the 2 <sup>nd</sup> August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors. State Government shall ensure that the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department in strict compliance of judgement of Hon'ble Supreme Court dated the 2 <sup>nd</sup> August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.	<b>It is being Complied.</b>
xv.	Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking etc. shall be undertaken once in six month and necessary remedial/preventive measures taken accordingly. The Recommendations of NIOH for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.	<b>Agree.</b> Periodical medical Examination (PME) of all the mining and other personnel is being carried out regularly at Area Hospital, Tisra as per the Coal Mines Regulation 2017 and Director General of Mines Safety (DGMS) guidelines.
xvi.	Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014.IA.II (M), dated 29 <sup>th</sup> October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area.	<b>Agree</b>
xvii.	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations	<b>Agree</b>

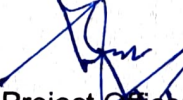
# Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project


EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020

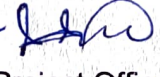
Period: October 2020 to March 2021

	have a right for darkness and minimal noise level at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.	
xviii.	Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8 <sup>th</sup> January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent."	Agree

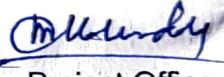
  
Project Officer  
Bastacolla  
Colliery

  
Project Officer  
Bera Colliery

  
Project Officer  
Dobari Colliery

  
Project Officer  
Kuya Colliery

  
Project Officer  
Ghanoodih  
Colliery

  
Project Officer  
Kujama Colliery

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**Period: October 2020 to March 2021**

**Annexure- I**

**Coal Production from Cluster VIII (October 2020 to March 2021)**

<b>Month</b>	<b>Production (In Tonnes)</b>
<b>Bastacolla Colliery</b>	<b>356227.00</b>
<b>Bera Colliery</b>	<b>29856.00</b>
<b>Dobari Colliery</b>	<b>0.00</b>
<b>Ghanoodih Colliery</b>	<b>0.00</b>
<b>Kuya Colliery</b>	<b>1047730.00</b>
<b>Kujama Colliery</b>	<b>0.00</b>
<b>Total</b>	<b>1433813.00</b>

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**Period: October 2020 to March 2021**

**Annexure-II**

**Study to Analyze the Extent of Pollution Reduction**



**cmpdi**  
A Mini Ratna Company

सेन्ट्रल माईन प्लानिंग एंड डिजाइन इन्स्टीट्यूट लिमिटेड  
(सेन्ट्रल माईन प्लानिंग इन्स्टीट्यूट लिमिटेड) (एन.सी.ई.डी.) (एन.सी.ई.डी.) (एन.सी.ई.डी.)  
गोपालपुरा रोड, कर्का रोड, रांची - 834 031, झारखण्ड (भारत)  
Central Mine Planning & Design Institute Limited  
(A Subsidiary of Coal India Limited / Govt. of India Public Sector Undertaking)  
Gondwans Place, Karkas Road, Ranchi - 834 031, Jharkhand (INDIA)  
CORPORATE IDENTITY NUMBER - U14292JH1975GOI001223

Letter No.: पर्यावरण/8/BCCL/ E - 196651

Dated: 20/07/2018

सेवा में,

उप महाप्रबन्धक (पर्यावरण)

बी. सी. सी. एल.

कोयला भवन

धनबाद-826005

**विषय:** 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:

Sl. No.	Name of the Cluster	Peak Production (MTY)
1.	Cluster-VII	8.181
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.

सधन्यवाद,

संतनोक: यथोक्त

भवदीय  
20.7.18  
(पुष्कर)

महाप्रबन्धक (पर्यावरण)

प्रतिलिपि:

1. क्षेत्रीय निदेशक, आर.आई- II, कोयला भवन, धनबाद- For Kind information.



फोन नम्बर / Phone No. : +91 651 2232055 फैक्स नम्बर / Fax No. : +91 651 2231447  
ई-मेल / e-mail: gmenv.cmpdi@coalindia.in, gmenv.cmpdi@gmail.com  
वेबसाइट / Website Address: [www.cmpdi.co.in](http://www.cmpdi.co.in)

Scanned by CamScanner



**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 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 Eco-friendly 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.

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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 achieved 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 effect duly signed by the authorized representative of bidding company & countersigned 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 Qualification	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.	Technical Expert (Geology/Remote Sensing)	M. Sc (Geology) or equivalent	10 years	2
3.	Technical expert (Environment)	B. Tech/BE/M.Sc.(Envr) or equivalent	10 years	1
4.	Technical Expert (Infrastructure)	B.E /B.Tech (Mechanical / Electrical / Civil) 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)/Chartered Accountant/ICWA or equivalent	10 years	1

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

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

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

**6.0 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.

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**7.0 OPENING OF THE EOI :**

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

Bidders 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 seal.

**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.

Sd/-  
General Manager  
(Contract Management Cell)



**Distribution :**

1. 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.
2. D(T)OP / D(T)P&P / D(F) / D(P) / CVO.
3. GM(Co-ordin) / GM(S&M) / GM(F)/C / GM(M&M) / GM(E&M) / GM(Execv) / GM(P&P) / GM(IE) / GM(System) / Dy. GM (Env't), BCCL
4. Sr.ES to CMD - for kind information of CMD.
5. HOD (Admin) with a request to display this EOI in Koyla Bhawan Notice Boards.
6. All CGMs/GMs of the Areas including Washery Zones for wide circulation through display in the Notice Boards.
7. 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 from 3:30 PM till completion of the meeting.
8. Desk In-Charge, BCCL, M M Division, 4<sup>th</sup> floor, 6, Lyons Range, Kolkata.
9. CGM / GM (Contract Management Cell), WCL/SECL/NCL/MCL/ECL/CCL & CIL
10. 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)

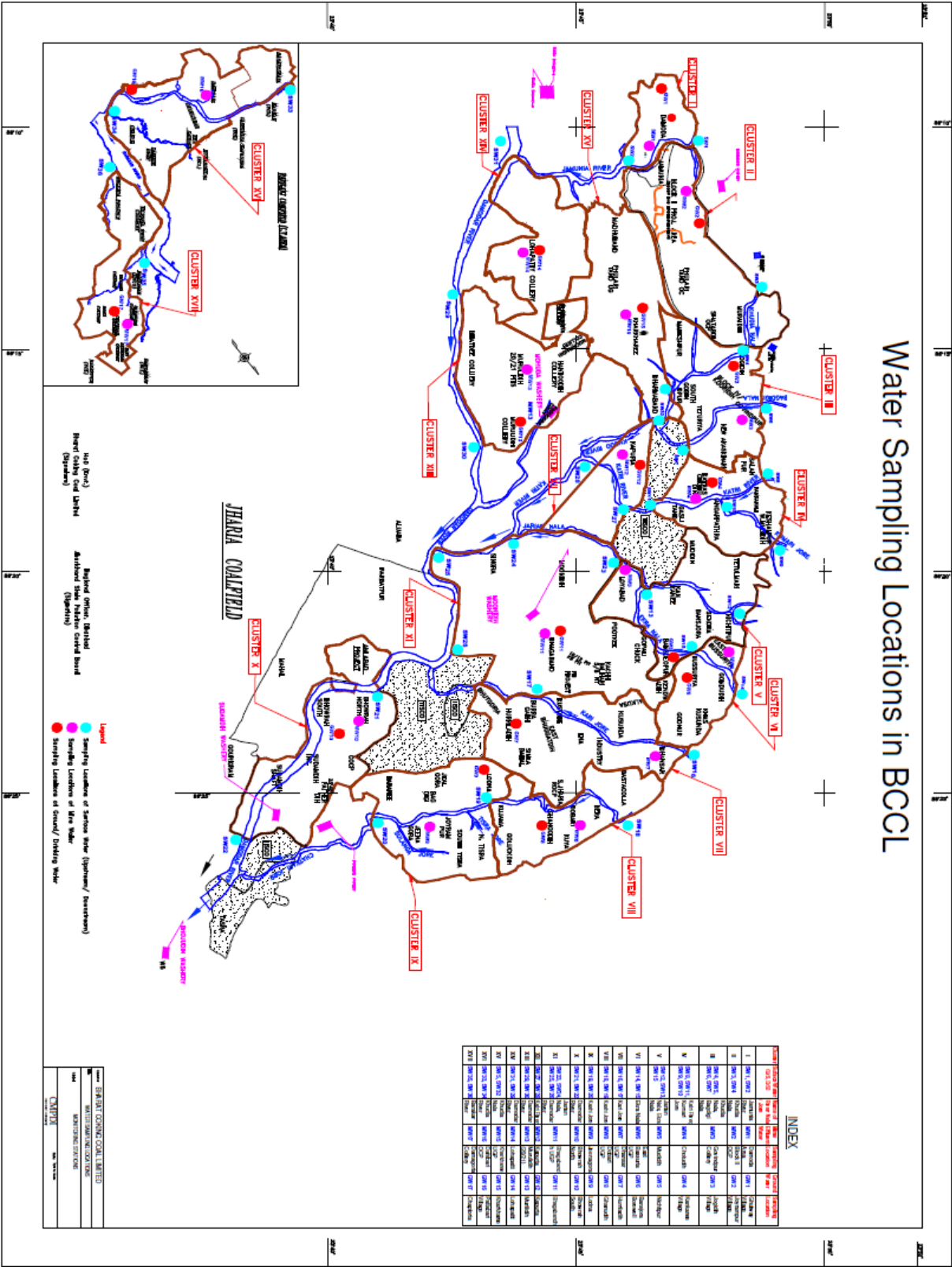
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**Annexure-IV**

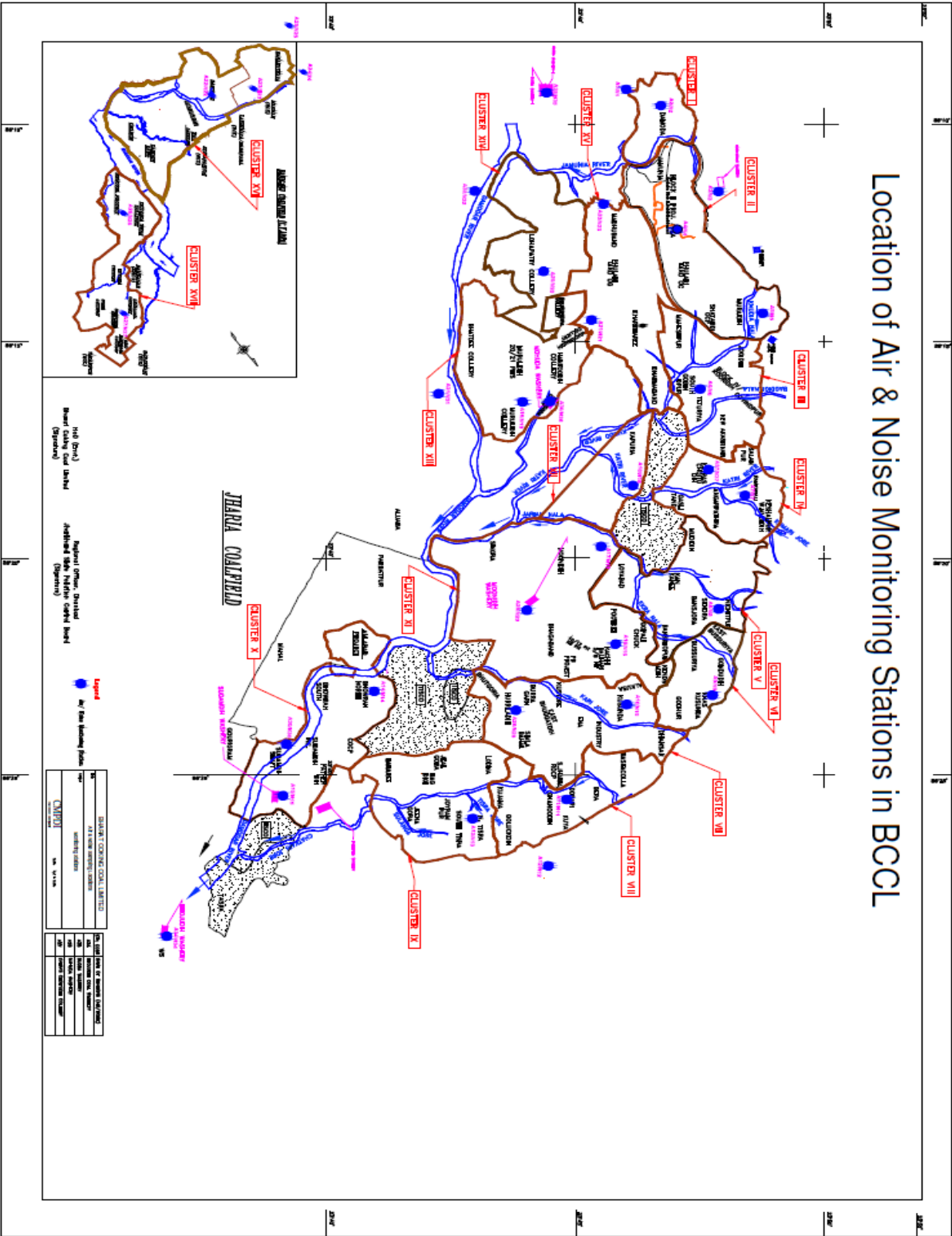
		Ph: 0326-2204933
<b>झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद्</b> <b>Jharkhand State Pollution Control Board</b> HIG-1, Housing Colony, Dhanbad-826001		
Letter No.....	2650	Dated ..... 6/7/13.....
From,	Regional Officer, Dhanbad	
To,	HOD (Env.), M/s. B.C.C.L., Koyla Bhawan, Koyla Nagar, Dhanbad.	
Sub:	<b>Fixing up monitoring station/Sampling location of Air, Water &amp; Noise.</b>	
Sir,	With reference to you letter no. GM(Env.)/F-JSPCB/2013/783, dt. 06.07.2013 We have approved Air, Water & Noise monitoring Station/Sampling location after verification and return a copy of the map.	
Encl-A/a.		
	Your's faithfully,  6/7/13 ( Dinesh Prasad Singh ) Regional Officer.	
Memo.....	Dhanbad, dated.....	
Copy to: The Member Secretary, Jharkhand State Pollution Control Board for information & enclose a copy of the map for necessary action.		
Encl-A/a.		
	(Dinesh Pd. Singh) Regional Officer.	

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**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](mailto:cgmenv.cil@gov.in), Web: [www.coalindia.in](http://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.

मुख्यप्रबंधक/पर्यावरण  
सी. आई. एल.,

संलग्न : उपर्युक्त

सी. आई. एल.  
4/1/16



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**भारत कोकिंग 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-in-charge 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)

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- 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.
- Accommodation , travel , local transport, other incidental cost and ancillary 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), SO<sub>2</sub>, NO<sub>x</sub>, 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 Coalfields.

**B) Emission Inventory related of Jharia Coalfields along with area up to 10 Km from the periphery / boundary of BCCL mines**

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- 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.

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- 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**



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- 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 INTELLECTUAL 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.

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- 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**

<b>Project Cost</b>	<b>Rs. 120 Lakhs (Rupees One Crore Twenty Lakhs Only)</b>
<b>GST @18%</b>	<b>Rs. 21.6 Lakhs (Rupees Twenty One Lakhs Sixty Thousand Only)</b>
<b>Total Cost (including GST)</b>	<b>Rs. 141.6 Lakhs (Rupees One Crore Forty One Lakhs Sixty Thousand Only)</b>
<b>Payment Terms</b>	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.)
<b>Project Duration</b>	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

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**Period: October 2020 to March 2021**

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.



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**Period: October 2020 to March 2021**

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

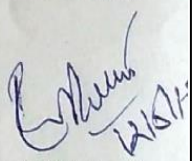
This terms of reference is given to you in duplicate. You are advised to submit your consent by returning second copy of the terms of referenceduly signed by you as a token of acceptance of the award within 7(seven) days from the date of receipt of this letter.

