

From:

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Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
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New Delhi-110005.

To

Dated: 23rd May 2007

General Manager,
Talabira Open cast project,
M/s Mahanadi Coalfields Ltd.,
ORISSA

Sub: Talabira OCP of M/s MCL. - 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 BIA EMP Study for the aforesaid project.

The Committee after discussions prescribed the following TOR:

- (i) The BIA-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, bio-diversity, etc. through collection of data and information, generation of data on impacts including prediction modelling for the highest rated capacity of 25 MTPA of coal/lignite production, which is capacity for which the project has been approved by MCC/Company. 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, RTP, 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/rechanneling of the water courses, etc., highways, passing through the lease. Area required for MGR and for right of water should also be included in mine lease break-up.
- (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/swampland/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 off-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. Details of dust suppression measures at various stages/steps such as the no. of mobile and static