



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/ 314

Date: 30.11.2021

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 Clearance Conditions for the period of April 2021 to September 2021 in respect of Cluster VIII Coal Mining Project of BCCL.

Ref. No.: EC Order No. J-11015/298/2010-IA.(M) Dated 15.02.2013 later amended on 15.11.2020.

Dear Sir,

Please find enclosed herewith six monthly report on compliance conditions laid down in Environmental Clearance for the period from April 2021 to September 2021 in respect of Cluster VIII Coal Mining Project of BCCL.

Thanking You,

Encl: As above

Yours faithfully,

General Manager  
Bastacolla Area  
(Cluster VIII)

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 Office Kolkata, Central Pollution Control Board, Kolkata.



OFFICE OF THE GENERAL MANAGER  
[gmbastacolla.bccl@coalindia.in](mailto: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: April 2021 to September 2021

| A. Specific Conditions |                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------|--------------------------|---------|-------|------|---------|-------|------|---------|-------|------|---------|-------|------|---------|-------|-------|
| Sl. No.                | Condition                                                                                                                                                                                   | Compliance/ Action Taken Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
| i                      | The Maximum production shall not exceed beyond that for which environmental clearance has been granted.                                                                                     | <p><b>It is being complied.</b></p> <p>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> <tr> <td>2021-22</td><td>5.603</td><td>1.65*</td></tr> </tbody> </table> <p>*Production from April 2021 to September 2021</p> | 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 | 2021-22 | 5.603 | 1.65* |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
| 2021-22                | 5.603                                                                                                                                                                                       | 1.65*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
| ii                     | The road transportation of coal during Phase-I should be by mechanically covered trucks. The road used for coal transportation should be developed with avenue plantation on both sides.    | <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>1500 Nos of Avenue Plantation has been developed along major coal transporting route to BNR Railway Siding (Photographs Enclosed at <b>Annexure- II</b>)</li> </ul>                                                                                                                                                                               |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
| iii                    | The company must give priority to capacity building both within the company and to the local youth, who are motivated to carry out the work in future.                                      | <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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
| iv                     | Details of transportation, CSR, R&R and implementation of environmental action plan for each of the 17 clusters should be brought out in a booklet form.                                    | <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 i.e. Compliance report of 2<sup>nd</sup> Half Year (October to March).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
| v                      | 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 III.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |                                 |                          |         |       |      |         |       |      |         |       |      |         |       |      |         |       |       |
| vi                     | The expertise available internationally should be utilized for control of fire in Jharia Coalfields and for their reclamation and to further minimize time for fire and subsidence control. | <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-IV.</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: April 2021 to September 2021

|      |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Recommendations of NRSC is being implemented to control fire in JCF.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| vii  | The abandoned pits and voids should be backfilled with OB and reclaimed with plantation and or may be used for pisciculture.                                                                                                                                                                                                              | <p><b>It is being complied.</b></p> <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 V</b>).</li> <li>Abandoned Pits (Post Mining Phase) 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.                                                                                                                                                             | <p><b>It has been complied.</b></p> <ul style="list-style-type: none"> <li>A full-fledged Environment Department, headed by a HoD (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 in coordination with 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.                                                                                                                                                                                       | <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 VI.</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.                                                                                                                    | <p><b>Compliance is under progress.</b></p> <ul style="list-style-type: none"> <li>NEERI, Nagpur has completed Source Apportionment Study. In which, NEERI Nagpur has collected the data for Summer Season as well as for winter season. NEERI has submitted its Draft Final Report. The final report of Source Apportionment Study is awaited from NEERI. Details enclosed as <b>Annexure VII.</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. | <p><b>Compliance is under progress.</b></p> <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 VII.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|              |                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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.</li> <li>NRSC has submitted its latest Report on 31<sup>st</sup> August'2021.</li> <li>Conclusions of study have been enclosed as <b>Annexure VIII.</b></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 as per Feasibility.</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>                                                                                                                                                                                                                          |
| <b>xviii</b> | 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.                                                                                                                                                            | <b>It is being complied.</b> <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>                                                                                                                                  |



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|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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="884 891 1525 1283" data-label="Image"> </div> <div data-bbox="884 1323 1525 1704" data-label="Image"> </div> |
| <p><b>xxi</b></p> | <p>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.</p>                                                                                                                                                                                                                                              | <p><b>It is being complied.</b></p> <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>                                                                                                                                                            |

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| 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>Presently Plantation (Three-Tier Plantation) is being carrying out on finalized OB Dumps/De-coaled Area in scientific manner as per guidance of Forest Research Institute and State Forest Department.</li><li>Tentative Action Plan for Plantation:<table><tr><th>Year</th><th>Area (In Ha.) (Tentative)</th></tr><tr><td>2022-23</td><td>12.00</td></tr><tr><td>2023-24</td><td>15.00</td></tr></table></li></ul>                                                                                                                                                                          | Year | Area (In Ha.) (Tentative)              | 2022-23 | 12.00 | 2023-24 | 15.00 |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------|---------|-------|---------|-------|
| Year    | Area (In Ha.) (Tentative)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |                                        |         |       |         |       |
| 2022-23 | 12.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |                                        |         |       |         |       |
| 2023-24 | 15.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |                                        |         |       |         |       |
| 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:<table><tr><th>Year</th><th>No of Plants to be Planted (Tentative)</th></tr><tr><td>2020-21</td><td>1500*</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.</p><p>*The proposal for 5190 Nos of Avenue Plantation has been initiated and will be planted through State Forest Department.</p></li></ul> | Year | No of Plants to be Planted (Tentative) | 2020-21 | 1500* | 2021-22 | 5190* |
| Year    | No of Plants to be Planted (Tentative)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |                                        |         |       |         |       |
| 2020-21 | 1500*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |                                        |         |       |         |       |
| 2021-22 | 5190*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |                                        |         |       |         |       |
| xxiv    | Specific mitigative measured identified for Jharia Coalfields in the Environmental Action plan prepared for Dhanbad as a Critically polluted are and relevant for Cluster 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>                                                                                                                                                     |      |                                        |         |       |         |       |
| xxv     | The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuel wood, coal, fly ash from TPPs, silica from natural dust, etc) and a Source Apportionment Study should be got carried out the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition for the suspended particulate matter (PM10 and PM2.5) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate mitigative measures could be taken. | <b>It is being complied.</b> <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 completed Source Apportionment Study. In which, NEERI Nagpur has collected the data for Summer Season as well as for winter season. NEERI has submitted its Draft report. The final report of Source Apportionment Study is awaited from NEERI. Details enclosed as <b>Annexure VII</b>.</li><li>Mineralogical Composition Study is also part of Source Apportionment Study.</li></ul>                           |      |                                        |         |       |         |       |

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| xxvi   | <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 IX.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| xxvii  | <p>Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), Post-monsoon (November) and Winter (January) seasons and for quality including 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>▪ BCCL floated the Tender for awarding the work for Drilling and installation of 23 Nos of Piezometric Wells in the command area of BCCL on 28.03.2017; 22.12.2017; and 14.02.2019. However, no Bidder qualified for final award of work in the above concluded E-tenders floated by BCCL.</li> <li>▪ Further, the proposal and cost estimate was completely revised and tender was floated on 05.07.2021. The tender has opened on 28.07.2021 and four bidders have participated. Tender committee has concluded the technical scrutiny, opened the price bid and the recommended L1 Bidder for award of work. The proposal is under competent approval and letter of acceptance/Work order will be issued tentatively by Jan-22 with timeline of six months for completion.</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 X.</b></li> </ul> |
| xxviii | <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 XI.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| xxix   | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>Complied</b></p> <ul style="list-style-type: none"> <li>▪ Effluent Treatment Plant for HEMM Workshop is constructed.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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

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| xxx    | Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material. | <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>                                                                                                                                                                                                 |
| xxxi   | Sufficient coal pillars shall be left unextracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.                                                                                                                                                                                                                                                                                                                                   | <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>                                                                                                                                                                                                                                             |
| xxxii  | 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>                                                                                                                                                                        |
| xxxiii | 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>                                                                                                                                                                                                                             |
| xxxiv  | 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>                                                                                                                                                                                                                 |
| xxxv   | 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>                                                                                                                                                                                                                                                                                           |
| xxxvi  | 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 XII.</b></li> </ul> |
| xxxvii | 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 III.</b></li> </ul>                                                                                                                                                                                              |

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| xxxviii | R&R of 4959 nos of PAF's involved. They should be rehabilitated at cost of shifting to safe areas at the cost of Rs 29948 Lakhs as per the approved Jharia Action Plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <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 1293 Nos of PAFs have been rehabilitated. <b>Enclosed as Annexure XIII.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| xxxix   | 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.</li> <li>Drinking water supply through mobile water tanker in nearby areas as CSR Activity.</li> </ul> |
| XL      | For monitoring land use pattern and for post mining land use, a time series of land-use maps, based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneswar.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <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 XIV.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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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 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 XV</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 XVI.</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 VI.</b></li> <li>▪ Air quality Monitoring report has been enclosed as <b>Annexure XVII.</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 regulations and are equipped with Personal Protective Equipment. Noise monitoring data has been enclosed as <b>Annexure XVIII</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 XI</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>As per Motor Vehicle 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 XI, XVII, XVIII</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 XIX</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 XX.</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 HoD (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 in coordination with 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><br>Enclosed as <b>Annexure XXI</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. The same has been uploaded on Parivesh Portal.</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>It has been Complied</b><br>100 m throw capacity fog canon has been installed for dust suppressions at Bastacolla OCP. Details enclosed as <b>Annexure XXII</b>                                                                                                                      |
| ii.                                                                     | Fixed Long range sprinkling system along the railway siding shall be implemented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Compliance is under progress.</b><br>The Coal from Bastacolla Colliery is being dispatched through BNR Railway Siding.<br>The work order has been issued for "Installation of fixed water sprinkler system at BNR Siding with pipe line works and other associated civil works under |

## 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: April 2021 to September 2021

|       |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       |                                                                                                                                                                                                                                            | 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 XXIII</b> .<br>The installation and commissioning work is under progress.                                                                                                                                                                                       |
| 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><br>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><br>▪ Green Belt shall be developed as per current Geo-Mining Conditions.                                                                                                                                                                                                                                                                                                       |
| 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>It has been complied.</b><br>PM <sub>10</sub> Analyzer has been installed and being configured for display of data in public domain through JSPCB Server.<br>In addition to that, For Ambient Air Quality Monitoring, a CAAQMS is proposed to be installed for Cluster VIII Coal Mining Project. Copy of Approval of Location from Jharkhand State Pollution Control Board is enclosed as <b>Annexure XXIV</b> . |
| vii.  | Coal transportation will be done through covered trucks with tarpaulin sheets.                                                                                                                                                             | <b>It is being complied.</b><br>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><br>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><br>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 XX</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>It shall be Complied.</b><br>The finalized part of OB Dump (Slopes/ Benches etc.) are vegetated by grassing.                                                                                                                                                                                                                                                                                                     |

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Period: April 2021 to September 2021

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                  |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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>It is being Complied.</b><br>The finalized part of OB Dump (Slopes/ Benches etc.) are vegetated by grassing.                                                                                                                                  |
| 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><br>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>                                                                                                                                                                                                                                     |



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|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 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 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.                                                                                                                                                                                | <b>Agree</b> |
| 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." | <b>Agree</b> |