**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.



**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Annexure-VI**

<p>भारत कोकिंग कोल लिमिटेड एक मिनीरत्न कंपनी (कोल इंडिया लिमिटेड का एक अंग) पंजीकृत कार्यालय कोयला भवन, कोयला नगर, (धनबाद) झारखंड 826005 CIN: U10101JH1972GOI000918 Tele: 0326 2230174 FAX: 0326 2230176 ईमेल : <a href="mailto:cgmsafety@bccl.gov.in">cgmsafety@bccl.gov.in</a></p>		<p>Bharat Coking Coal Limited A Miniratna Company (A subsidiary of Coal India Ltd) Office of GM I/C(S&amp;R) Koyla Bhawan, Koyla Nagar, Dhanbad, Jharkhand-826005 CIN: U10101JH1972GOI000918 Tele: 0326 2230174 FAX: 0326 2230176 Email: <a href="mailto:cgmsafety@bccl.gov.in">cgmsafety@bccl.gov.in</a></p>
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पत्र संख्या भाकोकोलि/उप महाप्रबंधक(एस&आर)/I/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

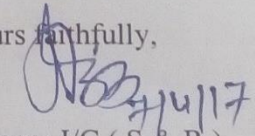
Sub:- Work –Order for “ Delineation of Surface Coal Fire and associated Land Subsidence  
in Jharia Coalfield, Jharkhand using satellite based remote – sensing techniques”

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,

Yours faithfully,  
  
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.
- ✓ 3. Sri Mithilesh Kumar, Sr.Mgr.(M), Safety.Deptt., KoylaBhawan

**DELINEATION OF SURFACE COAL FIRE AND  
LAND SUBSIDENCE IN THE JHARIA  
COALFIELD, DHANBAD, JHARKHAND FROM  
REMOTE SENSING DATA**

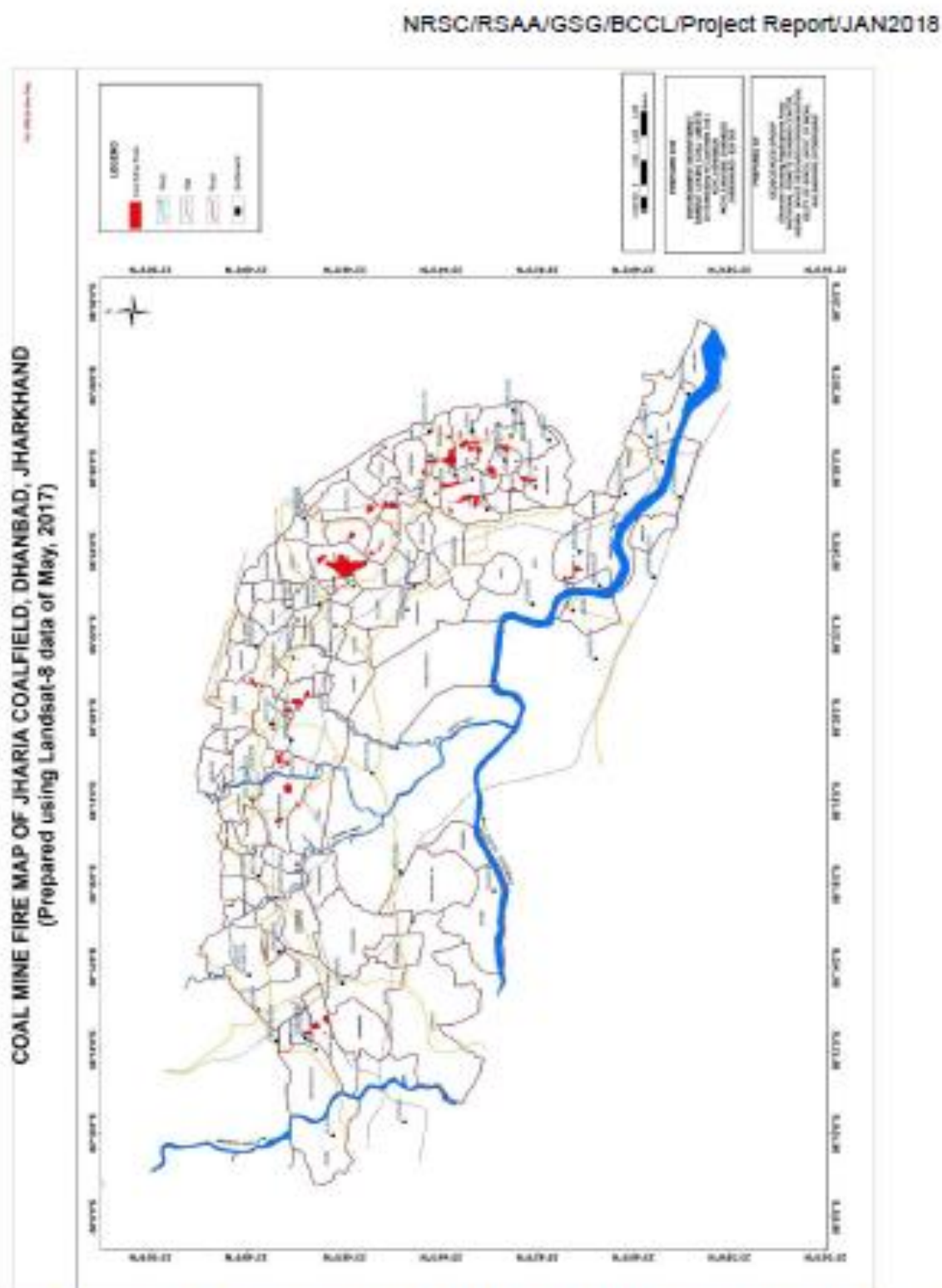
**GEOSCIENCES GROUP  
REMOTE SENSING APPLICATIONS AREA  
NATIONAL REMOTE SENSING CENTRE  
INDIAN SPACE RESEARCH ORGANISATION  
DEPT. OF SPACE, GOVT. OF INDIA  
HYDERABAD-500 037**



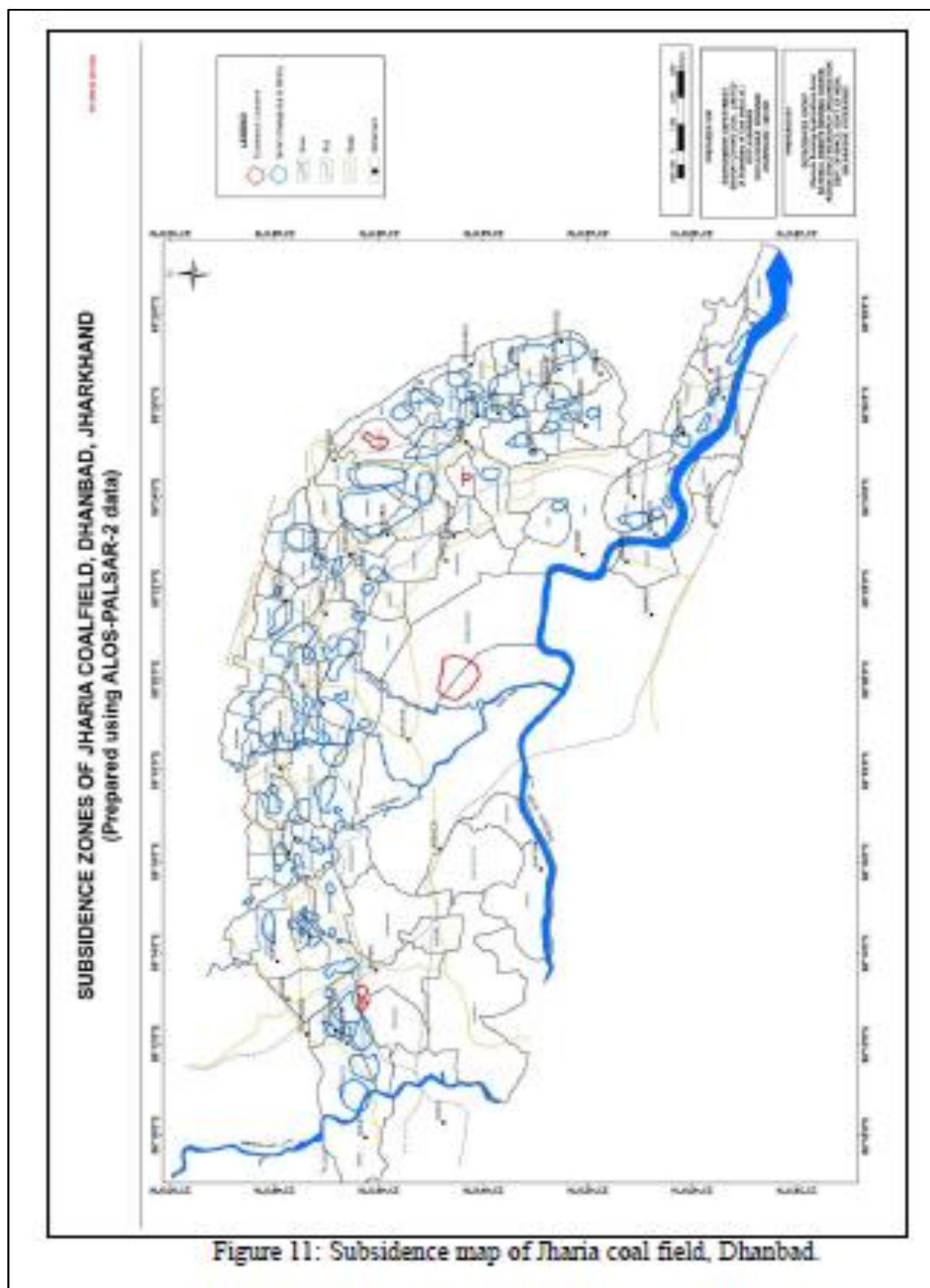
**JANUARY, 2018**



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**Period: October 2020 to March 2021**



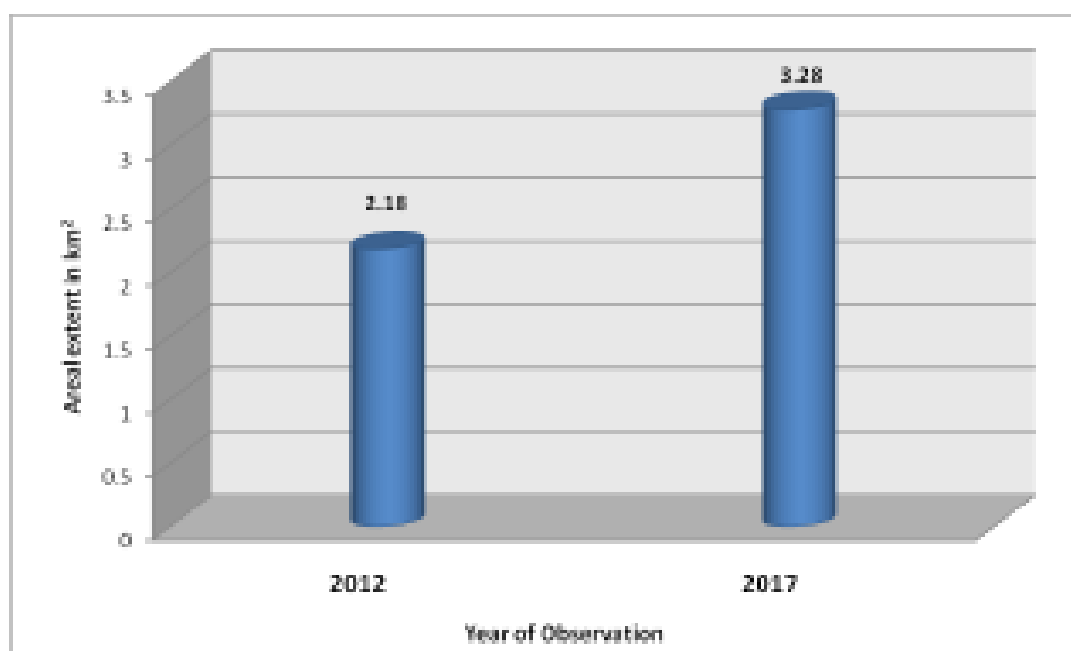
**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: October 2020 to March 2021**

NRSC/RSAA/GSG/BCCL/Project Report/JAN2018

*Note: Estimations of fire extent (in terms of sq.km.) both in 2012 and in the present 2017 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 12: Total fire area statistics**

## **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 2017** at 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 water available 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 31 million gallon/ day of water is estimated to be available as surplus/excess mine water discharge at 23 mine sites of BCCL and 07 mine sites of ECL in State of Jharkhand . The list of mines where water is available in mine voids in CCL and in mine water discharge in BCCL and ECL are enclosed at **Annexure I, Annexure II, and Annexure III respectively.**



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D. The Parties hereby agree, undertake and affirm as under:-

- i. That sampling and analysis of quality of water available at various mine sites (voids or mine discharge), to assess the suitability for potability, agricultural or other uses will be done by a third party having a recognized environmental laboratory and the 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).
- iii. 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 sites from where water is to be drawn. The cost of running these facilities would be borne by Government 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.

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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.

x. 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.

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: October 2020 to March 2021**

IN WITNESS THEREOF, both parties hereto have signed this MoU  
in two original copies in English on the date indicated above.

For Coal India Limited

For Government of Jharkhand

Department of Industries, Mines &  
Geology

1. Siddh Nath Singh, General  
Manager, CSR,  
Coal India Limited

1. Aboobacker Siddique P., I.A.S.  
Mines Commissioner,  
Mines & Geology Department,  
Government of Jharkhand.

(.....)

(.....)

Drinking Water & Sanitation  
Department

2. Ramesh Kumar,  
Engineer in Chief,  
Drinking Water & Sanitation  
Department, Government of  
Jharkhand.

(.....)

Witness 1

(Soumitra Singh)

Witness 1

(Aboobacker Siddique)  
30/11/2021  
(Aboobacker Siddique)

Witness 2

Witness 2





STRICTLY RESTRICTED  
FOR COMPANY USE ONLY

**RESTRICTED**

The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL/ Government.

**GROUNDWATER LEVEL & QUALITY REPORT**

**FOR CLUSTER OF MINES, BCCL**

(Assessment year – 2020-21)

[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)

Prepared by  
Hydrogeology Department  
Exploration Division  
CMPDI (HQ), Ranchi

**MARCH – 2021**

Job no - 200419012

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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#### **H. GROUND WATER LEVEL OF CLUSTER-VIII**

Cluster - VIII of B.C.C.L mines under administrative control of Bastacolla Area of B.C.C.L (Jharia Coalfield) is located in Dhanbad district of Jharkhand. Cluster-VIII consists of ten mines namely; Bastacolla mixed mines (OC & UG), Bera mixed mines (OC&UG), Dobari UG, Kuya mixed mines (OC&UG), Proposed Goluckdih (NC) OC mine, Ghanoodih OC mine and Kujama OC mine are under Bastacolla Area of BCCL is located in the west part of Jharia Coalfield. All above the mines are contiguous in nature and the environmental impact is overlapping in ambient environment due to cumulative effect of the mining activities. The life of the project works out upto 25 years considering annual target production of 6.383 MTPA (toposheet no. 73 I/5 and I/6).

The present leasehold area of Cluster-VIII is 1331.95 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.

Monitoring 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 done in the months of May'20, August'20, and Nov'20 and January'21, the Ground water level data enclosed in the table below:

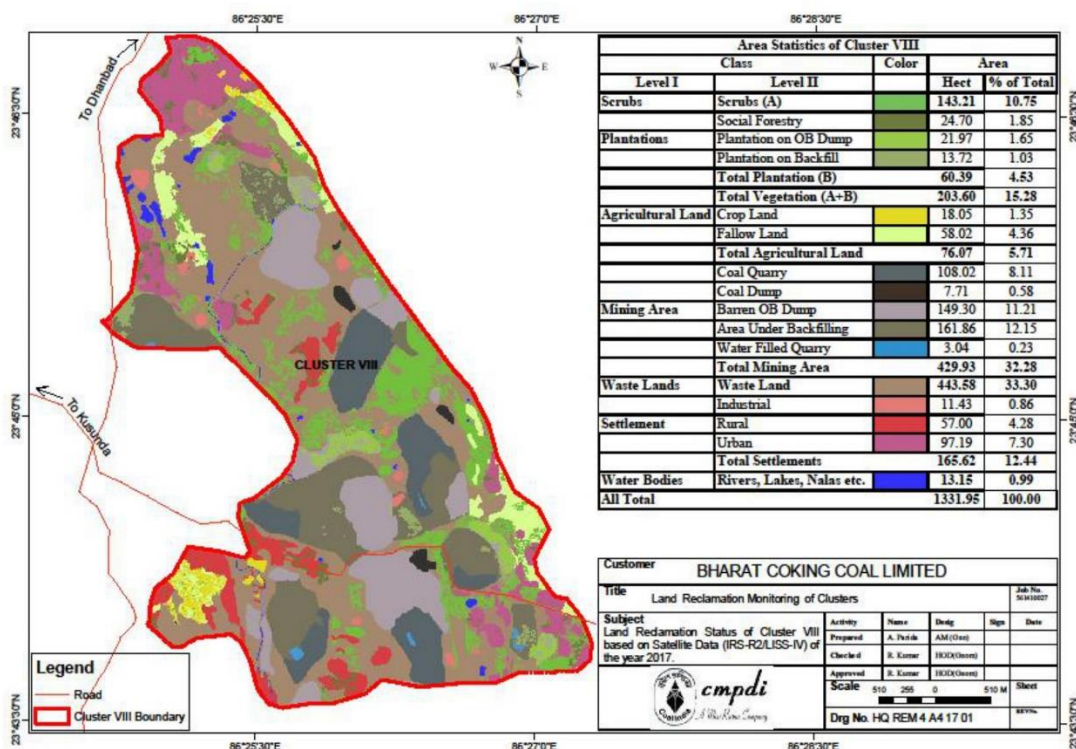
Sl No.	Well No.	Location	Water level (bgl in meters)											
			2020-21				2019-20				2018-19			
			May	Aug	Nov	Jan	May	Aug	Nov	Jan	Feb	May	Aug	Nov
1	D-8	Alokdiha	5.83	1.70	2.75	3.20	4.80	1.95	2.85	4.25	3.20	5.65	1.65	1.85
2	D43	Alagdiha	6.60	2.31	2.55	3.05	7.35	3.55	2.70	4.25	3.05	7.15	2.90	3.45
3	D49	Galucdih	3.25	1.41	1.65	1.98	1.75	0.60	1.50	1.25	1.98	3.45	1.45	2.45
4	D51	Chankuiya	8.45	6.03	5.70	7.35	9.95	8.05	5.75	7.75	8.26	10.93	4.80	7.10
<b>Average WL (bgl)</b>			6.03	2.86	3.16	3.90	5.96	3.54	3.20	4.38	4.12	6.80	2.70	3.71

#### **LAST THREE-YEAR ASSESSMENT:**

Pre-monsoon GW Level (m): Min – 1.75 m      Max – 10.93 m  
 Post-monsoon GW Level (m): Min – 1.50 m      Max – 5.75 m

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**LAND USE / LAND COVER MAP OF THE CLUSTER-VIII MINES, BCCL**



Sl no	Land Use Details	Existing (sq. meter)	Proposed (sq. meter)	Grand Total (sq. meter)
1	Green Belt Area	279.69 x 10 <sup>4</sup>	279.69 x 10 <sup>4</sup>	279.69 x 10 <sup>4</sup>
2	Open Land	886.66 x 10 <sup>4</sup>	886.66 x 10 <sup>4</sup>	886.66 x 10 <sup>4</sup>
3	Road/ Paved Area	97.19 x 10 <sup>4</sup>	97.19 x 10 <sup>4</sup>	97.19 x 10 <sup>4</sup>
4	Rooftop area of building/ sheds	68.43 x 10 <sup>4</sup>	68.43 x 10 <sup>4</sup>	68.43 x 10 <sup>4</sup>
5	Total	1331.95 x 10 <sup>4</sup>	1331.95 x 10 <sup>4</sup>	1331.95 x 10 <sup>4</sup>

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#### 4.0 GROUND WATER LEVEL SCENARIO

The summarized water level data of all clusters given in **Table – 7**.

**Table –7: Groundwater level data Cluster-wise**

Sl. No.	Cluster of BCCL	No. of Monitoring Wells	Water level fluctuation Below ground level (May, Aug, Nov'20 & Jan'21)	Avg. Fluctuation (in meters) during 2020-21	Geological Formation
1	I	4 nos.	0.15 to 10.00 m	2.76 m	Barakar
2	II	5 nos.	0.67 to 10.33 m	3.66 m	Barakar
3	III	5 nos.	0.32 to 10.33 m	2.95 m	Barakar
4	IV	4 nos.	0.03 to 9.25 m	3.27 m	Barakar
5	V	4 nos.	0.02 to 5.60 m	2.51 m	Barakar
6	VI	2 nos.	1.65 to 10.50 m	4.02 m	Barakar
7	VII	7 nos.	0.48 to 9.45 m	2.26 m	Barakar
8	VIII	4 nos.	1.41 to 8.45 m	2.87 m	Barakar
9	IX	6 nos.	0.30 to 9.40 m	1.53 m	Barakar
10	X	4 nos.	0.06 to 6.40 m	2.40 m	Barakar
11	XI	4 nos.	0.36 to 8.47 m	1.50 m	Barakar & Barren Measure
12	XIII	6 nos.	0.20 to 8.92 m	3.60 m	Raniganj
13	XIV	3 nos.	0.77 to 7.55 m	2.35 m	Raniganj
14	XV	3 nos.	0.85 to 4.88 m	1.20 m	Barakar & Barren Measure
15	XVI	3 nos.	0.70 to 5.90 m	0.75 m	Barakar

Depth to water level (in bgl) values described that water level goes down to maximum 10.50 m during pre-monsoon'2020 and maximum upto 8.60 m during post-monsoon'2020. Un-confined aquifer 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–VII**. Water Table contour map and Depth to water level map shown in **Plate-IV & V**.

