



भारत कोकिंग कोल लिमिटेड
(कोल इण्डिया लिमिटेड की एक अनुसूची कंपनी)
Bharat Coking Coal Limited
(A Subsidiary of Coal India Limited)
(एक मिनिरातना कंपनी - A Miniratna Company)
(भारत सरकार का उपक्रम - A Government of India Undertaking)

Ref No.GM/B-II/ENV./2024-25/ 156

Date:- 29.11.2024

To
The Director
Ministry of Environment, Forest & CC
2nd Floor, Headquarter- Jharkhand State Housing Board
Harmu Chowk
Ranchi, jharkhand-834002

Sub: Six monthly reports on implementation of Environmental measures for the period from Apr' 2024 to Sept' 2024 in respect of Cluster – II groups of mines.


Ref.:- EC Order No. J-11015/35/2011-IA.II (M) dated 06.02.2013

Dear Sir,

Kindly find enclosed herewith the six-monthly report on implementation of Environmental measures for the period from Apr' 2024 to Sept' 2024 in respect of Cluster –II groups of mines. Cluster- II groups of mines having leasehold area 2025.75 Ha is under mining operation.

This is for your kind information and doing needful, please.

Yours faithfully

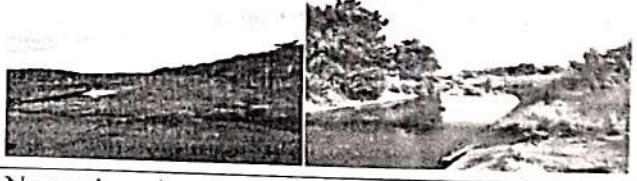

General Manager
Block-II Area 29/11/24.

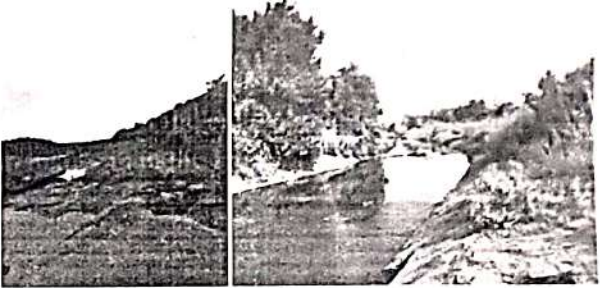
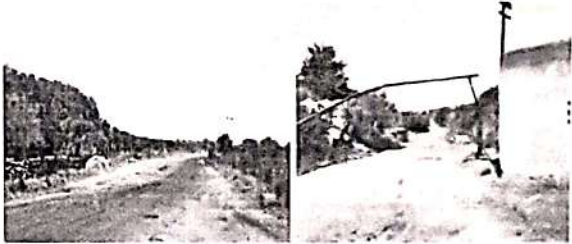
Encl: as above

C.C to

1. HoD (Envt.), BCCL, Koyla Bhawan, Dhanbad
2. Nodal Officer (Envt.), Barora Area
3. Nodal Officer (Envt.), Block-II Area

ENVIRONMENTAL CLEARANCE COMPLIANCE OF CLUSTER-II MINING AREA OF BCCL
(GRANTED VIDE: J-11015/35/2011-1A II (M) dated 06.02.13
(01.04.2024 to 30.09.2024)

