

No.J-11015/206/2008-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex,
New Delhi-110510.

Dated: 14th July 2008

To
General Manager ,
Orient Area
M/s Mahanadi Coalfields Ltd.,
P.O. Brajrajnagar,
Jharsuguda – 768 216, ORISSA.

Sub: Orient UG Mine No. 3 (expansion from 0.49 MTPA to 0.69 MTPA) of M/s Mahanadi Coalfields Ltd., Dist. Sambalpur, Orissa (TOR)

Sir,

The undersigned is directed to refer to letter no. 43011/34/2008-CPAM dated 05.05.2008 of Ministry of Coal regarding the above-mentioned subject which was considered by the EAC (T&C) in the meeting held on 24-26th June 2008. It was noted that the proposal is for expansion in production of coal of Grade 'D' from 0.49 MTPA to 0.69 MTPA in the Orient UG Mine no. 3 by use of continuous miner. The coal would be used in Rourkela Steel Plant. Ultimate working depth is 220m.

Based on the application along with documents and presentation thereon and discussions held, the Committee prescribed the following TOR:

- (i) An EIA-EMP Report should be prepared for a peak capacity of 0.69 MTPA (expansion from 0.49 MTPA to 0.69MTPA) addressing the impacts of the project including the aspects of mineral transportation and issues of impacts on hydrogeology, plan for conservation of flora/fauna and afforestation/ plantation programme. Baseline data collection can be for any season except monsoon.
- (ii) The EIA-EMP report should also 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 **0.69 MTPA** (expansion from 0.49 MTPA to 0.69 MTPA) of coal production based on approval of project/Mining Plan.
- (iii) 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.
- (iv) 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) and grazing land and wasteland.
- (v) Contour map at 3m interval along with Site plan of the mine showing the various surface structures such as buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within/adjacent to the ML), green belt and undisturbed area and if any existing roads, drains/natural water bodies are to be left undisturbed along with details of 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.

- (vi) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area. Impacts of project, if any on the landuse, 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. Since 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, RSPM, 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 (ISCT-3 (Revised) or latest available modelling) will be carried out. Monitoring should be as per CPCB guidelines. Parameters for water testing for both ground as per ISI standards and surface water as CPCB guidelines.
- (xii) Impact of mining and water abstraction and mine water discharge 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, including use of water for sand stowing 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 machinery - and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations.
- (xv) 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.
- (xvi) 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 their impacts.
- (xvii) Examine the number and efficiency of mobile/static water sprinkling system along the main haul roads within the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality.
- (xviii) Impacts of CHP, if any on air and water quality. A flow chart of water use and whether the unit can be made a zero-discharge unit.

- (xix) 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.
- (xx) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.
- (xxi) Occupational health issues. Baseline data on the health of the population of the study area and measures for occupational health and safety of the personnel and manpower for the mine.
- (xxii) Including cost of EMP (capital and recurring) in the project cost and for 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.
- (xxiii) Integrating in the Env. Management Plan with measures for minimising use of natural resources – water, land, energy, raw materials/mineral, etc.
- (xxiv) Public Hearing should cover the details as specified in the EIA Notification 2006, and include 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.
- (xxv) 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 in Regional languages provided/enclosed with the application.
- (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.

Yours faithfully,

(Dr.T.Chandini)
Director

Copy to: Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118,
Nilkanthanagar, Unit VIII, Bhubaneswar – 751012.