



Bharat Coking Coal Limited



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

Office of the General Manager, Bastacolla Area, Dhanbad-828111

Ref. No: BCCL/BA/PO/2024-25/ 768

Date: 13.09.2024

To
The Divisional Forest Officer
Forest Division, Dhanbad

Sub: Regarding Queries raised against online forest clearance proposal of Kuya Colliery
(16.49 Ha).

Ref:- DFO office Letter no. 812 dated 27.03.2024

Dear Sir,


Please find enclosed herewith the point wise reply of query raised by your good office against online forest clearance proposal of Kuya Colliery (16.49 Ha).

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

Thanking You,

Enclosures: as above

Yours sincerely


Project Officer
Kuya Colliery

परियोजना प्रबंधिका
Project Officer
कुईयों कोलियरी
Kuya Colliery

Status of queries raised by DFO, Dhanbad in the reply submitted on 14.02.2024:

Sl.	Queries Raised	Reply/ Action to be taken
1.	इस कार्यलाव के प्रासंगिक पत्र द्वारा 21 बिन्दुओं पर की गयी पृच्छाओं का अनुपालन प्रतिवेदन की मांग की गयी थी। आपके द्वारा अनुपालन प्रतिवेदन parivesh portal पर online upload किया गया, परन्तु अनुपालन प्रतिवेदन में हस्ताक्षर एवं मुहर अंकित नहीं है। साथ ही अनुपालन प्रतिवेदन का hard copy इस कार्यालय में समर्पित नहीं किया गया है।	21 बिन्दुओं पर की गई पृच्छाओं का अनुपालन प्रतिवेदन की हस्ताक्षरित एवं मुहर अंकित कॉपी (hard copy) संलग्न की जा रही है। (MoEF&CC query reply enclosed)
2.	बिंदु संख्या 04 पर की गयी पृच्छा के सम्बन्ध में प्रस्तावित रकबा 16.49 ha का component wise KML file parivesh portal पर uploaded नहीं किया गया है।	प्रस्तावित रकबा 16.49 ha & माइन लीज क्षेत्र (340.5 Ha) का component wise KML file parivesh portal में upload कर दिया गया है।
3.	नये क्षतिपूरक वनरोपण हेतु रकबा 16.49 ha का दोगुना 33.0 ha का KML file parivesh portal पर upload नहीं किया गया है।	नये क्षतिपूरक वनरोपण हेतु रकबा 16.49 ha का दोगुना रकबा एवं safety zone का डेढ़ गुना रकबा (38 Ha) का KML file बनवाकर आपके कार्यालय में समर्पित किया गया है।
4.	Mining Plan की प्रति हस्ताक्षर एवं मुहर सहित समर्पित नहीं किया गया है।	Mining Plan की हस्ताक्षरित एवं मुहर अंकित कॉपी (hard copy) संलग्न की जा रही है। (Mining Plan copy enclosed)
5.	बिंदु संख्या 13 पर की गयी पृच्छा के निराकरण हेतु Revised Mining Plan समर्पित नहीं किया गया है।	Revised Mining Plan की कॉपी (hard copy) संलग्न की जा रही है। (Revised Mining Plan copy enclosed)
6.	बिंदु संख्या 16 पर की गयी पृच्छा Status of Mine Lease validity along with relevant details and chronological history समर्पित नहीं किया गया है।	Status of Mine Lease validity along with relevant details and chronological history समर्पित की जा रही है। (copy enclosed)
7.	बिंदु संख्या 20 पर की गयी पृच्छा हेतु Site specific wildlife/biodiversity conservation plan से सम्बंधित undertaking समर्पित गलत है।	Site specific wildlife/ biodiversity conservation plan से सम्बंधित undertaking समर्पित की जा रही है। (copy enclosed)

Queries raised in compliance report of Bera Ghanoodih (234.08 Ha):

Sl.	Query	Reply
1.	बिंदु संख्या 01 में safety zone Area में किये गए fencing, protection and regeneration कार्य का फोटोग्राफ एवं विडियोग्रप्स उपलब्ध नहीं कराया गया है।	Safety zone Area में किये गए fencing, protection and regeneration कार्य का फोटोग्राफ संलग्न किया जा रहा है। Safety zone Area में किये गए fencing वर्ष 2012-13 में किया गया है। (Photographs enclosed)


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Kuya Colliery

<p>2. बिंदु संख्या 03 (i) में Proper mitigative measures are being taken for prevention of soil Erosion and choking of streams पर Indian School of Mines द्वारा किये गए study का प्रतिवेदन उपलब्ध नहीं कराया गया है।</p>	<p>Indian School of Mines द्वारा किये गए study का report मर्मणित किया जा रहा है। (copy enclosed)</p> <p>Proper mitigative measures for prevention of soil Erosion and choking of stream के लिए दिए गए मुझावों के हिसाब से किये गए कार्यों की विवरणी निम्नवत है :</p> <ol style="list-style-type: none"> 1. Afforestation over OB dumps/ mined out degraded land for arresting soil erosion: (Photographs enclosed) 2. Stage 1 स्वीकृति प्राप्त होने के बाद में वर्ष 2023-24 तक बेरा, दोबारी, कुइया एवं घानूडीह कोलियरी में कुल 26.77 Ha (वन विभाग- 9.7 Ha, विभागीय - 17.07 Ha) वृक्षारोपण कराया गया है। 3. Construction of toe wall/ retention wall along OB dumps & jores: Retention wall of about 291.13 m length has been constructed along Chatkari Jore at cost of Rs. 19,74,504 (Photograph enclosed) 4. Construction of sedimentation ponds: (Photographs enclosed) <ul style="list-style-type: none"> • Sedimentation pond (Two) at Bastacolla Colliery • Tisra Kuya pond (One) at Kuya Colliery • Pond (One) at Bera Colliery 5. Construction of check dams: Check dam constructed over Chatkari Jore at cost of Rs.17.5 Lakhs opposite of Govardhan Eco-park, Bera. (Photographs enclosed)
<p>3. बिंदु संख्या 03 (ii) में Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion के सम्बन्ध में आपके द्वारा सूचित किया गया है कि 32.37 ha में वृक्षारोपण एवं grass seeds लगाया गया है। परन्तु आपके द्वारा 21 बिन्दुओं में कि गड़ पृच्छा संख्या 06 में भी पुनः इसी को वर्णित किया है। अतः आपके द्वारा अभी तक किये गए उक्त कंडिका का compliance उपलब्ध नहीं कराई गयी है।</p>	<ul style="list-style-type: none"> • बेरा, दोबारी, कुइया एवं घानूडीह कोलियरी के लीज क्षेत्र में वर्ष 2022-23 तक 32.37 Ha क्षेत्रफल पर वृक्षारोपण कराया गया है। इसमें से 19.70 Ha वन विभाग, झारखण्ड द्वारा कराया गया है एवं 12.67 Ha बीसीसीएल द्वारा विभागीय वृक्षारोपण किया गया है। इसके अतिरिक्त वर्ष 2023-24 में बीसीसीएल द्वारा 4.40 Ha विभागीय वृक्षारोपण किया गया है। • Stage -I स्वीकृति प्राप्त होने के बाद बेरा, दोबारी, कुइया एवं घानूडीह कोलियरी में कुल 26.77 Ha (वन विभाग- 9.7 Ha, विभागीय - 17.07 Ha) वृक्षारोपण कराया गया है। • वर्ष 2024-25 में बेरा कोलियरी में 800 बांस गैबियन वृक्षारोपण कार्य वन विभाग द्वारा किया जा रहा है।
<p>4. बिंदु संख्या 03 (iii) में construction of check dams, retention/toe walls के सम्बन्ध में विवरणी उपलब्ध नहीं कराई गयी है।</p>	<p>Construction of check dams, retention/toe walls की विवरणी निम्नवत है:</p> <ul style="list-style-type: none"> • Construction of check dams: Check dam constructed over Chatkari Jore at cost of

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Project Officer
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Kuya Colliery

		Rs.17.5 Lakhs opposite of Govardhan Eco-park, Bera. (Photographs enclosed) <ul style="list-style-type: none">• Construction of retention/toe walls: Retention wall of about 291.13 m length has been constructed along Chatkari Jore at cost of Rs. 19,74,504. (Photographs enclosed)																				
5.	बिंदु संख्या 04 में lease area में किये गए मात्र 2600 बांस gabion एवं 500 लोह gabion का ज़िक्र किया गया है। आपके द्वारा कराये गए वृक्षारोपण कि स्थलावर वृस्तिव विवरणी उपलब्ध कराई जाये।	2600 बांस gabion & 500 लोह gabion वृक्षारोपण वन विभाग, झारखण्ड द्वारा कराया गया है जिसकी विवरणी निम्नवत है : <table><tr><th>Sl no</th><th>Gabion</th><th>Year</th><th>Location</th></tr><tr><td>1</td><td>500 (Bamboo Gabion)</td><td>2015-16</td><td>Patrakulhi-Barmassia to Belgaria road</td></tr><tr><td>2</td><td>500 (Iron Gabion)</td><td>2018-19</td><td>PMCH,DGMS office, Coal Board residence area, Housing Board colony</td></tr><tr><td>3</td><td>600 (Bamboo Gabion)</td><td>2018-19</td><td>•Bera Colliery office to Amtal High school •Bera Colliery office to Patrakulhi</td></tr><tr><td>4</td><td>1500 (Bamboo Gabion)</td><td>2020-21</td><td>•Rajapur/ South Jharia office to BNR Railway siding (along roads) •BNR Railway siding(within siding premises)</td></tr></table>	Sl no	Gabion	Year	Location	1	500 (Bamboo Gabion)	2015-16	Patrakulhi-Barmassia to Belgaria road	2	500 (Iron Gabion)	2018-19	PMCH,DGMS office, Coal Board residence area, Housing Board colony	3	600 (Bamboo Gabion)	2018-19	•Bera Colliery office to Amtal High school •Bera Colliery office to Patrakulhi	4	1500 (Bamboo Gabion)	2020-21	•Rajapur/ South Jharia office to BNR Railway siding (along roads) •BNR Railway siding(within siding premises)
Sl no	Gabion	Year	Location																			
1	500 (Bamboo Gabion)	2015-16	Patrakulhi-Barmassia to Belgaria road																			
2	500 (Iron Gabion)	2018-19	PMCH,DGMS office, Coal Board residence area, Housing Board colony																			
3	600 (Bamboo Gabion)	2018-19	•Bera Colliery office to Amtal High school •Bera Colliery office to Patrakulhi																			
4	1500 (Bamboo Gabion)	2020-21	•Rajapur/ South Jharia office to BNR Railway siding (along roads) •BNR Railway siding(within siding premises)																			
6.	बिंदु संख्या 08 में Tree felling हेतु HPC द्वारा दिये गए निर्देश का अनुपालन प्रतिवेदन समर्पित नहीं किया गया है।	3768 tree felling permission हेतु HPC द्वारा दिये गए निर्देश vide no. TCF-03 dated 27.01.2023 dated (copy enclosed) के अनुसार 37680 पौधे लगाए जाने थे जिसका अनुपालन किया जा रहा है जिसकी विवरणी निम्नवत है : <ul style="list-style-type: none">• बेरा (5 Ha): 12500 पौधे (Departmental)• बस्ताकोला कोलियरी (5 Ha): 12500 पौधे (वन विभाग द्वारा पौधारोपण वित्तीय वर्ष 2024-25 में प्रस्तावित है)• 800 bamboo gabion plantation (वन विभाग द्वारा पौधारोपण वित्तीय वर्ष 2024-25 में प्रस्तावित है)• कुइया कोलियरी में (5 Ha): 12500 पौधों का वृक्षारोपण वित्तीय वर्ष 2025-26 में प्रस्तावित किया जा रहा है																				
7.	बिंदु संख्या 15 में OB Dumping Plan समर्पित नहीं किया गया है।	Approved Mining plan में OB Dumping Plan सम्मिलित है (Copy of Mining Plan)																				
8.	बिंदु संख्या 16 में Concurrent reclamation plan carried out by BCCL every year के	Forest land is under mining operation and extraction has not been completed due to multi-seam working.																				


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Project Officer
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Kuya Colliery

सम्बन्ध में विस्तृत विवरणी एवं फोटोग्राफ संलग्न नहीं किया गया है।

Concurrent reclamation plan की विस्तृत विवरणी Mining Plan में दी गई है। Final Reclamation will be done after complete exhaust of coal.

However, afforestation measures are being taken in the leasehold area of Bera, Dobari, Kuya & Ghanoodih Colliery as detailed below:

1. **Afforestation over OB dumps/mined out degraded land:** Till 2023-24 (after Stage I FC), afforestation done over 26.77 Ha. (Out of 26.77 Ha, afforestation over 9.70 Ha has been done through State Forest Department, Dhanbad and afforestation over 17.07 Ha has been done departmentally).
2. **Grassing:** Grass seeds are being broadcasted on Slopes of OB Dumps to minimize Soil Erosion. Details mentioned below:


FY	Name of project	Area (in Ha)
2019-20	Bera	2
2020-21	Bera	5
2021-22	Dobari	5
2022-23	Kuya	5
2023-24	Bera	3
2024-25	Dobari	5

3. **Avenue Plantation:** In addition to block plantation, avenue plantation has also been done by BCCL through State Forest Department. The details is as tabulated below:

Sl no	Gabion	Year	Location
1	500 (Bamboo Gabion)	2015-16	Patrakulhi-Barmassia to Belgaria road
2	500 (Iron Gabion)	2018-19	PMCH,DGMS office, Coal Board residence area, Housing Board colony
3	600 (Bamboo Gabion)	2018-19	<ul style="list-style-type: none"> • Bera Colliery office to Amtal High school • Bera Colliery office to Patrakulhi
4	1500 (Bamboo Gabion)	2020-21	<ul style="list-style-type: none"> • Rajapur/ South Jharia office to BNR Railway


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		oo Gabion)		siding (along roads) •BNR Railway siding(within siding premises)
		5 800 (Bamb oo gabion)	2024- 25 (Work awarde d)	•Chandmari colliery to Govardhan Eco-park, Bera Colliery •Coal Depot of Kuya Colliery to Jharia Baliapur Road
9.	बिंदु संख्या 18 में Mining lease क्षेत्र के 5 किलोमीटर में मात्र तीन ही Ponds का Desiltation कि गयी है, जो बेहद कम है तथा उसका विस्तृत विवरणी भी उपलब्ध नहीं कराया गया है।	Mining lease क्षेत्र के 5 किलोमीटर में तीन Ponds के Desiltation का अनुरोध किया गया था। जिसकी ससमय साफ़-सफाई करवाई गयी। इसके अलावा प्रति वर्ष मानसून में आस पास के जोर/तालाब/ नालों की की साफ़ सफाई करायी जाती है एवं इस कार्य में वर्ष 2020-21 से अब तक ₹ 22,22,030 रुपये खर्च किए गए है जिसकी वर्षवार विवरणी संलग्न की गई है। (Copy enclosed)		
10.	बिंदु संख्या 20 में उल्लेखित annual compliance report उपलब्ध नहीं कराया गया है।	पिछले दो वर्ष की annual compliance रिपोर्ट संलग्न की जा रही है।(Copy enclosed)		
11.	क्षतिपूरक वनरोपण हेतु रकवा 234.08 ha का दोगुना 468.16 ha का KML file parivesh portal पर uploaded नहीं किया गया है।	क्षतिपूरक वनरोपण हेतु 234.08 Ha का दोगुना 468.16 Ha का KML file बनवाकर महाशय के कार्यालय में समर्पित किया गया है अतः आपके कार्यालय से क्षतिपूरक वनरोपण (468.16 Ha) KML file parivesh portal पर upload किया जायेगा।		


Project Officer
Kuya Colliery

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Bharat Coking Coal Limited



भारत कोकिंग कोल लिमिटेड
(कोल इण्डिया लिमिटेड की एक अनुषंगी कंपनी)

Bharat Coking Coal Limited
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Office of the General Manager, Bastacolla Area, Dhanbad-828111

Ref. No: BCCL/BA/PO/2024-25/769

Date: 13.09.2024

To
The Divisional Forest Officer
Forest Division, Dhanbad

Sub: Regarding Diversion of 16.49 ha forest land for Kuya Colliery Open Cast Project in favour of M/s BCCL in Dhanbad district of Jharkhand State (Online No. FP/JH/MIN/32906/2018)

Dear Sir,

Please find enclosed herewith the point wise reply of query raised for Diversion of 16.49 ha forest land for Kuya Colliery Open Cast Project in favour of M/s BCCL in Dhanbad district of Jharkhand State (Online No. FP/JH/MIN/32906/2018).

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

Thanking You,

Enclosures: as above


Yours sincerely

Project Officer
कुईया कोलियरी
Project Officer
कुईया कोलियरी
Kuya Colliery

S.No.	Query Raised / Issue Raised	Reply																								
1.	<p>As per the Mine plan, Kuya Colliery comprises an area of 340.50 Ha which includes 176 Ha of Kuya underground, 60 Ha of whole Golukdih colliery and 104.50 Ha land transferred from Ghanoodih Colliery.</p> <p>Therefore, the total forest land involved in the 340.50 Ha lease area needs to be examined by the State Govt. and a detailed report along with copies of approvals accorded earlier under the FCA, 1980 needs to be submitted.</p>	<p>Total forest land involved in Kuya Colliery is 117.51 Ha.</p> <p>Out of which 101.02 Ha has already been diverted for Open mining projects working by BCCL vide F. No.- 8-44/2009-FC dated 12.02.2012 (Annexure 1.Copy of FC approval enclosed). Balance 16.49 Ha forest land is proposed for diversion in this proposal.</p>																								
2.	<p>As per the mining plan, only 117.19 ha forest land exist within the mine lease area of 340.5 ha. However, the Ministry vide its letter No 8-44/2009-FC diverted 234.08 ha forest land for open cast mining project in favour of same user agency. Therefore, the State Govt. shall provide the justification in this regard along with the KML file of 234.08 ha forest land and the status of lease hold area.</p>	<p>Present status of breakup of already diverted 234.08 Ha forest land is as under:</p> <table><tr><th>Sl.</th><th>Mine</th><th>Mining lease (Ha)</th><th>Already diverted Forest land (Ha)</th></tr><tr><td>1.</td><td>Bera Colliery</td><td>209.56</td><td>13.44</td></tr><tr><td>2.</td><td>Dobari Colliery</td><td>146.90</td><td>55.62</td></tr><tr><td>3.</td><td>Ghanoodih Colliery</td><td>73.00</td><td>64.00</td></tr><tr><td>4.</td><td>Kuya Colliery</td><td>340.50</td><td>101.02</td></tr><tr><td colspan="3">Total</td><td>234.08 Ha</td></tr></table> <p>Total forest land involved in Kuya Colliery is 117.51 Ha.</p> <p>Out of 117.51 Ha forest land falling in the leasehold of Kuya Colliery, forest clearance has already been obtained for 101.02 Ha (as part of 234.08 Ha forest land diverted for Open mining projects working by BCCL vide F. No.- 8-44/2009-FC dated 12.02.2012) & balance 16.49 Ha forest land is proposed for diversion in this proposal.</p> <p>KML of 234.08 Ha prepared & uploaded in PARIVESH portal.</p>	Sl.	Mine	Mining lease (Ha)	Already diverted Forest land (Ha)	1.	Bera Colliery	209.56	13.44	2.	Dobari Colliery	146.90	55.62	3.	Ghanoodih Colliery	73.00	64.00	4.	Kuya Colliery	340.50	101.02	Total			234.08 Ha
Sl.	Mine	Mining lease (Ha)	Already diverted Forest land (Ha)																							
1.	Bera Colliery	209.56	13.44																							
2.	Dobari Colliery	146.90	55.62																							
3.	Ghanoodih Colliery	73.00	64.00																							
4.	Kuya Colliery	340.50	101.02																							
Total			234.08 Ha																							
3.	<p>Further, out of 117.19 ha forest area mentioned in the Mine plan, the user agency has sought diversion of 16.49 ha forest land. Thus, the status of balance 100.7 ha forest land is not available in the proposal. The same needs justification.</p>	<p>Total forest land involved in Kuya Colliery is 117.51 Ha.</p> <p>Out of which 101.02 Ha has already been diverted for Open mining projects working by BCCL vide F. No.- 8-44/2009-FC dated 12.02.2012 (Annexure 1.Copy of FC approval enclosed).. Balance 16.49 Ha forest land is proposed for diversion in this proposal.</p> <p>Status of already diverted forest land 101.02 Ha (part of 234.08 Ha) is mentioned below:</p> <p>Out of 101.02 Ha diverted forest land, 99.65 Ha forest land is under mining operation (Quarry & OB), extraction in III bottom seam is undergoing, hence, complete extraction has not been done.</p> <p>KML of both 101.02 Ha (already diverted as part of 234.08 Ha) & 16.49 Ha (area proposed for diversion in this proposal) has been uploaded in PARIVESH portal.</p>																								


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 कर्मचारी भवन
 Kuya Colliery

4.	The State shall ensure that the area proposed for diversion and its component wise detail is commensurate with the approved mining plan. A comparative analysis in this regard shall be submitted.	Mining plan has been modified and the component wise details of the area proposed for diversion are as mentioned below: <table><tr><th>Sl.</th><th>Component</th><th>Forest land</th></tr><tr><td>1.</td><td>Quarry</td><td>15.92</td></tr><tr><td>2.</td><td>Safety Zone</td><td>0.57</td></tr></table>	Sl.	Component	Forest land	1.	Quarry	15.92	2.	Safety Zone	0.57																												
Sl.	Component	Forest land																																					
1.	Quarry	15.92																																					
2.	Safety Zone	0.57																																					
5.	Status of compliance of conditions stipulated in earlier Stage-II approval dated 12.04.2012 granted for diversion of 234.08 ha of forest land for coal mining to be submitted by the State Government along with KML files of diverted area(234.08 ha) as well as the CA areas proposed earlier.	Compliance of conditions stipulated in Stage II FC of 234.08 Ha forest land dated 12.04.2012 submitted to DFO, Dhanbad (27 th June 2023 & 10.02.2024) (Annexure 2. Copy of Stage II FC Compliance enclosed). <ul style="list-style-type: none">➤ KML of 234.08 Ha uploaded on PARIVESH portal.➤ KML of CA land (468.16 Ha) uploaded on PARIVESH portal.																																					
6.	Status of reclamation measures undertaken by the user agency in their lease area in case of earlier approvals as per the Progressive Mine Closure Plans and gaps if any, shall be intimated by the State.	Reclamation Details: <p>Forest land is under mining operation and extraction has not been completed due to multi-seam working. Final Reclamation will be done after complete exhaustion of coal.</p> <p>However, afforestation measures are being taken in the leasehold area of Bera, Dobari, Kuya & Ghanoodih Colliery as detailed below:</p> <ul style="list-style-type: none">• Afforestation over OB dumps/mined out degraded land: Till 2023-24 (after Stage I FC), afforestation done over 26.77 Ha. (Out of 26.77 Ha, afforestation over 9.70 Ha has been done through State Forest Department, Dhanbad and afforestation over 17.07 Ha has been done departmentally).• Grassing: Grass seeds are being broadcasted on Slopes of OB Dumps to minimize Soil Erosion. Details mentioned below:<table><tr><th>FY</th><th>Name of project</th><th>Area (in Ha)</th></tr><tr><td>2019-20</td><td>Bera</td><td>2</td></tr><tr><td>2020-21</td><td>Bera</td><td>5</td></tr><tr><td>2021-22</td><td>Dobari</td><td>5</td></tr><tr><td>2022-23</td><td>Kuya</td><td>5</td></tr><tr><td>2023-24</td><td>Bera</td><td>3</td></tr><tr><td>2024-25</td><td>Dobari</td><td>5</td></tr></table>• Avenue Plantation: In addition to block plantation, avenue plantation has also been done by BCCL through State Forest Department. The details is as tabulated below:<table><tr><th>Sl no</th><th>Gabion</th><th>Year</th><th>Location</th></tr><tr><td>1</td><td>500 (Bamboo Gabion)</td><td>2015-16</td><td>Patrakulhi-Barmassia to Belgaria road</td></tr><tr><td>2</td><td>500 (Iron Gabion)</td><td>2018-19</td><td>PMCH,DGMS office, Coal Board residence area, Housing Board colony</td></tr><tr><td>3</td><td>600 (Bamboo Gabion)</td><td>2018-19</td><td><ul style="list-style-type: none">• Bera Colliery office to Amtal High school• Bera Colliery office to</td></tr></table>	FY	Name of project	Area (in Ha)	2019-20	Bera	2	2020-21	Bera	5	2021-22	Dobari	5	2022-23	Kuya	5	2023-24	Bera	3	2024-25	Dobari	5	Sl no	Gabion	Year	Location	1	500 (Bamboo Gabion)	2015-16	Patrakulhi-Barmassia to Belgaria road	2	500 (Iron Gabion)	2018-19	PMCH,DGMS office, Coal Board residence area, Housing Board colony	3	600 (Bamboo Gabion)	2018-19	<ul style="list-style-type: none">• Bera Colliery office to Amtal High school• Bera Colliery office to
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 Project Officer
 कुर्खी कोलियरी
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					Patrakulhi																				
		4	1500 (Bamboo Gabion)	2020-21	<ul style="list-style-type: none">• Rajapur/ South Jharia office to BNR Railway siding (along roads)• BNR Railway siding(within siding premises)																				
		5	800 (Bamboo gabion)	2024-25 (Work Awarded)	<ul style="list-style-type: none">• Chandmari colliery to Govardhan Eco-park, Bera Colliery• Coal Depot of Kuya Colliery to Jharia Baliapur Road																				
7.	The KML files indicating the different components of the project have not been submitted. The same needs to be submitted/uploaded conspicuously depicting the various project component vis-à-vis total lease area.	Component wise KML of the project uploaded on PARIVESH portal.																							
8.	As per the DSS analysis, it has been revealed that area is broken within the proposed forest patch for the construction of road. The same needs clarification.	Necessary action has been taken by forest department																							
9.	The Mining lease (ML) boundary needs to be verified because the area of KML file of ML is found to be 374.606 ha against the 340.5 ha as per the details mentioned in online Part-1.	KML for 340.5 Ha uploaded on PARIVESH Portal.																							
10.	Satellite imagery shows that the plantation activity is visible in the proposed CA patch namely Tukipur compartment No. 562 and part of this patch is having encroachment of Agriculture land. Therefore, the proposed CA patch needs to be revised.	The proposed CA patch revised and the KML for same has been uploaded. The details of revised CA patch is mentioned below: <table><tr><th>Mouza</th><th>Thana</th><th>Plot No.</th><th>Area (in Ha)</th></tr><tr><td>Bandojor</td><td>Tundi/08</td><td>29, 02,355, 356,354</td><td>14</td></tr><tr><td>Sarra</td><td>Tundi/01</td><td>409</td><td>13</td></tr><tr><td>Bhurrahi</td><td>Tundi/09</td><td>227, 125,218, 229</td><td>11</td></tr><tr><td colspan="3">Total</td><td>38</td></tr></table>				Mouza	Thana	Plot No.	Area (in Ha)	Bandojor	Tundi/08	29, 02,355, 356,354	14	Sarra	Tundi/01	409	13	Bhurrahi	Tundi/09	227, 125,218, 229	11	Total			38
Mouza	Thana	Plot No.	Area (in Ha)																						
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Total			38																						
11.	Satellite imagery shows that the construction activities like pond etc. are visible in another CA patch namely Bhurahi Compartment No. 125, 131, 218, 219, 222, 227, 229. This needs clarification	The proposed CA patch revised and the KML for same has been uploaded. The details of revised CA land is mentioned below: <table><tr><th>Mouza</th><th>Thana</th><th>Plot No.</th><th>Area (in Ha)</th></tr><tr><td>Bandojor</td><td>Tundi/08</td><td>29, 02,355, 356,354</td><td>14</td></tr><tr><td>Sarra</td><td>Tundi/01</td><td>409</td><td>13</td></tr><tr><td>Bhurrahi</td><td>Tundi/09</td><td>227, 125,218, 229</td><td>11</td></tr><tr><td colspan="3">Total</td><td>38</td></tr></table>				Mouza	Thana	Plot No.	Area (in Ha)	Bandojor	Tundi/08	29, 02,355, 356,354	14	Sarra	Tundi/01	409	13	Bhurrahi	Tundi/09	227, 125,218, 229	11	Total			38
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Total			38																						
12.	The site suitability of CA land shall be ascertained as per the Ministry's guideline dated 13.07.2022.	Necessary action has been taken by forest department																							
13.	In the Mining plan, it has been reported that a section of Tisra Jore Nallah flowing in the proposed quarry area, has to be diverted for operation of the proposed project. Therefore, comments of the water resource department on the proposed measures and impact of the project on the hydrological regimes are	As per revised Mining Plan, Nalla diversion is not required.																							

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	required to be submitted	
14.	The details of land-use at the end of mine life have not been given in the Mine plan and progressive mine closure plan. Therefore, the revised mining plan along with mine closure plan shall be submitted/ uploaded.	Revised Mining plan of Kuya Colliery uploaded on PARIVESH Portal (January 2023). (Annexure 3. Copy of approved Mining plan enclosed)
15.	Details of coal evacuation plan and how the requirements of water and electricity will be met by the user agency shall be submitted. The details of additional forest land required for the same shall also be submitted.	Coal Evacuation plan of Kuya Colliery is enclosed as Annexure 4 . Water extracted from Mines is only being used for meeting water requirement. Existing arrangement of electricity is sufficient to cater proposed mine-operation as detailed in Mining Plan. As per Mining Plan, no further forest land is required for coal evacuation.
16.	The State Govt. shall submit the status of Mine lease validity along with the relevant details and chronological history.	Status of Mine lease validity along with the relevant documents and chronological history uploaded in PARIVESH portal (Annexure 5. Copy of Mine lease validity with chronology enclosed).
17.	Given the density of 0.6 of the proposed forest area of 16.49 Ha, number of project affected trees reported as 2246 appears to have been estimated on lower side. The same needs to be reconfirmed by the state.	Necessary correction has been done
18.	The CF, Bokaro in Part-III reported that the proposed area is having 10 years old plantation and prominent species such Chakundi, Chhatni, Doka etc have been noticed. Therefore, the details of plantation, the scheme under which it was done along with undertaking from the user agency to bear the cost of plantation in the proposed area shall be submitted.	Undertaking uploaded on PARIVESH Portal. (Annexure 6)
19.	KML files and afforestation scheme of the degraded forest land proposed for afforestation in lieu of 1.5 times the area of safety zone has not been submitted. The same needs to be submitted along with the afforestation scheme and suitability certificate.	KML file of the degraded forest land proposed for afforestation in lieu of 1.5 times the area of safety zone along with KML files of double degraded land for CA i.e. approx. 38 Ha has been submitted & uploaded in PARIVESH portal. The afforestation scheme & suitability certificate will be uploaded by forest department in PARIVESH portal.
20.	The PCCF (WL) recommended the proposal subject to fulfillment of Site specific wildlife/ Biodiversity conservation plan at the project cost. However, the undertaking from the user agency to bear the cost has not been submitted.	Undertaking uploaded on PARIVESH Portal. (Annexure 7)


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21.	Cost Benefit ratio is calculated as 1:434.64, which is extremely high. Therefore, the same needs to be revisited and required to be submitted in prescribed format keeping in view the revised rates of NPV dated 06.01.2022	Revised CBA uploaded on PARIVESH Portal (Annexure 8)
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Project Officer
Kuya Colliery
 परियोजना पर्याधिकारी
Project Officer
 कुईयों कोलियरी
Kuya Colliery

पत्र संख्या-3/वन भूमि-28/2009-2236

झारखण्ड सरकार,
वन एवं पर्यावरण विभाग

व०प०

प्रेषक,

मुकेश कुमार वर्मा,
सरकार के उप सचिव

सेवा में,

प्रधान मुख्य वन संरक्षक,
झारखण्ड, राँची।

विषय:-

धनबाद वन प्रमंडल के अंतर्गत बी०सी०सी०एल० के पक्ष में धानूडीह बेरा खुली खदान हेतु 234.08 हे० वन भूमि अपयोजन का प्रस्ताव।

राँची, दिनांक- 23/7/2012

महाशय,

निदेशानुसार उपर्युक्त विषयक भारत सरकार, पर्यावरण एवं वन मंत्रालय, नई दिल्ली के पत्रांक-8-44/2009 FC दिनांक-12.04.2012 जिसकी प्रति आपको भी दी गई है, की ओर आपका ध्यान आकृष्ट करते हुए कहना है कि विषयगत परियोजना को भारत सरकार ने 20 (बीस) शर्तों के साथ स्टेज-II की स्वीकृति प्रदान की है।

अतः अनुरोध है कि विषयगत परियोजना में लगाये गये शर्तों का अनुपालन प्रतिवेदन अविलंब विभाग को उपलब्ध कराने की कृपा की जाय।

परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

विश्वासभाजन,

(मुकेश कुमार वर्मा)
सरकार के उप सचिव

Copy to DT

GM (Env)

CM (Env)

A

कार्यालय:- प्रधान मुख्य वन संरक्षक, झारखण्ड, राँची।
ज्ञापांक:- 19 एम० 1 (5) 3/2004 दिनांक

प्रतिलिपि:- प्रधान मुख्य वन संरक्षक-सह-कार्यकारी निदेशक, बजर भूमि विकास बोर्ड, झारखण्ड, राँची/क्षेत्रीय मुख्य वन संरक्षक, हजारीबाग/वन संरक्षक, बोकारो अधल, बोकारो/वन प्रमंडल पदाधिकारी, धनबाद वन प्रमंडल को इस कार्यालय का ज्ञापांक-1859 दिनांक-10.05.2012 के सदर सूचना एवं आवश्यक कार्रवाई हेतु प्रेषित। अनुरोध है कि विषयक प्रस्ताव पर दी गई स्टेज-II स्वीकृति में लगाई गई शर्तों का अनुपालन प्रतिवेदन उचित माध्यम से अग्रतर कार्रवाई हेतु उपलब्ध कराया जाय।

प्रधान मुख्य वन संरक्षक,
झारखण्ड, राँची।

ज्ञापांक- 2320

दिनांक- 9/6/12

प्रतिलिपि:- निदेशक, तकनीकी (पी० एण्ड० पी०) बी० सी० सी० एल०, कोयला भवन, कोयला नगर, धनबाद को मांगू, जंगल, सूचना एवं आवश्यक कार्रवाई हेतु प्रेषित।

for Mr. Modi
25/7

for Mr. Singh
26/7/12

प्रधान मुख्य वन संरक्षक
झारखण्ड, राँची।
09/06

1. No. 8-44/2009-FC
Government of India
Ministry of Environment & Forests
(FC Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi-110510

Dated: April, 2012

To

✓ The Principal Secretary (Forests),
Government of Jharkhand,
Ranchi.

Sub: Diversion of 234.08 ha of forest land for coal mining of open mining project in village Ghanodih and Bera in favour of M/s Bharat Coking Coal Limited (BCCL) in Dhanbad district of Jharkhand.

Sir,

I am directed to refer to the State Government's letter no. 3 / VanBhumi - 28 /2009-1704 VP dated 13.06.2009 on the subject mentioned above seeking prior approval of the Central Government under Section-2 of the Forests (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under section-3 of the said Act, in-principle approval was granted vide this Ministry's letter of even number dated 9.08.2010 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the in-principle approval and has requested the Central Government to grant final approval.

In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government vide letter no. 3/Vanbhumi-28/2009-1410 dated 13.04.2011 and letter dated 3.02.2012, approval of the Central Government is hereby granted under section-2 of the Forest (Conservation) Act, 1980 for diversion of 234.08 ha of forest land for coal mining of open mining project in village Ghanodih and Bera in favour of M/s Bharat Coking Coal Limited (BCCL) in Dhanbad district of Jharkhand subject to fulfillment of the following conditions:

पर उद्य सचिव कोषांग

वन एवं पर्यावरण मंत्रालय

Legal status of forest land shall remain unchanged.

23.9.2012
03 MAY 2012

a. Compensatory afforestation shall be raised and maintained by the State Forest Department at the project cost.

झारखण्ड, राँची

b. Fencing, protection and regeneration of the safety zone area shall be done at the project cost.

c. The boundary of safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar

3 The following activities shall be undertaken by the User Agency under supervision of

परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

the State Forest Department at the project cost.

- (i) Proper mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented.
 - (ii) Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion.
 - (iii) Construction of check dams, retention toe walls to arrest sliding down of the excavated material along the contour.
 - (iv) The top soil management plan should be strictly adhered to.
4. Wherever possible and technically feasible, the User Agency shall undertake by involving local community, the afforestation measures in the blanks within the lease area, as well as along the roads outside the lease area diverted under this approval, in consultation with the State Forest Department at the project cost.
 5. The User Agency shall furnish an undertaking to pay the additional NPV, if so determined, as per the final decision of Hon'ble Supreme Court of India.
 6. The approval under the Forest (Conservation) Act, 1980 is subject to the clearance under the Environment (Protection) Act, 1986 and any other Acts/Regulation/Rules.
 7. The period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development & Regulating) Act, 1957, or Rules framed there under, subject to a maximum period of 30 years;
 8. Any tree felling shall be done only when it is unavoidable under strict supervision of the State Forest Department.
 9. No damage to the flora and fauna of the area shall be caused.
 10. No labour camps shall be set up inside the forest area.
 11. The user agency shall provide fuel wood preferably alternate fuel to the labourers working at the site to avoid damage / felling of trees.
 12. Demarcation of mining lease area will be done on the ground at project cost using four feet high reinforced cement concrete pillars with serial numbers, forward & back bearings and distance from pillar to pillar.
 13. The user agency will assist the State Government in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State.

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DS
परियोजना पदाधिकारी
Project Officer
कुईराँ कोलियरी
K. R. Colliery

13. The User Agency will ensure the dumping of O/S as per the approved Nodal Reclamation plan.
16. The user agency shall undertake mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or the Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed.
17. The user agency will implement the R & R Plan as per the R&R Policy of State Govt. in consonance with National R&R Policy of the State Government.
18. The user agency shall undertake de-silting of the village tanks and other water bodies located within five km from the mine lease boundary so as to mitigate the impact of siltation of such tanks water bodies, whenever required.
19. Any other condition that the CCF (Central) Regional Office, Bhubaneswar may impose from time to time for protection and improvement of flora and fauna in the forest area, shall also be applicable.
20. The user agency shall submit the annual compliance report in respect of the above conditions to the State Government and to the Regional Office, Bhubaneswar regularly.

Yours faithfully,

S.P. Singh
(S.P. Singh)

Assistant Inspector General of Forests

Copy to:-

1. The Principal Chief Conservator of Forests Government of Jharkhand, Ranchi.
2. The Nodal Officer, Office of the PCCF, Government of Jharkhand, Ranchi.
3. The Chief Conservator of Forest (Central), Regional Office, Bhubaneswar.
4. User Agency.
5. Monitoring cell of the FC section
6. Guard file.

(S.P. Singh)

Assistant Inspector General of Forests

DS
परियोजना पदाधिकारी
Project Officer
कुईयों कोलियरी
Kuya Colliery

Annexure - 2

Office of the General Manager, Bastacolla Area, Dhanbad-828111

Ref. No: BCCL/BA/PO/2024-25/767

Date: 13.09.2024

To
The Divisional Forest Officer
Forest Division, Dhanbad

Sub: ATR/Compliance Report i.r.o of diversion of 234.08 Ha of Forest Land for Coal Mining of Open cast Mining Project in Village Ghanoodih and Bera in Favour of M/S BCCL, Dhanbad.

Dear Sir,


Please find enclosed herewith, ATR/Compliance report by Bharat Coking Coal Limited for all conditions set by Ministry of Environment and Forest along with requisite enclosures.

This is for your kind information, please.

Thanking You,

Enclosures: as above

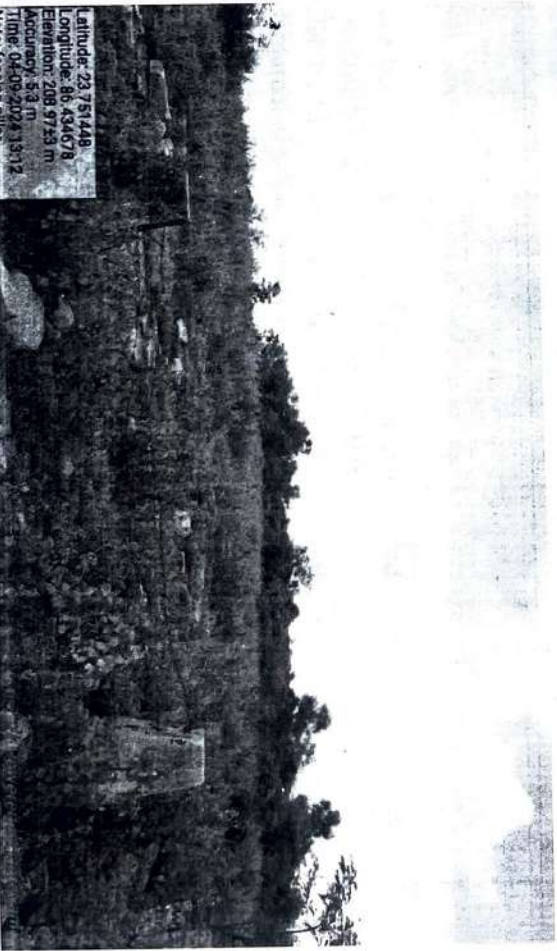
Yours sincerely


Project Officer
परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery


Copy to:


- 1) MoEFCC, Integrated Regional Office, Forest Division, Bungalow No. A-2, Shyamali Colony, Doranda, Ranchi, Jharkhand 834002

Action taken/Compliance report by Bharat Coking Coal Limited (BCCL) for the conditions set by MoEF in respect of Stage II Forest clearance for diversion of 234.08 ha. of Forest Land for Opencast mining project in Ghanodih and Bera villages in favour of M/s. Bharat Coking Coal limited (BCCL) in Dhanbad district of Jharkhand.

Sl. No	Condition	Compliance / Action taken report
1	Legal status of forest land remains unchanged. a. Compensatory afforestation shall be raised and maintained by the State Forest Department at the project cost. b. Fencing, protection and regeneration of the safety zone area shall be done at the project cost.	Agreed. BCCL has deposited Rs. 2,66,50,578 towards compensatory afforestation (DD no. 441900 dated 17.09.2010, drawn in favor of Corporation Bank Compensatory Afforestation Fund Jharkhand AC C/A 1587, payable at New Delhi). 63 Nos. of pillars in Safety zones were erected at the Project cost. Safety zone =0.98 Ha. Fencing done.
		 <p>Latitude: 23.751448 Longitude: 86.434678 Elevation: 208.9723 m Accuracy: 5.8 m Time: 04-09-2024 15:12 Note: Fencing pillar.</p>

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Kuya Colliery

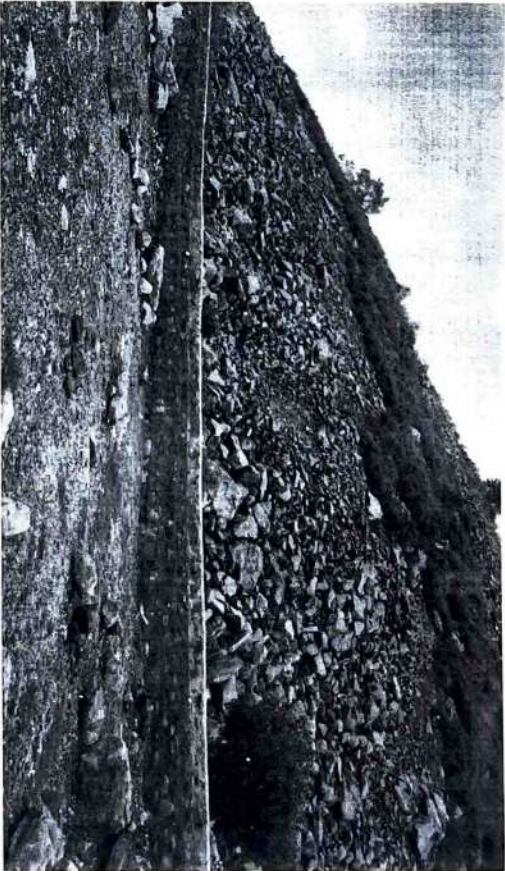
<p>2 The boundary of safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar.</p>	<p>The boundary of Safety Zone was demarcated on ground at the project cost, by erecting 63 Nos. of pillars over 1310.00 m. 204 Nos.[Dobari village(171) and Bera Village(33)] of Pillars were erected as demarcated pillar over Forest Land.</p> 



 परियोजना प्रशासिका
 Project Officer
 कुईया कोलियरी
 Kuya Colliery



3	<p>The following activities shall be undertaken by the User Agency under supervision of the State Forest Department at the project cost:</p> <p>(i) Proper mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented.</p>	<p>The study has been already conducted by Indian School of Mines and we are complying with the recommendations. Proper mitigative Measures are being taken for prevention of Soil Erosion, Choking of Streams etc. The details are as mentioned below:-</p> <ol style="list-style-type: none"> Afforestation over OB dumps/ mined out degraded land for arresting soil erosion: After receiving Stage-I approval, till the year 2023-24, a total of 26.77 Ha (Forest Department – 9.7 Ha, Departmental – 17.07 Ha) plantation has been done in Bera, Dobari, Kuya and Ghanoodh colliery. Grassing: Grass seeds are being broadcasted on Slopes of OB Dumps to minimize Soil Erosion. Details mentioned below: <table border="1"> <thead> <tr> <th>FY</th><th>Name of project</th><th>Area (in Ha)</th></tr> </thead> <tbody> <tr> <td>2019-20</td><td>Bera</td><td>2</td></tr> <tr> <td>2020-21</td><td>Bera</td><td>5</td></tr> <tr> <td>2021-22</td><td>Dobari</td><td>5</td></tr> <tr> <td>2022-23</td><td>Kuya</td><td>5</td></tr> <tr> <td>2023-24</td><td>Bera</td><td>3</td></tr> <tr> <td>2024-25</td><td>Dobari</td><td>5</td></tr> </tbody> </table>	FY	Name of project	Area (in Ha)	2019-20	Bera	2	2020-21	Bera	5	2021-22	Dobari	5	2022-23	Kuya	5	2023-24	Bera	3	2024-25	Dobari	5
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2024-25	Dobari	5																					

		<p>3. Construction of toe wall/ retention wall along OB dumps & jores: Retention wall of about 291.13 m length has been constructed along Chalkari Jore at cost of Rs. 19,74,504.</p> <p>4. Construction of sedimentation ponds:</p> <ul style="list-style-type: none">• Sedimentation pond (Two) at Bastacolla Colliery• Tisra Kuya pond (One) at Kuya Colliery• Pond (One) at Bera Colliery <p>5. Construction of check dams: Check dam constructed over Chalkari Jore at cost of Rs.17.5 Lakhs opposite of Govardhan Eco-park, Bera.</p>																								
(ii) Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion.	<ul style="list-style-type: none">• Till 2023-24 (after Stage I FC), afforestation done over 26.77 Ha. (Out of 26.77 Ha, afforestation over 9.70 Ha has been done through State Forest Department, Dhanbad and afforestation over 17.07 Ha has been done departmentally).• In addition to block plantation, avenue plantation has also been done by BCCL through State Forest Department. The details is as tabulated below: <table><tr><th>Sl no</th><th>Gabion</th><th>Year</th><th>Location</th></tr><tr><td>1</td><td>500 (Bamboo Gabion)</td><td>2015-16</td><td>Patrakulhi-Barmassia to Belgaria road</td></tr><tr><td>2</td><td>500 (Iron Gabion)</td><td>2018-19</td><td>PMCH,DGMS office, Coal Board residence area, Housing Board colony</td></tr><tr><td>3</td><td>600 (Bamboo Gabion)</td><td>2018-19</td><td>• Bera Colliery office to Amtal High school • Bera Colliery office to Patrakulhi</td></tr><tr><td>4</td><td>1500 (Bamboo Gabion)</td><td>2020-21</td><td>• Rajapur/ South Jharia office to BNR Railway siding (along roads) • BNR Railway siding(within siding premises)</td></tr><tr><td>5</td><td>800 (Bamboo gabion)</td><td>2024-25 (Work Awarded)</td><td>• Chandmari colliery to Govardhan Eco-park, Bera Colliery • Coal Depot of Kuya Colliery to Jharia Baliapur Road</td></tr></table>	Sl no	Gabion	Year	Location	1	500 (Bamboo Gabion)	2015-16	Patrakulhi-Barmassia to Belgaria road	2	500 (Iron Gabion)	2018-19	PMCH,DGMS office, Coal Board residence area, Housing Board colony	3	600 (Bamboo Gabion)	2018-19	• Bera Colliery office to Amtal High school • Bera Colliery office to Patrakulhi	4	1500 (Bamboo Gabion)	2020-21	• Rajapur/ South Jharia office to BNR Railway siding (along roads) • BNR Railway siding(within siding premises)	5	800 (Bamboo gabion)	2024-25 (Work Awarded)	• Chandmari colliery to Govardhan Eco-park, Bera Colliery • Coal Depot of Kuya Colliery to Jharia Baliapur Road	
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(iii) Construction of check dams, retention/toe	The details of Construction of check dams, retention/ toe walls, embankment are																									

<p>walls to arrest sliding down of the excavated material along the contour.</p>	<p>as :-</p> <ul style="list-style-type: none"> • Construction of check dams: Check dam constructed over Chatkari Jore at cost of Rs. 17.5 Lakhs opposite of Govardhan Eco-park, Bera. • Construction of retention/toe walls: Retention wall of about 291.13 m length has been constructed along Chatkari Jore at cost of Rs. 19,74504. 
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 परियोजना पदाधिकारी
 Project Officer
 कुईयाँ कोलियरी
 Kuva Colliery




(iv) The top soil management plan should be strictly adhered to.

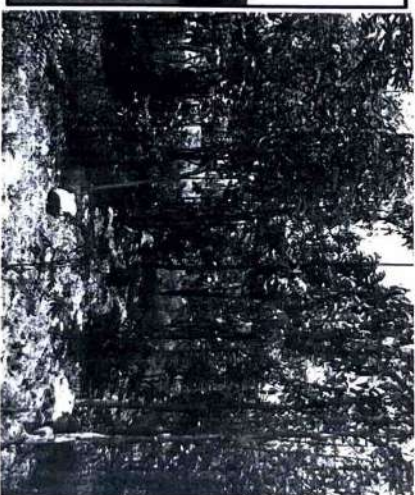
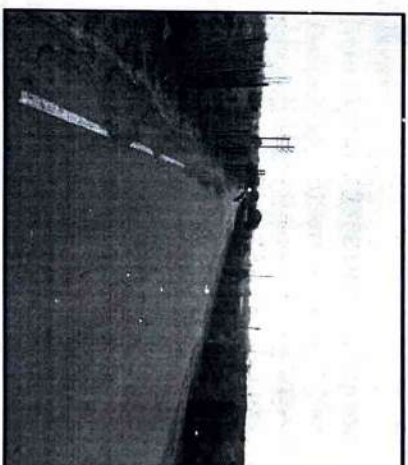
Top soil wherever available is being stacked and reused for eco-restoration purpose at Rajapur, Bera, Kuya, Dobari Eco-restoration site.

Year	Quantity (M ³)	Utilization/Location
2019-20	2000.00	Top Soil is being utilized in Biological Reclamation and Ecological Restoration Sites.
2020-21	2500.00	
2021-22	560.00	
2022-23	1500.00	
2023-24	Nil	

18

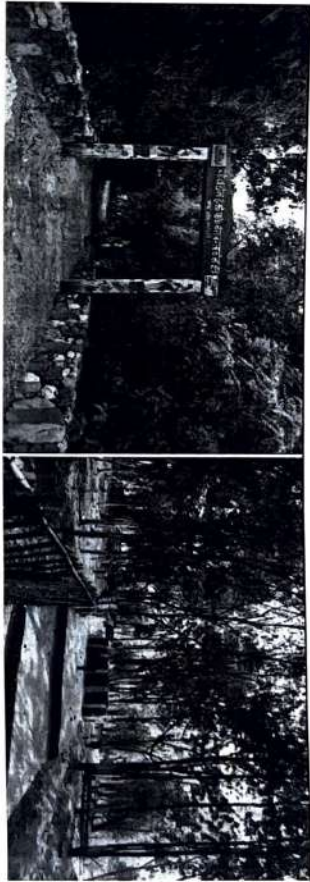
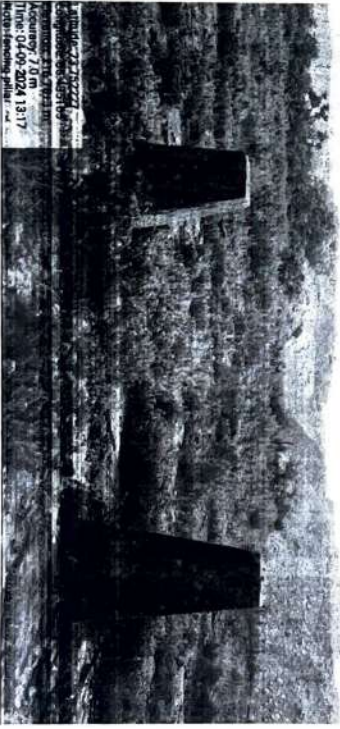
	
<p>4</p> <p>Whenever possible and technically feasible, the User Agency shall undertake by involving local community, the Afforestation measures in the blanks within the lease area, as well as along the roads outside the lease area diverted under this approval, in consultation with the State Forest Department at the project cost.</p>	<p>Being Complied.</p> <p>Afforestation measures are being taken in the leasehold area of Bera, Dobari, Kuya & Ghanoodh Colliery as detailed below:</p> <ol style="list-style-type: none"> 1. Afforestation over OB dumps/mined out degraded land done is detailed below: <ul style="list-style-type: none"> • Till 2023-24 (after Stage I FC), afforestation done over 26.77 Ha. (Out of 26.77 Ha, afforestation over 9.70 Ha has been done through State Forest Department, Dhanbad and afforestation over 17.07 Ha has been done departmentally). • Afforestation measures in the blanks involving local community taken up during various occasions such as World Environment Day, Vriksharopan Abhiyan, Van Mahotsav, Swachhta Pakhwada, Vigilance awareness week, Ek Ped Maa ke Naam etc. • Afforestation works awarded to State Forest department involves the local 2. Communities to execute the plantation work at Project Cost. 2. In addition to block plantation, avenue plantation has also been done by BCCL through State Forest Department. The details is as tabulated below:

Sl no	Gabion	Year	Location
1	500 (Bamboo Gabion)	2015-16	Patrakulhi-Barmassia to Belgaria road
2	500 (Iron Gabion)	2018-19	PMCH,DGMS office, Coal Board residence area, Housing Board colony
3	600 (Bamboo Gabion)	2018-19	• Bera Colliery office to Amtal High school • Bera Colliery office to Patrakulhi
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5	800 (Bamboo gabion)	2024-25 (Work Awarded)	• Chandmari colliery to Govardhan Eco-park, Bera Colliery • Coal Depot of Kuva Colliery to Jharia Batiapur Road



5	The User Agency shall furnish an undertaking to pay the additional NPV, if so determined, as per the final decision of Hon'ble Supreme Court of India.	BCCL has already deposited the amount of Rs. 14,65,34,080 towards NPV (DD No. 441899 dated 17.09.2010, in favour of Corporation Bank Compensatory Afforestation Fund Jharkhand AC C/A 1587, payable at New Delhi.
6	The approval under the Forest (Conservation) Act, 1980 is subject to the clearance under Environment (Protection) Act, 1986 and any other	EC obtained vide Ref No. J-11015/298/2010-IA-II(M) Dated 15.02.2013. Further, EC amended in 15.06.2018, 15.11.2020 & 28.03.2023.

Acts/Regulation/Rules.	
7 The period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to granted under the Mines and Minerals (Development & Regulating) Act, 1957, or Rules framed there under, subject to a maximum period of 30 years.	Diversion is Valid up to 11.04.2042.
8 Any tree felling shall be done only when it is unavoidable under strict supervision of State Forest Department.	<p>Tree felling is always done after receiving the consent from State Forest Department. As per the tree felling permission granted by HPC, GoJ, vide no TCF-03 dated 27.01.2023; 37680 no. of trees are to be planted in lieu of felling of 3768 no. of trees.</p> <p>The details of compliance of the tree felling permission granted by HPC are as follows:</p> <ul style="list-style-type: none"> • Bera (5 Ha): 12500 plants (Departmental) • Bastacolla Colliery (5 Ha): 12500 plants (Plantation by Forest Department is proposed in the financial year 2024-25) • 800 bamboo gabion plantation (Plantation by Forest Department is proposed in the financial year 2024-25) • Kuya Colliery (5 Ha): Plantation of 12500 plants is being proposed in the financial year 2025-26
9 No damage to the flora and fauna of the area shall be caused.	<p>Agreed. No damage to the flora and fauna of the area shall be caused by BCCL. In addition, BCCL is doing biological reclamation through eco-restoration method, in which land is being converted to a form to replicate natural forest which attract flora and fauna leading to restoration of bio-diversity of area which is being monitored by FRI, Dehradun. Various species of flora (Psidium guajava, Albezia lebbeck, Maduca indica, Aegle marmelos, Pongamia pinnata, Heterophragma adenophyllum, Dalbergia sisoo, Ziziphus jujube) & fauna have made the site as their habitat as reported by FRI, Dehradun.</p> <p>Two nos. of eco restoration park viz. Govardhan park (6.70 Ha) & Netaji Subhas Chandra Bose park (2.50 Ha) have been developed. Land is being converted to replicate natural forest which attract flora and fauna leading to restoration of bio-diversity.</p>


			
10	No labour camps shall be set up inside the forest area.	No labour camps have been set up inside the forest area.	
11	The user agency shall provide fuel wood preferably alternate fuel to the labourers working at the site to avoid damage/felling of trees.	BCCL is providing alternate fuel to the labourers working at the site to avoid damages/felling of trees as per the existing policy of Coal India Limited in this regard.	
12	Demarcation of mining lease area will be done on the ground at project cost using four feet high reinforced cement concrete pillars with serial numbers, forward & back bearings and distance from pillar to pillar.	204 Nos.[Dobari village(171) and Bera Village(33)] of Pillars were erected as demarcated pillar over Forest Land.	
13	The user agency will assist the State Government in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by	Agreed.	<p>परियोजना प्रतिकार</p> <p>Project Officer</p> <p>कुईरॉ कोलियरी</p> <p>Kuya Colliery</p>

		the Chief Wildlife Warden of the State.																																	
14		The forest land shall not be used for any purpose other than that specified in the proposal.																																	
15		The User Agency will ensure the dumping of OB as per the approved phased reclamation plan.																																	
16		The user agency shall undertake mining in a phased manner and after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed.																																	
		<p>Agreed and is being Complied.</p> <p>Agreed and is being Complied. OB dumping is being done as per approved Mining plan.</p> <p>Forest land is under mining operation and extraction has not been completed due to multi-seam working. The detailed description of concurrent reclamation plan is given in Mining Plan. Final Reclamation will be done after complete exhaustion of coal.</p> <p>However, afforestation measures are being taken in the leasehold area of Bera, Dobari, Kuya & Ghanoodh Colliery as detailed below:</p> <ul style="list-style-type: none">Afforestation over OB dumps/mined out degraded land: Till 2023-24 (after Stage I FC), afforestation done over 26.77 Ha. (Out of 26.77 Ha, afforestation over 9.70 Ha has been done through State Forest Department, Dhanbad and afforestation over 17.07 Ha has been done departmentally).Grassing: Grass seeds are being broadcasted on Slopes of OB Dumps to minimize Soil Erosion. Details mentioned below: <table><tr><th>FY</th><th>Name of project</th><th>Area (in Ha)</th></tr><tr><td>2019-20</td><td>Bera</td><td>2</td></tr><tr><td>2020-21</td><td>Bera</td><td>5</td></tr><tr><td>2021-22</td><td>Dobari</td><td>5</td></tr><tr><td>2022-23</td><td>Kuya</td><td>5</td></tr><tr><td>2023-24</td><td>Bera</td><td>3</td></tr><tr><td>2024-25</td><td>Dobari</td><td>5</td></tr></table> <ul style="list-style-type: none">Avenue Plantation: In addition to block plantation, avenue plantation has also been done by BCCL through State Forest Department. The details is as tabulated below: <table><tr><th>Sl no</th><th>Gabion</th><th>Year</th><th>Location</th></tr><tr><td>1</td><td>500 (Bamboo Gabion)</td><td>2015-16</td><td>Patrakulhi-Barmassia to Belgaria road</td></tr><tr><td>2</td><td>500</td><td>2018-19</td><td>PMCH,DGMS office, Coal Board residence area, Housing</td></tr></table>	FY	Name of project	Area (in Ha)	2019-20	Bera	2	2020-21	Bera	5	2021-22	Dobari	5	2022-23	Kuya	5	2023-24	Bera	3	2024-25	Dobari	5	Sl no	Gabion	Year	Location	1	500 (Bamboo Gabion)	2015-16	Patrakulhi-Barmassia to Belgaria road	2	500	2018-19	PMCH,DGMS office, Coal Board residence area, Housing
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			Cleaning of Tisra Jore Kuya Cleaning of drain no 2 Bastacolla colliery Repairing and cleaning of drain bera modal colony Cleaning of pond Singhnagar Repairing and cleaning of drain MOCP Cleaning of drain no 01 at bastacolla colliery TOTAL 2024-25 Cleaning of tisra jore at kuya TOTAL GRAND TOTAL	1,54,283 1,61,772 1,79,645 20,589 2,18,038 1,61,209 11,79,285 2,17,702 2,17,702 22,22,030
19	Any other condition that the CCF (Central), Regional Office, Bhubaneswar, may impose from time to time for protection and improvement of flora and fauna in the forest area shall also be applicable.	Agreed.		
20	The user agency shall submit the annual compliance report in respect of the above conditions to the State Government and to the Regional Office, Bhubaneswar regularly.	Being complied. Regular compliance is being submitted.		