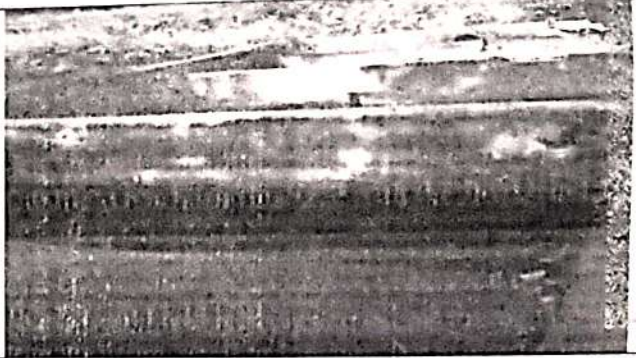
Sl. no.	A. Specific Conditions by MOEF:	Compliance														
i	The maximum production by opencast mining shall not exceed beyond that for which environmental clearance has been granted for the 5 mine of Cluster- II.	<p>The production from the Cluster is within limit for which environment clearance has been granted.</p> <table border="1" data-bbox="901 403 1540 548"> <thead> <tr> <th data-bbox="901 403 1013 448">Mine</th> <th data-bbox="1013 403 1157 448"></th> <th data-bbox="1157 403 1284 448">2021-22</th> <th data-bbox="1284 403 1412 448">2022-23</th> <th data-bbox="1412 403 1540 448">2023-24</th> </tr> </thead> <tbody> <tr> <td data-bbox="901 448 1013 548">Cluster II</td> <td data-bbox="1013 448 1157 548">Coal (MTPA)</td> <td data-bbox="1157 448 1284 548">5.18</td> <td data-bbox="1284 448 1412 548">6.61</td> <td data-bbox="1412 448 1540 548">10.22</td> </tr> </tbody> </table>					Mine		2021-22	2022-23	2023-24	Cluster II	Coal (MTPA)	5.18	6.61	10.22
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ii	The measure to identify in the Environmental Plan for Cluster- II groups of mine and the conditions given in this environmental clearance letter shall be dovetailed to the implementation of the Jharia Action Plan.	Master Plan is dovetailed with environmental clearance condition. Action like trench cutting & water flushing is being taken to control, mine fires including old OB dump & areas as specified in Jharia Master Plan														
iii	The proponent shall prepare time -series maps of the Jharia Coalfields through NRSA to monitor and prevent fire problems in the Jharia Coalfields by Isothermal mapping /imaging and monitoring temperatures of the coal seams (whether they are close to spontaneous ignition temperatures) and based on which, areas with potential fire problems shall be identified. Measures to prevent ingress of air (Ventilation) in such areas, to prevent restart fresh/spread fires in other areas including in mines of cluster II shall be undertaken. Expertise available internationally could also be utilized for control of fire in Jharia Coalfields and for their reclamation and to further minimize time for fire and subsidence control. Monitoring of fire should be carried out regularly.	<p>Time -series maps of the Jharia Coalfields is prepared by NRSA for 2021 and will continue. As per study conducted by NRSA. Toward the western end of the mining area, the Benedih and Block II OCP are affected by smaller fires from isolated coal seams. An older fire patch is also seen in the Shatabdi mine.</p> <p>(Copy of NRSA report is enclosed as Annexure-I)</p>														
iv	Underground mining should be taken up after completion of reclamation of Opencast mine area.	Agreed. Underground mining will be taken up after the completion of reclamation of Opencast mine area.														
v	The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to withstand the peak water flow and prevent mine inundation.	<p>Strong stony embankment with plantation is present along river & nalla flowing nearby along.</p> 														
vi	The rejects of washeries in Cluster -II should be send to FBC based plant.	No washery is present in cluster.														
vii	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.	Mining is being carried out as per the guidelines of DGMS. Sufficient precaution like trench cutting and water flushing is being taken to guard against fire.														
viii	There shall be no external OB dumps. OB produce from the whole cluster will be 484.89Mm ³ . OB from 3 OCP and 2 patches in mixed mine shall be backfilled. At the end of the mining there shall be no void and the entire mined out area shall be re-vegetated. Areas where opencast mining was carried out and completed shall be reclaimed immediately thereafter.	OB produced is being used in back-filling. Ecological restoration practices is being carried out at the stable OB dumps & decoaldd area and grass seed balls are also spread on the slopes of the dumps for slope stability.														

