

ENVIRONMENTAL STATEMENT

(Form – V)

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

of

Bharatpur Opencast Mine

For the year 2024-25



MCL

Mahanadi Coalfields Ltd.

Post: Jagruti Vihar, Burla,

Dist: Sambalpur, Orissa-768020

FORM-V
ENVIRONMENTAL STATEMENT
Environmental statement for the financial year ending 31st Mar, 2025

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 Sunil Sharma
Project Officer, BOCF
P.O: N. S. Nagar, Bharatpur
Dist: Angul- Odisha
- ii) Industry Category : Primary (Coal Mining Operation)
- iii) Production Capacity : 20.00 MTPA
(Coal production during the year 2023-24 : 13.01 MT
- iv) Year of establishment : 1985
- v) Date of the last Environmental Statement submitted : 28th September, 2024.

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):

Sl No.	Industrial/ Mining	Consumption in m^3 / day
1. a	Haul Road Dust Suppression	1680
b	Dust Suppression at CHP	1250
c	Dust Suppression at Siding	1200
d	Fire Fighting	560
e	Workshop	84
f	Others	50
2.	Domestic	20
3.	Total in m^3/ day	4844

Name of the Product'	Water Consumption per unit of product (l/ t)	
	During current financial year (2023-24)	During current financial year (2024-25)
Coal	148.55	135.87

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

Name of Raw Material	Consumption of Raw Material (per tonne of Coal produced)	
	2023-24	2024-25
H.S. Diesel (l/ t)	0.635	0.28
Petrol (l/ t)	Nil	Nil
Lubricants (l/ t)	0.018	0.01
Electricity (Units/ t)	3.178	3.161
Explosives (kg/ t)	0.605	0.606

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
		Mine Effluent	OGT Inlet	STP Outlet	
Water (annual average)					
TSS (mg/l)	Not possible to quantify	0.00	39.00	34.78	Parameters are within the prescribed standards
BOD (mg/l)		-	-	<2	
COD (mg/l)		0.00	24.25	31.64	
pH		7.29	7.27	7.47	
O & G (mg/l)		<4	<4	<4	
Air (Ambient air quality of one station - annual average) Near Regional Store					
SPM ($\mu\text{g}/\text{m}^3$)	Not possible to quantify	213.91			Parameters are within the prescribed standards
RPM ($\mu\text{g}/\text{m}^3$)		164.56			
SO ₂ ($\mu\text{g}/\text{m}^3$)		14.04			
NO _x ($\mu\text{g}/\text{m}^3$)		14.31			

Part - D
Hazardous Wastes

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

Hazardous Waste	Total Quantity (kg)	
	During the previous financial year (2023-24)	During the current financial year (2024-25)
(a) From process i) Burnt Oil in workshop ii) Oil soaked filters	32970 Ltrs.	31710 Ltrs
(b) From pollution control facilities i) Oil/ Oil emulsion recovery from Oil & Grease Trap ii) Oily sludge iii) Chemical wastes (if any)	35.00 Ltrs (oil) 150.00 m ³ (oily sludge) Nil	32.00 Ltrs (oil) 138.00 m ³ (oily sludge) Nil

Part - E
Solid Wastes (other than hazardous)

Particulars	Total Quantity	
	During the previous financial year (2022-23)	During the current financial year (2023-24)
(a) From process (Top soil and Over burden)	12.24	
(b) From pollution control facilities (STP & Sed-Pond Sludge)	330 m ³	
(c) 1- Quantity recycled or re-utilized (OB back-filled)	12.24	
2- Sold	Nil	
3- Disposed	Nil	

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 2023-24	Disposal Practices
Burnt Oil, etc. (ℓ) (from W/Shop)	31710 Lit	By auction to the authorized party
Oil & Grease (kg) (from ETP/ OGT)	32 Lit	By auction to the authorized party
Oily Sludge (tonne.) (from ETP/ OGT)	138 Te	Disposed off on OB dump.
Battery (nos.)		By auction to authorized party

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

(II) Solid Wastes:

Solid Waste	Quantity generated in the year 2024-25	Disposal Practices
Top Soil (m ³)	0.83 Mm ³	Spreaded over back filled area for Plantation
OB (m ³)	13.27 Mm ³	Used to fill in Quarry voids
STP & Sed-Pond Sludge	330 m ³	Used as Manure in Colony & Plantation

Land Reclamation & OB disposal – progressive till March, 2024:

	Area (ha.)	OB Volume/ Nos. of Plants
1) External OB dump	49.50	9.22 Mm ³ 65454 Nos. of plants
2) Excavated land	570.84	238.468 Mm ³
3) Land affected (1+2)	620.34	-
4) Backfilled (out of 2)	370.93	238.468 Mm ³
5) Land physically reclaimed (out of 3)	212.56	-
6) Land biologically reclaimed (out of 3)	153.16	4,19,393 Nos. of plants

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.

