

ENVIRONMENTAL STATEMENT

OF



SIRKA OCP

FOR

2018-19



CENTRAL COALFIELDS LIMITED

**ENVIRONMENT & FOREST DEPARTMENT
ARGADA AREA, CCL**

EXECUTIVE SUMMARY

- E.1 This Environmental Statement Report has been prepared with a view to fulfil the statutory obligations laid down by Ministry of Environment, Forest & Climate Change(MoEF&CC), Govt. of India vide their Gazette notification no. G.S.R. 329 (E) dated 13th March 1992. The 'Environmental Audit' has been made mandatory through this notification. The 'Environmental Audit' has been subsequently renamed to 'Environmental Statement' vide MoEF&CC Gazette notification no. G.S.R. 386 (E) dated 22nd April, 1993.
- E.2 Sirka OCP is operating in Argada Area of Central Coalfields Ltd. The Normative capacity of Sirka OCP is 1 MTPA and the peak capacity is 1.150 MTPA. The Ministry of Environment, Forest & Climate Change (MoEF&CC), Govt. of India vide no. J-11015/462/2008-IA.II(M) dated 25th September, 2014 has granted Environmental Clearance to the Sirka Group.
- E.3 The coal in Sirka OCP is being produced using opencast mining method. A total of 1,66,560 metric tonnes of coal was produced during the year 2018-19.
- E.4 The water although not used directly during the coal winning process, water is being consumed mainly for domestic purpose. The water consumption for Sirka OCP project for the assessment year 2018-19 was 2849 m³/day. Out of this 1076 m³/day was used for industrial purpose and 1773 m³/day was used for domestic purpose.
- E.5 The raw material i.e. High Speed Diesel (HSD) and Lubricant are being used for automobiles (mainly HEMMs) and machines while Explosive is being used for overburden and coal removal purpose. The consumption of explosives for Sirka OCP (combined for coal and OB) for the assessment year 2018-19 was 2,46,525 Kg.
- E.6 The ambient air quality monitoring is being carried out on a fortnightly basis by CMPDI Ltd. as per the guidelines of Ministry of Environment Forest & Climate Change (MoEF&CC). The results reveal that concentration of parameters i.e. SPM, SO₂, NO_x in ambient air for most of the time, are within the prescribed standards. The quality of mine water at the disposal point is meeting the permissible limit with respect to all the parameters. The noise level in the core as well as buffer zone are well within the prescribed norms.
- E.7 Hazardous waste are not being produced either from mining operations or from any pollution control facilities.
- E.8 Solid waste generated during the process of coal winning is being used for physical and biological reclamation purpose.
- E.9 At present following measures is being practiced for environmental management in the project:
(i) The water sprinkling is being done regularly on the haul roads and loading points.
(ii) The O.B. generated in the Sirka OCP project is being reclaimed physically and biologically.

- (iii) Tree plantation has been done in the project.
- (iv) All service roads are metalled.
- (v) Workshop effluents are allowed to settle in sump before final discharge.

CHAPTER ONE

PROJECT DESCRIPTION

1.1 General

The Sirka project is under the administrative control of Argada Area of Central Coalfields Limited. It is one of the taken over mine and it belonged to M/s Bird & Co. Ltd. at the time of nationalisation in 1973. At the time of nationalisation, the production of coal was 0.35 Million Tonnes per Year.

1.2 Location

Sirka project is located in the eastern part of South Karanpura coalfields in Argada area and is surrounded by metamorphic rocks in the north and south. It lies between latitudes $23^{\circ} 30'$ and $23^{\circ} 40'$ and longitude $85^{\circ} 25'$ and $85^{\circ} 28'$. It is included in the Survey of India Topo sheet no. 73E/6. Sirka colliery is situated in the east whereas Damodar River makes its western and southern boundaries. It is situated in the Ramgarh district of Jharkhand state.

1.3 Communication

Sirka Project is connected by all-weather metalled road from Ramgarh on the National Highway (NH) no.33 between Ranchi and Hazaribagh. It is situated at a distance of 10 km from Ramgarh. The nearest Railway station is Argada, on Gomoh - Barwadih line of Eastern Railway that is within 2 km of the mine. The nearest airport is at Ranchi at a distance 80 km.

1.4 Topography and Drainage

Sirka colliery forms a part of lowland between Hazaribagh plateau in the north and Ranchi plateau in the south and represents undulating sloping towards south topography. An ephemeral stream, called Pararu nalla flows in the east of the property, along N-S alignment, discharging water into Damodar River. The Damodar River flows along the western and southern boundary of Sirka block.

1.5 Mining System

Opencast mining system is being practiced in the project considering geominig conditions of the deposits namely (i) gradient of seams (ii) multiple seams (iii) the property being faulted with as many as 10 faults (iv) Sirka combined Argada and Argada 'A' seams being already developed on semi horizon pattern. Shovel (electric), dumper mining system in combination with drill is being used for opencast mining system.

CHAPTER TWO

ENVIRONMENTAL STATEMENT FOR COAL MINING PROJECT

Environmental Statement for the Assessment Year **2018-19**

Part-A

(I) Name and address of the Project:

Name: Sirka OCP
Address: Project Officer
Place: Sirka
District: Ramgarh

(II) Industry category: Primary

(III) Production capacity: 1.00 million tonnes/year

(IV) Year of Establishment: 1925

(V) Date of the last Environment Report submitted: September 2018

Part-B

Water and Raw Material Consumption

(I) Water Consumption (m³/day)

<u>Industrial</u>	<u>2018 -19</u>
(a) Haul road dust suppression	: 252
(b) Workshop	: 03
(c) Fire-fighting	: 821
(d) Others (service building etc.)	: Nil
Sub Total	: 1076 m³/day

Domestic**2018 -19**(a) Colony : 1773 m³/day

(b) Arboriculture : Nil

Sub Total : 1773 m³/day**Total** : 2849 m³/day

Name of product	Water consumption (per tonne of coal produced)	
	During Financial year (2018-19)	During Financial year (2017-18)
ROM Coal	Nil	Nil

Note: There is no direct relationship between water consumption and coal production.**(II) Raw Material consumption:**

Name of raw material	Name of product	Consumption of raw materials (per tonne of coal produced)	
		During Financial year (2018-19)	During Financial year (2017-18)
		Nil	Nil

However, the following materials are being consumed for coal production

S.No.	Materials	2018-19 (Sirka OCP)
01.	Explosives (in kg.)	2,46,525
02.	Lubricants(in litres)	41,812
03.	HSD (in litres)	7,25,119

Part-C**Pollution Generated**

Pollutants	Quantity of pollutants Generated	% variations from prescribed standards with reasons
Water		
(a) Discharge from mine	4104 m ³ /day	The results reveal that all the parameter is under the prescribed limit. The quality of mine water at

		the disposal point vis-a-vis the prescribed standards are given in Annexure.
<u>Air</u>		
The SPM, SO ₂ and NO _x are main pollutants generated from coal mining project.	The quantity of air pollutants from mine is difficult to quantify. However, concentration of air pollutants are measurable & is given in Annexure.	The results of air pollutants are under the prescribed limits.
<u>Noise</u>		
Operation of HEMMS generated noise	Recorded noise level are placed as Annexure.	The noise level in and around the project is under the prescribed limits.

Part-D

Hazardous wastes

(as specified under Hazardous Waste Management & Handling Rules, 1989)

Hazardous Waste	Total Quantity	
	During Financial year (2018-19)	During Financial year (2017-18)
From mining process	Nil	Nil
From pollution control facilities	Nil	Nil

Part-E

Solid Wastes

Solid Wastes	Total quantity of Solid Waste Generated in million cubic metres(Mm3)	
	During Financial year (2018-19)	During Financial year (2017-18)
From mining process		
(i) Top Soil	Nil	Nil
(ii) OB	0.652	0.522
From pollution control facilities	Nil	Nil
Quantity recycled or reutilized	The Overburden generated during the coal winning process is being reutilized for the reclamation physically & biologically alongwith the top soil.	

Part-F

Characteristics of Hazardous and Solid Waste and Their Disposal practice

Hazardous wastes are not being produced or released either from mining operation or pollution control facilities. The process of coal winning by open cast mining process produced O.B and top soil as solid waste temporarily, as these materials are later used for land reclamation. During the year 2018-19, 0.652 Mm³ O.B were generated. The O.B generally consists of the following constituents:

1. Soil
2. Shale band (including carbonaceous shale)
3. Soft Sandstone.

Part-G

Impact of Pollution Control Measures on Conservation of Natural Resources and Consequently on Cost of Production

Disposal Practice

(i) Top Soil

Top soil is a precious natural resource and it loses its natural qualities unless special care is taken during stripping, storage and carpeting of top soil. Land gets degraded due to mining operation. This degraded land is to be reclaimed. Top soil has not been removed from the project during 2018-19.

(ii) Internal Dumps

Internal dumps and external dumps have been planned in a continuity. They have been planned during the planning stage of the project. Once external dumps get stabilized, they are proposed to be extended to cover the open pit by backfilling during coal extraction process.

AIR POLLUTION CONTROL MEASURES

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

S.No.	Measures Suggested	Status Provided or To be Provided
01	All drills are to be provided with dust collection & extraction arrangement	Provided
02	Biological reclamation of O.B dumps	Reclamation is being done
03	Overburden and coal piles will be wetted before loading	It is being done. Continuity to be ensured.

04	Blasting is to be carried out during congenial atmosphere	Being carried out
05	All transfer points to be provided with dust suppression system	To be Provided
06	All the roads used for HEMM movement to be water sprayed regularly	Being done
07	It is proposed to provide water sprinkling system for coal stock	Being done

WATER POLLUTION CONTROL MEASURES

- Mine water is pumped into the sedimentation lagoon created naturally in the dip side of the mine. This water is then passed to natural drains through sedimentation lagoon.
- The catch drains has been constructed around the foot of the O.B. dumps in Sirka OCP in order to collect surface run-off water from the dumps and convey them to the settling ponds.
- Colony and other service buildings are provided with septic tank and soak pit.
- A garland drain is provided around the quarry in Sirka OCP to collect the surface run-off. This also prevent storm water to enter in to the quarry area.

NOISE POLLUTION CONTROL MEASURES

- Blasting operation is carried out between 2.00 PM to 3.00 PM in Sirka OCP.
- Regular maintenance of HEMMs, CHP and other equipments.
- Use of HEMMs with sound proof cabin.
- Providing green belt around noise generating centers.

MEASURES FOR RECLAMATION OF LAND

At present overburden generated during mining in Sirka OCP is being used as re-filling material in de-coaled area of quarry. As soon as the dumps reaches to its final stage, it is proposed to start technical and biological reclamation of the dumps. At the end of mining operation, some decoaled area will remain empty, which would be used for storing rain water. The presence of such a water body will help in increasing the moisture content of soil of adjacent area and ultimately it would promote the growth of vegetation.

Part-H

Additional Investment Proposal for Environmental Protection Including Abatement of Pollution

- The Project will continue to carry out regular environmental monitoring for air, water and noise pollutants as per the guidelines of MoEF&CC.
- The Environmental Statement Report will be prepared for each assessment year as per the guidelines of Ministry of Environment Forest& Climate Change (MoEF&CC).

- The project will continue to take Consent to Operate (CTO) from Jharkhand State Pollution Control Board (JSPCB) for each year.
- The other proposal for additional investment for environmental protection and pollution abatement in the project is under consideration.

Part-I

Any other particulars in Respect of Environmental Protection and Abatement of Pollution

The suggestions made by different statutory agencies viz. Ministry of Environment Forest & Climate Change, Central Pollution Control Board, Jharkhand State Pollution Control Board etc. are being implemented from time to time in the project for better environmental conditions in and around the project.


19/9/19
Nodal Officer
Sirka OCP


19.9.19
Project officer
Sirka OCP
Project Officer (S. G.)
Sirka Colliery