

No. IA-J-11011/18/2019-IA-II(I)

Government of India  
Minister of Environment, Forest and Climate Change  
Impact Assessment Division

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Indira Paryavaran Bhavan,  
Vayu Wing, 3rd Floor, Aliganj,  
Jor Bagh Road, New Delhi-110003  
28 Apr 2019

To,

M/s Central Coalfields Limited  
Ground Floor, Damodar Building, Darbhanga House, Ranchi,  
Ranchi-834001  
Jharkhand

**Tel.No.651-2365806; Email:pokbp2018@yahoo.com**

Sir/Madam,

This has reference to the proposal submitted in the Ministry of Environment, Forest and Climate Change to prescribe the Terms of Reference (TOR) for undertaking detailed EIA study for the purpose of obtaining Environmental Clearance in accordance with the provisions of the EIA Notification, 2006. For this purpose, the proponent had submitted online information in the prescribed format (Form-1 ) along with a Pre-feasibility Report. The details of the proposal are given below:

- |                                  |                         |
|----------------------------------|-------------------------|
| 1. Proposal No.:                 | IA/JH/CMIN/91000/2019   |
| 2. Name of the Proposal:         | KOTRE BASANTPUR PACHMO  |
| 3. Category of the Proposal:     | Coal Mining             |
| 4. Project/Activity applied for: | 1(a) Mining of minerals |
| 5. Date of submission for TOR:   | 11 Jan 2019             |

In this regard, under the provisions of the EIA Notification 2006 as amended, the Standard TOR for the purpose of preparing environment impact assessment report and environment management plan for obtaining prior environment clearance is prescribed with public consultation as follows:

राजीव हुई / RAJIB HUI  
परियोजना पदाधिकारी / PROJECT OFFICER  
कोतरे बसंतपुर पंचमो कोल परियोजना  
Kotre Basantpur Pachmo Coal Mine  
सी०सी०एल०, राँची / C.C.L., Ranchi

**STANDARD TERMS OF REFERENCE (TOR) FOR EIA/EMP REPORT FOR  
PROJECTS/ACTIVITIES REQUIRING ENVIRONMENT CLEARANCE**

**1(a):STANDARD TERMS OF REFERENCE FOR CONDUCTING  
ENVIRONMENT IMPACT ASSESSMENT STUDY FOR COAL  
MINING PROJECTS AND INFORMATION TO BE INCLUDED IN EIA/  
EMP REPORT**

**A. STANDARD TOR FOR AN OPENCAST COAL MINING PROJECT**

- 1) An EIA-EMP Report shall 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.**
- 2) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season except monsoon.
- 3) A map specifying locations of the State, District and Project location should be provided.
- 4) A Study area map of the core zone and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/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 study area should be given.
- 5) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note on the land use.
- 6) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, 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.
- 7) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- 8) A detailed Site plan of the mine showing the 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 -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease/project areas, 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 should be indicated.

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- 9) 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 as per the approval of Irrigation and flood control Department of the concerned state.
- 10) 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 in the map.
- 11) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

**LANDUSE DETAILS FOR OPENCAST PROJECT should be given as per the following table:**

| S.N. | LANDUSE              | Within ML Area (ha) | Outside ML Area (ha) | TOTAL |
|------|----------------------|---------------------|----------------------|-------|
| 1.   | Agricultural land    |                     |                      |       |
| 2.   | Forest land          |                     |                      |       |
| 3.   | Wasteland            |                     |                      |       |
| 4.   | Grazing land         |                     |                      |       |
| 5.   | Surface water bodies |                     |                      |       |
| 6.   | Settlements          |                     |                      |       |
| 7.   | Others (specify)     |                     |                      |       |
|      | <b>TOTAL</b>         |                     |                      |       |

- 12) Break-up of lease/project area as per mining operations should be provided.
- 13) Impact of changes in the land use due to the project, if much of the land being acquired is predominantly agricultural land/forestland/grazing land.
- 14) **One-season (non-monsoon) primary baseline data** on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season **met data** coinciding with the same season for AAQ collection period should be provided.
- 15) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources should be provided. The number and location of the stations in both core and buffer zones 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.

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- 16) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. 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. should also be obtained and furnished.
- 17) 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 the end of mine life should be provided 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.
- 18) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- 19) Impact of mining on hydrology, modification of natural drainage, diversion and channeling 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.
- 20) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- 21) 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 given.
- 22) 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 monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- 23) Impact of blasting, noise and vibrations should be given.
- 24) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- 25) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. 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 should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- 26) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo entirely wagons and into trucks/tippers.

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- 27) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- 28) Efforts be made for maximising progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void.--to reduce land degradation.
- 29) Impact of change in land use from mining operations and whether the land can be restored to agriculture use post mining.
- 30) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEF given below) and selection of species (native) based on original survey/landuse should be given.