ix	A detailed calendar plan of production with plan for OB dumping and backfilling (for OC mines) and reclamation and final mine closure plan for each mine of cluster-II shall be drawn up and implemented.	<p>Calendar plan of production with plan for OB has been prepared. Mine closure plan as per the guidelines of Ministry of Coal have been prepared by CMPDI and is being implemented. Calendar plan for OC mines of Cluster -II for next 3 yrs. is:-</p> <table border="1" data-bbox="869 383 1481 510"> <thead> <tr> <th></th> <th>2024-25</th> <th>2025-26</th> <th>2026-27</th> </tr> </thead> <tbody> <tr> <td>Coal(MTe)</td> <td>10.55</td> <td>10.88</td> <td>11.30</td> </tr> <tr> <td>OB (MM³)</td> <td>16.66</td> <td>18.51</td> <td>18.54</td> </tr> </tbody> </table>		2024-25	2025-26	2026-27	Coal(MTe)	10.55	10.88	11.30	OB (MM ³)	16.66	18.51	18.54
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x	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 along water body shall be strengthened with stone pitching taking into account the highest flood level, based on past data, so as to guard against mine inundation. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 3 m higher than the HFL. The embankment to be constructed by OB /solid waste shall be strengthened with stone pitching. Slope stability of the embankment shall be done by planting suitable grass and shrubs using native species selected from the study area.	<p>It is being followed. More than 60 m distance is being maintained from nearby river/nalla. Strong stony embankment with plantation is present along river/Nalla.</p>  <p>The height of the embankment of Jamunia river is 8 m higher than the HFL</p>												
xi	Active OB dumps near water bodies and rivers should be re-handled for backfilling abandoned mine voids. However, those which have been biologically reclaimed need not be disturbed.	There is no active OB dumps near water bodies and rivers.												
xii	Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. A total area of 1237.48ha shall be reclaimed and afforested.	It is being complied. Total area of 209.5 ha has been planted. A total area of 23.5 ha & 500 gabion is taken for plantation in 2021-25 & being eco-restored.												
xiii	The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.	<p>500 no of sapling planted along connecting and transportation road. 2 nos. of Plantation sites are present along road (approx. 400 m) connecting mine to state govt road and also there are 2-3 plantation site along permanent road in mines. Most of the coal is being transported through railway siding .Road transport is being carried out through existing network of NH/SH where avenue Plantation already exist.</p> 												
xiv	Specific mitigative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted are and relevant for	<p>Dhanbad Action Plan is being implemented. The salient actions of this area:</p> <ol style="list-style-type: none"> 1. Covered transportation of Coal. 												