परियोजना प्रमुख
Project Officer
कुईयों कोलियरी
Kuya Colliery



बीसीसीएल
BCCL

Bharat Coking Coal Limited



भारत कोकिंग कोल लिमिटेड
Bharat Coking Coal Limited
A Public Limited Company
Incorporated in India

Office of the General Manager, Bastacolla Area, Dhanbad-828111

Ref. No: BCCL/BA/PO/2023-24/

Date: 10.02.2024

To
The Divisional Forest Officer
Forest Division Dhanbad

Sub: ATR/Compliance Report i.r.o of Diversion of 234.08 Ha of Forest Land for Coal Mining of Open cast Mining Project in Village Ghanoodih and Bera in Favour of M/S BCCL, Dhanbad.

Dear Sir,

Please find enclosed herewith, ATR/Compliance reply by Bharat Coking Coal Limited for all 20 conditions set by Ministry of Environment and Forest along with requisite enclosures.

Submitted for your kind information, please.

Thanking You,

Enclosures: as above

Yours sincerely


Project Officer
Kuya Colliery
(Sanjeev Kashyap)
Agent/Project Officer
ABDK Colliery
Bastacolla Area-IX, BCCL

Copy to:

- 1) MoEFCC, Integrated Regional Office, Forest Division, Bungalow No. A-2, Shyamali Colony, Doranda, Ranchi, Jharkhand 834002

परियोजना पदाधिकारी
Project Officer
कुईयों कोलियरी
Kuya Colliery

Action taken/Compliance reply by Bharat Coking Coal Limited (BCCL) for the conditions set by MoEF in respect of Stage II Forest clearance for diversion of 234.08 ha. of Forest Land for coal mining of opencast mining project in Ghanoodih and Bera villages in favour of M/s. Bharat Coking Coal limited (BCCL) in Dhanbad district of Jharkhand.


Sl. No	Condition	Compliance / Action taken report
1	Legal status of forest land remains unchanged.	Agreed.
	a. Compensatory afforestation shall be raised and maintained by the State Forest Department at the project cost.	BCCL has deposited Rs. 2,66,50,578 towards compensatory afforestation (DD no. 441900 dated 17.09.2010, drawn in favor of Corporation Bank Compensatory Afforestation Fund Jharkhand AC C/A 1587, payable at New Delhi).
	b. Fencing, protection and regeneration of the safety zone area shall be done at the project cost.	63 Nos. of pillars in Safety zones were erected at the Project cost. Safety zone = 0.98 Ha. Fencing done.
2	The boundary of safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar.	<p>The boundary of Safety Zone was demarcated on ground at the project cost, by erecting 63 Nos. of pillars over 1310.00 m.</p> <p>204 Nos.[Dobari village(171) and Bera Village(33)] Of Pillars were erected as demarcated pillar over Forest Land.</p>  <p>GPS Map Camera</p> <p>धनबाद, झारखंड, भारत नाम-रहित सड़क, झारखंड 828106, भारत Lat 23.751714° Long 86.434932° 28/06/23 10:46 AM GMT +05:30</p> <p>Google</p>

Sanjeev Kashyap
Agent Project Officer
BCCL
Baramulla, Jammu & Kashmir

परियोजना प्रशासक
Project Officer
कुईरॉ कोलियरी
Kuya Colliery

3

3	The following activities shall be undertaken by the User Agency under supervision of the State Forest Department at the project cost:															
	(i) Proper mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented.	The study has been already conducted by Indian School of Mines and we are complying with the recommendations. Proper mitigative Measures are being taken for prevention of Soil Erosion, Choking of Streams etc.														
	(ii) Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion.	Plantation work is being carried out through Forest Department , Dhanbad at the cost of User Agency , 32.37 Ha done including departmental along with drought species(Chhatni, Khair, Babool, Palash). In addition to that, Grass seeds are being broadcasted on Slopes of OB Dumps to minimize Soil Erosion.														
	(iii) Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour.	Tender for Construction of Embankment/retention wall at chatkari Jore has been awarded & work has started.														
	(iv) The top soil management plan should be strictly adhered to.	<p>Top soil wherever available is being stacked and reused for eco-restoration purpose at Rajapur, Bera, Kuya, Dobari Eco-restoration site.</p> <table border="1" data-bbox="747 589 1315 737"> <thead> <tr> <th>Year</th><th>Quantity (M³)</th><th>Utilization/Location</th></tr> </thead> <tbody> <tr> <td>2019-20</td><td>2000.00</td><td rowspan="5">Top Soil is being utilized in Biological Reclamation and Ecological Restoration Sites.</td></tr> <tr> <td>2020-21</td><td>2500.00</td></tr> <tr> <td>2021-22</td><td>560.00</td></tr> <tr> <td>2022-23</td><td>1500.00</td></tr> <tr> <td>2023-24</td><td>Nil</td></tr> </tbody> </table>	Year	Quantity (M ³)	Utilization/Location	2019-20	2000.00	Top Soil is being utilized in Biological Reclamation and Ecological Restoration Sites.	2020-21	2500.00	2021-22	560.00	2022-23	1500.00	2023-24	Nil
Year	Quantity (M ³)	Utilization/Location														
2019-20	2000.00	Top Soil is being utilized in Biological Reclamation and Ecological Restoration Sites.														
2020-21	2500.00															
2021-22	560.00															
2022-23	1500.00															
2023-24	Nil															
4	Whenever possible and technically feasible, the User Agency shall undertake by involving local community, the Afforestation measures in the blanks within the lease area, as well as along the roads outside the lease area diverted under this approval, in consultation with the State Forest Department at the project cost.	<p>Being Complied. Total 56,000 saplings have been planted (From 2013-14 onwards).</p> <p>500 bamboo gabion plantation has been done along roadside at Barmasiya- Patrakulhi- Amtal Road.</p> <p>500 Iron gabion & 600 bamboo gabion plantation has been done in FY 2018-19.</p> <p>1500 Bamboo Gabion Plantation is done through Forest Department, Dhanbad</p>														


 (Sanjeev Kashyap)
 Agent/Project Officer
 ABDK Colliery
 Santaula Area, Jharkhand

परियोजना प्रबंधक
 Project Officer
 कुईयों कोलियरी
 Kuya Colliery



5	The User Agency shall furnish an undertaking to pay the additional NPV, if so determined, as per the final decision of Hon'ble Supreme Court of India.	BCCL has already deposited the amount of Rs. 14,65,34,080 towards NPV (DD No. 441899 dated 17.09.2010, in favour of Corporation Bank Compensatory Afforestation Fund Jharkhand AC C/A 1587, payable at New Delhi.
6	The approval under the Forest (Conservation) Act, 1980 is subject to the clearance under Environment (Protection) Act, 1986 and any other Acts/Regulation/Rules.	EC obtained vide Ref No. J-11015/298/2010-IA-II(M) Dated 15.02.2013. Further, EC amended in 15.06.2018, 15.11.2020 & 28.03.2023.
7	The period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to granted under the Mines and Minerals (Development & Regulating) Act, 1957, or Rules framed there under, subject to a maximum period of 30 years.	Diversion is Valid up to 11.04.2042.
8	Any tree felling shall be done only when it is unavoidable under strict supervision of State Forest Department.	Tree felling is always done after receiving consent from State Forest Department. Trees felling permission for 3768 Nos. Of Trees has been obtained from HPC, GoI

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Anjeev Kashyap
Agent/Project Officer
ABDK Colliery
Bastardola Area-IX, BCCL

- 9 No damage to the flora and fauna of the area shall be caused.

Agreed. No damage to the flora and fauna of the area shall be caused by BCCL in addition, BCCL is doing biological reclamation through eco-restoration method, in which land is being converted to replicate natural forest which attract flora and fauna leading to restoration of bio-diversity of area which is being monitored by FRI, Dehradun. Various species of flora (Psidium guajava, Albezia lebbeck, Maduca indica, Aegle marmelos, Pongamia pinnata, Heterophragma adenophyllum, Dalbergia sisoo, Ziziphus jujube) & fauna have made the site as their habitat as reported by FRI, Dehradun.

Two nos. of eco restoration park viz. Govardhan park (6.70 Ha) & Netaji Subhas Chandra Bose park (2.50 Ha) have been developed. Land is being converted to replicate natural forest which attract flora and fauna leading to restoration of bio-diversity.



- 10 No labour camps shall be set up inside the forest area.

No labour camps have been set up inside the forest area.

- 11 The user agency shall provide fuel wood preferably alternate fuel to the labourers working at the site to avoid damage/felling of trees.

BCCL is providing alternate fuel to the labourers working at the site to avoid damages/felling of trees as per the existing policy of Coal India Limited in this regard.

- 12 Demarcation of mining lease area will be done on the ground at project cost using four feet high reinforced cement concrete pillars with serial numbers, forward & back bearings and distance from pillar to pillar.

204 Nos.[Dobari village(171) and Bera Village(33)] Of Pillars were erected as demarcated pillar over Forest Land.

परियोजना प्रबंधिका
Project Officer
कुईया कोलियरी
Kuya Colliery

(Sanjeev Kashyap)
Agent/Project Officer
ABD: Kuya Colliery
Rastaco: Kuya Colliery, BCCL



13 The user agency will assist the State Government in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State.

Agreed.

14 The forest land shall not be used for any purpose other than that specified in the proposal.

Agreed and is being Complied.

15 The User Agency will ensure the dumping of OB as per the approved phased reclamation plan.

Agreed and is being Complied.

16 The user agency shall undertake mining in a phased manner and after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User

Agreed. M/s BCCL is doing mining in phased manner and taking due care for reclamation of the mined out area. Biological (Plantation) as well as Technical Reclamation (Backfilling) is being done in Mine Leaschold considering Geo-Mining conditions.

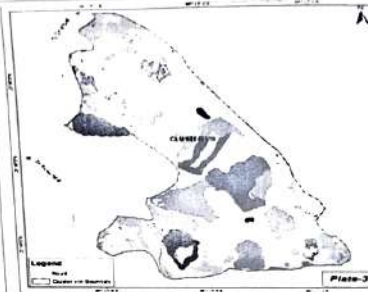
Land reclamation is being monitored through satellite surveillance every 3 years.

Nm
परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

(Sanjeev Kashyap)
Agent/Project Officer
ABDK Colliery
Jharkhand Area-IX, BCCL

[Signature]

Agency, the Nodal Officer or Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed.




Mine Closure Plan has been prepared as per the guidelines given by MoC (MCP Guideline, 2013) and Progressive Mine Closure activities are under implementation.

17	The user agency will implement the R&R Plan as per the R&R Policy of State Government in consonance with National R&R Policy of the State Government.	Rehabilitation of people is being done under Jharia Master Plan'2008 which is approved by both Govt. of India as well as Govt. of Jharkhand. However, plan is under process of revision.
18	The user agency shall undertake de-silting of the village tanks and water bodies located within five km from the mining lease boundary so as to mitigate the impact of siltation of such tanks/water bodies, whenever required.	Being complied. De-siltation have been done in three ponds- Amtal village(02), Bastacolla . De-silting of the village tanks and water bodies is being done as per requirement and request from local bodies. Approx. Rs 6 lacs have been Spent on cleaning/de-silting of village tanks and water bodies.
19	Any other condition that the CCF (Central), Regional Office, Bhubaneswar, may impose from time to time for protection and improvement of flora and fauna in the forest area shall also be	Agreed.

(Sanjeev Kashyap)
Agent/Project Officer
ABDK Colliery
Bastacolla Jharkhand, India.

परियोजना पदाधिकारी
Project Officer
कुईयाँ कोलियरी
Kuya Colliery

	applicable.	
20	The user agency shall submit the annual compliance report in respect of the above conditions to the State Government and to the Regional Office, Bhubaneswar regularly.	Being complied. Regular compliance is being submitted.


 परियोजना पदाधिकारी
 Project Officer
 कुईर्यो कोलियरी
 Kuya Colliery


 Project Officer
 Kuya Colliery
 (Sanjeev Kashyap)
 Agent/Project Officer
 AER
 Bastard
 BCCL

Office of the General Manager, Bastacolla Area, Dhanbad-828111

Ref. No: BCCL/BA/GM/2023-24/140

Date: 26.06.2023

27

To
The Divisional Forest Officer
Forest Division Dhanbad

Sub: ATR/Compliance Report i.r.o of Diversion of 234.08 Ha of Forest Land for Coal Mining of Open cast Mining Project in Village Ghanoodih and Bera in Favour of M/S BCCL, Dhanbad.

Dear Sir,

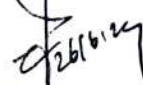
Please find enclosed herewith, ATR/Compliance reply by Bharat Coking Coal Limited for all 20 conditions set by Ministry of Environment and Forest along with requisite enclosures.

Submitted for your kind information, please.


Thanking You,

Enclosures: as above

Yours sincerely



General Manager
Bastacolla Area



General Manager
Bastacolla Area-IX

Copy to:

1. MoEFCC, Integrated Regional Office, Forest Division, Bungalow No. A-2, Shyamali Colony, Doranda, Ranchi, Jharkhand 834002
2. Office Copy


परियोजना पदाधिकारी
Project Officer
कुईयाँ कोलियरी
Kuya Colliery

Action taken/Compliance reply by Bharat Coking Coal Limited (BCCL) for the conditions set by MoEF in respect of Stage II Forest clearance for opencast mining in Ghanoodih and Bera villages in favour of M/s. Bharat Coking Coal limited (BCCL) in Dhanbad district of Jharkhand

Sl. No	Condition	Compliance / Action taken report
1	Legal status of forest land remain unchanged.	Agreed.
	a. Compensatory afforestation shall be raised and maintained by the State Forest Department at the project cost.	BCCL has already deposited the amount of Rs. 2,66,50,578 (Rupees two crores sixty six lakhs fifty thousand five hundred seventy eight) only towards compensatory afforestation raised by the State Forest Department Compensatory afforestation bearing no. 441900 dated 17.09.2010, in favour of Corporation Bank Compensatory Afforestation Fund Jharkhand AC C/A 1587, payable at New Delhi. A Xerox copy of the demand draft is along with forwarding letter enclosed for ready reference as Annexure-I .
	b. Fencing, protection and regeneration of the safety zone area shall be done at the project cost.	Fencing, protection of the safety zone area has been done at the project cost of the area. 63 Nos. of pillars in Safety zones were erected at the Project cost.
2	c. The boundary of safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar.	The boundary of Safety Zone were demarcated on ground at the project cost, by erecting 63 Nos. of pillars over 1310.00 m. 
3	The following activities shall be undertaken by the User Agency under supervision of the State Forest Department at the project cost : (i) Proper mitigative measures to minimize soil erosion and choking of streams shall be prepared and implemented. (ii) Planting of adequate drought hardy plant species and showing of seeds to arrest soil erosion.	The study has been already conducted by Indian School of Mines and we are complying with the recommendations. (i) Proper mitigative Measures are being taken for prevention of Soil Erosion, Choking of Streams etc. (ii) Plantation work is being carried out through Forest Department , Dhanbad at the cost of User Agency , 22.67 Ha done including departmental along with drought species(Chhatni, Khair, Babool, Palash). In addition to that, Grass seeds are being broadcasted on

परियोजना प्रदायिका
Project Officer
कुईयों कोलियरी
Kuya Colliery

(iii) Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour.

(iv) The top soil management plan should be strictly adhered to.

Whenever possible and technically feasible, the User Agency shall undertake by involving local community, the Afforestation measures in the blanks within the lease area, as well as along the roads outside the lease area diverted under this approval, in consultation with the State Forest Department at the project cost.

The User Agency shall furnish an undertaking to pay the additional NPV, if so determined, as per the final decision of Hon'ble Supreme Court of India.

The approval under the Forest (Conservation) Act, 1980 is subject to the clearance under Environment (Protection) Act, 1986 and any other Acts/Regulation/Rules.

The period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development & Regulating) Act, 1957, or Rules framed there under, subject to a maximum period of 30 years.

Slopes of OB Dumps to minimize Soil Erosion.

(iii) Proposal is under process for construction of Check Dam. Tender for Construction of Embankment/retention wall at chat karl Jore has been finalized, work will be awarded soon.

(iv) Top Soil is being stacked separately in Kuya Colliery (OCP).

Being Complied. Total 56,000 saplings have been planted (From 2013-14 onwards). 500 bamboo gabion plantation has been done along roadside at Barmasiya- Patrakulhi- Amtal Road.

500 Iron gabion & 600 bamboo gabion plantation has been done in FY 2018-19. 1500 Bamboo Gabion Plantation done in FY 2020-21

BCCI has already deposited the amount of Rs. 14,65,34,080 (Rupees fourteen crores sixty five lakhs thirty four thousand eighty) only towards NPV raised by the Forest Department. Compensatory afforestation bearing no 441899 dated 17.09.2010, in favour of Corporation Bank Compensatory Afforestation Fund Jharkhand AC C/A 1587, payable at New Delhi. A Xerox copy of the demand draft along with forwarding letter is enclosed for ready reference as **Annexure-II.**

Environmental Clearance including the proposed area has been granted by the Ministry of Environment and Forest vide letter No J-11015/298/2010-IA.II (M) dated 15th February, 2013 which was amended on 15.06.2018 and 15.11.2020. Again amended vide letter number J-11015/298/2010-IA.II(M) dated 28.03.2023. Copy of EC is enclosed as **Annexure-III.**


Agreed.

[Signature]
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Kuya Colliery


8	Any tree felling shall be done only when it is unavoidable under strict supervision of State Forest Department.	Agreed. Felling of tree shall be done only when it is unavoidable and it shall be done under strict supervision of State Forest Department.
9	No damage to the flora and fauna of the area shall be caused.	Agreed. Two nos. eco restoration park viz. Govardhan park (10.17 Ha) & Netaji Subhas Chandra Bose park (2.50 Ha) have been developed.
10	No labor camps shall be set up inside the forest area.	Agreed. No labor camp is present inside the forest area.
11	The user agency shall provide fuel wood preferably alternate fuel to the laborers working at the site to avoid damage/felling of trees.	BCCL is providing alternate fuel to the labourers working at the site to avoid damages/felling of trees as per the existing policy of Coal India Limited in this regard.
12	Demarcation of mining lease area will be done on the ground at project cost using four feet high reinforced cement concrete pillars with serial numbers, forward & back bearings and distance from pillar to pillar.	It shall be complied.
13	The user agency will assist the State Government in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State.	M/s. BCCL will assist to the State Forest Department in conservation and preservation of flora and fauna of the area in accordance with the plan prepared by the Chief Wildlife Warden of the State, if required.
14	The forest land shall not be used for any purpose other than that specified in the proposal.	Agreed.
15	The User Agency will ensure the dumping of OB as per the approved phased reclamation plan.	It is being done as approval of Competent Authority considering present Geo-Mining Conditions.
16	The user agency shall undertake mining in a phased manner and after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the	Agreed.


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 कुईर्यो कोलियरी
 Kuya Colliery

	concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed.	
17	The user agency will implement the R&R Plan as per the R&R Policy of State Government in consonance with National R&R Policy of the State Government.	<p>There are two types of families in the project area:</p> <p>(i) BCCL employees and (ii) Non-BCCL families.</p> <p>Out of the above two categories, BCCL employees is being shifted to other company's quarters constructed at Non-Coal Bearing Areas and the other category have been identified and surveyed by Jharia Rehabilitation & Development Authority (JRDA). JRDA has been constituted for dealing with Rehabilitation and Resettlement (R&R) issues of persons residing in Jharia Coalfield (JCF).</p> <p>Responsibility of Rehabilitation and Resettlement (R&R) all the Non-BCCL families from fire and subsidence affected areas lies with JRDA as per the approved R&R package under Jharia Master Plan'2008 which is approved by both Govt. of India as well as Govt. of Jharkhand.</p> <p>In view of the above, no any separate R&R plan for implementation for rehabilitation is required in this respect.</p>
18	The user agency shall undertake de-silting of the village tanks and water bodies located within five km from the mining lease boundary so as to mitigate the impact of siltation of such tanks/water bodies, whenever required.	<p>Agreed.</p> <p>De-silting of the village tanks and water bodies is being done as per requirement and request from local bodies.</p>


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Project Officer
कुर्सी बाली
Kurya Colony

19	Any other condition that the CCF (Central), Regional Office, Bhubaneswar, may impose from time to time for protection and improvement of flora and fauna in the forest area shall also be applicable.	Agreed.
20	The user agency shall submit the annual compliance report in respect of the above conditions to the State Government and to the Regional Office, Bhubaneswar regularly.	Agreed.


 परियोजना पदाधिकारी
 Project Officer
 कुईर्यो कोलियरी
 Kuya Colliery


 26/6/23.
 Project Officer
 Ghanoodih/Bera/Dobari/
 Kuya



Bharat Coking Coal Ltd.
(A Subsidiary of Coal India Ltd.)
Office of the Chief General Manager
Bustacolla Area

Annexure 1

Annexure 1

Reference: BCCL IX CGM Estate 10 191

To,
The Divisional Forest Officer,
Forest Office,
Dhanbad.

Sub: Diversion of 234.08 ha. of forest land for open cast mining in Ghanoodih and Bera villages in favour of BCCL in Dhanbad district, Jharkhand.

Ref: Your letter no.3744, dated 21/08/2010.

With reference to the letter no. 8-44/2009 F.C. dated 0th Aug. 2009, from the Secretary, Ministry of Environment and Forests, New Delhi addressed to Principal Secretary (Forests), Govt. of Jharkhand, Ranchi and your above reference letter regarding diversion of 234.08 ha. of forest land for open cast mining in Ghanoodih and Bera villages in favour of BCCL subject to the following conditions:

I find enclosed the Action Taken/Compliance Reply by BCCL for all the conditions of the letter no. 8-44/2009 F.C. dated 0th Aug. 2009, from the Secretary, Ministry of Environment and Forests, New Delhi along with requisite enclosures. Also find enclosed the letter no. 3744, dated 21/08/2010, from the Divisional Forest Officer, Dhanbad.

1. D.F. bearing no. 441900, dt. 17.9.2010 for Rs. 2,60,50,678 in respect of Afforestation.

2. D.F. bearing no. 441898, dt. 17.9.2010 for Rs. 1,71,80,108 in respect of Afforestation.

3. D.F. bearing no. 441899, dated 17.9.2010 for Rs. 14,65,34,080 in respect of Afforestation.

This is for your kind information and necessary action please. The Forest Clearance at the earliest.

Thanking you,

Copy to:

1. CMD, BCCL - for kind information.
2. Joint P&P, BCCL - for kind information.
3. Sh. C. D. Singh, Sr. Assist. Inspector General of Forests, Govt. Of India, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi - 110016.
4. Principal Secretary (Forests), Govt. of Jharkhand, Ranchi.
5. GM(P&P), BCCL/GM(Estate)/C, BCCL/GM(Env.) BCCL.

परियोजना प्रदाधिकारी
Project Officer
कुईयों कोलियरी
Kuya Colliery



Bharat Coking Coal Limited
(A Subsidiary of Coal India Limited)
Office of the Chief General Manager
Bastacolla Area

Annexure - 1

Annexure - 2

Ref No BCCL IX CGM Estate:10:191

Date 21/09/2010

To,
The Divisional Forest Officer,
Forest Office,
Dhanbad.

Sub : Diversion of 234.08 ha. of forest land for open cast mining in Ghanoodih and Bera villages in favour of BCCL in Dhanbad district of Jharkhand.

Ref.: Your letter no.3744, dated 21/08/2010.

With reference to the letter no. 8-44/2009-FC, dated 9th Aug., 2010 issued by Sri C.D.Singh, Sr. Assistant Inspector General of Forests, New Delhi addressed to Principal Secretary (Forests), Govt. of Jharkhand, Ranchi and your above reference letter regarding diversion of 234.08 ha of forest land for open cast mining in Ghanoodih and Bera villages in favour of BCCL subject to 21 nos. of conditions.

Find enclosed the Action Taken/Compliance Reply by BCCL for all the 21 conditions set by MoEF/DFO, Dhanbad along with requisite enclosures. Also find enclosed 3 nos. of Demand Drafts as follows:

DD bearing no. 441900, dt. 17.9.2010 for Rs. 2,66,50,578 in respect of Compensation for Afforestation.

DD bearing no.441898, dt.17.9.2010 for Rs.1,71,80,106 in respect of Penal Compensatory Afforestation.

DD bearing no.441899, dated 17.9.2010 for Rs.14,65,34,080 in respect of Net Present Value.

This is for your kind information and necessary action please, so that we can get Stage-I Forest Clearance at the earliest.

Thanking you,

Yours faithfully,

Yours faithfully,

Chief General Manager
Bastacolla Area

Copy to

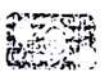
1. CMD, BCCL - for kind information.
2. D(T)P&P, BCCL - for kind information.
3. Sri C.D.Singh, Sr. Asstt. Inspector General of Forests, Govt. of India, MoEF (FC Division), Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi - 110510.
4. Principal Secretary (Forests), Govt. of Jharkhand, Ranchi.
5. GM(P&P), BCCL/GM(Estate)/C, BCCL/GM(Env.), BCCL.

etc.

परियोजना प्रबंधिका
Project Officer
कुईयों कोलियरी
Kuya Colliery

भारतीय स्टेट बैंक
STATE BANK OF INDIA
भारत
पुणे शाखा धनबाद
पुणे शाखा धनबाद
पुणे शाखा धनबाद

भारतीय स्टेट बैंक
State Bank of India
भारत
DEMAND DRAFT



पुणे शाखा धनबाद
पुणे शाखा धनबाद
पुणे शाखा धनबाद

ON DEMAND PAY TO THE ORDER OF BANK COMPENSATORY AFFECTIONATION FUND JMR AC CIA1587

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पुणे शाखा धनबाद / DRAWEE BRANCH: SERVICE BRANCH, NEW DELHI

STATE BANK OF INDIA
पुणे शाखा धनबाद / DRAWEE BRANCH: SERVICE BRANCH, NEW DELHI
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पुणे शाखा धनबाद / DRAWEE BRANCH: SERVICE BRANCH, NEW DELHI

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परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

Annexure -3

Annexure -3

**MINUTES OF 53rd EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING)
MEETING HELD ON 16th-17th JULY 2012 IN SCOPE COMPLEX, NEW DELHI.**

Cluster VIII Group of 10 Mines (Combined capacity 4.31 MTPA with a peak prodn. of 5.603 MTPA in a combined ML area of 1200.41 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, dist. Dhanbad, Jharkhand – EC based on TOR granted on 03.12.2010

The proposal was last considered in the EAC (T&C) meeting held on 23rd-24th April 2012 and issues raised therein were further considered.

The proposal is obtaining EC at the time of renewal of lease of 10 mines which are being grouped in a cluster with a combined lease area of 1200.41 ha with a normative production of 4.31 MTPA and a peak production of 5.603 MTPA. Of the 10 mines, 9 are in operation and one mine namely, Goukhor OCP is a proposed mine.

It was informed that OB dump fires would be dealt with by cooling, quenching and removal, excavation of fire material and filling with cohesive, soil and surface sealing and blanketing. Public Hearing was held on 25.02.2012. It was informed that Stage-I Forestry Clearance has been obtained. It was informed that an estimated 2.431 MTPA of coal would be transported from Cluster-VIII in Phase-II by conveyor to railway siding. The present levels of production from cluster-VIII are given below.