  
Project Officer  
Bastacolla  
Colliery

  
Project Officer  
Bera Colliery

  
Project Officer  
Dobari Colliery

  
Project Officer  
Kuya Colliery

  
Project Officer  
Ghanoodin  
Colliery

  
Project Officer  
Kujama Colliery

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**Annexure- I**

**Coal Production from Cluster VIII (April 2021 to September 2021)**

| <b>Month</b>               | <b>Production (In Tonnes)</b> |
|----------------------------|-------------------------------|
| <b>Bastacolla Colliery</b> | <b>518835.00</b>              |
| <b>Bera Colliery</b>       | <b>12111.00</b>               |
| <b>Dobari Colliery</b>     | <b>0.00</b>                   |
| <b>Ghanoodih Colliery</b>  | <b>0.00</b>                   |
| <b>Kuya Colliery</b>       | <b>1119751.00</b>             |
| <b>Kujama Colliery</b>     | <b>0.00</b>                   |
| <b>Total</b>               | <b>1650697.00</b>             |

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**Annexure-II**

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



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**Annexure-III**

**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.आई.डी.एल.एल.)  
(एन.सी.आई.डी.एल.एल.)  
गोण्डवारा रोड, कार्का रोड, रांची - 834 031, झारखण्ड (भारत)  
Central Mine Planning & Design Institute Limited  
(A Subsidiary of Coal India Limited / Govt. of India Public Sector Undertaking)  
Gondwana Road, Karaka 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,

संतनवकः यथोक्त

भवदीय  
Dhanraj  
(पुष्कर) 20.7.18

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**

**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).

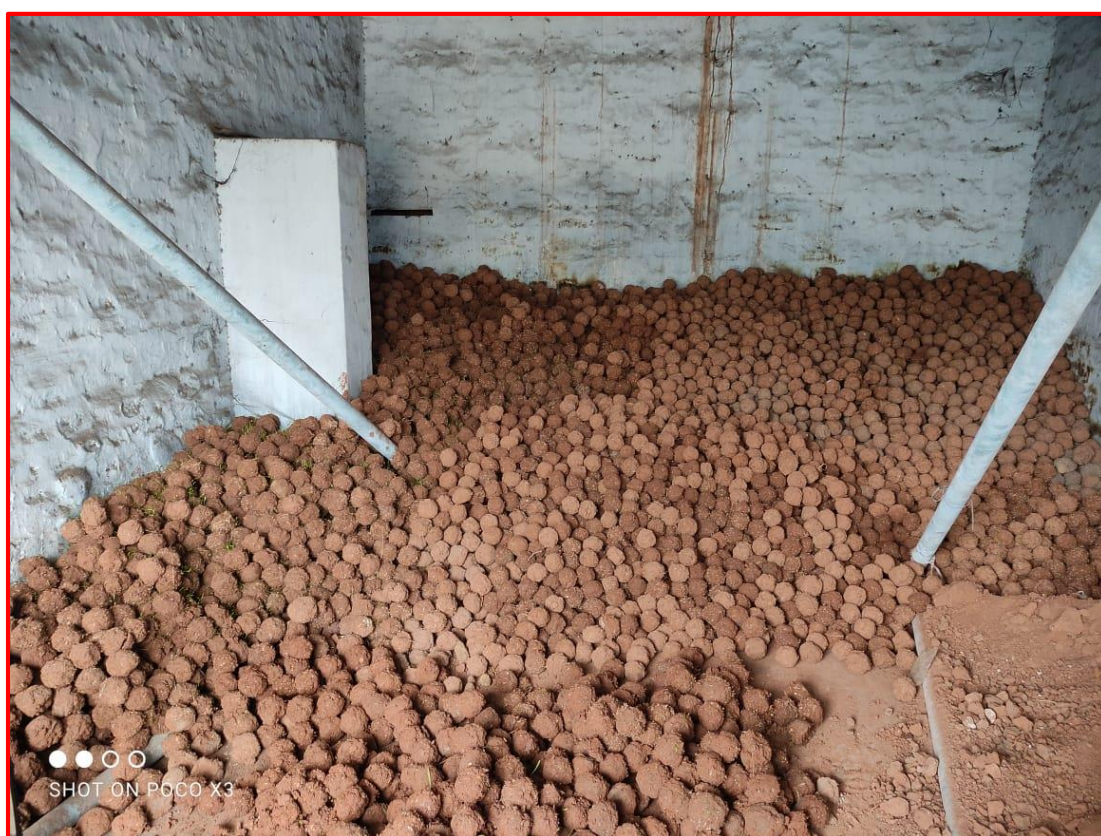
Sd/-  
General Manager  
(Contract Management Cell)



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**Annexure-V**

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





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**Annexure-VI**



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद्  
Jharkhand State Pollution Control Board  
HIG-1, Housing Colony, Dhanbad-826001

Ph: 0326-2204933

(7)

Letter No.....2650

Dated .....6/7/13.....

From,

Regional Officer,  
Dhanbad

To,

HOD (Envt.),  
M/s. B.C.C.L.,  
Koyla Bhawan, Koyla Nagar,  
Dhanbad.

**Sub: Fixing up monitoring station/Sampling location of Air, Water & Noise.**

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.....

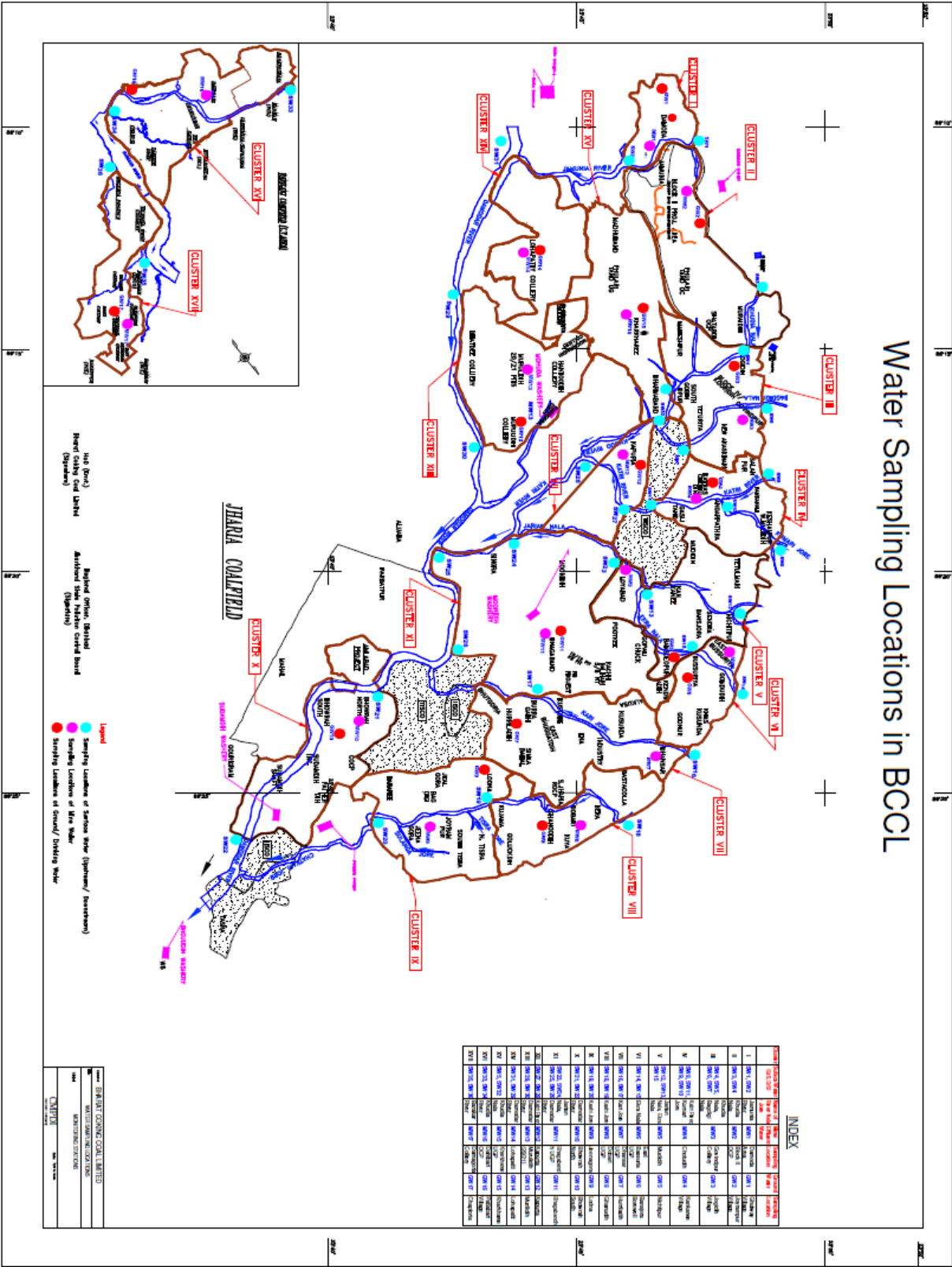
Dhanbad, dated.....

Copy to: The Member Secretary, Jharkhand State Pollution Control Board for information  
& enclose a copy of the map for necessary action.

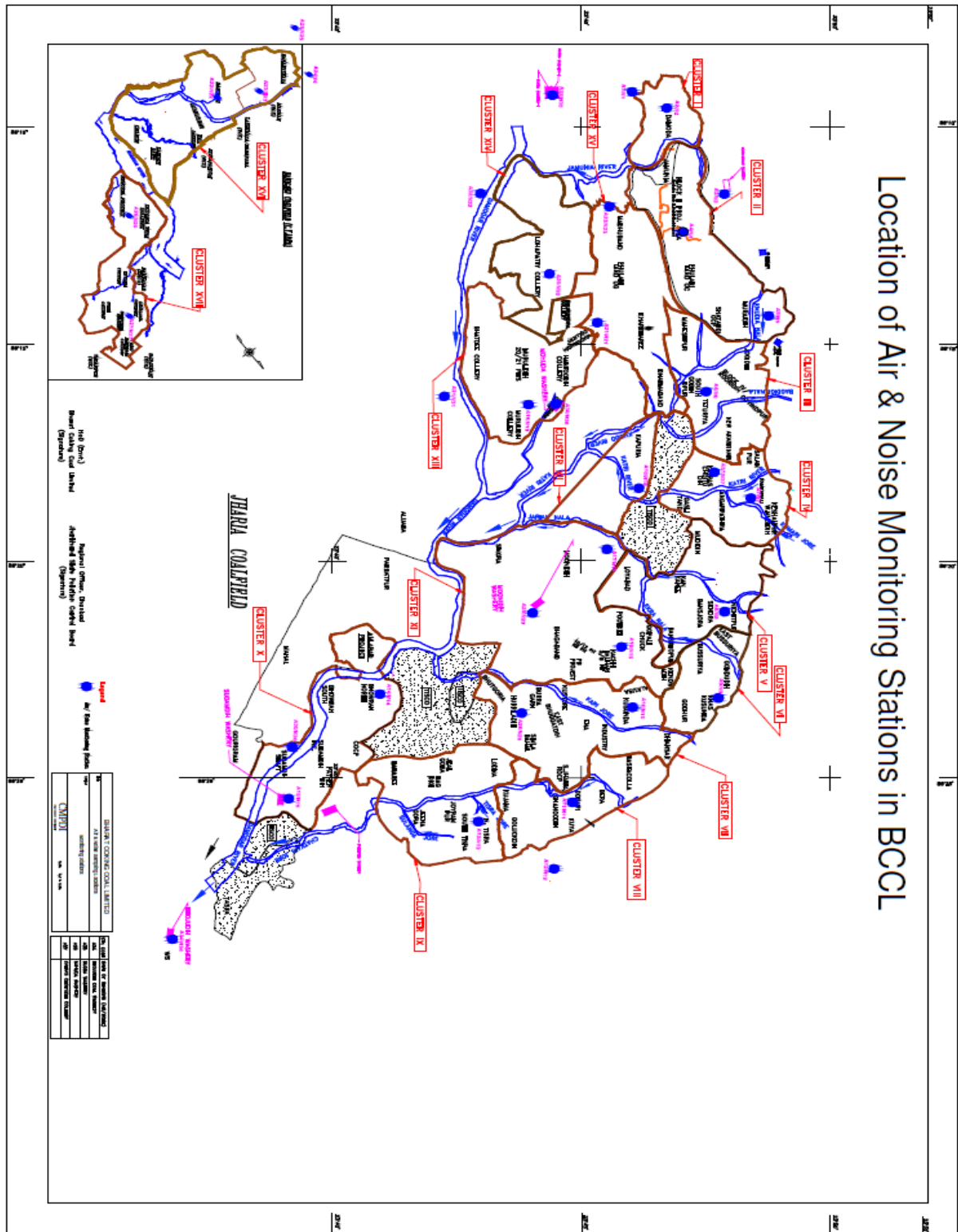
Encl-A/a.

