No. J-11015/03/2015-IA-II(M)
Government of India
Ministry of Environment, Forest & Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi-110 003

Dated: 8th April, 2015

To

The General Manager (Mining)/Project Officer,
M /s Central Coalfields Limited,
PO - Tapin, Dist - Ramgarh,
Jharkhand. - 825326

Email: envccl@yahoo.com

Subject: Expansion of Jharkhand OCP (from 2 MTPA Normative to 2.70 MTPA Peak in an ML area 278.88 Ha; Latitude 23° 46' 53'' to 23° 48' 29''N and Longitude 85° 36' 23'' to 85° 37' 23''E) of M/s Central Coalfields Limited, in District Ramgarh Jharkhand - TOR reg.

Sir,

This is with reference to letter no DGM/HOD/(forest & Env.)/2015/087 dated 07.01.2015 of M/s Central Coalfields Limited, and subsequent letter no 16.02.2015 seeking for Terms of Reference for the aforesaid project.

2. The proposal was considered by the Expert Appraisal Committee (EAC) on 16th -17th February, 2015 and the proponent has informed that:

i. The project was accorded EC vide letter no. J-11015/12/89-IA.II(M) dated 30.01.1995 for 1.00 MTPA capacity.
ii. The latitude and longitude of the project are 23° 46' 53'' to 23° 48' 29''N and 85° 36' 23'' to 85° 37' 23''E respectively.
iii. Joint Venture: There are no joint venture.
iv. Coal Linkage : Coking coal, power and other miscellaneous consumers
v. The land usage of the project will be as follows:

Pre-Mining:

Land Use	Land Area (Ha)		
	Forest	Non-Forest	Total
Quarry	89.47	33.1	122.57
External OB Dump	31.37	2.63	34
Haul Road	1.82	1.32	3.14
Safety Zone	38.15	81.02	119.17
Total	160.81	118.07	278.88

Post- Mining: To be given in EIA & EMP

Core area:

Land Use	Land Area (Ha)		
	Forest	Non-Forest	Total
Quarry	89.47	33.1	122.57
External OB Dump	31.37	2.63	34
Haul Road	1.82	1.32	3.14
Safety Zone	38.15	81.02	119.17
Total	160.81	118.07	278.88

vi. The total geological reserve is 126.643 MT. The mineable reserve 21.53 MT, extractable reserve is 21.53 MT. The per cent of extraction would be 100 %.

vii. The coal grade is W-IV .The stripping ratio is 2.19 (Cum/Tonne). The average Gradient is 1 in 6-10. There will be 4 seams with thickness ranging

Sl. No.	Particulars	Unit	Thickness Range
1.	Seam Thickness		
A	Seam VA	M	4.96-7.63
B	Seam V	-do-	6.99-8.82
C	Seam IV	-do-	3.34-5.20
D	Seam III (T)	-do-	3.90-4.89
E	Seam III (B)	-do-	1.48-2.33
F	Seam III (Merged)	-do-	4.79-7.53

viii. The total estimated water requirement is 790 m3/day. The level of ground water ranges from 1.0 m to 8.0 m.

ix. The Method of mining would be opencast method of mining with Shovel-Dumper combination.

x. There is one external OB dump with Quantity of 35.75 Mbcm in an area of 34 ha with height of 60 meter above the surface level and One internal dump with Quantity of 11.25 Mbcm in an area of 58.40 ha.

xi. The final mine void would be in 64.17 Ha with depth of 70 m. and the total quarry area is 122.57 Ha. Backfilled quarry area of 58.40 Ha shall be reclaimed with plantation. A void of 64.17 ha with depth of 70 m which is proposed to be converted into a water body.

xii. The **life of mine** is 7 years balance.

xiii. **Transportation**: Coal transportation in pit by Dumpers, Surface to Siding by trucks and loading at siding by pay loader.

xiv. There is **R & R** involved. There are 23 PAFs.

xv. **Cost**: Total capital cost of the project is Rs. 44.28 Crores. CSR Cost As per CSR policy & Companies Act, 2013. R&R Cost Rs 25.10 Lakh. Environmental Management Cost Rs. 34.7027 crores).

xvi. **Water body**: Chutua River is flowing in the north of the project. It lies 100m away from the mine edge.

xvii. **Approvals**: Board's approval obtained on 20.10.1998 original PR. Mining plan has been approved on 20.10.1998 original PR. Mine Closure Plan approval on 01.10.2012

xviii. **Wildlife issues**: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.

xix. **Forestry issues**: Total forest area involved 160.81 ha for mining. Applied for forest clearance FC-II granted (Diverted).

xx. Total **afforestation** plan shall be implemented covering an area of 278.88 ha at the end of mining. Green belt (in ha) will be given in EIA & EMP. Density of tree plantation 2500 trees/ha of plants.

xxi. There are no **court cases/violation** pending with the project proponent.

