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balco
BHARAT ALUMINIUM COMPANY LIMITED
P.O. - BALCO Nagar, Korba, CG
India - 495684

CPP-II/ENVT/A-02(C)/2025/455

26.09.2025

To,
The Member Secretary,
Head Office, Chhattisgarh Environment Conservation Board,
Paryavas Bhawan, North Block, Sector-19,
Atal Nagar, Naya - RAIPUR (C.G.)

Sub: Environment Statement of 540MW Captive Thermal Power Plant, 1200MW Thermal Power Plant, 3X1500 KVA Diesel Generator Set, 7X3000 KVA Diesel Generator Set, 2,59,200 MTPA Railway Siding (540 MW) and 6,00,000 MTPA Railway Siding (1200 MW) for the financial year 2024-25.

Dear Sir,

With reference to the captioned subject, we, on behalf of Bharat Aluminium Company Limited, are enclosing herewith the Environment Statement of 540MW Captive Thermal Power Plant, 1200MW Thermal Power Plant, 3X1500 KVA Diesel Generator Set, 7X3000 KVA Diesel Generator Set, 2,59,200 MTPA Railway Siding (540 MW) and 6,00,000 MTPA Railway Siding (1200 MW) for the financial year 2024-25 in the prescribed Form - V under Rule 14 of the Environment (Protection) Rules, 1986 and the relevant provisions of the Environment (Protection) Act, 1986.

Thanking you,

Yours truly,
On behalf of Bharat Aluminium Company Limited

Anil Dubey
CEO-Power

Encl: a/a

Copy to:
The Regional Officer, Chhattisgarh Environment Conservation Board, Korba, Chhattisgarh

FORM- V

(See Rule-14)

ENVIRONMENTAL STATEMENT OF FOR THE FINANCIAL YEAR 2024-25

PART – A

1.	Name & address of the owner/ occupier of the industry operation or process	:	**Mr. Rajesh Kumar** **CEO & Director (BALCO)** Bharat Aluminium Company Limited Korba – 495684 (Chhattisgarh)
2.	Industry category primary (STC Code) /Secondary (SIC Code)	:	Primary
3.	Production Capacity	:	1740 MW [540MW Captive Thermal Power Plant, 1200MW Thermal Power Plant, 3X1500 KVA Diesel Generator Set, 7X3000 KVA Diesel Generator Set, 2,59,200 MTPA Railway Siding (540 MW) and 6,00,000 MTPA Railway Siding (1200 MW)]
4.	Year of establishment	:	540MW Captive Thermal Power Plant – 2005 1200MW Thermal Power Plant – 2014 7X3000 KVA Diesel Generator Set – 2016 3X1500 KVA Diesel Generator Set - 2021
5.	Date of last Environment Statement Submitted	:	28th September 2024

PART – B

WATER AND RAW MATERIAL CONSUMPTION

i) Water Consumption in m^3/day: -

Process	:	2023
Cooling	:	76678
Domestic	:	835

NAME OF PRODUCT	WATER CONSUMPTION PER UNIT OF PRODUCT OUTPUT (m^3/MWh)	
	FY 2023-24	FY 2024-25
Power	2.36	2.35

ii) Raw Material Consumption:

Name of raw materials	Name of Product	CONSUMPTION OF RAW MATERIAL (MT/MWh)	
		FY 2023-24	FY 2024-25
Sp. Coal Consumption	Power(1740MW)	0.693	0.714
Sp. Biomass Consumption		0.0012	0.0002
Sp. HFO Consumption		0.00009	0.00001
Sp. LDO Consumption		0.00014	0.00018s

PART – C

Pollution discharged to environment/unit output

Water: Zero discharge condition maintained.

Air: Monitoring results for major pollutants are attached as Annexure-I

PART- D

HAZARDOUS WASTE

As specified under Hazardous and Other Waste (Management and Transboundary Movement) Rules 2016

A. From Process

Hazardous Waste	TOTAL QUANTITY GENERATED (TONNES)	
	FY 2023-24	FY 2024-25
Used or Spent oil (Schedule - I, Cat. No. 5.1)	163.700	37.220
Waste or residue containing oil (Schedule - I, Cat. No. 5.2)	1.900	1.504
Glasswool (Schedule - II, C-4)	2.000	18.840
Empty barrels/containers/ liners contaminated with hazardous chemicals /wastes (Schedule - I, Cat. No. - 33.1)	15.035	29.08
Spent Ion exchange resin containing toxic metals (Schedule - I, Cat. No. 35.2)	Nil	Nil