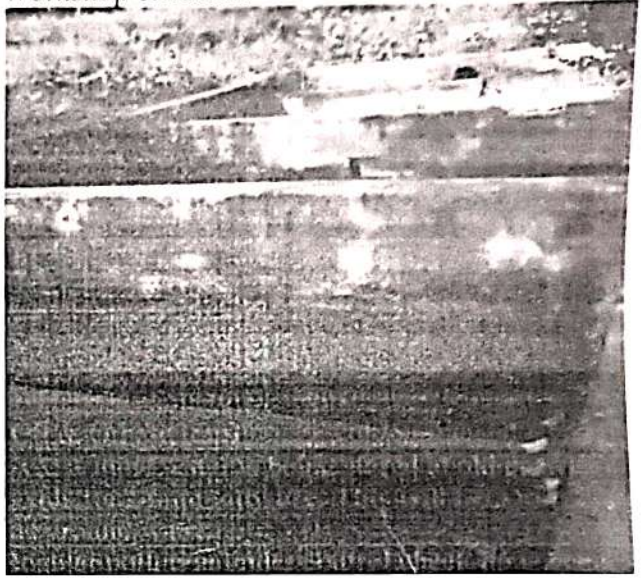
	Cluster- II shall be implemented.	<ol style="list-style-type: none"> 2. Water sprinkling on haul/transportation roads. 3. Plantation. 4. Utilization of surplus mine water. 																																														
xv	The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuel wood, coal, fly ash from TPPs, silica from natural dust, etc.) and a Source Apportionment Study should be got carried out for the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition of the suspended particulate matter (PM ₁₀ and PM _{2.5}) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate mitigative measures could be taken.	<p>Establishment of ambient environment quality monitoring stations has been finalized in consultation with the JSPCB.</p> <p>The work of source apportionment was awarded to NEERI, Nagpur on 12.05.2018. NEERI Nagpur has submitted the final report as on 27.04.2022</p> <p>The result report is attached.</p>																																														
xvi	The Transportation Plan for conveyor-cum-rail for Cluster-II should be dovetailed with Jharia Action Plan. Road transportation of coal during Phase-I should be by mechanically covered trucks, which should be introduced at the earliest.	CMPDIL RI-II has been requested to conduct study and prepare the plan in this regarding. No OEM is provided for mechanically covered trucks, transportation is being done by covering vehicle with Tarpaulin.																																														
xvii	R&R of 1137 nos. of PAF's involved. They should be rehabilitated at cost of Rs 45.08 Crores as per the approved Jharia Action Plan.	Implementation of master plan has already been started through Jharkhand Rehabilitation and Development Authority, Dhanbad. Survey of affected site by JRDA has done.																																														
xviii	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & 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>Groundwater level and quality is being regularly monitored by CMPDIL.</p> <p>Monitoring stations (B001, B059, B060 and B062) are located in the core zone of the mine area. Water level monitoring in these monitoring stations has done in the months of May'23, August'23, Nov'23 and January'24. The Ground water level data is presented in the table below:</p> <table border="1"> <thead> <tr> <th rowspan="2">Sl. No</th> <th rowspan="2">Well No.</th> <th rowspan="2">Location</th> <th colspan="4">Water level (bgl in meters)</th> </tr> <tr> <th>May '23</th> <th>Aug '23</th> <th>Nov '23</th> <th>Jan '24</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>B001</td> <td>Muraidih</td> <td>3.22</td> <td>1.25</td> <td>2.45</td> <td>2.70</td> </tr> <tr> <td>2</td> <td>B059</td> <td>Khodovaly</td> <td>1.88</td> <td>0.50</td> <td>0.70</td> <td>1.12</td> </tr> <tr> <td>3</td> <td>B060</td> <td>Bahiyardih</td> <td>10.73</td> <td>5.31</td> <td>5.73</td> <td>9.51</td> </tr> <tr> <td>4</td> <td>B062</td> <td>Sadiyardih</td> <td>4.80</td> <td>2.35</td> <td>3.10</td> <td>4.00</td> </tr> <tr> <td colspan="3">Average WL (bgl)</td> <td>5.16</td> <td>2.35</td> <td>3.00</td> <td>4.33</td> </tr> </tbody> </table> <p>(Soft copy of report is enclosed as Annexure II)</p>	Sl. No	Well No.	Location	Water level (bgl in meters)				May '23	Aug '23	Nov '23	Jan '24	1	B001	Muraidih	3.22	1.25	2.45	2.70	2	B059	Khodovaly	1.88	0.50	0.70	1.12	3	B060	Bahiyardih	10.73	5.31	5.73	9.51	4	B062	Sadiyardih	4.80	2.35	3.10	4.00	Average WL (bgl)			5.16	2.35	3.00	4.33
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xxix	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.	As the area is having O/C mines, hence no subsidence is there.
xx	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.	Presently only OCP working exist.
xxi	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	As the area is having O/C mines, hence no subsidence is there.
xxii	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.	As the area is having O/C mines, hence no subsidence is there.
xxiii	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	As the area is having O/C mines, hence no subsidence is there.
xxiv	No depillaring operation shall be carried out below the township/colony.	Presently only OCP working exist in this cluster.
xxv	A detailed CSR Action Plan shall be prepared for Cluster II group of mines. Specific activities shall be identified for CSR for the budget of Rs 77.50 Lakhs per year @ Rs 5/T of coal provided for CSR for 2012-2013 and Rs. 5/T of coal as recurring expenditure. The 416.98 ha of area within Cluster II ML existing as waste land and not being acquired shall be put to productive use under CSR and developed with fruit bearing and other useful species for the local communities. In addition to afforesting 1237.48 ha of area at the post-mining stage, the 122.18ha of fallow/abandoned land and 416.98 ha waste land /barren land within Cluster- II mining lease area shall be rehabilitated/reclaimed as forest/agricultural land under CSR Plan in consultation with local communities. Third party evaluation shall be got carried out regularly for the proper implementation of activities undertaken in the project area under CSR. Issue raised in the Public Hearing shall also be integrated with activities being taken up under CSR. The details of CSR undertaken along with budgetary provisions for the village-wise various activities and expenditure thereon shall be uploaded on the company website every year. The company must give priority to capacity building both within the company and to the local youth, who are motivated to carry out the work in future.	<p>BCCL is implementing CSR activities, as per Govt. norms with a CSR Committee being evaluated by Tata Institute of Social Science.</p> <p>Rs. 191.67 lakhs spend for Construction and maintenance of toilets for 5years in Government schools in Gumla District under Swachh Vidyalaya Abhiyan. 125 toilets in 69 schools were constructed.</p> <p>All welfare/ CSR activities are also uploaded in Company web site.</p> <p>Work undertaken as per issue raised (Road, electricity, water availability, pond creation & cleaning etc) is given in Annexure III A</p> <p>In FY2023-24, Construction of Community hall under Harina Panchayat benefiting approx. 250person & Water supply arrangement in Harsudih Village benefiting approx. 300 person.</p> <p>(Expenditure under CSR is given in CSR Booklet enclosed as Annexure III)</p>
xxvi	Details of transportation, CSR, R&R and implementation of environmental action plan for the clusters-II should be brought out in a booklet form within a year and regularly updated.	<p>Booklet form is being maintained.</p> <p>(Soft copy of booklet is enclosed as Annexure III.)</p> <p>Environmental action plan is formulated and implementation is initiated.</p>

