

# EC Compliance Report of Cluster 2, ECL, Oct'23 to Mar'24

Special Conditions		Compliance Status																				
Sl. No.	EC Conditions																					
1.	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC	<p>The cluster was accorded EC on 16.01.2015 for maximum production capacity of 0.45 MTY. On 16.06.2016, Cluster 2 has been accorded revised EC for maximum production limit upto 1.10 MTY and subsequently amended for extension of life for same peak capacity i.e. 1.10 MTPA within the same leasehold area of 1018 Ha on 27<sup>th</sup> May, 2021. Amended EC for the cluster has been accorded on 21.02.2024. Production of the cluster is given mine-wise (MTY, from Oct'23 to Mar'24) as follows-</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">Sl. No</th> <th style="text-align: left;">Name of Mine</th> <th style="text-align: center;">Peak Capacity as per EC (MTY)</th> <th style="text-align: center;">Production from Oct'23 to Mar'24 (MTY)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.</td> <td>Kumardhubi UG</td> <td style="text-align: center;">0.05</td> <td style="text-align: center;">0.008785</td> </tr> <tr> <td style="text-align: center;">2.</td> <td>Barmuri OC</td> <td style="text-align: center;">0.90</td> <td style="text-align: center;">0.201810</td> </tr> <tr> <td style="text-align: center;">3.</td> <td>Rajpura OC</td> <td style="text-align: center;">0.15</td> <td style="text-align: center;">0.036510</td> </tr> <tr> <td colspan="2" style="text-align: right;"><b>Total</b></td> <td style="text-align: center;"><b>1.10</b></td> <td style="text-align: center;"><b>0.247105</b></td> </tr> </tbody> </table>	Sl. No	Name of Mine	Peak Capacity as per EC (MTY)	Production from Oct'23 to Mar'24 (MTY)	1.	Kumardhubi UG	0.05	0.008785	2.	Barmuri OC	0.90	0.201810	3.	Rajpura OC	0.15	0.036510	<b>Total</b>		<b>1.10</b>	<b>0.247105</b>
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2.	The validity of the EC is for the life of the mine or as specified in the EIA Notification, 2006, whichever is earlier	The validity of the EC is for the life of the mines of this cluster.																				
3.	All safety measures shall be taken as per CMR, 1957 & related Circulars.	All safety measures are taken as provided in CMR 1957 (Now CMR-2017) & related Circulars.																				
4.	The production shall be within the same Mining Lease area.	The production activity is done within the same Mining Lease area.																				
5.	Coal shall be transported by rail only. Coal transportation from mine to siding should be by conveyor belt. The loading to siding by pay loaders into railway wagons.	<p>Coal is being transported to Mugma Central Pool Railway Siding through tarpaulin covered tippers covering a distance of 8 kms from the mine.</p> <p>Coal transportation from this mine to siding through belt conveyors is not feasible because</p> <ol style="list-style-type: none"> <li>1. the capacity of the mine is less,</li> <li>2. remaining life of OC mine is only a few years left and</li> <li>3. the belt conveyor has to cross over populated areas.</li> </ol> <p>A techno-feasibility report for coal transportation from mine to siding by conveyor belt as submitted by CMPDIL, RI-1, Asansol is being attached for kind reference.</p> <p>The loading in siding is done by pay loaders into railway wagons.</p> <p>Fixed water sprinklers and fog canons have been installed at the railway siding.</p>																				
6	Independent network of railway siding inside cluster be developed. Railway sidings should be constructed at the earliest and till	Kumardhubi Railway Siding situated in the cluster is uneconomic and practically unworkable due to the following reasons:-																				



