No. J-11015/372/2010-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex,
New Delhi-110510.

To

Dated: 9th February 2011

Shri Chanakya Choudhary,
Chief Resident Executive,
M/s Tata Steel Ltd.,
10th Floor, Jeevan Bharati Building, Tower 1,
124, Connaught Place, New Delhi-110001.

Sub: Expansion of Digwadih Colliery (0.38 MTPA to 0.60 MTPA in ML area 314.57 ha) of M/s Tata Steel Ltd. located in Tehsil Jharia, in Jharia Coalfields, dist. Dhanbad, Jharkhand - Terms of Reference (TOR) – reg.

Sir,

This is with reference to letter no. TSLDEL/405/2010 dated 04.12.2010 enclosing the application on the aforesaid subject and letter dated 06.12.2010, which was considered in the EAC (T&C) meeting held on 21st December 2010. It was informed that Digwadih Colliery falls under the Jamodoba Group of collieries of Tata Steel Ltd. The mine is captive to the company steel plant at Jamshedpur to supply prime coking coal. Mining is semi-mechanised by Board & Pillar method. The production in the existing mine would be increased to 0.60 MTPA. The coal rejects would feed the existing 10 MW FBC based TPP of the company located in Jamodoba. The flyash generated is used for stowing, brick manufacturing and in agriculture. The total ML area of 314.57 ha consist of buildings and stockyard of 8.16 ha, colony 88.79 ha, railway and roads 47.99 ha, villages (habitation) 148 ha, parks and gardens 2.25 ha, agricultural land 13.65 ha, drains, tanks, etc 4.99 ha. Coal evacuation is by an underground network of conveyors to the linked coal washery. It is not proposed to expand the capacity of the coal washery. Mining Plan was approved by MOC on 08.03.2010. Subsidence is not anticipated as mining is at great depths. No incidents of fires of underground coal seams has been reported.

The Committee desired that two separate public hearings should be conducted for the two projects.

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 **0.6 MTPA** over an ML area of **314.57 ha** addressing the impacts of the underground coalmine project including the aspects of mineral transportation and issues of impacts on hydrogeology, plan for conservation of flora/fauna and afforestation/ plantation programme based on the generic structure specified in Appendix III of the EIA Notification 2006.. 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 baseline data and information, generation of baseline data on impacts for 0.6 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 zone (15 km of the buffer zone in case of ecologically sensitive areas) 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 along with 3-5 km of the buffer 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 and water bodies.

(v) Contour map at 3m interval along with Site plan of the mine (lease/project area with about 3-5 km of the buffer zone) 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/project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., highways, passing through the lease/project area.

(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/project and acquired for mining operations. Extent of area under surface rights and under mining rights.

(vii) 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.

(viii) Impact of mining on hydrology, modification of natural drainage, diversion and channelling 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.

(ix) Collection of one-season (non-monsoon) primary baseline data on environmental quality – air (PM_{10}, $PM_{2.5}$, SOx, NOx and heavy metals such as Hg, Pb, Cr, AS, etc), noise, water (surface and groundwater), soil along with one-season met data..

(x) 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 and impacts thereof shall be determined. Monitoring should be as per CPCB guidelines and standards for air, water, noise notified under Environment Protection Rules. Parameters for water testing for both ground and surface water should be as per ISI standards and CPCB classification of surface water wherever applicable.

(xi) 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 wherever the areas is declared dark/grey from groundwater development.

(xii) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation. Safety issues, Risk Assessment and Disaster Management Plan,.

(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 should be provided.

(xiv) Impact of choice of mining method, technology, 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/project. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, and

(xvi) 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 their impacts.

(xviii) Examine the number and efficiency of mobile/static water sprinkling system along the main mineral transportation road within the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality.

(xix) 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.

(xx) Conceptual Final Mine Closure Plan along with the fund requirement for the detailed activities proposed there under. Impacts of change in land use for mining operations and whether the land can be restored for agricultural use post mining.

(xxi) 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 should be furnished.

(xxii) Details of 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) R&R: Detailed project specific R&R Plan with data on the existing socio-economic status (including tribals, SC/ST) 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 costs along with the schedule of the implementation of the R&R Plan.

(xxv) 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 by the proponent made 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.

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

(xxvi) Submission of sample test analysis of:

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

(xxviii) Copy of clearances/approvals – such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc.

(xxix) The Committee desired that no flyash should be used in agriculture without prior studies on the toxicity effects of the flyash, if any. The Committee also desired that the impacts of leachates on sub-soil aquifers should also be studied. The Committee desired that long-term monitoring of the impacts of use of flyash for dumping and in agriculture on soil, water, air quality etc should be studied. The Committee stated that no dumping of flaysh with sand should be undertaken without proper trials and fields studies. The Committee also desired that the monitoring data on the water quality of treated mine water being discharged outside the mine be furnished.

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 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.

(vi) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter prescribing the TOR.

(vii) 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.

(viii) Mining Questionnaire (posted on MOEF website) with all sections duly filled in shall also be submitted at the time of applying for EC.

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

The following additional points are also to be noted:

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

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

(iii) 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.

Yours faithfully,

(Dr.T.Chandini)
Director

Copy to: Member-Secretary, Jharkhand State Pollution Control Board, TA Building, HEC Complex, P.O. Dhurva, Ranchi - 834002.