(Dinesh Pd. Singh)  
Regional Officer.

Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project  
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**Annexure – VII**



**COAL INDIA LIMITED**  
**कोल इण्डिया लिमिटेड**  
**ENVIRONMENT DIVISION**  
**पर्यावरण विभाग**

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

मुख्यप्रबंधक/पर्यावरण  
सी. आई. एल.,



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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<br>– (After identification of stations in Jharia Coalfield and submission of its report)<br>2nd Installment: 30% + GST + All applicable Cess & surcharges<br>– (After completion of field data collection)<br>3rd & Final Installment: 20% + GST + All applicable Cess & surcharges<br>– (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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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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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

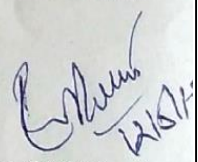
This terms of reference is given to you in duplicate. You are advised to submit your consent by returning second copy of the terms of referenceduly signed by you as a token of acceptance of the award within 7(seven) days from the date of receipt of this letter.

**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.

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**Annexure - VIII**

भारत सरकार  
अन्तरिक्ष विभाग  
**राष्ट्रीय सुदूर संवेदन केन्द्र**  
बालानगर, हैदराबाद-500 625, आ.प्र. भारत  
टेलिफोन : +040-23879572-76  
+040-23879261-65  
फैक्स : +040-23878648



Government of India  
Department of Space  
**National Remote Sensing Centre**  
Balanagar, Hyderabad - 500 625, A P, India  
Telephone : +040-23879572-76  
+040-23879261-65  
Fax : +040-23878648

Dt. 07-Oct-2021  
Hyderabad.

To,  
Director (Tech),  
Bharat Coking of Coal Limited (BCCL),  
Environment Department, Koyla Bhawan,  
Koyla Nagar, Dhanbad – 826 005.  
JHARKHAND.

Dear Sir,

The project titled "DELINEATION OF SURFACE COAL FIRE AND ASSOCIATED LAND SUBSIDENCE IN THE JHARIA COALFIELD, JHARKHAND USING SATELLITE BASED REMOTE SENSING TECHNIQUES" is now completed. Please find enclosed the final project report and the necessary supporting files as per the MoU, in soft and hard copy format.

Kindly send confirmation after receipt of Data and Report which will help us to close Project. Your feedback on the project work is highly appreciated.

Yours faithfully

  
(Dr. K. Vinod Kumar)

Group Director,  
Geosciences Group / RSAA.

Enclosed:

- 1) CD
- 2) Reports
- 3) Maps.

भारतीय अंतरिक्ष अनुसंधान संगठन  Indian Space Research Organisation



**DELINEATION OF SURFACE COAL FIRE AND  
ASSOCIATED LAND SUBSIDENCE IN THE  
JHARIA COALFIELD, USING SATELLITE  
BASED REMOTE SENSING TECHNIQUES**

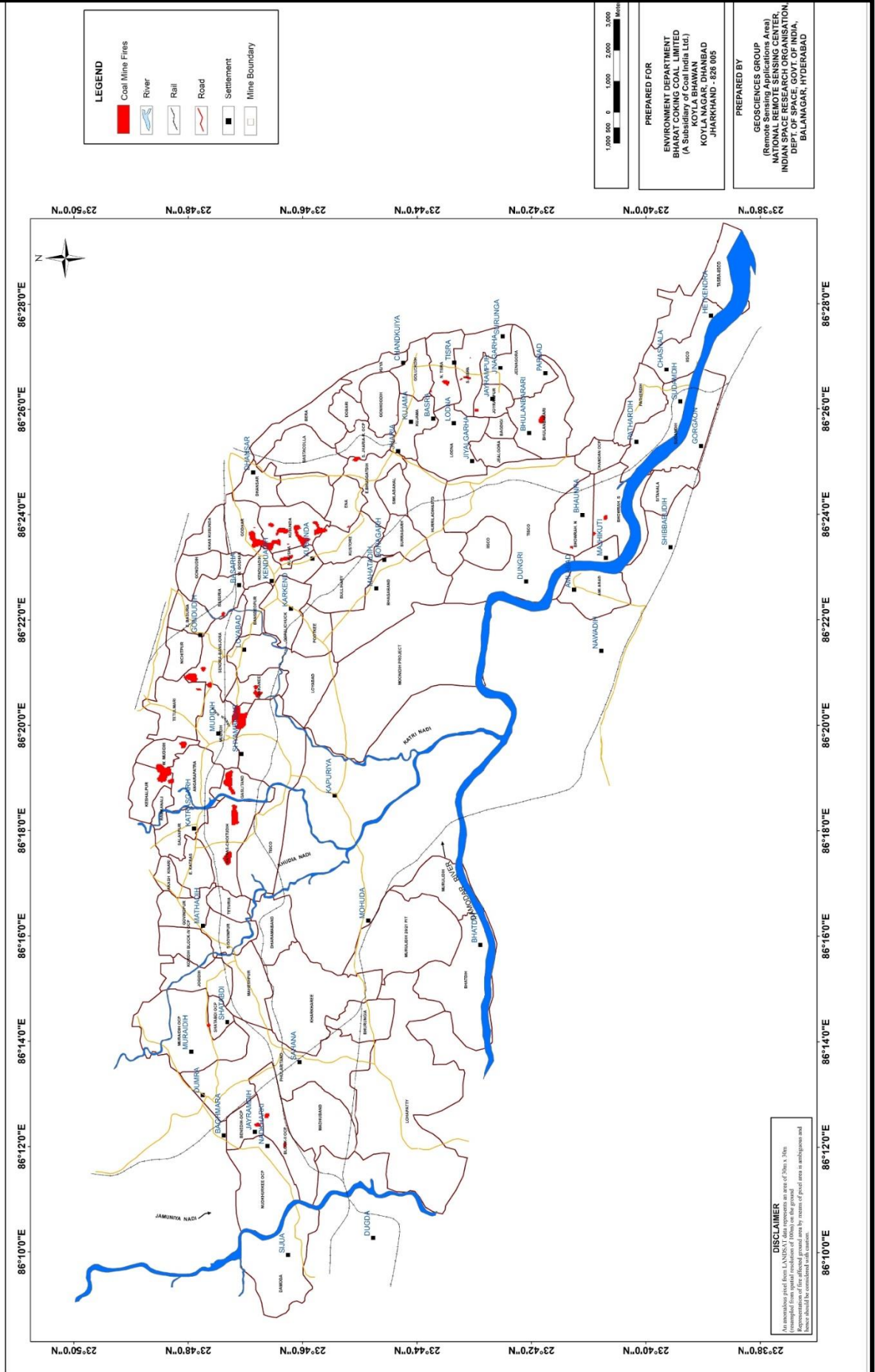


**GEODYNAMICS AND GEOHAZARDS DIVISION  
GEOSCIENCES GROUP  
REMOTE SENSING APPLICATIONS AREA  
NATIONAL REMOTE SENSING CENTRE  
INDIAN SPACE RESEARCH ORGANISATION  
DEPT. OF SPACE, GOVT. OF INDIA  
HYDERABAD-500 037**

**AUGUST, 2021**

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**COAL MINE FIRE MAP OF JHARIA COALFIELD, DHANBAD, JHARKHAND**  
**(Prepared using Landsat-8 data of May, 2020)**

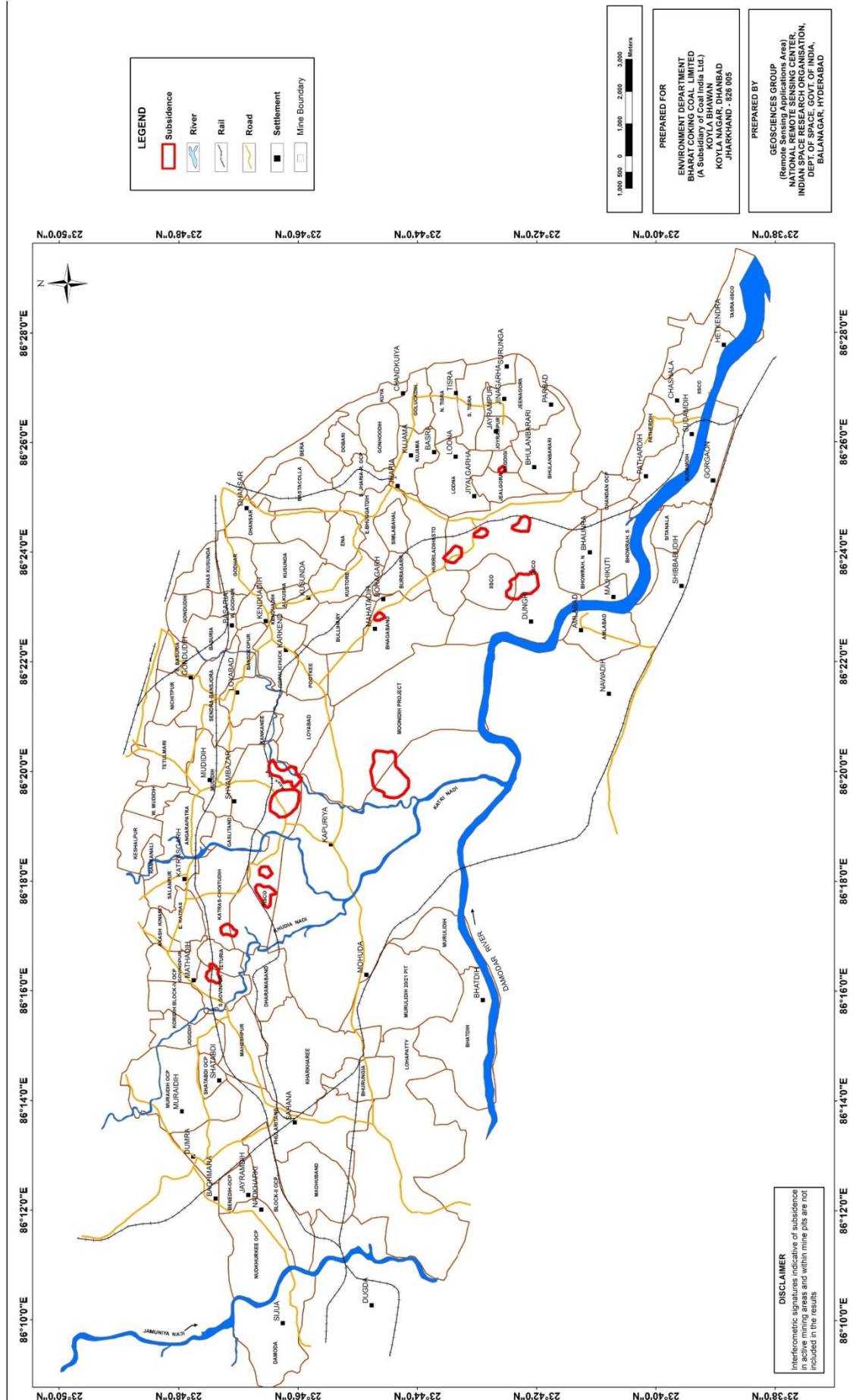




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**LAND SUBSIDENCE MAP OF THE JHARIA COALFIELD, DHANBAD, JHARKHAND**  
**(Prepared using Palsar-2 data)**