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	then proponent may use mechanically covered trucks for transportation of coal.	<p>1) The peak production capacity of the cluster is only 1.10 million Te which is too less to run a railway siding.</p> <p>2) The life of both the open cast mines in the cluster is very less. At present, a Central Pool railway siding exists in Cluster 1 which is in very close proximity from the mines of Cluster 2. Presently, coal from mines of Cluster 2 is being transported to the central pool railway siding in tarpaulin covered trucks. The loaded trucks are made wet at first and then covered with tarpaulins for transportation.</p> <p>ECL is exploring the availability of mechanically covered trucks in market for coal transportation. Till then the coal transportation is being done through tarpaulin covered trucks.</p>
7	Use of nearby sidings shall be explored and informed to the Ministry within three months.	In order to explore the feasibility of restarting the Kumardhubi Railway siding within the cluster, a committee was constituted vide order no. ECL/MA/GM/2015/66/115 dated 03.08.2015 to conduct a study on it. A report of this study was submitted vide letter no. ECL/GM/MA/15/258(A) dated 12.08.2015 with observations of the committee being not in favour of restarting the Kumardhubi railway siding for despatch of coal from mines of Cluster 2. A noting sheet enclosing the report vide letter no. ECL/MA/GM/2016/66/167 dated 20.05.2016 has been forwarded to HQ, ECL for perusal for onward transmission to the Ministry. Subsequently, Ministry has permitted to use the present central pool railway siding for cluster 2 group of mines as stated below in condition no. 8 of this EC letter.
8	The present arrangement of transfer to the siding 8 Km(approx.) away may be continued with tarpaulin covered trucks.	Complied. The inclusion of this condition is highly appreciated by the management of M/s ECL.
9	Three tier green belt shall be raised around the railway sidings and along the road sides to prevent dust and noise pollution.	No operative railway siding within cluster 2. However, in the central pool railway siding situated in Cluster 1 leasehold area of Mugma Area, multi-tier plantation has been raised at the central pool railway siding. The railway siding is bounded by a compound wall of about 10 feet high that helps in preventing dust and other fugitive emission to a large extent. Fixed sprinklers and fog canons have been installed in the railway siding to arrest dust pollution.
10	Stowing and depillaring shall be as per the recommendations of the DGMS.	Only development activity is being done in the cluster. As of now, there is no plan for depillaring and stowing. Depillaring, if taken up in future will be done by caving / stowing with approval from DGMS.
11	The proponent must comply with the Raniganj Action Plan. The unstable areas within the cluster will be brought under plantation after the population residing over these areas is rehabilitated under the Master Plan for Raniganj Coalfield to be implemented by ADDA.	The mines within this cluster does not contain any unstable area and is therefore not within the purview of the Master Plan for Raniganj Coalfield.
12	Trees with deep rooted system should be planted so as to prevent soil erosion.	Trees with deep rooted system are planted around the mines in the cluster. In this regard, on our request, the DFO, Dhanbad has provided a list of deep rooted trees that have been planted in the mine leasehold.
13	Proponent should plant additional 10 Ha/year over the next 10 years at various locations in the cluster.	Being complied. In FY 2024-25, it is proposed to do plantation and grassing

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		<p>activities over backfilled and OB dumps on over 3.5 Ha (approx.) in Mugma Area.</p> <p>In FY 2023-24, the plantation along the transportation route in Kumardhubi Colliery has been done by the Forest Department, Dhanbad.</p> <p>In FY 2022-23, work order for plantation along the transportation route in Kumardhubi Colliery has been awarded to DFO, Forest Dept., Dhanbad.</p> <p>In FY 2019-20, final maintenance work over 5 Ha of land in Rajpura Colliery of Cluster 2 has been done by the Forest Department, Dhanbad.</p> <p>After grant of EC, plantation has been over 14 Ha of land in Cluster 2 by the Forest Department, Dhanbad.</p>
14	River/Nallah shall be de-silted and restored back to functional state.	Nallah existing in the leasehold are desilted and cleaned regularly.
15	Wild life conservation plan be prepared and submitted to the MoEF & CC with the approval of the State Govt.	Being complied. Proposed wildlife conservation plan has been duly vetted and forwarded by the RCCF, Bokaro vide letter no. 1492 dated 10.07.2023 for final approval from the PCCF, Ranchi.
16	Proponent shall use high resolution image of all clusters for evaluating land use, plantation etc.	Complied. Baseline land-use study was based on high resolution satellite imagery of 2011. Further changes in land use and plantation will be tracked by carrying out satellite imagery at every three years' interval that started from 2015. Latest satellite image of the year 2023 has been submitted to RO, Ranchi vide our letter no.ECL/MA/GM/2023/136 dated 05.09.2023.
17	Separate drainage pattern be provided.	The existing drainages are sufficient and preserved.
18	Sand stowing must be used as recommended by CMPDI.	Presently there is no depillaring activity going on in the UG mine of the cluster, hence, no sand stowing is required.
19	Action plan for prevention and mitigation of subsidence be prepared and implemented.	At present only development work with Bord and Pillar Method is being carried out and no depillaring (caving/stowing) is being done, there is no subsidence at present. However, an Action Plan for prevention and mitigation of subsidence has been submitted to the IRO, MoEFCC, Ranchi vide letter no.ECL/GM/MA/2023/39/179 dated 01.11.23.
20	The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.	The voids in the mine is being concurrently backfilled with OB and after exhaustion of reserves the OC patch will be completely filled-up and will be reclaimed with plantation after settling. In Barmuri OC, about 1.88 L. cu.m of OB has been generated in the last six months which has been 100% used in backfilling purpose. A total of about 0.93 Ha of OC void has been backfilled using the OB. In Rajpura OC, about 2.83 L.cu.m OB has been excavated all of which has been used for in-pit backfilling. About 1.89 Ha of land has been backfilled in the last six months.
21	The OB shall be completely re-handled at the end of the mining.	Complete re-handling of OB dumps will be done at the end of mining in the mine as per MCP.
22	There shall be no residual OB dump after the mining.	The re-handling of OB dump shall be made as per MCP after mining is over.

