

कोल इण्डिया लिमिटेड

(भारत सरकार का उपक्रम)

(एक महारत्न कम्पनी)

स्कोप मीनार, कोर 1 तथा 2, मंजिल 4 तथा 5

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COAL INDIA LIMITED

(A Government of India Undertaking)

(A Maharatna Company)

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No. CIL/DLI/ENV/2011/65 - 1801

January 17, 2012

✓ The General Manager (Env)
Eastern Coalfields Limited
Borachak House
PO Sitarampur - 713359
Distt. Burdwan (WB)

Sub.; Terms of Reference of Cluster No.11

Dear Sir,

Letter No.J.11015/245/2011-IA.II(M) dated 13th January 2012 issued by the Ministry of Environment and Forest, New Delhi conveying Terms of Reference of Cluster No. 11 (9.1 mtpa normative and 9.9 mtpa peak capacity) of ECL is being sent herewith for your record and further action please.

Copy of the letter has already been faxed to your office.

Yours faithfully,

Pawan Kumar
Sr. Officer (Sectl.)

Encl: as above

ENVIRONMENT DEPT
ECL, H.Q.
25 JAN 2012
RECEIVED
No. 78

Dr. A. Shekhar

2/10

No. J-11015/245/2011-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex,
New Delhi-110003.

To

Dated: 13th January 2012

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

Sub: Cluster No.11 (11 mines of a combined production capacity of 9.1 MTPA (normative) 9.9 MTPA (peak) capacity in a combined ML area of 4218 ha) of M/s Eastern Coalfields Ltd., located in Raniganj Coalfields, W.B.- Terms of Reference (TOR) – reg.

Sir,

This is with reference to letter no. 43011/36/2011-CPAM dated 11.10.2011 of the Ministry of Coal enclosing the application for TOR for the aforesaid project, which was considered in the EAC (T&C) meeting held on 28th-29th November 2011. It was informed that the cluster 11 consisting of 11 UG mines of grade B-C (best quality non-coking coal), is located in the east-central part of Raniganj coalfields in the Burdwan district of state of West Bengal. The mine is 30km from North-East of Asansol Township. Drainage controlled by Singaran Nallah and its tributaries finally drains into Damodar River.

It was informed that after a review of the situation in Raniganj Coalfields, M/s ECL had re-examined the matter of extraction of coal from coal pillars at shallow depth (which cannot be mined by underground mining) by opencast mining in patches in 5 mines of the cluster for a limited period. The proponent informed that the impact of this change in scenario of mining would be conversion of underground mines to mixed type of mine although there would be no change in the number of mines and combined area in the cluster. It was stated that this would help reduce the extent of unstable areas, curb illegal mining and further formation of unstable areas, prevent fires, ensure safety of present UG workings and increase the output of the underground mines of the cluster. The area to be completely backfilled and would be handed over for eco-restoration by an expert. Mine closure Plan is being prepared. It was stated that that SDL and continuous miner would be used to increase production and surface miner has been introduced in Shankarpur OCP. UG Mining involves stowing. There are problems of fire or subsidence in this cluster. Grade of coal is B, C which are of good quality. There is no forest land involved in the project. OC patches/mines are planned in uninhabited areas, free from surface features. The details of revised working of cluster -11 are given below:

Re-organisation of the Mines of Cluster-11 for EIA/EMP						
S. N	Name of mine	UG/OC	ML Area (ha)	Production capacity (MTPA)		Life of mines
				normative	peak	
1	Krishnanagar	UG	772	0.24	3.00	>25
2.	Haripur Groups of mines	UG & OC	853	1.99	2.27	>25
A	Haripur	UG		0.60	0.78	>25
B	Chora Block incline	UG		0.99	0.99	>25
C	Chora 7,9 & 10 pits	UG				
D	Bonbahal patch(25 ha)*	OC		0.40	0.50	3

				Exhausted & being backfilled		
E	Shankarpur/CL Jambad OC* patch /Mine(52 ha)	OC				
3	New Kenda Group of mines	UG & OC	742	3.71	3.89	>25
A	New Kenda	UG		0.11	0.14	>25
B	W. Kenda OC Patch(49 ha)	OC		0.60	0.75	2
C	New Kenda* OC Patch(240ha)	OC		3.00	3.90	8
4.	Bahula Group of mines	UG	676	0.42	0.55	>25
A	Lower Kenda			0.13	0.17	>25
B	Bahula	UG		0.24	0.31	>25
C	C.L. Jambad	UG		0.05	0.07	>25
5	Siduli UG	UG	335	0.30	0.30	>25
6.	Khandra		388	0.39	0.39	>25
7.	Shankarpur*Proje ct	UG & OC	452	2.00	2.30	
A	Shankarpur	UG		1.65	1.33	>25
B	Shankarpur OC Patch/mine (42 ha)*	OC		2.00	2.30	4
			4218	9.10	9.90	

It was informed that of Siduli OC Patch (40 ha), Khandra and Shankarpur have obtained EC earlier.