3. EC Compliance Report: The compliance report of the, Regional Office, MoEFCC at Bhubneshwar has inspected the project on 22.08.2014 was deliberated in the EAC meeting. The Committee has noted the Action taken for compliance by the Project which, inter alia, are as follows:

i. Levels of SPM concentration are well within the limit at all sampling station during the period Apr-14 to Sep-14. 28 kl two sprinklers: 1 addl. in 2013-14. Trips increased from 3 to 6 per day (2 times in each shift). 680 dust masks are provided to workers.

ii. ETP has been cleaned and the treated water is being recycled for washing of HEMM. No overflow is directly allowed to natural water course. It is proposed to regularly clean settling ponds by AMC

iii. External OB dump has been made as per the norms made in E.C. and volume of external O.B dump is 4.08 MM3 and it has been reclaimed properly. Patches which are left will be planted in monsoon 2015.

iv. The present working area is as per the approved PR. The external OB has been dumped at the proposed OB site. The area of external dump is 26.325 Ha and is reclaimed. The total backfilled area is 131.29 Ha out of which 67.54 Ha is active. 53.985 Ha of backfilled area has already been reclaimed.

v. 23 families resettled. No additional resettlement involved. Total amount of Rs. 25.06 Lakh has already been paid.

vi. The mining operation is being done in stages as per plan in PR. There is no change in the calendar plan including excavation of coal/OB dumps.

vii. Green belts have been developed around mine & colony. The plant species are selected by State forest deptt. The species are mixed with fruit, fodder & fuel wood value.

4. The Expert Appraisal Committee (EAC) has considered the proposal in its 31st Expert Appraisal Committee (EAC) on 16th -17th February, 2015 and recommended for the TOR with the specific conditions in addition to generic TORs for an opencast coalmine project and with general conditions for preparation of the Environmental Impact Assessment (EIA) Report and Environment Management Plan (EMP) in respect of the above mentioned project:

i. EC compliance report from the RO, MOEFCC be submitted along with EIA/EMP reports.

ii. PP should work-out an integrated mine plan and submitted along with the EIA/EMP report.

iii. To explore the possibility of Railway siding in the mining area.

iv. Explore for own Railway siding and also dispatch arrangement from TISCO mines to Jamshedpur.

5. Generic TOR for an opencast coalmine project:

(i) An EIA-EMP Report shall be prepared for..... **MTPA** rated capacity in an ML/project area of.....ha based on the generic structure specified in **Appendix III of the EIA Notification, 2006.**

(ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... **MTPA** of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season except monsoon.

(iii) A map specifying locations of the State, District and Project location should be provided.

(iv) A Study area map of the core zone and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/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 study area 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 on the land use.

(vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, 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 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.

(viii) A detailed Site plan of the mine showing the 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 -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.

(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 as per the approval of Irrigation and flood control Department of the concerned state.

(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 in the map.

(xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

LANDUSE DETAILS FOR OPENCAST PROJECT should be given as per the following table:

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

(xii) Break-up of lease/project area as per mining operations should be provided.

(xiii) Impact of changes in the land use due to the project, if much of the land being acquired is predominantly agricultural land/forestland/grazing land.

(xiv) One-season (non-monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.

(xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources should be provided. The number and location of the stations in both core and buffer zones 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 provided based on desirable limits.

(xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I fauna, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan should be prepared and submitted with EIA-EMP Report; and comments from the CWLW of the State Govt. should also be obtained and furnished.

(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 the end of mine life should be provided 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 Conceptual 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 specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.

(xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

(xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.

(xxi) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users should be given.

(xxii) 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 monitoring measures should be provided. 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.

(xxiii) Impact of blasting, noise and vibrations should be given.

(xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.

(xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. 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 should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating. from these activities should also be provided.

(xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo entirely wagons and into trucks/tippers.

(xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28o angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.

(xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining , external dump on coal bearing area and later remanding into the mine void.--to reduce land degradation.

(xxix) Impact of change in land use from mining operations and wether the land can be restored to agriculture use post mining.

(xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEF given below) and selection of species (native) based on original survey/landuse should be given.

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

S.N.	Land use Category	Present (1st Year)	5th Year	10th Year	20th year	24th 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)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL	110*	110*	110*	110*	110*

* As a representative 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.	1st year										
2.	3rd year										
3.	5th year										
4.	10th year										
5.	15th year										
6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year (end of mine life)										
10.	34-37th Year (Post-mining)										

* As a representative example

(xxxi) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the status pre- mining should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of rehandling (wherever applicable) and backfilling and progressive mine closure and reclamation should be detailed.

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

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

(xxxii) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be accorded ?.

(xxxiii) 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 in the mine should be given.

(xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.

(xxxv) Integration of the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc. should be carried out.

(xxxvi) Cost of EMP (capital and recurring) should be included 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 should be given.

(xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.

(xxxix) 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.

(xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details 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.

(xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

(xlii) Status of any litigations/ court cases filed/pending on the project should be provided.

(xliii) Submission of sample test analysis of

Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.

(xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

FORESTRY CLEARANCE: Details on the Forest Clearance should be given as per the format given:

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl. for diversion of forestland
		If more than one, provide details of each FC			

6. 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.

(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.

(ix) The aforesaid TOR has a validity of two years only.

(x) Grant of TOR does not necessarily mean grant of EC.

(xi) Grant of TOR/EC to the present project does not necessarily mean grant of TOR/EC to the captive/linked project.

(xii) 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.

(xiii) 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

7. You are required to submit the final EIA/EMP prepared as per TORs to the Ministry for considering the proposal for environmental clearance within 2 years as per the MoEF O.M. No. J-11013/41/2006-IA. II (I) dated 22nd March, 2010.

8. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India / National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/Laboratories including their status of approvals etc. vide notification of the MoEF dated 19th July, 2013.

Yours faithfully,

(Dr. R. Warrier)
Director

Copy to: Member Secretary, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), H.E.C., Dhurwa, Ranchi, Jharkhand – 834004.