

The Sandur Manganese & Iron Ores Limited

(An ISO 9001:2015; ISO 14001:2015 and 45001:2018 certified company)
CIN: L85110KA1954PLC000759; Website: www.sandurgroup.com

REGISTERED OFFICE

'SATYALAYA', No.266
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Sandur - 583 119, Ballari District
Karnataka, India
Tel: +91 8395 260301/ 283173-199
Fax: +91 8395 260473



CORPORATE OFFICE

'SANDUR HOUSE', No.9
Bellary Road, Sadashivanagar
Bengaluru - 560 080
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Tel: +91 80 4152 0176 - 79 / 4547 3000
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Ref: No: SMIORE/PLANT/ENV/ES/2023-24/70

09th June 2023

To,
The Member Secretary
Karnataka State Pollution Control Board
"Parisara Bhavan", No #49, Church Street,
Bengaluru, Karnataka-560001

09-06-23
[Signature]

Subject: Submission of Environmental Statement Report for the period 2022-2023.

Reference: 1) EC Identification No. EC22A008KA143818 dated 30/03/2022.
2)CFO No. AW-329576 PCB ID 29470 Dated 02.02.2022
2) Amendment CFO No. AW-335581 PCB ID 29470 Dated 17.01.2023

Dear Sir,

With reference to the above subject matter and references, we are submitting herewith the Environmental Statement Report of M/s The Sandur Manganese & Iron Ores Limited, (Metal & Ferroalloy Plant,) Vyasankere, Mariyammanahalli, 583222, Hosapete Taluk, Vijayanagara District for the period 2022-2023.

Kindly acknowledge receipt of the same.

Thanking you,

The Sandur Manganese & Iron Ores Limited,

[Signature]
Authorized Signatory

Encl: Form V



Cc: The Environmental Officer, Regional Office & Zonal office Karnataka State Pollution Control Board Sri Sai Sharan Plaza, No. 71/A, 2nd floor, Dam Road, Hosapete- 583203, Vijayanagar District.

MINES OFFICE: Deogiri - 583112, Sandur Taluk, Ballari District
Tel: +91 8395 271025 / 28 / 29 / 40; Fax: +91 8395 271066

PLANT OFFICE: Metal & Ferroalloy Plant, Vyasankere, Mariyammanahalli - 583 222, Hosapete Taluk, Ballari District
Tel: +91 8394 244450 / 244335

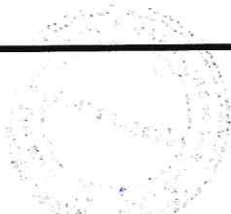
ENVIRONMENTAL STATEMENT

FOR THE YEAR 2022-2023

(Rule 14 of the Environment Protection 1986)



**M/s THE SANDUR MANGANESE AND IRON ORES LTD.,
(METAL AND FERRO ALLOY PLANT)
VYASANAKERE (P), HANUMANHALLI, – 583222,
HOSAPETE TALUK, VIJAYANAGARA DISTRICT**



Form V
Environmental Statement for the Financial Year 2022-2023

PART-A

(i)	Name & address of the owner/occupier of the industry operation or process:	Md. Abdul Saleem, Director (Mines), Metal and Ferro Alloy Plant, The Sandur Manganese and Iron Ores Ltd., Vyasanakere (P), Hanumanhalli, – 583222, Hosapete Taluk ,Vijayanagara district Email ID: pspatil@sandurgroup.com plant.environment@sandurgroup.com
(ii)	Industry Code:	Red
(iii)	Production Capacity:	Quantities As per Approved CFO 1. Coal based power plant 32 MW. 2. MOBS (Manganese concentrate or sponge iron beneficiation) plant - 0.016 MTPA. 3. WHRB 32 MW 4. Coke Oven 0.5 MTPA 5. Ferro Alloy Plant a) Ferro Manganese 0.125 MTPA b) Ferro Silicon 0.05 MTPA c) Silico Manganese 0.095 MTPA d) Pig iron 0.135
(iv)	Year of Establishment:	1993
(v)	Date of last Environment Statement submitted:	26.09.2022

PART-B

WATER & RAW MATERIAL CONSUMPTION

i) Water Consumption (m³/day): As per CFO approval.

