ENVIRONMENTAL STATEMENT

(Form – V)

Under Rule – 14 of Environment Protection Rules, 1986 and Amendment, 1993

of

Talcher Underground Mine

For the year 2013-14

Mahanadi Coalfields Ltd.

Post: Jagruti Vihar, Burla,
Dist: Sambalpur, Orissa-768020

FORM – V

ENVIRONMENTAL STATEMENT

Environmental statement for the financial year ending 31st Mar, 2014

Part – A

i) Name & Address of the owner/ occupier of the industry operation or process (Name of the Project Officer/ Sub-Area Manager & Office address to be given) : Shri V.Kumar,
Project Officer (T&H),
Talcher Colliery,
Post: Dera,
Dist: Angul, (Odisha),
Pin: 759103

ii) Industry Category : Primary (Coal Mining Operation)

iii) Production Capacity (Coal production during the year (2013-14) : 101350 Te.

iv) Year of establishment : 1928

v) Date of the last Environmental Statement submitted : September, 2013

Part – B
Water & Raw Material Consumption

Note: Average Water Consumption (m^3/ day) for the whole year is given. Raw material consumption is given per unit of coal produced.

(I) Water Consumption (m^3/ day):

1.	Industrial/ Mining	Consumption in m^3/ day
a	Haul Road Dust Suppression	–
b	Dust Suppression at CHP	770
c	Dust Suppression at Siding	–
d	Fire Fighting	–
e	Workshop	–
f	Others	-
2.	Domestic	1760
3.	**Total in m^3/ day**	**2530**

Name of the Product	Water Consumption per unit of product (ℓ/ t)	
	2012-13	2013-14
Coal	7829.16	6014.30

(II) Raw Material Consumption (per tonne of coal):

Name of Raw Material	Consumption of Raw Material (per tonne of Coal produced)	
	2012-13	2013-14
H.S. Diesel (ℓ/ t)	0.370	0.7211
Petrol (ℓ/ t)	0.0005	0.00249
Lubricants (ℓ/ t)	0.169	0.2335
Electricity (Units/ t)	120.08	166.718
Explosives (kg/ t)	0.618	0.652

Part – C
Pollution Discharged to Environment/ Unit of Output

(Parameter as specified in the 'Consent' issued)

Pollutants	Quantity of pollutants discharged (mass/ day)	Concentrations of pollutants in discharges (mass/ volume)			Percentage variation from prescribed standards with reasons
Water (annual average)					
	Not possible to quantify	Mine Effluent	OGT Outlet	STP Outlet	Within the prescribed standard
TSS (mg/ℓ)		28.91	–	–	
BOD mg/ℓ)		–	–	–	
COD (mg/ℓ)		46.26	–	–	
pH		7.77	–	–	
O & G (mg/ℓ)		<1.0	–	–	
Air (Ambient air quality of one station near Canteen – annual average)					
SPM (µg/m^3)	Not possible to quantify	249.00			Within the prescribed standard
RPM (µg/m^3)		138.61			
SO_2 (µg/m^3)		25.09			
NO_x (µg/m^3)		27.30			

Part – D
Hazardous Wastes

As specified under Hazardous Wastes (Management & Handling) Rules, 1989.

Hazardous Waste	Total Quantity (kg)	
	During the previous financial year (2012-13)	During the current financial year (2013-14)
(a) From process (Burnt Oil recovered in workshop)	Not applicable	Not applicable
(b) From pollution control facilities (Oil recovery from Oil & Grease Trap and oily sludge)	Not applicable	Not applicable

Part – E
Solid Wastes (other than hazardous)

Particulars	Total Quantity	
	During the previous financial year (2012-13)	During the current financial year (2013-14)
(a) From process (Top soil and Over burden)	Not applicable	Not applicable
(b) From pollution control facilities (STP & Sed– Pond Sludge)	Not applicable	Not applicable
(c) 1- Quantity recycled or re-utilized (OB back-filled)	Not applicable	Not applicable
2- Sold	Not applicable	Not applicable
3- Disposed	Not applicable	Not applicable

Part – F
Please specify the characteristics (in terms of concentration & quantum) of hazardous as well as solid waste and indicate the disposal practice adopted for both these categories of wastes.

