To

Shri A. C. Ray
The General Manager (Env.)
M/s Western Coalfields Ltd
Coal Estate Civil Line
Nagpur
Maharashtra - 440001.

Subject: Visapur Opencast Mine of (1.00 MTPA normative and 1.25 MTPA peak in an ML area of 1057.97 ha; Latitude 19°53’38" to 19°55’09" N and Longitude 79°17’53" to 79°18’14" E) of M/s Western Coalfield Ltd. Dist. Chandrapur, Maharashtra – TOR reg.

Sir:

This is with reference to letter no 43011-19-2012-CPAM dated 3rd October, 2012 of Ministry of Coal forwarding along with application seeking for Terms of Reference for the aforesaid project.

2. The proposal was considered by the 63rd EAC held during 17th -18th December, 2012 and 7th EAC held during 12th-13th December, 2013 and the proponent has informed that:

i. The latitude and longitude of the project are N 19°53’38" to N 19°55’09" and E 79°17’53" to E 79°18’14” respectively.
ii. The land usage of the project will be as follows:

**Pre-mining:** The total land 1057.97 ha of which agricultural land 930.44 ha; Govt. Land 123.99 ha & Settlements over 0.54 ha of land.

**Post-Mining:** Out of total land area i.e. 1057.97 ha. Void 165.5 ha; External OB 282.51 ha; Infrastructure 42 ha; Embankment 43.2 ha; Backfilling 54.80 ha; Rehabilitation 8.00 ha; Undisturbed 461.96 ha. Out of Total Area, Plantation will be done at 552.69 ha Area

iii. The total geological reserve is 30.83 MT. The mineable reserve 20.98 MT, extractable reserve is 20.98 MT. The per cent of extraction would be 67.83 %.

iv. The coal grade is GCV -4614Kcal/kg. The stripping ratio is 1: 6.84. The average Gradient is 1 in 5 to 1 in 10. There will be two composite seams with thickness ranging from 1.75 m to 13.75 m.
v. The total estimated water requirement is 300 m$^3$/day. The level of ground water ranges from 0.70 m to 14.10 m.

vi. The Method of mining would be Opencast with Shovel – Dumper Combination.

vii. There are two external OB Dumps covering an area 653.00 ha. With the height upto 20m, 60 m. The quantity will be 143.49 Mm3. There are one internal dumps covering an area 54.80 ha. with the height upto ground level. The quantity will be 31.13 Mm3. There is total 220 ha quarry area.

viii. The life of mine is 26 Years.

ix. **Transportation:** Coal transportation in pit by dumper, Surface to Siding by tipper and loading at siding by pay loaders.

ix. There is R & R involved. Resettlement of 379 houses oustees belonging to Arwat, Charwat & Mana villages and will be finalized after detailed Socio-economic Survey.

x. **Cost:** Total capital cost of the project is Rs. 287.9237 Crore (Additional). CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 30.938 Crores. Environmental Management Cost Rs. 50 lakhs.

xi. **Water body:** The only water body available is Erai river/Zorpat Nullah.

xii. **Approvals:** Ground water clearance is under process. Board’s approval obtained on March, 2012. Mining plan has been approved on March, 2012. Mine closure plan Progressive Mine Closure Plan is an integral part of the approved project Report.

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

xiv. **Forestry issues:** No forest land involved for mining area.

xv. Total afforestation plan shall be implemented covering an area of 552.69 ha at the end of mining. Green Belt will be developed 552.69 ha where 1381725 Nos of tree shall be planted.

xvi. **Court Case:** There is no court cases/violation pending with the project proponent.

xvii. The project involves diversion of Erai river. A provision of Rs. 15.00 lakhs has been earmarked for the study of impact river diversion. The diversion of surface water courses is done as per the design given by Central Design Organization (CDO), Nasik, an approved agency under Govt. of Maharashtra. Subsequently approval from Irrigation Department, Govt. of Maharashtra. The project has a total reserve of 20.98 Mt with life of 26 years at a normative capacity of 1.00 MTPA with peak a capacity of 1.275 MTPA. The optimum capacity has been planned considering the geo – mining characteristics viz. Avg. Strike Length (700 m to 1100 m), Stripping ratio (1:6.84), Depth (final – 144 m), Width on surface (800 – 1300 m). In case the capacity is enhanced to 4 Mt per annum, the amount of OB would be about 28 Mm3 (instead of 7 Mm3 as planned) and as such the handling of such huge quantity of OB will require very large fleet of Heavy Earth Moving Machinery (HEMM) and its deployment within the available quarry limits as indicated above will not be technically feasible. Therefore mine capacity cannot be enhanced to 4 Mt per annum.

xviii. The mine which has been planned up to 100 m is taken for further extension up to 150-200m before the closure of the old mine because the extension portion will be approached from the existing entries only. Therefore, the existing mines cannot be abandoned and simultaneously restored completely on as is where is basis. The mine can be taken up for final abandonment & reclamation/restoration when the final opencast limit is reached say up to 300 m.
xix. The project does not fall in the buffer zone of Tadoba-Andhari Tiger Reserve.