OC MINES /Patches in Cluster -11						
S.N	Name of Mine	Area	Mineable Reserves	Volume of OB to be generated (Mm3)	Peak capacity	Life in years
1.	W. Kenda OC Patch(49 ha)	49	1.18	7.65	0.75	2
2.	New Kenda OC Patch/mine	240	22	211	3.90	8
3.	Bonbahal OCPatch/mine	25	1.1	6.27	0.50	3
4.	Shankarpur//CL Jambad OC patch/mine	52	Exhausted & being Backfilled			
5.	Shankarpur/CL Ocpatch/mine	42	7.85	34	2.30	4
	Total	408	32.13	258.92	7.45	

Last 5 years Production from Cluster 11					
Year	2006-07	2007-08	2008-09	2009-2010	2010-2011
Total (MT)	0.84	0.82	0.88	0.86	1.46

LAND USE OF CLUSTER- 11		
S.No	Land Use	Area (ha)
1	Cultivable	1412.57
2	Village/Basti	203.80
3	Tanks/Water bodies/water logged quarries	250.18
4	Danga/Wasteland	599.83
5	Road & Railways	99.77
6.	Plantation/Vegetation	170.40
7.	Vacant Govt. land	89.33
8	Built up area	133.17
9	Quarry	40
10	OB Dump	55
11	ECL land	1021.58
12	Colliery infrastructure	142.37
	Total	4218

The Details of Rehabilitation in Cluster -11

S.N.	Parameter	Details
1.	Total Unstable Sites	10
2.	Total Affected Areas	29.85 ha
3.	Affected Population	8580
4.	Total resettlement Cost	Rs 120 crores
5.	CSR	Rs 5/T of coal
6.	Environmental management	Rs 7/T of coal

The Committee desired that the rationale for inclusion of 11 mines including those which have obtained EC should be clearly brought out in the EIA-EMP Report. The Committee desired that there would be no void at the end of mining. The Committee observed that a railway siding is located within the cluster which would be used for transportation of coal. The Committee desired that proponent should consult the Raniganj Action Plan as fire and subsidence are major problems in that area. The Committee desired that Public hearing should be conducted for all the mines in the cluster.

The Committee recommended TOR as given below:

- (i) An Integrated EIA-EMP Report would be prepared for Cluster 11 consisting of **11 mines of a combined production capacity of 9.1 MTPA (normative) 9.9 MTPA (peak) capacity in a combined ML area of 4218 ha** based on the generic structure specified in Appendix III of the EIA Notification 2006. The Committee desired that the rationale for inclusion of 11 mines including those which have obtained EC should be clearly brought out in the EIA-EMP Report. The Committee desired that proponent should consult and dovetail the environmental aspects with the fire and safety issues given in the Raniganj Action Plan as fire and subsidence are major problems in that area. The EIA-EMP Report shall provide the status of env. quality and the extent of pollution load from each mine and the combined pollution load from the cluster of mines that would be reduced by taking suitable mitigative measures for the individual mines and for the cluster and the expected improvement in the environmental quality of the mines in the cluster and within the coalfield after the implementation of the measures through an Integrated Environmental Plan formulated on the aforesaid basis. A fresh baseline data on the env. quality – air, water, land, biotic community, etc. shall be generated through collection of data and information, generation of data on impacts. Baseline data collection can be for any season except

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monsoon. Details of the present land use and post mining land use of the operating and abandoned mines individually and as a cluster shall be furnished as part of the EIA. A detailed Mine Closure Plan and a Mine Reclamation Plan for the abandoned mines (UG and OC)/pits/quarries found in the cluster shall be furnished as a part of EIA-EMP study. The closure of UG mines should ensure that no illegal mining is done thereafter from the mines. Details of long term benefits to environment because of cluster approach of mining shall be clearly addressed in the EIA-EMP study.