(I) Hazardous Wastes:

Name of Hazardous Wastes	Quantity generated in the year 2013-14	Disposal Practices
Burnt Oil, etc. (ℓ) (from W/Shop)	1400 ℓ	By auction to authorized parties
Oil & Grease (kg) (from ETP/ OGT)	Not applicable	Not applicable
Oily Sludge (tonne.) (from ETP/ OGT)	Not applicable	Not applicable
Battery (nos.)/ Cap Lamp	628 Nos.(Cap lamp) Battery-06 Nos.	By auction to authorized parties

Note: A detailed note on disposal practices of the above should be given separately.

(II) Solid Wastes:

Solid Waste	Quantity generated in the year 2013-14	Disposal Practices
Top Soil (m^3)	Not applicable	Not applicable
OB (m^3)	Not applicable	Not applicable
STP & Sed–Pond Sludge	Not applicable	Not applicable

Land Reclamation & OB disposal – progressive till March, 2014:

	Area (ha.)	OB Volume/ Nos. of Plants
1) External OB dump	Not applicable	Not applicable
2) Excavated land	Not applicable	Not applicable
3) Land affected (1+2)	Not applicable	Not applicable
4) Backfilled (out of 2)	Not applicable	Not applicable
5) Land physically reclaimed (out of 3)	Not applicable	Not applicable
6) Land biologically reclaimed (out of 3)	Not applicable	Not applicable

Part – G

Impact of pollution control measures on conservation of natural resources and consequently on cost of production.

In order to carry out mining in an eco-friendly manner, a detailed Environmental Management Plan (EMP) was prepared by Regional Institute – VII of CMPDIL. The main pollution control measures suggested in EMP along with the measures implemented so far have been summarized in the Table – 1.1 to 1.3.

Table – 1.1
Air Pollution Control Measures

Sl. No.	EMP Provisions	Whether provided or not	Remarks
1	Watering and grading of all roads to minimize air-borne dust from vehicles.	Not applicable	Underground mine
2	Biological reclamation of land.	Not applicable	
3	Green belt around mine & infrastructures.	Provided	
4	Drills fitted with dust control devices.	Not applicable	
5	Dust suppression/ dust extraction system to be provided in CHP.	Provided	
6	Improved maintenance of plant & machinery..	Provided	
7	Mechanized coal transportation system.	Provided	

Table – 1.2
Water Pollution Control Measures

Sl. No.	EMP Provisions	Whether provided or not	Remarks
1	Mine water is to be collected in central sump on dip side of pit. This will act as sedimentation lagoon.	Provided	Underground mine
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	Not applicable	
3	Surface run-off from external dump would be collected through a series of contour drains which would be connected to a water retention pond. The clear water from this pond will be discharged to natural water course.	Not applicable	
4	Domestic waste water will be treated in screens, oxidation pond/ aerated lagoon. Sanitary waste to be disposed off into septic tank & soak-pit.	Through Septic Tank & Soak Pit combination	
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Not applicable	

Table-1.3

Land Reclamation

Sl.No.	EMP provisions	Whether provided or not	Remarks
1	**Top soil management:** Proper stripping, Storage and Relocation of top coil.	Not applicable	
2	**Physical Reclamation of OB Dump:** Proper reshaping and regarding of top surface. Providing drainage arrangements and top soil spreading for external and internal dumps.	Not applicable	
3	**Biological Reclamation :** Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Not applicable	

Impact of Pollution Control Measures on cost of Production.

Cost of Environmental Management during 2013-14 **Rs. 16.37** per tonne of coal (approx).

Part-H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

Head	Amount Rs. (approx)
Environmental Monitoring	8.00 Lakh
Water Cess	5.50 Lakh
Cleaning of slow sand filter	4.00 Lakh
Consent Fee	2.25 Lakh
Water sprinkling arrangement on C.T.Road	2.90 Lakh
Water sprinkling arrangement of stock	1.80 Lakh
	24.45 Lakh

Part-I

Any other particulars for improving the quality of the environment.

Note: **Please attach a plan showing the relevant features like Present Working/ Quarry,External Dump, Back-filling, Plantation, Sedimentation Pond/MDTP, Oil & Grease Trap/ ETP, Workshop CHP,STP etc. and Environmental Monitoring Stations.**

2/9/19.

Project Officer (T&H)

Project Officer (T&H)

Talcher Colliery MCL

Source Clearance 31/03/14.

Project Officer (T&H)
Talcher Colliery MCL

..... Plantation Area
■ - CHP
□ - Sedimentation Pond
o - Env Monitoring Stn.