xxvii	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>Mine discharge water is being allowed to settle down in the mine sumps and is being used for domestic purpose after treatment through Pressure Filter. Regular monitoring of Water Quality Parameters is being carried out by CMPDIL and reports are being uploaded regularly on company website.</p> <p>Max. value of parameters of mine discharge is given in the table below:</p> <table border="1" data-bbox="874 383 1366 533"> <tr> <td>Total Suspended Solids</td> <td>45</td> </tr> <tr> <td>pH</td> <td>8.03</td> </tr> <tr> <td>Oil & Grease</td> <td><4</td> </tr> <tr> <td>COD</td> <td>42</td> </tr> </table> <p>(Soft copy of monitoring report is enclosed as Annexure IV)</p>	Total Suspended Solids	45	pH	8.03	Oil & Grease	<4	COD	42																																						
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xxviii	No groundwater shall be used for the mining activities. Additional water required, if any, shall be met from mine water or by recycling/reuse of the water from the existing activities and from rainwater harvesting measures. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry to dewatering of mine.	<p>It is being complied and mine water is being used for the industrial purpose. Further mine water after treatment is also utilized for the community and irrigation purposes.</p> <p>Following action has been taken by the Company:</p> <ol style="list-style-type: none"> Utilization of surplus mine water for irrigation, pisciculture purpose. 																																														
xxix	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 reclaimed with plantation and or may be used for pisciculture.	The void will be converted into the water body as specified in EMP at the end of the mining.																																														
xxx	Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & 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>Groundwater level and quality is being regularly monitored by CMPDIL.</p> <p>Monitoring stations (B001, B059, B060 and B062) are located in the core zone of the mine area. Water level monitoring in these monitoring stations has done in the months of May'23, August'23, Nov'23 and January'24. The Ground water level data is presented in the table below:</p> <table border="1" data-bbox="863 1391 1508 1688"> <thead> <tr> <th rowspan="2">Sl. No.</th> <th rowspan="2">Well No.</th> <th rowspan="2">Location</th> <th colspan="4">Water level (bgl in meters)</th> </tr> <tr> <th>May '23</th> <th>Aug '23</th> <th>Nov '23</th> <th>Jan '24</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>B001</td> <td>Muraidih</td> <td>3.22</td> <td>1.25</td> <td>2.45</td> <td>2.70</td> </tr> <tr> <td>2</td> <td>B059</td> <td>Khodovaly</td> <td>1.88</td> <td>0.50</td> <td>0.70</td> <td>1.12</td> </tr> <tr> <td>3</td> <td>B060</td> <td>Bahiyardih</td> <td>10.73</td> <td>5.31</td> <td>5.73</td> <td>9.51</td> </tr> <tr> <td>4</td> <td>B062</td> <td>Sadiyardih</td> <td>4.80</td> <td>2.35</td> <td>3.10</td> <td>4.00</td> </tr> <tr> <td colspan="3">Average WL (bgl)</td> <td>5.16</td> <td>2.35</td> <td>3.00</td> <td>4.33</td> </tr> </tbody> </table> <p>(Soft copy of report is enclosed as Annexure II)</p>	Sl. No.	Well No.	Location	Water level (bgl in meters)				May '23	Aug '23	Nov '23	Jan '24	1	B001	Muraidih	3.22	1.25	2.45	2.70	2	B059	Khodovaly	1.88	0.50	0.70	1.12	3	B060	Bahiyardih	10.73	5.31	5.73	9.51	4	B062	Sadiyardih	4.80	2.35	3.10	4.00	Average WL (bgl)			5.16	2.35	3.00	4.33
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xxxi	ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to conform to prescribe standards in case discharge into the natural water course.	Oil & grease Trap for workshop is provided																																														