For Official Use Only



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Colliery wise break-up of change in fire area from 2017 to 2020

| COLLIERY AREA NAME                                                                                                                            | FIRE AREA 2017 (SQ. KM.) | FIRE AREA 2020 (SQ. KM.) | AREA CHANGE (SQ. KM.) | Increase/Decrease |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-----------------------|-------------------|
| BENEDIH OCP                                                                                                                                   | 0.045                    | 0.020                    | -0.026                | DECREASE          |
| BLOCK-II OCP                                                                                                                                  | 0.135                    | 0.034                    | -0.101                | DECREASE          |
| MURADIH OCP                                                                                                                                   | 0.002                    | 0.006                    | 0.004                 | INCREASE          |
| SHATABDI OCP                                                                                                                                  | 0.036                    | 0.005                    | -0.031                | DECREASE          |
| PHULARITAND                                                                                                                                   | 0.021                    | 0.000                    | -0.021                | DECREASE          |
| KATRAS-CHOITUDIH                                                                                                                              | 0.137                    | 0.214                    | 0.077                 | INCREASE          |
| KESHALPUR                                                                                                                                     | 0.001                    | 0.134                    | 0.132                 | INCREASE          |
| BASURIA                                                                                                                                       | 0.000                    | 0.012                    | 0.012                 | INCREASE          |
| TETULMARI                                                                                                                                     | 0.022                    | 0.011                    | -0.011                | DECREASE          |
| GODHAR                                                                                                                                        | 0.000                    | 0.132                    | 0.132                 | INCREASE          |
| INDUSTRY                                                                                                                                      | 0.051                    | 0.000                    | -0.051                | DECREASE          |
| KUSUNDA                                                                                                                                       | 0.740                    | 0.399                    | -0.340                | DECREASE          |
| SENDRA-BANSJORA                                                                                                                               | 0.027                    | 0.110                    | 0.083                 | INCREASE          |
| BASTACOLLA                                                                                                                                    | 0.081                    | 0.000                    | -0.081                | DECREASE          |
| GOLUCKDIH                                                                                                                                     | 0.112                    | 0.000                    | -0.112                | DECREASE          |
| KUJAMA                                                                                                                                        | 0.240                    | 0.000                    | -0.240                | DECREASE          |
| S. JHARIA-R. OCP                                                                                                                              | 0.112                    | 0.010                    | -0.102                | DECREASE          |
| GONHOODIH                                                                                                                                     | 0.032                    | 0.001                    | -0.031                | DECREASE          |
| ENA                                                                                                                                           | 0.043                    | 0.004                    | -0.040                | DECREASE          |
| N. TISRA                                                                                                                                      | 0.180                    | 0.031                    | -0.149                | DECREASE          |
| LODNA                                                                                                                                         | 0.353                    | 0.000                    | -0.353                | DECREASE          |
| S. TISRA                                                                                                                                      | 0.102                    | 0.021                    | -0.081                | DECREASE          |
| BARAREE                                                                                                                                       | 0.107                    | 0.040                    | -0.068                | DECREASE          |
| KENDUADIH                                                                                                                                     | 0.000                    | 0.001                    | 0.001                 | INCREASE          |
| GASLITAND                                                                                                                                     | 0.122                    | 0.156                    | 0.034                 | INCREASE          |
| KANKANEE                                                                                                                                      | 0.052                    | 0.057                    | 0.004                 | INCREASE          |
| MUDIDIH                                                                                                                                       | 0.110                    | 0.220                    | 0.110                 | INCREASE          |
| LOYABAD                                                                                                                                       | 0.006                    | 0.000                    | 0.079                 | DECREASE          |
| E.BHUGGATDIH                                                                                                                                  | 0.021                    | 0.020                    | -0.001                | DECREASE          |
| ALKUSHA                                                                                                                                       | 0.029                    | 0.046                    | 0.016                 | INCREASE          |
| KUSTORE                                                                                                                                       | 0.046                    | 0.014                    | -0.032                | DECREASE          |
| ANGARAPATRA                                                                                                                                   | 0.015                    | 0.036                    | 0.021                 | INCREASE          |
| BHOWRAH. N                                                                                                                                    | 0.098                    | 0.006                    | -0.092                | DECREASE          |
| BAGDIGI                                                                                                                                       | 0.021                    | 0.000                    | -0.021                | DECREASE          |
| JEALGORA                                                                                                                                      | 0.007                    | 0.000                    | -0.007                | DECREASE          |
| JEENAGORA                                                                                                                                     | 0.047                    | 0.000                    | -0.047                | DECREASE          |
| JOYRAMPUR                                                                                                                                     | 0.104                    | 0.011                    | -0.093                | DECREASE          |
| <b>TOTAL AREA</b>                                                                                                                             | <b>3.3</b>               | <b>1.8</b>               | <b>1.5</b>            | <b>DECREASE</b>   |
| <b>Note:</b>                                                                                                                                  |                          |                          |                       |                   |
| 1) The minimum mapable unit from satellite image is 30m by 30m or 0.0009 km <sup>2</sup>                                                      |                          |                          |                       |                   |
| 2) "INCREASE" implies, increase in fire area OR emergence of fire areas not identified in 2017 study                                          |                          |                          |                       |                   |
| 3) "DECREASE" implies, decrease in fire area OR fire areas in 2017 not identified in present study (either absent or below sensor resolution) |                          |                          |                       |                   |
| 4) Values marked in "blue" are collieries where fire has was reported in 2017 study but presently shows no such signatures.                   |                          |                          |                       |                   |

## 7.2 Conclusions

The following conclusions can be made:

1. As of the date of study in the year 2020 and in comparison with the previous study done in 2017, there has been a change in areal extent and disposition of the fire affected areas. On the other hand, persistent subsidence is seen in the Moonidih area due to underground mining activities.
2. Compared to 2012, the eastern flanks (Lodna, Tisra, Bhulanbarai areas) show considerable decrease in fire disposition and the western flank (Shatabdi and Block II area) show diminished fire presence.
3. The fires are continuation of existing fire affected areas as seen in the 2017 study.
4. The mines in Kusunda remain to be the worst affected with maximum presence of active fires.
5. There is a decrease in areal extent of the fire from 2017 to 2020. As compared 2017, when the total fire affected extent of the JCF was about 3.28 km<sup>2</sup>; in 2020 total fire affected extent is about 1.89 km<sup>2</sup> (including TISCO mines). Within the mining lease of BCCL (excluding TISCO) in comparison 2017, when the total fire affected extent of the JCF was about 3.27 km<sup>2</sup>; in 2020 total fire affected extent is about 1.86 km<sup>2</sup>.

*Note: The minimum mapable unit from satellite image is 30m by 30m or 0.0009 km<sup>2</sup>. Estimations of fire extent (in terms of sq.km.) both in 2017 and in the present 2020 study are pixel based. They may differ from 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.*

## **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.

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

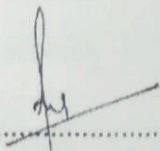
For Coal India Limited

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

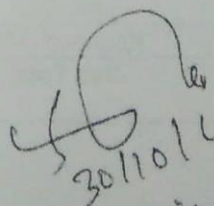
2. Ramesh Kumar,  
Engineer in Chief,  
Drinking Water & Sanitation  
Department, Government of  
Jharkhand.

(.....)

Witness 1

(Soumitra Singh)

Witness 1

()  
30/10/2021  
(Aboobacker Siddique P.)

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

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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:

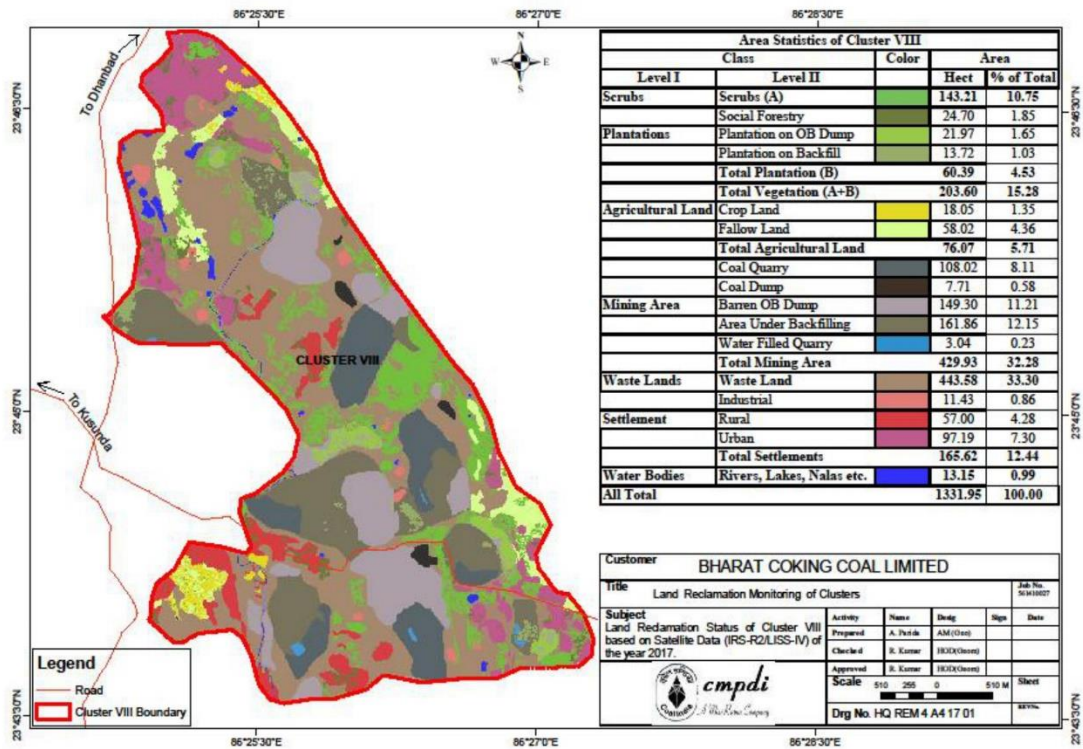
| Sl No.                  | Well No. | Location  | Water level (bgl in meters) |      |      |      |         |      |      |      |         |       |      |      |
|-------------------------|----------|-----------|-----------------------------|------|------|------|---------|------|------|------|---------|-------|------|------|
|                         |          |           | 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      | Alagdih   | 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.