23	After completion of mining activities, the subsided areas shall be graded and planted upon.	Presently there are no subsided areas. Subsided areas, if any, occurring during mine life will be graded and planted upon.
24	Coal Extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring & coal extraction should be carried out below habitation, H.T. Lines & beneath road, water bodies.	No depillaring activity is presently undertaken. Future depillaring activity, if any, will be taken up in consultation and with the approval of DGMS. Coal pillars will be left intact to protect surface features like H.T. Lines, roads and water bodies.
25	The land excavated after mining must be brought back to original condition for agricultural/plantation purpose.	Backfilling and reclamation will be carried out on excavated land and efforts will be made to bring back the land to original condition for agriculture / horticultural / plantation purpose, as per MCP. In Barmuri OC, about 1.88 L. cu.m of OB has been generated in the last six months which has been 100% used in backfilling purpose. A total of about 0.93 Ha of OC void has been backfilled using the OB. In Rajpura OC, about 2.83 L.cu.m OB has been excavated all of which has been used for in-pit backfilling. About 1.89 Ha of land has been backfilled in the last six months.
26	Water discharged from the mine should be as good as surface drinking water.	Mine discharge water is analysed on fortnightly basis by CMPDI and found to be within the specified norms. Report for the cluster is enclosed. For this purpose, a pressure filter of 10000 GPH capacity with double settling provision is being installed in the cluster at Kumardhubi Colliery. Also mine water is treated with slow sand filtration technique in Rajpura Colliery before discharge. An RO plant also has been installed in Kumardhubi Colliery that caters to the need of drinking water of ECL employees as well as nearby villagers.
27	Final mine void 11.5 Ha and depth will not be more than 20 m. The void area will be converted into water body. The mine void should be used for pisciculture purpose	Final mine void will be kept below 20 meter and water body will be used for pisciculture.
28	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.	At present only development work with Bord and Pillar Method is being carried out at Kumardhubi UG Mine and no depillaring (caving/stowing) is being done, there is no subsidence at present.
29	If subsidence is found exceeding the permitted limits, then the	No depillaring (caving/stowing) is being done, hence there is no subsidence at present. If found in future, Land owner shall be