B. From Pollution Control Devices

Hazardous Waste	TOTAL QUANTITY GENERATED (TONNES)	
	FY 2023-24	FY 2024-25
Chemical sludge from waste water treatment (Schedule - I, Cat. No. 35.3)	0.000	0.000

PART- E
SOLID WASTE

A. From Process:

Hazardous Waste	TOTAL QUANTITY GENERATED (TONNES)	
	FY 2023-24	FY 2024-25
Waste or residue containing oil (Schedule - I, Cat. No. 5.2)	1.900	1.504
Glasswool (Schedule - II, C-4)	2.000	18.840
Empty barrels/containers/liners contaminated with hazardous chemicals /wastes (Schedule - I, Cat. No. - 33.1)	15.035	29.08
Spent Ion exchange resin containing toxic metals (Schedule - I, Cat. No. 35.2)	Nil	Nil

B. From Pollution Control Equipment:

Sl. No.	Waste	TOTAL QUANTITY (TONNES)	
		FY 2023-24	FY 2024-25
1.	Ash	31,33,852.780	34,75,509.310

C. 1. Quantity Recycled or Re-Utilized within the unit: Nil

2. Sold:

Hazardous Waste	TOTAL QUANTITY (TONNES)	
	FY 2023-24	FY 2024-25
Used or Spent oil (Schedule - I, Cat. No. 5.1)	156.152	47.527
Empty barrels/containers/liners contaminated with hazardous chemicals /wastes (Schedule - I, Cat. No. - 33.1)	23.182	18.388

3. Disposed:

Hazardous Waste	TOTAL QUANTITY (TONNES)	
	FY 2023-24	FY 2024-25
Glasswool (Schedule - II, C-4)	0.000	99.730

PART- F

Please specify the characteristics (In terms of composition and quantum) of hazardous as well as solid waste and indicate disposal practice adopted for both these categories of wastes.

S.No.	Waste Description including category	Composition	Quantum as per Hazardous Waste Authorization	Disposal Practice
1	Used or Spent oil (Schedule - I, Cat. No. 5.1)	As per Hazardous Waste, 2016 (Schedule V) Polychlorinated biphenyls (PCBs)- < 2ppm max. Lead- 100 ppm max. Arsenic- 5 ppm max. Cadmium+ Chromium+ Nickel- 500 ppm max. Polyaromatic hydrocarbons (PAH)- 6% max.	300 MT/Year	Sale to authorized recyclers
2	Waste or residue containing oil (Schedule - I, Cat. No. 5.2)	-	7 MT/Year	Captive Incineration in cast house furnaces/ Sale to authorized recyclers
3	Chemical sludge from wastewater treatment (Schedule - I, Cat. No. 35.3)	-	20 MT/Year	Disposal through captive SLF/ co-processing in cement plant/TSDF
4	Spent Ion exchange resin containing toxic metals	-	60 MT in 05 Years i.e. within	Utilization for energy recovery in

	(Schedule - I, Cat. No. 35.2)		authorization Period	boiler for steam or power generation as per SOP issued by CPCB
5	Glasswool (Schedule - II, C-4)	-	150 MT/Year	Dispose of in captive SLF/ TSDF
6	Discarded asbestos (Schedule - I, Cat. No. - 15.2)	Oxygen(O): 40–50% Silicon (Si): 20–25% Magnesium (Mg): 10–25% Iron (Fe): 5–20% Calcium (Ca): 0–10% Hydrogen (H): <1%	100 MT/ Year	Sale to authorized recyclers/ disposal in captive SLF/TSDF
7	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes (Schedule - I, Cat. No. - 33.1)	-	300 MT/Year	Sale to authorized recyclers
8	Oil and grease skimming (Schedule - I, Cat. No. - 35.4)	-	1 KL/Year	Dispose of in captive SLF/ Sale to authorized recyclers

Non-Hazardous waste

S.No	Type of Non-hazardous waste	Disposal practice
1	Ash	• High-density slurry disposal system has been adopted for the efficient and environment-friendly disposal of ash in the form of high-density slurry into ash ponds. • Fly ash collected from Electrostatic Precipitators (ESPs) is stored in silos through a dry ash extraction system. Ash generated from the system is utilized in following avenues in accordance with Fly Ash Notification dated 31.12.2021 and amended thereof: i. Filling of coal mine voids ii. Brick manufacturing iii. Cement industry iv. Construction of roads and flyover embankment