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

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

**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: April 2021 to September 2021**

**Annexure-XI**

**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**

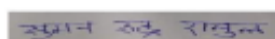
The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC. Results show that most of the parameters are within the permissible limits.

**WATER QUALITY DATA**

*(EFFLUENT WATER- FOUR PARAMETERS)*

| Name of the Cluster:<br>Cluster -VIII |                        | Month:<br>APRIL 2021                 | Name of the Station: Mine Discharge of Dobari<br>UGP |                                                     |
|---------------------------------------|------------------------|--------------------------------------|------------------------------------------------------|-----------------------------------------------------|
| Sl. No.                               | Parameters             | MW8<br>First Fortnight<br>05.04.2021 | MW8<br>Second Fortnight<br>19.04.2021                | As per MOEF General<br>Standards for<br>schedule VI |
|                                       |                        |                                      |                                                      |                                                     |
| 1                                     | Total Suspended Solids | 52                                   | 34                                                   | 100 (Max)                                           |
| 2                                     | pH                     | 7.98                                 | 7.92                                                 | 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.

  
 Analyzed 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

**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: April 2021 to September 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:<br>Cluster -VIII |                        | Month:<br><b>MAY 2021</b> |                         | Name of the Station: Mine Discharge of Dobari<br>UGP |  |
|---------------------------------------|------------------------|---------------------------|-------------------------|------------------------------------------------------|--|
| Sl.<br>No.                            | Parameters             | MW8<br>First Fortnight    | MW8<br>Second Fortnight | As per MOEF General<br>Standards for<br>schedule VI  |  |
|                                       |                        | 03.05.2021                | 31.05.2021              |                                                      |  |
| 1                                     | Total Suspended Solids | 38                        | 34                      | 100 (Max)                                            |  |
| 2                                     | pH                     | 7.91                      | 7.85                    | 5.5 - 9.0                                            |  |
| 3                                     | Oil & Grease           | <2.0                      | <2.0                    | 10 (Max)                                             |  |
| 4                                     | COD                    | 32                        | 36                      | 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: April 2021 to September 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

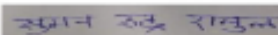
The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC. Results show that most of the parameters are within the permissible limits.

### WATER QUALITY DATA

*(EFFLUENT WATER- FOUR PARAMETERS)*

| Name of the Cluster:<br>Cluster -VIII |                        | Month:<br>JUNE 2021                  |                                       | Name of the Station: Mine Discharge of Dobari<br>UGP |  |
|---------------------------------------|------------------------|--------------------------------------|---------------------------------------|------------------------------------------------------|--|
| Sl.<br>No.                            | Parameters             | MW8<br>First Fortnight<br>07.06.2021 | MW8<br>Second Fortnight<br>28.06.2021 | As per MOEF General<br>Standards for<br>schedule VI  |  |
|                                       |                        |                                      |                                       |                                                      |  |
| 1                                     | Total Suspended Solids | 33                                   | 37                                    | 100 (Max)                                            |  |
| 2                                     | pH                     | 7.84                                 | 7.81                                  | 5.5 - 9.0                                            |  |
| 3                                     | Oil & Grease           | <2.0                                 | <2.0                                  | 10 (Max)                                             |  |
| 4                                     | COD                    | 24                                   | 24                                    | 250 (Max)                                            |  |

All values are expressed in mg/lit except pH.

  
 Analyzed 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

**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: April 2021 to September 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:<br>Cluster -VIII |                        | Month:<br>JULY 2021                  | Name of the Station: Mine Discharge of Dobari<br>UGP |                                                     |
|---------------------------------------|------------------------|--------------------------------------|------------------------------------------------------|-----------------------------------------------------|
| Sl.<br>No.                            | Parameters             | MW8<br>First Fortnight<br>12.07.2021 | MW8<br>Second Fortnight<br>19.07.2021                | As per MOEF General<br>Standards for<br>schedule VI |
|                                       |                        |                                      |                                                      |                                                     |
| 1                                     | Total Suspended Solids | 48                                   | 47                                                   | 100 (Max)                                           |
| 2                                     | pH                     | 7.09                                 | 7.12                                                 | 5.5 - 9.0                                           |
| 3                                     | Oil & Grease           | <2.0                                 | <2.0                                                 | 10 (Max)                                            |
| 4                                     | COD                    | 20                                   | 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

**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: April 2021 to September 2021**

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### 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

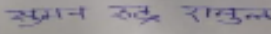
The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC. Results show that most of the parameters are within the permissible limits.

### WATER QUALITY DATA

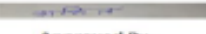
*(EFFLUENT WATER- FOUR PARAMETERS)*

| Name of the Cluster:<br>Cluster -VIII |                        | Month:<br>AUGUST 2021                | Name of the Station: Mine Discharge of Dobari<br>UGP |                                                     |
|---------------------------------------|------------------------|--------------------------------------|------------------------------------------------------|-----------------------------------------------------|
| Sl. No.                               | Parameters             | MW8<br>First Fortnight<br>02.08.2021 | MW8<br>Second Fortnight<br>30.08.2021                | As per MOEF General<br>Standards for<br>schedule VI |
| 1                                     | Total Suspended Solids | 33                                   | 42                                                   | 100 (Max)                                           |
| 2                                     | pH                     | 8.17                                 | 7.95                                                 | 5.5 - 9.0                                           |
| 3                                     | Oil & Grease           | <2.0                                 | <2.0                                                 | 10 (Max)                                            |
| 4                                     | COD                    | 20                                   | 24                                                   | 250 (Max)                                           |

All values are expressed in mg/lit except pH.

  
 Analyzed 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

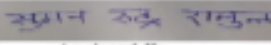
The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC. Results show that most of the parameters are within the permissible limits.

## WATER QUALITY DATA

### (EFFLUENT WATER- FOUR PARAMETERS)

| Name of the Cluster:<br>Cluster -VIII |                        | Month:<br>SEPTEMBER 2021             | Name of the Station: Mine Discharge of Dobari<br>UGP |                                                     |
|---------------------------------------|------------------------|--------------------------------------|------------------------------------------------------|-----------------------------------------------------|
| Sl. No.                               | Parameters             | MW8<br>First Fortnight<br>06.09.2021 | MW8<br>Second Fortnight<br>20.09.2021                | As per MOEF General<br>Standards for<br>schedule VI |
| 1                                     | Total Suspended Solids | 45                                   | 49                                                   | 100 (Max)                                           |
| 2                                     | pH                     | 8.14                                 | 7.96                                                 | 5.5 - 9.0                                           |
| 3                                     | Oil & Grease           | <2.0                                 | <2.0                                                 | 10 (Max)                                            |
| 4                                     | COD                    | 20                                   | 16                                                   | 250 (Max)                                           |

All values are expressed in mg/lit except pH.

  
 Analyzed 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: April 2021 to September 2021**

**Annexure - XII**  
**Transportation Plan for Conveyor**



**cmpdi**  
*A Mini Ratna Company*

सेंट्रल माइन प्लानिंग एण्ड डिजाइन इंस्टीट्यूट लिमिटेड  
 ( कोल इंडिया लिमिटेड की अनुबंधी कंपनी / भारत सरकार की एक लोक उपक्रम )  
 पंजीकृत कार्यालय : गोंदवाना प्लेस , कान्के 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/- Anuragendu S.B.  
 For compliance purpose.

*[Signature]*  
 23/6/15

भवदीय  
*[Signature]*  
 (वि. कु. सिन्हा)  
 क्षेत्रीय निदेशक



☎ : (+91) 0326-2230850 ☎ / 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)

**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: April 2021 to September 2021**

**Annexure-XIII**

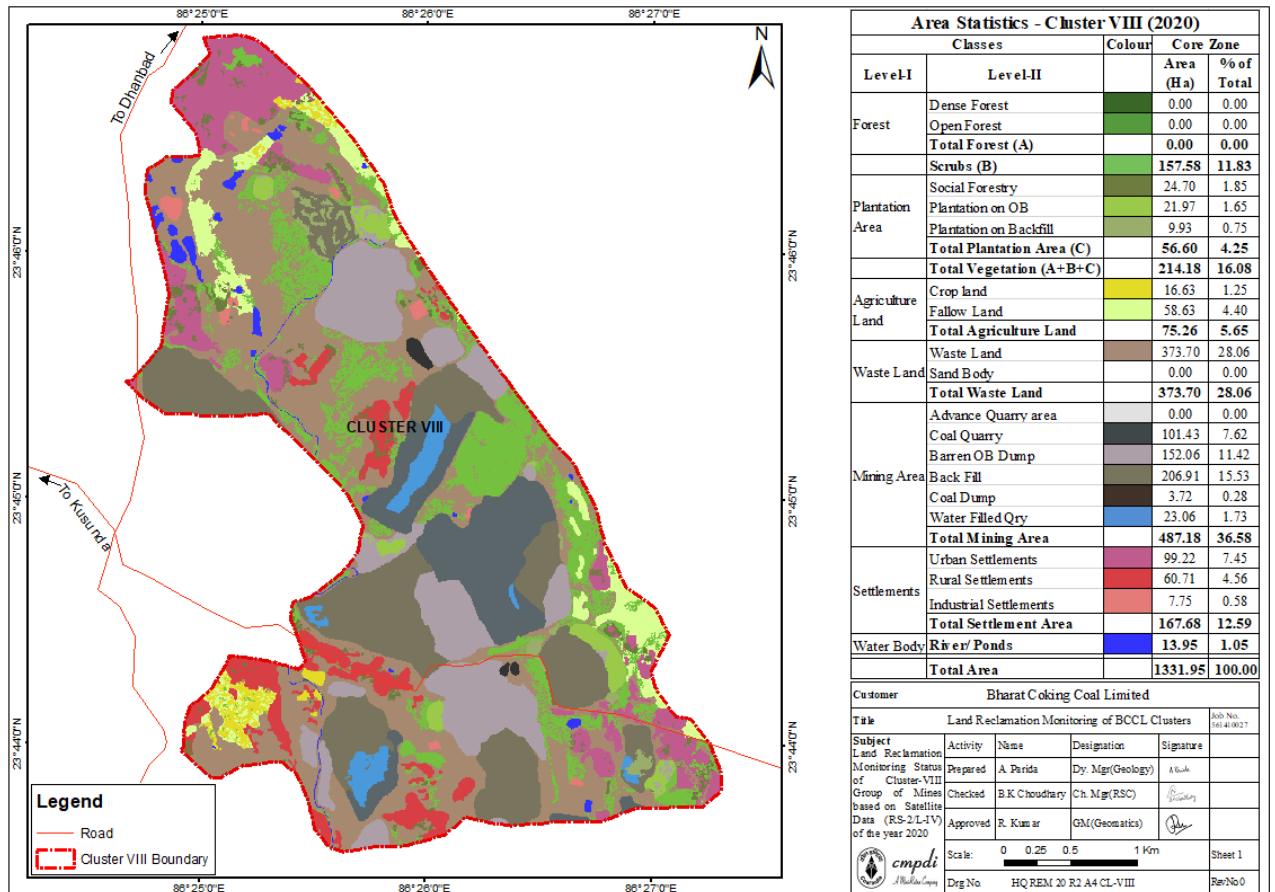
**R&R of PAFs**

| <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         | 159                                               |
| 4              | Ghanoodih Colliery      | 572                                               |
| 5              | Kuya Colliery           | 342                                               |
| 6              | Kujama Colliery         | 220                                               |
| <b>Total</b>   |                         | <b>1293</b>                                       |