Monitoring groundwater (quantity & quality) to assess the present condition and resource has done regularly in the coalfield areas. Well hydrographs (**Annexure–VI and VII**) are prepared and studied to identify potentially adverse trends so that appropriate action can protect groundwater resource. Hydrograph trend analysis of CGWB monitoring wells and CMPDI observation wells, reveals decline



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trends in both Pre and Post-monsoon GW level trends (max. upto 0.55 cm/year in Cluster-I, Cluster-V and Cluster-VII) but no significant decline trend (>1.0 m/year) 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 (**Plate-II**) with collection points details (dug wells) given in **Annexure-V** and Quality is given in **Annexure-VII**.

#### **5.0 GROUND WATER QUALITY**

The ground water sample of the study area (15 nos. of Cluster of mines, BCCL) collected from dug wells and analyzed. Fifteen ground water samples (GW-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15 & 16) analyzed during the month of June'2020 at CMPDI, RI-II, Dhanbad. The water sampling details given in **Annexure-V** and Water sample locations shown in **Plate-II**. The water quality data enclosed in **Annexure-VII**.

The study of the variations in water quality parameters described below:

The pH of the groundwater samples varies between 7.81 (GW-6) to 8.21 (GW-3), the pH is within the IS 10500 limit of drinking water standard.

The mineral constituents dissolved in water constitute the dissolved solids. The total dissolve solids vary from 178 (GW-11) to 764 mg/l (GW-5), the TDS values are above the IS 10500 standards of drinking water.

The alkalinity of the water samples varies from 76 (GW-6) to 152 mg/l (GW-11) and are within the stipulated standard of (200 mg/l) drinking water. The concentrations of calcium in the water samples vary from 32 (GW-11) to 180 mg/l (GW-15) and are **slightly above** the permissible limit (75 mg/l) of drinking water standards. The total hardness ranges between 148 (GW-8) to 680 mg/l (GW-5) and the value of total hardness in water samples are **above** the permissible limit (200 mg/l). The sulphate ranges between 38 (GW-8) to 178 mg/l (GW-13) and the value of sulphate in water sample are within the permissible limit (200 mg/l). The Iron, Copper, Manganese, Lead, Zinc and Chromium concentration in the water samples found to be below the upper ISI limits for drinking water.

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: October 2020 to March 2021**

**Table-8B: Cluster wise Groundwater development scenario**

Cluster/ Area	Adminis- trative Blocks/Stage Of GW Extraction	Total Water demand (cum/day)				Avg. GW level (bgl in m) 2020		GW level declining trend 2005-2020		Remarks
		Mine Discharge + BH pumping	Surface Water Source	Total Use (Domestic + Industrial)	Excess Or other use	Pre- monsoon	Post- monsoon	Pre- monsoon	Post- monsoon	
Cluster-I	Bermo (SOD: Over- exploited)	2173 (2065+108)	NIL	2112 (1698+414)	61	5.46	2.69	YES	YES	Recharge structure needed
Cluster-II	Baghmara	8350	Jamunia river	6737 (2755+3982)	1613	5.83	2.17	NO	NO	Excess mine water needed to be utilized
Cluster-III	(SOD: Critical)	12760 (10960+1800)	NIL	8946 (7849+1097)	3814	4.91	1.96	NO	NO	
Cluster-IV		5900	MADA	5100 (3605+1495)	800	5.52	2.25	NO	NO	
Cluster-V		12690 (11025+1665)	MADA	11063 (5710+5353)	1897	4.18	1.67	YES	YES	
Cluster-VI	Dhanbad	4150	MADA	4150 (1664+2486)	0.0	7.50	3.49	YES	NO	--
Cluster-VII	(SOD: Over- exploited)	21565	MADA	20826 (17596+3230)	739	5.56	3.71	YES	YES	Excess mine water needed to be utilized water
Cluster-VIII	Jharia	9320	MADA	5294 (3730+1564)	4026	6.03	3.16	NO	NO	
Cluster-IX	(SOD: Over- exploited)	12980	MADA	9358 (4549+4809)	3622	5.81	4.28	NO	NO	
Cluster-X		11825	Damodar river	6201 (4255+1946)	5624	5.69	3.29	YES	NO	
Cluster-XI	Dhanbad (SOD: Over- exploited)	24960	MADA & DVC	19425 (14015+5410)	5535	3.40	1.91	NO	NO	
Cluster-XIII	Baghmara	4815	Damodar river	4815 (4679+136)	0.0	6.80	3.22	NO	NO	--
Cluster-XIV	(SOD: Critical)	2600	NA	2550 (2412+138)	50	5.42	3.08	NO	NO	--
Cluster-XV		6200	NA	5941 (4600+1341)	259	3.83	2.63	NO	NO	--
Cluster-XVI	Nirsa (SOD: Safe)	1910	DVC (Barakar river)	1730 (1380+350)	180	3.18	3.13	NO	NO	--

MADA – Mineral Area Development Authority, Jharkhand, Dhanbad (payment basis).

DVC – Damodar Valley Corporation, Maithon/Panchet, Jharkhand (payment basis).

Transportation Plan for Conveyor



**cmpdi**  
A Mini Ratna Company

सेंट्रल माईन प्लानिंग एण्ड डिजाइन इंस्टीट्यूट लिमिटेड  
( कोल इंडिया लिमिटेड की अनुबंधी कंपनी / भारत सरकार की एक लोक उपक्रम )  
पंजीकृत कार्यालय : गोंदवाना प्लेस , कांके रोड , राँची - 834031 ( झारखण्ड ) भारत  
क्षेत्रीय संस्थान-2, पत्रा. बीसीसीएल टाउनशिप, कोयला नगर, धनबाद 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 )  
Regional Institute-II, P.O. BCCL Township, Koylanagar, Dhanbad 826005(Jharkhand) India  
Corporate Identity No. U14292JH1975GOI001223

पत्रांक: आर.आई.-2/पर्यावरण/एम-30/1150

दिनांक: 20.06.2015

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



**विषय: 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:

- 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
- 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.

Sd/- Anantashu 26  
for compliance purpose.

23/6/15

भवदीय  
(वि. कु. सिन्हा)  
क्षेत्रीय निदेशक



☎ : (+91) 0326-2230850 फैक्स / Fax : (+91) 0326-2230500  
वेब साइट / Website : [www.cmpdi.co.in](http://www.cmpdi.co.in)  
ईमेल / Email : [ri2@cmpdi.co.in](mailto:ri2@cmpdi.co.in)

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**Period: October 2020 to March 2021**

**Annexure-X**

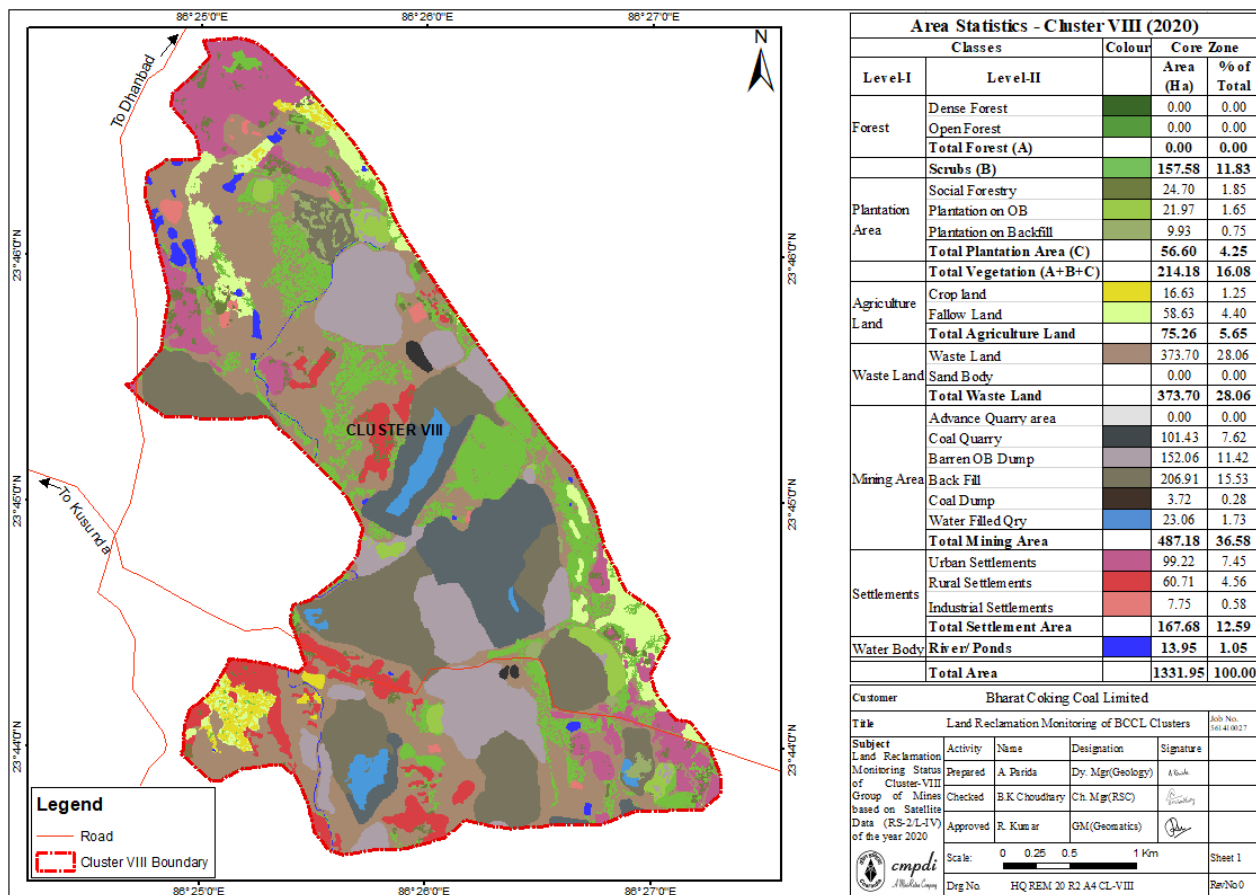
**R&R of PAFs**

<b>Sl. No.</b>	<b>Name of Colliery</b>	<b>No of PAFs Rehabilitated/Shifted till date</b>
1	Bastacolla Colliery	NIL
2	Bera Colliery	NIL
3	Dobari Colliery	139
4	Ghanoodih Colliery	572
5	Kuya Colliery	342
6	Kujama Colliery	216
<b>Total</b>		<b>1269</b>

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**Annexure-XI**

**Landuse Map generated from Remote Sensing Data**



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**Annexure-XII**

**Corporate Environmental Policy** ([http://www.bcclweb.in/environment/CEP\\_04.11.2019.pdf](http://www.bcclweb.in/environment/CEP_04.11.2019.pdf))

**Item No. 351.3D**

**Quarterly Review for the Quarter October to December, 2018 & January to March, 2019 on Safety, Environment & Quality as per the directive of MoC letter no. 23/3/2015-ASO/BA dated 26.04.2017.**

Board reviewed the quarterly report of October to December 2018 and January to March 2019 on Safety, Environment & Quality as per the directive of MoC letter no. 23/3/2015-ASO/BA dated 26.04.2017.

**Item No. 351.4G**

**Corporate Environment Policy (CEP) of Bharat Coking Coal Limited.**

**Background**

Coal India Ltd. had brought out its Corporate Environment Policy (CEP) in 2012 Based on CIL Environment Policy 2012, incorporating the Jharia Master Plan, CEP of BCCL was approved by 285<sup>th</sup> BCCL board on 21.04.2012 (ANNEXURE C of the agenda note). As per the provisions of the policy, it is to be revised every 05 years as per which the policy would have been revised in 2017. However, there was delay in revising the policy at CIL's end due to which there is a delay in revising BCCL's CEP. CIL has revised its Corporate Environment Policy and approved in its 377<sup>th</sup> CIL Board Meeting dated 20<sup>th</sup> Dec., 2018(ANNEXURE D of the agenda note).

The CAG during its exit meeting held on 16.11.2018 also pointed out for the need of revising BCCL's Corporate Environment Policy adopted in 2012(ANNEXURE E of the agenda note). Modifying CIL's CEP to suit BCCL's prevailing conditions, the Corporate Environment Policy of BCCL has been revised.

Two versions of Policy was attached herewith out of which any one may be approved as deemed suitable by the Board.

- a. An abridged version of the policy as adopted earlier by BCCL in 2012. (ANNEXURE A of the agenda note)
- b. A detailed version of the policy similar to the CEP, 2018 of CIL with modifications suited to BCCL's condition. (ANNEXURE B of the agenda note)

**Decision:**

After detailed deliberation the Corporate Environment Policy, 2018 of CIL was approved by the Board.

Board further directed that the Policy as adopted above to suit the conditions in BCCL should be modified with information to Coal India.

**Certified to be True Copy**

  
**B.K. Parul**  
Company Secretary  
Bharat Coking Coal Limited  
Ranchi Bhawan  
Jharkhand  
208005



**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: October 2020 to March 2021**

**Annexure-XIII**

**Air Quality Data**

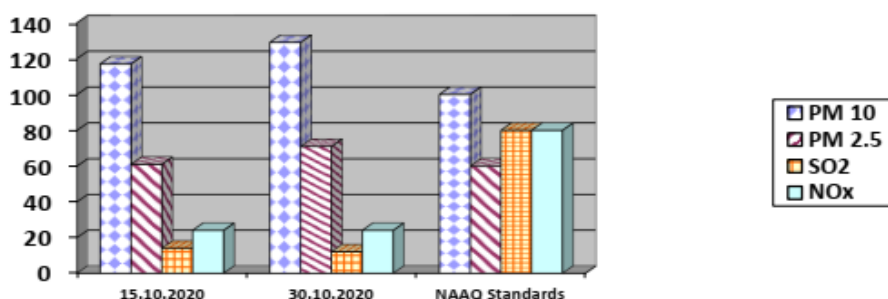
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**AMBIENT AIR QUALITY DATA**

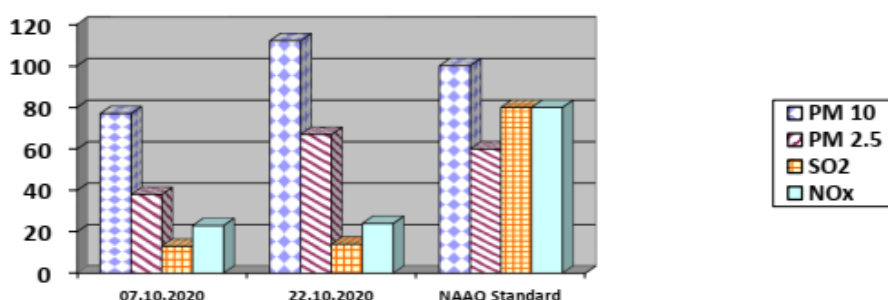
**Cluster-VIII, Bharat Coking Coal limited**    Month: **OCT. 2020**


Year: **2020-21.**

Station Name: Dobari UGP (A11)		Zone: Core		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	15.10.2020	117	61	14	24
2	30.10.2020	129	71	12	24
	NAAQ Standards	100	60	80	80




Station Name: A13 – Jeenagora		Zone: Buffer		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	07.10.2020	77	38	13	23
2	22.10.2020	112	67	14	24
	NAAQ Standard	100	60	80	80



  
 Analysed By  
 JSA/SA/SSA

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

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad



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**Period: October 2020 to March 2021**

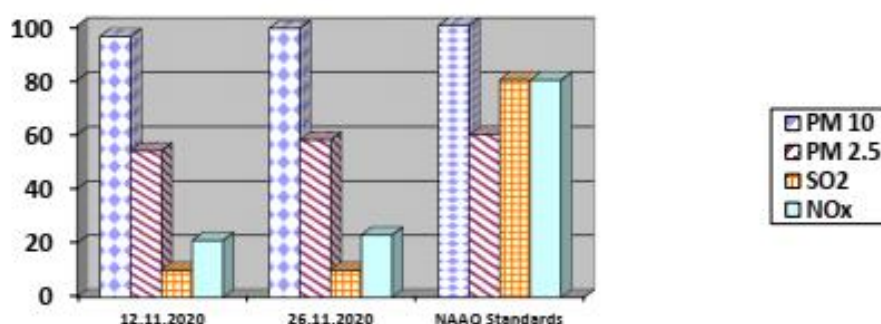
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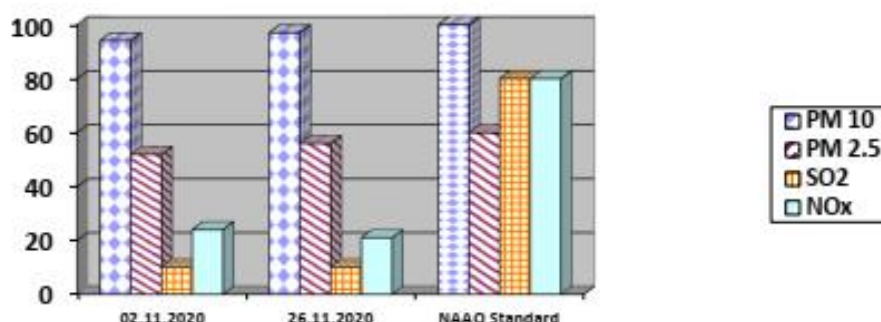
**Cluster-VIII, Bharat Coking Coal limited Month: NOV. 2020**

**Year: 2020-21.**

Station Name: Dobari UGP (A11)		Zone: Core		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	12.11.2020	96	54	10	21
2	26.11.2020	99	58	10	23
	NAAQ Standards	100	60	80	80



Station Name: A13 – Jeenagora		Zone: Buffer		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	02.11.2020	94	52	10	24
2	26.11.2020	97	56	10	21
	NAAQ Standard	100	60	80	80



*Signature*  
 Analysed By  
 JSA/SA/SSA

*Signature*  
 Checked By  
 Lab In Charge  
 RI-2, CMPDL, Dhanbad

*Signature*  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDL, Dhanbad

JOB NO. 200316028

Cluster -VIII, BCCL Environmental Monitoring Report

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**Period: October 2020 to March 2021**