S.S.V

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.	Provided.	
2	Biological reclamation of land.	Provided.	
3	Green belt around mine & infrastructures.	Provided.	
4	Drills fitted with dust control devices.	Provided.	
5	Dust suppression/ dust extraction system to be provided in CHP.	Provided.	
6	Improved maintenance of plant & machinery.	Being maintained by scheduled plan.	
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	
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	Provided	
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.	Provided	
4	Domestic waste water will be treated in screens, oxidation pond/ aerated lagoon. Sanitary waste to be disposed off into septic tank & soak-pit.	Provided	
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Provided	
6	Zero discharge from mine shall be maintained.	Maintained.	
7	Piezometers shall be installed for measurement of underground water depth and its quality.	Installed	MTP 09: Inside the premises of Joragadia Panchayat High School & MTP, 10: Inside the premises of Danara High School.

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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 soil.	Provided	
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.	Provided	
3	Biological Reclamation: Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Provided	

IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION

Cost of environmental management during the year 2024-25 was **Rs. 10.24** 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)
Expenditure on ETP & STP	20.00 Lakhs.
Environmental Monitoring Cost	150.00 Lakhs.
Consent to operate fee	80.00 Lakhs.
Plantation on OB dump	120.00 Lakhs
Plantation on ACA land	100.00 Lakhs
Urban Plantation	100.00 Lakhs
Dust Suppression measures	800.00 Lakhs.
Wind Barrier	
Total:	1370.00 Lakhs

Part – I

Any other particulars in respect of environmental protection and abatement of pollution.

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.

24/05/2024

Signature of the Project Officer.

[Handwritten Signature]

Area: Bharatpur Area
Project: Bharatpur OCP

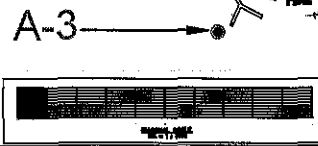
Name of the Work	Amount (Rs.)
Expenditure on E.T.P	359064.40
Expenditure on S.T.P	649773.44
Expenditure on garland drain	1292485.87
Expenditure on barbed wire fencing	1100569.54
Expenditure on water sprinkling	3598923.61
Expenditure on water tankers for Dust Suppression	80486657.47
Expenditure on mobile and fix type fog canons for dust suppression	2828888.58
Mechanical road sweeper	3421790.87
Expenditure on Instant shower system	250000.00
Expenditure on Digital water level recorder	17700.00
Expenditure on Digital water flow meter	36000.00
Plantation on O/B dump	6037477.24
Routine Environment Monitoring Work	26811095.36
Consent to operate fee	6000000
Hazardous waste authorization fees	70000
World Environment day	250000
Total:	Rs. 1332.10 Lakhs

22/11/12
02/09/12
Project Officer
Bharatpur OCP.



AIR MONITORING STATION	
A1	NEAR ETP/ WORK SHOP
A2	NW POINT OF MINES
A3	NEAR MGR RLS
A4	NEAR REGIONAL STORE
A5	NEAR NATEDI VILLAGE-NAAGS
A6	NEAR JORAGADIA-NAAGS

LEGENDS	
1	MINE BOUNDARY
2	EC BOUNDARY
3	CONT. ON OIT-134 BOUNDARY
4	OB/ PARTING BENCHES
5	COAL BENCHES
6	OR BUMP
7	CONTOUR LINE
8	HAUL ROAD
9	COAL TRANSPORTATION ROAD
10	VILLAGE ROAD
11	COAL GORROR ROAD
12	FAULT
13	BORE HOLES



MINE WORKING PLAN	MAHANADI COALFIELDS LIMITED BHARATPUR OPENCAST PROJECT BHARATPUR AREA <i>(Certified that the Plan is correct)</i>		
	DATE	SCALE	BY
SCALE = NTS			