		
xxxii	The location of monitoring stations in the Jharia coalfield should be finalized in consultation with Jharkhand State Pollution Control Board.	The location of monitoring stations in the Jharia Coalfield has been finalized with the Jharkhand State pollution Control Board.
xxxiii	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 50000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneswar.	Presently a time series map of vegetation cover in the Jharia Coal Field is being carried out through CMPDI, Ranchi using satellite imagery for every 3 years & it has been uploaded on the official website of company. Also CIL issued a work order to CMPDI for monitoring of land reclamation status of all the OC coal mines having production capacity of more than 5MM ³ /Annum(coal+ OB) regularly on annual basis and for monitoring of less than 5 MM ³ /Annum at an interval of 3 years. With a total leasehold area of 2025.71Ha, Cluster II (Block II Colliery, Jamunia OCP, Shatabdi OCP, Muraidih OCP, Phularitand OCP) were considered for land Reclamation monitoring based on satellite data during 2022-23. Total excavated area is only 658.27 Ha, of which 87.42 Ha area (13.28%) has been planted, 422.00 Ha area (64.11%) is under backfilling and 148.85 Ha area (22.61%) is under active mining. It is evident from the analysis that 77.39% of total area of Cluster II (Block II Colliery, Jamunia OCP, Shatabdi OCP, Muraidih OCP, Phularitand OCP) projects has come under reclamation and balance 22.61% area is under active mining. (Soft copy of land reclamation report is enclosed as Annexure V)
xxxiv	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem, which were conserved in-situ and ex-situ in an identified area within the lease for reintroduction in the mine during mine reclamation and at the post mining stage for habitat restoration.	BCCL is being depositing the amount in ESCROW account as specified in the progressive mine closure Plan. A Final Mine Closure Plan along with details of Corpus Fund will be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Native species (Sheesham, sirish, Arjuna, grass etc.) are being used in mine reclamation. (Details of amount deposited enclosed as Annexure VI)
xxxv	A separate management structure for implementing environment policy and socio-economic issues and the capacity building required in this regard.	A full-fledged Environment cell, with a suitable qualified multidisciplinary team of executives has been established. GM (Environment) at head quarter level, co-ordinates with all the Areas and reports to the Director (Technical) and in turn he reports to the CMD of the company.