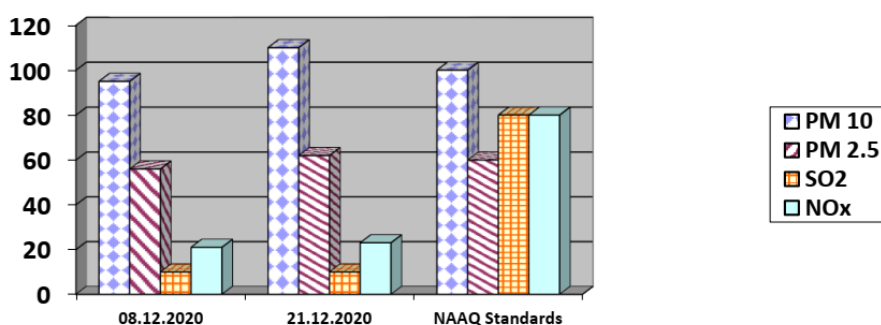
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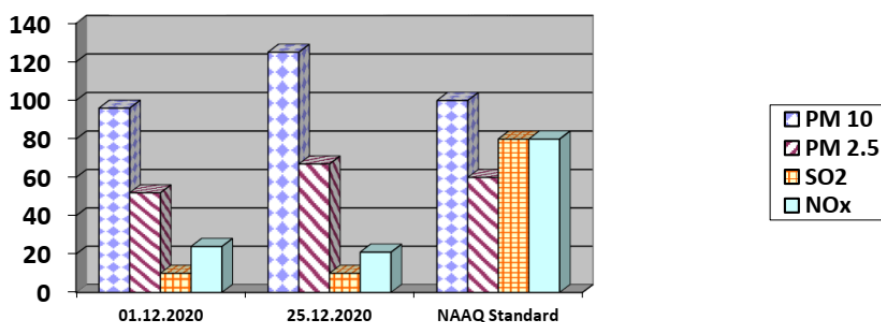
**Cluster-VIII, Bharat Coking Coal limited Month: DEC. 2020**

**Year: 2020-21.**

Station Name: Dobari UGP (A11)		Zone: Core		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	08.12.2020	95	56	10	21
2	21.12.2020	110	62	10	23
	NAAQ Standards	100	60	80	80



Station Name: A13 – Jeenagora		Zone: Buffer		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	01.12.2020	96	52	10	24
2	25.12.2020	125	67	10	21
	NAAQ Standard	100	60	80	80



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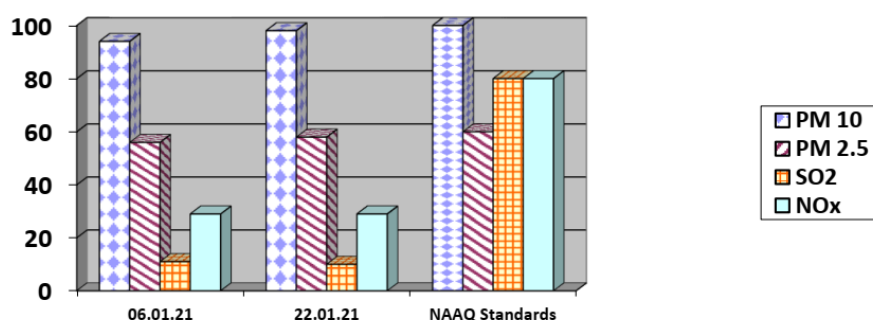
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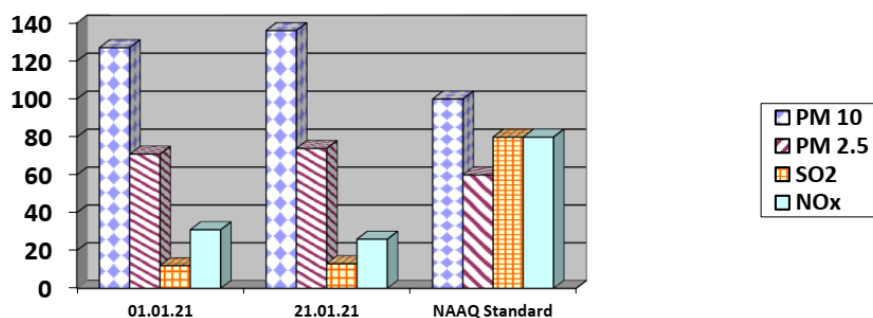
**Cluster-VIII, Bharat Coking Coal limited Month: JAN. 2021**

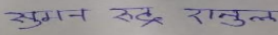
**Year: 2020-21.**

Station Name: Dobari UGP (A11)		Zone: Core		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	06.01.21	94	56	11	29
2	22.01.21	98	58	10	29
	NAAQ Standards	100	60	80	80




Station Name: A13 – Jeenagora		Zone: Buffer		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	01.01.21	127	71	12	31
2	21.01.21	136	74	13	26
	NAAQ Standard	100	60	80	80



  
 Analysed By  
 JSA/SA/SSA

  
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 Lab In Charge  
 RI-2, CMPDI, Dhanbad

  
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Cluster –VIII, BCCL Environmental Monitoring Report

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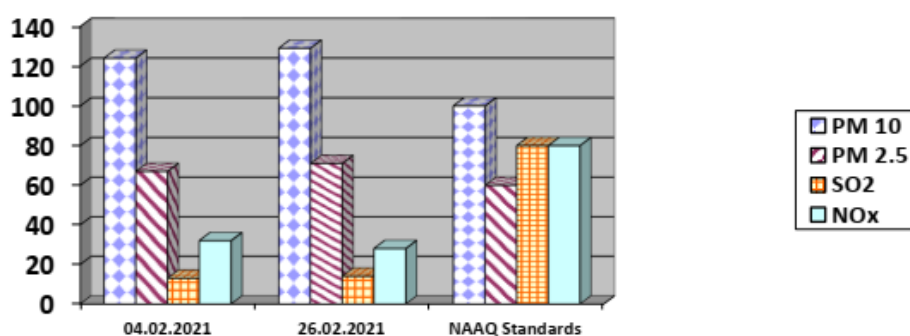
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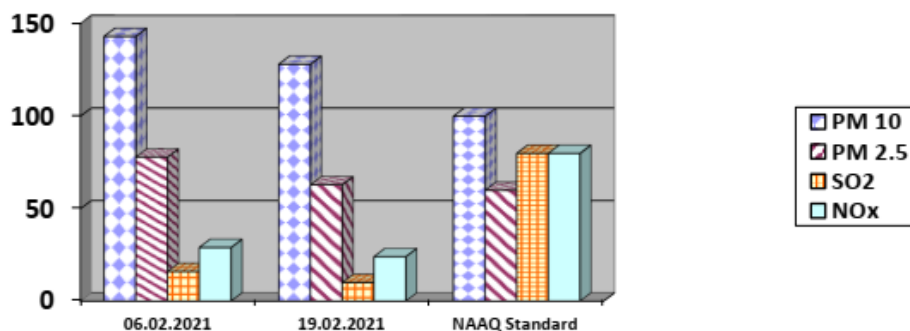
**Cluster-VIII, Bharat Coking Coal limited Month: FEB. 2021**

**Year: 2020-21.**

Station Name: Dobari UGP (A11)		Zone: Core		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	04.02.2021	124	67	13	32
2	26.02.2021	129	71	14	28
	NAAQ Standards	100	60	80	80




Station Name: A13 – Jeenagora		Zone: Buffer		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	06.02.2021	143	78	16	29
2	19.02.2021	128	63	10	24
	NAAQ Standard	100	60	80	80



  
 Analysed By  
 JSA/SA/SSA

  
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 Lab In Charge  
 RI-2, CMPDI, Dhanbad

  
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**Period: October 2020 to March 2021**

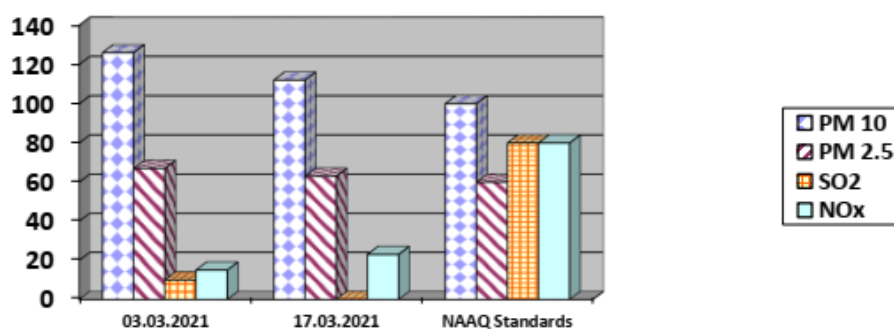
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**AMBIENT AIR QUALITY DATA**

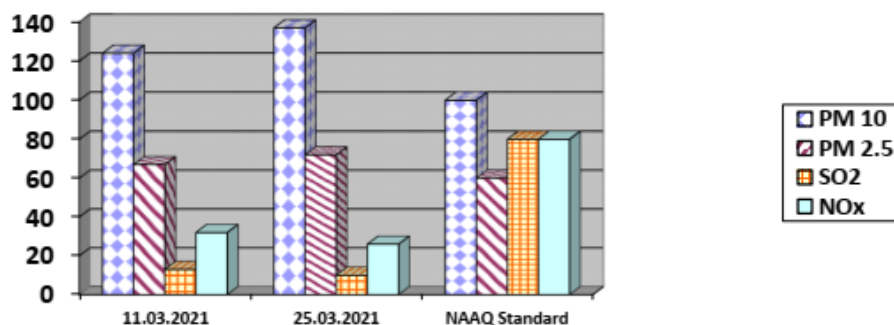
**Cluster-VIII, Bharat Coking Coal limited Month: MAR. 2021**

**Year: 2020-21.**

Station Name: Dobari UGP (A11)		Zone: Core		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	03.03.2021	126	67	10	15
2	17.03.2021	112	63	<10	23
	NAAQ Standards	100	60	80	80



Station Name: A13 – Jeenagora		Zone: Buffer		Category: Industrial	
Sl. No.	Dates of sampling	PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	11.03.2021	124	67	13	32
2	25.03.2021	137	72	10	26
	NAAQ Standard	100	60	80	80



अनुमानित राशियाँ  
 Analysed By  
 JSA/SA/SSA

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

अनुमोदित  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

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Cluster –VIII, BCCL Environmental Monitoring Report

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**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
<b>III</b> Coal mines located in the coal fields of <ul style="list-style-type: none"> <li>• Jharia</li> <li>• Raniganj</li> <li>• Bokaro</li> </ul>	Suspended Particulate Matter (SPM)	Annual Average * 24 hours **	500 $\mu\text{g}/\text{m}^3$  700 $\mu\text{g}/\text{m}^3$	- High Volume Sampling (Average flow rate not less than 1.1
	Respirable Particulate Matter (size less than 10 $\mu\text{m}$ ) (RPM)	Annual Average * 24 hours **	250 $\mu\text{g}/\text{m}^3$  300 $\mu\text{g}/\text{m}^3$	Respirable Particulate Matter sampling and analysis
	Sulphur Dioxide ( $\text{SO}_2$ )	Annual Average * 24 hours **	80 $\mu\text{g}/\text{m}^3$  120 $\mu\text{g}/\text{m}^3$	1.Improved wet and Gaeke method 2.Ultraviolet fluorescence
	Oxide of Nitrogen as $\text{NO}_2$	Annual Average * 24 hours **	80 $\mu\text{g}/\text{m}^3$  120 $\mu\text{g}/\text{m}^3$	1. Jacob & Hochheiser Modified (Na-Arsenic) Method 2. Gas phase Chemiluminescence

Note:

\* Annual Arithmetic mean for the measurements taken in a year, following the guidelines for frequency of sampling laid down in clause 2.

\*\* 24 hourly/8 hourly values shall be met 92% of the time in a year. However, 8% of the time it may exceed but not on two consecutive days.



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**Annexure-XIV**

**Noise Monitoring Data**

**NOISE LEVEL QUALITY MONITORING**

**4.1 Location of sampling sites**

1. Dobari UGP (N11)
2. Jeenagora (N13)
3. Huririladih UGP (N28)
4. Kusmatand Village (N12)

**Methodology of sampling and analysis**

Noise level measurements in form of 'L<sub>EQ</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**

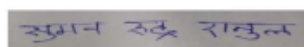
Ambient noise levels were recorded during day time and the observed values were compared with standards prescribed by MoEF&CC. The results of Noise levels recorded during day time on fortnightly basis are presented in tabular form along with the applicable standard permissible limits. The observed values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

**NOISE LEVEL DATA**

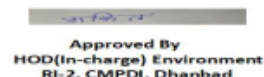
Name of the Project: <b>Cluster -VIII</b>			Month: <b>OCT.2020</b>		
Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Dobari UGP (N11)	Industrial area	15.10.2020	54.3	75
2	Dobari UGP (N11)	Industrial area	30.10.2020	56.4	75
3	Kusmatand Village (N12)	Residential area	08.10.2020	54.6	55
4	Kusmatand Village (N12)	Residential area	22.10.2020	51.3	55
5	Jeenagora (N13)	Industrial area	07.10.2020	58.7	75
6	Jeenagora (N13)	Industrial area	22.10.2020	54.6	75
7	Huririladih UGP (N28)	Industrial area	05.10.2020	62.3	75
8	Huririladih UGP (N28)	Industrial area	23.10.2020	63.1	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(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

JOB NO. 200316028

Cluster –VIII, BCCL Environmental Monitoring Report

### NOISE LEVEL QUALITY MONITORING

#### 4.1 Location 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>EQ</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

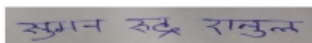
Ambient noise levels were recorded during day time and the observed values were compared with standards prescribed by MoEF&CC. The results of Noise levels recorded during day time on fortnightly basis are presented in tabular form along with the applicable standard permissible limits. The observed values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

### NOISE LEVEL DATA


Name of the Project: <b>Cluster -VIII</b>			Month: <b>NOV.2020</b>		
Sl. 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	12.11.2020	54.3	75
2	Dobari UGP (N11)	Industrial area	26.11.2020	56.4	75
3	Kusmatand Village (N12)	Residential area	02.11.2020	52.6	55
4	Kusmatand Village (N12)	Residential area	18.11.2020	51.3	55
5	Jeenagora (N13)	Industrial area	02.11.2020	58.7	75
6	Jeenagora (N13)	Industrial area	26.11.2020	54.6	75
7	Hurrladih UGP (N28)	Industrial area	03.11.2020	62.3	75
8	Hurrladih UGP (N28)	Industrial area	16.11.2020	63.1	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,

  
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 JSA/SA/SSA

  
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 Lab In Charge  
 RI-2, CMPDI, Dhanbad

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

### NOISE LEVEL QUALITY MONITORING

#### 4.1 Location 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>EQ</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

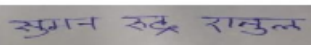
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### NOISE LEVEL DATA

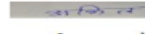
Name of the Project: <b>Cluster -VIII</b>			Month: <b>DEC.2020</b>		
Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Dobari UGP (N11)	Industrial area	08.12.2020	56.2	75
2	Dobari UGP (N11)	Industrial area	21.12.2020	60.3	75
3	Kusmatand Village (N12)	Residential area	04.12.2020	54.5	55
4	Kusmatand Village (N12)	Residential area	25.12.2020	52.6	55
5	Jeenagora (N13)	Industrial area	01.12.2020	53.2	75
6	Jeenagora (N13)	Industrial area	25.12.2020	54.3	75
7	Hurriladih UGP (N28)	Industrial area	03.12.2020	57.3	75
8	Hurriladih UGP (N28)	Industrial area	18.12.2020	55.4	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(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

### NOISE LEVEL QUALITY MONITORING

#### 4.1 Location 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>eq</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

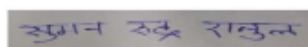
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### NOISE LEVEL DATA

Name of the Project: <b>Cluster -VIII</b>			Month: <b>JAN. 2021</b>		
Sl. 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	06.01.21	60.3	75
2	Dobari UGP (N11)	Industrial area	22.01.21	59.7	75
3	Kusmatand Village (N12)	Residential area	01.01.21	54.6	55
4	Kusmatand Village (N12)	Residential area	21.01.21	52.1	55
5	Jeenagora (N13)	Industrial area	01.01.21	62.5	75
6	Jeenagora (N13)	Industrial area	21.01.21	63.2	75
7	Hurriladih UGP (N28)	Industrial area	04.01.21	55.4	75
8	Hurriladih UGP (N28)	Industrial area	18.01.21	56.2	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.*

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 Analysed By  
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 RI-2, CMPDI, Dhanbad

  
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 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

## NOISE LEVEL QUALITY MONITORING

### 4.1 Location 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>EQ</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<sub>EQ</sub> are presented. The observed values at all the monitoring locations are found to be within permissible limits.

## NOISE LEVEL DATA

Name of the Project: <b>Cluster -VIII</b>			Month: <b>FEB. 2021</b>		
Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	<i>*Permissible Limit of Noise level in dB(A)</i>
1	Dobari UGP (N11)	Industrial area	04.02.2021	50.1	75
2	Dobari UGP (N11)	Industrial area	26.02.2021	53.1	75
3	Kusmatand Village (N12)	Residential area	06.02.2021	51.2	55
4	Kusmatand Village (N12)	Residential area	19.02.2021	51.6	55
5	Jeenagora (N13)	Industrial area	06.02.2021	56.2	75
6	Jeenagora (N13)	Industrial area	19.02.2021	53.8	75
7	Hurriladih UGP (N28)	Industrial area	11.02.2021	56.4	75
8	Hurriladih UGP (N28)	Industrial area	22.02.2021	57.3	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

  
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 Lab In Charge  
 RI-2, CMPDI, Dhanbad

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad



### NOISE LEVEL QUALITY MONITORING

#### 4.1 Location 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>EQ</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

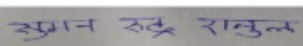
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### NOISE LEVEL DATA


Name of the Project: <b>Cluster -VIII</b>			Month: <b>MAR. 2021</b>		
Sl. 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	03.03.2021	57	75
2	Dobari UGP (N11)	Industrial area	17.03.2021	56.1	75
3	Kusmatand Village (N12)	Residential area	11.03.2021	54.2	55
4	Kusmatand Village (N12)	Residential area	25.03.2021	53.8	55
5	Jeenagora (N13)	Industrial area	11.03.2021	57.7	75
6	Jeenagora (N13)	Industrial area	25.03.2021	57.4	75
7	Hurriladih UGP (N28)	Industrial area	02.03.2021	56.2	75
8	Hurriladih UGP (N28)	Industrial area	18.03.2021	56.1	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  
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 Checked By  
 Lab In Charge  
 RI-2, CMPDI, Dhanbad

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

**Water Quality Data**

10

**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)**

Name of the Cluster: Cluster -VIII		Month: OCT.2020	Name of the Station: Mine Discharge of Dobari UGP	
Sl. No.	Parameters	MW8 First Fortnight 05.10.2020	MW8 Second Fortnight 27.10.2020	As per MOEF General Standards for schedule VI
1	Total Suspended Solids	35	45	100 (Max)
2	pH	7.81	7.98	5.5 - 9.0
3	Oil & Grease	<2.0	<2.0	10 (Max)
4	COD	56	44	250 (Max)

All values are expressed in mg/lit except pH.