EXISTING LEVEL OF PRODUCTION IN CLUSTER- VIII

NAME OF MINE	Coal production in MT for 2011-12		
	Production (in MT)	Coal recovered (MT) during executi of Master Plan	Total Production (in MT)
Bastarda UG & OCP	0.191	-	0.191
Bera UG & OCP	0.201	-	0.201
Dobari Colliery UG	0.21	-	0.21
Kuya UG & OCP	0.636	-	0.636
Ghandodh Colliery (OCP)	-	0.599	0.599
Kulama Colliery (OCP)	-	0.478	0.478
Goukhor (NC) OCP	Proposed mine (will be operational after closure of Kuya OCP)		
TOTAL	1.238	1.077	2.315

Details of voids at post mining stage land use, abandoned pits/voids that would be reclaimed and ecologically restored were presented.

Conceptual Post Mining Land use Pattern for Cluster-VIII

Existing land use	Land use (ha)				
	Plantation	Water body	Public use	Undisturbed	Total
Agriculture land	-	-	-	24.71	24.71
Excavation including dump areas	154.26	42.65	-	-	196.91
Rail & Road	-	-	-	38.92	38.92
Homestead land & service land	-	-	-	132.80	132.80
Green Belt	76.6	-	-	-	76.6
Barren land	420.22	34.70	-	-	454.92


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 Project Officer
 कुईर्यो कोलियरी
 Kuya Colliery

Forest land	130	120.57	-	-	250.57
Water Body	-	15.04	-	-	15.04
Others	-	-	-	9.94	9.94
Total	781.08	92.39	-	326.94	1200.41

It was informed that it is proposed to further enhance capacity of the Cluster-VIII mines by amalgamating all the individual mines thereby reflecting the highest achievable production capacity from this cluster. It was informed that a fresh application for environmental clearance would be submitted after obtaining EC, based on peak capacity with sufficient cushion for enhancing production of offsetting shortfall from other mines opening. It was informed that Stage-II Forestry Clearance has been granted by MOEF vide letter no. 8-44/2009 FC dated 12.04.2012 for 234.08 ha of forestland in Ghanoodih Bera & Dobari Colliery.

The Committee desired that the Plan for conveyor cum-rail for Cluster-VII should be dovetailed with Jharia Action Plan. The Committee desired that road transportation of coal during phase-I should be by mechanically covered trucks. The Committee desired that the rejects of washeries should be utilised in FBC based Power Plant. The Committee desired that after completion of 15 years, UG mining should be taken up. The Committee desired that 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. The Committee desired that 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. The Committee desired that a study should be initiated to analyse extent of reduction in pollution load every year by reducing road transport. The Committee also desired that the road used for coal transportation should be developed with avenue plantation on both sides. The Committee desired that expertise available internationally should be utilised for control of fire in Jharia Coalfields and for their reclamation and to further minimise time for fire and subsidence control. The Committee desired that the abandoned pits and voids should be backfilled with OB and reclaimed with plantation and or may be used for pisciculture. The Committee desired that 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.

The Committee recommended the locations of monitoring stations in the Jharia Coalfields should be finalised in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuelwood, coal, flyash from TPPs, silica from natural dust, etc) and a Source Apportionment Study should be carried out for the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition of the suspended particulate matter (PM₁₀ 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.

The Committee recommended the project for EC to Cluster VIII and subject to implementation of the conditions as given above and given in earlier consideration by EAC of the proposal and subject to other clusters as applicable, subject to obtaining prior approval of the DGMS in regard to mine safety issues and subject to MOEF Circulars as applicable.

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Project Officer
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Kuyra Colliery

BY SPEED POST

111015/298/2010-IA II (M)
Government of India
Ministry of Environment & Forests

For the attention of
The Project Officer
Kuya Colliery
Dhanbad, Jharkhand

To

The Chief General Manager (Env.),
M/s Bharat Coking Coal Ltd.,
Koyla Bhawan, Koyla Nagar,
DHANBAD - 826005
JHARKHAND

Subject: Cluster VIII Group of 10 Mines (Combined capacity 4.31 MTPA with a peak production of 5.603 MTPA) in a combined ML area of 1183.92 ha (1200.41 ha - 16.49 ha = 1183.92 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, dist. Dhanbad, Jharkhand

Sir

This has reference to the letter no. 43011/36/2010-CPAM dated 08th September, 2010 of Ministry of Coal along with your application for Terms of Reference (TOR) and this Ministry's grant of TOR on 03rd December, 2010. Reference is also invited to the letters no. BCCL/GM (Env) JEMP/T-2012-276 dated 30.03.2012, 04.07.2012, 30.01.2012 on the above-mentioned subject.


2. The Ministry of Environment & Forests has considered the application. It is noted that the proposal is for Cluster VIII Group of 10 Mines (Combined capacity 4.31 MTPA with a peak production of 5.603 MTPA in a combined ML area of 1200.41 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, dist. Dhanbad, Jharkhand. The proponent has informed that:

- The proposal is for obtaining EC at the time of renewal of lease of 10 mines which are being grouped in a cluster with a combined lease area of 1200.41 ha with a normative production of 4.31 MTPA and a peak production of 5.603 MTPA. Of the 10 mines, 9 are in operation and one mine - Goluckdih OCP is a proposed mine. Cluster-VIII is located in the eastern part of Jharia coalfields in Dhanbad, Jharkhand. The details of the proposal is as under:

Details of the land use of the mines in Cluster VIII are given below:

LAND USE DETAILS OF CLUSTER VIII						
S.N	Name of Mine	Production capacity (MTY)		Leasehold Area (ha)	Life of mine (years)	Status
		NORMATIVE	PEAK			
1	Bastacolla OCP	0.10	0.130	239.45	3	Operating
	Bastacolla UG	0.33	0.429		18	Operating
2	Bera OCP	0.15	0.195	209.56	3	Operating
	Bera UG	0.19	0.247		13	

EC Cluster VIII BCCL


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Kuya Colliery

Dohari Colliery(UG)	0.24	0.312	146.90	20	Operating
Kuya OCP	0.60	0.780	340.50	5	Operating
Kuya UG	0.10	0.130		20	Operating
Goluckdih (NC) OCP (Proposed)	1.2	1.560		25	Proposed
Proposed OCP will commence after the closure of existing Kuya OCP)					
Ghanoodih Colliery(OCP)	1.40	1.820	73.00	5	Operating
Kujama Colliery(OCP)	0.60	0.780	191.00	5	Operating
Total	4.31	5.603	1200.41		

The present levels of production from cluster-VIII are given below:

Name	Coal Production in MT for 2011-2012		
	Production (in MT)	Coal recovered (MT) during execution of Master Plan	Total Production (in MT)
Bastacolla UG & OCP	0.191	-	0.191
Bera UG & OCP	0.201	-	0.201
Dohari Colliery UG	0.21	-	0.21
Kuya UG & OCP	0.636	-	0.636
Ghanoodih Colliery (OCP)	-	0.599	0.599
Kujama Colliery (OCP)	-	0.478	0.478
Goluckdih (NC) OCP	Proposed mine (will be operational after closure of Kuya OCP)		
Total	1.238	1.077	2.315

Conceptual Post Mining Land Use Pattern for Cluster - VIII					
Existing land use	Land use (ha)				
	Plantation	Water body	Public use	Undisturbed	Total
Agriculture land	-	-	-	24.71	24.71
Excavation including dump areas	154.26	42.65	-	-	196.91
Rail & Road	-	-	-	38.92	38.92
Homestead land & service land	-	-	-	132.80	132.80
Green Belt	76.6	-	-	-	76.6
Barren land	420.22	34.70	-	-	454.92
Forest land	130	120.57	-	-	250.57
Water Body	-	15.04	-	-	15.04
Others	-	-	-	9.94	9.94
Total	781.08	92.39	-	326.94	1200.41

EC - Cluster VIII (DCE)

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Project Officer
कुईर्यो कोलियरी
Kuya Colliery

The details of present, proposed and post mining land use of the cluster VIII are as follows:

LAND USE DETAILS OF CLUSTER VIII

S.N	Type Land Use	Present Mining Landuse (ha)	Proposed Mining Land use (ha)	Post- Mining Land Use (ha)
	Running quarry	5.1	273.67	0
	Backfilled	69.35	105	0
	Not Backfilled			
	Abandoned quarry			
	Backfilled	25.14	25.14	0
	Not Backfilled	42.65	42.65	0
	External OB dump	48.55	48.55	0
	Service building mine	7.9	7.9	0
	infrastructure			
	Coal dump	7.75	9.8	0
	Homestead land	118.9	118.9	118.9
	Agricultural land	24.71	24.71	24.71
	Forestland	250.57	67.11	250.57
	Plantation/reclamation	76.6	149.5	665.05
	Water body	15.04	15.04	92.39
	Barren land	460.96	265.25	0
	Road & railways,	38.92	38.92	38.92
	Mine pit/fan house haulage	6.3	6.3	0
	others	1.97	1.97	1.97
	Total	1200.41	1200.41	1200.41

Major Technical Parameter of Cluster VIII mines

Major Technical Parameter of Cluster VIII mines

Particular	Name of Mines					Total
	Bastacolla OCP (mixed)	Bera OCP (mixed)	Dobari Colliery (UG)	Kuya Colliery (mixed)	Ghanoudih Colliery (OCP)	Kujania Colliery (OCP)
Method of mining	Shovel-dumper combination & Bord & pillar	Shovel-dumper combination & Bord & pillar	Bord & pillar	Shovel-dumper combination & Bord & pillar	Shovel-dumper combination & Bord & pillar	Shovel-dumper combination
Grade of coal	OCP-D UG-C, D, W-I	OCP-C UG-D, W-I	C, D, W-I, W-II	OCP-C, E UG-C, W-INC (OCP)-E, F	W-III	W-III, W-IV W-I, C, D, E
Seam to be worked out	OCP-III Bottom UG-III Top, iii Bottom, II Bottom, I-Top	OCP-III Bottom, II UG-II Bottom-I	III Top, III Bottom,, II Bottom, I	OCP -IV Top, IV BOTTOM, III TOP, III BOTTOM, I TOP	V, VI, VII, VIII S pecial, IX, X	XI, XII, X IXVIII, VII VI, V, IV, III II, I
Linkage	Power Plant	Steel/power	Steel/pow	NA	Power	Bhojudih coal

10. Cluster VIII Mines

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Mineable Reserve MT	OCP-1.4 UG-5.48	plant OCP-0.515 UG-5.46	er plant UG-13.002	OCP-3.0 UG-2.45 NC (OCP)-26.92	plant/Road side 10.70	washery 3389
Production in (1993-94) in MT	0.24	0.1246	0.1298	0.8772	0.8995	0.0341
Proposed peak Production	OCP-0.13 UG-0.429	OCP-0.195 UG-0.247	UG-0.312	OCP-0.780 UG-0.130 NC (OCP)-1560	1.820	0.780

Details of Rehabilitation and Mitigation Measures and integration with the Jharia Action Plan will be as follows.

Rehabilitation and Mitigation Measures	
Parameter	Details
Unstable Sites	22 - Fire affected: 02 - Subsidence :16 - Fire & Subsidence: 04
- Area affected due to fire	0.18 Km ²
- Area affected due to subsidence.	0.41 km ²
- Area affected due to fire and subsidence	0.28 km ²
No. of Houses to be rehabilitated.	4959 as per JAP
Cost of Rehabilitation	Rs 15064.58 Lakhs
Cost of fire fighting	Rs 260.51 cores

Conceptual Post Mining Land use Pattern for Cluster-VIII

Existing land use	Land use				Total
	Plantation	Water body	Public use	undisturbed	
Agriculture land	-	-	-	24.71	24.71
Excavation including dump areas	154.26	42.65	-	-	196.91
Rail & Road	-	-	-	38.92	38.92
Homestead land & service land	-	-	-	132.80	132.80
Green Belt	76.6	-	-	-	76.6
Barren land	420.22	34.70	-	-	454.92
Forest land	130	120.57	-	-	250.57
Water Body	-	15.04	-	-	15.04
Others	-	-	-	9.94	9.94
Total	781.08	92.39	-	326.94	1200.41

Major issues of Cluster-VIII are as follows:

S.N.	Major Issues	Major Issues of Cluster-VIII Mitigation measures and Benefit
1.	Total Voids (128.57 ha)	51.22ha Backfilling and 77.35 ha waste body.
2.	Dumps (48.55 ha)	Use for backfilling
3.	Fire /Unstable area with 87.27 ha in 22 sites	Dig out fire and stabilise at the cost of Rs 26051 lakhs.
4.	Loss of coal (10% locked in barriers)	Recover 7.23 MT from barriers.
5.	Reclamation /Mine closure	Plantation in 704.48 ha for Rs 7202.46 lakhs
6.	Rehabilitation (4959 families)	Shifting to safe areas at the cost of Rs 29942 Lakhs
7.	CSR for a total costs of Rs. 215.5 Lakh per year @ Rs 5/T of coal	Rs. 215.5 Lakh per year @ Rs 5/T of coal
8.	Forest land (250.57 ha)	Forest clearance would be obtained
9.	Mine Closure cost	Rs 5139.59 lakhs

- ii. The cluster is mainly drained by some 1st and 2nd order seasonal nalas, which finally drain into Kashi Jore (3rd order stream) and Tisra Jore. Both these nalas flow from north to south and meet the Chatkari Jore which outfalls into River Damodar at the distance of about 8 km in the southern side. No nala diversion is required for cluster. The water table level is in the range of 1.35 to 11.03m bgl (pre-monsoon) and in the range of 0.65 to 8.93 m bgl during post-monsoon. The estimated water requirement is 5556 m³/day, of which 1992 m³/day is for mining operations and 3564 m³/day is for drinking and domestic use in the township.
 - iii. The maximum subsidence over the mining area is due to extraction of upper most 3 top seams and is about 2.297m.
 - iv. The mode of transportation is by road upto C. K. Railway siding. It was informed that an estimated 2.431 MTPA of coal would be transported from Cluster VIII in Phase II by conveyor to railway siding.
 - v. The fire control and rehabilitation of affected families from fire and subsidence area in the cluster would be carried out in a phased manner. The fire would be dealt with by cooling, quenching and removal, excavation of fire material and filling with cohesive, soil and surface sealing and blanketing.
 - vi. The Public Hearing was held on 31.01.2012.
 - vii. The Stage-II Forestry Clearance has been granted vide letter no 8-44/2009 EC dated 12.04.2012 for 234.08 ha of forestland in Ghanoodih Bera and Dobari Colliery. It is proposed to further enhance capacity of the Cluster-VIII mines by amalgamating all the individual mines thereby reflecting the highest achievable production capacity from this cluster. It was informed that a fresh application for environmental clearance would be submitted after obtaining EC, based on peak capacity with sufficient cushion for enhancing production of offsetting shortfall from other mines opening.
 - viii. Cluster- VIII falls in Dhanbad critically polluted area.
3. The entire Jharia Action Plan, which consists of all fire dousing projects, plans had been surveyed by DGMS, which has been designated as the monitoring and scrutinizing agency by Hon'ble Supreme Court of India under the WP (PIL) 387/1997 i.e. Haradhan Roy Vs UOI.



FC/Cluster-VIII/2012



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4 This is a violation case. As per the Office Memorandum dated 12.12.2012 issued by the Ministry of Environment and Forests, with regard to the consideration of proposals for ToR/Environment clearance/CRZ clearance involving violation of the Environment (Protection) Act, 1986/IA notification 2006/CRZ notification, 2011, the Environmental Clearance will be granted after the written commitment in the form of a formal resolution by the Board of Directors submitted to the MoEF to ensure that violations will not be repeated and the State Government concerned initiates credible action on the violation by invoking powers under Section 19 of the Environment (Protection) Act, 1986 for taking legal action under section 15 of the Act for the period for which the violation has taken place and evidence provided to the MoEF of the action taken. In this case, the Board's resolution has been received. As regards credible action, Jharkhand State Pollution Control Board, has issued directions of closure of collieries of M/S Bharat Coking Coal Limited under section 31A & 33A of Air (Prevention and Control of Pollution) Act, 1981 & Water (Prevention and Control of Pollution) Act, 1974 respectively for operating without obtaining Environmental Clearance. M/s BCCL has filed a Writ Petition (No. 4944/11) challenging the Board's directions of closure. The Jharkhand High Court has passed interim order on 25.08.2011 that "Till then, status quo, as on today, shall be maintained by the parties" and passed order on 18.01.2012 that "Until further orders, the interim order dated 25.08.2011 shall continue". In the light of interim order of the Jharkhand High Court, the State Pollution Control Board is seeking legal opinion for initiating legal action against the collieries of BCCL in the Court of Law in terms of the OM of the MoEF. The State Government has been asked to expedite taking legal opinion and taking action under intimation to the MoEF.

5. Reference is invited to the letter no. BCCL/HoD(Env.)/F-EMP/13 dated 31.1.2013, stating that the proponent has confirmed that out of 250.57 ha of forest land in cluster 8, BCCL requires only 234.08 ha for diversion of forest land to mining purpose. The balance 16.49 ha of forest land falls in Kuya mines is not required for diversion for mining purpose. In this regard, you are required to follow the guidelines issued by the FC Division of the Ministry of Environment & Forests vide no. 11-362/2012-FC dated 01.02.2013 "Guidelines for diversion of forest land for non-forest purposes under the Forest (Conservation) Act 1980. Submission of proposals to obtain forest land located within the mining lease and grant of environment clearance to mining projects" addressed to the Principal Secretary (Forests), Principal Secretary (Environment) of all the States/UT Govts. and copy to concerned Government Departments/Organisations which prescribes, inter-alia, the following:

"(iii) As regards Environment Clearance (EC) cases of existing mining operations, where approval under the FC Act for the full forest area in the mining lease area is not available, granting of EC may be considered and the following process will be adopted for processing such cases

- a) Grant of EC may be considered only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which the FC is not available; and
- b) The project proponent will seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, the project proponent will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed."

FC/Env/13/2013

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The proposal was considered in the Expert Appraisal Committee (EAC) (Environmental Management) and recommended in its 53rd meeting held on 16-17 July, 2012 for granting Environmental clearance. The Ministry of Environment & Forests has examined the application in accordance with the EIA Notification 2006 and under the provisions thereof, hereby accords environmental clearance for the above-mentioned Cluster VIII Group of 10 Mines (Combined capacity 4.31 MTPA with a peak production of 5.603 MTPA in a combined ML area of 1183.92 ha (1200.41 ha - 16.49 ha - 1183.92 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, dist. Dhanbad, Jharkhand under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars issued thereon and subject to the compliance of the terms and conditions mentioned below. You will need to seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines (i.e. 01 February, 2013), failing which the mining lease area will be reduced to the non-forest area plus the forest area for which you have been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, you will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The FC will be construed to be available for the mining lease area as per the revised mining lease deed.

A. Specific Conditions:

The maximum production shall not exceed beyond that for which environmental clearance has been granted for the mine of cluster VIII as below:

LAND USE DETAILS OF CLUSTER VIII						
S.N	Name of Mine	Production capacity(MTY)		Leasehold Area (ha)	Life mine (years)	Status
		NORMATIVE	PEAK			
1	Bastacolla OCP	0.10	0.130	239.45	3	Operating
	Bastacolla UG	0.33	0.429		18	Operating
2	Bera OCP	0.15	0.195	209.56	3	Operating
	Bera UG	0.19	0.247		13	
3	Debari Colliery(UG)	0.24	0.312	146.90	20	Operating
4	Kuya OCP	0.60	0.780	340.50	5	Operating
	Kuya UG	0.10	0.130		20	Operating
5	Goluckdih (NC) OCP (Proposed)	1.2	1.560		25	Proposed
	Proposed OCP will commence after the closure of existing Kuya OCP)					
	Ghanoodih Colliery(OCP)	1.40	1.820	73.00	8	Operating
6	Kujana Colliery(OCP)	0.60	0.780	191.00	8	Operating
	Total	4.31	5.603	1200.41		

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- The road transportation of coal during phase I should be by mechanically covered tracks. The road for coal transportation should be developed with avenue plantation on both sides. The company must give priority to capacity building both within the company and the community who are motivated to carry out the work in future.
- The details of transportation, CSR, R&R and implementation of various initiatives should be one of the 17 clusters should be brought out in a booklet form.
- A study should be initiated to analyse extent of reduction in pollution and every year conducting road transport.
- The expertise available internationally should be utilised for control of fire in Jharia Coalfields and for their reclamation and to further minimise time for fire and subsidence control.
- The abandoned pits and voids should be backfilled with OB and reclaimed with plantation and may be used for pisciculture.
- PCCL may consider setting up a separate management structure for implementing the policy and socio-economic issues and the capacity building required in this regard.
- The locations of monitoring stations in the Jharia Coalfields should be finalised in consultation with the Jharkhand State Pollution Control Board.
- The smoke/dust emission vary from source to source (fuelwood, coke, flyash from Jharia, etc.) from natural dust, etc) and a Source Apportionment Study should be got carried out from Jharia Coalfields.
- Mineralogical composition study should be undertaken on the composition of the particulate matter (PM₁₀ 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 mitigation measures could be taken.
- 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 combustion 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/slow fires in other areas including in mines of cluster VIII shall be undertaken.
- Underground mining should be taken up after completion of reclamation of opencast mines after 15 years.
- No mining shall be undertaken where underground fires continue. At least once a year prevent check such fire including in old OB dump areas where the fire is still in the presence of coal/shale with sufficient carbon content.
- The rejects of washeries in Cluster-VII should be send to FBC based plant.
- 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.
- A detailed calendar plan of production with plan for OB dumping and backfilling (for OB mining) and reclamation and final mine closure plan for each mine of cluster-VII shall be drawn up and implemented.
- 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 stabilised 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.


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- XX Mining shall be carried out as per statuette 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.
- XXI Active OB dumps near water bodies and rivers should be rehandled for backfilling abandoned mine voids. However, those which have been biologically reclaimed need not be disturbed.
- XXII Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. During post mining stage, a total of 704.48ha area would be reclaimed. The total additional area under plantation would be 345.06 ha (67.79 ha abandoned quarry area, 277.27 ha active quarry area, 48.55 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.
- XXIII The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.
- XXIV Specific mitigative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted area and relevant for Cluster VII shall be implemented.
- 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, flyash 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 (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.
- XXVI No groundwater shall be used for the mining activities. Additional water required, if any, shall be met from mine water or by recycling/reuse of the water from the existing activities and from rainwater harvesting measures. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry to dewatering of mine.
- XXVII Regular monitoring of groundwater level and quality of the study area shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in 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.
- XXVIII Mine discharge water shall be treated to meet standards prescribed standards before discharge into natural water courses/agriculture. The quality of the water discharged shall be monitored at the outlet points and proper records maintained thereof and uploaded regularly on the company website.

EC Cluster VII (BCL)

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- xxix. ETP shall also be provided for workshop, and CHP, if any. Effluent shall be treated to conform to prescribed standards in case discharge into the natural water course.
- 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.
- 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.
- xxxii. High root density tree species shall be selected and planted over areas likely to be affected by subsidence.
- xxxiii. Depression due to subsidence resulting in water accumulating within the low lying area shall be filled up or drained out by cutting drains.
- xxxiv. Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.
- xxxv. No depillaring operation shall be carried out below the township/colony.
- 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 transportation of coal during phase I should be by mechanically covered trucks.
- xxxvii. A study should be initiated to analyze extent of reduction in pollution level every year leading to road transport.
- 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.
- 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.


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for monitoring land use pattern and for post mining land use. A time series satellite map 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 MMD, Regional office at Bhubaneswar.

XII 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 re-introduction in the mine during mine reclamation and at the post mining stage for habitat restoration.

XIII 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.

XIII Implementation of final mine closure plan for Cluster VIII, subject to obtaining prior approval of the DGMS in regard to mine safety issues

XIV Corporate Environment Responsibility:

- The Company shall have a well laid down Environment Policy approved by all Board of Directors.
- 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.
- 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.
- 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 Head of Directors of the company and/or shareholders or stakeholders at large.

B. General Conditions:

- No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.
- No change in the calendar plan of production for quantum of minerals shall be made.
- 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.
- Data on ambient air quality (PM_{10} , $PM_{2.5}$, SO_2 and NO_x) 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 recognised under the EPA rules, 1986 shall be furnished as part of compliance report.

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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 HMM, etc shall be provided with ear plugs/muffs.

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.

Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.

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 recognised under EPA Rules, 1986.

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.

Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contraindications 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.

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.

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.

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>.

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.

A copy of the environmental clearance letter shall 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.

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 PM₁₀, PM_{2.5}, SO₂ and NO_x (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 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 Office of CPCB and the SPCB.

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.

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(ix) The Environmental statement for each financial year ending 31st March shall be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended, in triplicate. It shall also be uploaded on the company's website along with the status of compliance of EIA conditions and shall be sent to the respective Regional Offices of the MoEF by 1st April.

6. The Ministry or any other Competent Authority may stipulate such other conditions for environmental protection.

7. Failure to comply with any of the conditions mentioned above may result in withdrawal of environmental clearance and attract the provisions of the Environment (Protection) Act, 1986.

8. 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.


9. The Environmental Clearance is subject to the outcome of the Writ Petition filed by the 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.


(Dr. Manoranjan Halder)
Director

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-11, Chandrasekarpur, Bhubaneswar - 751023.
4. Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), H.E. Dhurwa, Ranchi - 834004.
5. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, P.O. Aerodrome, New Delhi - 110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Ground Water Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. District Collector, dist. Dhanbad Government of Jharkhand.
8. Monitoring File 9. Guard File 10. Record File
- 9.


(Dr. Manoranjan Halder)
Director


परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

1. Chd-0010-0001

File No. J-11015/298/2010-IA.II (M)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi - 3
Email: munna.shah@gov.in ; Tel: 011-20819177

Dated: 28th March, 2023

To

The General Manager
M/s Bharat Coking Coal Limited,
Kusunda Area, Koyla Bhawan,
Koyla Nagar, Dhanbad - 5 (Jharkhand).
E-mail: gmenv.bccl@coalindia.in

Sub: Cluster VIII Coal mining project of production capacity 5.603 MTPA in total mine lease area of 1183.92 ha by M/s Bharat Coking Coal Limited located in Jharia Coalfields, District Dhanbad (Jharkhand) – For Amendment of Environmental Clearance letter dated 15.02.2013 – reg.

Sir,

This has reference to your online proposal no. IA/JH/C/MIN/297114/2023 dated 31st January, 2023, on the above-mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for amendment in Environment Clearance dated 15th February, 2013. The proposal is of Cluster VIII Coal mining project of production capacity 5.603 MTPA in total mine lease area of 1183.92 ha by M/s Bharat Coking Coal Limited located in Jharia Coalfields, District Dhanbad (Jharkhand). Amendment in EC has been granted by Ministry vide its letter dated 15th July, 2018 and further amendment vide letter dated 15th November, 2020, due to restructuring of production capacities of individual mine in the Cluster.

3. Now, Project Proponent has again requested for amendment in Environment Clearance to particularly increasing in capacity of Bastacolla and Kuya Colliery production capacities only as mentioned below to facilitate complete extraction of Coal up to the Bottom Seam, make available larger space for keeping OB, thereby reducing the requirement of re-handling of OB enabling better and speedier reclamation (technical and biological) works. This will enable de-coaled areas to provide space for storage of OB extracted for fiery coal excavation within the cluster to implement the Master Plan approved by Govt. of India. Mining Plan and Mine Closure Plan of the mine undergoing change i.e. Bastacolla Colliery and Kuya Colliery was approved in the 396th Board meeting of BCCL held on 24.01.2023.

Munna Shah

परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

Following is the details of production capacity with mine lease area from original EA dated 1st February, 2013 and later amended dated 15th November, 2020 and further changes proposed particularly for increase in capacity of Bastacolla and Kuya Colliery from 1.80 to 2.10 MTPA and 2.60 to 2.80 MTPA respectively without any changes in overall capacity and mine lease area;

Sl. No	Name of the Mine	Initial EC (Dated 15.02.2013)			Amendment dated 15.11.2020 (Existing)			Modification sought			
		Type of Mine	Peak Production Capacity (MTPA)	Lease Area (Ha)	Type of Mine	Peak Production Capacity (MTPA)	Lease Area (Ha)	Type of Mine	Peak Production Capacity (MTPA)	Lease Area (Ha)	Proposed Amendment
1	Bastacolla Colliery	OC	0.13	239.45	Mixed	1.80	239.45	Mixed	2.10	239.45	Change in Capacity
		UG	0.429								
2	Bera Colliery	OC	0.195	209.56	OC	0.195	209.56	OC	0.195	209.56	No Change
		UG	0.247								
3	Dobari Colliery	UG	0.312	146.90	OC	3.86	146.90	OC	3.86	146.90	No Change
4	Ghanoodih Colliery	OC	1.82	73.0	OC	1.82	73.00	OC	1.82	73.00	No Change
5	Kuya Colliery	UG	0.13	324.01 (340.50 -16.49)	OC	2.60	324.01 (340.50-16.49)	OC	2.80	324.01 (340.50 -16.49)	Change in Capacity
		OC	0.78								
		Goluckdih (NC)	OC	1.56							
6	Kujama Colliery	OC	0.78	191.0	OC	0.78	191.00	OC	0.78	191.00	No Change
Total			5.603*	1183.92		5.603*	1183.92		5.603*	1183.92	

Munirah

परियोजना पदाधिकारी
Project Officer
कुईयों कोलियरी
Kuya Colliery

Production Schedule for individual mines showing Numeric addition of Production each year within Cluster Limit of 5.603 MTPA (Peak production will be achieved in different years).

