

# **ENVIRONMENTAL STATEMENT 2015-16**

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**MAGADH OPENCAST PROJECT**

**M-A AREA, DAKRA**

**SEPTEMBER'15**



**CENTRAL COALFIELDS LIMITED**

**ENVIRONMENT DIVISION**

**Ranchi**

## **EXECUTIVE SUMMARY**

**E-1** This Annual Environmental Statement has been prepared as per gazette notification by G.S.R. 329 (E) dated 13th March 1992 laid down by Ministry of Environment and Forest. The Environmental Audit has been subsequently renamed to “**Environmental Statement** ” vide MOEF gazette notification no. G.S.R. 386 (E) dated 22nd April 1993.

**E-2** Magadh Opencast Project of Central Coalfields Limited is located in the North Karanpura Coalfields in Chatra and Latehar district of Jharkhand State. The project locations and other surface features are given in the plan annexed as **Annexure I**.

**E-3** The Magadh Opencast Project has commenced its operation since 7<sup>TH</sup> Feb’15. The estimated mineable reserve in the Magadh block is 351 MTY.

**E-4** The Environmental Monitoring was carried out by CMPDI as per guidelines of Ministry of Environment & Forest (MOEF).

**E-5** Water is not directly used during mining for coal production. However, mine water is used for fire-fighting and dust suppression at different sites.

**E-6** Explosives are used for breaking rocks/coal and POL for operation of HEMM, lighting and pumping. The detailed consumption of explosive and POL are shown in Part-B of Statement

# CHAPTER I

## PROJECT DESCRIPTION

### 1.1 INTRODUCTION:

The Magadh Opencast project of Central Coalfields Limited is located in North Karanpura Coalfield in Chatra and Latehar district of Jharkhand State. The Magadh Opencast project started in 2015. Initially the planned capacity of the project was 12 MTY with stripping ratio of 1: 1.51 in Magadh Block. Estimated mineable reserve in Magadh OCP 351 MTY.

Magadh Opencast Project was identified for a rated capacity of 12.0 MTY for supplying coal to Tandwa STPS (2000 MW) of NTPC. The proposed mining area is remote and no basic infrastructure like Road, Power, Railway, Water Supply arrangement are available in this project. To develop the area, these facilities are to be made available, which normally take a long period. Project Report for Magadh OCP (12Mty), CCL with both coal and OB outsourcing variant was approved by Government of India vide letter no.43011/20/2004 CPAM dated 19th July 2006.PR for Magadh OCP (12 MTY) was approved by MOEF.

### 1.2 LOCATION & COMMUNICATION

The proposed Magadh OCP is located in the northern part of the N.K. coalfield and lies in the Chatra District of Jharkhand. 4 geological blocks namely Magadh, Tandwa, Dumargarh and Karimati have been considered in the proposed mine.

#### **Location of Blocks Considered**

- Survey of India Topographic Map-73 A/13 and special sheet no. 9&13
- Co-ordinates :
  - Magadh Block** (Lat 23° 49' 15" & 23° 51' 30" N & Lon 84° 57' 40" & 84° 59' 30" E)
  - Tandwa Block** (Lat 23° 47' 40" & 23° 50' 38" N & Lon 84° 55' 35" & 84° 57' 40" E)
  - Dumargarh Block** (Lat 23° 48' 30" & 23° 50' 56" N & Lon 84° 54' 50" & 84° 56' 09" E)
  - Karimati Block** (Lat 23° 48' 40" & 23° 49' 40" N & Lon 84° 53' 40" & 84° 54' 54" E)

#### **COMMUNICATION**

The Magadh OCP is approachable by 12 Km long fair weather Kutcha road from Tandwa village. Tandwa is connected to Khilari via Piparwar by a 35 Km long metalled road and Hazaribagh with another metalled road (80 Km) via Semaria. A fair weather kutcha road connecting Tandwa village with Balumath also runs close to this OCP, The nearest railway station is Ray, which is at a distance of about 35 Km from the block, on Barkakana Dehri-on-Sone loop line of the Eastern Railway. Tori Railway station is another nearby railhead, located south-west of the block, at a crow fly distance of about 45 Km.