  
 Analysed By  
 JSA/SA/SSA

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

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

### 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)

Name of the Cluster: Cluster -VIII		Month: NOV.2020		Name of the Station: Mine Discharge of Dobari UGP	
Sl. No.	Parameters	MW8 First Fortnight 02.11.2020	MW8 Second Fortnight 16.11.2020	As per MOEF General Standards for schedule VI	
1	Total Suspended Solids	39	32	100 (Max)	
2	pH	7.43	7.88	5.5 - 9.0	
3	Oil & Grease	<2.0	<2.0	10 (Max)	
4	COD	24	20	250 (Max)	

All values are expressed in mg/lit except pH.

  
 Analysed By  
 JSA/SA/SSA

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

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

## 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)

Name of the Cluster: Cluster -VIII		Month: DEC.2020		Name of the Station: Mine Discharge of Dobari UGP	
Sl. No.	Parameters	MW8 First Fortnight 07.12.2020	MW8 Second Fortnight 28.12.2020	As per MOEF General Standards for schedule VI	
1	Total Suspended Solids	26	39	100 (Max)	
2	pH	7.65	7.84	5.5 - 9.0	
3	Oil & Grease	<2.0	<2.0	10 (Max)	
4	COD	16	16	250 (Max)	

All values are expressed in mg/lit except pH.

  
 Analysed By  
 JSA/SA/SSA

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

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

10

### 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)*

Name of the Cluster: <b>Cluster -VIII</b>		Month: <b>JAN. 2021</b>	Name of the Station: <b>Mine Discharge of Dobari UGP</b>	
Sl. No.	Parameters	MW8 First Fortnight 04.01.2021	MW8 Second Fortnight 25.01.2021	As per MOEF General Standards for schedule VI
1	Total Suspended Solids	44	36	100 (Max)
2	pH	7.98	8.06	5.5 - 9.0
3	Oil & Grease	<2.0	<2.0	10 (Max)
4	COD	24	20	250 (Max)

All values are expressed in mg/lit except pH.

  
 Analysed By  
 JSA/SA/SSA

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

  
 Approved By  
 HOD(In-charge) Environment  
 RI-2, CMPDI, Dhanbad

JOB NO. 200316028

Cluster –VIII, BCCL Environmental Monitoring Report



## 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)*

Name of the Cluster: <b>Cluster -VIII</b>		Month: <b>FEB. 2021</b>	Name of the Station: <b>Mine Discharge of Dobari UGP</b>	
<b>Sl. No.</b>	<b>Parameters</b>	<b>MW8</b> First Fortnight	<b>MW8</b> Second Fortnight	<b>As per MOEF General Standards for schedule VI</b>
		10.02.2021	16.02.2021	
1	Total Suspended Solids	40	48	100 (Max)
2	pH	7.85	7.93	5.5 - 9.0
3	Oil & Grease	<2.0	<2.0	10 (Max)
4	COD	28	24	250 (Max)

All values are expressed in mg/lit except pH.

  
 Analysed By  
 JSA/SA/SSA

  
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 Lab In Charge  
 RI-2, CMPDI, Dhanbad

  
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 RI-2, CMPDI, Dhanbad

## 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.

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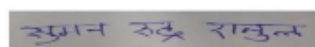
The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC. Results show that most of the parameters are within the permissible limits.

## WATER QUALITY DATA


### (EFFLUENT WATER- FOUR PARAMETERS)

Name of the Cluster: <b>Cluster -VIII</b>		Month: <b>MAR. 2021</b>		Name of the Station: <b>Mine Discharge of Dobari UGP</b>	
Sl. No.	Parameters	MW8 First Fortnight 15.03.2021	MW8 Second Fortnight 22.03.2021	As per MOEF General Standards for schedule VI	
1	Total Suspended Solids	31	39	100 (Max)	
2	pH	7.91	7.86	5.5 - 9.0	
3	Oil & Grease	<2.0	<2.0	10 (Max)	
4	COD	28	28	250 (Max)	

All values are expressed in mg/lit except pH.

  
 Analysed By  
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**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

**Annexure-XVI**

**Training**

Sl. No.	Month	Refresher Training	Initial Training	Contractual Worker	Special Training	Change of Job
1	October	42	2	0	0	0
2	November	52	1	0	22	3
3	December	80	3	34	83	1
4	January	90	2	10	0	2
5	February	83	0	18	0	0
6	March	149	0	0	96	1
<b>Total</b>		<b>496</b>	<b>8</b>	<b>62</b>	<b>201</b>	<b>7</b>

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

**Annexure-XVII**


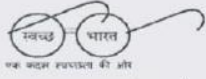
**Periodical Medical Examination**

Sl. No.	Name of Area/ Mine/ Office	October	November	December	January	February	March
1	Bastacolla Colliery	21	12	15	12	17	23
2	Bera Colliery	0	19	19	17	16	11
3	Kuya Colliery	14	24	23	18	22	17
4	Ghanoodih Colliery	0	6	1	1	1	1
5	Dobari Colliery	0	4	26	18	13	17
6	Kujama Colliery	0	0	19	0	2	0
<b>Total</b>		<b>35</b>	<b>66</b>	<b>103</b>	<b>66</b>	<b>71</b>	<b>69</b>

Note: Due to COVID-19 Pandemic, Periodical Medical Examination of the employees were impacted.

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: October 2020 to March 2021**

**Annexure-XVIII**

<p><b>Bharat Coking Coal Limited</b>  <i>(A Miniratna Company)</i>  A Subsidiary of Coal India Limited</p> <hr/> <p>Office of the General Manager,  Bastacolla Area,  Dhanbad-828111  Fax/Tel. No. 0326-2291238,  Email: cgmbastacolla@bccl.gov.in</p>	 <b>पर्यावरण विभाग</b> <b>बस्ताकोला क्षेत्र</b>	<p><b>भारत कोकिंग कोल लिमिटेड</b>  <i>(एक मिनीरत्न कंपनी)</i>  कोल इंडिया लिमिटेड का एक अंग</p> <hr/> <p>महाप्रबंधक का कार्यालय  बस्ताकोला क्षेत्र  धनबाद-८२८१११</p> <p align="center">   महप्रबं. भारत  एक कठिन हथकड़ी की ओर </p>
<p>Ref. No./पत्रांक: BCCL:BA:IX:GM:EC:19:124</p>		
<p align="right">Date/दिनांक: 17.01.2019</p>		

To  
The Municipal Comissioner  
Dhanbad Municipal Corporation  
Dhanbad

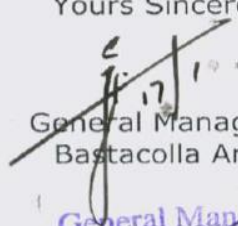
**Subject :-** Regarding Environmental Clearance of Cluster VIII Coal Mining Project of M/s Bharat Coking Coal Limited.

Dear Sir,

The Ministry of Environment, Forests & Climate Change has granted Environmental Clearance to Cluster VIII group of mines vide EC No: J-11015/ 298/ 2010-IA.II(M) dated 15.02.2013 subsequently due to change in geo-mining conditions EC has been amended on 15.06.2018. Please find enclosed herewith a copy of Environmental Clearance granted to Cluster VIII Coal Mining Project.

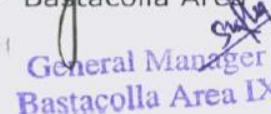
This is for your kind information.

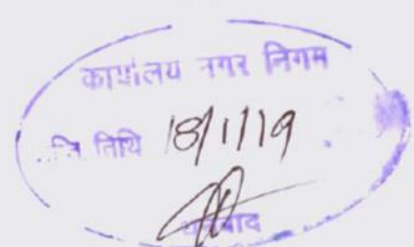
Yours Sincerely

  
General Manager  
Bastacolla Area

Encl: As above

Copt to -  
Dy. GM (Env), BCCL – For information (by e-mail)

  
General Manager  
Bastacolla Area IX

  
कार्यालय नगर निगम  
दिनांक 18/1/19



**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

**Annexure-XIX**

**Photographs of Avenue Plantation along Coal Transportation Routes/Other Roads**





**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: October 2020 to March 2021**

**Annexure-XX**

**Photographs of Eco-Restoration developed on stabilized OB Dumps**





**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

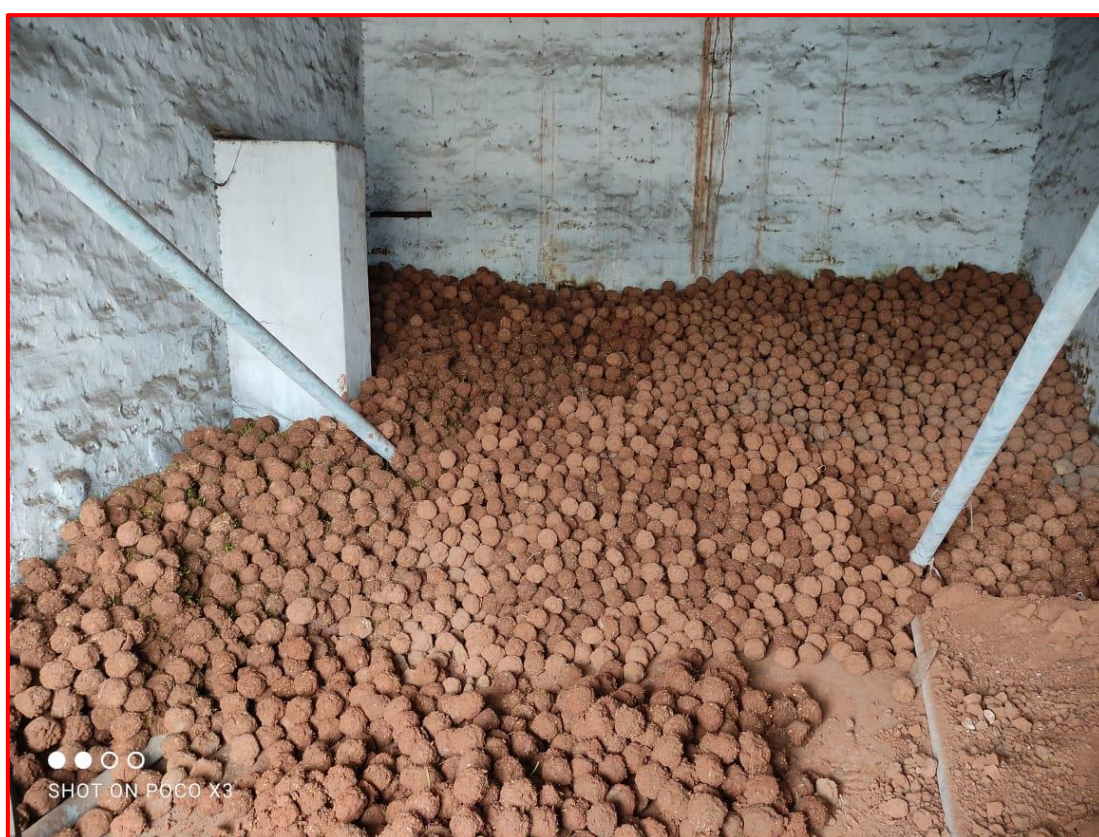




**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

**Annexure-XXI**

**Seed Ball Broadcasting for Stabilization of OB Dumps**





**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
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**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: October 2020 to March 2021**

**Annexure-XXII**

	<b>भारतकोकिंगकोललिमिटेड</b> (कोलइंडियालिमिटेडकाएकअंग) <b>BHARAT COKING COAL LIMITED</b> (A Subsidiary of Coal India Limited) Corporate Identity No. (CIN): U10101JH1972GOI000918 <b>GST no.- 20AAACB7934MFZB (JH), 19AAACB7934M2Z7 (WB)</b> Civil Engineering Department, Bastacolla Area, Dhanbad – 826 005 (JH), India. Phone: 0326-2291239, FAX: 0326-2291240, e-mail: shivrajnitkian@gmail.com
<b><u>WORK ORDER</u></b>	
Ref: BCCL/BA/ACE/WO/20-21/30	Date: 02/03/21
To, SANJAY KUMAR SHARMA M.I.G-H/28, HOUSING BOARD COLONY, DHANBAD, Dhanbad, Jharkhand, 826001. Mob No: 9431314550	
<b>Sub:</b> Installation of fixed water sprinkler system at BNR Siding with pipe line works and other associated civil works under administrative control of Rajapur/ S-Jharia OCP under Bastacolla Area.	
<b>Ref:</b> 1. eNIT ref. no.- BCCL/BA/ACE/NIT/2020-21/04 dated 28.07.2020. 2. <u>LOA Ref. :</u> BCCL/BA-IX/CIVIL/LOA/20-21/08 dated: 12.11.2020. 3. <u>Your Letter dated 03.12.2020.</u>	
Dear Sir,	
With reference to above tender notice and LOA issued as referred above, your offer to execute the subject mentioned work has been accepted by the Competent Authority for a total value of <b>Rs. 17,27,099.58 (Rupees seventeen lakhs twenty seven thousand ninety nine and paise fifty eight only)</b> which is at 6.53% (six point five three percent) below the Estimated Cost of work based on terms and conditions contained in the NIT & tender document subject to the following stipulations:-	
The award of work is with the stipulation that all terms and conditions as contained in the NIT & tender documents shall be operative.	
<ol style="list-style-type: none"><li>1. All the materials required for the work shall be arranged by you at your own cost and shall be of appropriate quality and specification as per the NIT &amp; tender documents.</li><li>2. The responsibility for the arrangement of the all equipment, tools and plants etc. required for the work lies on you.</li><li>3. Your GST no. no. as per submitted documents is 20ALCPS3651C2ZM.</li><li>4. ALR and AHR items will be dealt as per provision of NIT.</li><li>5. The work shall be completed within 120 (one hundred twenty) days from the date of commencement of the work. The date of commencement of the work shall be reckoned from the 10<sup>th</sup> day of issue of the "Letter of Acceptance" or the actual date of handing over of the site whichever is later.</li></ol>	
<ol style="list-style-type: none"><li>1. Security Deposit shall consist of two parts &amp; the same shall bear no interest:-<ol style="list-style-type: none"><li>A) <u>Performance Security and Additional Performance Security:-</u> Rs. 87,100.00 (Eighty seven thousand one hundred only) deposited by you vide:<ol style="list-style-type: none"><li>a) <b>Earnest Money amounting to Rs. 23100.00 (Rupees twenty three thousand one hundred only)</b> deposited along with the tender vide PRN No. – 184172546114.</li></ol></li></ol></li></ol>	
	
Cont .....02	

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

2-

b) Rs. 64,000.00 (Rupees sixty four thousand only) towards Balance amount of Performance security vide:- FD A/c No. 16250310033227 (UCO Bank) dated 02.12.2020 of Rs. 64,000/-.

**B) Retention Money:-**

All running on account bills shall be paid at 95% (ninety five percent) of work value to make total retention money deposit of ₹ 86,354.98 (Rupees eighty six thousand three hundred fifty four and paisa ninety eight only). Overall total security deposit (i.e. performance security, additional performance security & retention money) for the work is Rs. 1,73,455.00 (Rupees one lakh seventy three thousand four hundred fifty five only) i.e. 10.00 % (Ten Percent) & APS of the work value.

2. The defect liability period will be applicable as per Clause – 4.3 of NIT.
3. The arrangement of necessary water for construction purpose shall be your responsibility (at your own cost). However, if available and feasible, the Company may arrange water at one point near the site of work for which recovery @ 1% of the contract value of work done will be made from your bills.
4. The arrangements of necessary electricity for the work will be your responsibility (at your own cost). However, if available and feasible, the Company may arrange electricity at one point near the site of work and necessary recovery of cost of energy consumed will be made at rates prescribed by the Company time to time. You shall provide energy meter for this purpose.
5. The license as per Contract Labour (Regulation & Abolition) Act 1970 and subsequent amendments there of shall have to be obtained from your end as elaborated in the tender document. Implementation of contract labour (Regulation & Abolition) Act 1970 including issuance of Form-V to the agency shall be ensured from the Head of the concerned Area/Department.
6. The payment to the workmen engaged on the work shall be made as per Minimum Wages Act in the presence of the authorized representative of the Department and necessary payment certificate shall be obtained as elaborated in the tender document.
7. You have to engage minimum 20% of required unskilled workers from local project affected people of nearby villages. The list of PAPs recommended by the concerned Mukhia is to be made available by the concerned Area GM and displayed in the Notice Board. Any further addition/ deletion is to be duly certified by the Mukhia. Authorized representative of the contractual agency is to certify regarding engagement of 20% unskilled workers from amongst the PAPs, based upon which labour payment certificate will only be issued.