Name of Mine	Type of Mine	Peak Production Capacity (In MTPA)		Production Schedule & Increase/ Decrease in Production Capacity (As per Peak Capacity) (In MTPA)					Remarks
		Exis- ting	Propo- sed	Year-I	Year-II	Year-III	Year-IV	Year-V	
Bastacolla Colliery	OC	1.80	2.10	2.00	2.10	2.10	2.10	1.80	Increase in Production (Change in Peak)
				(+0.20)	(+0.30)	(+0.30)	(+0.30)	(-0.30)	
Bera Colliery	Mixed	0.442	0.442	0.00	0.00	0.00	0.00	0.00	Reduction in Production
				(-0.442)	(-0.442)	(-0.442)	(-0.442)	(-0.442)	
Dobari Colliery	OC	3.86	3.86	0.00	0.00	0.60	0.40	0.40	Reduction in Production
				(-3.86)	(-3.86)	(-3.26)	(-3.46)	(-3.46)	
Kuya Colliery	OC	2.60	2.80	2.80	2.70	1.50	0.783	0.00	Increase in Production (Change in Peak)
				(+0.20)	(-0.10)	(-1.10)	(-1.817)	(-2.46)	
Ghanoodih Colliery	OC	1.82	1.82	0.00	0.00	0.60	1.50	1.50	Reduction in Production
				(-1.82)	(-1.82)	(-1.22)	(-0.32)	(-0.32)	
Kujama Colliery	OC	0.78	0.78	0.78	0.78	0.78	0.78	0.78	No Change in Production
				(+0.00)	(+0.00)	(+0.00)	(+0.00)	(+0.00)	
Total		5.603*	5.603*	5.58	5.58	5.58	5.563	4.48	

4. The proposal was considered by the Expert Appraisal Committee (EAC) in its 45th meeting held during 16 -17 February, 2023 in the Ministry. The Committee has recommended the proposal for amendment in the environmental clearance dated 15th February, 2013, as proposed by the project proponent and mentioned in the table at para 3 above

5. Based on the proposal submitted by the project proponent and recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval for amendment in the Environmental Clearance dated 15th February, 2013 to Cluster VIII Coal mining project at

Page 3 of 4

EC Amendment to Cluster VIII of M & B CCL

[Signature]

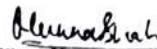
परियोजना पदाधिकारी
Project Officer
कुईयों कोलियरी
Kuya Colliery

production capacity 5.603 MTPA in total mine lease area of 1183.92 ha by M/s Bharat Coking Coal Limited located in Jharia Coalfields, District Dhanbad (Jharkhand), as stated in the table at para 3 above, under the provisions of EIA Notifications, 2006 and its amendments therein, subject to following additional condition for environmental safeguards;

- (i) PP to obtain the latest CTO from SPCB after grant of EC amendment, reflecting the capacities of each mines within overall mine lease area (1183.92 ha).
- (ii) PP shall to install 5 numbers of fog cannon with adequate throw length for suppression of fugitive dust in opencast mine within 6 months.
- (iii) PP shall deploy 5 numbers of mechanical sweeper for road cleaning in and around the 5 km of the project area.
- (iv) PP shall obtain Certified compliance report of previous EC and EC amendments letter from Ministry's IRO-Ranchi within six months from the date of issue of this letter.
- (v) PP shall conduct grassing on 15.00 Ha OB Dump and Plantation on 25.00 Ha within 1 one year and status shall be submitted with geotagged proof to Ministry's IRO with six monthly compliance report.

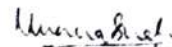
6 All other terms and conditions stipulated by Ministry its letters vide dated 15th February, 2013, 15th July, 2018 and 15th November, 2020 shall remain unchanged.


This issues with the approval of the competent Authority


(Munna Kumar Shah)
Scientist E

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The Additional Principal Chief Conservator of Forests, Regional office (ECZ), Ministry of Environment & Forests, Bungalow No. A-2, Shyamali Colony, Ranchi - 834002
3. The Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi
4. The Member Secretary, Central Ground Water Authority, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Member Secretary, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi
7. The District Collector, Dhanbad, Government of Jharkhand
8. Monitoring File/Guard File
9. PARIVESH


(Munna Kumar Shah)
Scientist E


परियोजना पदाधिकारी
Project Officer
कुईयाँ कोलियरी
Kuya Colliery



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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.

BHARAT COKING COAL LIMITED
MODIFIED MINING PLAN
AND
MINE CLOSURE PLAN
FOR
KUYA COLLIERY

(BASTACOLLA AREA)

PEAK CAPACITY : 2.80 Mty

JANUARY – 2023

CENTRAL MINE PLANNING & DESIGN INSTITUTE LTD.
REGIONAL INSTITUTE NO.- II
DHANBAD


परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

MODIFIED MINING PLAN AND MINE CLOSURE PLAN
FOR
KUYA COLLIERY

Index of Chapters

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 परियोजना पदाधिकारी
Project Officer
 कुईर्यो कोलियरी
Kuya Colliery

Index for List of Annexure

Sl. No.	Parameters	Details	Annexure No.
1	Copy of the allotment order/Vesting order	Mandatory Document	x
2	Certificate of authorized person/agency	Mandatory Document	x
3	Approval of the Company Board (9 types)	Mandatory Document	x
4	Copy of earlier approval of mining plan	Mandatory Document	I


 परियोजना पदाधिकारी
 Project Officer
 कुईर्यो कोलियरी
 Kuva Colliery

Index of List of Plans

SL No.	Plate no.	Subject
1	I	Location plan
2	II	Surface Plan
3	III	Geological Plan
4	IV	Floor Contour Plan of III Bottom Seam
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6	VI	Floor Contour Plan of IV Bottom Seam
7	VII	Floor Contour Plan of IV Top Seam
8	VIII	Final Stage Dump Plan


परियोजना पदाधिकारी
Project Officer
कुईयों कोलियरी
Kuya Colliery

List of Abbreviations used in the report

BCCL	- Bharat Coking Coal Limited
RF	- Representative Factor
MECL	- Mineral Exploration Corporation Limited
UVM	- Unit Volatile Matter
UHV	- Useful Heat Value
GCV	- Gross Calorific Value
BH	- Bore Hole
B&P	- Bord and Pillar
SDL	- Side Discharge Loader
DB	- District Board
SOP	- Standing on Pillar
OC	- Open Cast
OB	- Over Burden
HEMM	- Heavy Earth Moving Machinery
CMR	- Coal Mines Regulations
DGMS	- Directorate General of Mines Safety
UG	- Underground/Ungraded
GPM	- Gallon Per Minute
HT/LT	- High/Low Tension
HP	- Horse Power
DVC	- Damodar Valley Corporation
BOD	- Biological Oxygen Demand
MCP	- Mine Closure Plan


परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery



75
आज़ादी का
अमृत महोत्सव

भारत कोकिंग कोल लिमिटेड
Bharat Coking Coal Limited

(A Mini Ratna Company)
(A Subsidiary of Coal India Ltd.)

प. कार. - कोयला भवन, कोयला नगर, धनबाद - 826005
CIN: U10101JH1972GOI000918

ईमेल: cas.bcccl@coalindia.in वेबसाइट: www.bcccl.co.in दूरभाष: 0326-2230190

बोर्ड सचिवालय/Board Secretariat

पत्रांक बीसीसीएल/सीएस/एफ- 1(A)/2023/48(H)

दिनांक: 03.02.2023

सेवा में,
महाप्रबंधक (परियोजना व योजना),
बीसीसीएल, कोयला भवन

विषय: Certified copy of Minutes of 396th Board Meeting held on 24.01.2023.

Dear Sir,

We send herewith certified copy of Minutes of Item No.396.POT-1 & POT-2 of 396th Meeting of the Board of Directors of Bharat Coking Coal Limited held at Registered Office, Koyla Bhawan, Dhanbad on 24.01.2023 for taking necessary action at your end.

Encl: As above

भवदीय,

बी के पारुई
रूपरेखा सचिव

परियोजना प्रदाधिकारी
Project Officer
कुईया कोलियरी
Kuya Colliery

Item No. 396 POT-1

Approval of Mining Plan along with Mine Closure Plan of Bastacolla Colliery.

Background:

Bastacolla Colliery is one of the existing/operating mines of the Cluster-VIII group of mines under the administrative control of Bastacolla Area, BCCL. Bastacolla Colliery is part of OCP-VIII Geological Coal Block of Jharia Coalfield (GR-Feb.1999). It is about 2 to 3 km South-West of Dhanbad Railway Station. Chatkari Jore flows along Eastern boundary of Bastacolla Colliery. Dhanbad-Jharia DB Road passes along the southern (part) and western boundary of the mine. The area under consideration is located in north-eastern part of Jharia coalfield. Presently opencast mining operation has been going on in Bastacolla Colliery from 2020-21. Production from Underground mining system was done up to Oct-2021 and thereafter, underground mining operation stopped.

The proposal was placed in the 30th ESC (T) held on 24.01.23 and after consideration of the proposal, the same has been recommended for approval of Board.

Decision:

After detailed deliberation of the proposal, the Board passed the following resolution:

Resolved that the revised Mining Plan along with Mine Closure Plan of Bastacolla Colliery having Peak Capacity 2.10 MTPA, Lease hold Area 239.45 Ha, Balance Life 11 Years and the total Mine Closure cost being ₹35.328177Cr. (including the already deposited amount of ₹4.883167 Cr.) as recommended by the Empowered Sub Committee(T) of BCCL be and is hereby approved.

Further Board also directed that entire mining operation should be carried out as per the Statutory provisions under Mines Act 1952, Coal Mines Regulation 2017 and wherever specific permission is required, the management shall approach the concerned authorities.

Item No. 396.POT-2

Approval of Mining Plan along with Mine Closure Plan of Kuya Colliery.

Background:


Kuya Colliery was one of the existing/operating mines under the administrative control of Bastacolla Area, BCCL. Mining activities at Kuya Colliery going on since pre- nationalization. Resource in the present work is estimated after deducting already depleted reserves. Base date of the reserve has been considered as 01.04.2022. Resource in the present work is estimated after deducting already depleted reserves. Base date of the reserve has been considered as 01.04.2022.

PURPOSE & SCOPE OF THE REPORT:

Due to enhancement in coal production and for modification of EC, this mining plan and mine Closure plan has been prepared. The scope of the mining plan is limited to opencast extraction of IV Top, IV Bot, III Top, III Bot seams. The life of the mine will be 04 years.

Certified to be True Copy


परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery


B. K. Parui
Company Secretary
Bharat Coking Coal Limited
Koyla Bhawan
Dhanbad- 826005


Sanjeev Kumar
Assistant Engineer
Bastacolla Area
BCCL

The proposal was placed in the 30th ESC (T) held on 24.01.23 and after consideration of the proposal, the same has been recommended for approval of the Board.

Decision:

After detailed deliberation of the proposal, the Board passed the following resolution:

Resolved that the revised Mining Plan along with Mine Closure Plan of Kuya Colliery having Peak Capacity 2.80 MTPA, Lease hold Area 340.50 Ha, Balance Life 04 Years and the total Mine Closure cost being ₹35.4329 Crs, (including the already deposited amount of ₹15.0765 Cr.) as recommended by the Empowered Sub Committee(T) of BCCL be and is hereby approved.

Further Board also directed that entire mining operation should be carried out as per the Statutory provisions under Mines Act 1952, Coal Mines Regulation 2017 and wherever specific permission is required, the management shall approach the concerned authorities.

Certified to be True Copy


B. H. Parui
Company Secretary
Bharat Coking Coal Limited
Koyla Bhawan
Dhanbad- 826005




परियोजना पदाधिकारी
Project Officer
कुईर्यो कोलियरी
Kuya Colliery

Chapter 1: Project Information

	Parameters	Details
1.1	INTRODUCTION	
1.1.1	Name of Coal / Lignite Block	Mukunda Exploration Block (Proposed leasehold area is covered under "Geological Report on exploration for coal in Mukunda Open Cast Block" prepared by CMPDIL, RI-2 in July 1981)
1.1.2	Name of the Coalfield/Lignite Field	Jharia Coalfield
1.1.3	Base date of Mining Plan / Mine Closure Plan	April, 2022
1.1.4	Linked End Use Plant	Power Houses & Steel Plants Coal production of the mine is linked to different power houses (Power plants of DVC and other companies) and washeries (Bhojudih washery & Dugda washery) through CK (West), BNR siding and Burragarh siding and rest quantity is transported through road to MPL, RTPS and E- Auction etc.
1.1.5	Distance of End use plant from the pit head of the project in "km"	The present lead for coal transportation from face to surface is 1 to 2 Km. C. K. West Siding is 3 to 4 KM, Burragarh Siding is 7 to 8 km, GOAL 6 Railway Siding about 2 km and BNR Siding is about 10 KM from the coal dump.
1.1.6	Mode of Coal Transport	Trucks and Railway

1.2 LOCATION, TOPOGRAPHY AND COMMUNICATION

	Parameters	Details
1.2.1	Location of coal deposit (District and State)	Dhanbad, Jharkhand.

1.2.2	Communication: PWD roads, railway lines, Air	<p>I. It is about 6 KM away from Dhanbad Railway Station and connected by Dhanbad Baliapur road.</p> <p>II. The proposed project area is about 5 Km west of Jharia town and can be approached easily by Dhanbad-Jharia-Sindri road.</p>
1.2.3	Availability of power supply, water etc.	<p>Power Supply Arrangement:</p> <p>Kuya opencast project is receiving power at 33 KV/11KV from Goluckdih Main Sub-Station. The existing transformers at KOCP are as under: -</p> <ol style="list-style-type: none"> 1. Transformer: 11 KV/ 3.3 KV -1000KVA 2. Lighting Transformer: 11 KV/ 440V - 100KVA 3. Lighting Transformer: 11 KV/ 440V - 500KVA 4. Lighting Transformer: 3.3KV/ 220V - 10KVA 5. Lighting Transformer: 11 KV/ 440V - 100KVA 6. Lighting Transformer: 11 KV/ 400V - 500KVA 7. Lighting Transformer (2 Nos): 500 KV/ 220V - 10KVA 8. Lighting Transformer: 500 KV/ 440V - 20KVA 9. Lighting Transformer: 11 KV/ 440V - 250KVA 10. Power Transformer: 11 KV/ 3.3V - 2.5KVA 11. Power Transformer: 11 KV/ 550V - 750KVA 12. Lighting Transformer: 500 KV/ 440V - 100KVA 13. Lighting Transformer: 500 KV/ 440V - 250KVA 14. Lighting Transformer: 500 KV/ 440V -

परियोजना पदाधिकारी
Project Officer
कुईरॉ कॉलियरी
Kuya Colliery

Job No. 200221012

		250KVA Existing arrangement is sufficient to cater proposed mine-operation.												
1.2.4	Prominent physiographic features, drainage pattern, natural water courses, rainfall data, highest flood level.	<ol style="list-style-type: none">1. Climate Zone = Sub-humid region2. Maximum Temperature = 48⁰ C during summer (April to middle of June)3. Minimum Temperature = 6⁰ C during winter (December to January)4. Average Annual Precipitation = 140 cm (June to September)5. Topography = Undulating with a gentle southward slope. Due to mining activities over 100 years, several small quarries, subsided goaf, OB dump etc. have been shattered the original topography of the area. The highest elevation (214.65 m) has been observed near borehole no. NGK-28 in the northern part, whereas, the lowest ground elevation (184.54 m) has been observed in the southern corner of the block around borehole No NGK-2.6. Drainage = The drainage of the block is mainly controlled by a small nala, Tisra Jore is flowing from north to south.												
1.2.5	Land use and ownership / occupancy & involvement of forest land	<table><tr><th>PARTICULARS</th><th>AREA (in Hectare)</th></tr><tr><td>BCCL Land</td><td>141.33</td></tr><tr><td>Forest Land</td><td>117.51#</td></tr><tr><td>Govt. Land</td><td>35.06</td></tr><tr><td>Tenancy Land</td><td>46.60</td></tr><tr><td>Total Land</td><td>340.50</td></tr></table> <p># Out of the above forest land, forest Clearance in respect of remaining 16.49 Ha is</p>	PARTICULARS	AREA (in Hectare)	BCCL Land	141.33	Forest Land	117.51#	Govt. Land	35.06	Tenancy Land	46.60	Total Land	340.50
PARTICULARS	AREA (in Hectare)													
BCCL Land	141.33													
Forest Land	117.51#													
Govt. Land	35.06													
Tenancy Land	46.60													
Total Land	340.50													

		under process. The land other than BCCL holding has to be transferred to BCCL / to be acquired by BCCL.
1.2.6	Important surface features within the project area and major diversion or shifting involved	<u>Diversion of Road:</u> A part of Jharia-Baliapur DB Road, passing through the proposed project area, will be affected due to the operation of the proposed opencast. The affected part of the said road has to be substituted by construction of alternative road.

1.3 DETAILS OF THE ALLOTMENT AGREEMENT

	Parameters	Details
1.3.1	Name the Allottee	NA
1.3.2	Status of the Applicant Company	NA
1.3.3	Details of allotment / vesting order	NA
1.3.4	Name and address of the applicant	NA
1.3.5	Relationship between the applicant and allottee company	NA
1.3.6	Name of the previous allottee of the Block	NA
1.3.7	Starting Date of the Mine as per CMDPA	NA
1.3.8	Rated Capacity as per CMDPA	NA
1.3.9	Production Schedule as per opening permission (meeting provisions of	NA

	CMDPA if any)	
1.3.10	End Use of Coal/Lignite as per allotment order if any	NA

1.4 DETAILS OF THE PREVIOUS APPROVAL OF MINING PLAN

	Parameters	Details
1.4.1	Date of Approval	23.03.2022
1.4.2	Conditions, if any	
1.4.3	Scheduled year of start of production	Running mine. Earlier Mining plan was prepared for enhancement in coal production.
1.4.4	Proposed year of achieving the targeted production	NA
1.4.5	Date of actual commencement of mining operations, if operations already started	Running mine. Earlier Mining plan was prepared for reopening and grade declaration of III top seam.
1.4.6	Likely date of mining operations, if operations not yet started & reasons for non-commencement of operations	Not Applicable
1.4.7	Planned production and actual levels achieved in last 3 years (Coal in Mte, OB in MM ³ , SR in M ³ /te	Planned production for last 3 years as per approved Mining plan of Kuya Colliery and actual production from Kuya Colliery are given below Planned production: 2019-20: 1.84 Mte 2020-21 : 1.41 Mte 2021-22 : 1.15 Mte Actual production : 2019-20: 1.461 Mte 2020-21 : 1.799 Mte 2021-22 : 2.591 Mte
1.4.8	Statutory obligation vis-à-vis compliance status in a	

	tabular form	
1.4.9	Reasons for difference between the planned and actual production levels	Better utilization of HEMM

1.5 PARAMETERS OF APPROVED MINING PLAN VIS-À-VIS PROPOSED MININ PLAN

	Parameters	Details	
		Approved Mining Plan (2017-18)	Proposed Mining Plan (2022-23)
1.5.1	Block Area in "Ha"	340.50	340.50
1.5.2	Block Area Projectized "Ha"	182.88	182.88
1.5.3	Lease area "Ha"	340.50	340.50
1.5.4	Project Area "Ha"	300.50	300.50
1.5.5	Life of the Project "Yrs"	15	4
1.5.6	Maximum Depth of working "m"	140	140
1.5.7	Net Geological Block "Ha"	340.50	340.50
1.5.8	Production Target "MTPA"	2.60	2.80
1.5.9	Seams Available "As per GR"	IV Top, IV Bot, III Top, III Bot, II Top, II Bottom and I seams	IV Top, IV Bot, III Top, III Bot, II Top, II Bottom and I seams
1.5.10	Seams not considered for Mining with Reasons	II Top, II Bottom and I seams	II Top, II Bottom and I seams
1.5.11	Gross Geological Reserve within leasehold boundary "Mt"	63.82	52.61
1.5.12	Net Geological Reserve within leasehold boundary "Mt"	57.44	47.348
1.5.13	Blocked Reserve "Mt"	38.700	38.700
1.5.14	Net Geological Reserve	18.74	8.648

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	within delineated quarry "Mt"		
1.5.15	Minable Reserve / Extractable Reserve "Mt"	16.87	7.783
1.5.16	% of Extraction/recovery	90%	90%
1.5.17	Reserve Depleted (till the base date) Reserves "Mt"	Mining activities are going on in Kuya colliery since pre-nationalization period. At present, opencast mining is under progress in the colliery. Resource in the present work is estimated after deducting already depleted reserves. Base date of the reserve has been considered as 01.04.2017	Mining activities are going on in Kuya colliery since pre-nationalization period. At present, opencast mining is under progress in the colliery. Resource in the present work is estimated after deducting already depleted reserves. Base date of the reserve has been considered as 01.04.2022
1.5.18	Balance Extractable reserves "Mt"	16.87	7.783
1.5.19	Grade range	G6-G12	G6-G12
1.5.20	OB in MM ³	95.34	59.61
1.5.21	SR MM ³ /te	5.65	7.659
1.5.22	Mining Technology	Shovel-Dumper combination	Shovel-Dumper combination
1.5.23	Coal Beneficiation envisaged	NA	NA
1.5.24	Handling of Rejects	NA	NA
1.5.25	Proposed land use / component wise land break up "Ha"		
	<i>Parameters</i>	<i>Details</i>	
	Quarry including backfilling,	268.50	268.50

	haul road etc.		
	External OB Dump	21.11	21.11
	Infrastructures (colony, W/Shop, sub-station office, Road, etc.)	13.89	13.89
	Water body including nalla and embankment	4.12	4.12
	Green belt including already planted area and proposed plantation on vacant land.	24.45	24.45
	Safety Zone	8.34	8.34
	Total	340.50	340.50
1.5.26	Post Mining Land use pattern "Ha"		
	<i>Parameters</i>	<i>Details</i>	
1	Excavation Area	195.88	195.88
2	Top Soil Dump		
3	External Dump	7.10	7.10
4	Safety Zone		
5	Other Use	24.00	24.00
6	Infrastructure Area	6.50	6.50
7	Green Belt	77.34	77.34
8	Undisturbed Area	29.68	29.68
	Total	340.50	340.50
1.5.27	Reason for revision	Due to enhancement in coal production	Amendment / Modification in EC


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1.6 Component wise break up of forest Land

Component	Forest Land (in ha.)	Non Forest Land (in ha.)	Total (in Ha)
Quarry	15.92	248.69	264.61
Overburden(OB)	0	21.11	21.11
Infrastructure	0	16.43	16.43
Existing Road-1.88Ha, Proposed Road-1.02 Ha	0	2.9	2.9
Embankment	0	2.91	2.91
Water Body	0	1.38	1.38
Green belt	0	22.79	22.79
Safety Zone(Proposed Forest)	0.57	0	.57
Safety Zone (REleased forest-1.74 Ha & Non forest-6	0	7.8	7.8
Total	16.49	324.01	340.50


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Chapter 2 : Exploration, Geology, Seam Sequence, Coal Quality and Reserve

	Parameters	Details												
2.1	DETAILS OF THE BLOCK													
2.1.1	Particulars of adjacent blocks: North, South, East, West	<p>The present report is confined to the assessment of the part area (northern part) of original block of Mukunda OCP (GR, 1981), it includes Kuya Colliery and part area of Ghanoodih Colliery.</p> <p>Jharia coalfield is located in Dhanbad and Bokaro districts of Jharkhand. After nationalization and formation of Bharat Coking Coal Ltd. (BCCL), a feasibility report for reconstruction and development of the collieries (FR '78) of this coalfield was prepared in collaboration with the Polish consultants, wherein amalgamation of the erstwhile collieries including virgin area was envisaged. In this FR, 9 large opencast blocks and 21 large underground blocks were envisaged. However, this could not be implemented in full due to various constraints. The opencast block VIII (herein after called OCP-VIII) is one of these part of originally envisaged OCP-VIII .</p> <table border="1"> <tr> <td>North</td><td>:</td><td>Dobari Colliery</td></tr> <tr> <td>South</td><td>:</td><td>North Tisra</td></tr> <tr> <td>East</td><td>:</td><td>Barren Land</td></tr> <tr> <td>West</td><td>:</td><td>Ghanoodih Colliery</td></tr> </table>	North	:	Dobari Colliery	South	:	North Tisra	East	:	Barren Land	West	:	Ghanoodih Colliery
North	:	Dobari Colliery												
South	:	North Tisra												
East	:	Barren Land												
West	:	Ghanoodih Colliery												
2.1.2	Location of the Block District/State	<p>The area under consideration is located in Northern part of Mukunda exploration block of Jharia coalfield and constitutes of leasehold boundary of Kuya Colliery, BCCL. The project area lies between Latitude 23°43'30" to 23°43'44" (N) and Longitude 86°25'30" to 86°27'00" (E).</p>												
2.1.3	Area of the Block "Ha"	<p>The project area of the proposed quarry under consideration has a total surface area of about 340.50 Ha as per colliery record.</p>												

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2.1.4	Area of the geological block projectised "in Ha" (Area of the geological block considered for liquidation of coal reserve)	As per the surface extent of proposed quarry, area of the colliery proposed to be projectized is about 182.88 Ha.
2.1.5	Balance area yet to be projectised "Ha"	Seams below III bottom/III seam are yet to be projectised and balance area of the leasehold area outside the projectized area is mainly non-coal bearing
2.1.6	Likely Reserve in the area yet to be projectised "Mte"	Available resource within unprojectised seams to be projectized is 19.97 million tons. This resource is blocked in lower seams.
2.1.7	Geo-Reference Co-ordinates of the Block Boundary	Given in attachment
2.1.8	Certificate of authorized person/agency if the project area is confined within the vested/allotted block boundary and Where the project area extends beyond the block boundary, a certificate of authorized person/agency should be supported with a certificate of State Government mines and Geology department must be attached, which should specify (a) intent of the state government for grant of lease beyond	Given in attachment

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	<p>the vested geological boundary; (b) non-existence of Coal/Lignite in the area beyond the vested/allotted geological block boundary to rule out the issue of encroachment and use of coal bearing area (beyond the vested/allotted block boundary) in the mining plan.</p> <p>The Project area, Lease area and geological block area in "Ha" shall also be envisaged.</p>	
2.1.9	KML file of the Proposed lease and geological block.	Given in attachment
2.1.10	Whether the proposed project area is confined within the allotted block boundary, if not, the reason for deviation from allotted block boundary, may be given.	Yes
2.1.11	If the project area extends outside the allotted block boundary, confirmation about non-occurrence of coal/lignite in the area under	Not applicable

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	reference needs to be furnished	
2.1.12	Type of the Project (Operating/under Implementation) and year of Starting.	Running Opencast mine starting from pre-nationalisation

2.2 EXPLORATION, GEOLOGY AND ASSESSMENT OF RESERVE

	Parameters	Details
2.2.1	Regional geological set up of the area, local geology, structure, stratigraphic sequence, characteristics of the litho-logical units (coal seams / partings/overburden).	<p>The Jharia coalfield (453 Km²) is sickle shaped on plan and occurs in the form of syncline with its axis trending broadly in E-W direction and plunging towards west. The southern flank of this coalfield is truncated by boundary fault having maximum throw about 2.5 Km at Mohuda Basin. The non-coal bearing Talchir formation is mainly exposed along the northern and western portion of the coalfield. The Barakar formation covering an area of 218 Km² which is exposed in the northern, eastern and south-eastern part of the coalfield area contains over 40 coal horizons including local and persistent seams, some of which are exclusively store house of metallurgical coal in India. The Barakar formation is successively overlain by Barren Measure formation which is devoid of workable coal seams. This is mainly exposed in the central part of the coalfield. The Barren Measure is overlain by the coal bearing Raniganj formation (54 Km²). These are exposed within a sub elliptical basin the south-western part of the coalfield.</p> <p>Stratigraphy</p> <p>The Regional stratigraphic succession of Jharia coalfield is given in table no. 2.1</p> <p>Archeans: The Archeans, consisting of gneisses and mica schists are exposed all along the periphery of Jharia Coalfield. The metamorphics are profusely intruded by quartz veins.</p> <p>Talchir: In an Archean basement, the lower Gondwana</p>

sediments are deposited with a pronounced unconformity. The lowermost Gondwana sediments of Talchir formation are represented by variegated shale and greenish sandstones which at times show laths of unaltered feldspars. They are exposed all along the northern fringe of the coalfield. Near Lutipahar in the north-western part of the coalfield, Talchir formation is comparatively well developed in a large area and boulder bed shows exposures of spheroidal weathering.

Barakar: In the eastern, northern and north-eastern parts of the block, the Barakar are extensively developed. All along the southern boundary they are extending under the thick over of Barren Measures. The Barakar formation comprises pebbly sandstones, conglomerate, grit, coarse to fine grained sandstones, shales, carbonaceous shales and coal seams. Verma *et al.* (1989) have observed a gradual decrease in thickness of Barakar from east to west. Its maximum thickness of more than 1250 m has been observed in the south-eastern part of the coalfield in Tasra region. Barakar is the most important geological formation as it contains more than 40 coal horizons having thickness more than 50 cm. In general seam X (Ten) and younger seams are better quality coal.

Barren Measure: The Barren Measure formation lying conformably over the Barakar formation consists of massive multistoried sandstone alternating with carbonaceous shale, grey shale and sandstone/ shale intercalations with occasionally very thin, impersistent and non-workable coal horizons in the lower part of the formation. The Barren Measures show a widespread development extending from the central part of the coalfield up to the southern margin. The maximum thickness of the Barren Measure has been estimated to be around 625m in the central part of the basin. It gradually decreases westward and eastward.

Raniganj: Raniganj formation is deposited in sub

elliptical basin that is called Mohuda basin the south-western part of the coalfield. The formation is represented by sandstone, shale, carbonaceous shale and coal seams. There are 24 coal seams reported from this formation. These seams comprise high volatile, high moisture, medium coking coal. The maximum thickness around 725m of Raniganj formation has been observed.