		Socio economic issues and capacity building are being evaluated by Tata Institute of Social Science.
xxxvi	(A) Corporate Environment Responsibility:	
	a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.	A well-defined Corporate Environment Policy has already been laid down and approved by the Board of Directors. This is also posted on BCCL website.
	b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	Complied.
	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	A hierarchical system of the company to deal with environmental issues from corporate level to mine level already exists.
	d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	Being complied.
B	General Conditions by MOEF:	
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Mining is being done by shovel-dumper combination, Dragline & High-wall methods.
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	The coal production as planned is maintained to be within approved limits.
iii	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM ₁₀ , PM _{2.5} , SO ₂ and NO _x 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.	The location of monitoring stations in Jharia Coal Field has been finalized in consultation with the Jharkhand State Pollution Control Board. Ambient air quality along with heavy metals such as Hg, As, Ni, Cd, Cr, etc., is carried out at least once in six months by CMPDIL. (Soft copy of monitoring report is enclosed as Annexure IV)
iv	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EPA rules, 1986 shall be furnished as part of compliance report.	Data on ambient air and other monitoring data is being regularly submitted to the Ministry & Pollution Control Board along with compliance report. (Soft copy of report is enclosed as Annexure IV)
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.	Noise level varies from 34.1 dBA (Muraidih OCP) to 72.9 dBA (Madhuband Washery). Regular maintenance of vehicles and other machineries are being practiced for control of noise level. Ear plugs/muffs are provided (200 Nos in 2023-24) to the persons engaged in blasting and drilling

		operations, operation of HEMM, etc. . (Soft copy of monitoring report is enclosed. as Annexure IV)
vi	Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Oil and grease trap is installed for treatment of Workshop effluents.  (Oil & Grease trap) Excess mine water is being stored at old quarries and ponds for community use. This will help to recharge the ground water.
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.	Regular pollution under control check-up is being done. Regular maintenance of vehicle is being practiced to kept vehicular emission under control. Coal is being transported in tarpaulin covered trucks. (Pollution under control certificate of vehicles are enclosed as Annexure VII)
viii	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EPA Rules, 1986.	It is being done by CMPDIL, Ranchi having NABL accreditation.
ix	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Dust masks are provided (1000 Nos in 2023-24) to personnel working in dusty areas. Vocational training center under separate Human Resource Development Dept. is conducting regular training programme on these issues. More than 500 nos of employee got training at VTC Barora in FY 2023-24. (Training list enclosed as Annexure VIII)
x	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing	Initial Medical Examination (IME) and Periodical Medical Examination (PME) of all the personnel are carried out as per the Statutes and Director General of Mines Safety (DGMS) guideline.

	and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	Medical examination of outsourcing Manpower is also being done.
xi	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	A full-fledged Environment cell, with a suitable qualified multidisciplinary team of executives has been established. GM (Environment) at head quarter level, co-ordinates with all the Areas and reports to the Director (Technical) and in turn he reports to the CMD of the company. Socio economic issues and capacity building are being evaluated by Tata Institute of Social Science.
xii	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhubaneswar.	Separate head "plantation" & "environment" is there for recurring expenditure and used for eco-restoration, environmental protection measures, statutory payments etc. In 2023-24 approx. Rs.3.0 crore expenditure incurred on plantation, eco-restoration, water sprinkling & environmental monitoring. (Including the cost of manpower & Diesel consumed in water spraying tanker)
xiii	The project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in .	It has been complied. Advertisement in local newspaper has been given. 
xiv	A copy of the environmental clearance letter shall be marked to concern Panchayat/ZilaParishad, Municipal corporation or Urban local body and local NGO, if any, from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	Being complied. Clearance letter has been displayed on Company web site. Also Clearance letter has been sent to Mukhiya of different Panchayat. (Soft copy of letters are enclosed as Annexure IX)
xv	A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.	Complied.
xvi	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters shall also	Clearance letter has been displayed on Company web site and updated regularly. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters is being displayed at the entrance of the project premises and Area office.

	be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	
xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.	Being submitted.
xviii	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.	Full cooperation will be extended from project end.
xix	The Environmental statement for each financial year ending 31 March in For -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	Being submitted on time.

[Signature]
27.11.24
General Manager
Barora Area

[Signature]
27.11.24
Area Manager (Env)
Barora Area

[Signature]
28/11/2024
Project Officer
Muraidih UG, Shatabdi & Phularitand Colliery

[Signature]
General Manager
Block-II Area 29/11/24.

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Area Manager (Env)
Block-II Area

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29/11/24
Project Officer
ABOCP Mine