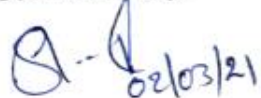
**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

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8. Precautions shall be exercised at all times by you for the protection of persons and property. The safety required or recommended by all applicable laws, codes, statutes and regulations shall be observed by you. In case of accident, you will be responsible for compliance with all the requirements imposed by the Workmen's Compensation Act or any other similar laws enforce and indemnify the company against any claim on this account as elaborated in the tender document.
9. That Royalty clearance certificate should be submitted by you from the appropriate State Govt. Authorities prior to payment of final bill/release of Security Deposit as necessary.
10. The contractor will have to make payment to their workers only through bank account.
11. You are requested to contact the **Area Manager (Civil), Bastacolla Area, BCCL** for further instruction towards execution of the work.
12. The Paying Authority for the work will be **The AFM, Bastacolla Area.**

**All other terms and conditions as appeared in the NIT & tender documents are applicable in the contract.**

Yours faithfully,

  
Area Manager (Civil), BA


Copy to:-

- 1) TS to D (T) OP/ CVO/ D(P), BCCL ..... for kind information
- 2) General Manager Bastacolla Area, BCCL
- 3) GM (Civil), CED HQ, BCCL
- 4) AFM, BA. .... This has reference to:
  - i) Ebc No. - BCCL/C&B/Reg. PN/-94/SN-08/e-BC No.06 dated 01.07.2020 for Rs.21,80,378.40.
  - ii) eFC no.- 05 dated 27.10.2020 for Rs.21,80,378.40. ( Rs. 17,27,099.58 + GST 3,10,877.92).
  - iii) Provision of total goods & service tax is Rs. 3,10,877.92, payment of which will be made on the bidder submitting Bill/invoice in accordance with the provision of relevant GST Act and the rules made thereunder and after online filing of valid return on GST portal.
- 5) APM, Bastacolla Area.
- 6) Dy. Manager (C), Quality control, CED HQ.
- 7) Assistant Manager (civil), Bastacolla Area
- 8) SOE (civil), Bastacolla Area.
- 9) Overseer, Bastacolla Area.
- 10) ALC (C) - I, II & III Murli Nagar, Shram Bhawan, J.J. Nagar, Dhanbad.
- 11) LEO (C) - I, II, III & IV Murli Nagar, Shram Bhawan, J.J. Nagar, Dhanbad.
- 12) Concerned File.

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**

**Annexure-XXIII**

**Purchase Order of 100 meter Fog Canon**

		<b>Contract</b>		<b>Contract No:</b> GEMC-511687710217617 <b>Generated Date:</b> 27-Mar-2021 <b>Bid/RA/PR No:</b> <a href="#">GEM/2021/B/1027499</a>			
<b>Schedule Name:</b> Schedule 1							
<b>Organisation Details</b> Type: Central PSU Ministry: Ministry of Coal Department: Materials Management Organisation Name: Bharat Coking Coal Limited Office Zone: Bcol Dhanbad			<b>Buyer Details</b> Designation: Area Manager Purchase Contact No.: 94705-96918- Email ID: prabhakar.k5730@nic.in GSTIN: 20AAACB7934MFZB Address: Depot Officer, Bera Regional Store, Near Dowari colliera, Bastacolla Area, P.O. Dhansar, Dhanbad., DHANBAD, JHARKHAND-828106, India				
<b>Financial Approval Detail</b> IFD Concurrence: Yes Designation of Administrative Approval: AREA MANAGER ENVIRONMENT Designation of Financial Approval: AREA MANAGER FINANCE			<b>Paying Authority Details</b> Payment Mode: Offline Designation: Area Finance Manager Email ID: afm.bastacolla.bccl@nic.in GSTIN: 20AAACB7934MFZB Address: Depot Officer, Bera Regional Store, Near Dowari colliera, Bastacolla Area, P.O. Dhansar, Dhanbad., Dhanbad, JHARKHAND-828106, India				
<b>Seller Details</b> GeM Seller ID: 2206180000513964 Company Name: CLOUD TECH PRIVATE LIMITED Contact No.: 08930345768 Email ID: vimal@cloudtec.in Address: 207-A, HSIIDC, Manakpur Industrial Estate, Phase-1, Manakpur, Yamunanagar, HARYANA-135001, - MSME verified: Yes GSTIN: 06AAGCC4158A1Z3							
*GST / Tax invoice to be raised in the name of - Consignee							
<b>Product Details</b>							
#	Item Description	Category Name	Model	HSN Code	Ordered Quantity	Unit	Price (Inclusive of all Duties and Taxes in INR)
1	<b>Product Name :</b> Fog or Mist Generators <b>Brand :</b> CLOUD TECH <b>Brand Type :</b> Registered Brand <b>Catalogue Status :</b> OEM verified catalogue <b>Selling As :</b> OEM	Fog or Mist Generators	Cloud Tech	84248990	1	pieces	837,800
Total Order Value (in INR)							837,800
<b>Consignee Detail</b>							
S.No	Consignee	Item	Lot No.	Quantity	Delivery Start After	Delivery To Be Completed By	
1	Designation: - Email ID: prabhakar.k5730@nic.in Contact: 94705-96918- GSTIN: 20AAACB7934MFZB Address: Depot Officer, Bera Regional Store, Near Dowari colliera, Bastacolla Area, P.O. Dhansar, Dhanbad., DHANBAD, JHARKHAND-828106, India	Fog or Mist Generators	-	1	27-Mar-2021	11-Apr-2021	



**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: October 2020 to March 2021**





**cmpdi**  
A Mini Ratna Company

सेन्ट्रल माईन प्लानिंग एण्ड डिजाइन इंस्टीट्यूट लिमिटेड  
(कोल इण्डिया लिमिटेड की अग्रणी कंपनी / भारत सरकार का एक लोक उपक्रम)  
गोन्दवाना प्लेस, कान्के रोड, रांची - 834 031, झारखंड (भारत)  
Central Mine Planning & Design Institute Limited  
(A Subsidiary of Coal India Limited / Govt. of India Public Sector Undertaking)  
Gondwana Place, Kanke Road, Ranchi - 834 031, Jharkhand (INDIA)  
CORPORATE IDENTITY NUMBER - U14292.TH1975GOI001223

Letter No.: पर्यावरण/18/BCCL/ E - 196651

Dated: 20/07/2018

सेवा में,

उप महाप्रबन्धक (पर्यावरण)

बी. सी. सी. एल.

कोयला भवन

धनबाद-826005

विषय: **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**:

Sl. 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 2016 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.

सधन्यवाद,

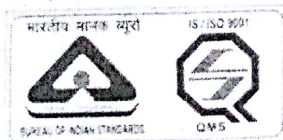
संलग्नक: यथोक्त

भवदीय  
20.7.18  
(पुष्कर)

महाप्रबन्धक (पर्यावरण)

प्रतिलिपि:

1. क्षेत्रीय निदेशक, आर.आई- II, कोयला भवन, धनबाद- For Kind information.



फोन नम्बर /Phone No. : +91 651 2230055 फैक्स नम्बर / Fax No. : +91 651 2231447  
ई-मेल /e-mail: gmenv.cmpdi@coalindia.in, gmenv.cmpdi@gmail.com;  
वेबसाइट / Website Address: [www.cmpdi.co.in](http://www.cmpdi.co.in)



**STRICTLY RESTRICTED**

FOR COMPANY USE ONLY

**RESTRICTED**

The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL/Government.

**Study to Analyze the Extent of Reduction of Pollution Load  
Every Year by reducing Coal Transportation by Road**

**CLUSTER VIII GROUP OF MINES**

**(Bastacolla OCP, Bastacolla UG, Bera OCP, Bera UG,  
Dobari Colliery (UG), Kuya OCP, Kuya UG, Goluckdih (NC) OCP  
(Proposed), Ghanoodih Colliery (OCP), Kujama Colliery (OCP))**

**Normative Production : 4.31 MTPA  
Peak Production : 5.603 MTPA  
Lease Hold Area : 1200.41 Ha**

**Bharat Coking Coal Limited**

**(July 2018)**

**Prepared by**

**Environment Division**

**Central Mine Planning & Design Institute Limited**

**CMPDI (HQ)**

**Gondwana Place**

**Kanke Road, Ranchi-834008**

## **CONTENTS**

<b>CHAPTER NO.</b>	<b>TITLE</b>	<b>PAGE No.</b>
I	INTRODUCTION	1-7
II	FUGITIVE DUST GENERATION DUE TO MOVEMENT OF COAL	8-16

## **Chapter – I**

### **Introduction**

#### **1.1 Genesis:**

MOEF provided Environmental Clearance to the various mines of the Cluster J-I1015/298/2010-IA.II (M) dated 15 Feb 2013.

As per the Environmental Clearance Conditions given by the Ministry of Environment & Forest “A study should be initiated to analyse extent of reduction in pollution load every year by reducing road transport of coal”. Therefore the present study has been carried out to quantify the pollution load due to coal transportation.

#### **1.2 Methodology:**

In order to find out the pollution load due to coal transportation a Questionnaire was developed by the Environment Division of CMPDI Headquarter and Regional Institute –II, Dhanbad. The Questionnaire was circulated to the various mines of BCCL for collection of the requisite inputs for this study. The quantification of pollution load for PM-10 has been carried out on the basis of the field visit, data provided by BCCL officials and interaction with them.

#### **1.3 General Information about the Cluster:**

##### **1.3.1 Brief Description:**

Cluster VIII mines of BCCL is an existing group of mines consisting of 10 mines within mining lease hold. The mine under the cluster are **Bastacolla OCP, Bastacolla UG, Bera OCP, Bera UG, Dobari Colliery (UG), Kuya OCP, Kuya UG, Goluckdih (NC) OCP (Proposed), Ghanoodih Colliery (OCP), Kujama Colliery (OCP).**



Cluster VIII mines of BCCL is administratively under Bastacolla Area of Bharat Coking Coal Limited. Geologically it is of Barakar formation in Jharia Coalfield in Dhanbad District of Jharkhand.

Cluster VIII mines of BCCL is administratively under Bastacolla Area of Bharat Coking Coal Limited. Geologically it is of Barakar formation in Jharia Coalfield in Dhanbad District of Jharkhand. These mines are taken over by BCCL from private mine owners after nationalization through Coal Mines Nationalization Act, 1972-73. The Murulidih 20/21 pit mine is operating since pre-nationalisation period. BCCL is the proponent of the cluster and it is under the administrative control of Coal India Limited.

### 1.3.2 Nature and Size of the Cluster:

Cluster VIII mines of BCCL is an existing group of mines consisting of 10 mines within mining lease hold. The existing mines within the Cluster have a long history of mining activities commencing prior to nationalization of coal mines. Name of the mines within the Cluster, their production capacity, lease hold area and life are given below: in Table no. 1.1.

**Table 1.1: Details of the Mines of Cluster –VIII**

SI No	Name of Mines	Production Capacity (MTY)	
		Normative	Peak
1	Bastacolla OCP	0.10	0.130
2	Bastacolla UG	0.33	0.429
3	Bera OCP	0.15	0.195
4	Bera UG	0.19	0.247
5	Dobari Colliery (UG)	0.24	0.312
6	Kuya OCP	0.60	0.780
7	Kuya UG	0.10	0.130

SI No	Name of Mines	Production Capacity (MTY)	
		Normative	Peak
8	Goluckdih (NC) OCP (Proposed) (Proposed OCP will commence after the closure of existing Kuya OCP)	1.2	1.560
9	Ghanoodih Colliery (OCP)	1.40	1.820
10	Kujama Colliery (OCP)	0.60	0.780
	Total	4.31	5.603

### 1.3.3 Impact of Fire Control on Ambient Air Quality:

Due to unscientific mining prior to nationalization there are unstable sites identified in the BCCL. The mines in the cluster have been severely affected by fire and subsidence mainly due to unscientific mining prior to nationalization. Out of 595 unstable sites identified in the Master Plan, this cluster has 22 sites consisting of 4959 no. of houses are affected. The affected families will be rehabilitated in adjacent non-coal bearing area at a cost of Rs. 15064.58 lakhs.

### 1.3.4 Impact of Resettlement on Ambient Air Quality:

As per Jharia Action Plan (JAP) household will be shifted for implementation of master plan. The reduction in number of households within the leasehold area of Cluster will lead to reduction in generation of air pollutants due to reduction in movement of man & materials apart from decrease in consumption of coal as a domestic fuel. As per Jharia Action Plan (JAP) household will be shifted as per for implementation.

## 1.4 Meteorological Data

A meteorological data generated during 1<sup>st</sup> January 16 to 31<sup>st</sup> March 2016 has been presented in this report. The micro meteorological set up was established at

the roof of BCCL Dugda Guest house and parameters like temperature, relative humidity, wind speed and directions, cloud cover and rainfall were recorded. The data were collected on hourly basis during the entire study period.

Generally, moderate winds prevailed throughout the study period. The wind velocity ranged between  $\leq 0.5$  m/s to 13.2 m/s. The seasonal average wind speed was observed to be 0.69 m/s. Wind-roses were made by using latest WRPLOT View of Lakes Environmental Software.

The analysis of wind pattern during the season showed that the predominant wind directions were from North-West & West followed by North-East having frequencies 15.71%, 11.45% & 4.67% respectively. The receptors located in the Downwind directions i.e. SE and East from the dust generating sources are likely to be affected. The dispersion of air borne dust during calm period (45% of time) will be very poor and buildup of pollutant concentration during this period will occur.

The maximum temperature recorded was 39.3°C and the minimum was 6.2°C. The daily average relative humidity values were in the range of 32.2 to 65.0%. The sky was mostly clear during the study period. The average atmospheric pressure value has been found to be around 732.3 mm Hg. Total 94.5mm rainfall was recorded during the study period. The average rainfall during the season was found to be 1.04 mm.

**Table 1.2: SEASONAL WIND DISTRIBUTION**

Period: 01<sup>st</sup> JAN.'2016 – 31<sup>st</sup>MAR.'2016

Wind Direction	Wind Velocity (m/s) & Duration (%)				
	< 0.5	0.6 -1.5	1.6 -3.5	>3.5	Total
N		1.61	0.78	0.00	2.38
NNE		0.83	0.37	0.00	1.19
NE		3.17	1.47	0.05	4.67
ENE		0.41	0.14	0.00	0.55
E		1.10	0.69	0.00	1.79
ESE		0.50	0.37	0.00	0.87

Wind Direction	Wind Velocity (m/s) & Duration (%)				
	< 0.5	0.6 -1.5	1.6 -3.5	>3.5	Total
SE		1.28	0.41	0.05	1.74
SSE		0.64	0.18	0.00	0.82
S		0.41	0.09	0.00	0.50
SSW		0.28	0.05	0.00	0.32
SW		2.29	0.60	0.00	2.88
WSW		1.06	0.41	0.00	1.47
W		8.99	2.48	0.00	11.45
WNW		1.24	1.01	0.00	2.24
NW		11.47	4.22	0.05	15.71
NNW		2.11	3.59	0.00	2.84
CALM	44.97	-	-	-	44.97
Total	44.97	37.32	17.56	0.15	100



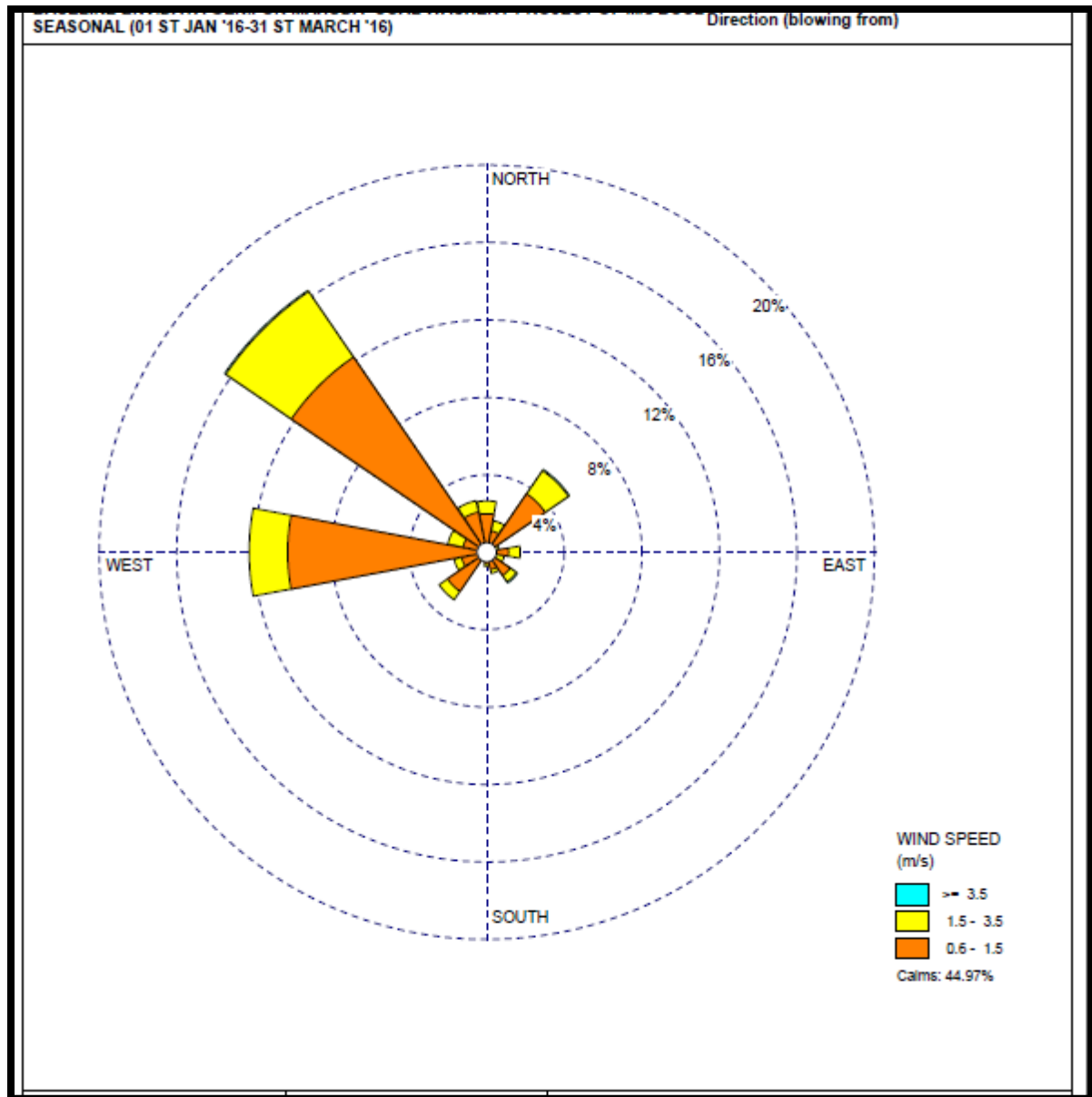


Figure No.-1.1 Wind Rose diagram for the period 1<sup>st</sup> Jan to 31<sup>st</sup> March 2016

## Chapter – II

### **Fugitive Dust Generation Due To Movement of Coal**

#### **2.1 Introduction**

The coal produced moves to the consumers via Road & Rail. Coal from the mine face is brought to the surface dumps and bulk of it goes to the nearby railway sidings for further movement to the consumer- end through rail. The journey from the mine face to the railway siding is covered by road. A portion of the coal produced by the mine directly goes to the consumers via road. Transportation of coal by rail is an environmentally better option than the road transportation. Road Transportation results in generation of fugitive dust from road surface apart from other pollutants released due to consumption of Diesel.