**Table 1: Stage-wise Landuse and Reclamation Area (ha)**

| S.No. | Land use Category                              | Present<br>(1st Year) | 5th Year    | 10th<br>Year | 20th year   | 24th Year<br>(end of<br>Mine life)* |
|-------|--|-----------------------|-------------|--------------|-------------|-------------------------------------|
| 1.    | Backfilled Area(Reclaimed with<br>plantation)  |                       |             |              |             |                                     |
| 2.    | Excavated Area (not reclaimed)/<br>void        |                       |             |              |             |                                     |
| 3.    | External OB dump Reclaimed<br>with plantation) |                       |             |              |             |                                     |
| 4.    | Reclaimed Top soil dump                        |                       |             |              |             |                                     |
| 5.    | Green Built Area                               |                       |             |              |             |                                     |
| 6.    | Undisturbed area (brought under<br>plantation) |                       |             |              |             |                                     |
| 7.    | Roads (avenue plantation)                      |                       |             |              |             |                                     |
| 8.    | Area around buildings and<br>Infrastructure    |                       |             |              |             |                                     |
|       | <b>TOTAL</b>                                   | <b>110*</b>           | <b>110*</b> | <b>110*</b>  | <b>110*</b> | <b>110*</b>                         |

\* As a representative example

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**Table 2: Stage-wise Cumulative Plantation**

| S.N. | YEAR*                        | Green Belt |              | External Dump |              | Backfilled Area |              | Others (Undisturbed Area/etc.) |              | Total     |              |
|------|------------------------------|------------|--------------|---------------|--------------|-----------------|--------------|--------------------------------|--------------|-----------|--------------|
|      |                              | Area (ha)  | No. of trees | Area (ha)     | No. of trees | Area (ha)       | No. of trees | Area (ha)                      | No. of trees | Area (ha) | No. of trees |
| 1.   | 1st year                     |            |              |               |              |                 |              |                                |              |           |              |
| 2.   | 3rd year                     |            |              |               |              |                 |              |                                |              |           |              |
| 3.   | 5th year                     |            |              |               |              |                 |              |                                |              |           |              |
| 4.   | 10th year                    |            |              |               |              |                 |              |                                |              |           |              |
| 5.   | 15th year                    |            |              |               |              |                 |              |                                |              |           |              |
| 6.   | 20th year                    |            |              |               |              |                 |              |                                |              |           |              |
| 7.   | 25th year                    |            |              |               |              |                 |              |                                |              |           |              |
| 8.   | 30th year                    |            |              |               |              |                 |              |                                |              |           |              |
| 9.   | 34th year (end of mine life) |            |              |               |              |                 |              |                                |              |           |              |
| 10.  | 34-37th Year (Post-mining)   |            |              |               |              |                 |              |                                |              |           |              |

\* As a representative example

- 31) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the status pre- mining should be provided. A Plan for the ecological restoration of the mined out area and post mining 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 should be detailed.

**Table 3: Post-Mining Landuse Pattern of ML/Project Area (ha)**

| S.N. | Land use during Mining | Land Use (ha) |            |            |             |            |
|------|------------------------|---------------|------------|------------|-------------|------------|
|      |                        | Plantation    | Water Body | Public Use | Undisturbed | TOTAL      |
| 1.   | External OB Dump       |               |            |            |             |            |
| 2.   | Top soil Dump          |               |            |            |             |            |
| 3.   | Excavation             |               |            |            |             |            |
| 4.   | Roads                  |               |            |            |             |            |
| 4.   | Built up area          |               |            |            |             |            |
| 5.   | Green Belt             |               |            |            |             |            |
| 6.   | Undisturbed Area       |               |            |            |             |            |
|      | <b>TOTAL</b>           |               |            |            |             | <b>110</b> |

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- 32) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be accorded?.
- 33) 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 in the mine should be given.
- 34) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- 35) Integration of the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc. should be carried out.
- 36) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- 37) 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 should be given.
- 38) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- 39) Corporate Environment Responsibility:
  - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
  - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
  - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
  - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- 40) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details 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.




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- 41) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- 42) Status of any litigations/ court cases filed/pending on the project should be provided.
- 43) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- 44) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

**FORESTRY CLEARANCE:**

Details on the Forest Clearance should be given as per the format given:

| TOTAL<br>ML/PROJECT<br>AREA (ha) | TOTAL<br>FOREST-<br>LAND<br>(ha) | Date of FC  | Extent of<br>forestland | Balance area for<br>which FC is yet to<br>be obtained | Status of<br>appl. for<br>diversion of<br>Forestland |
|----------------------------------|----------------------------------|---|-------------------------|---|--|
|                                  |                                  | If more than<br>one, provide<br>details of<br>each FC |                         |   |  |
|                                  |                                  |   |                         |   |  |
|                                  |                                  |   |                         |   |  |
|                                  |                                  |   |                         |   |  |

  
**राजीव हुई / RAJIB HUI**  
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