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: April 2021 to September 2021**

**Annexure-XIV**

**Land use Map generated from Remote Sensing Data**





**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: April 2021 to September 2021**

**Annexure-XV**

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





**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: April 2021 to September 2021**

**Annexure-XVI**

**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  
Katha Bhawan  
Jharia  
Jharkhand  
226005

**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: April 2021 to September 2021**

**Annexure-XVII**

**Air Quality Data**

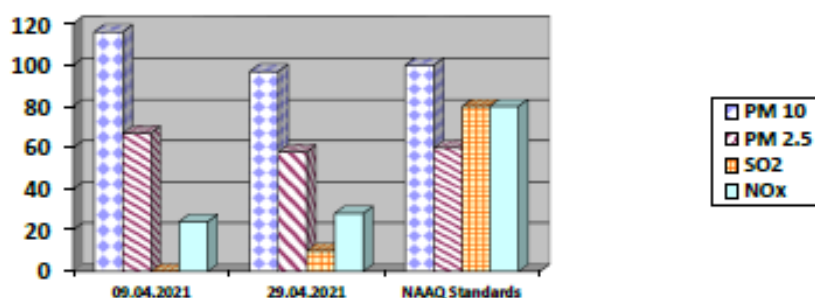
8

**AMBIENT AIR QUALITY DATA**

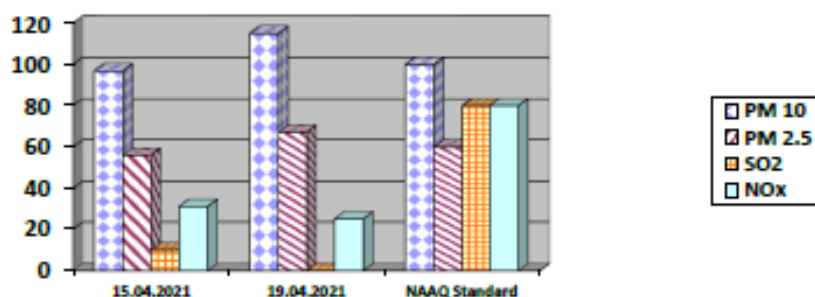
**Cluster-VIII, Bharat Coking Coal limited Month: APRIL 2021**

**Year: 2021-22.**

| 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                              | 09.04.2021        | 116        | 67     | <10                  | 24              |
| 2                              | 29.04.2021        | 97         | 58     | 10                   | 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                             | 15.04.2021        | 97           | 56     | 10                   | 31              |
| 2                             | 19.04.2021        | 115          | 67     | <10                  | 25              |
|                               | NAAQ Standard     | 100          | 60     | 80                   | 80              |



Analysed By  
JHA/S.A/R.R.A.

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

**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: April 2021 to September 2021**

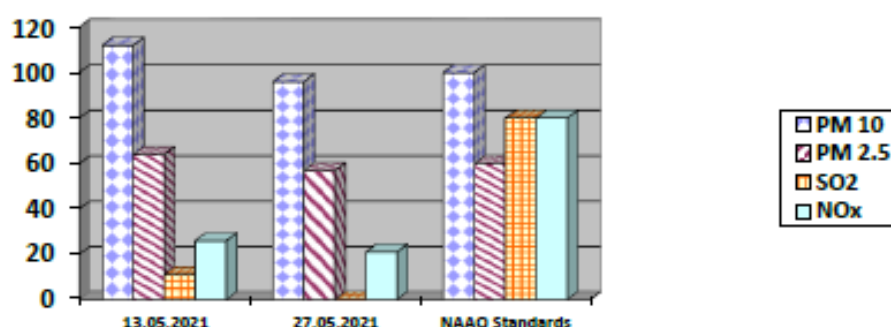
8

**AMBIENT AIR QUALITY DATA**

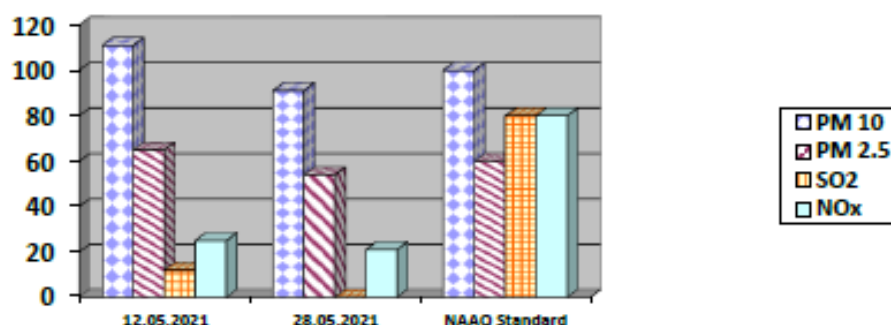
Cluster-VIII, Bharat Coking Coal limited Month: MAY 2021

Year: 2021-22.

| 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                              | 13.05.2021        | 112        | 64     | 11                   | 26              |
| 2                              | 27.05.2021        | 96         | 57     | <10                  | 21              |
|                                | 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                             | 12.05.2021        | 111          | 65     | 12                   | 25              |
| 2                             | 28.05.2021        | 91           | 54     | <10                  | 21              |
|                               | NAAQ Standard     | 100          | 60     | 80                   | 80              |



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 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: April 2021 to September 2021**

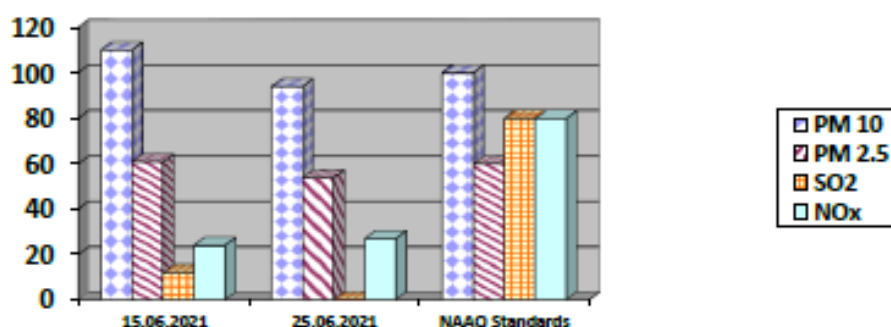
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**AMBIENT AIR QUALITY DATA**

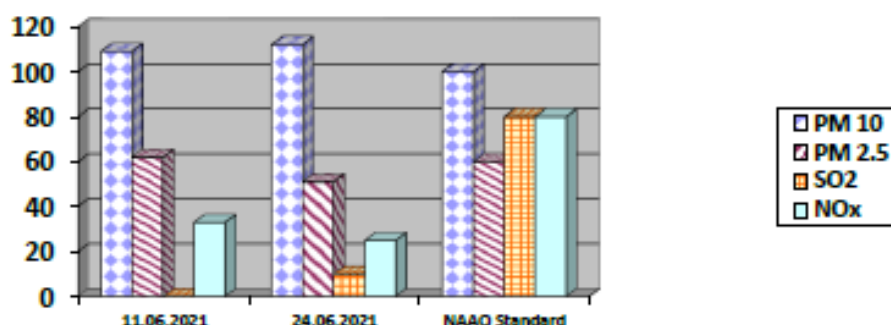
**Cluster-VIII, Bharat Coking Coal limited Month: JUNE 2021**

**Year: 2021-22.**

| 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                              | 15.06.2021        | 110        | 61     | 12                   | 24              |
| 2                              | 25.06.2021        | 94         | 54     | <10                  | 27              |
|                                | 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                             | 11.06.2021        | 109          | 62     | <10                  | 33              |
| 2                             | 24.06.2021        | 112          | 51     | 10                   | 25              |
|                               | NAAQ Standard     | 100          | 60     | 80                   | 80              |



Analysed By  
JSA/SA/NSA

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Lab In Charge  
RI-2, CMPDI, Dhanbad

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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: April 2021 to September 2021**

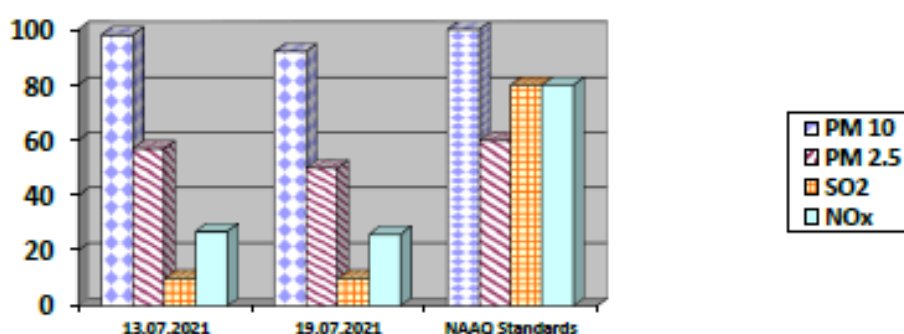
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**AMBIENT AIR QUALITY DATA**

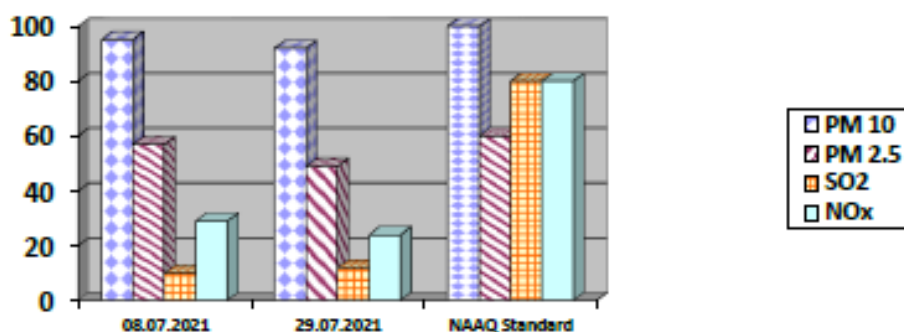
Cluster-VIII, Bharat Coking Coal limited Month: JULY 2021

Year: 2021-22.

| Station Name: Dobar 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                             | 13.07.2021        | 98         | 57     | 10                   | 27              |
| 2                             | 19.07.2021        | 92         | 50     | 10                   | 26              |
|                               | 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                             | 08.07.2021        | 95           | 57     | 10                   | 29              |
| 2                             | 29.07.2021        | 92           | 49     | 12                   | 24              |
|                               | NAAQ Standard     | 100          | 60     | 80                   | 80              |



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 RI-2, CMPDI, Dhanbad

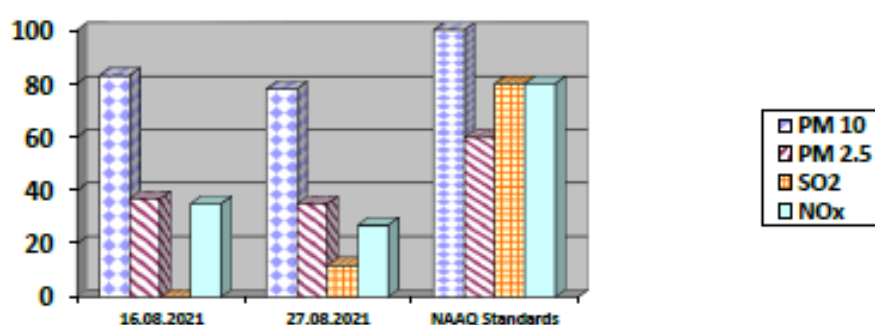
**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
**EC No: J-11015/298/2010-IA.II(M) Dated 15.02.2013/15.06.2018/15.11.2020**  
**Period: April 2021 to September 2021**