- (ii) The integrated EIA-EMP Report shall also cover the impacts and management plan for the project specific activities on the environment of the Asansol Region which is a critically polluted area, and the mitigative measures specified for the Environmental Action Plan for Asansol CPA on improving the environmental quality – air, water, land, biotic community, etc. shall be incorporated. Prediction modelling for **9.1 MTPA (normative) 9.9 MTPA (peak) capacity in a combined ML area of 4218 ha** of coal production based on approval of project/Mining Plans. Baseline data collection can be for any season except monsoon. The Committee desired that there would be no void at the end of mining.
- (iii) A map specifying locations of the State, District and Project location.
- (iv) A Study area map of the core zone and 10km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage of rivers/streams/nalas/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km area of the buffer zone should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note of the land use. Satellite imagery per se is not required.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 2-5 km of the buffer zone (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated as a separate map.
- (viii) A detailed Site plan of the mine showing the various proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area and if any, in topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any natural drainage adjoining the lease /project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., approach roads, major haul roads, etc.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map.
- (x) Similarly if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition.

LANDUSE DETAILS FOR OPENCAST PROJECT

S.N.	LANDUSE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL (ha)
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			

6.	Settlements			
7.	Others (specify)			
	TOTAL			

LANDUSE DETAILS FOR UNDERGROUND PROJECT

S.N.	ML/Project Land use	Area under Surface Rights (ha)	Area Under Mining Rights (ha)	Area under Both (ha)
1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Wasteland			
5.	Water Bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

Area Under Surface Rights

S.N.	Details	Area (ha)
1.	Buildings	
2.	Infrastructure	
3.	Roads	
4.	Others (specify)	
	TOTAL	

Area Under Mining Rights

S.N.	Details	Area (ha)
1.	Buildings	
2.	Infrastructure	
3.	Roads	
4.	Others (specify)	
	TOTAL	

- (xii) Break-up of lease/project area as per mining operations.
- (xiii) Impact of changes in the land use due to the start of the projects if much of the land being acquired is agricultural land/forestland/grazing land.
- (xiv) Collection of one-season (non-monsoon) primary baseline data on environmental quality - air (PM_{10} , $PM_{2.5}$, SO_x , NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil along with one-season met data.
- (xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various stations superimposed with location of habitats, other industries/mines, polluting sources. The number and location of the stations in both core zone and buffer zone should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Values should be presented in comparison to desirable limits.
- (xvi) Study on the existing flora and fauna in the study area (10km) carried out by an institution of relevant discipline and the list of flora and fauna duly authenticated separately for the core and buffer zone and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna. If the study area has endangered flora and fauna, or if the project falls within 15 km of an ecologically sensitive area, then a comprehensive Conservation Plan should be prepared and furnished along with comments from the CWLW of the State Govt.
- (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until end of mine life should be reflected on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The progressive mine development and final mine closure plan should also be shown in figures.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of that technology and equipment proposed to be used vis-à-vis the potential impacts.

- (xix) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.
- (xx) Impact of mining on hydrology, modification of natural drainage, diversion and channelling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xxi) Detailed water balance should be provided. The break up of water requirement for the various mine operations should be given separately.
- (xxii) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.
- (xxiii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term modelling studies on. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiv) Impact of blasting, noise and vibrations.
- (xxv) Impacts of mining on the AAQ, predictive modelling using the ISCST-3 (Revised) or latest model.
- (xxvi) Impacts of mineral transportation – within and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop, management plan for maintenance of HEMM, machinery, equipment. Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities.
- (xxvii) Details of waste generation – OB, topsoil – as per the approved calendar programme, and their management shown in figures as well explanatory chapter with tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use. OB dump heights and terracing should be based on slope stability studies with a max of 28° angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Impact and management of wastes and issues of rehandling and backfilling and progressive mine closure and reclamation.
- (xxix) Flow chart of water balance. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. Details of STP in colony and ETP in mine. Recycling of water to the max. possible extent.
- (xxx) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine.
- (xxxii) Risk Assessment and Disaster Preparedness and Management Plan.
- (xxxiii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.
- (xxxiii) Progressive Green belt and afforestation plan (both in text, figures as well as in tables prepared by MOEF given below) and selection of species (local) for the afforestation/plantation programme based on original survey/landuse.