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	landowners shall be adequately compensated with mutual agreement of the landowners.	adequately compensated with mutual agreement of the landowners.
30	Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.	In UG mines water sprinkling system is available which is used to spray water to check fugitive emissions on haulage roads, etc. In OC mines, spraying of water at regular intervals by mobile water sprinkler is being done at transfer points, etc. Roads are blacktopped and maintained in good condition. Fog cannons have been installed in the mines to arrest fugitive emissions from coal depots, haul roads, etc.
31	The CSR cost should be Rs 5 per Tonne of Coal produced which should be adjusted as per the annual inflation.	CSR cost at the rate of 2% of the net profit has been kept for the purpose. The cluster is not making any profit and has been in loss for many years. However, from FY 2020-21 to 2022-23 a total of Rs. 1.79 crores (approx.) Lakhs have been spent under CSR head in Mugma Area, ECL. A School has been constructed in the cluster and handed over to DAV. The proposals for construction of two nos. Of classrooms at Nandalal Institution, Chirkunda and supply of water to the villages of Kalipahari east Panchayat under Egarkund Block have been initiated and awaiting approval.
32	The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analysed and monitored for compliance of conditions, bearing with movement of wildlife and until such time they are closed/phased out.	It shall be complied as per Mine Closure Plan (MCP).
33	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	Half-yearly dust survey is conducted in mine and core zone at vulnerable places. No risky place has been detected till date. However, personnels in the core area have been provided with dust mask for protection against fugitive dust emissions.
34	Dust mask to be provided to everyone working in the mining area.	Half-yearly dust survey is conducted in mine and core zone at vulnerable places. No risky place has been detected till date. However, drillers have been provided with dust mask for protection against fugitive dust emissions. Dust masks have also been provided to workers deployed in the core mining area. Further, if any risky zone is detected in future, dust mask will be provided to the personnel working/present near dust producing sources
35	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.	Supervisors regularly ensure compulsory wearing of dust mask in dusty environment whenever such a zone detected.
36	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	Periodic Medical Examination is carried out to test lung diseases and other health problems for the personnel working in core zone. PME report for the said period minewise is given as follows:

Name of mine	No. of Employees sent for PME (Oct'23 to Mar'24)	Pneumoconiosis cases	NIHL cases
Kumardhubi	7	00	00
Barmuri OC	39	00	00
Rajpura OC	48	00	00
<b>Total</b>	<b>94</b>	<b>00</b>	<b>00</b>

Total cases of Pneumoconiosis detected so far is 00.

37	The mining area should be surrounded by green belt having thick closed canopy of the tree cover.	Vegetation exists in the leasehold area of the cluster. Continual efforts are on to strengthen the green belt cover around the mining area with the help from the Forest department.
38	Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.	Being complied. Medical tests have been conducted by team of doctors from NIOH, Ahmedabad and reports are awaited.
39	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 stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.	Barmuri: The embankment in the eastern boundary along the Barakar River is there in the virgin area having adequate width and height. The embankment will be stabilised with plantation.  Rajpura: Jhilia nallah flows along the eastern boundary of the mine. The mine entries have been planned such that there is no danger of inundation. Embankment is not required to be made along the nallah bank.  Kumardhubi: Barakar river flows along the eastern boundary of the cluster. The mine entry had been planned such that there is no danger of inundation. Embankment is not required to be made along the river bank.
40	There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.	At present OB is dumped internally. In past whatever the external OB dump is there it had been settled and deep rooted plants had grown over there preventing soil erosion.
41	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for	Catch drains (garland drains) have been constructed along the toe of OB dumps and regular de-silting is carried out to keep the drains in good condition. Sump capacity is adequate to allow proper settling of silt. Siltation ponds have been provided in Barmuri OC and Kumardhubi UG.

	watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.	
42	Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.	Garland drains have been designed to evacuate maximum single day rainfall as recorded for the area. (Max rainfall recorded since opening of the mine is 330 mm on dated 20/09/2000). There exists sump of sufficient capacity in the mine. Siltation ponds have been provided in Barmuri OC and Kumardhubi UG.
43	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.	A toe wall has been provided along the old OB dump of Barmuri OC. This old settled O.B Dump has been stabilised by planting deep rooted plants to check the soil erosion and for running O.B dump grassing has been done to check erosions and run-offs. Checkdams have been provided.
44	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	Presently there is no CHP in the cluster.
45	Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.	The mine discharge water is regularly monitored by CMPDIL. The water quality has been found to be within prescribed limits. Reports for the period are enclosed.
46	Drills shall be wet operated.	There are two (02) nos. of wet drills operating in the cluster.
47	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads.	The roads in the mines of Cluster 2 are black topped. The complete roadway is properly maintained. For all three mines of the cluster, regular repairing and tarring of roads are done on priority basis as per requirement. Both sides of approach roadways are well vegetated naturally. Multi-tier plantation has been done along the transportation routes within the cluster by the Forest Department, Dhanbad.