8

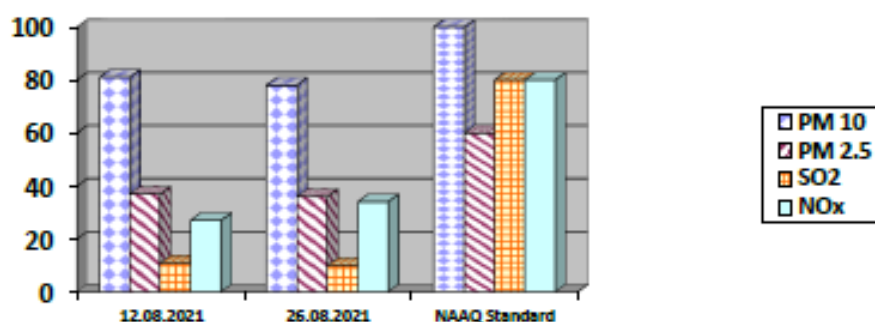
**AMBIENT AIR QUALITY DATA**

Cluster-VIII, Bharat Coking Coal limited Month: AUGUST 2021 Year: 2021-22.

| 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                              | 16.08.2021        | 83         | 37     | <10                  | 35              |
| 2                              | 27.08.2021        | 78         | 35     | 12                   | 27              |
|                                | 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                             | 12.08.2021        | 81           | 37     | 11                   | 27              |
| 2                             | 26.08.2021        | 78           | 36     | 10                   | 34              |
|                               | NAAQ Standard     | 100          | 60     | 80                   | 80              |



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JOB NO. 200316028

Cluster –VIII, BCCL Environmental Monitoring Report

**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: April 2021 to September 2021**

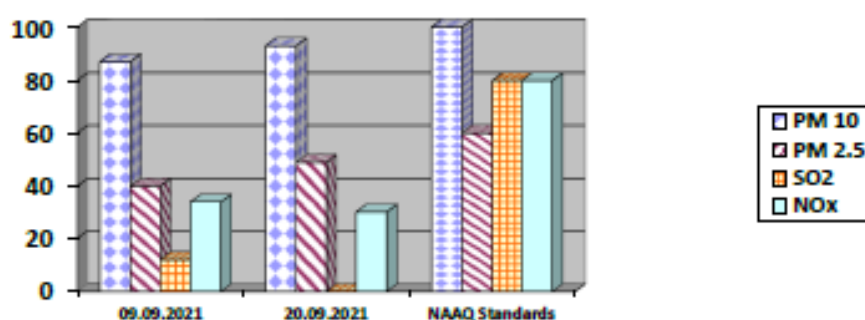
8

**AMBIENT AIR QUALITY DATA**

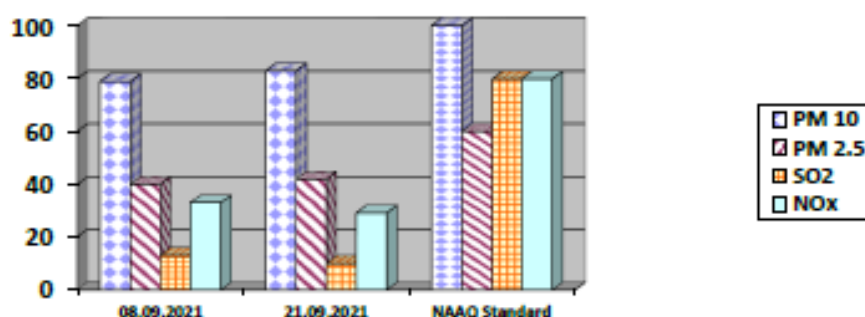
**Cluster-VIII, Bharat Coking Coal limited Month: SEPT 2021**

**Year: 2021-22.**

| 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                              | 09.09.2021        | 87         | 40     | 12                   | 34              |
| 2                              | 20.09.2021        | 93         | 49     | <10                  | 30              |
|                                | 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                             | 08.09.2021        | 79           | 40     | 13                   | 33              |
| 2                             | 21.09.2021        | 83           | 42     | 10                   | 29              |
|                               | NAAQ Standard     | 100          | 60     | 80                   | 80              |



Analysed By  
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Lab In Charge  
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HOD(In-charge) Environment  
RI-2, CMPDI, Dhanbad

JOB NO. 200316028

Cluster –VIII, BCCL Environmental Monitoring Report



**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: April 2021 to September 2021**

**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><br>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<br>*<br>24 hours<br>** | 500 µg/m <sup>3</sup><br><br>700 µg/m <sup>3</sup> | - High Volume Sampling (Average flow rate not less than 1.1                           |
|                                                                                                                                                         | Respirable Particulate Matter (size less than 10 µm) (RPM) | Annual Average<br>*<br>24 hours<br>** | 250 µg/m <sup>3</sup><br><br>300 µg/m <sup>3</sup> | Respirable Particulate Matter sampling and analysis                                   |
|                                                                                                                                                         | Sulphur Dioxide (SO <sub>2</sub> )                         | Annual Average<br>*<br>24 hours<br>** | 80 µg/m <sup>3</sup><br><br>120 µg/m <sup>3</sup>  | 1.Improvedwest and Gaeke method<br>2.Ultraviolet fluorescene                          |
|                                                                                                                                                         | Oxide of Nitrogen as NO <sub>2</sub>                       | Annual Average<br>*<br>24 hours<br>** | 80 µg/m <sup>3</sup><br><br>120 µg/m <sup>3</sup>  | 1. Jacob & Hochheiser Modified (Na-Arsenic) Method<br>2. Gas phase Chemilumine-scence |

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.

**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: April 2021 to September 2021**

**Annexure-XVIII**

**Noise Monitoring Data**

11

**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 'Leq' 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 Leq are presented. The observed values at all the monitoring locations are found to be within permissible limits.

**NOISE LEVEL DATA**

| Name of the Project: Cluster -VIII |                         |                  | Month: APRIL 2021 |                      |                                            |
|------------------------------------|-------------------------|------------------|-------------------|----------------------|--------------------------------------------|
| 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  | 09.04.2021        | 58.4                 | 75                                         |
| 2                                  | Dobari UGP (N11)        | Industrial area  | 29.04.2021        | 57.7                 | 75                                         |
| 3                                  | Kusmatand Village (N12) | Residential area | 15.04.2021        | 53.5                 | 55                                         |
| 4                                  | Kusmatand Village (N12) | Residential area | 29.04.2021        | 51.3                 | 55                                         |
| 5                                  | Jeenagora (N13)         | Industrial area  | 15.04.2021        | 58.8                 | 75                                         |
| 6                                  | Jeenagora (N13)         | Industrial area  | 19.04.2021        | 59.1                 | 75                                         |
| 7                                  | Hurrladih UGP (N28)     | Industrial area  | 01.04.2021        | 58.2                 | 75                                         |
| 8                                  | Hurrladih UGP (N28)     | Industrial area  | 22.04.2021        | 57.6                 | 75                                         |

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

\* Day Time: 6.00 AM to 10.00 PM,

2021 30 31/3/21  
 Analyzed 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. Huriladih 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

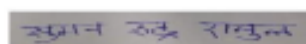
Ambient noise levels were recorded during day time and the observed values were compared with standards prescribed by MoEF&CC. The results of Noise levels recorded during day time on fortnightly basis are presented in tabular form along with the applicable standard permissible limits. The observed values 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: Cluster -VIII |                         |                  | Month: MAY 2021 |                      |                                            |
|------------------------------------|-------------------------|------------------|-----------------|----------------------|--------------------------------------------|
| 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  | 13.05.2021      | 58.3                 | 75                                         |
| 2                                  | Dobari UGP (N11)        | Industrial area  | 27.05.2021      | 58.8                 | 75                                         |
| 3                                  | Kusmatand Village (N12) | Residential area | 11.05.2021      | 54.1                 | 55                                         |
| 4                                  | Kusmatand Village (N12) | Residential area | 27.05.2021      | 54.1                 | 55                                         |
| 5                                  | Jeenagora (N13)         | Industrial area  | 12.05.2021      | 59.3                 | 75                                         |
| 6                                  | Jeenagora (N13)         | Industrial area  | 28.05.2021      | 58.1                 | 75                                         |
| 7                                  | Huriladih UGP (N28)     | Industrial area  | 06.05.2021      | 56.4                 | 75                                         |
| 8                                  | Huriladih UGP (N28)     | Industrial area  | 20.05.2021      | 57.4                 | 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,

  
 Analyzed 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

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 : Cluster -VIII |                         |                  | Month: JUNE 2021 |                      |                                            |
|-------------------------------------|-------------------------|------------------|------------------|----------------------|--------------------------------------------|
| 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  | 15.06.2021       | 61.7                 | 75                                         |
| 2                                   | Dobari UGP (N11)        | Industrial area  | 25.06.2021       | 62.3                 | 75                                         |
| 3                                   | Kusmatand Village (N12) | Residential area | 11.06.2021       | 54.1                 | 55                                         |
| 4                                   | Kusmatand Village (N12) | Residential area | 24.06.2021       | 53.2                 | 55                                         |
| 5                                   | Jeenagora (N13)         | Industrial area  | 11.06.2021       | 57.3                 | 75                                         |
| 6                                   | Jeenagora (N13)         | Industrial area  | 24.06.2021       | 55.6                 | 75                                         |
| 7                                   | Hurrladih UGP (N28)     | Industrial area  | 03.06.2021       | 57.2                 | 75                                         |
| 8                                   | Hurrladih UGP (N28)     | Industrial area  | 18.06.2021       | 56.7                 | 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.

