No. J-11015/106/2011-IA-II.(M) Government of India Ministry of Environment, Forests & Climate Change IA-II (Coal Mining) Division

Indira Paryavaran Bhawan, Jorbagh Road, New Delhi-110003

Dated: 21st July, 2015

To,

The General Manager (E&F) M/s Eastern Coalfields Ltd., Asansol, Dist. Burdwan, West Bengal.

E-mail: envecl@yahoo.com

Sub.: Cluster No.4 (3 Mines of a combined prod. capacity of 6.35 MTPA (Normative) and 7.71 MTPA (Peak) in a combined ML area of 3350.02 (3353 Ha - 2.98 ha); latitude 230 46' 30'' N & 230 49' 30'' N and longitude 860 52' 25" E & 870 03' 46" E) of M/s Eastern Coalfields Limited, located in Raniganj Coalfields, dist. Burdwan, West Bengal - Environmental Clearance - reg.

Sir,

This is with reference to letter no. 43011/13/2011-CPAM dated 27.04.2011 with the application for Terms of Reference (TOR) and this Ministry's letter dated 27.06.2011 and revised TOR granted on 19.03.2013. Reference is also invited to the letter no ECL/ENV/Crores/14/484 dated 13.10.2014 and subsequent letters no. dated 07.11.2014; 13.11.2014; 24.11.2014; 15.12.2014; 18.12.2014; 29.12.2014; 09.01.2015; 09.03.2015; 11.03.2015; 13.03.2015; 19.05.2015 and 19.06.2015 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment, Forests & Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance for Cluster No.4 (3 Mines of a combined prod. capacity of 6.35 MTPA (Normative) and 7.71 MTPA (Peak) in a combined ML area of 3350.02 (3353 Ha - 2.98 ha); latitude 230 46' 30'' N & 230 49' 30'' N and longitude 860 52' 25" E & 870 03' 46" E) of M/s Eastern Coalfields Limited, located in Raniganj Coalfields, dist. Burdwan, West Bengal. The proposal was considered in the 25^{th} EAC meeting held on $13^{th} - 14^{th}$ November, 2014 and 29th EAC meeting held on $15^{th} - 16^{th}$ January, 2015. The proponent has informed that:

i. The project was accorded TOR vide letter no. J-11015/106/2011-IA.II(M) dated 27.06.2011 & Revised TOR received vide letter no. J-11015/106/2011-IA.II(M) dated 19.03.2013.

- ii. The latitude and longitude of the project are 23⁰46'30'' N & 23⁰49'30'' N and 86°52'25" E & 87°03'46" E respectively.
- iii. Joint Venture: No Joint Venture.
- iv. Coal Linkage: Wardha Power Company Limited ((WPCL),Maharashtra; Kahalgaon Super Thermal Power Station (KhSTPP), Kahalgaon ,Bhagalpur ,Bihar; Aravali Power Company Private Limited, Haryana; National Capital Power Station (NCPS) Or NTPC Dadri, GautamBudh Nagar, Uttar Pradesh; Kanti Thermal Power Station in Kanti, Muzaffarpur, Bihar.
- v. Cluster mine details: 1 Underground Mine; 1 Mixed (UG & OC) mine; 1 Proposed OCP.

vi.	The land usage of the project will be as follows:	

