



GOA STATE POLLUTION CONTROL BOARD

FORM V

(See Rule 14)

Environmental Statement for the financial year ending on 31st March on or before 30th of September every year.

PART A

- (i) Name and address of the owner/ occupier of the industry operation or process : Vedanta Ltd, Pig Iron Plant and Sinter Plant
- (ii) Industry category Primary-(STC Code) : RED, Iron & Steel (involving processing from ore/ integrated steel plants) and or
Secondary-(STC Code) : Sponge Iron units
- (iii) Production capacity : 5,40,000 Tonnes

Production Name	Production Capacity	Production Unit
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- (iv) Year of establishment :
- (v) Date of the last environment statement submitted :

PART B

1. Water consumption m³/ d

Process :

Cooling :

Domestic :

Name of products	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year
Pig Iron & Sinter Cooling	2208.49 m ³ /day	2491.22 m ³ /day
Pig Iron and Sinter Domestic	70.5 m ³ /day	62.28 m ³ /day
Pig Iron And Sinter Process water	NA	NA
Pig Iron and Sinter Cooling water	2.056 m ³ /t of Pig Iron	2.239 m ³ /t of Pig Iron

2. Raw material consumption

Name of raw materials	Name of products	Consumption of raw material per unit	
		During the previous financial year	During the current financial year
Metallurgical Coke	Pi Iron	514.12 Kg/THM of Product	563.25Kg/THM of Product

Lumpy High Grade Ore	Pig Iron	472.65 Kg/THM of Product	366.96 Kg/THM of Product
Limestone	Pig Iron	0.72 Kg/THM of Product	4.74 Kg/THM of Product
Dolomite	Pig Iron	10.72 Kg/THM of Product	36.38 Kg/THM of Product
Manganese Ore	Pig Iron	0 Kg/THM of Product	0 Kg/THM of Product
Siliceous Ore/Quartz	Pig Iron	28.88 Kg/THM of Product	10.57 Kg/THM of Product
Sinter	Pig Iron	1271.16 Kg/THM of Product	1382.15 Kg/THM of Product
Pulverized coal	Pig Iron	92.60 Kg/THM of Product	83.68 Kg/THM of Product
Ti-Fe Ore	Pig Iron	0 Kg/THM of Product	0.51 Kg/THM of Product
High grade low Mn Iron ore fines	Sinter	53 Kg/T of product	19.66 Kg/T of product
Lo grade iron ore fines	Sinter	888 Kg/T of product	1108.315 Kg/T of product
Coke Breeze	Sinter	60 Kg/T of product	57.93 Kg/T of product
Limestone	Sinter	109 Kg/T of product	95.58 Kg/T of product
Dolomite	Sinter	72 Kg/T of product	52.98 Kg/T of product
Limestone and dolomite fines	Sinter	1 Kg/T of product	7.25 Kg/T of product
Pi Iron 10-50 mm Goli and 10 mm goli	sinter	11 Kg/T of product	21.25 Kg/T of product
Quick Lime	Sinter	23 Kg/T of product	24.47 Kg/T of product
Sinter Dust and Sinter Fines(-5mm)	Sinter	29 Kg/T of product	11.52 Kg/T of product
Flue dust from Blast Furnace	Sinter	29 Kg/T of product	28.2 Kg/T of product
Mill Scale	Sinter	2 Kg/T of product	4.69 Kg/T of product

*Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw material used.

PART C

Pollution discharged to environment/ unit of output.

Pollution	Quantity of pollutants discharged(mass/day)	Concentration of pollutants in discharges(mass/volume)	Percentage of variation from prescribed standards with reasons
Water			

Water	Nil	Nil	Nil
Air			
Air	Nil	Nil	AAQMS and stack monitoring is carried out as per CTO conditions and results are submitted to GSPCB.

PART D
Hazardous Wastes

(as specified under Hazardous Wastes (Management and Handling) Rules, 1989)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
(a) From process	NA	NA
(b) From pollution control facilities	NA	NA

PART E
Solid Wastes

	Total Quantity	
	During the previous financial year	During the current financial year
(a) From process	150296000	174156760
(b) From pollution control facility	NIL	NIL
(c)(1) Quantity recycled or re-utilised within the unit	Sent to Sinter Plant as raw material	Sent to sinter plant as raw material
(2) Sold	175244860	232429890
(3) Disposed	NIL	NIL

PART F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes . Hazardous Waste: Occupier is authorized to handle used oil/Spent oil (Category 5.1) up to 15 MT /Annum; Oil soaked cotton rags/wastes (Category 5.2) up to 10 MT/year, and Used/Discarded Paint Tins (Category 33.3) up to 2 MT /year.