### **1.3 GEOLOGY OF MAGADH BLOCK :**

The Magadh OCP blocks are located in the northern part of NK Coalfields. In the whole area Barakar formation is overlying the metamorphic formation. Barren Measure is exposed further to dip side of the blocks. Metamorphic formation exposed on the ground lies towards north of the block boundary. The general sequence of the blocks is described as below:

| <b>Period</b>                        | <b>Formation</b> | <b>Litho logy</b>   |
|--------------------------------------|------------------|---|
| Recent                               |                  | Alluvium  |
|                                      | Barren Measure   | Dark shale, sandy micaceous Shale   |
| Lower Permian                        | Barakar          | Coarse to medium grained sandstone, thick coal seams, carbonaceous shale, shale fire clay and sandy shale |
| Upper Carboniferous to Lower Permian | Talchir          | Green shale, Sandstone Rhythmites   |
| Pre-Cambrian                         |                  | Granite, Gneiss, Mica Schist and Amphibolites   |

### **1.4 TOPOGRAPHY**

The Magadh OCP is characterised by more or less flat terrain with gentle undulations. In general, the ground slopes towards south in major part of the block. In the northern part, it slopes towards the east. The maximum elevation of 509M is noticed in the northern part of the block, where lower seams are incroping. The minimum elevation of 464M is noticed near the southern block boundary. Because of the outcrop of soft rocks as well as thick alluvial covers, gullies have developed at places leading to adverse land forms. The drainage of Magadh OCP is controlled by Pindar-Kalkal Nala, flowing west to east in the northern side of the property and Bhitiyahi nala flowing north to south along the Western block boundary. The Bhitiyahi nala meets the Garhi River in the south at a distance of about 10 Km. There is no perennial water body within the block.

# ENVIRONMENT STATEMENT FOR MAGADH OCP, C.C. LTD. FOR THE YEAR 2015-16

## PART-A

I. Name and Address of the mine

NAME : MAGADH OPENCAST PROJECT  
 PLACE : TANDWA  
 POST : TANDWA  
 DIST. : CHATRA, Jharkhand  
 FAX : 0651-236004

II. INDUSTRY CATEGORY : PRIMARY (RED)

III. PRODUCTION CAPACITY : 20 MTY

IV. YEAR OF STARTING : 2015

## PART - B

### WATER AND RAW MATERIAL CONSUMPTION

#### 1. WATER CONSUMPTION

a. Mining

- i. Haul road dust suppression : Nil
- ii. Workshop : Nil
- iii. Fire Fighting : Nil
- iv. Others (Service building etc.) : Nil

b. Domestic

- i. Colony : Nil

| Name of Product | Water Consumption per Unit of Product |          |                                    |          |
|-----------------|---------------------------------------|----------|------------------------------------|----------|
|                 | During financial year<br>(2014-15)    |          | During financial year<br>(2013-14) |          |
|                 | Industrial                            | Domestic | Industrial                         | Domestic |
| 1. ROM Coal     | Nil                                   | Nil      | Nil                                | Nil      |

#### 2. RAW MATERIAL CONSUMPTION:

| Sl. No. | Name of raw material                        | Name of products | Consumption of raw material ( per unit of output ) | Consumption of raw material ( per unit of output ) |
|---------|---|------------------|--|--|
|         |   |                  | During the financial year<br>(2014-15)             | During the financial year<br>(2013-14)             |
|         | No raw material is used for coal production | ROM              | Nil  | Nil  |

However Explosive – Nil in the year 2014-15(till March).

## PART - C

### POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT (PARAMETERS SPECIFIED IN THE CONSENT ISSUED)

| <b>Pollutions</b> | <b>Quantity of pollution generated ( Mass / Day)</b>  | <b>Concentration of Pollutants Discharged ( mass/Volume)</b>         | <b>Percentage variation from prescribed standards with reasons</b>  |
|-------------------|---|--|---|
| <b>WATER</b>      | Water discharged from:<br>(a) Mine - Nil<br>(b) Workshop - Nil  | NA   | NA  |
| <b>AIR</b>        | It is difficult to quantify the amount of air pollutants. The main air pollutant is suspended particulate matter (SPM). | The Ambient air quality monitoring results are placed as Annexure II | Ambient air quality results show that SO <sub>2</sub> , NOX, CO & SPM level are well within prescribed standards. |