S.No	Type Land Use	Present Mining	Land Use during Mining	Post- mining Land		
		Land Use(ha)	(112)	Use (ha)		
	Running quarry		485.00			
			18.00 ha (included in sl. No -	365.00 + 18.00 ha area		
1	Backfilled		10) area to be backfilled &	to be backfilled &		
			brought under Plantation ¹	brought under Plantation		
	Not Backfilled	36.00				
			440.0 ha (7.00 ha included in			
2	External OB	27.00	sl. No - 10) existing external	440.00 + 7.00 ha To be		
2	dump	27.00	OB dump brought under	brought under Plantation		
			plantation) ²			
-	Service building/		2	600.0 (undisturbed) +		
3	mine infrastructure	657.75	658.75 ³	58.75 ha under		
	mine milasu ucture			plantation		
1	Rail & Road 45.00		Rail & Road 45.00 35.0 (10.00 Ha for Ita		35.0 (10.00 Ha for Itapara	35.0 (10.00 Ha under
	Ran & Road	15.00	OCP)	plantation)		
	Habitation (total)	371.09	346.094	346.09		
5			11.91 Ha (included in sl. No	×		
5	Unstable	11.91	- 10)Rehabilitated outside	11.91 Ha under		
	habitations	11.71	cluster & area to be brought	Plantation		
			under Plantation			
6	Other built-up	27.00	27.00	27.00		
	areas	1 401 00	700.00	720.00		
7	Agriculture land	1401.00	/20.00	/20.00		
9	Forest land	3.00	Converted to Quarry	Water body		
10	Plantation / Natural	53.00	89.91	1102.66		
	Vegetation	159.00	149.00	202.005		
11	River/nallah/pond	92.00	82.00	202.003		
12	Barren land	469.25	320.25	320.25		
Total		3353.00	3353.00	3353.00		

vii. The total estimated water requirement is $4223 \text{ m}^3/\text{day}$.

- vii. The Method of mining would be Bord & Pillar method for UG mines and Shovel-Dumper combination for OC mines.
- viii. There are three external OB dump with Quantity of 378 MCM in an area of 440.00 ha with height of 120.00 M above GL and three internal dump with Quantity of 138.4 Mm^3 (Itapara OCP) + 44.07 Mm^3 (OC Patches) in an area of 408 Ha (Itapara OCP) + 77.00 Ha (OC ha.
 - ix. The final mine void would be in 120.00 Ha with depth of 30m. and the Total quarry area is 485.00 Ha. Backfilled quarry area of 365.00Ha shall be reclaimed with plantation. A void 120.00 Ha with depth of 30 m which is proposed to be converted into a water body.
 - x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.

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xi. The life of mine: will be as follows:

SI No.	Name of Mine	Lease Area (Ha)	Normative Production (MTY)	Peak Production (MTY)	Mine Life (Years)
1	Khoirabad UG	No UG potentia of remaining transfer of 317 1 Coal at the in-cr extracted by ope	al left as major portion leasehold area after Ha is non coal-bearing. rop is left which can be encast only.	-	
	Khoirabad OC (new proposal for extracting available reserves in about 10 Ha)		0.10	0.13	4 years
2	Gaurandih UG	1865.0	0.05	0.08	> 50 years
	Gaurandih Block – D Phase – I OC Patch (Quarry area – 17 Ha)	e	0.40	0.50	5 years
	Gaurandih Begunia Phase – I (Quarry area – 50 Ha)		1.8	2.0	7 years
3	Itapara OCP (New OC proposed, Quarry area – 408 Ha)	1108.0	4.0	5.0	26 years
	Total	3353.00	6.35	7.71	

xii. Transportation: Coal transportation for underground Mine: In Pit -coal tubs at the faces by series of rope haulages to surface; Surface to siding: coal from the UG is transported by road to Bonjemehari railway Siding present at a distance of 30 Km. The present transport system will continue till the construction of proposed Itapara Railway Siding. Siding at loading: Coal is loaded by pay loaders into railway wagons. Coal transportation for Open Cast Mine: In pit: coal is loaded by shovels at face and transported to the surface coal depot by colliery dumpers; Surface to siding: by road to Bonjemehari railway siding till the construction of Itapara Railway Siding (distance 20 – 30 kms) and siding at loading: Coal is loaded by pay loaders into railway wagons.

xiii. There is no R & R involved. New OC proposal involves shifting of 11 villages /bustees with total population of 6679 (1255 households) R & R Plan prepared for Rs. 224 Cr.

xiv. Cost: Total capital cost of the project Rs. 599.88 Crores. CSR Cost Provisions for CSR under Community Development have been made @ Rs. 5.00 per tonne of coal produced. This works out to about Rs. 2.54 Cr per annum at 5.08 MTY of coal production (present production from the cluster is only 0.0125 MTY). The amount to be spent annually will be significant as the life of most of the mines is more than 25 years. R&RCost Nil. Environmental Management Cost (capital cost Rs. 20.84 crores, annual recurring cost Rs.12.06 crores).