PART- G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

- The Power plants has been designed with the latest technology – High-Concentration Slurry Disposal (HCSD) system. The HCSD system is a much cleaner technology due to less disposal area, less water & power consumption, dense compact deposit with rapid drying, compact disposal site.
- The plant has been equipped with hybrid ESP, electrostatic precipitators (ESP's) followed by bag filters.
- The chimneys are 275m high which ensures adequate dispersion of the air pollutants.
- Effluent treatment plant with RO system has been established for treatment and recycling of water leading to conservation/reduction of natural resources.
- Sewage Treatment plant has been installed for the treatment and recycling of domestic wastewater, ensuring compliance with environmental standards and promoting sustainable water management.
- Wind screens or barriers have been installed to minimize the spread of dust and particulate matter, thereby improving air quality and ensuring a cleaner environment around operational areas.
- Wheel wash system has been installed to prevent the carryover of dust, mud, and other debris from construction or operational areas onto public roads, thereby maintaining cleanliness and reducing environmental pollution.
- Dust extraction and dust suppression systems have been installed to control airborne particulate emissions, ensuring a safer working environment and compliance with environmental regulations.
- Rainwater harvesting structures are installed for the collection and storage of rainwater, which is then utilized for various non-potable purposes such as gardening, cleaning, and groundwater recharge, promoting sustainable water management.

PART- H

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

Expenditure/investment for environmental protection, for the year 2024-25 for both power plants was approx. Rs. 213 Cr. which includes Capital investment and operational expenses of air pollution control equipment, water pollution control equipment, horticulture, housekeeping, waste management, monitoring and other environmental expenses.

PART – I

Any other particulars for improving the quality of the environment.

- 135 MW unit 2 turbine rotor Renovation and Modernization for better cylinder efficiency & heat rate improvement.
- Improvement in water recycling rate through installation of additional ETP (RO based).
- Installation of Online noise meter at cooling tower to monitor noise level on continuous basis.
- Tree plantation is carried out every year in and around the BALCO Complex as well as in the Balco Township. During the year 2024-25 we have carried out plantation of 48,023 saplings at various places in and around BALCO Plant premises.
- BALCO Smelters are certified with the Environment Management System (ISO 14001:2015) certificate.
- BALCO Smelters are certified with the Energy Management System (ISO 50001:2018) certificate.
- Environment Day, Ozone Day, Earth Day being celebrated to awareness stakeholders and employees of BALCO for protection of Environment.

FY 2024-25															
540 MW	**Parameter**	**Norms**	**Unit**	**Apr-24**	**May-24**	**Jun-24**	**Jul-24**	**Aug-24**	**Sep-24**	**Oct-24**	**Nov-24**	**Dec-24**	**Jan-25**	**Feb-25**	**Mar-25**
Unit#1	PM	50	(mg/Nm3)	21.2	33.9	27.4	29.6	29.8	16	32.7	31.6	32.1	38.9	41.2	31.1
Unit#2	PM	50	(mg/Nm3)	26.9	26.8	30.1	31.2	27.2	32.2	32.65	28.3	29	31.7	USD	30.5
Unit#3	PM	50	(mg/Nm3)	13.2	14.2	25.4	23.2	23.4	18.8	17.55	37.9	38.2	31.1	23.8	22.6
Unit#4	PM	50	(mg/Nm3)	USD	22.9	18.7	18.9	16.3	12.9	22.1	22.1	19.1	25.6	18.1	22.2
1200 MW	**Parameter**	**Norms**	**Unit**	**Apr-24**	**May-24**	**Jun-24**	**Jul-24**	**Aug-24**	**Sep-24**	**Oct-24**	**Nov-24**	**Dec-24**	**Jan-25**	**Feb-25**	**Mar-25**
Unit#1	PM	50	(mg/Nm3)	31.7	34.1	31.7	25.6	17.3	18.3	19.95	30.4	20.9	33.1	25.7	27.4
Unit#2	PM	50	(mg/Nm3)	23.2	25.9	24.2	33.2	14.9	13.5	16.3	26.2	17.7	22.2	20.4	26.8
Unit#3	PM	50	(mg/Nm3)	39.1	33.4	32.4	30.9	USD	23.2	25.3	29.1	36.8	25.1	38.1	41.3
Unit#4	PM	50	(mg/Nm3)	37.4	36.6	28.4	36.1	28.7	USD	25.95	20.7	35.2	29.3	39.7	33.4

*USD- Unit Under Shut Down