Igneous Intrusive: Mica peridotite and dolerite are the two most common Post Gondwana intrusives. The mica peridotite occurs as dyke and sill throughout the entire coalfield and has caused widespread devolatilization of the coal seams. The dolerite dykes are mostly confined in the western part of the coalfield and has limited effect on coal seams. The mica peridotite sills have devolatilized the extensive reserve of good quality coal in the coalfield.

As mentioned earlier most of the area is covered by sandy soil and alluvium. The thickness of soil varies from 1.0 m to 9.0 meter.

Geological Succession of Jharia coalfield

Stratigraphic Division	Age	Formation	Lithological characters
	Recent	Alluvium/Soil/Sand	
	Cretaceous to Jurassic	Mica Peridotite/Dolerite Dyke	
----- Unconformity -----			
Lower Gondwana	Upper Permian	Raniganj Formation	Mainly fine to medium grained grey current
	Middle Permian	Barren Measures	Black carbonaceous micaceous

				shale with clay, ironstone and sandstone.
		Lower Permian	Barakar Formation	Coarse grained to conglomeratic white
		Lower Permian	Talchir Formation	Coarse grained sandstone, white or slightly variegated at Top, green shale with undecomposed feldspar, boulder bed etc.
		Unconformity		
		Archeans		Granites, gneisses and schists.
2.2.2	Local geology, Structure, Stratigraphic sequence, Characteristics of the litho-logical units (coal seams / partings/overburden).	The area under consideration is located in the eastern flank of the Jharia coalfield, and it is primarily covered by the Barakar formation which is overlain by thin layers of sandy soil and clay. The thickness of soil is ranges between 1 m. (NGK-26) to 15.51 m. (NGK-25). The eastern limit of the coal bearing formation is delineated by metamorphic rock of Archean age. The rocks of Barakar formation consist of pebbly sandstone, grits, fine to coarse grained		

sandstone, intercalation of sandstone and shale, sandy shale, grey shale, carbonaceous shale, fire clays and number of coal seams. Coal seams IV TOP to III BOT occur within the project area and under the purview of this Geological Report (Plate No. G-III).

Good rock exposures are rather few excepts in old quarries and it has not been possible to precisely delineate the incrop position of the seams because of the extensive goaf, and quarrying which have severely affected the original topography. The incrop position of the coal seams have been extrapolated on the basis of geological data viz. geological cross section, floor contour and quarry/incline positions and are interpretative. Geology and correlation of the seams have been established mainly on the basis of sub-surface data obtained from borehole and mine workings.

Igneous Intrusion:

The project area is free from any igneous intrusion.

Sequence of Coal Seams (within the proposed quarry Limit)

Seam/Parting	Average Seam/Parting Thickness (meter)	Depth Range (approx.) (m)
IV TOP	1.93	INCROP-100
P(IV TOP-IV BOT)	17	
IV BOT	4.37	INCROP-120
P(IV BOT-III TOP)	13	

P(IV BOT-III)	23	
III TOP	3.78	INCROP-140
P (III TOP-III BOT)	9	
III BOT	9.8	INCROP-160
III	15.70	INCROP-100
P (III-II TOP)	6	
II TOP	0.95	INCROP-140
P(II TOP-II BOT)	20	
P(III BOT-II BOT)	30	
II BOT	1.40	INCROP-190
P (II BOT-I)	13	
I	4.90	INCROP-210

Geological Structure of the Block

Strike & Dip

The geological structure of the area is relatively simple. The general strike of the strata is normally NNW-SSE swinging to N-S covering the major part of the area. The beds dip 4° to 12° due WSW, west and north respectively. The relevant details of strike and dip can be seen from the geological cross section and floor contour plans.

Faults

No major fault encountered within the project area.

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2.2.3	Geological Block Area "Ha"	Kuya Colliery falls completely within Mukunda Block of Jharia Coalfield. Total area of Mukunda geological block is about 2200 Ha. As per colliery records total surface area of Kuya colliery is about 340.50 Ha.												
2.2.4	Status of Exploration of the block	The entire area under consideration has been covered by detailed exploration and data is available in the "Geological Report on exploration for coal in Mukunda Open Cast Block, Jharia coalfield, Dhanbad (July, 1981)", prepared by CMPDI, Regional Institute-II, Dhanbad.												
2.2.5	Area covered by 'detailed' exploration within the block (sq. km)	<p>The entire area under consideration has been covered by detailed exploration.</p> <p>A total of 14 boreholes have been drilled within the project area involving a total meterage of 1818.78 meters within the project area.</p> <p style="text-align: center;">Status of Exploration</p> <table><tr><th>Serial</th><th>Seri</th><th>Drilling</th><th>No. of</th><th>Meterage</th></tr><tr><td>1</td><td>NG</td><td>CMPDI</td><td>14</td><td>1818.78</td></tr></table> <p>The density of boreholes comes to 4 BHs/Km² within the project area (within Kuya Colliery Boundary)</p>			Serial	Seri	Drilling	No. of	Meterage	1	NG	CMPDI	14	1818.78
Serial	Seri	Drilling	No. of	Meterage										
1	NG	CMPDI	14	1818.78										
2.2.6	Whether entire lease area has been covered by 'detailed' exploration.	Yes.												
2.2.7	No. of boreholes drilled within the leasehold boundary	14												
2.2.8	Whether any further exploration/study is required or suggested and time frame in which it is to be completed.	No.												

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2.2.9	Year wise future programme of exploration	Not applicable.																
2.2.10	Overall borehole density within the block (no./sq.km) approx.	Within the colliery leasehold, the borehole density is approximately 4 BHs/Km ² .																
	No. of Seams available as per GR (Geological Report)	<p>The lay and deposition of coal seams is based primarily on the data available in "Geological Report on exploration for coal in Mukunda Open Cast Block, Jharia coalfield, Dhanbad (July, 1981)", prepared by CMPDI, Regional Institute-II, Dhanbad) and updated mine data provided by colliery authorities.</p> <p>Standard geological name of available coal seams and corresponding colliery nomenclature is given below.</p> <p>Nomenclature of coal seams Vis-À-Vis Colliery Nomenclature</p> <table><tr><th>Standard Nomenclature (Geological)</th><th>Colliery Nomenclature (Kuya Colliery)</th></tr><tr><td>IV TOP</td><td>IV</td></tr><tr><td>IV BOT</td><td>IV</td></tr><tr><td>III TOP</td><td>III</td></tr><tr><td>III BOT</td><td>II</td></tr><tr><td>II TOP</td><td>-</td></tr><tr><td>II BOT</td><td>I</td></tr><tr><td>I</td><td>0</td></tr></table> <p>Seam-wise Description</p> <p>Seam IV TOP</p> <p>This seam occurs below V/VI/VII/VIII seam with a parting varies from 30.93 m (NGK-15) to 32.66m (NGK-25).The full coal thickness has been intersected into 8 boreholes within the project</p>	Standard Nomenclature (Geological)	Colliery Nomenclature (Kuya Colliery)	IV TOP	IV	IV BOT	IV	III TOP	III	III BOT	II	II TOP	-	II BOT	I	I	0
Standard Nomenclature (Geological)	Colliery Nomenclature (Kuya Colliery)																	
IV TOP	IV																	
IV BOT	IV																	
III TOP	III																	
III BOT	II																	
II TOP	-																	
II BOT	I																	
I	0																	

limit. The In-band thickness of seam varies from 0.65 m (NGK-25) to 5.30 m (NGK-2). The seam has been considered as Non coking coal within the project area. Detailed quality parameters and net geological resource is given below in table.

Quality Parameters

Proximate Analysis (On air-dried basis)

TH	ASH	UHV	Grade	GCV	GCV Grade
0.65-5.30	29.1-45.2	1158-4400	D-G	3762-5163	G8-G12

Roof & Floor

Roof and floor both generally composed of carbonaceous shale.

Exploitation

The seam is extensively worked and quarried. In the incrop region the seam is extensively quarried out in the southern part (south eastern part of the Tisra Jore) and another quarry in the northern part is ongoing. A very small patch is quarried out in the northernmost part too.

The west-central part is heavily worked by underground development.

(Ref: GR, Mukunda OC Block, July, 1981).

Seam IV BOT

This seam occurs below IV TOP seam with a parting varies from 10.65 m (NGK-18) to 20.11m

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(NGK-2).The full coal thickness has been intersected into 10 boreholes within the project limit. The In-band thickness of seam varies from 2.50 m (NGK-15) to 5.43 m (NGK-24). The seam has been considered as Non coking coal within the project area. Detailed quality parameters and net geological resource is given below in table.

Quality Parameters

Proximate Analysis (On air-dried basis)

TH	ASH	UHV	Grade	GCV	GCV Grade
2.50-5.43	36.7-46.8	2244-3770	E-G	4297-5151	G8-G11

Roof & Floor

Roof and floor both generally composed of carbonaceous shale.

Exploitation

The seam is extensively worked and quarried. In the incrop region the seam is extensively quarried out in the southern part (south eastern part of the Tisra Jore) and another quarry in the northern part is ongoing.

(Ref: GR, Mukunda OC Block, July, 1981).

Seam III TOP

This seam occurs below IV BOT seam with a parting varies from 10.92 m (NGK-21) to 17.35m (NGK-18).The full coal thickness has been intersected into 10 boreholes within the project limit. The In-band thickness of seam varies from

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2.45 m (NGK-25) to 5.39 m (NGK-2). The seam has been considered as Non coking coal within the project area. Detailed quality parameters and net geological resource is given below in table.

Quality Parameters

Proximate Analysis (On air-dried basis)

TH	ASH	UHV	Grade	GCV	GCV Grade
2.45-5.39	27.01-46.3	1931-4697	D-G	4174-6067	G6-G11

Roof & Floor

Roof and floor both generally composed of carbonaceous shale.

Exploitation

The seam is extensively worked and quarried. In the incrop region the seam is extensively quarried out in the southern part (south eastern part of the Tisra Jore) and another quarry in the northern part is ongoing.

The west-central part is heavily worked by underground development and in the northernmost part two small underground patch is also developed.

(Ref: GR, Mukunda OC Block, July, 1981).

Seam III BOT

This seam occurs below III TOP seam with a parting varies from 1.83 m (NGK-2) to 15m (NGK-30).The full coal thickness has been intersected into 10 boreholes within the project

limit. The In-band thickness of seam varies from 6.19 m (NGK-14) to 13.41 m (NGK-2). The seam has been considered as Non coking coal within the project area. Detailed quality parameters and net geological resource is given below in table.

Quality Parameters

Proximate Analysis (On air-dried basis)

TH	ASH	UHV	Grade	GCV	GCV Grade
6.19-13.41	33.38-44.9	2280-3970	E-G	4362-5399	G7-G10

Roof & Floor

Roof and floor both generally composed of carbonaceous shale.

Exploitation

The seam is extensively worked and quarried. In the incrop region the seam is extensively quarried out in the southern part (south eastern part of the Tisra Jore) and another quarry in the northern part is ongoing.

The west-central part is heavily worked by underground development and a small underground patch is developed in south central part too.

(Ref: GR, Mukunda OC Block, July, 1981).

Seam III

III TOP and III BOT seam combined in the southernmost part of the project area as III seam.

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This seam occurs below IV BOT seam with a parting varies from 20m (NGK-22) to 28m (NGK-24). The full coal thickness has been intersected into 4 boreholes within the project limit. The In-band thickness of seam varies from 14.38m (NGK-22) to 17.36m (NGK-13). The seam has been considered as Non coking coal within the project area. Detailed quality parameters and net geological resource is given below in table.

Quality Parameters

Proximate Analysis (On air-dried basis)

TH	ASH	UHV	Grade	GCV	GCV Grade
14.38-17.36	38.7-42.6	2760-3449	E-F	4495-4890	G9-G10

Roof & Floor

Roof and floor both generally composed of carbonaceous shale.

Exploitation

The seam is part quarried and also developed by underground working.

(Ref: GR, Mukunda OC Block, July, 1981).

Insitu Coal Quality

The quality of coal seams in this Revised Geological Report is based on "Geological Report, Mukunda Open Cast " Jharia coalfield,

		<p>Dhanbad (July, 1981, prepared by CMPDI, RI-2, Dhanbad).The non-combustible bands like sandy shale, sand stone, siderite, grey shale (Ash > 75 %) etc. irrespective of their thickness and carb shale (Ash > 50 %) of 1 meter and above in thickness occurring within the seam, have been excluded from the total thickness of the seam for computing the effective thickness (I100) of coal seams for the purpose of quality consideration. Rest of the dirt bands has been included as a part of the coal seams.</p> <p>Faulted, partly faulted, worked seam/part worked seam thickness encountered in the boreholes have not been considered for the purpose of quality assessment.</p> <p>Seams Considered for Mining</p> <p>Seams IV Top to III Bottom lie within the proposed area to be projectized.</p>										
2.2.12	Seams not considered for Mining with Reasons	Seams II Top, II Bottom and I seams have not been considered for mining. due to various issues like seam thickness, not developed and extensively worked out etc. These seams will be taken for mining in future after amalgamation with adjoining mines.										
2.2.13	Dip of the Seam	The geological structure of the area is relatively simple. The general strike of the strata is normally NNW-SSE swinging to N-S covering the major part of the area. The beds dip 4° to 12° due WSW, west and north respectively.										
2.2.14	<p>Seam wise thickness depth and reserve</p> <p>Seam wise summary of in-band thickness (I-100) based on borehole data, depth range and reserve within Kuya colliery leasehold are given below for their extraction by opencast method.</p> <p>Seam wise thickness, depth and reserve within colliery leasehold</p> <table><tr><th>Seam</th><th>In-Band Av. Thickness (m)</th><th>Depth Range (m)</th><th>Net Geological Reserve (Mt)</th><th>Blocked Reserve (Mt)</th></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>		Seam	In-Band Av. Thickness (m)	Depth Range (m)	Net Geological Reserve (Mt)	Blocked Reserve (Mt)					
Seam	In-Band Av. Thickness (m)	Depth Range (m)	Net Geological Reserve (Mt)	Blocked Reserve (Mt)								

	IV TOP	1.93	INCROP-100	1.063	0.62
	P(IV TOP-IV BOT)	17			
	IV BOT	4.37	INCROP-120	4.002	2.92
	P(IV BOT-III TOP)	13			
	P(IV BOT-III)	23			
	III TOP	3.78	INCROP-140	4.264	3.26
	P (III TOP-III BOT)	9			
	III BOT	9.8	INCROP-160	18.049	11.93
	III	15.70	INCROP-100		
	P (III-II TOP)	6			
	II TOP	0.95	INCROP-140	1.29	1.29
	P(II TOP-II BOT)	20			
	P(III BOT-II BOT)	30			
	II BOT	1.40	INCROP-190	5.20	5.20
	P (II BOT-I)	13			
	I	4.90	INCROP-210	13.48	13.48
	Total			47.348	38.700
2.2.15	Reserve Estimation Criteria				
	Methodology of reserves estimation (also mention if any software package has been used).	<p>A) The seam wise status of developed, depillared and goaved areas in addition to virgin patches has been identified on the basis of seam working plan provided by the concerned area/colliery officials. These have been clearly marked on the seam folio plans and floor contour plans of all the seams proposed for quarrying in the area.</p> <p>B) Goaf & Quarries: These areas have been considered as devoid of coal, however in case of goaf the devoid zone is considered according to the height of the goaf.</p>			

C) Developed Areas: In developed areas, where reserves are standing on pillars, seam wise dimension of extraction (height & width) have been decided on the basis of seam working plan made available by area/collieries authorities and after detailed discussion with them. And only after that percentage of extraction factor for each seam has been arrived which ranges from 25 % to 30 %. For standing on pillars an average of 30% extraction of coal have been considered and accordingly Net Geological Reserve has been calculated.

D) Thickness: - Only the In-band (I100) thickness of the seam has been considered for reserve estimation.

Areas having thickness less than 0.5 m have not been considered for reserve estimation.

Methodology of Reserves Calculation

The reserve has been estimated through "MINEX" software.

1. The reserve has been calculated using "Detailed resource reporting" menu of **MINEX 6.1.3** software along with separate template for each individual seam.
2. A deduction of 10% from the 'gross reserves' of coal has been made to account for unidentified geological uncertainties like structural disturbances, washout zones etc. to arrive at the 'net geological reserves.'
3. The seam wise status of developed, depillared areas in addition to virgin patches has been identified on the basis of seam working plan supplied by the concerned area/colliery officials. These have been clearly marked on the seam folio plans and floor contour plans of all the seams.
4. Heave Zone: The areas falling within the heave zone of a fault has been excluded for the purpose of reserve estimation.

		5. Reserve is calculated within the proposed project boundary demarcated by the mining department																												
2.2.16	GCV DETAILS	<div>Seam wise quality/GCV parameters of available coal resource within delineated quarry of Kuya colliery are given in below.</div> <table><tr><th rowspan="2">Seam</th><th colspan="4">AS PER GEOLOGICAL REPORT</th><th rowspan="2">AS PER BCCL DECLARE D GRADE NOTIFICAT ION 2022- 23</th></tr><tr><th>Thick ness (m)</th><th>Ash% (Cokin g)</th><th>GCV (Kcal/ Kg)</th><th>Grade Range</th></tr><tr><td>IV Top</td><td>0.65- 5.30</td><td>29.1- 45.2</td><td>3762- 5163</td><td>G8- G12</td><td>W-VI</td></tr><tr><td>IV Bot.</td><td>2.50- 5.43</td><td>36.7- 46.8</td><td>4297- 5151</td><td>G8- G11</td><td>W-V</td></tr><tr><td>III Top</td><td>2.45- 5.39</td><td>27.01- 46.3</td><td>4174- 6067</td><td>G6- G11</td><td>W-V</td></tr></table>	Seam	AS PER GEOLOGICAL REPORT				AS PER BCCL DECLARE D GRADE NOTIFICAT ION 2022- 23	Thick ness (m)	Ash% (Cokin g)	GCV (Kcal/ Kg)	Grade Range	IV Top	0.65- 5.30	29.1- 45.2	3762- 5163	G8- G12	W-VI	IV Bot.	2.50- 5.43	36.7- 46.8	4297- 5151	G8- G11	W-V	III Top	2.45- 5.39	27.01- 46.3	4174- 6067	G6- G11	W-V
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Modified Mining Plan and Mine Closure Plan for Kuya Colliery



		III Bot	6.19-13.41	33.38-44.9	4362-5399	G7-G10	W-V	
2.2.17	Gross Geological Reserve of the block "Mte"	52.61						
2.2.18	Net Geological Reserve of the block "Mte"	47.348						
2.2.18 A	Net Geological Reserve within delineated quarry "Mte"	8.648						
2.2.19	Mineable Reserve of the block "Mte"	Seams			Mineable Reserve (MT) within delineated quarry		Grade	
		IV Top			1.367		G8-G12	
		IV Bottom					G8-G11	
		III Top			0.903		G6-G11	
		III Bottom & Combined			5.513		G7-G10	
		Total			7.783			
2.2.20	Blocked Reserve "Mte"	38.700						
2.2.21	Corresponding extractable reserve of the block "Mte"	For opencast mining extractable reserve is considered same as mineable reserve i.e. 7.783 Mte.						
2.2.22	Percentage of Extraction	For opencast mining percent of extraction is considered 90 percent.						

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2.2.23	Reserve already depleted (Base date of Mining Plan)	Not applicable. Note- Mining activities are going on in Kuya colliery since pre-nationalization period. At present, opencast mining is under progress in the colliery. Resource in the present work is estimated after deducting already depleted reserves. Base date of the reserve has been considered as 01.04.2022
2.2.24	Balance Reserve (as on Base Date)	Since, depleted resource is already accounted for in resource estimation, Balance reserve in Kuya colliery as on base date (01.04.2022) is considered same as mineable reserve i.e. 7.783 Mte.


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Chapter 3: Mining

	Parameters	Details																		
3.1	MINING METHOD																			
3.1.1	Existing method of mining if the mine is under operation	<p>Presently Opencast Mining Operation with Shovel-Dumper combination is going on in Kuya Colliery. The production of coal for last 5 years are given below.</p> <table><thead><tr><th>Year</th><th>Coal Production (M.Tes)</th><th></th></tr></thead><tbody><tr><td>2017-18</td><td>1.487</td><td></td></tr><tr><td>2018-19</td><td>1.569</td><td></td></tr><tr><td>2019-20</td><td>1.641</td><td></td></tr><tr><td>2020-21</td><td>1.799</td><td></td></tr><tr><td>2021-22</td><td>2.591</td><td></td></tr></tbody></table>	Year	Coal Production (M.Tes)		2017-18	1.487		2018-19	1.569		2019-20	1.641		2020-21	1.799		2021-22	2.591	
Year	Coal Production (M.Tes)																			
2017-18	1.487																			
2018-19	1.569																			
2019-20	1.641																			
2020-21	1.799																			
2021-22	2.591																			
3.1.2	Proposed method of mining with justification on suitability of method of mining	<p>Seams to be worked on:</p> <p>Presently opencast mining operation is going on to extract coal from IV Top, IV Bot, III Top & III Bot seams and it is also proposed to extract IV Top, IV Bot, III Top & III Bot seams through opencast operation.</p> <p>Choice of Mining Method:</p> <p>Considering the dip of beds and mining of multiple seams separated by multi partings, presently the opencast is being operated with Shovel-Dumper System of mining and same has been proposed in this mining plan.</p> <p>Justification for Optimization of targeted capacity:</p> <p>As per the mining parameters of the mine, the peak production of the mine is 2.80 MTY. The peak production from the mine can be achieved by better utilization of resources and favorable geo-mining conditions.</p> <p>Sequence of mining:</p>																		

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The mining shall be carried out in descending order.

Production Scheduling:

The calendar programme of mining operation has been formulated based on the adopted sequence of mine development and optimum condition of mining operation for the entire life of opencast project.

Year	Coal Production (M.Tes)	O.B. Removal (M.Cum)
Proposed		
2022-23	2.80	21.45
2023-24	2.70	20.68
2024-25	1.50	11.49
2025-26	0.783	5.99
TOTAL	7.783	59.61

SEAMWISE MINEABLE RESERVES

Seams	Mineable Reserve (MT) within delineated quarry
IV Top	1.367
IV Bottom	
III Top	0.903
III Bottom & Combined	5.513
Total	7.783

Parting Wise OB to be removed within delineated Quarry

Partings	Volume M.Cum
Rehandling of loose OB (in terms of solid)	10.753
Top OB	30.821
Parting between IV TOP & IV Bottom	5.802
Parting between III Top & IV Bottom	7.429
Parting between III Top & III bottom	4.805
Total	59.61

Basic Dimensions of the Quarry

S. N O	Description	Unit	Value
1.	Area of Excavation	Ha	182.88
2.	Avg. Strike Length	M	1900
3.	Avg. Dip Rise Width	M	900
4.	Maximum depth	m	140
5.	Base of Quarry		III Bottom

Equipment configuration

Presently the mine operation is done by both departmental and outsourcing means. The details of major machinery deployed in departmental patch and Hired HEMM patch is given below:

Existing HEMM in Departmental HEMM

SL No.	Equipment	Capacity	Number
1	Shovels	EKG 5 Cum	2
		Hydraulic 2.9 Cum (01 Nos.)	5

		Hydraulic 4.5 Cum (03 Nos.)	
		Hydraulic 5 Cum (01 Nos.)	
2	Dumpers	60 Te	28
3	Drills	160 mm dia	6
4	Dozer	355 HP	6
5	Water Sprinkler	28 KL	2

Existing HEMM in Hired HEMM Patch

SL No.	Equipment	Capacity	Number
1	Shovels	3.6 Cum	12
2	Dumpers	31 Te	80
3	Drills	150 mm dia	6
4	Dozer	300 HP	10
5	Water Sprinkler	12 KL	4
6	Grader	140 HP	3

Drilling & Blasting

O.B. will be excavated in benches after proper drilling & blasting. Drilling in OB benches will be done by 250mm/160mm drills. The blasted OB will be dozed, heaped and loaded on to dumpers for transportation to OB dumps.

Drilling in coal benches will be done by 100 mm/ 160mm drills and after proper drilling & blasting, the blasted coal will be loaded by Shovels on to dumpers for transportation up to the surface stock yard.

The standard practice involving the electric detonators for the initiation of detonating cord, detonating relays

to achieve hole-to-hole delays, use of Heavy ANFO, slurry or emulsion explosives as the column charge will be used for blasting.

The pattern of drilling and blasting will be decided during actual operation of the quarry. However, specific consumption of explosives has been envisaged as 0.3 kg/cum for OB and 0.2 kg/cum for Coal.

Transportation

The ROM coal from the OC will be transported by the tipping trucks from the pithead stock up to Feeder Breaker. After crushing the coal to (-) 100 mm coal is transported to different sidings.

Life of Mine

The balance life of mine for opencast project is 4 years at projected level of production.

Mining Operation

Opencast method with Shovel-Dumper System of mining is being used in the mine and same has been proposed in this mining plan. It is assumed that required excavation & transport capacity will be available for opencast mining operation.

Since Kuya Colliery is an existing opencast mine working as III bottom seam floor, the mine is already developed through access trench and box cut which is further fully developed into benches along the strike length above III Bottom seam floor. Surface Plan is shown in Plate no. II. The operation of the existing opencast mines will continue. It is suggested that the present operating mines, should work in such a fashion that the benches become straight and uniform, so that equipment deployment of the proposed

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		<p>individual dump benches will be 37°. Width of berm between two adjacent benches will be about 40 m. Dumping will be done by End-Tipping method.</p> <p style="text-align: center;"><u>Yearwise Dump Schedule</u></p> <table><tr><th>Year</th><th>OB Removal (in M.Cum.)</th><th>Internal Dump (in M.Cum.)</th><th>External Dump (in M.Cum.)</th></tr><tr><td>2022-23</td><td>21.45</td><td>9.71</td><td>11.74</td></tr><tr><td>2023-24</td><td>20.68</td><td>9.37</td><td>11.31</td></tr><tr><td>2024-25</td><td>11.49</td><td>5.2</td><td>6.29</td></tr><tr><td>2025-26</td><td>5.99</td><td>2.71</td><td>3.28</td></tr></table>	Year	OB Removal (in M.Cum.)	Internal Dump (in M.Cum.)	External Dump (in M.Cum.)	2022-23	21.45	9.71	11.74	2023-24	20.68	9.37	11.31	2024-25	11.49	5.2	6.29	2025-26	5.99	2.71	3.28
Year	OB Removal (in M.Cum.)	Internal Dump (in M.Cum.)	External Dump (in M.Cum.)																			
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2025-26	5.99	2.71	3.28																			
3.1.3	Coal production capacity proposed "Mtpa"	2.80 MTPA																				
3.1.4	Justification for optimization Coal production capacity	<p>Considering the area available for quarry operation, availability of quantity of coal and OB in proposed quarry area, the coal production capacity as proposed in the report is justified.</p> <p>As per the current mining parameters of the mine, peak coal production capacity of the proposed opencast operation of Kuya Colliery has been estimated at 2.80 MTY. This will be achieved upto 202-23.</p>																				
3.1.5	Calendar year from which the production will start	It is running mines and production has already been started from Pre-nationalisation area.																				
3.1.6	Year of Achieving	2022-23																				


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opencast can be facilitated better in the later stage. While working, the existing OB dump over the area bearing coal of IV Top, IV Bot, III Top & III Bot seams within delineated quarry area required to be rehandled.

The broad parameters Kuya Colliery (Opencast) are given here

- Mineable/Extractable Coal : 7.783 M.Tes
- Overburden including Loose OB : 59.61 M. Cum
- Av. Stripping Ratio : 7.659 M³/Te

Floor of III Bottom seam is the base of the quarry.

All the seams considered for exploitation will be mined in separate single bench where ever possible.

OB Dump

Variation in thickness of OB will make it difficult to maintain uniform bench height in OB horizons. However, it is proposed to have a ceiling on OB bench height from safety reasons. The height of the bench generally shall not exceed the boom height of shovel. The height of the bench is proposed as 10 m. Out of total balance 59.61 M.Cum. of OB, 26.99 M.Cum. of OB will be dumped internally in the decoaled area of the quarry-on-quarry floor, 14.64 M.Cum. of OB will be dumped externally in the non-coal bearing area in eastern side within leasehold boundary and the rest around 17.98 M.Cum. will have to be dumped externally in excavated void area of adjoining Dobari Colliery. Since this is an existing mine, backfilling of OB in mined out area has already been started.

For convenience of operation, it is proposed to keep a minimum working width of coal and OB bench as 10 to 20 m. The working benches of OB and coal will be kept at a slope angle of 70° and 80° respectively during operation.

The final pit slope of the quarry has been planned at 43° for the final depth of the quarry (140 m).