xv. Water body: Nuniajore, a seasonal nallah controls the main drainage system of the cluster-4. After flowing through cluster Nuniajore flows to the south and finally drains into the Damodar River. However, the eastern part of the cluster falls in the watershed of Adjoy River which flows 3 kms from the cluster boundary.

xvi. Approvals: All the existing mines within the cluster are taken over mines after nationalization. The mines of ECL has been grouped into 13 Clusters which has been approved by Competent authority of ECL on 10.09.2009 and subsequently accorded approval of Board of Directors of ECL in its Board Meeting held on 28.03.2011 for preparation of EIA/EMP of the cluster. Mine Closure Plan approval in December, 2013.

- xvii. Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the10 km buffer zone.
- xviii. **Forestry issues:** Total forest area involved 2.98 ha falling in proposed quarry area of Itapara OCP. Applied for forest clearance.
 - xix. Total **afforestation** plan shall be implemented covering an area of 900.66 ha at the end of mining. Density of tree plantation 1600 trees/ ha of plants.
- xx. There are no **court cases/violation** pending with the project proponent.
- xxi. Public Hearing was held on 21/08/2014, Jamgram Community Hall of Baraboni Panchayat Samity, Dist- Burdwan, West Bengal. The issues raised in the PH includes Provision of Water Supply to Villages; Dust suppression; Improvement of road condition; Land reclamation and afforestation; Intensive Plantation programme – plantation of fruit bearing trees; Proper utilization of CSR fund for development; Holding medical camps; Employment to local youth; Compensation to land losers; Adoption of modern technology for preventing fire and subsidence hazards etc.
- 3. The proponent further informed that:
 - i. All the existing mines within the cluster are taken over mines after nationalization. The mines of ECL has been grouped into 13 Clusters which has been approved by Competent authority of ECL on 10.09.2009 and subsequently accorded approval of Board of Directors of ECL in its Board Meeting held on 28.03.2011 for preparation of EIA/EMP of the cluster. Mine Closure Plan approval in December, 2013.
 - ii. Form-I Application for Cluster No. 4 containing 3 mines (Khoirabad UG, Gaurandih UG & OC and Mohanpur OC) was submitted in March, 2011 and presented to MoEF in May, 2011 and TOR was issued vide letter no. J-11015/106/2011 IA.II (M) dated 27-06-2011. The details of cluster are given below:

SI No.	Name of Mine	Lease Area (Ha)	Normative Production (MTY)	Peak Production (MTY)	Mine Life (Years)
1	Khoirabad UG	697	0.18	0.24	> 50
2	Gaurandih UG	2478	0.05	0.08	> 50
3	Mohanpur OC Mine*	164.91	1.00	1.00	9
	Total	3339.91	1.23	1.32	

Table 1:

Subsequently, a revised TOR application was submitted for a capacity of 6.83 MTY by additionally incorporating 3 nos. of OC patches, increasing the capacity of Mohanpur OCP by 0.5 MTY and one additional mine, Itapara OCP, of capacity 3.45 MTY. The mine lease area was revised from 3339.91 Ha to 3563 Ha. There was adjustment in area owing to transfer of 317 Ha to non-CIL block and formation of new proposals i.e. three OC patches and new mine Itapara OCP. During presentation on 22.02.2012 the capacity of Itapara OCP was modified to 5.0MTY, thereby, the total capacity became 9.21 MTY. The details are given below:

Table 2:

Sl No.	Name of Mine	Lease Area (Ha)	Normative Production (MTY)	Peak Production (MTY)	Mine Life (Years)
1	Khoirabad UG	380.00	No UG	potential left	
	Khoirabad OC		0.10	0.13	4 years
2	Gaurandih UG	1865.00	0.05	0.08	>50 years
1000	Gaurandih Block – D Phase – I OC Patch		0.40	0.50	5 years
	Gaurandih Begunia Phase – I		1.80	2.00	7 years
3	Mohanpur OC Mine	210.00	1.20	1.50	15 years
4	Itapara OCP	1108.00	4.00	5.00	26 years
	Total	3563.00	7.55	9.21	