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48	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	OC Mines: Blasting is done only in controlled manner with proper delay detonators. The blasting is done in day hours only. The siren alert system is also practiced for safety purposes. Control of ground vibration and to arrest the fly rocks and boulders has been ensured by controlled blasting technology. Vibration study is conducted by CMPDI as per requirement from time to time.
49	A Progressive afforestation plan shall be implemented covering an area of 401.40 ha at the end of mining, which includes reclaimed Avenue Plantation area (41 Ha) Excavation 8.2 OB dump area (123 ha), Mine Infrastructure/Built-up area (2 ha); Green Belt (45.5 Ha) and Natural vegetation land (189.9 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.	Being complied. In FY 2024-25, it is proposed to do plantation and grassing activities over backfilled and OB dumps on over 3.5 Ha (approx.) in Mugma Area. In FY 2023-24, the plantation along the transportation route in Kumardhubi Colliery has been done by the Forest Department, Dhanbad. In FY 2022-23, work order for plantation along the transportation route in Kumardhubi Colliery has been awarded to DFO, Forest Dept., Dhanbad. In FY 2022-23, it is proposed to do plantation in about 1.2 Ha in Barmuri OC and under discussion with the DFO, Dhanbad. In FY 2019-20, final maintenance work over 5 Ha of land in Rajpura Colliery of Cluster 2 has been done by the Forest Department, Dhanbad. In the Cluster 2, 9 Ha has been planted upon by the Forest Department, Dhanbad at the rate of 2500 plants per Ha (2015-16) In 2017-18, plantation (completion work) has been carried out in 5 Ha of land within the leasehold of the cluster. In 2018-19, final year/second year maintenance work in 9 Ha and first year maintenance work in 5 Ha in Cluster 2 has been done by the Forest Dept., Dhanbad. In FY 2019-20, final maintenance work over 5 Ha of land in Rajpura Colliery of Cluster 2 has been done by the Forest Department, Dhanbad.
50	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	Mine closure Plan has already been prepared for the purpose. Restoration and reclamation shall be done accordingly.
51	Compensatory Ecological Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.	Mine closure Plan has already been prepared for the purpose. Compensatory ecological and restoration of wasteland, degraded land and OB dumps shall be done accordingly.
52	No groundwater shall be used for mining operations.	No groundwater is being used for mining operations.
53	An estimated total 38.39 M m <sup>3</sup> of OB will be generated during the entire life of the mine. There will be no OB dump. There will be two internal dumps of 38.39 cu. M. covering an area of 97.50 Ha of land. The OB dump height is upto +/- 5 m. The maximum slope of the area shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the	In BOCP, an estimated total 5.20 Mm <sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 5.20 Mm <sup>3</sup> of OB will be dumped in internal dump covering area 15 Ha of land. The OB dump height will not exceed limit. The maximum slope of the dump has not exceeded 28 degrees. Monitoring and management of reclaimed dump sites will be done as per MCP. In Barmuri OC, about 1.88 L. cu.m of OB has been generated in the last six months which has been 100% used in backfilling purpose. A total of about 0.93 Ha of OC void has been backfilled using the OB. In ROCP, an estimated total 6.70 Mm <sup>3</sup> of OB will be generated during the entire life of the mine. Total OB will be dumped in