Table 1: Stage-wise Landuse and Reclamation Area (ha)

S.N.	Land use Category	Present (1 st Year)	5 th Year	10 th Year	20 th year	24 th Year (end of Mine life)*
1.	Backfilled Area (Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area (brought under plantation)					

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7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
TOTAL		110	110	110	110	110

* Representative case as an example

Table 2: Stage-wise Cumulative Plantation

S.N.	YEAR*	Green Belt		External Dump		Backfilled Area		Others (Undisturbed Area/etc)		TOTAL	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1 st year										
2.	3 rd year										
3.	5 th year										
4.	10 th year										
5.	15 th year										
6.	20 th year										
7.	25 th year										
8.	30 th year										
9.	34 th year (end of mine life)										
10.	34-37 th Year (Post-mining)									85	

* Representative case as an example

- (xxxiv) Conservation Plan for the endangered/endemic flora and fauna found in the study area and for safety of animals visiting/residing in the study area and also those using the study area as a migratory corridor.
- (xxxv) Conceptual Final Mine Closure Plan, post mining land use and restoration of land/habitat to pre-mining. A Plan for the ecological restoration of the area post mining and for land use should be prepared with detailed cost provisions.

Table 3: Post-Mining Landuse Pattern of ML/Project Area (ha)

S.N.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
4.	Built up area					
5.	Green Belt					
6.	Undisturbed Area					
TOTAL		85				110

- (xxxvi) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan.
- (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan.

- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxxix) The Committee desired that Public hearing should be conducted for all the mines in the cluster. The Committee desired that Public hearing should be conducted for all the mines in the cluster. Public Hearing should cover the details of notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxxx) In built mechanism of self-monitoring of compliance of environmental regulations.
- (xxxxi) Status of any litigations/ court cases filed/pending on the project.
- (xxxii) Submission of sample test analysis of:
Characteristics of coal - this includes grade of coal and other characteristics – ash, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals – such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc.

(A) FORESTRY CLEARANCE

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland In the FC	Balance area for which FC is yet to be obtained	Status of appl. for diversion of Balance forestland
		If more than one, provide details of each FC			
Copies of forestry clearance letters (all, if there are more than one)					

(B) MINING PLAN/PROJECT APPROVAL

Date of Approval of Mining Plan/Project Approval:
Copy of Letter of Approval of Mining Plan/Project Approval

- (xxxviii) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must 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 must be furnished.
 - d) To have proper checks and balances, the company should 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.

The following general points should be noted:

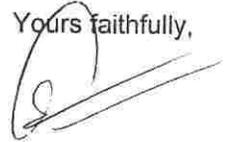
- (i) All documents should be properly indexed, page numbered.
- (ii) Period/date of data collection should be clearly indicated.
- (iii) Authenticated English translation of all material provided in Regional languages.
- (iv) After the preparation of the draft EIA-EMP Report as per the aforesaid TOR, the proponent shall get the Public Hearing conducted as prescribed in the EIA Notification 2006 and take necessary action for obtaining environmental clearance under the provisions of the EIA Notification 2006.
- (v) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter prescribing the TOR.
- (vi) The copy of the letter received from the Ministry on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.

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- (vii) The final EIA-EMP report submitted to the Ministry must incorporate the issues in TOR and that raised in Public Hearing. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific TOR prescribed by Ministry and the issue raised in the P.H. have been incorporated. Mining Questionnaire (posted on MOEF website) with all sections duly filled in shall also be submitted at the time of applying for EC.
 - (viii) General Instructions for the preparation and presentation before the EAC of TOR/EC projects of Coal Sector should be incorporated/followed.
 - (viii) The aforesaid TOR has a validity of two years only.

The following additional points are also to be noted:

- (i) Grant of TOR does not necessarily mean grant of EC.
- (ii) Grant of TOR/EC to the present project does not necessarily mean grant of TOR/EC to the captive/linked project.
- (iii) Grant of TOR/EC to the present project does not necessarily mean grant of approvals in other regulations such as the Forest (Conservation) Act 1980 or the Wildlife (Protection) Act, 1972.
- (iv) Grant of EC is also subject to Circulars issued under the EIA Notification 2006, which are available on the MOEF website: www.envfor.nic.in

Yours faithfully,



(Dr. T. Chandini)
Director

Copy to: Copy: Member-Secretary, West Bengal State Pollution Control Board, Paribesh Bhawan, 10A-Block LA, Sector -III, Salt Lake City, KOLKATTA - 700 098.