During the EAC meeting on 22-02-2012, the Committee desired for a clarification on increasing the capacity of Mohanpur OCP to 1.5 MTY (increase of 50 %). ECL opted for deleting the OCP from Cluster for getting exemption from Public Hearing under clause 7(ii) of EIA notification, 2006 and the circular dtd. 15-04-2010. Subsequently, a revised application along with request letter for deleting Mohanpur OCP from the cluster was submitted vide letter no. ECL/GM(Env)/2012-13/225 dtd. 18-06-2012 of which the the details are given below:

Table 3:

Sl No.	Name of Mine	Lease Area (Ha)	Normative Production (MTY)	Peak Production (MTY)	Mine Life (Years)
1	Khoirabad UG	380.00	No UG	potential.	
	Khoirabad OC		0.10	0.13	4 years
2	Gaurandih UG	1865.00	0.05	0.08	> 50 years
	Gaurandih Block – D Phase – I OC Patch		0.40	0.50	5 years
	Gaurandih Begunia Phase – I		1.80	2.00	7 years
3	Itapara OCP	1108.00	4.00	5.00	26 years
	Total	3353.0	6.35	7.71	

Subsequently the form I and feasibility report was submitted on 23-07-2012. Based on application, MoEF vide letter no. 19 March 2013, confirmed deletion of Mohanpur OCP. The EIA/EMP and PH proceedings are based on capacity of 7.71 MTY.

- iii. There are no subsided areas present within cluster 4. This cluster has only one underground mine (Gourandih UG) which is in development phase. The thickness of coal seam to be extracted is 6.1 m 6.9 m and the depth of the seam varies from 65 m 115 m. Maximum possible anticipated subsidence will be around 500 mm as brought out by modeling for the purpose of EIA.
- iv. Following subsidence management practices will be rigorously adopted:
 - a) The mining method is adopted in consultation with DGMS and their approval
 - b) Depillaring to be done with sand stowing/caving with due approval of DGMS



- c) No underground mining will be carried out below within 45 m of the Major Roads, Railway line passes through the cluster
- d) Coal pillars will be left intact vertically below and within the angle of draw of villages and other surface features
- e) Surface vigil to be maintained to notice any ground movement
- f) The subsided land will be levelled and any surface crack dozed and filled with appropriate soil material
- g) The subsided areas will be reclaimed by planting deep rooted trees.
- h) Depillaring with caving will only be done in areas which are free from any surface features and this practice will be strictly followed.
- v. Itapara OCP has 3 ha of forest land out of total area of 1108 Ha. This 3 ha area of forest land will be part of quarry area. Project proponent is in process of applying for stage I clearance for the said forest land. It is requested that, meanwhile, EC may be granted so that the pre mining activities like Land Acquisition (Tenancy & Government Land), for construction of Railway Siding, CHP, workshop and other infrastructure can be started. However, it is undertaken that no mining will be carried out in the proposed OCP till Stage 1 clearance for the said forest land is obtained.
- vi. The OB details area as follows:

SI No	Name of OC Mine	Total Quarr y Area (Ha)	Temporary External Dump Area during operation(to be re- handled completely)* (Ha)	Maxim um Height during mining	Perman ent Externa I Dump Area (Ha)	Height after re- handling at mine closure	Volume of OB to be generated (Million M ³)	Life of mine in years	Backfil ling start year	Area of Internal Dump (Ha)
1	Khoirabad OC Patch	10	2.0	30 m	-	0	1.00	4	2 nd	10
2	Gaurandih Block – D Phase – I OC Patch	17	4.0	30 m	-	0	3.45	5	2 nd	17
3	GaurandihB egunia Phase – I OC Patch	50	15.0	60 m	_	0	39.6	7	3 rd	50
4	Itapara OCP	408	318.0	120 m	122.0	60 m	516.40	26	6 th	408
	Total	485.00	339.0		122.0		560.45			485