3. The Expert Appraisal Committee (EAC) has considered the proposal in its 7th Expert Appraisal Committee (EAC) on 12th - 13th December, 2013 and recommended for the TOR with the specific conditions in addition to generic TORs for an open cast 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. Approval for diversion of rivers and nallahs be obtained from State Flood and Irrigation Dept.

ii. Effect of mining on Era River be assessed.

iii. Design expert from Water Resource Department should be consulted for diversion of river as it is a very critical issue.

iv. Justification should be provided for 4 MT coal productions in 4-5 years of mine operation only.

v. Reasons for abandoned the old mines.

vi. Separate sheets, detail of abandoned mines should be provided. Proposed mine details should be provided on separate sheet simultaneously.

vii. Impact of Mining on Tadoba –Andheri Tiger Sanctuary should be assessed. Consult the Chief Wild Life Warden for presence of Mine in Tadoba-Andheri Tiger Reserve Buffer area. A letter is required from CWLW.

4. Generic tor for an open cast coalmine project:

(i) An EIA-EMP Report would 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 cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modelling for ?? MTPA of coal production based on approval of 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.

(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/re-channelling 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

<table>
<thead>
<tr>
<th>S.N.</th>
<th>LANDUSE</th>
<th>Within ML Area (ha)</th>
<th>Outside ML Area (ha)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Agricultural land</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td>Forest land</td>
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<td></td>
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<tr>
<td>3.</td>
<td>Wasteland</td>
<td></td>
<td></td>
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<tr>
<td>4.</td>
<td>Grazing land</td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td>Surface water bodies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Settlements</td>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td>Others (specify)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td></td>
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</tbody>
</table>

(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 coinciding with the same season for AAQ collection period.

(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 provided based on 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 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. also 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 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 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 that technology and equipment proposed to be used vis-à-vis the potential impacts.

(xix) 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.

(xx) Detailed water balance should be provided. The breakup 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.

(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 modelling studies on. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there us a declining trend of groundwater availability and/or if the area falls within dark/grey zone.

(xxiii) Impact of blasting, noise and vibrations.

(xxiv) Impacts of mining on the AAQ, predictive modelling using the IS CST-3 (Revised) or latest model.

(xxv) 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.

(xxvi) 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. OBdump heights and terracing should based on slope stability studies with a max of 28o angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.

(xxvii) Progressive Green belt and afforestation plan (both in text, figures as well as in tables prepared by MOEF) and selection of species (local) for the afforestation/plantation programme based on original survey/landuse.

Table 2: Stage-wise Cumulative Plantation

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

* As a representative example

(xxviii) 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. Impact and management of wastes and issues of rehandling (wherever applicable) and backfilling and progressive mine closure and reclamation.
Table 3: Post-Mining Landuse Pattern of ML/Project Area (ha)

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Land use during Mining</th>
<th>Plantation</th>
<th>Water Body</th>
<th>Public Use</th>
<th>Undisturbed</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>External OB Dump</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>85</td>
</tr>
<tr>
<td>2.</td>
<td>Top soil Dump</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>110</td>
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<tr>
<td>3.</td>
<td>Excavation</td>
<td></td>
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<tr>
<td>4.</td>
<td>Roads</td>
<td></td>
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<tr>
<td>5.</td>
<td>Built up area</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td>Green belt</td>
<td></td>
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<tr>
<td>7</td>
<td>Undisturbed area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td>110</td>
</tr>
</tbody>
</table>

(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.

(xxxi) Risk Assessment and Disaster Preparedness and Management Plan.

(xxxii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.

(xxxiii) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan.

(xxxiv) 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.

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

(xxxvi) 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.

(xxxvii) In built mechanism of self-monitoring of compliance of environmental regulations.

(xxxviii) Status of any litigations/ court cases filed/pending on the project.

(xxxix) Submission of sample test analysis of:

(xl) Characteristics of coal - this includes grade of coal and other characteristics ?ash, S and heavy metals including levels of Hg, As, Pb, Cr etc.

(xli) Copy of clearances/approvals ? such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.
5. **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

6. 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.

7. 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. Manoranjan Hota)
Director

Copy to: Member Secretary, Maharashtra State Pollution Control Board, 3rd & 4th Floor, Sion, Matunga Scheme Road. No.8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), MUMBAI – 400 002.