## PART - D

### HAZARDOUS WASTES

(AS SPECIFIED UNDER HAZARDOUS WASTE MANAGEMENT AND HANDLING RULES, 1989)

| <b>Hazardous Wastes</b>              | <b>Total Quantity</b>                      |  |
|--------------------------------------|--|--|
|                                      | <b>During the financial year (2014-15)</b> | <b>During the financial year (2013-14)</b> |
| <b>From Mining Process</b>           | NIL  | NIL  |
| <b>From Material handling System</b> | NIL  | NIL  |

## PART - E

### **SOLID WASTES**

|   | <b>Total quantity</b>                            |  |
|---|--|--|
|   | <b>During the financial year (2014-15) M cum</b> | <b>During the financial year (2013-14) M cum</b> |
| <b>a) From process</b>                      | NIL  | NIL  |
| <b>b) From pollution control facilities</b> | NIL  | NIL  |

## **PART - F**

**PLEASE SPECIFY THE CHARACTERISTICS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE THE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES**

### **1. HAZARDOUS WASTES:**

Hazardous wastes are not being produced either from mining operation or from any pollution control facilities.

### **2. SOLID WASTES:**

During opencast mining overburden is produced as solid wastes temporarily and later on these materials are used for land reclamation. During the year 2014-15, 17.73 Million cubic meter of overburden was generated. The overburden material is more or less homogeneous comprising mainly shale, sand, silt, clay and gravel and is used for back-filing.

### **3. DISPOSAL PRACTICE:**

Presently, the OB material is stacked in external O.B dump.

## **PART -G**

### **IMPACT OF POLLUTION ABATEMENT MEASURES ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION.**

In order to carry out mining in an eco-friendly manner following pollution control measures have been implemented.

#### **1.0 AIR POLLUTION CONTROL MEASURES:**

The following measures have been taken to control Air pollution:

1. Regular sprinkling of water on haul roads and other roads.
2. Water sprinkling on coal stock.
3. Plantation along the haul road and on other vacant space.
4. Wet Drilling is followed in blasting
5. NONEL Technology is used in blasting to reduce noise and vibration due to blasting.
6. All necessary precautions are taken during drilling, blasting, loading and transporting Operations.

#### **2.0 WATER POLLUTION CONTROL MEASURES:**

The following measures have been taken to control water pollution from the mine:

1. The mine water discharge outside only in the rainy season, which is allowed to settle in sump before pumping to natural drains. Some of mine water is also used for haul road dust suppression and in fire fighting in the mine
2. The catch drains have been constructed around the foot of the OB dumps in order to collect surface run-off water from the dumps and convey them to the settling ponds.
3. Oil & grease traps and settling ponds are operating in the workshop to prevent water pollution.
4. A garland drain is provided around the quarry to collect the surface run-off. This also prevents storm water to enter into the quarry area.

5. Check dams are provided in local and seasonal nalla flowing in the mining area.

### **3.0 NOISE POLLUTION CONTROL MEASURES:**

The following measures have been taken to control water pollution from the mine:

1. Blasting operation is carried out between 12.30 PM to 3.00 PM with special technology- NONEL to reduce noise and vibration due to blasting.
2. Regular maintenance of HEMMs, CHP, and other equipments.
3. Use of HEMMs with sound proof cabin.
4. All DG Sets are enclosed in acoustic enclosure.

### **4.0 MEASURES FOR RECLAMATION OF LAND:**

The reclamation of the land will be done as per reclamation plan. Attached as **Annexure-II**

#### **PART - H**

#### **ADDITIONAL INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT OF POLLUTION**

The following are the additional investment proposal for Environmental protection;

1. The Environmental Monitoring of the project will be continued quarterly as per guideline of MoEF.
2. Environmental statement report will be prepared for each financial year ending 31<sup>st</sup> march.
3. The air and water consent will be taken from Jharkhand State Pollution Control Board, Ranchi each year.
4. Authorization for discharge of Hazardous Waste will be taken regularly from JSPCB
5. Permission for withdraw of ground water will be taken as and when required from the competent authority

#### **PART - I**

#### **ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT**

1. To reduce Noise and vibration pollution NONEL technology is used in blasting
2. Instead of conventional drilling/ blasting for production of coal, surface miner will be preferred to produce coal of -100 mm size suitable for thermal plants.
3. As stated earlier, out of the aforesaid issues, the green cover / plantation work can only be dealt throughout the operational period of the mine.

**PROJECT OFFICER  
MAGADH PROJECT**