4. The proposal was re-considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 29th EAC meeting held on 15th -16th January, 2015 for granting Environmental Clearance. The Ministry of Environment, Forests & Climate Change hereby accords environmental clearance for the above-mentioned Cluster No.4 (3 Mines of a combined prod. capacity of 6.35 MTPA (Normative) and 7.71 MTPA (Peak) in a combined ML area of 3350.02 (3353 Ha - 2.98 ha); latitude 230 46' 30'' N & 230 49' 30'' N and longitude 860 52' 25'' E & 870 03' 46'' E) of M/s Eastern Coalfields Limited, located in Raniganj Coalfields, dist. Burdwan, West

Bengal under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars issued thereon and subject to the compliance of the following specific conditions, in addition to the general conditions mentioned below:

A. Specific Conditions:

i. Grant of EC is only for the non-forest area. No mining activities will be allowed in forest area for which the FC is not available. No mining activities will be allowed in forest area for which the FC is not available as per the following table:

#	Name of Mine	Forest Clearance Not available (Ha.)
1	Itapara OCP	2.98 Ha

- ii. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.
- iii. The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006, whichever is earlier.
- iv. Deep rooted plants should be planted along the bunds of the agriculture fields.
- v. The mining method shall be adopted in consultation with DGMS along with their approval
- vi. Depillaring to be done with sand stowing/caving with due approval of DGMS
- vii. No underground mining will be carried out below 45 m of the major roads, railway line that passes through the mines.
- viii. Coal pillars shall be left intact vertically below the surface features.
- ix. Surface vigil to be constantly maintained to notice any ground movement
- x. The subsided land will be levelled and any surface crack shall be dozed and filled with appropriate soil material.
- xi. The subsided areas will be reclaimed by planting deep rooted trees.
- xii. Depillaring with caving will only be done in areas which are free from any surface features and this practice shall be strictly followed.
- xiii. Arrangement for silo/mechanised loading at Itpara, be made. Action on Rly siding construction and CHP, Wagon loading arrangement be taken simultaneously and on priority.
- xiv. All safety measures shall be taken as per CMR, 1957 & related Circulars.
- xv. The production shall be within the same Mining Lease area.
- xvi. The OB shall be completely re-handled at the end of the mining and will be back filled upto the ground level and covered with about a meter thick top soil and put to use. The land after mining shall be brought back for agriculture purpose.
- xvii. Garland drains be provided.
- xviii. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine
- xix. Coal transportation in pit: Underground mine-coal tubs at the faces are being hauled by Tugger Haulage; Opencast mine- coal at surface is transported to the nearby coal depot by colliery dumpers through tippler, Surface to Siding by dumper.
- xx. Independent network of railway sidings inside cluster be developed. Railway sidings should be constructed at the earliest and till then proponent may use mechanically covered trucks for transportation of coal.
- xxi. Three tier green belts shall be raised around the railway sidings and along the road sides to prevent dust and noise pollution.
- xxii. Stowing and depillaring shall be as per the recommendations of the DGMS.

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- xxiii. The proponent must comply with the Raniganj Action Plan. The unstable areas within the cluster will be brought under plantation after the population residing over these areas is rehabilitated under the Master plan for Raniganj Coalfield to be implemented by ADDA.
- xxiv. Trees with deep rooted system should be planted so as to prevent soil erosion.
- xxv. Proponent should plant additional 10 Ha/ year over the next 10 years at various locations in this Cluster.
- xxvi. River/nallahs shall be desilted and restored back to functional state
- xxvii. Wild life conservation plan be prepared and submitted to the MOEFCC with the approval of the State Govt.
- xxviii. Proponent shall use high resolution image of all clusters for evaluating land use, plantation etc
 xxix. Separate drainage pattern be provided.
- xxx. Sand stowing must be used as recommended by CMPDI.
- xxxi. Action plan for prevention and mitigation of subsidence be prepared and implemented.
- xxxii. The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.
- xxxiii. The OB shall be completely re-handled at the end of the mining.
- xxxiv. There shall be no residual OB dump after the mining.
- xxxv. After completion of mining activities, the subsided areas shall be graded and planted upon.
- xxxvi. Coal Extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring & coal extraction should be carried out below habitation, H.T. Lines & beneath road, water bodies.
- xxxvii. The land excavated after mining must be brought back to original condition for agricultural/plantation purpose.
- xxxviii. Water discharged from the mine should be as good as surface drinking water.
- xxxix. Final mine void 120.00 Ha and depth will not be more than 30 m. The void area will be converted into water body. The mine void should be used for pisciculture purpose
 - xl. 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.
 - xli. If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.
 - xlii. Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.
 - xliii. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
 - xliv. The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analysed and monitored for compliance of conditions, bearing with movement of wildlife and until such time they are closed/phased out.
 - xlv. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
 - xlvi. Dust mask to be provided to everyone working in the mining area.
- xlvii. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xlviii. People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.