The fugitive dust generated due to coal transportation through road depend upon the following factors:

1. Speed and Weight of the moving vehicles.
2. Silt Content of the Road Dust (Particles less than 200 mesh size is considered as silt)
3. Silt loading of the road dust ( $\text{Kg/m}^2$ ).
4. Moisture Content of the dust lying on the road surface.
5. Ambient Temperature, Humidity & wind velocity.

The dust generation will be lower if the quantity of dust (silt loading) lying on the road surface is minimum and the moisture content of the loose material lying on the road surface is high.

#### **2.2 Movement of Coal**

Distance travelled by coal and subsequent release of fugitive dust during its journey towards the consumer end has been described and dust load has been worked out for the

year	2013-14,	2014-15	and	2015-16.
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## 2.2.1 Cluster Mines :

**Table: 2.1 Dust Generation (Kg/day)**

Name of the Mine	Year	Location	Distance from Face to Siding (Km)	Coal Transferred (Te)	Daily Coal Production (Te/Day)	Capacity of the Dumper	Vehicle Kilometer Travelled	Emission Rate for PM 10 ( kg/VKT)	Pollution Load * Dust Generated Per Day (Kg/day)	Dust generated Kg/per tonne
Bastacolla Colliery	13-14	CK Siding	7.50	88043	267.00	18.00	222.50	0.53	117.925	
	13-14	Burragarh Siding	7.50	48545	147.00	18.00	122.50	0.53	64.925	
		<b>Total for 13-14</b>			<b>414.00</b>				<b>182.850</b>	0.44
	14-15	CK Siding	7.50	76974	233.00	18.00	194.17	0.53	102.908	
	14-15	Burragarh Siding	7.50	32508	99.00	18.00	82.50	0.53	43.725	
		<b>Total for 14-15</b>			<b>332.00</b>				<b>146.633</b>	0.44
	15-16	CK Siding	7.50	105913	321.00	18.00	267.50	0.53	141.775	
	15-16	Burragarh Siding	7.50	20256	61.00	18.00	50.83	0.53	26.942	
		<b>Total for 15-16</b>			<b>382.00</b>				<b>168.717</b>	0.44
Bera Colliery (Mixed)	13-14	CK Siding	5.50	119261	361.00	20.00	198.55	0.53	105.232	
	13-14	MPL (Dist>25 Kms)	10.00	52083	158.00	20.00	158.00	0.53	83.740	
		<b>Total for 13-14</b>			<b>519.00</b>				<b>188.972</b>	0.36
	14-15	CK Siding	5.50	220257	667.00	20.00	366.85	0.53	194.431	
		<b>Total for 14-15</b>			<b>667.00</b>				<b>194.431</b>	0.29
	15-16	CK Siding	5.50	161102	488.00	20.00	268.40	0.53	142.252	
		<b>Total for 15-16</b>			<b>488.00</b>				<b>142.252</b>	0.29
Ba ri Co	13-14	CK Siding	6.00	76735	233.00	15.00	186.40	0.53	98.792	

Name of the Mine	Year	Location	Distance from Face to Siding (Km)	Coal Transferred (Te)	Daily Coal Production (Te/Day)	Capacity of the Dumper	Vehicle Kilometer Travelled	Emission Rate for PM 10 ( kg/VKT)	Pollution Load * Dust Generated Per Day (Kg/day)	Dust generated Kg/per tonne
	13-14	Industries (Road Sales) [Dist>25 Km]	10.00	120695	366.00	15.00	488.00	0.53	258.640	
		<b>Total for 13-14</b>			<b>599.00</b>				357.432	0.60
	14-15	CK Siding	6.00	28874	87.00	15.00	69.60	0.53	36.888	
	14-15	Industries (Road Sales) [Dist>25 Km]	10.00	90021	273.00	15.00	364.00	0.53	192.920	
		<b>Total for 14-15</b>			<b>360.00</b>				229.808	0.64
	15-16	CK Siding (W)	6.00	286979	870.00	15.00	696.00	0.53	368.880	
	15-16	Industries (Road Sales) [Dist>25 Km]	10.00	178068	540.00	15.00	720.00	0.53	381.600	
	15-16	BNR Siding	9.00	1109034	3361.00	15.00	4033.20	0.53	2137.596	
		<b>Total for 15-16</b>			<b>4771.00</b>				<b>2888.076</b>	0.61
Kuya Colliery (Kuya UG + Kuya OCP+ Patch [H])	13-14	CK Siding	3.07	902070	2734.00	20.00	839.34	0.53	444.849	
	13-14	BNR Siding	13.00	484230	1467.00	20.00	1907.10	0.53	1010.763	
	13-14	MPL (Dist>20 Kms)	10.00	63657	193.00	20.00	193.00	0.53	102.290	
		<b>Total for 13-14</b>			<b>4394.00</b>				<b>1557.902</b>	0.35
	14-15	CK Siding	3.07	698820	2118.00	20.00	650.23	0.53	344.620	
	14-15	BNR Siding	13.00	793212	2404.00	20.00	3125.20	0.53	1656.356	
	14-15	MPL (Dist>20 Kms)	10.00	310157	940.00	20.00	940.00	0.53	498.200	
		<b>Total for 14-15</b>			<b>5462.00</b>				<b>2499.176</b>	0.46
	15-16	CK Siding	3.07	969029	2936.00	20.00	901.35	0.53	477.717	



Name of the Mine	Year	Location	Distance from Face to Siding (Km)	Coal Transferred (Te)	Daily Coal Production (Te/Day)	Capacity of the Dumper	Vehicle Kilometer Travelled	Emission Rate for PM 10 ( kg/VKT)	Pollution Load * Dust Generated Per Day (Kg/day)	Dust generated Kg/per tonne
	15-16		13.00					0.53	1307.033	
		BNR Siding		626023	1897.00	20.00	2466.10			
	15-16	MPL (Dist>20 Kms)	10.00	203373	616.00	20.00	616.00	0.53	326.480	
		<b>Total for 15-16</b>			<b>5449.00</b>				<b>2111.230</b>	0.39
Ghanoodih Colliery	13-14	CK Siding (W)	3.00	175227	531.00	20.00	159.30	0.53	84.429	
	13-14	BNR Siding	10.00	261996	794.00	20.00	794.00	0.53	420.820	
		<b>Total for 13-14</b>			<b>1325.00</b>				<b>505.249</b>	0.38
	14-15	CK Siding (W)	3.00	197002	597.00	20.00	179.10	0.53	94.923	
	14-15	BNR Siding	10.00	175484	532.00	20.00	532.00	0.53	281.960	
		<b>Total for 14-15</b>			<b>1129.00</b>				<b>376.883</b>	0.33
	15-16	CK Siding (W)	3.00	188347	571.00	20.00	171.30	0.53	90.789	
	15-16	BNR Siding	10.00	11166	34.00	20.00	34.00	0.53	18.020	
		<b>Total for 15-16</b>			<b>605.00</b>				<b>108.809</b>	0.18
Kujama Colliery	13-14	CK Siding	1.00	233777	708.00	14.00	101.14	0.53	53.606	
	13-14	Different Consumers (SAIL Chasnala, TATA Digwadih, TATA Bhelatand, TATA Bokaro, Sudamdih Washery) [Dist>10 Kms]	10.00	225528	683.00	14.00	975.71	0.53	517.129	
		<b>Total for 13-14</b>			<b>1391.00</b>				<b>570.734</b>	0.41

Name of the Mine	Year	Location	Distance from Face to Siding (Km)	Coal Transferred (Te)	Daily Coal Production (Te/Day)	Capacity of the Dumper	Vehicle Kilometer Travelled	Emission Rate for PM 10 ( kg/VKT)	Pollution Load * Dust Generated Per Day (Kg/day)	Dust generated Kg/per tonne
	14-15	CK Siding	1.00	8412	25.00	18.00	2.78	0.53	1.472	
	14-15	Different Consumers (SAIL Chasnala, TATA Jamadoba, TATA Bhelatand) [Dist>10 Kms]	10.00	231494	701.00	18.00	778.89	0.53	412.811	
		<b>Total for 14-15</b>			<b>726.00</b>				<b>414.283</b>	<b>0.57</b>
	15-16	CK Siding	1.00	5235	16.00	18.00	1.78	0.53	0.942	
	15-16	Different Consumers (SAIL Chasnala, TATA Jamadoba, TATA Bhelatand) [Dist>10 Kms]	10.00	106607	323.00	18.00	358.89	0.53	190.211	
		<b>Total for 15-16</b>			<b>339.00</b>				<b>191.153</b>	<b>0.56</b>

\* In terms of PM 10 expressed as kg/day, \*\* Average distance has been considered, \*\*\* Capacities of Dumpers used in transportation of coal from face to siding taken as 30Te, to Washery 20Te, and Outside Transport 15 Te. ..## Emission rate for PM<sub>10</sub> has been taken from the S&T work (funded by MoC) carried out by CMPDI during 2002-2007.

## **2.3 Optimum Coal Transportation scheme in the Present Scenario:**

### **Phase – I (for 10 + 05 Years)**

As suggested by the Environmental Appraisal Committee, it is proposed to continue the existing Road–Rail transport network system in view of the implementation of the Jharia Action Plan(JAP) for 10 years and another 05 years gestation period after the completion of the JAP for consolidation of the backfilled dug out fire areas and unstable areas is required. Thus the period of 15 years, make the Phase – I. All mitigation measures like covered trucks, green belting on either side of the road, enhanced water sprinkling, proper maintenance of roads, removal of spilled materials etc shall be adopted for 15 years with the existing road – rails transport system.

## **2.4 Conceptual Plan of Proposed Integrated Coal Transportation Network for the Cluster:**

### **Phase – II (after 15 Years):**

As suggested by the EAC Members, BCCL shall implement conveyor –cum-rail transport to avoid movement of trucks within the cluster for coal transportation in Phase –II. Loading of coal by pay-loaders shall be discontinued.

During 2015-16, the combined daily coal production of the Cluster was 12034.00 tones resulting in 5610.24 kg of daily fugitive dust generation. The dust (PM-10) generation rate at present is 2.47 kg/te.

As a result of replacement of existing road transportation of coal by Conveyor to railway siding will result in reduction of fugitive dust generation to the extent of 41932.22 kg/day for daily coal production of 16979 tonnes (5.603 MTY) during Phase –II.

**Table 2.2: Proposed Infrastructure for Coal Transportation (phase – II)**

Cluster	Production Capacity (MTY)	Proposed Transport Infrastructure in Phase – II
VIII	5.603	Coal transport by Conveyor to Railway Siding
	5.603 MTY= 16979 tonnes /Day	

## **2.5 Conclusion:**

On the basis of the study undertaken to assess the impact of coal transportation on pollution load, the followings may be concluded:

### **Phase – I :( 2013-14 to 2028 -29) :**

1. During Phase – I, business as usual (BAU) scenario will prevail and the existing road cum rail transport network system will be used for coal dispatch to the consumers. During 2015-16, the combined daily coal production of the Cluster was 12034.00 tones resulting in 5610.24 kg of daily fugitive dust generation. The dust (PM-10) generation rate at present is 2.47 kg/te.
2. The generation of fugitive dust due to transportation of coal by road can be further reduced by enforcing covering of loaded trucks, periodical removal of loose materials lying on the road surface and black topping of coal transportation roads.
3. Avenue plantation, effective wetting of the road surface and proper maintenance of roads will further result in mitigation of the impact of road generated dust on ambient air quality.
4. Better road condition, by the use of Mechanical Sweeper or vacuum cleaner dust generation may be minimized.

### **Phase – II :( From 2029-30 Onwards):**

As a result of replacement of existing road transportation of coal by Conveyor to railway siding will result in reduction of fugitive dust generation to the extent of

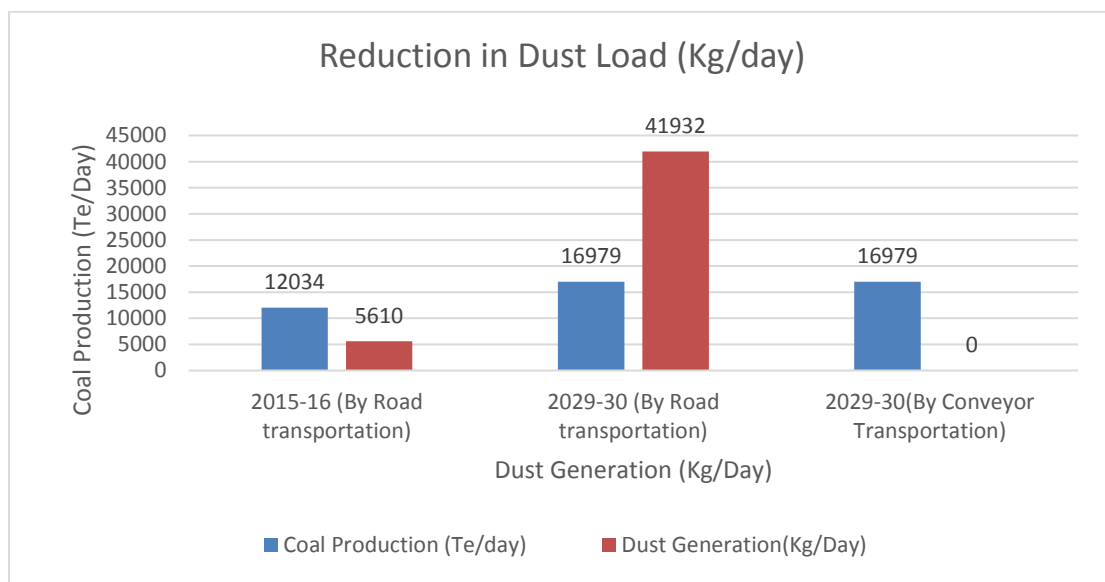


41932.22 kg/day for daily coal production of 16969 tonnes (5.603 MTY) during Phase –II.

1. During Phase –II, dust load will further reduce due to quenching of mine fire and domestic coal consumption after resettlement of general population dwelling within the command area of cluster, as a result of implementation of Jharia Action Plan. It will result in significant improvement in ambient air quality.
2. **Coal Production Vs. Dust Generation due to Road Transportation is presented below:**

**Table2.3: Coal Production Vs. Dust Generation due to Road Transportation**

Year	Coal Production (Te/day)	Dust Generation(Kg/Day)
2015-16 (By Road transportation)	12034	5610
2029-30 (Considering peak production and all the coal transported through Road)	16979	41932
2029-30(By Conveyor Transportation)	16979	0



**Figure 2.1:** Presentation of reduction in dust generation due to replacement of Road transportation by Conveyor system.

# **CSR, R&R and Transportation Plan of Cluster VIII Coal Mining Project for FY 2020-21**

## **As per EC Condition (Specific Condition No 4)**

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



**Bharat Coking Coal Limited**

*(A Mini Ratna Company)*

**Bastacolla Area**

**Dhanbad**

# **CIL'S POLICY FOR CORPORATE SOCIAL RESPONSIBILITY (CSR)**

## **Introduction**

Mining of coal has profound impact on the people living in and around the areas where the mines are established. The obvious impact of the introduction of any production activity in such areas change the traditional lifestyle of the original inhabitants and indigenous communities and also change the socio-economic profile of the Area. Hence, the primary beneficiaries of CSR for the company are:

- Land oustees,
- PAPs and
- Those staying within the radius of 25 Kms of the Project.

Poor and needy section of the society living in different parts of India are the second beneficiaries.

In the aforesaid backdrop, policy on Corporate Social Responsibility of CIL has been framed after incorporating the features of the Companies Act 2013 and as per notification issued by Ministry of Corporate Affairs, Govt. of India on 27.02.2014 as well as DPEs guidelines and broadly covers the following: -

- a) Welfare measures for the community at large, so as to ensure the poorer section of the Society derived the maximum benefits.
- b) Contribution to the society at large by way of social and cultural development, imparting education, training and social awareness especially with regard to the economically backward class for their development and generation of income to avoid any liability of employment.
- c) Protection and safeguard of environment and maintaining ecological balance.

## **Objectives**

The main objective of CSR policy is to lay down guidelines for the coal companies to make CSR a key business process for sustainable development for the society. It aims at supplementing the role of the Govt. in enhancing welfare measures of the society based on the immediate and long term social and environmental consequences of their activities. CIL will act as a good Corporate Citizen, subscribing to the principles of Global Compact for implementation.

## **Areas Covered under CSR**

- The poor and needy Section of the Society living in different parts of India are covered.
- The CSR Programme also covers the existing components of Special Component Plan (SCP) and Tribal Sub Plan (TSP) for development of the SC and ST population besides development components for the entire population.

80% of the budgeted amount is spent within the radius of 25 Km of the Project Site/Mines/Area HQ/Company HQ and 20% of the budget is spent within the State.

### **Allocation of Fund**

The fund for the CSR is allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs. 2.00 per tonne of Coal Production of previous year whichever is higher.

### **Scope**

As per Schedule VII of New Companies Act 2013, the following are the Scope of Activities under Corporate Social Activities:

- i) Eradicating hunger, poverty and malnutrition, promoting healthcare including preventive health care and sanitation and making available safe drinking water.
- ii) Promoting education, including special education and employment enhancing vocation skills especially among children, women, elderly, and differently abled and livelihood enhancement projects;
- iii) Promoting gender equality, empowering women, setting up homes and hostels for women and orphans, setting up old age homes, day care centers and such other facilities for senior citizens and measures for reducing inequalities faced by socially and economically backward groups;
- iv) Ensuring environmental sustainability, ecological balance, protection of Flora and Fauna, animal welfare, agro-forestry, conservation of natural resources and maintaining quality of soil, air and water;
- v) Protection of national heritage, art and culture including restoration of buildings and sites of historical importance and works of art; setting up public libraries, promotion and development of traditional arts and handicrafts;
- vi) Measures for the benefit of armed forces veterans, war widows and their dependents
- vii) Training to promote rural sports, nationally recognized sports, Paralympics sports and Olympic sports;
- viii) Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government for socio-economic development and relief and welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women;
- ix) Contributions or funds provided to technology incubators located within academic institutions which are approved by the Central Government;
- x) Rural development projects

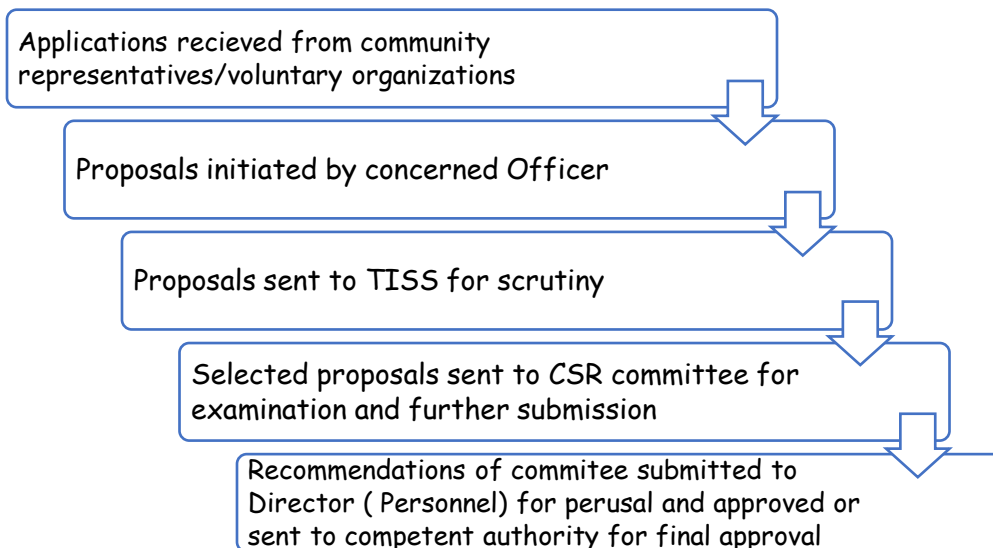
### **Implementation**

- The investment in CSR is project based and for every project time framed periodic mile stones should be finalized at the outset.