Process Water Consumption: 65 m³/day

Cooling Water Consumption: 2607 m³/day

Domestic Water Consumption: 60 m³/day

Name of the Product	Process water consumption/ unit of products	
	During the current financial year (2021-22)	During the current financial year (2022-23)
Ferro Manganese	NIL	NIL



Ferro Silicon	NIL	NIL
Silico Manganese	5.25 m ³ /Tonne	1.97 m ³ /Tonne
Pig iron	NIL	NIL
MOBS (Manganese concentrate or sponge iron beneficiation) plant	NIL	NIL
Coal based power plant	NIL	NIL
WHRB	0.45 l/unit	0.31 l/unit
Coke	0.52 m ³ /Tonne	0.44 m ³ /Tonne

ii) **Raw Material Consumption**

Name of Raw Material	Name of Products	Consumption of raw material per unit output (Tonne/Tonne)	
		During the previous financial year (2021-22)	During the current financial year (2022-23)
Ferro Alloy Plant			
Manganese Ore	Silico Manganese	1.85	1.73
Coal		0.40	0.45
Coke		0.8	0.31
Quartzite		0.30	0.29
Limestone/Dolomite		0.18	0.12
Electrode Paste		0.20	0.020
Power		3650 Units	3758 Units
NIL	Ferro Manganese	NIL	NIL
NIL	Ferro Silicon	NIL	NIL
NIL	Pig Iron	NIL	NIL
WHRB			
Aux Power in (kWh)	Power	0.07 units	0.07 units
MOBS (Manganese concentrate or sponge iron beneficiation) plant (Not In operation)			



NIL	NIL	NIL	NIL
Captive Power Plant (Not In operation)			
Coal	Power	NIL	NIL
Coke Oven Plant			
Coal	Coke	1.27	1.35
Power		10.52units/ Tonne	9.94 units/ Tonne

PART-C

**Pollution Discharged to Environment/Unit of Output
(Parameter as specified in the consent issued)**

a. Water

The factory is a dedicated Zero Liquid Discharge (ZLD) plant. The waste / Blowdown water generated from cooling towers and boiler is treated and re-used in process and also for gardening and dust suppression and not discharged outside the Plant. The sewage/domestic water is treated in septic tank and with soak pit. 1x 50 KLD capacity Moving Bed Biofilm Reactor (MBBR) based Sewage Treatment Plant (STP) installation is in progress. The STP is designed to meet all the prescribed standards of the Board. Treated domestic water is used to greenbelt development activities.

However, during rainy season discharge of storm water is a natural process.

b. Air

The details of the average all Stack Emission for the year 2022-2023 are given under.

Pollutants prescribed	Quantity of Pollutants Discharged (mass/day) (Tonnes/day)	Concentrations of Pollutants Discharged (mass/volume) (mg/Nm ³)	% of Variation from Prescribed Standards %
PM	0.407	25.95	Zero % variation
SO ₂	0.197	29	
NO _x	0.287	42	



PART-D
Hazardous Wastes

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

Hazardous Wastes	Total Quantity Generated (tonnes)	
	During the Previous Financial Year (2021-22)	During the Current Financial Year (2022-23)
From Process	Nil	5.1 Used Oil – 0.9 KL/A 5.2 Wastes or residues containing oil -0.03 MT/A
From Pollution Control Facilities	Nil	Nil

PART-E
Solid Waste

Solid Wastes	Total Quantity Generated (tonnes)	
	During the Previous Financial Year (2021-22)	During the Current Financial Year (2022-23)
a. From Process		
SiMn Slag	34113	49720.6
b. From Pollution Control Facility		
Bag House Dust	4200	5132
Fly ash	NIL (Coal Based Boiler is not in operation)	NIL (Coal Based Boiler is not in operation)
c. Quantity recycled or reutilised within the unit - NIL		

PART-F

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

Hazardous Waste:

During the 2022-23 following hazardous waste is disposed to the authorized agencies:

Sl.No	Category	Disposed Quantity
01	5.1 Used Oil	0.9 KL/A
02	5.2 Wastes or residues containing oil	0.03 MT/A



Solid Waste:

Name of Solid Waste	Characteristics	Method of Disposal
Si Mn Slag	Mgo 12.04 % , Sio2 34.82%, Al2O3 26.40%, Feo 0.4%, Mgo 5.66%	Sold to Brick Industry and construction Industry

PART-G

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

PART-H

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

PART-I

Miscellaneous: Any other particulars in respect of environmental protection and abatement of pollution

Clen Energy initiative:

WHRB (Waste Heat Recovery Boiler):

Two number of WHRB's each having 60 TPH capacity were installed to recover heat from the waste gas produced by the non-recovery coke oven.

These Two WHRB's supply steam required to generate about 32 MW Power. This is one of the important technologies for improving energy efficiency and reducing greenhouse gas emissions in industries. This recovery of waste heat from coke oven gases help to reduce the environmental impact of industrial processes also providing economic benefits through increased energy efficiency and reduced energy costs due to elimination of usage of Thermal coal (aprox 700 T per day) required for power generation.

Water consumption initiative

Air cooling condenser:

SMIORE has installed Air-Cooled Condenser (also referred to as fin-and-tube condenser) instead of conventional shell-and-tube water cooled condensers. As the name suggests, the air-cooled condenser uses ambient air to extract the sensible heat and latent heat of condensation released by the exhaust steam from the turbines. As no water is required for condensing exhaust



steam the technology offers a major advantage for water usage reduction in power plant. By using ACC, we are saving approximately around 2000 M3 of water per day.

Energy Conservation initiative:

- **Installation of Variable Frequency Drive (VFD) at Power plant and Ferro alloys plant**

SMIORE has installed VFD drives for the ID fans and FD fans at Power plant and Ferro Alloy Plant .

VFD type of motor controller that adjusts the speed of an electric motor by varying the frequency and voltage supplied to the motor. VFDs are commonly used in industrial applications to control the speed of pumps, fans, and other equipment, and can play a significant role in energy conservation.

One of the main benefits of using VFDs is that they allow motors to operate at a variable speed, rather than running continuously at full speed. This means that the motor only uses the energy required to meet the demands of the application, rather than running at maximum capacity all the time. By reducing the speed of the motor, VFDs can reduce the energy consumption of the equipment and save energy.

Another benefit of using VFDs is that they can help to reduce the wear and tear on motors and other equipment. By operating at a lower speed, motors and equipment are subject to less stress and are less likely to break down or require maintenance. This can lead to significant cost savings over time, as less maintenance is required, and equipment can last longer.

Overall, VFDs are an important technology for energy conservation in industrial applications. By reducing the speed of motors and other equipment, VFDs can save energy, reduce maintenance costs, and increase the lifespan of equipment. They offer a cost-effective and energy-efficient solution for industrial facilities looking to improve their energy efficiency and reduce their environmental impact.

By installing the VFDs our Power plant and Ferro alloys plant reduced electricity utilisation approximately we are saving around 2 million Units of energy per year.

- **Use Of transparent roof sheeting**

The transparent sheets were used at various locations in place of conventional GI sheets, this will provide the natural illumination inside the factory sheds and helps in energy saving during daytime.

- **Replacing burnt-out bulbs to LED lights:**

The burnt-out conventional bulbs are replaced with LED lights at all internal offices. This helps in reduction of electrical energy consumption and also LED lights can last up to 25 times longer than traditional bulbs which helps in reduction of e-waste generation.



Solid Waste & its management:

- SiMn/ FeMn Slag: The Slag generated during the process of Ferro Alloy production will be granulated and sold to construction industries. The FeMn slag will be reused in SiMn Production as Raw Material.
- The fine dust collected from the Baghouse / Dedusting Unit are Reused in SiMn Production after briquetting.

Plastic and General Soiled and other waste management:

- Use and taking of single use plastic item inside the plant has been banned. We are spreading the awareness to employees and surrounding localities about the ban of single use plastic and its effect on environment.
- Food and wet waste generated in the canteen is used in making the vermicompost and its is used to greenbelt development.