	vegetation becomes self-sustaining and compliance status shall be submitted to MOEF&CC and its Regional Office on yearly basis.	internal dump covering area 10 Ha of land. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites will be done as per MCP. In Rajpura OC, about 2.83 L.cu.m OB has been excavated all of which has been used for in-pit backfilling. About 1.89 Ha of land has been backfilled in the last six months.
54	Of the total quarry area 123 ha. The backfilled quarry area of (87.5 Ha) shall be reclaimed with plantation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.	In Barmuri OC, about 1.88 L. cu.m of OB has been generated in the last six months which has been 100% used in backfilling purpose. A total of about 0.93 Ha of OC void has been backfilled using the OB. In Rajpura OC, about 2.83 L.cu.m OB has been excavated all of which has been used for in-pit backfilling. About 1.89 Ha of land has been backfilled in the last six months. The back-filled quarry area of the cluster shall be reclaimed with plantation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be as recommended i.e. 2500 plants per ha.
55	Regular monitoring of groundwater level and quality 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 in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.	Being complied. Monitoring report for GWL is presently being done by establishing a network of dug-wells earmarked as hydrograph stations and the water levels in meters below ground level (mbgl) is being recorded during the months of January, May, August & November every year. Please refer table 1A and 1B and dugwell nos. 2GWL1 and 2GWL2 for and piezometer nos. 2/MG/KP-01 and 1/MG/RP-02 for Cluster 2 in the report enclosed.
56	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	There are several old abandoned quarries in the cluster which serve as water reservoirs that help in ground water recharge. People from the nearby villages use this water for domestic purpose. Mine water of Barmuri OCP is being fed to ponds of Poradih Village for recharging of ground water in nearby locality. Moreover, two projects of rainwater harvesting have been completed in 2015-16. One is at the General Manager's Office, Mugma Area and another at Guest House, Mugma Area with catchment area of 1021(approx.) sq. m and 561(approx.) sq. m respectively. Both the projects have been constructed as ground water recharge measures.
57	Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.	Being complied. It has been discussed and suggested that proposals for all new/upcoming colonies in Mugma Area should incorporate site, design and construction of an STP for that colony. However, ETPs and oil and grease traps have been provided at both the OC patches. Presently soak pits are available in the colonies. The existing colonies are very old and drainage system is not properly channelized. Work order for technical study on construction of an STP in Gopalpura Colony, Mugma Area of ECL subsidiary has been awarded to IIT-ISM, Dhanbad. A copy

		of the same has been sent to RO, Ranchi vide letter no. ECL/GM/MA/AMPCD/2019/455 dated 09.04.2019. The activity for installation of STP has been earmarked in the Capital Budget expenditure FY 2024-25.
58	Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.	Land oustees are compensated as per R & R Policy of CIL.
59	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&CC and its concerned Regional office.	Baseline land-use study was based on high resolution satellite imagery of 2011. Further changes in land use and plantation will be tracked by carrying out satellite imagery at every three years' interval that started in 2015. Last updated report of 2023 has been submitted.
60	A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environmental Clearance.	Mine Closure Plan is prepared for all mines of the Cluster.
61	The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.	The CSR activities are being undertaken in consultation with local panchayats.
62	Corporate Environment Responsibility: a) The Company shall have a well laid down Environment Policy approved by the Board of Directors. b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/ deviation /violation of the environmental or forest norms/conditions. c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. d) To have proper checks and balances, the company shall have a	a) "Corporate Environmental Policy 2018" of Coal India Limited has already been formulated. b) "Corporate Environmental Policy 2018" of Coal India Limited has prescribed standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/condition. c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions has been furnished in "Corporate Environmental Policy 2018" of Coal India Limited. d) The company is having a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company.

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.	Similarly, ECL also has its own Corporate Environmental Policy duly approved by the Board.
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**General Condition**

Sl. No	EC Conditions	Compliance
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests & Climate Change.	There has been no change in mining technology and if it changes in future prior approval of the Ministry of Environment, Forests & Climate Change shall be taken .
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	There will be no change in the calendar plan of production for quantum of mineral coal.
iii	For ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, PM2.5, SO2 and NOX monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	Air quality monitoring is being carried out at six locations within the cluster on fortnightly basis by CMPDI, Asansol. These six locations have been decided based on the meteorological data and topographical features of the cluster. Heavy metals analysis report (once every 6 months) is also included in the AAQ report.
iv	Data on ambient air quality (PM10, PM2.5, 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 concerned Regional Office 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.	Ambient Air Quality report enclosed indicates parameters within limits set by NAAQS. Fortnightly Monitoring report for AAQ (PM10, PM2.5, SO <sub>2</sub> & NO <sub>x</sub> ) is being enclosed. Heavy metals analysis report (once every 6 months) is also included in the AAQ report.