Total spent oil (Category 5.1) disposed for the financial year 2018-19 is 11.16 MT.

Total Empty Paint Tins/Used Containers (Cat. 33.3) disposed FTY 18-19 is 2.768 MT.

The same quantity of spent oil and used containers are disposed off to authorized recycler.

Total Oil Soaked Cotton Waste (Cat.5.2) which was incinerated in Coke oven was 0.235 MT.

Annual Returns in Form 4 submitted to GSPCB on 10/06/2019

2. Dust from de-dusting system & dry GCP – The dust is collected and used as raw material to produce sinter at Sinter Plant. Also the slurry obtained from PCM is dried and used in sinter.

PART G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production • We have installed facility to use PCI of 102 kg/T hot metal which will substitute some coke. This initiative has helped to conserve scarce coking coal & consequently reduce GHG emissions. PCI was commissioned in April' 13.

- Around 85-90% sinter is charged in the blast furnace, which helps in reduction of coke rate and subsequently reduction of GHG emissions. Besides iron ore fines can be utilized conserving the lumpy iron ore.
- Hot Blast Stoves (HBS) are top fired, helping in higher blast temperature. Waste heat of flue gases is utilized in Air preheater (APH). These have accounted for reduction in coke rate and subsequent reduction in GHG emissions.
- Dry Gas Cleaning plant has helped in reducing water consumption.
- Rain guns are also installed in raw material yard to prevent the fugitive dust.
- Fog/Mist cannon has been deployed to control dust at the source itself.
- De-dusting unit is installed at cast house and PCM area.
- De-dusting unit is installed at stock house.
- 7.5 KLD Sewage Treatment Plant have been installed and is in Operation.
- Continuous Ambient Air Quality Monitoring System (CAAQMS) has been installed to monitor Particulate Matter (PM10 & PM2.5).
- Also, air quality is monitored inside the plant area of blast furnaces, stock house, and dispatch yard.
- Geotextiles have been laid on the slopes at plant site.
- Windshields have been set up at the dispatch yard and raw material yard, along the boundary wall.

PART H

Additional measures/ investment proposal for environmental protection abatement of pollution, prevention of pollution • Online Gas (SO₂) analyzer has been installed at Head End ESP chimney of Sinter Plant.

- Additionally Dust and Gas analyzers have been installed at HBS Chimney.
- Installed 17 cameras at vital water effluent/air emission points.
- It is proposed to install continuous monitoring analyzer to stacks
- Plantation of 3500 trees in Soil as well as hard rock along with drip irrigation and after care manpower has been completed.

PART I

Any other particulars for improving the quality of the environment • About 3500 trees have been planted in 2018-19, in the premises common for 0.54 MTPA Blast Furnace & Sinter Plant. Plantation area is common for 0.54 MTPA Blast furnace & Sinter Plant.

- Some of the roads are concreted & the roads are sprayed with water for dust suppression regularly.
- Stakeholder engagement is carried out, by virtue of which, various socio-economic programs on the front of education, health, infrastructure, agriculture & livelihood development for overall community development in Navelim, Amona & Betki-Khandola villages have been taken.

IN MT

a) Metallurgical Coke 228692.3213

b) Lumpy High Grade Ore 148994.1131

c) Limestone 1924.547897

d) Dolomite 14771.10812

e) Manganese Ore 0

f) Siliceous ore/Quartz 4291.660605

g) Sinter 561184.3619

h) Pulverized coal 33975.98481

i)Ti-Fe Ore 207.0716091

IN MT Ore Cons. for Sinter

High Grade Low Mn Iron Ore Fines 16285.64373

Low Grade Iron Ore Fines 918088.6689

Coke Breeze 47987.14859

Limestone 79175.06754

Dolomite 43886.74491

Limestone & Dolomite Fines 6005.641762

Pig Iron 10/-50 mm Goli & -10mm Goli 17602.7431

Quick Lime 20270.0764

Sinter Dust & Sinter Fines (-5mm) 9542.757669

Flue dust from Blast Furnace 23359.87554

Mill Scale 3885.028947

THM Production:-406022.763 THM

Sinter:-828364.381 MT .