Bench height for OB dumps will be 30 m and slope of

	rated production																															
3.1.7	Coal production Plan "MT"	<table border="1"> <thead> <tr> <th colspan="2">Year</th><th colspan="3">Coal Production Schedule</th></tr> <tr> <th>Year of Operation</th><th>Calendar Year</th><th>UG</th><th>OC</th><th>Total</th></tr> </thead> <tbody> <tr> <td>Y-1</td><td>2022-23</td><td>0.00</td><td>2.80</td><td>2.80</td></tr> <tr> <td>Y-2</td><td>2023-24</td><td>0.00</td><td>2.70</td><td>2.70</td></tr> <tr> <td>Y-3</td><td>2024-25</td><td>0.00</td><td>1.50</td><td>1.50</td></tr> <tr> <td>Y-4</td><td>2025-26</td><td>0.00</td><td>0.783</td><td>0.783</td></tr> </tbody> </table> <p>Note: Calendar Plan/Production Plan for the entire life of the mine.</p>	Year		Coal Production Schedule			Year of Operation	Calendar Year	UG	OC	Total	Y-1	2022-23	0.00	2.80	2.80	Y-2	2023-24	0.00	2.70	2.70	Y-3	2024-25	0.00	1.50	1.50	Y-4	2025-26	0.00	0.783	0.783
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3.1.8	Peak/Rated Capacity - By OC - By UG - Overall	By OC-2.80 Mtpa By UG- Nil Overall- 2.80 Mtpa																														
3.1.9	Life of the mine: - By OC - By UG - Overall	By OC-4 years By UG- Nil Overall- 4 years																														
3.1.10	Whether the proposed external OB dump site is coal/lignite bearing: If so, whether coal/lignite below waste disposal area is extractable.	Proposed External dump site is Non Coal Bearing Area																														
3.1.11	Whether negative proving for coal / lignite in the proposed site for OB dump/infrastructure	Proposed External dump site is Non Coal Bearing Area																														

	has been done.																													
3.1.12	Results of any investigation carried out for scientific mining, conservation of minerals and protection of environment; future proposals.	Not Available																												
3.1.13	Type of Equipment/HEMM proposed	Presently the mine operation is done by both departmental and outsourcing means. For future operation same has been proposed. <u>Existing HEMM in Departmental HEMM</u>																												
		<table><tr><th>SL No.</th><th>Equipment</th><th>Capacity</th><th>Number</th></tr><tr><td rowspan="4">1</td><td rowspan="4">Shovels</td><td>EKG 5 Cum</td><td>2</td></tr><tr><td>Hydraulic 2.9 Cum (01 Nos.)</td><td rowspan="3">5</td></tr><tr><td>Hydraulic 4.5 Cum (03 Nos.)</td></tr><tr><td>Hydraulic 5 Cum (01 Nos.)</td></tr><tr><td>2</td><td>Dumpers</td><td>60 Te</td><td>28</td></tr><tr><td>3</td><td>Drills</td><td>160 mm dia</td><td>6</td></tr><tr><td>4</td><td>Dozer</td><td>355 HP</td><td>6</td></tr><tr><td>5</td><td>Water Sprinkler</td><td>28 KL</td><td>2</td></tr></table>	SL No.	Equipment	Capacity	Number	1	Shovels	EKG 5 Cum	2	Hydraulic 2.9 Cum (01 Nos.)	5	Hydraulic 4.5 Cum (03 Nos.)	Hydraulic 5 Cum (01 Nos.)	2	Dumpers	60 Te	28	3	Drills	160 mm dia	6	4	Dozer	355 HP	6	5	Water Sprinkler	28 KL	2
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		6	Grader	140 HP	3


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Chapter 4 : Safety Management

	Parameters	Details
4.1	MINING METHOD	<p>Elaborate safety measures have been laid out as per statute concerning safety in mines. In addition to existing provisions, reference has been made here to some special precautionary measures which have been considered important and require special attention for the safety of men and machinery.</p> <p>Safety of men and machine deployed in the mining area should be properly taken care of irrespective of whether the mining activities are performed by departmental or by outsourcing option.</p> <p>All the provisions and precautionary measures as stipulated in CMR 2017, (especially Reg. 106 to 110) and orders made there under shall be strictly complied with. The important safety aspects have been deliberated subsequently.</p> <p>In addition to those relevant clauses as stipulated in Act & Regulation, all clauses and sub clauses as mentioned in the permission granted by DGMS, Min. of Labour and Employment, GOI for working of Kuya colliery (OC) shall be followed strictly.</p> <p>The other rules / regulation applicable to mining industry shall be comply with like CEA Regulation 2010, Explosive Act etc.</p>
4.1.1	Important safety aspects: Major Risks and uncertainties to the project viz. Proximity to river,	<p>a) Adjacent working The neighboring mines have old underground working.</p> <p>b) Geo-mining disturbances The area under consideration is traversed by very few</p>

	rated production																															
3.1.7	Coal production Plan "MT"																															
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	- By OC	By OC-2.80 Mtpa																														
	- By UG	By UG- Nil																														
	- Overall	Overall- 2.80 Mtpa																														
3.1.9	Life of the mine:	By OC-4 years																														
	- By OC	By UG- Nil																														
	- By UG	Overall- 4 years																														
	- Overall																															
3.1.10	Whether the proposed external OB dump site is coal/lignite bearing: If so, whether coal/lignite below waste disposal area is extractable.	Proposed External dump site is Non Coal Bearing Area																														
3.1.11	Whether negative proving for coal / lignite in the proposed site for OB dump/infrastructure	Proposed External dump site is Non Coal Bearing Area																														

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		1	Shovels	3.6 Cum	12
		2	Dumpers	31 Te	80
		3	Drills	150 mm dia	6
		4	Dozer	300 HP	10
		5	Water Sprinkler	12 KL	4
		6	Grader	140 HP	3


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Chapter 4 : Safety Management

	Parameters	Details
4.1	MINING METHOD	<p>Elaborate safety measures have been laid out as per statute concerning safety in mines. In addition to existing provisions, reference has been made here to some special precautionary measures which have been considered important and require special attention for the safety of men and machinery.</p> <p>Safety of men and machine deployed in the mining area should be properly taken care of irrespective of whether the mining activities are performed by departmental or by outsourcing option.</p> <p>All the provisions and precautionary measures as stipulated in CMR 2017, (especially Reg. 106 to 110) and orders made there under shall be strictly complied with. The important safety aspects have been deliberated subsequently.</p> <p>In addition to those relevant clauses as stipulated in Act & Regulation, all clauses and sub clauses as mentioned in the permission granted by DGMS, Min. of Labour and Employment, GOI for working of Kuya colliery (OC) shall be followed strictly.</p> <p>The other rules / regulation applicable to mining industry shall be comply with like CEA Regulation 2010, Explosive Act etc.</p>
4.1.1	Important safety aspects: Major Risks and uncertainties to the project viz. Proximity to river,	<p>a) Adjacent working The neighboring mines have old underground working.</p> <p>b) Geo-mining disturbances The area under consideration is traversed by very few</p>

<p>adjacent working, faults. geo-mining disturbances, slope stability and remedial measures suggested. It should also include proposed overall slope of the quarry and OB dump, dump height, strata control, fire and spontaneous heating, gas monitoring, disaster management, danger from inrush of water etc.</p>	<p>The seams are free from igneous intrusions in the block.</p> <p>c) Slope stability and remedial measures suggested The slopes of the quarry and dumps have been proposed on the basis of experience in the adjoining areas. However, to ascertain optimum slope angles for stability of quarry batter and OB dumps a scientific study needs to be carried out (Ref. Regulation 106(2) of CMR 2017). Recommendation of this study report should be followed strictly to avert any slope failure in the mine. DGMS (Tech.) circular No. 03 of 2020 dated 16.01.2020 and other circular issued by DGMS from time to time for slope stability should be adhered to in letter and spirit.</p> <p>Monitoring being the most effective mitigation measures against any impending slope failure, a constant vigil in this regard should be maintained during active mine operation.</p> <p>d) Disaster management Mining is a hazardous industry. There is risk to life and property associated with various mining and allied activities of the project. The mining plan has been drawn in conformity with the prevailing statutory provisions as per Mines Act, 1952 & CMR 2017 applicable for safety in mines. A detailed study has been carried out covering identification and assessment of risk, and recommendation of measures to prevent damage to life and property against such risks.</p> <p>Safety Audit is an integrated component of Risk Assessment and Safety Management, which is required</p>
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		<p>f) Existing underground mine fire</p> <p>In addition to statutory provisions, the general measures for fire fighting and its prevention are as follows:</p> <ol style="list-style-type: none"> 1) Organisation of special cell for systematic observations to examine and prevent fire. 2) Removal of spillage of coal on benches and cleaning of coal horizons to prevent cases of coal heating. 3) Storage of lubricants and cotton waste in enclosed fireproof containers in working places. 4) Provision of fire extinguishers <p>The recommendation made in the DGMS (Approval) Circular No. 02, 2013 should strictly be followed in the mine to prevent fire in HEMM. It says that "all types of fire fighting and fire suppression system including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression system in mines both on surface and below ground including oil and gas mines/fields shall conform to the following minimum requirement";</p> <ol style="list-style-type: none"> a) All types of fire fighting and fire suppression systems including automatic fire detection and suppression systems to be used in HEMMs, materials and chemicals to be used in fire fighting or suppression systems shall have valid test certificate(s) from any Government or Government approved Laboratory in compliance with relevant Indian Standards. b) All material used in the fire fighting/ fire suppressant
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		<p>systems shall be non-toxic and in no manner harmful to human beings during handling and use.</p> <p>The high pressure storage vessels and hoses, if used with fire-fighting and fire suppressant systems, shall conform to the requirements stipulated in the relevant Indian Standards.</p>
4.1.2	<p>A Commitment from the Company Board that entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017 and wherever specific permission will be required the company will approach the concerned authorities.</p>	<p>A Commitment from the Company Board that entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017 and wherever specific permission will be required and the company will approach the concerned authorities for the same.</p> <p>The same will be furnished as a part of Annexure during the approval of the Mining Plan.</p>



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Chapter 5 : Infrastructure Facilities

	Parameters	Details
5.1	Mine infrastructure required e.g. Equipment maintenance planning, Office buildings, Workshop, Power supply arrangement, Water supply etc.	<ol style="list-style-type: none"> 1. Magazine: There is no magazine at Kuya colliery. The explosive and detonators for consumption of the mine is brought from Central Magazine located at Bera about 4 KM away from the mine. Licence No. E/HQ/JH/22/294(E43380) Used By:- Bera, Dobari and Kuya Colliery. 2. Workshop: HEMM workshop at Kuya colliery situated in South –West side in mine- boundary. 3. Central Workshop: at Area Level situated at Chandmari. Pumps and motors are repaired here. 4. Regional Store: at Area Level situated at Bera Colliery 5. Water Supply: Drinking water is supplied from MADA. For other miscellaneous domestic work Pit water is supplied. 6. Company's Road: Network of colliery roads exist in the leasehold of the Mine and connected with Dhanbad to Baliapur road near Joyrampur More. 7. Others: Dispensary, Company's Quarters, Office, Hutments, and encroacher <p>Existing arrangement is sufficient to cater proposed mine operation</p>
5.2	Power supply & illumination.	<p>Power Supply Arrangement:</p> <p>Kuya opencast project is receiving power at 33 KV/11KV from Goluckdih Main Sub-Station. The existing transformers at Kuya colliery (OC) are as under: -</p>

		<ol style="list-style-type: none"> Transformer: 11 KV/ 3.3 KV -1000KVA Lighting Transformer: 11 KV/ 440V - 100KVA Lighting Transformer: 11 KV/ 440V - 500KVA Lighting Transformer: 3.3KV/ 220V - 10KVA Lighting Transformer: 11 KV/ 440V - 100KVA Lighting Transformer: 11 KV/ 400V - 500KVA Lighting Transformer (2 Nos): 500 KV/ 220V - 10KVA Lighting Transformer: 500 KV/ 440V - 20KVA Lighting Transformer: 11 KV/ 440V - 250KVA Power Transformer: 11 KV/ 3.3V - 2.5KVA Power Transformer: 11 KV/ 550V - 750KVA Lighting Transformer: 500 KV/ 440V - 100KVA Lighting Transformer: 500 KV/ 440V - 250KVA Lighting Transformer: 500 KV/ 440V - 250KVA <p>Existing arrangement is sufficient to cater proposed mine-operation.</p>
5.3	Coal Handling Arrangement: Brief detail of the CHP/Mode of Dispatch, Coal handling arrangement	<ul style="list-style-type: none"> Coal production of the mine is linked to different power houses (Power plants of DVC and other companies) and washeries (Bhojudih washery & Dugda washery) through CK (West), BNR siding and Burragarh siding and rest quantity is transported through road to

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		<p>MPL, RTPS and E- Auction etc. The present lead for coal transportation from face to surface is 1 to 2 Km. C. K. West Siding is 3 to 4 KM and BNR Siding is about 10 KM from the coal dump.</p> <ul style="list-style-type: none">• Feeder breaker exists in KOCP and 3 Nos. of feeder breaker in C. K. West Siding. The coal has been crushed in Feeder Breaker. The crushed coal is stored in hopper. The standing tipping trucks below the hopper receive the crushed coal and spread it on the wharf. The contractual pay loader loads the coal into the railway wagons for further transport.																																																																											
5.4	Coal washing and the proposed handling/disposal of rejects.	Coal washing facilities are not existing in Kuya colliery.																																																																											
5.5	Existing Pumping Details	<table><tr><th colspan="5">0 - seam</th></tr><tr><th>Sl. no</th><th>Capa city (GPM)</th><th>Pipe dia (Inch)</th><th>Head (m)</th><th>Remarks</th></tr><tr><td>1</td><td>600</td><td>6</td><td>120</td><td>Running</td></tr><tr><td>2</td><td>600</td><td>6</td><td>120</td><td>Running</td></tr><tr><td>3</td><td>600</td><td>6</td><td>100</td><td>Pipe line available</td></tr><tr><th colspan="5">NC-Patch</th></tr><tr><th>Sl. no</th><th>Capa city (GPM)</th><th>Pipe dia (Inch)</th><th>Head (m)</th><th>Remarks</th></tr><tr><td>1</td><td>800</td><td>6</td><td>100</td><td>Diesel Pump</td></tr><tr><td>2</td><td>800</td><td>6</td><td>100</td><td>Diesel Pump</td></tr><tr><td>3</td><td>800</td><td>6</td><td>100</td><td>Diesel Pump</td></tr><tr><td>4</td><td>800</td><td>6</td><td>100</td><td>Diesel Pump</td></tr><tr><td>5</td><td>2000</td><td>8</td><td></td><td>Pipe line Available</td></tr><tr><td>6</td><td>2000</td><td>8</td><td></td><td>Pipe line Available</td></tr><tr><td>7</td><td>4000</td><td>10</td><td></td><td>Pipe line Available</td></tr><tr><td>8</td><td>4000</td><td>10</td><td></td><td>Pipe line Available</td></tr></table>	0 - seam					Sl. no	Capa city (GPM)	Pipe dia (Inch)	Head (m)	Remarks	1	600	6	120	Running	2	600	6	120	Running	3	600	6	100	Pipe line available	NC-Patch					Sl. no	Capa city (GPM)	Pipe dia (Inch)	Head (m)	Remarks	1	800	6	100	Diesel Pump	2	800	6	100	Diesel Pump	3	800	6	100	Diesel Pump	4	800	6	100	Diesel Pump	5	2000	8		Pipe line Available	6	2000	8		Pipe line Available	7	4000	10		Pipe line Available	8	4000	10		Pipe line Available
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Chapter 6 : Land Requirement

	Parameters	Details												
6.1	LAND REQUIREMENT													
6.1.1	Total Land requirement for the mine in "Ha"	<p>The breakup of ownership wise land within leasehold boundary of Kuya Colliery as furnished by Colliery Authority is given below:</p> <table><tr><th>PARTICULARS</th><th>AREA (in Hectare)</th></tr><tr><td>BCCL Land</td><td>141.33</td></tr><tr><td>Forest Land</td><td>117.51#</td></tr><tr><td>Govt. Land</td><td>35.06</td></tr><tr><td>Tenancy Land</td><td>46.60</td></tr><tr><td>Total Land</td><td>340.50</td></tr></table> <p># Out of the above forest land, forest Clearance in respect of remaining 16.49 Ha is under process. The land other than BCCL holding has to be transferred to BCCL / to be acquired by BCCL.</p> <p><i>178</i> परियोजना पदाधिकारी Project Officer कुईयो कोलियरी Kuya Colliery</p>	PARTICULARS	AREA (in Hectare)	BCCL Land	141.33	Forest Land	117.51#	Govt. Land	35.06	Tenancy Land	46.60	Total Land	340.50
PARTICULARS	AREA (in Hectare)													
BCCL Land	141.33													
Forest Land	117.51#													
Govt. Land	35.06													
Tenancy Land	46.60													
Total Land	340.50													
6.1.2	During mining Land use details:													

Unit: Ha		
Type	Existing Land use (Plan & data as furnished by Colliery Authority)	Post Mining Land use
Excavation Area including Excavation void	62.60	52.25
Backfilled Area	72.22	143.63
External OB Dump	36.68	7.10
Peripheral Haul Road	-	7.50
Road & Infrastructure area	3.00	6.50
Top Soil Dump	1.20	
Green Belt/Plantation	16.49	77.34
UG Entry	0.01	
Undisturbed/ Mining right for UG/Barren Land	119.81	29.68
Homestead land	15.00	15.00
Agriculture Land	4.86	
Water Body	-	1.50
Rationalization Area	8.09	
Embankment	0.530	
Garland Drain	0.01	
Total	340.50	340.50
6.1.3	Surface features over the block area	Important surface features and major diversion or shifting involved in the mine is given below: Road: Jharia Baliapur DB Road
6.1.4	No. of villages/Houses to be shifted	Nil. However, as per JMP 226 families from identified endangered area will be shifted.
6.1.5	Population to be affected by the project	Nil. However, 904 affected populations from identified endangered area will be shifted

6.1.6	Proposed Rehabilitation programme	To be shifted as per JMP (Govt. of India approved master plan for dealing with fire, subsidence and rehabilitation within leasehold of BCCL)
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	Parameters	Details
6.2	DETAILS OF LEASE	
6.2.1	Status of Lease	Lease available under provision of Mineral Concession Rules 1960
6.2.2	Existing Lease Area "Ha"	340.50 Ha as per Colliery Record
6.2.3	Period for which Mining Lease has been granted/is to be renewed/is to be applied for.	Mining lease has been granted by nationalisation. Valid upto 7 th December 2030
6.2.4	Date of expiry of earlier Mining Lease, if any	Not applicable
6.2.5	Whether the lease boundary/required boundary is same as mentioned in the allotment order	Mining lease has been granted by nationalisation. The applied lease area includes the existing lease area.
6.2.6	Lease Area (applied/required) as per the Mining Plan under consideration (Ha)	Lease Area is 340.50 Ha as per Colliery Record.
6.2.7	Whether the applied lease area falls within the allotted block	Applied lease area is falling inside the allotted block (BCCL)
6.2.8	Area (Ha) of lease which falls outside the delineated block/sub-block	
6.2.9	Details of outside area:	No outside block area has been considered for project area of this mine
	▪ Whether forms part of any other coal block	Not Applicable
	▪ Whether it contains any coal/lignite reserves	Not Applicable
	▪ Purpose for which it is required, e.g. roads/OB dumps/service	Not Applicable

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	buildings/colony/safety zone/others(specify)	
6.2.10	Whether some part(s) of the allotted block has not been applied for mining lease.	The whole area in the existing lease area has been proposed for mining lease
	- Total area in Ha of such part(s).	Not Applicable
	- Total reserves in such part(s). (Mt)	Not Applicable
	- Brief reasoning for leaving such part(s)	Not Applicable

Chapter 7: Environmental Management

Parameters		Details													
16	ENVIRONMENTAL MANAGEMENT														
a.	Commitment from the project proponent that the company will comply Environment and Forest Condition stipulated in the respective clearances	Kuya Colliery (OC) is situated in the Cluster VIII group of mines of BCCL under the administrative control of Bastacolla Area.													
		The impacts (both beneficial and adverse) of mining and its allied activities of the project have been assessed and presented in respect of biophysical & socio-economic environment.													
		<u>Air Quality Management:</u>													
		The impact assessment has been carried out dealing with the following points:													
		(a) Phase-wise inventory of air pollution emission sources													
		(b) Impact assessment													
		Sources													
		i. During Operational Phase													
		<table><tr><td>(i)</td><td>Drilling & Blasting</td><td>:</td><td>Noise & Dust and SO₂, NO₂</td></tr><tr><td>(ii)</td><td>Handling of coal</td><td>:</td><td>Noise, Dust and SO₂, NO₂</td></tr><tr><td>(iii)</td><td>Movement of vehicles</td><td>:</td><td>Noise, Dust and SO₂, NO₂</td></tr></table>		(i)	Drilling & Blasting	:	Noise & Dust and SO ₂ , NO ₂	(ii)	Handling of coal	:	Noise, Dust and SO ₂ , NO ₂	(iii)	Movement of vehicles	:	Noise, Dust and SO ₂ , NO ₂
		(i)	Drilling & Blasting	:	Noise & Dust and SO ₂ , NO ₂										
(ii)	Handling of coal	:	Noise, Dust and SO ₂ , NO ₂												
(iii)	Movement of vehicles	:	Noise, Dust and SO ₂ , NO ₂												
ii. During Post Operational Stage															
<table><tr><td>(i)</td><td>Movement of dozers for physical reclamation of subsided area</td><td>:</td><td>Noise, Dust and SO₂, NO₂</td></tr><tr><td>(ii)</td><td>Movement of vehicles for shifting and salvaging operation of OC Machineries and other equipment</td><td>:</td><td>Noise, Dust and SO₂, NO₂</td></tr><tr><td>(iii)</td><td>Movement of vehicles for clearing of coal and other materials</td><td>:</td><td>Noise, Dust and SO₂, NO₂</td></tr></table>		(i)	Movement of dozers for physical reclamation of subsided area	:	Noise, Dust and SO ₂ , NO ₂	(ii)	Movement of vehicles for shifting and salvaging operation of OC Machineries and other equipment	:	Noise, Dust and SO ₂ , NO ₂	(iii)	Movement of vehicles for clearing of coal and other materials	:	Noise, Dust and SO ₂ , NO ₂		
(i)	Movement of dozers for physical reclamation of subsided area	:	Noise, Dust and SO ₂ , NO ₂												
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(iii)	Movement of vehicles for clearing of coal and other materials	:	Noise, Dust and SO ₂ , NO ₂												

Impact Assessment

The ambient air quality is influenced due to the presence of PM_{10} , $PM_{2.5}$, SO_2 , NO_2 , etc., which are generated from above sources in operational and post operational stages of coal mining. Further, the ambient air quality is affected to a varying degree due to the mining activities of other nearby opencast and underground coalmines of the same coalfield. The concentration of pollutants may vary depending upon the various micro-meteorological parameters and the seasons of a year.

Fortnightly Ambient Air Quality Monitoring of Cluster –VIII consisting of Kuya colliery (OC) is being carried out at following stations as part of routine Environmental Monitoring by CMPDI RI-II, Dhanbad:

CORE ZONE Monitoring Location

- i) Dobari UGP (A11) : Industrial Area

BUFFER ZONE Monitoring Location

- i) Jeenagora (A13) : Industrial Area
- ii) Hurriladih UGP (A28) : Industrial Area
- iii) Kusmatand Village (A12): Industrial Area

Air quality monitoring data at above stations for the period August 2022 to October 2022 is as given in the following tables.

Dobari UGP (A11)

Sl. No.	Parameter	Observed Values (in µg/m ³)					
		1st FN	2nd FN	1st FN	2nd FN	1st FN	2nd FN
		01.08.22	26.08.22	09-09-2022	22-09-2022	03.10.2022	21.10.2022
1	PM ₁₀	73	74	89	120	92	124
2	PM _{2.5}	55	36	43	68	54	68
3	SO ₂	11	<10	11	12	10	11
4	NO ₂	24	26	22	25	22	23

Jeenagora (A13)

Sl. No.	Parameter	Observed Values (in µg/m ³)					
		1st FN	2nd FN	1st FN	2nd FN	1st FN	2nd FN
		02.08.22	22.08.22	08-09-2022	23-09-2022	09.10.2022	20.10.2022
1	PM ₁₀	116	87	113	92	98	96
2	PM _{2.5}	65	53	70	62	58	53
3	SO ₂	10	11	<10	10	12	<10
4	NO ₂	8	12	16	20	30	26

Hurliadih UGP (A28)

Sl. No.	Parameter	Observed Values (in µg/m ³)					
		1st FN	2nd FN	1st FN	2nd FN	1st FN	2nd FN
		11.08.22	19.08.22	14-09-2022	27-09-2022	13.10.2022	28.10.2022
1	PM ₁₀	66	111	98	124	96	129
2	PM _{2.5}	29	36	53	68	53	70

3	SO ₂	10	<10	<10	11	<10	11
4	NO ₂	15	16	22	24	21	20

Kusmatand Village (A12):

Sl. No.	Parameter	Observed Values (in µg/m ³)					
		1st FN	2nd FN	1st FN	2nd FN	1st FN	2nd FN
1	PM ₁₀	02.08.22	29.08.22	08-09-2022	23-09-2022	09.10.2022	20.10.2022
2	PM _{2.5}	94	98	84	94	87	117
3	SO ₂	53	57	50	52	53	67
4	NO ₂	10	<10	12	<10	<10	11
		26	25	24	20	22	20

Keeping in view the above data it is evident that the air pollution in and nearby Cluster –VIII mines is generally within the GSR 742(E) Standards for Coal Mines of Jharia Coalfield but occasionally exceed the NAAQS standards. Following measures will be adopted to mitigate Air pollution from Kuya Colliery (OC):

- At the points of dust generation, Fog Cannon/Mist Sprinklers shall be installed along with water sprinkling / spraying.
- Development of Greenbelt around quarry.
- Plantation will be done on external dump and reclaimed area.
- Regular maintenance of HEMM.
- Controlled blasting will usually be done in daytime during the shift change over

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period.

- vi. Appropriate design of the geometry of blast holes.
- vii. Coal transportation will be done through covered trucks/conveyor belt to washery and also to the siding.
- viii. Wet Drilling.

Water Quality Management:

Sources

(i) Sanitary (domestic) wastewater	:	Suspended solids and BOD.
(ii) Water pumped out from Mine	:	Suspended solids of coal, clay and oil.
(iii) Surface run-off passing through coal stockpiles	:	Suspended solids.
(iv) Storm water from leasehold area and built-up area	:	Suspended solids.

Water Quality Report

Any adverse impact or pollution consequence of water will have serious effect on the environment. Hence, it becomes important to assess the water quality periodically in the mining area. Thus, to assess the water quality, samples were collected from one (01) location (for mine water) and analysed for physico-chemical characteristics. The water

sampling points were selected by consultation between BCCL & JSPCB officials. The different sources of water were identified for water quality characterization depending on their use for potable/industrial purposes and considering likely impact on these sources due to project activities. Based on these considerations, it was thought necessary to assess the existing quality of different water sources in the study area including both up & down stream of surface water body, ground water and mine water.

Mine Water Quality at Dobari OC:-

Sl. No.	Parameter	Observed Values					
		1st FN 08.08.2022	2nd FN 22.08.2022	1st FN 12.09.2022	2nd FN 26.09.22	1st FN 03.10.22	2nd FN 31.10.22
1	Total Suspended Solids	41	58	39	36	52	45
2	pH	8.17	8.08	8.12	8.13	8.08	7.69
3	Oil & Grease	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
4	COD	36	32	32	36	28	24

Water pollution control measures:

- Garland drains will be made around the periphery of the quarry and OB dump to collect and carry the contaminated water to treatment/settling pond shall be provided.
- Oil & Grease trap to treat effluent from Workshop.

	<p>iii. Entire domestic effluent will be treated in septic tanks and soaked into soak pits.</p> <p>iv. Industrial water will be put into a closed circuit.</p> <p>v. Properly designed system to collect and divert the storm water shall be provided.</p> <p>Ground water resources</p> <p>In coal mines, the different aquifers overlying the working coal seam would be contributing groundwater to the mine by gravity drainage which need to be pumped out for safe operation of the mines.</p> <p>Generally steep draw down cone would be formed in poor potential aquifers thereby the influence area is to small distance and reverse is established in respect of aquifers with high hydraulic conductivity. The Impact of mining activities is likely to be pronounced in the dip side which are estimated by utilising aquifer and mine parameters at final mine depth. It may be appropriate to mention here that the presence of prominent boundaries/water bodies, faults and also interfingering of sandstone and shale beds may restrict the propagation of draw down cone.</p> <p>Further, the ground water level decline is more in the close vicinity of the pit. The effect will be pronounced in the down – dip side and milder in the up – dip side. But this effect will be temporary in nature and once the project is over, after 2-3 rains, the regime will regain its almost original status.</p> <p>Water conservation measures</p> <p>i. Provision of Rain water Harvesting system has been made for conservation of water.</p>
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- ii. Settling pond for surface run-off with drainage system shall be provided.
- iii. Closed water circuit will be provided.

Impact on Noise level

Fortnightly Noise Level Monitoring in of Cluster –VIII consisting of covering the Kuya Colliery (OC) is being carried out at following stations as part of Routine Environmental Monitoring by CMPDI RI-II, Dhanbad:

Core Zone: Dobari OCP Industrial Area

Noise level data at the aforementioned stations is as given below.

Sl. No.	Parameter	Hour / Time of day	Observed Values (in Leq dB(A))					
			1st FN	2nd FN	1st FN	2nd FN	1st FN	2nd FN
1	Noise Level dB(A) Leq - Day	06:00 - 07:00	50.8	48.3	48.7	49.9	50.8	48.3
2		07:00 - 08:00	53.4	51.6	52.0	52.1	53.4	51.6
3		08:00 - 09:00	55.6	54.1	55.1	54.6	55.6	54.1
4		09:00 - 10:00	62.2	59.4	61.7	62.5	62.2	59.4
5		10:00 - 11:00	63.7	61.5	63.0	62.8	63.7	61.5
6		11:00 - 12:00	62.2	60.1	60.8	61.2	62.2	60.1
7		12:00 - 13:00	66.7	63.0	63.5	63.0	66.7	63.0

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8	13:00 - 14:00	62.5	64.3	63.9	64.3	62.5	64.3
9	14:00 - 15:00	60.7	65.2	63.0	65.2	60.7	65.2
10	15:00 - 16:00	59.7	57.7	58.1	57.7	59.7	57.7
11	16:00 - 17:00	59.1	57.2	49.3	48.7	49.3	48.7
12	17:00 - 18:00	58.7	56.7	49.3	50.1	49.3	50.1
13	18:00 - 19:00	57.8	55.9	47.7	46.5	47.7	46.5
14	19:00 - 20:00	56.5	54.8	45.5	44.9	45.5	44.9
15	20:00 - 21:00	55.3	54.1	45.6	44.1	45.6	44.1
16	21:00 - 22:00	52.4	51.6	45.7	42.9	45.7	42.9
	Leg DAY	60.5	59.6	59.1	59.6	59.8	59.0
1	22:00 - 23:00	45.5	44.2	45.0	44.2	44.5	44.8
2	23:00 - 00:00	43.8	43.9	47.1	46.8	43.9	46.8
3	00:00 - 01:00	44.2	43.2	46.5	45.2	43.2	42.5
4	01:00 - 02:00	43.5	42.9	46.9	46.8	42.9	42.2
5	02:00 - 03:00	42.1	42.3	44.0	44.2	42.3	41.5
6	03:00 - 04:00	42.5	41.2	50.5	50.2	49.8	50.2
7	04:00 - 05:00	40.7	41.6	44.1	43.9	41.5	45.6
8	05:00 - 06:00	40.0	40.1	40.0	40.1	42.0	44.1
	Leg NIGHT	43.1	42.6	46.4	46.0	44.7	45.6

Noise pollution control measures

- Adequate and regular maintenance of plants and machineries will be carried out.
- The noise absorbing pads at foundations will be provided.