D. Chakraborty  
5/11/14

v	Adequate measures shall be taken for control of noise levels below 85dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Noise monitoring is being done by CMPDI, Asansol. Report is enclosed. Noise level has always been below 85 dBA. Reports are sent regularly to concerned departments.
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.	Mine discharge water samples are tested in laboratory at CMPDI on fortnightly basis. Mine water quality conforms to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 1993. The mine water quality reports the fortnights are sent regularly to concerned departments.
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the minerals shall be covered with tarpaulins and optimally loaded.	Vehicular emissions have been kept under control and regularly monitored. Vehicles used for transporting the minerals are covered with tarpaulins and optimally loaded.
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.	Monitoring of environmental parameters is carried out on regular basis by CMPDIL. Laboratory at CMPDIL, RI-I, Asansol is having all necessary facilities.
ix	Personnel working under dusty area shall wear protective respiratory devices and they shall also be provided with adequate training and information and information safety and health aspects.	Dust mask for protection against fugitive dust emissions is provided to the personnel working near dust producing sources. Training and awareness programmes in form of vocational training are carried out at cluster level. Various training programmes are also conducted at various levels for the personnel working in dusty areas.
x	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of Environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the	PME of workers are carried out periodically and cases of Pneumoconiosis and noise induced hearing loss is nil.

*D. Gupta*  
29/11/12

	company while outsourcing.	
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 separate Environment Management Cell with qualified personnel has been established for Mugma Area. The cell comprises of Area Manager (PC&D), Area Survey Officer, Area Civil Engineer & Personnels of Environment Department, Mugma Area, ECL
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.	Being complied. Expenditure under EMP head till date amounts to about Rs. 294 lakhs (approx.) under Cluster 2. Funds for environmental protection are kept in budget each year and are not diverted for other purposes.
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, Forest and Climate Change at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	Advertisement details – Accordance of the Environment Clearance from MoEF & CC to Cluster 1 & Cluster 2 mines of Mugma Area, ECL on 16.01.2015 was publicly notified in The Telegraph on 07.02.2015, on page no. 10.  The revised EC accorded to Cluster 2 mines of Mugma Area, ECL on 16.06.2016 was published in <i>The Telegraph</i> 06.08.2016 and <i>Prabhat Khabar, Dhanbad</i> newspapers on 05.06.2016. The present amended EC has been notified in the <i>Prabhat Khabar, Dhanbad</i> dated 10.07.2022. The present amended EC has been notified in the <i>Dainik Jagran, Dhanbad</i> dated 28.02.2024 and in the <i>Dainik Bhaskar</i> dated 27.02.2024. Copies of the publication enclosed for kind reference.
xiv	A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestions/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on Company's website.	Complied.
xv	A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the regional office, District Industry Sector and Collector's	A copy of the Environmental clearance letter is sent to the concerned Jharkhand State Pollution Control Board for display on its website.

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	Office/Tehsildar's Office for 30 days.	
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 the environmental quality parameters (air, water, noise & soil) and critical pollutant such as PM10, PM2.5, SO2 and NOX (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on Company's website.	The clearance letter has been uploaded on the Company's website. The monitoring data of environmental quality parameter (air, water and noise) and critical pollutant such as PM10, PM 2.5, SO2 and NOx (ambient) and critical sectoral parameters are being displayed at the entrance of the mine premises and mine office
xvi i	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.	Compliance report on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e- mail) has been submitted to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.
xvi ii	The Regional Office of the Ministry located in the Region shall monitor compliances 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.	Agreed and Noted
xix	The environmental 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 the status of the EC conditions and shall be sent to the	Environment Statement for the year 2022-23 for Cluster 2 has been sent to Jharkhand State Pollution Board, Dhanbad and Ranchi, CPCB and to Regional Office, MoEF&CC, Ranchi dated 22.09.2023.

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*[Handwritten signature]*  
3-9/1/24



	respective Regional Offices of the MOEFCC by e-mail.	
4	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.	All commitments and recommendations are being implemented presently.
5	The commitment made by the proponent to the issues raised during Public Hearing be implemented by the Proponent.	The commitment made by the proponent to the issues raised during Public Hearing has been implemented.
6	The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The ministry or any other competent authority may stipulate any further condition for environmental protection.	Agreed and noted.
7	The ministry or any other competent authority may stipulate any further condition for environmental protection.	Agreed and noted.
8	The Proponent shall set up an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.	Agreed and noted.
9	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed and noted.
10	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 and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter. The proponent	Agreed and noted.



*D. G. V.*  
20/11/24

	shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination of ground water and surface water, and occupational and other diseases due to the mining operations.	
11	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Agreed and noted.