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- xlix. The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.
 - 1. Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.
 - li. The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.
 - lii. There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.
- liii. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.
- liv. Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.
- lv. Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.
- lvi. Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
- lvii. Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.
- lviii. Drills shall be wet operated.
- lix. The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads,
- Ix. Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
- Ixi. A Progressive afforestation plan shall be implemented covering an area of 1127.66 ha at the end of mining, which includes Top-soil Dump area (3 Ha); External Waste Dump area (437 ha); Excavation area (365 Ha); , Mine Infrastructure/ Built-up area (58.75 ha); Afforestation / Natural vegetation land (25 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.
- lxii. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
- Ixiii. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
- lxiv. No groundwater shall be used for mining operations.

- Ixv. An estimated total 560.47 Mm³ of OB will be generated during the entire life of the mine. Out of which 378 Mm³ of OB will be dumped in three external dump covering area 440 Ha of land and 182.47 Mm3 in internal OB Dumps covering an area of 485 Ha of land. The OB dump height is upto 90 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self- sustaining and compliance status shall be submitted to MOEF&CC and its Regional Office on yearly basis.
- lxvi. Of the total quarry area 485.00 ha. the backfilled quarry area of (365.00 Ha) shall be reclaimed with plantation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- Ixvii. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.
- Ixviii. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- lxix. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- 1xx. Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.
- Ixxi. For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF&CC and its concerned Regional office
- Ixxii. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environmental Clearance.
- Ixxiii. The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.
- lxxiv. Corporate Environment Responsibility:
 - a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
 - d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.



B. General Conditions

- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests & Climate Change.
- ii. No change in the calendar plan of production for quantum of mineral coal shall be made.
- iii. Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂ and NOx monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.
- iv. Data on ambient air quality (PM₁₀, PM_{2.5}, SO₂ 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 concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report.
- v. Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.
- vi. Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.
- viii. Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules, 1986.
- ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
- x. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.
- xi. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.
- xii. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
- xiii. The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the Ministry of Environment, Forests & Climate Change at <u>http://envfor.nic.in</u>.
- xiv. A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.

- xv. A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.
- xvi. The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as 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.
- xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.
- xviii. The Regional Office of this Ministry located in the Region 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.
 - xix. The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEFCC by e-mail.

5. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.

6. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent

7. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project.

8. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

9. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.

10. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

11. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High



Courts and any other Court of Law relating to the subject matter. The proponent 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.

12. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

13. This EC supersedes the earlier EC's obtained for the existing mines in the cluster.

(S. K. Srivastava) Scientist 'E'

Copy to:

- 1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
- 2. The Secretary, Department of Environment & Forests, Government of West Bengal, Secretariat, Kolkatta.
- 3. The Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarpur, Bhubaneswar 751023, Orissa.
- 4. The Member Secretary, West Bengal State Pollution Control Board, Paribesh Bhawan, 10A, Block LA, Sector-III, Salt Lake City, Kolkatta 700098.
- 5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.
- 6. The Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
- 7. The Advisor, Coal India Limited, SCOPE Minar, Core-I, 4t Floor, Vikas Marg, Laxmi Nagar, New Delhi.
- 8. District Collector, Burdwan, Government of West Bengal.
- 9. IG (Wild life), Ministry of Environment and Forests, New Delhi. 10. Monitoring File 11. Guard File 12. Record File.
 - 13. Notice Board

(S. K. Srivastava) Scientist 'E'

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