  
 Analyzed By  
 JKA/KA/KKA

  
 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

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 : Cluster -VIII |                         |                  | Month: JULY 2021 |                      |                                            |
|-------------------------------------|-------------------------|------------------|------------------|----------------------|--------------------------------------------|
| 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  | 13.07.2021       | 58.3                 | 75                                         |
| 2                                   | Dobari UGP (N11)        | Industrial area  | 19.07.2021       | 57.3                 | 75                                         |
| 3                                   | Kusmatand Village (N12) | Residential area | 08.07.2021       | 54.2                 | 55                                         |
| 4                                   | Kusmatand Village (N12) | Residential area | 29.07.2021       | 53.1                 | 55                                         |
| 5                                   | Jeenagora (N13)         | Industrial area  | 08.07.2021       | 57.3                 | 75                                         |
| 6                                   | Jeenagora (N13)         | Industrial area  | 29.07.2021       | 58.4                 | 75                                         |
| 7                                   | Hurrladih UGP (N28)     | Industrial area  | 14.07.2021       | 56.2                 | 75                                         |
| 8                                   | Hurrladih UGP (N28)     | Industrial area  | 21.07.2021       | 54.3                 | 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,

  
 Analyzed 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

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 : Cluster -VIII |                         |                  | Month: AUGUST 2021 |                      |                                            |
|-------------------------------------|-------------------------|------------------|--------------------|----------------------|--------------------------------------------|
| 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  | 16.08.2021         | 60.3                 | 75                                         |
| 2                                   | Dobari UGP (N11)        | Industrial area  | 27.08.2021         | 60.2                 | 75                                         |
| 3                                   | Kusmatand Village (N12) | Residential area | 13.08.2021         | 53.2                 | 55                                         |
| 4                                   | Kusmatand Village (N12) | Residential area | 27.08.2021         | 53.3                 | 55                                         |
| 5                                   | Jeenagora (N13)         | Industrial area  | 12.08.2021         | 57.6                 | 75                                         |
| 6                                   | Jeenagora (N13)         | Industrial area  | 27.08.2021         | 57.5                 | 75                                         |
| 7                                   | Hurrladih UGP (N28)     | Industrial area  | 06.08.2021         | 64.2                 | 75                                         |
| 8                                   | Hurrladih UGP (N28)     | Industrial area  | 30.08.2021         | 64.3                 | 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,*

  
 Analyzed 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: April 2021 to September 2021**

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### 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: Cluster -VIII |                         |                  | Month: SEPTEMBER 2021 |                      |                                            |
|------------------------------------|-------------------------|------------------|-----------------------|----------------------|--------------------------------------------|
| 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  | 09.09.2021            | 58.4                 | 75                                         |
| 2                                  | Dobari UGP (N11)        | Industrial area  | 20.09.2021            | 56.7                 | 75                                         |
| 3                                  | Kusmatand Village (N12) | Residential area | 08.09.2021            | 53.2                 | 55                                         |
| 4                                  | Kusmatand Village (N12) | Residential area | 21.09.2021            | 53.4                 | 55                                         |
| 5                                  | Jeenagora (N13)         | Industrial area  | 08.09.2021            | 57.6                 | 75                                         |
| 6                                  | Jeenagora (N13)         | Industrial area  | 21.09.2021            | 57.4                 | 75                                         |
| 7                                  | Huririladih UGP (N28)   | Industrial area  | 07.09.2021            | 55.8                 | 75                                         |
| 8                                  | Huririladih UGP (N28)   | Industrial area  | 22.09.2021            | 56.4                 | 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,

  
 Analyzed By  
 JSA/SA/SSA

  
 Checked By  
 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

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: April 2021 to September 2021**

**Annexure-XIX**

**Training**

| Sl. No.      | Month     | Refresher Training | Initial Training | Contractual Worker | Special Training | Change of Job |
|--------------|-----------|--------------------|------------------|--------------------|------------------|---------------|
| 1            | April     | 34                 | 1                | 0                  | 0                | 0             |
| 2            | May       | 8                  | 2                | 0                  | 0                | 0             |
| 3            | June      | 11                 | 2                | 0                  | 0                | 2             |
| 4            | July      | 84                 | 1                | 0                  | 0                | 2             |
| 5            | August    | 78                 | 0                | 0                  | 58               | 1             |
| 6            | September | 72                 | 0                | 0                  | 0                | 7             |
| <b>Total</b> |           | <b>287</b>         | <b>6</b>         | <b>0</b>           | <b>58</b>        | <b>12</b>     |



**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: April 2021 to September 2021**

**Annexure-XX**

**Periodical Medical Examination**

| Sl. No.      | Name of Area/ Mine/ Office | April     | May       | June      | July      | August     | September |
|--------------|----------------------------|-----------|-----------|-----------|-----------|------------|-----------|
| 1            | Bastacolla Colliery        | 10        | 0         | 29        | 36        | 58         | 17        |
| 2            | Bera Colliery              | 9         | 0         | 0         | 6         | 22         | 6         |
| 3            | Kuya Colliery              | 2         | 0         | 2         | 32        | 34         | 30        |
| 4            | Ghanoodih Colliery         | 10        | 10        | 10        | 10        | 11         | 2         |
| 5            | Dobari Colliery            | 0         | 12        | 0         | 0         | 6          | 6         |
| 6            | Kujama Colliery            | 0         | 0         | 0         | 0         | 0          | 0         |
| <b>Total</b> |                            | <b>31</b> | <b>22</b> | <b>41</b> | <b>84</b> | <b>131</b> | <b>61</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: April 2021 to September 2021**

**Annexure-XXI**

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

To  
The Municipal Commissioner  
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.

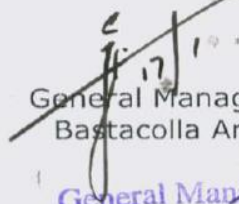
This is for your kind information.

Encl: As above

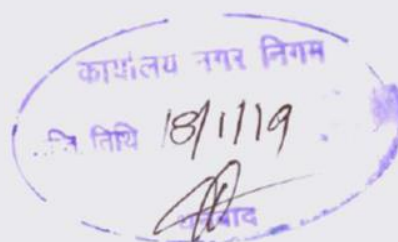
Copt to -

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

Yours Sincerely

  
General Manager  
Bastacolla Area

**General Manager  
Bastacolla Area IX**



**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: April 2021 to September 2021**

**Annexure-XXII**

**Details of Fog Canon & Installation at Bastacolla Colliery**

|                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                       | <b>Contract</b>        |                                                                                                                                                                                                                                                                                                                 | <b>Contract No:</b> GEMC-511687710217617<br><b>Generated Date:</b> 27-Mar-2021<br><b>Bid/RA/PR No:</b> <a href="#">GEM/2021/B/1027499</a> |                      |                             |                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------|--------------------------------------------------|
| <b>Schedule Name:</b> Schedule 1                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                       |                        |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                           |                      |                             |                                                  |
| <b>Organisation Details</b><br>Type: Central PSU<br>Ministry: Ministry of Coal<br>Department: Materials Management<br>Organisation Name: Bharat Coking Coal Limited<br>Office Zone: Bocl Dhanbad                                                                                                                         |                                                                                                                                                                                                                                                       |                        | <b>Buyer Details</b><br>Designation: Area Manager Purchase<br>Contact No.: 94705-96918-<br>Email ID: prabhakar.k5730@nic.in<br>GSTIN: 20AAACB7934MFZB<br>Address: Depot Officer, Bera Regional Store, Near Dowari colliera, Bastacolla Area, P.O. Dhansar, Dhanbad., DHANBAD, JHARKHAND-828106, India           |                                                                                                                                           |                      |                             |                                                  |
| <b>Financial Approval Detail</b><br>IFD Concurrence: Yes<br>Designation of Administrative Approval: AREA MANAGER ENVIRONMENT<br>Designation of Financial Approval: AREA MANAGER FINANCE                                                                                                                                  |                                                                                                                                                                                                                                                       |                        | <b>Paying Authority Details</b><br>Payment Mode: Offline<br>Designation: Area Finance Manager<br>Email ID: afm.bastacolla.bccl@nic.in<br>GSTIN: 20AAACB7934MFZB<br>Address: Depot Officer, Bera Regional Store, Near Dowari colliera, Bastacolla Area, P.O. Dhansar, Dhanbad., Dhanbad, JHARKHAND-828106, India |                                                                                                                                           |                      |                             |                                                  |
| <b>Seller Details</b><br>GeM Seller ID: 2206180000513964<br>Company Name: CLOUD TECH PRIVATE LIMITED<br>Contact No.: 08930345768<br>Email ID: vimal@cloudtec.in<br>Address: 207-A, HSIIDC, Manakpur Industrial Estate, Phase-1, Manakpur, Yamunanagar, HARYANA-135001, -<br>MSME verified: Yes<br>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<br><b>Brand :</b> CLOUD TECH<br><b>Brand Type :</b> Registered Brand<br><b>Catalogue Status :</b> OEM verified catalogue<br><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: -<br>Email ID: prabhakar.k5730@nic.in<br>Contact: 94705-96918-<br>GSTIN: 20AAACB7934MFZB<br>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**  
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**Annexure-XXIII**

**Work Order for Installation of Fixed Water Sprinkler System at Railway Siding**



**भारतकोकिंगकोललिमिटेड**

(कोलइंडियालिमिटेडकाएकअंग)

**BHARAT COKING COAL LIMITED**

(A Subsidiary of Coal India Limited)

Corporate Identity No. (CIN): U10101JH1972GOI000918

**GST no.- 20AAACB7934MFZB (JH), 19AAACB7934M2Z7 (WB)**

Civil Engineering Department, Bastacolla Area, Dhanbad – 826 005 (JH), India.

Phone: 0326-2291239, FAX: 0326-2291240, e-mail: shivrajnitkian@gmail.com

**WORK ORDER**

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

**Sub:** 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.

- Ref: 1. eNIT ref. no.- BCCL/BA/ACE/NIT/2020-21/04 dated 28.07.2020.**  
**2. LOA Ref. : BCCL/BA-IX/CIVIL/LOA/20-21/08 dated: 12.11.2020.**  
**3. Your Letter dated 03.12.2020.**

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 **Rs. 17,27,099.58 (Rupees seventeen lakhs twenty seven thousand ninety nine and paise fifty eight only)** 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.

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 & tender documents.
2. The responsibility for the arrangement of the all equipment, tools and plants etc. required for the work lies on you.
3. Your GST no. no. as per submitted documents is 20ALCPS3651C2ZM.
4. ALR and AHR items will be dealt as per provision of NIT.
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.
1. Security Deposit shall consist of two parts & the same shall bear no interest:-
  - A) **Performance Security and Additional Performance Security:-**

Rs. 87,100.00 (Eighty seven thousand one hundred only) deposited by you vide:
    - a) **Earnest Money amounting to Rs. 23100.00 (Rupees twenty three thousand one hundred only)** deposited along with the tender vide PRN No. – 184172546114.

**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: April 2021 to September 2021**

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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.





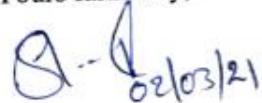
**Six Monthly Environmental Clearance Compliance Report of Cluster VIII Coal Mining Project**  
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**Period: April 2021 to September 2021**

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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**  
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**Period: April 2021 to September 2021**

**Annexure-XXIV**

**PM10 Analyzer at Bastacolla Colliery**





**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: April 2021 to September 2021**

**Approval of Location from JSPCB for Installation of CAAQMS under Cluster VIII**



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद  
Jharkhand State Pollution Control Board  
HIG-I, Housing Colony, Dhanbad-826001

Ph: 0326-3510094

Letter No : 783

Dated : 29/07/2021

From,

Regional Officer,  
Dhanbad.

To,

General Manager, Bastacolla Area,  
Bharat Coking Coal Ltd.,  
PO- Dhansar, Dist- Dhanbad.

Sub: **Regarding Consent for Location for installation of CAAQMS and it's display Screen in at Cluster VIII Coal Mining Project.**

Ref: **Your letter Ref. No. BCCL/BA/IX/ENV/2021-22/25, dated 13.07.2021**

Sir,

With reference to above noted subject, CAAQMS is to be installed as per cluster VIII CTO conditions. The proposed locations as per above letter were inspected by undersigned along with Ashutosh Anand, C.E. in the presence of Sri Sumit Jha, Manager Env. on 27.07.2021. After inspection of proposed locations, Bastacolla Officer's Club, Near Gaushala More, Bastacolla, Dhanbad (23°45'46.2"N 86°24'57.6"E) was found suitable for installation of CAAQMS and its display board to be installed nearby Dhanbad – Jharia Road.

This is for your information & necessary action.

Your's faithfully,

(Regional Officer)  
Dhanbad.