### EC Compliance Report of Cluster 2, EC dt. 27.05.2021

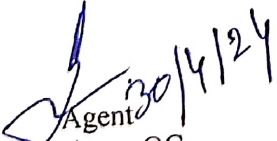
S.No	EC Conditions	Compliance
1.	The mining lease holders shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora. Fauna etc.	All mines in the cluster have an approved Mine Closure Plan prepared by CMPDI and all activities are in line with the MCP. Currently all OB being extracted is used in internal Backfilling. Old OB dumps have been stabilized with plantation. Temporary grassing is ensured with the stacking of any external OB Dump. Activity of grassing is being actively carried out in the active dumps as well. Proposal for grassing has been initiated in the OB dumps of the OC patches of cluster 2.
2.	Project proponent to plant 1,00,000 no.s of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer.	In FY 2024-25, it is proposed to take up plantation work in 1 ha land and maintenance work has been taken up. In FY 2023-24, multi-tier plantation has been done along the transportation routes within the cluster by the Forest department, Dhanbad. Plantation in 49 Ha (approx.) has been done in the cluster over the years.
3.	Fixed Automatic sprinkler system (6no.s) shall be installed in Crusher area, Haul Road, Further adequate pollution control mechanism shall be adopted in mobile crusher system.	Fixed type water sprinklers have been installed along the coal depot and haul roads of Barmuri OCP. The tipping point of Kumardhubi colliery is equipped with water spraying arrangement. 12KL capacity mobile water sprinklers have been provided for water spraying on haul roads. There is no crushing unit in the cluster and wet coal in tarpaulin covered trucks is transported to the Central Pool Railway Siding.
4.	Third Party monitoring by reputed institute for air quality shall be carried out at identified locations, both ambient and the process area, to arrive at impact of the proposed changes. The report shall be submitted to Ministry's Regional office in six months.	Work order for carrying out third party monitoring has been awarded to IIT-ISM, Dhanbad vide our letter no. ECL/GM/MA/ENV/2023/39/177 dated 30.10.2023. Sampling work for the pre-monsoon period has started and the final report shall be submitted by September 2024.

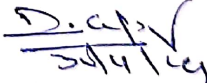
	Five 5 Fog Cannon system should be installed near mine operational area and at OB Dump.	Fog canons have been provided within the cluster. It is proposed to procure additional fog canons in the FY 2024-25.
6.	Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles.	Grassing activity is being actively carried out over the active OB dumps. Additional grassing activity is proposed in the OC mines.

### EC Compliance Report of Cluster 2, EC dt. 21.02.2024

S.No	EC Conditions	Compliance
1.	Project proponent shall strengthen the plantation i.e. within /outside the mine lease area by establishing a nursery having capacity of minimum of 1 lakh tree saplings. At least 10,000 saplings to be distributed among all the local villagers.	Site for plant nursery of adequate capacity has been earmarked. Photograph enclosed for reference.  Mass distribution of tree saplings to nearby villagers and schools is being carried out on regular basis. A nursery shall also be developed within the cluster having capacity of at least 1 lakh tree saplings.
2.	PP shall implement the activities wise the proposed budget for public hearing budget of Rs. 106.8 lakhs in addition to Rs. 614.20 lakhs at EMP cost of Rs. 79.8 in addition to Rs. 294.2 in time bound manner. The details of annual expenditure incurred shall be part of report to be submitted to the IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of public hearing, and continued as a part of CSR budget.	The issues raised during the public hearing of the cluster have been duly addressed and the activities are being maintained by ECL management in regular period of times. The funds earmarked under EMP are being utilised like-wise and the expenditure details are being submitted to the IRO, MoEF&CC in the half- yearly EC compliance report. Proper auditing of expenditures/finances is also being done. It is ensured that the maintenance of all activities shall be covered through recurring cost of public hearing, and continued as a part of CSR budget.

Information provided in half yearly EC compliance report for the period Oct'23 to Mar'24 in respect of Cluster no. 2 group of mines is true to the best of my knowledge.

  
 Agent  
 Rajpura OC  
 Cluster 2, Mugma Area, ECL

  
 Agent,  
 Kumardhubi UG & Barmuri OC  
 Cluster 2, Mugma Area, ECL