- Project activities identified under CSR are implemented by Specialized Agencies. Specialized Agencies are made to work singly or in tandem with other agencies. Specialized agencies that are included presently for implementation of CSR projects in Cluster VIII are through Contracted agencies for civil works.

### Institutional Arrangement



### Baseline study done by TISS

Area	Village	Panchayat	Block	District	No. of Sample
Bastacolla	Amtal (Bandhkuli)	Amtal	Baliyapur	Dhanbad	61
	Amtal (Shaharpura)	Amtal	Baliyapur	Dhanbad	60
	Duhatand	Duhatand Ward 33	Dhanbad MC	Dhanbad	60

## Villages covered under Cluster VIII

### 1. Aamtal (Bandhkuli)



AREA	MAJOR PROBLEMS AND RECOMMENDATIONS
Education	Bench facility at primary school
	Scholarship for Children of BPL families
Water Supply	Treated drinking water is required
	Water tanks should be provided during summer
Health Care	Awareness about maternity health care and family planning is required in this village
	Health check-up at primary school should be done
Sports & Culture	Youth club should be formed and provided with sports material
Livelihood	Piggery and Poultry should be provide for livelihood support
	No SHG of Men and Women
	Differently able people should get vocational training an employment
Sanitation	Fumigation for mosquitos ins needed in this village
Infrastructural Development	Pond cleaning should be done regularly

## 2. Aamtal (Shaharpur)





AREA	MAJOR PROBLEM AND RECOMMENDATIONS
Education	School drop outs should be introduced to a regular coaching class to complete at least 10 <sup>th</sup> class. Vocational training should also be provide for self-employment
	Evening classes for old age as well as illiterates
Water Supply	Hand pump maintenance is needed
	Irrigation facility should be provided
Health Care	Maternity health camp is needed
Sports & Culture	Sports material Should be provided to the sports club for various tournaments
Livelihood	Livestock activity like Goatry, Poultry and piggery has huge scope
Sanitation	No toilets in any of the house holds
	Poor drainage and garbage disposal is there. BCCL should introduce trash bin and ensure its disposal regularly
	Fumigation for prevention from Malaria
Infrastructural Development	Formation of SHG is essential in this village
	Playground should have boundary

### 3. Duhatand

**Tola: Mallik Tola and Manjhi Tola | Panchayat: Duhatand (Ward No. 33)|  
Block: Dhanbad Municipal Corporation| District: Dhanbad**

Census Year	2001
Households	65
Population	300

Source of water	
Irrigation	None
Drinking Purpose	Open well, public and private hand pump

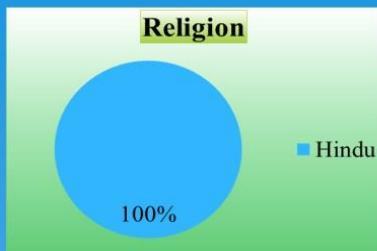
Crop grown
Paddy, maize

Recreation / Common Facilities
Playground Samaaj Mandir Cremation Place

Common Transport Facilities
Motor Cycle Bicycle

Facilities Located in Villages
PDS Shop Pre-Pri/Nursery School Govt Primary School Pvt Clinic (RMP+) Asha worker Dai

Facilities Located More Than 5 Kms
ITI/Polytechnic Police Station (Jaduhdi, Dhanbad)



Migration Pattern	
Location	Status
Outside State (Agri Labour)	rarely

Accessibility to Forest/Mining Produce
Coal Collection, fruits and leaves Cultivation, fire wood

Sources of Livelihood
Own farm activities Agricultural labour Non-agri labour (rural) Salaried employment Petty business/trade Collect & sale forest/mining products Rent/pension/remittance

Facilities Located Within 5 Kms
Bus Stop (Dhanbad) Daily Evening Market (Dhanbad) Weekly Market (Dhanbad) Grocery Shop (Dhokra) DTP/Xerox (Bhuda) Post Office (Dhanbad) Railway Station(Dhanbad) Municipal Corporation (Dhanbad) Cooperative Society (Dhanbad) Bank for S/B account(Munaitand) Block Development Office (Dhanbad) District Headquarters (Dhanbad) Warehouse (Barmasia) APMC/Mandi (Manitand) Pvt. Primary School(Bhuda) Govt Secondary School(Patrakuli) Higher Sec School (Dhanbad) Degree College (Dhanbad) ITI/Polytechnic(Dhanbad) CHC Govt /Gen Hospital(Dhanbad) Pvt Clinic (MBBS/BAMS+) (Bhuda) Private Hospital (Dhanbad) Veterinary Clinic(Dhanbad) Medical Shop/Chemist (Bhuda)

Area	Major problem and Recommendations
Education	Middle school needs sufficient chairs and table for students
	During the field visit it was found that awareness about education has been found very less. BCCL with the help of some reputed NGO which works on Education sector should encourage the villagers to enroll their children to school
Water Supply	Villager face problem of drinking water. The need of well and hand pumps with purifier was observed.
	There is no facility of irrigation for agriculture purpose
Health Care	There is no sub center at vicinity. Mobile Medical Van can be a good option for this village.
Sports & Culture	Sports club should be formed in this village and should be provided with all the sports materials to the youth
Livelihood	Introduction of Goatry, Piggery and poultry is necessary in this village as majority of the community are well experienced in handling livestock
	Vocational Training for girls in tailoring is required in this village
	There is no SHG in the village. BCCL should take initiative with the help of NGO to encourage the men and women of this village to start SHG for income Generation Activity.
Sanitation	Majority of the houses do not have toilet facility in the village
Infrastructural Development	No toilet in Primary school of Duhatand
	Contraction of Bathroom at Pond for women

## CSR Projects undertaken:

### 1. Construction of Toilets under Swach Vidyalaya Abhiyan

The Ministry of Human Resource Development has launched Swachh Vidyalaya Programme under Swachh Bharat Mission with an objective to provide separate toilets for boys and girls in all government schools within one year. The Ministry financially supports States/Union Territories inter alia to provide toilets for girls and boys in schools under Sarva Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA). Under SSA and RMSA 88,728 toilets have been sanctioned during 2014-15. 1.58 lakh toilets as well as dysfunctional toilets have been taken up by Public Sector Undertakings/Corporates for construction/repairs. CIL vowed to construct as well as make dysfunctional toilets functional; the number being 51,115. BCCL in turn got a target of 3000 toilets to construct/make toilets functional out of which Cluster VIII got a target of 238 toilets construction/repairing.

Construction of Toilets under Swach Vidyalaya Abhiyan				
District	Block	No of Toilets	Status (Completed)	Amount spent till date (In Rupees)
Simdega	Bano	238	96 % Completed (Validation Work is under progress).	FY 2015-16
	Bolba			Rs. 2,14,84,259.98
	Jaldega			
	Karsai			FY 2016-17
	Kolebira			Rs. 1,26,17,747.00
	Kurdge			
	Pakardanr			FY 2017-18
	Rigdi			Rs. 47,88,229.91
	Madhuban			
	Sewai			Total Rs. 38890236.89
	B. Pani			
	Sansewai			
	Kulukera			
	T. Tanger			
	Simdega			



## 2. Community Welfare (As a Part of Community Development Program)

Funds are provided to some schools in and around the mining areas of the Area office and collieries are given grants for the smooth functioning of the schools. The schools are currently closed due to COVID-19 pandemic. The school wise proposed grant by Bastacolla area are as follows:

Name of School	Location	Amount Spent
L. P. School, Bastacolla	Bastacolla	60,000.00
Harizan L.P. School, Bastacolla	Bastacolla	90,000.00
L.P. School, Chandmari	Chandmari	1,20,000.00
Dobari Middle School	Dobari	1,50,000.00
Adarsh Shishu Bharati L. P. School	Victory	90,000.00
Bal Vikas Vidyalaya, Liberty, Bera	Bera (Bastacolla - Sonar Basti)	1,50,000.00
Bal Vidhya Mandir	Ghanoodih	60,000.00
Koyla Khadan Shramik Vidyalaya	Ghanoodih	2,40,000.00
L. P. School, 1-2 pit, Ghanoodih	Ghanoodih	60,000.00
<b>Total</b>		10,20,000.00

## 3. Preventive Health Care (COVID-19)

Keeping in view of the spread of novel Corona Virus (COVID-19) in India, its declaration as pandemic by the World Health Organisation (WHO), and, decision of Government of India to treat this as a notified disaster. Bastacolla Area has distributed more than 5000 nos. of Masks and Hand Wash/Sanitizers among the needy people of Jharia town, Aamtal Panchayat, Chand Kuiya Panchayat, Alakdiha Panchayat, Kuiya, Nayakanali, and Bhuiyan Basti.

## 4. Eradicating Hunger (COVID-19)

Keeping in view of pandemic situation emerged due to spread of novel Corona Virus (COVID-19), Bastacolla Area has distributed 1400 nos. of dry food packets among the needy people of Jharia town, Aamtal Panchayat, Chand Kuiya Panchayat, Alakdiha Panchayat, Kuiya, Rajapur, Dobari Basti, Sahana Pahadi, Bhuiyan Patti, Bera, Bastacolla, Ena, South Golukdih, South Balihari, Near BNR Siding, Bhalgora, Jeena Dhaura and Some parts of Baliyapur Block.

In addition to this, cooked food has been served among 10,500 people residing near Bastacolla Project Office & Rajapur Project Office of Bastacolla Area and it is continued till date.

#### 5. Companywide CSR Expenditures

CSR is centralized and it is being dealt at HQ Level for entire BCCL. The details of expenditures are appended below:

Details of CSR amount spent during the financial year 2020-21					
(1)	(2)	(3)	(5)	(7)	(8)
SI No	CSR Project or Activity Identified	Covered under Schedule VII of The New Companies Act' 2013	Budgetary Provisions (₹ lakhs)	Cumulative expenditure upto the reporting period (₹ lakhs)	Implementing Agency
1	Distribution of Face Mask and Hand Wash/ Sanitiser amongst nearby villagers in Dhanbad	Point No (i)	5.98	1.96	Direct
2	Distribution of dry food packets amongst nearby villagers in Dhanbad	Point No (i)	48.00	44.60	Direct
3	Distribution of food packets with water/ juice to migrant labourers in different Shramik Special Trains through Dhanbad Station	Point No (i)	9.98	5.66	Direct
4	Installation of water purifiers at COVID-19 Hospital, Dhanbad	Point No (i)	1.67	1.67	Direct
5	Procurement of bleaching powder for sanitisation purpose	Point No (i)	6.40	6.40	Direct
6	Depository mode financial assistance to Dhanbad District Administration for works to be undertaken to combat COVID-19 situation in Dhanbad district	Point No (i)	200.00	200.00	Dhanbad District Administration
7	Depository mode transfer to Dhanbad District Administration for installation of 30 ICU beds in Central	Point No (i)	88.05	88.05	Dhanbad District Administration

	Hospital Dhanbad				
8	Payment of honorarium to temporarily appointed doctor (Dr. Prem Shankar Singh) under COVID-19	Point No (i)	2.07	2.07	Direct
9	IEC materials (poster/ banners/ billboards) to display messages of COVID-19	Point No (i)	1.73	1.73	Direct
10	Construction of Community Hall at Jiramuri Village, Ratanpur Panchayat, Govindpur Block	Point No (x)	17.89	0.03	Direct
11	Construction of toilets, deep bore well with submersible pump, auditorium, classrooms, common room for girls and cycle stand at RBB High School, Rajganj, Dhanbad	Point No (x)	110.38	9.34	Direct
12	Different IEC activities undertaken during Swachhata Pakhwada in 2019	Point No (i)	0.37	0.37	Direct
13	Different IEC activities undertaken during Swachhata Mah in 2020	Point No (i)	0.23	0.23	Direct
14	Distribution of Blanket amongst the homeless people of Dhanbad during the Cold Wave in Winter of 2020	Point No (i)	4.04	4.04	Direct
15	<p>Depository mode funds transfer to Giridih District Administration for following activities to be undertaken in Aspirational District Giridih -</p> <ol style="list-style-type: none"> <li>1. Construction of drainage and pavement block road, increasing the height of boundary wall and renovation and re-conservation of old building of blind school, Ajidih</li> <li>2. Renovation and re-conservation of old residence building of deaf school, Ajidih</li> <li>3. Renovation and re-conservation of old building of Samarth Residential School, Ajidih</li> <li>4. Construction of 4 classrooms</li> </ol>	Point No (ii)	121.82	121.82	Giridih District Administration

	in girls' high school – Sir J. C. Bose school, Giridih 5. Construction of 4 classrooms in UMS Thansingdih, Tisri				
16	Training of candidates for appearing in Mining Sirdarship examination	Point No (ii)	42.32	6.69	Direct
17	Distribution of saplings at Sijua Area	Point No (iv)	0.31	0.31	Direct
18	Development of Green Haat at Barwa village, Govindpur, Dhanbad (liability)	Rural Development	4.71	4.71	Direct
19	Providing lodging and fooding to doctors and paramedical staff deployed in COVID-19 Hospital (including liability of Rs. 8,62,868.01)	Point No (i)	95.97	95.97	Direct
20	Maintenance Haemodialysis for COVID-19 positive patients being treated in COVID hospital Dhanbad (liability)	Point No (i)	6.00	6.00	Direct
21	Medical Camps under CSR through Areas (FY 2019-20) (liability)	Point No (i)	10.50	10.50	Direct
<b>Total</b>			<b>778.42</b>	<b>612.15</b>	

#### **Proposed CSR Works under Cluster VIII**

<b>Sl. No.</b>	<b>Name of Proposed CSR Works</b>	<b>Estimated Cost approx. (in Rs.)</b>	<b>Social Benefits</b>	<b>Proposed CSR works covered under Schedule VII of The New Companies Act, 2013</b>
1	Cleaning of Raja Talab and Construction of road, steps & Ghats around Raja Talab, Jharia	2310451.50	It will promote environment sustainability and maintain the water level. People of jharia will get benefited.	Point No (iv)
2	Beautification of Nehru Park, Jharia	407665.89	It will promote environment sustainability and maintain the water level. People of jharia will get benefited.	Point No (iv)



3	Drinking water arrangement in the Primary School Gopalichak, Jharia	56987.65	Drinking water will be available for the school community.	Point (i)
4	Cleaning and deepening of Garha Bandh Talab, Kuiya	1065229.18	It is a rural development project and It will promote environment sustainability and maintain the water level. People of Aamtal Panchayat will get benefited.	Point (iv) & (x)
5	Cleaning and deepening of Chakraborty Talab, Kuiya	1092925.90	It is a rural development project and It will promote environment sustainability and maintain the water level. People of Aamtal Panchayat will get benefited.	Point (iv) & (x)
6	Hiring of 2 water tankers to supply water to villages near Bastacolla Area.	944000	Drinking water will be available for nearby villages.	Point No (i)
<b>Total Amount (in Rs.)</b>		5877260.12		

#### R&R of PAFs

The mines in the cluster VIII are affected by fire and subsistence and rehabilitation of the affected people has been envisaged in the Master plan approved by Government of India. A table with number of project affected families rehabilitated till FY 2019-20 is provided below:

#### Status of Rehabilitation/Shifting of PAFs:

Sl. No.	Name of Colliery	No of PAFs Rehabilitated/Shifted
1.	Bastacolla Colliery	0.00
2.	Bera Colliery	0.00
3.	Dobari Colliery	139
4.	Ghanoodih Colliery	572
5.	Kuya Colliery	342
6.	Kujama Colliery	216
<b>Total</b>		<b>1269</b>

## Transportation Plan

The transportation plan for cluster VIII for the financial year 2019-20 financial year is shown below:

Sl. No.	Mine	Existing siding	Existing Transport distance (in KMs)
1.	Bastacolla Colliery (UG+OC)	CK (W)	8-9
		BNR	8-9
2.	Bera Colliery (UG+OC)	CK (W)	No Transportation through Rail Mode.
3.	Dobari Colliery (OC)	BNR	Operation is discontinued.
		CK (W)	
4.	Kuya Colliery (OC)	CK (W)	2-3
		BNR	10-11
5.	Kujama Colliery (OC)	CK (W)	Operation is discontinued.
6.	Ghanoodih Colliery (OC)	CK (W)	Operation is discontinued.

Offtake of Coal (Through Rail) for the financial year 2020-21:

Sl. No.	Mine	Offtake (In Te.)	
		CK(W) Siding	BNR Siding
1.	Bastacolla Colliery (UG+OCP)	0.00	191016.00
2.	Bera Colliery (UG+OCP)	0.00	0.00
3.	Dobari Colliery (OCP)	0.00	0.00
4.	Kuya Colliery (OCP)	1524784.00	20000.00
5.	Kujama Colliery (OCP)	0.00	0.00
6.	Ghanoodih Colliery (OCP)	0.00	0.00
Total		<b>1524784.00</b>	<b>211016.00</b>

Offtake of Coal (Through Road) for the financial year 2020-21:

Sl. No.	Mine	Offtake (In Te.)
		Through Road to End Consumers
1.	Bastacolla Colliery (UG+OCP)	33775.00

2.	Bera Colliery (UG+OCP)	29845.00
3.	Dobari Colliery (OCP)	0.00
4.	Kuya Colliery (OCP)	235519.00
5.	Kujama Colliery (OCP)	0.00
6.	Ghanoodih Colliery (OCP)	0.00
Total		299139.00

### TRANSPORTATION PLAN OF CLUSTER VIII MINING PROJECT (AS PER EMP)