- iii. Green belt has been proposed to prevent the propagation of sound and also to dampening its intensity.
- iv. Proper blasting techniques by designing a suitable blasting pattern after actual field observation would be followed to minimize adverse effects of ground vibration and noise if required.
- v. Personal protective gears are given to workmen exposed to dusty and noise work environment.

Hazardous Waste:

Details of Hazardous waste generated and their method of disposal:

Sl.N o.	Waste description	Method of disposal
1.	Used oil	Will be stored in drums safely in store for disposal through auction to the authorized re-processors
2.	Oil and grease	To be stored safely for auction to the authorized re-processors.
3.	Used batteries	To be stored safely for auction to the authorized re-processors.
4.	Oily sludge	To be disposed in impervious layer lined pits.
5.	Filters & filter materials containing oil during maintenance of vehicles	To be disposed in impervious layer lined pits.

- Door to door Municipal Solid Waste will be collected and subsequently this waste will be disposed by Municipal Corporation as per existing Rules.
- Sewage will be treated in Septic Tank cum Soak Pit prior to disposal.

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		<p>Socio-Economic Issues:</p> <p>The project is likely to give a boost to the economy of the area by providing primary and secondary employment to local people . The infra-structural facilities including healthcare facilities provided by the project will benefit local villagers. The progressive mine closure activity is likely to significantly reduce the impact of mining activity on the land apart from increasing the green cover and surface water availability. The yearly CSR expenditure as per existing CIL Policy ie 2% of average net profit of the company for the immediate three preceeding years or 2.00 per tonne of coal production of previous year whichever is higher, which is proposed to be spent in vicinity of Kuya Colliery (OC) will help in bringing about better socio-economic benefits to the local population.</p> <p>Top Soil Management</p> <p>a) Topsoil storage and preservation:</p> <p>i) Following three zones are developed in the topsoil mound during storage:</p> <ul style="list-style-type: none"> • Aerobic zones: Soil is active in this zone • Transition zone: Fluctuates between predominantly aerobic and anaerobic status. • This zone is inactive and low in biological activity as well as organic content. <p>➤ Stripping of Top Soil: Standard method of stripping will be used. The operation must be planned to minimise the movement of machines and vehicles to avoid compaction and damage of soil structure. Further careful control of operation is necessary to ensure planned stripping depths of the topsoil and sub-soil. These soils should be stripped and</p>
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	<p>stored separately. Intermingling of these soils during stripping is not a good practice.</p> <p>➤ It is essential that topsoil stripping should be carried out when it is dry as far as possible to reduce the risk of compaction and damage to the soil structure by smearing and remoulding. Prolonged rainfall is unsuitable. The best part of the year is when evapo-transportation exceeds precipitation i.e during the months of March-September.</p> <p>➤ Geometry of Topsoil Heap: The heap should be constructed to facilitate the following:</p> <ul style="list-style-type: none"> • To provide the maximum surface area for maintaining greater level of Biological activity. • To have slopes capable of sustaining vegetation to avoid erosion and gully formation. <p>Space constraints imposed by the site factors and soil texture would generally dictate the overall size and shape of the heap.</p> <p>As a rule of the thumb, the following stack geometry may be maintained as far as possible to preserve the topsoil and increase the shelf life.</p> <ul style="list-style-type: none"> • Height: <ul style="list-style-type: none"> i) 4.0m (Max) for sand soil ii) 2.0 to 3.0 for loamy soil • Slope: <ul style="list-style-type: none"> i) Wide slope of 1 in 3 (i.e 18.5° to the horizontal) <p>It is advisable to avoid the topsoil storage, specifically the longterm one.</p> <p>However if storage is unavoidable upon completion of the surface of the heap, the</p>
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		<p>following steps are to be followed to keep the soil in good health and to increase its shelf life :</p> <ul style="list-style-type: none"> • Surface ripping with suitable sub-soiling machine for the purpose of aeration and relieving surface compaction. • Immediate cultivation of suitable low maintenance species like dwarf grasses to prevent erosion and gully formation. • Maintenance of surface vegetation actively by seeding, mowing, and weed control operation. <p>b) Topsoil redistribution: -</p> <p>After the final grading, the topsoil would be redistributed in a manner that achieves an approximate uniform stable thickness consistent with the post mining land uses, contours, and surface water drainage system.</p> <p>Biological reclamation</p> <p>For successful biological reclamation of the reclaimed area, preference will be given to endemic species and mixed culture. The species will be selected carefully from the following groups for quick reclamation :</p> <ul style="list-style-type: none"> • Nitrogen fixing tree species for fuel wood, timber and fodder • Fruit bearing tree species • Tree species with dense foliage for shade • Flowering and ornamental tree species
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Modified Mining Plan and Mine Closure Plan for Kuya Colliery



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Chapter 8: Progressive and Final Mine Closure Plan

- Mine Closure Plans will have two components viz. i) Progressive or Concurrent Mine Closure Plan, and ii) Final Mine Closure Plan. Progressive mine Closure Plan would include various land use activities to be done continuously and sequentially during the entire period of the mining operations, whereas the Final mine Closure activities would start towards the end of mine life, and may continue even after the reserves are exhausted and/or mining is discontinued till the mining area is restored to an acceptable level. The Mine Closure details of the Mining Plan should be oriented towards the restoration of land back to its original condition as far as practicable.
- Mining is to be carried out in a phased manner along with reclamation and afforestation work in the mined out area.
- Progressive mine closure plans shall be prepared for a period of every five years from the beginning of the mining operations. These plans would be examined periodically in every five years period and to be subjected to the third party monitoring by the agencies approved by the Central Government, like Central Mine Planning and Design Institute Ltd. (CMPDIL), National Environmental Engineering Research Institute (NEERI), Indian Institute of technology (IIT-ISM) or any other institutes/organizations/agencies specified from time to time for the purpose.
- Various project specific activities viz. mined-out land details & their technical and biological restoration plan, water quality management, infrastructure to be retained and demolished, disposal of mining machinery, etc. has been furnished in the relevant paras. As the backfilling of the mine void is not being carried out as part of regular mining operation, it shall not be included in the list of progressive mine closure activities. However, in case, if the backfilling of mine void is being carried out specifically for closure of the mine in future due any reason, the same shall be included in the list of activities to be taken up for mine closure.


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	Parameters				Details						
8.1	Land Degradation and restoration Schedule										
8.1.1	Land Degradation and Technical Reclamation (Cumulative Areas in "Ha")										
	Stage/Year		Land Degraded			Technically Reclaimed Area					
			Excav	Dump (Extn+Top Soil)	Infra/others*	Total	Backfill	Dump (Extn+Top Soil)	Batter/Infra/others	Total	
	Up to Base year*		146.31			146.31	71.6			71.6	
	Y-1	22-23	17.84			17.84				0	
	Y-2	23-24	17.2	12.92		30.12				0	
	Y-3	24-25	9.55	16.02		25.57				0	
	Y-4	25-26	4.98	8.36		13.34	41.42			41.42	
	Post Closure					0				0	
	Y=5	26-27				0	82.86	37.3		120.16	
	Total		195.88	37.3	0	233.18	195.88	37.3	0	233.18	
	Note: *All calculations are cumulative upto the year.										
8.1.2	Biological Reclamation (Cumulative in "Ha")										
	Stage/Year		Biologically Reclaimed Area				Forest land (Return)	Un Disturbed/ To be left for Public/com Use	Total		
			Agriculture	Plantation	Water Body	Public Company Use				Total	
	Up to Base year*		0	0	0	0	0				
	Y-1		0	0	0	0	0				
	Y-2		0	0	0	0	0				
	Y-3		0	0	0	0	0				
	Y-4		0	0	0	0	0				
	Post Closure										
	Y-5		0	23.36	0	0	23.36				
	Y-6		0	15.72	0	0	39.08				
	Y-7		0	17.78	0	0	56.86				
			56.86								
	8.2	Post Closure Water Quality management:			Routine Environmental Monitoring will be carried out for water quality analysis of following samples for Five years post closure period:						
S. No.					Sample	Frequency					

		<table><tr><td>1</td><td rowspan="2">Mine Water</td><td>Fortnightly</td></tr><tr><td></td><td>Half Yearly</td></tr><tr><td>2.</td><td>Surface Water</td><td>Quarterly</td></tr><tr><td>3.</td><td>Ground Water</td><td>Quarterly</td></tr></table> <p>If any discrepancy from statutory standards is observed, necessary corrective measures will be undertaken by the management.</p>	1	Mine Water	Fortnightly		Half Yearly	2.	Surface Water	Quarterly	3.	Ground Water	Quarterly
1	Mine Water	Fortnightly											
		Half Yearly											
2.	Surface Water	Quarterly											
3.	Ground Water	Quarterly											
8.3	Post Closure Air Quality management:	<p>A total Plantation of area 56.86 Ha is being proposed at the proposed external overburden dump of the Kuya Colliery (OC). This has been phased entirely during the post mining closure phase.</p> <p>Plantation during mining period will be undertaken after 4 years of mine life, only after the completion & stabilization of the Dump will the plantation be undertaken on the Internal Dump. (Yearly Plan shown in 8.1.2)</p> <p>Fortnightly Air Quality Monitoring will be carried out at 03 Air Quality monitoring Stations during five years post closure period.</p>											
Waste Management (Figures in Mm³)													
8.4	Stage/Year		OB Removal (Cumulative)			External Dump (Cumulative)		Internal Backfilling (Cumulative)		Embankment (Cumulative)			
			Top Soil	OB	Total	Top Soil	OB	Top Soil	OB	Top Soil	OB		
	Y-1	22-23	0.016	21.434	21.45	0.016	11.724		9.71				
	Y-2	23-24	0.015	20.665	20.68	0.015	11.295		9.37				
	Y-3	24-25	0.008	11.482	11.49	0.008	6.282		5.2				
	Y-4	25-26	0.004	5.986	5.99	0.004	3.276		2.71				
	Total		0.043	59.567	59.61	0.043	32.577	0	26.99				
Top Soil Management – (Including Action Plan for Top Soil Management)													
(All Figures are in MM ³)													
8.5	Stage/Year		Top Soil Removal Plan	Top Soil Used					Total Utilised				
				Spreading Over Embankment	Spreading Over Backfill area	Spreading over External OB Dump area	Used in Green Belt Area						
	Y-1	22-23	0.016										
	Y-2	23-24	0.015										
	Y-3	24-25	0.008										
	Y-4	25-26	0.004										

Post Closure								
	Y-5	26-27				0.07	0.07	0.14
	Y-6	27-28				0.07	0.07	0.14
	Y-7	28-29				0.07	0.08	0.15
	Total		0.043			0.21	0.22	0.43
8.6	Management of Coal Rejects.		There is no existing or proposed washery in the Colliery.					

8.7 Restoration of Land used for Infrastructure

All the other infrastructure related to both the opencast & underground coal mining operation will be dismantled, after end of the reserve/ mine life. The list of infrastructure to be dismantled at the end of the mine life is given in the following table:

Sl. No.	Particulars
1.	Office
2.	Workshop – if not used for other projects
3.	UG machinery – if present will be shifted to other collieries for use.

8.8 Disposal of Mining Machinery

After end of life of proposed KUYA Colliery (OC), all mining machinery will be shifted to other mines of BCCL.

8.9 Safety & Security

Fencing around Opencast Workings:

- The top edge of the opencast working shall be kept fenced with wire rope strands or barbed wire, supported by posts of timber, iron or concrete (movable). The gap between the adjacent rope strand or wires shall not be more than 0.30 m and bottom most rope, strand or wire shall not be more than 0.25 m and the topmost rope, strand or wire shall not be less than 1.0 m from ground level.

8.10 Abandonment Cost and Financial Assurance

8.10.1 Abandonment Cost: Cost of Activities to be taken up for closure of the mine**

Activity Cost for Mine Closure Plan of KUYA Colliery					
Head	Parameters	Unit	Quantity	Rate Rs/Unit apr 2020)**	Escalated Amount in Crs.
Progressive Closure	Water Quality Management	LS	1	10,00,000.00	0.1078
	Air Quality Management	LS	1	40,00,000.00	0.4310
	Waste Management	MM3			-
	Barbed wire fencing around dump	m	0	2,500.00	-
	Barbed wire fencing around the pit	m	0	2,500.00	-
	Filling of Void- Rehandling of Crown Dump	MM3			-
	Top Soil Management	MM3	0.50	2,50,00,000.00	1.3469
	Technical and biological Reclamation of Mined cut of land and OB Dump	Ha	143.63	15,00,000.00	23.2149
	Plantation over virgin area including green belt	Ha	0	4,00,000.00	-
	Manpower Cost and supervision	Years	4	13,00,000.00	0.5603
	Toe wall around the dump	m	0	10,000.00	-
	Garland Drain	m	1000	2,100.00	0.2263
	Garland Drain around the dump	m	1000	2,100.00	0.2263
	Any other Activity (Subsidence management)	Ha	1	2,00,000.00	0.0216
Post Closure	Dismantling of workshop (half of the area considered)	sq m	2500	550.00	0.1482
	Rehabilitation of the Dismantled facilities	LS	1	10,00,000.00	0.1078
	Dismantling of pumps /other facilities (Assumed Data)	No.	5	1,00,000.00	0.0539
	Dismantling of pipes/other facilities	Km	4	2,50,000.00	0.1078
	Dismantling of Stowing Bunker, provisioning of pumps for bore well pumping arrangement	CUM	0	3,000.00	-
	Dismantling of UG equipment	L.S.	0	4,50,000.00	-
	Rearranging water pipeline to dump top park / Agriculture land (Assumed Data)	Km	2.0	1,50,000.00	0.0323
	Dismantling of power lines (33KV ;H.T. Line) (Assumed Data)	km	1	2,00,000.00	0.0216
	Barbed wire fencing around dump	m	3500	2,500.00	0.9428
	Barbed wire fencing around the pit	m	1300	2,500.00	0.3502
	Barbed wire fencing with masonry pillar	m	0	3,000.00	-
	Concrete wall with Masonry pillars around the pit	m		6,112.74	-

Activity Cost for Mine Closure Plan of KUYA Colliery					
Head	Parameters	Unit	Quantity	Rate Rs/Unit apr 2020)**	Escalated Amount in Crs.
	Securing air shaft and installation of bore well pump	sqm	0	2,400.00	-
	Securing incline	sqm	0	15,000.00	-
	Concrete wall fencing around water body	m	0	8,354.53	-
	Boundary wall around the water body	m	250	6,471.28	0.1743
	Stabilization (viz benching, pitching etc.) of side walls of the water body	sqm	1000	2,550.00	0.2748
	Toe wall around the dump	m	0	9,000.00	-
	Garland Drain	m	0	2,100.00	-
	Garland Drain around the dump	m	3500	2,100.00	0.7922
	Drainage Channel from main OB Dump (Assumed Data)	m	300	2,100.00	0.0679
Technical and Biological Reclamation of Mined Out of land and OB Dump	Filling of Void				-
	Top Soil Management	MM3		2,50,00,000.00	-
	OB Rehandling for backfilling	Ha	0	17,00,000.00	-
	Terracing, Blanketing with soil and vegetation of External OB Dump	sqm		600.00	-
	Peripheral road, gates, view point cemented steps on bank	m	1600	5,000.00	0.8620
	Expenditure on development of Agricultural land	Ha			-
	Landscaping and Plantation	Ha	56.86	4,00,000.00	2.4507
Post Closure management and supervision	Power Cost	LS	1	10,00,000.00	0.1078
	Post Mining Water quality management	samples	38	9,265.00	0.0700
	Post Mining Air quality management		216	28,781.00	0.7004
	Subsidence monitoring for 5 years	LS	1	4,50,000.00	0.0485
	Waste Management		0		-
	Manpower Cost and supervision	Years	3	15,00,000.00	0.4849
Others	Entrepreneurship development (Vocational/ Skill development training for sustainable income of affected people)	To be decided by BCCL Management			1.5000
	Golden Handshake/ Retrenching benefits to 100 employees of OC	To be decided by BCCL Management			
	Golden Handshake/ Retrenching benefits to 200 employees of UG	To be decided by BCCL Management			
	Onetime financial grant to societies/institutions/organizations which is dependent upon the project	To be decided by BCCL Management			
	Provide jobs in other mines of the Company	To be decided by BCCL Management			

Activity Cost for Mine Closure Plan of KUYA Colliery					
Head	Parameters	Unit	Quantity	Rate Rs/Unit apr 2020)**	Escalated Amount in Crs.
	Continuation of other services like running of Schools etc	To be decided by BCCL Management			
Total					35.4329

Note ** The costs & rates shown in the table above are only estimated and the exact cost for these activities can be established at the time of execution only. If the total cost at the time of execution of above mentioned activities exceed the total estimated cost, the shortfall shall be borne by the company.

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Kuya Colliery

8.10.2 Financial Assurance: Amount to be deposited in Escrow account as a security against the mine activities to be carried out of the closure of the mine

Mine Closure Cost Calculation for KUYA Colliery			
WPI as on	Apr-19	121.1	
WPI as on base date	Nov-22	152.1	
Escalation rate of Closure cost-		1.255987	
	UG	OC	
Base Rate of Closure Cost "Rs. Crs/Ha"	0.015	0.09000	
Closure Cost "Rs. Crs/Ha"	0.01884	0.11304	
Project Area	0	300.50000	
Amount to be deposited into Escrow Account "Rs. in Crs.	0.00000	33.9682	
Amount already deposited into Escrow Account "Rs. in Crs.	0	15.07650	
Net Amount to be deposited into Escrow Account "Rs. in Crs.	0.00000	18.8917	
Rate of compounding of Annual Closure Cost		5.00%	
Balance Life of the project "in yrs"	0	4	
Annual Closure Cost	0.0000000	4.7229	
Amount to be deposited into Escrow Account after compounding @ of 5% "Rs. in Crs"		20.35636	
Life of the mine considered is 4 years Project area taken is 300.50 Ha.			

Amount to be deposited into escrow account annually				
Year	UG	Year	OC	Total
1	0.00	1	4.7229	4.7229
2	0.00	2	4.9591	4.9591
3	0.00	3	5.2070	5.2070
4	0.00	4	5.4674	5.4674
Total	0.00	Total	20.3564	20.3564

The amount calculated above shall be deposited every year by BCCL in the Escrow Account in the name of Kuya Colliery (OC). Thus, total amount that shall be further

deposited for final mine closure activities of Kuya Colliery (OC) during the life of 4 years stands out to be **Rs. 20.3564 Crs.** as per the present status of the mine.

The amount already deposited in the escrow account will also be available for mine closure activities and should be included to arrive at the total funds available for mine closure activities **Rs. 35.4329 Crs.**

Particulars	Amount (Rs. in Crs)
Amount Already Deposited in Escrow Account	15.0765
Amount to be Deposited in the Escrow Account in the Future	20.3564
Total Amount available for Mine Closure Activities	35.4329

The money deposited in the Escrow Account has to deal with the following:

- Cost of closure activities.
- Cost towards organization for executing the closure activities.
- Cost of the post project monitoring.
- Creation of a corpus fund for final mine closure

Sl. No.	Name of Mine	Account No.
1	KUYA GROUP OF MINES	00150100008874

- ***A Mine Closure Plan of the Kuya group of mines above have already been approved by 340th BCCL Board held on 23.03.2018 along with corresponding escrow account numbers have already been opened with Bank of Baroda as mentioned in table above. The same escrow account may be continued for this revised mine plan.***
- ***Subsequently, after the completion of 1st Five year period after approval of the MCP in 2013, an amount of Rs. 88,88,907 was released as a part of 50% component of claimed amount Rs. 1,77,77,813 by Office of Coal Controller Office vide Order No. CC/MCPS/Policy/2013-14/328 (Pt-II) dated 24/06/2020.***
- **Implementation of the approved Mine Closure Plan shall be sole responsibility of the mine owner. Mining is to be carried out in a phase manner i.e. continuation of mining activities from one phase to another indicating the**

sequence of operations depending on the geo-mining conditions of the mine. Up to 50% of the total deposited amount including interest accrued in the escrow account may be released after every five years in line with the periodic examinations of the closure plan. The amount released should be equal to expenditure incurred on the progressive mine closure in past five years or 50% whichever is less. The balance amount shall be released to the mine owner//leaseholder at the end of the final mine closure on compliance of all provisions of Closure Plan. This compliance report should be duly signed by the lessee and certify that said closure of mine complied all statutory rules, regulations order made by the central or state government, statutory organizations, court etc. and certified by the coal controller.

Final Mine Closure would be considered to be completed only after acceptance of the third party audit report by the coal controller on the compliance of all provisions on Mine Closure Plan. Any institute/ Organization/ Agency as may be notified by the Government for this purpose may be engaged for third party audit.

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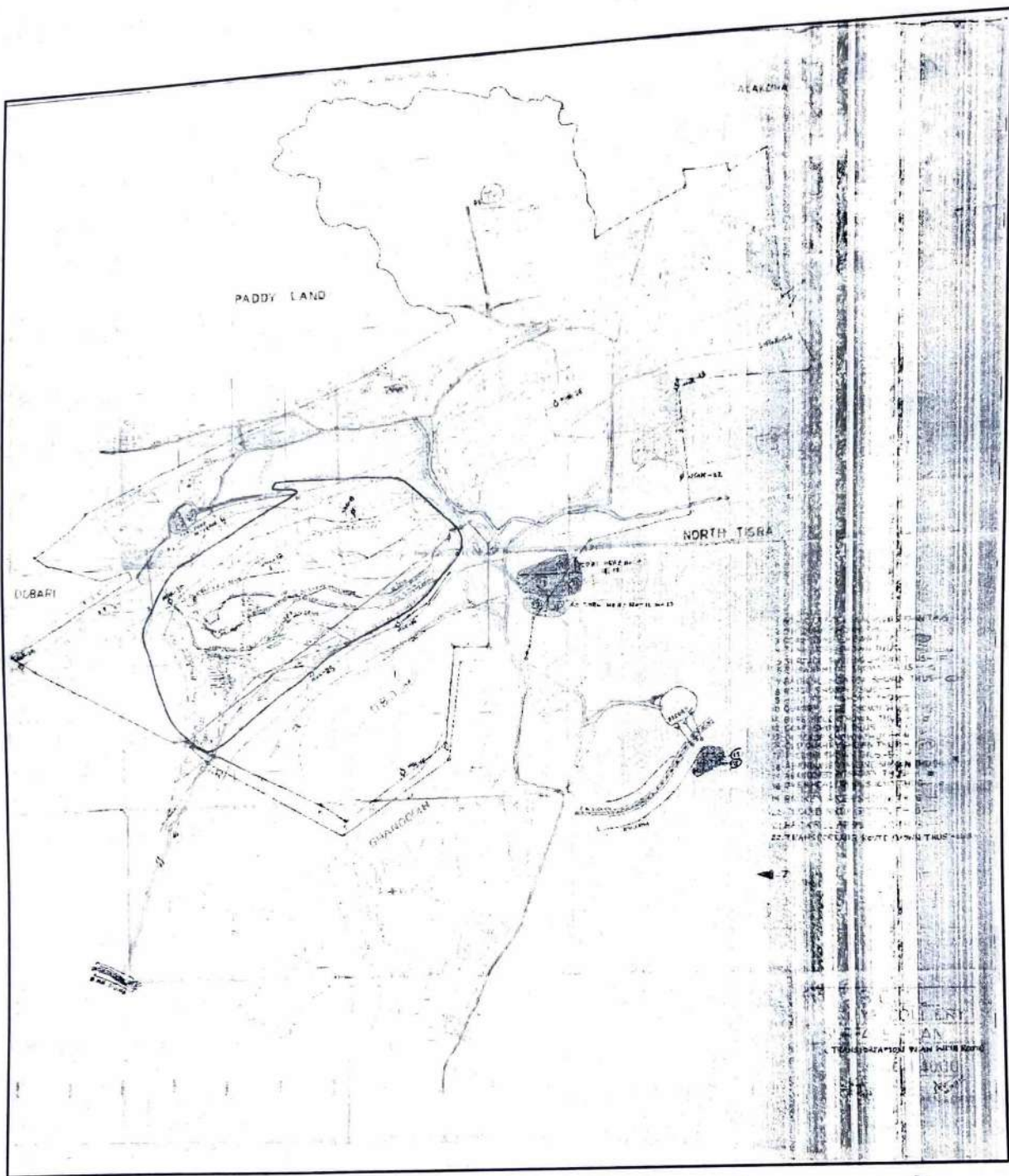
CHAPTER - VII**COAL HANDLING, WASHING & MODE OF DISPATCH**

Coal production of the mine is linked to different power houses (Power plants of DVC and other companies) and washeries (Bhojudih washery & Dugda washery) through CK (West), BNR siding and Burragarh siding and rest quantity is transported through road to MPL, RTPS and E- Auction etc. The present lead for coal transportation from face to surface is 1 to 2 Km. C. K. West Siding is 3 to 4 KM and BNR Siding is about 10 KM from the coal dump. Feeder breaker exists in KOCF and 3 Nos. of feeder breaker in C. K. West Siding. The coal has been crushed in Feeder Breaker. The crushed coal is stored in hopper. The standing tipping trucks below the hopper receive the crushed coal and spread it on the wharf. The contractual pay loader loads the coal into the railway wagons for further transport.

During 2016-17 destination-wise despatch quantity is given below :

C.K. West Siding	:	0.736402 Million Te.
BNR Siding	:	0.580472 Million Te.
E- Auction by road	:	0.138626 Million Te.
Road MPL	:	0.037666 Million Te.
Boragarh Siding	:	0.012538 Million Te.
Road Linkage	:	0.00015 Million Te.
Total dispatch during 2016-17	:	1.505721 Million Te.


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[illegible]

ROAD

RAILWAY

PROPOSED
PROJECT
(CORE ZONE)

BUFFER
 ZONE

A/C NO. D\CLUSTER_VIII/
V\CLUSTER_VIII ROAD AND RAIL

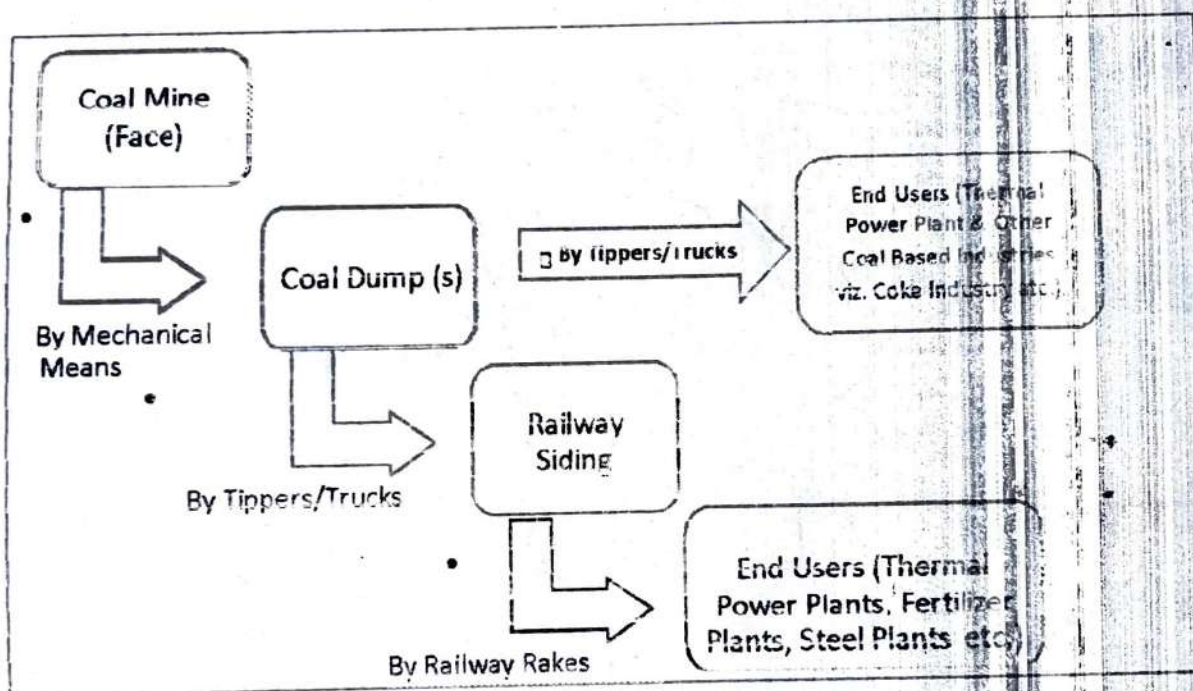
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(A Miniratna Company)
Office of the Project Officer
Kuya Colliery

Plan for Transportation of Coal from Mine Lease

Extracted coal from Mine is transported as per flow chart shown below:



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23/07/17

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