

No..J-15011/227/2007-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex, Lodi Road,
New Delhi-110003.

To

Dated: 23rd May 2007

General Manager ,
Rohini Opencast project,
M/s Central Coalfields Ltd.,
JHARKAND

Sub: Rohini OCP of M/s CCL -- Terms of Reference (TOR) – reg.

Sir,

This is to inform you that the Expert Committee (Thermal & Coal Mining) in its meeting held on 9th May 2007 , based on the information furnished and presentation made, has prescribed the following TORs for preparation of the EIA-EMP Study for the aforesaid project:

- (i) The EIA-EMP report should 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 enhancement from 0.80 MTPA (baseline) to a rated capacity of 1.90 MTPA of coal production. Baseline data collection can be for any season except monsoon.
- (ii) A Study area map of the core zone and 10km area of the buffer in addition to delineating the major topographical features such as the land use, drainage, locations of habitats, major construction including railways, roads, pipelines, major industries/mines and other polluting sources, which shall also indicate the migratory corridors of fauna, if any and the areas where endangered fauna and plants of medicinal and economic importance are found in the area.
- (iii) Map showing the core zone delineating the agricultural land (irrigated and irrigated, uncultivable land (as defined in the revenue records), forest areas (as per records) and grazing land and wasteland.
- (iv) Contour map along with 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/adjacent to the ML), undisturbed area and if any natural topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any natural drainage adjoining the lease and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., highways, passing through the lease.
- (v) Break up of lease area as per different land uses and their stage of acquisition. Revenue records/letter from the District Revenue Office may be furnished in regard to land records/usage.
- (vi) Impacts of project, if any, in the land use in particular, agricultural land/forestland/grazing land/water bodies falling within the lease and acquired for mining operations.
- (vii) Study on the existing flora and fauna in the study area 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 project is an existing one, the flora and fauna details should be furnished separately for the core zone and buffer zone. The report and the list should be authenticated by the concerned institution carrying out the study and the names of the species along with the classification under the Wild Life Protection Act should be furnished.

- (viii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working plan/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 should also be included.
- (ix) 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 and the impact on the existing users and impacts of mining operations thereon.
- (x) Collection of one-season (non-monsoon) primary base-line data on environmental quality - air (SPM, RPM, SO_x and NO_x), noise, water (surface and groundwater), soil.
- (xi) Map of the study area (core and buffer zone) clearly delineating the location of various monitoring stations (air/water/soil and noise - each shown separately) superimposed with location of habitats, wind roses, other industries/mines, polluting sources. The number and location of the stations should be selected on the basis of the proposed impacts in the downwind/downstream/groundwater regime. One station should be in the upwind/upstream/non-impact non-polluting area as a control station. Wind roses to determine air pollutant dispersion will be drawn and Prediction Modelling of AAQ will be carried out. Monitoring should be as per CPCB guidelines. Parameters for water testing for both ground and surface as per ISI standards.
- (xii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10km buffer zone including long-term modelling studies on the impact of mining on the groundwater regime. Details of rainwater harvesting and measures for recharge of groundwater should be reflected.
- (xiii) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations should be given separately. Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.
- (xiv) Impact of choice of selected use of HEMM machinery - and impact on air quality/OB dumping, mineral transportation, adoption of wet drilling, etc, Impact of blasting, noise and vibrations.
- (xv) Impacts of mining using the AAQ, predictive modelling for options - BAU and AAQ after introduction of mitigative measures.
- (xvi) Impacts of mineral transportation - within and outside the lease. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, and their impacts on air quality should be shown in a flow chart with the specific points where fugitive emissions can arise and the specific pollution control/mitigative measures proposed to be put in place. Examine the adequacy of roads existing in the area and if new roads are proposed, the impact of their construction and use particularly if forestland is used.
- (xvii) Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities. Examine whether existing roads are adequate to take care of the additional load of mineral and OB transportation, their impacts.
- (xviii) Examine the number and efficiency of mobile/static water sprinkling system along the main haul roads, approach roads, and also the frequency of their use in impacting air quality.
- (xix) Impacts of CHP on air and water quality. A flow chart of water use and whether the unit can be made a zero-discharge unit.
- (xx) Progressive Mine Closure Plan and Greenbelt Dev. Plan: Details of waste generation - OB and topsoil - as per the approved calendar programme in the approved Mining Plan/Project for the rated capacity, and their management shown in maps as well in the explanatory chapter with tables giving progressive mine 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.
- (xxi) Conceptual mine closure plan along with the fund requirement for the detailed activities proposed there under. Impacts of change in land use of agricultural land for mining operations and whether the land can be restored for agricultural use post mining. Also to

- examine if at the end of mine life, the depth of excavated void, if any, being left as water reservoir can be reduced and can be gently sloped to reduce risk to end users.
- (xxii) Occupational health issues. Baseline data on the health of the population and measures for occupational health and safety of the personnel and manpower for the mine.
 - (xxiii) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan. The specific costs (capital and recurring) of each pollution control/mitigative measures proposed in the project until end of mine life and a statement that this is included in the project cost.
 - (xxiv) Integrating in the Env. Management Plan, measures for minimising use of natural resources – water, land, energy, raw materials/mineral, etc.
 - (xxv) Detailed R&R Plan, if any, with data on the existing socio-economic status of the population 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 the schedule of the implementation of the R&R Plan and status of implementation.
 - (xxvi) 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 in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
 - (xxvii) Status of any litigations/ court cases filed/pending on the project.

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 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.
- (vi) 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.

We await your response on the matter.

Yours faithfully,

(Dr.T.Chandini)
Director

1. Member-Secretary, Jharkand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi.