



Prakash Industries Limited



(AN ISO 9001, 14001, 45001 AND 50001 Certified Company)
Champa-495671, Distt. - Janjgir-Champa (Chhattisgarh)
CIN: L27109HR1980PLC010724
Phone: 07819-283000 (12 Lines)
Fax: 07819-245367/283594, Web. - www.prakash.com

PIL/EHS/ENV-STATEMENT/2023/717

Date : 20.05.2023

The Member Secretary,
Chhattisgarh Environment Conservation Board,
Paryavas Bhawan, North Block, Sector - 19,
Nava Raipur, Atal Nagar,
Raipur (C.G.) 492002


Sub.: Environment Statement for Sponge Iron Division, Power Plant Division, Induction Furnace Division, Submerged Arc Furnace (SAF) Division, Sinter Plant and Oxygen Plant for 2022 - 2023.

Sir,

Please find enclosed herewith Environment Statement as per Rule 14 of the Environment (Protection) Rules, 1986 of **Sponge Iron Division, Power Plant Division, Induction Furnace Division, Submerged Arc Furnace (SAF) Division, Sinter Plant and Oxygen Plant** for the financial year **2022 - 2023, ended on 31.03.2023.**

We hope you will find the same in order.

Yours faithfully,
FOR PRAKASH INDUSTRIES LTD.,


20/5/2023
Santosh Thawait
Sr. Manager - EHS



Encl.: As above.

CC TO :

The Addl. Director General of Forest,
Ministry of Environment, Forests and
Climate Change (MoEF&CC),
(Govt. of India),
Integrated Regional Office,
Aranya Bhawan, North Block,
Sector-19, Nava Raipur,
Atal Nagar, Raipur (C.G.) 492002

The Regional Officer,
Chhattisgarh Environment
Conservation Board,
Near Dindayal Upadhyay Park,
Vyapar Vihar,
Bilaspur (C.G.) 495001

**ENVIRONMENT STATEMENT
FOR
SPONGE IRON, POWER PLANT
INDUCTION FURNACE DIVISION,
SUBMERGED ARC FURNACE
DIVISION, SINTER PLANT AND
OXYGEN PLANT**

**(YEAR 2022 – 2023)
PERIOD ENDED 31.03.2023**

By

**PRAKASH INDUSTRIES LIMITED
CHAMPA**

**FORM – V
(SEE RULE – 14)**

**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL
YEAR ENDING 31ST MARCH 2023**

PART-A

- (i) **Name and address of the owner/
Occupier of the Industry, Operation
or process** : **Sh. Sanjay Jain
Director,
Prakash Industries Ltd.,
Village : Hathneora,
Tehsil : Champa - 495671
Dist.: Janjgir-Champa (C.G.)**
- (ii) **Production Capacity** **Units**
Sponge : 12.00 LTPA,
Power : {(WHRB-75 MW) + (CPP-162.5 MW)}
Steel : 12.50 LTPA
Ferro Alloys : 7500 KVA x 9 Nos (1,15,000 TPA)
Sinter : 1.0 LTPA
Oxygen : 8 TPD
- (iii) **Year of Establishment** **Sponge** : Kiln I – 1993, Kiln II – 1996,
Kiln III – 2009, Kiln IV – 2012,
Kiln V – 2017, Kiln VI – 2019
Power : 1999, 2005, 2011, 2012, 2017
Steel : 1993, 2008, 2009, 2010, 2013,
2014, 2019, 2020
Ferro Alloys : 2004, 2005, 2008, 2013, 2015, 2017
Sinter : 2020
Oxygen : 2020
- (iv) **Date of last Environmental Statement
Submitted** : 03.05.2022

PART – B

WATER AND RAW MATERIAL CONSUMPTION

(1) WATER CONSUMPTION (m³/day)

Process (Boiler)	= 1134.62
Cooling (SID+CPP+IFD+SAF+SINTER)	= 20090.09
Domestic	= 206.33



NAME OF THE PRODUCTS	Process Water Consumption Per Unit of Product Output	
	During the previous Financial year	During the current Financial year
	2021 – 2022 (1)	2022 – 2023 (2)

Sponge Iron, Power generation (CPP + WHRB), Steel Ingots/Billets/Bloom, Sinter and Oxygen

Water is not consumed in the process. Water is mainly used for making DM water for Boiler use and for cooling purposes.

(2) RAW MATERIAL CONSUMPTION

Name of Raw Material	Name of Products	Consumption of Raw Material per unit of output (Ton/Ton & Ton/MW)	
		During the previous Financial year	During the current Financial year

SPONGE IRON PRODUCTION

1. Iron Ore	Sponge Iron	1.533	1.514
2. Coal		1.086	1.344
3. Dolomite		0.122	0.068

POWER GENERATION

1. ROM Coal/ Coal Fines	Power Generation	0.960	0.913
2. Coal char		0.217	0.251

STEEL (BLOOM/BILLET) PRODUCTION

1. Sponge Iron+Slag Rec.	Steel	1.019	1.017
2. Ferro alloys & Aluminum Notch Bar		0.015	0.012
3. MS Scrap		0.086	0.079
4. Coke		0.007	0.005
5. Pig Iron/Mould Scrap/Hi Fe Si Mn		0.153	0.146

FERRO ALLOYS PRODUCTION

1. Manganese Ore	Si-Mn, Hi Fe-Si Mn	Nil	Nil
2. Coal		0.927	0.373
3. Coke		0.002	0.332
4. Dolomite		0.187	0.146
5. Quartz		0.013	0.007
6. Ele. Carbon Paste		0.011	0.009
7. Iron Ore Fines		1.206	1.131
8. Mill Scale		0.570	0.554
9. Kiln Accretion		0.048	0.099
10. Sinter		0.075	Nil
11. Lime Stone		0.184	0.149
12. Flour Spar		0.043	0.035



SINTER PRODUCTION

1. Iron Ore Fines	Sinter	1.100	Nil
2. Coke Fines		0.053	Nil

OXYGEN PRODUCTION

1. Natural Gas	Oxygen	Production 6.98TPD	Production 5.78TPD
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PART – C

**Pollution discharged to environment/unit of output.
(Parameter As Specified In The Consent Issue)**

Pollutants	Quantity of pollutants discharged (mass /day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standard with reasons
(a) Water	We are not discharging any water outside the plant premises.		Nil
(b) Air	Air pollutant discharged are within the range of prescribed standards. Average results of concentration of pollutants attached as Annexure-I		Nil

**PART - D
HAZARDOUS WASTE**

**As Specified Under [Hazardous Wastes
(Management, Handling and Transboundary Movement) Rules, 2016]**

Hazardous Waste Used / Spent Oil*	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
(a) From process	18140 Kg from all divisions of the plant	5060 Kg from all divisions of the plant
(b) From pollution control facilities	Nil	Nil

* We have disposed off 5060 kg used oil to the CPCB authorized recyclers.

* Used Ion exchange material (waste resin) is yet to be generated from DM plant in the financial year 2022 – 2023, when it will be generated then we will dispose off to CPCB authorized recyclers.



**PART - E
SOLID WASTES**

Solid Waste	TOTAL QUANTITY	
	During the Previous Financial year	During the Current Financial year
(a) From Process		
SID – Kiln Waste	251675 MT	235149 MT
Power Plant	Nil	Nil
IFD – Slag	274285 MT	237232 MT
SAF – Slag	70186 MT	51167 MT
Sinter Plant	Nil	Nil
(b) From Pollution Control Facilities		
SID – ESP and Bag Filter Dust	131416 MT	103202 MT
Power Plant – Fly Ash	708097 MT (total quantity generated)	581101 MT (total quantity generated)
IFD – Venture Scrubber and Bag Filter Dust	5318 MT	4275 MT
SAF – Bag Filter Dust	6803 MT	6178 MT
Sinter– Venture Scrubber Dust	24 MT	Nil MT
(c) 1. Quantity recycled or reutilized in the plant		
SID	Nil	Nil
POWER PLANT	184815 MT	150997 MT
IFD	31064 MT	25734 MT
	Metallic part recovered and reused in the furnace.	Metallic part recovered and reused in the furnace.
SAF	Nil	Nil
SINTER PLANT	Nil	Nil
2. Sold		
SID	Nil	Nil
POWER PLANT	Nil	Nil
IFD	Nil	Nil
SAF	Nil	Nil
SINTER PLANT	Nil	Nil
3. Disposed		
SID	198276 MT of ESP dust & solid wastes are disposed off in abandoned mines to reclaim land.	187354 MT of ESP dust & solid wastes are disposed off in abandoned mines to reclaim land.
POWER PLANT	346187 MT fly ash used for brick / block	526937 MT fly ash used for brick / block



	manufacturing, 78417 MT fly ash used in filling of low lying area and 283493 MT fly ash was disposed off in permitted abandoned mines to reclaim land.	manufacturing, 35123 MT fly ash used in filling of low lying area and 19041 MT fly ash was disposed off in permitted abandoned mines to reclaim land.
IFD	243221 MT slag was used in road construction and 5318 MT dust was used in filling of low lying areas to reclaim land.	211498 MT slag was used in road construction and 4275 MT dust was used in filling of low lying areas to reclaim land.
SAF	70186 MT slag was used in road construction & filling of low lying areas and 6803 MT bag filter dust was disposed off in mines to reclaim land.	51167 MT slag was used in road construction & filling of low lying areas and 6178 MT bag filter dust was disposed off in mines to reclaim land.
SINTER PLANT	24 MT dust was used in road construction and filling of low lying areas to reclaim land.	Nil MT dust was used in road construction and filling of low lying areas to reclaim land.

PART – F

Please specify the characterizations (in term of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both of these categories of wastes.

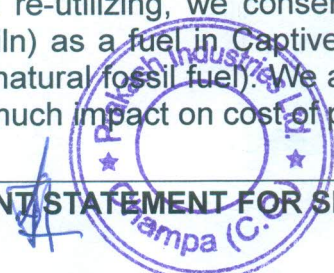
As per analysis report based on schedule – 5 of HWM rules 2016, used oil (Hazardous waste) is suitable for Re-refining. At present, we collect used oil in the drums and keep it inside the shed for sale to CPCB approved authorized Re-cycler.

Solid waste (Coal char) generated from the process is used for captive power generation in FBB type power plant. Other solid waste is dumped in dumping yard with safe and scientific manner inside the plant premises, which is disposed off in abandoned mines to reclaim land after getting approval from the competent authority.

PART – G

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

We are recycling and re-utilizing all wastewater generated from the plant. By recycling and re-utilizing, we conserve fresh water. We are using coal char (solid waste from kiln) as a fuel in Captive Power Plant based on FBB and minimize the use of Coal (natural fossil fuel). We are using Sinter as Raw material in the furnace. There is not much impact on cost of production by taking pollution control measures.



PART – H

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

We have provided Bag filter system for control of source emission and Fogging system for fugitive emission which are working more efficiently. We have deployed on road cleaning machine for better house keeping of the plant. We have made all roads pucca to minimize dust emission during vehicular movements. Time to time, we have made retrofitting work of ESPs, Bag filters, Venture scrubber systems & Fume scrubber systems to improve the efficiency of air pollution control devices and to minimize the pollution load in an environment. We have regular programme for plantation and this year we have planned to plant 10000 saplings in the plant premises. We are implementing effluent treatment plant and reuse of treated wastewater for cooling tower make up water, dust separation systems, pug mills area, ash handling systems, water spraying in raw material storage yard & finished product area, cleaning of road area, horticulture & plantation purpose. This has been saving the consumption of fresh water. We have installed sewage treatment plant for treatment of domestic water and are using treated water for plantation purpose.

(i) WASTE HEAT RECOVERY BOILER (WHRB):

WHRB is a well known technology for the generation of power from the waste heat, generated from source. Here, we use waste heat from rotary kiln where coal is used for the generation of heat for the purpose of melting of raw materials used for sponge production. Instead of leaving the huge quantity of heat in atmosphere which could unbalance its stability; we use it for 75 MW power generation. The generated power from the process is used for Industrial use. By this process, we are preventing to release the hot gases in atmosphere and on the other hand we are re-cycling & re-using our waste resources.

(ii) UTILIZATION OF COAL CHAR:

In the process of sponge iron production, coal is used as a raw material for generating heat. At the end of the process, coal char is also generated. This coal char is solid waste after the process which we are using as fuel for the generation of power in captive power plant.

Utilizing the char in power generation, we are saving our surroundings with clean nature & atmosphere.

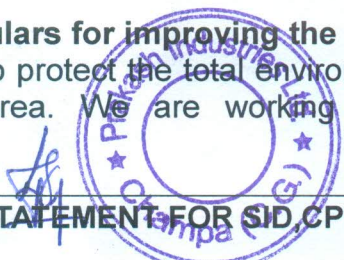
(iii) SLAG CRUSHER:

Slag generates during the process of steel making in Induction Furnace which contain Iron particles mixed with slag. To recover the iron particles, magnetic slag crusher has been established. The recovery of Iron particles is approximately 10% which is reused in the process of Induction furnace for steel making. By this, substantial amount of raw material (i.e., mineral) is saved. By doing this, we are using a waste as a source of mineral & controlling environmental pollution.

PART – I

Any other particulars for improving the quality of the environment.

We are concern to protect the total environment of the plant as well as environment of the nearby area. We are working sincerely to achieve the Sustainable Development.



Results of Concentrations of Pollutants

All wastewater generated from the plant is collected in the Effluent Treatment Plant and recycled and reused in the plant for dust suppression and plantation purpose. We are regularly monitoring the quality of water at outlet of ETP mentioned as below:

pH	:	7.72 – 7.89
BOD 3 days 27 ° C.	:	6.00 – 7.00 mg/lit.
COD	:	30.00 – 35.00 mg/lit.
S.S.	:	7.29 – 7.75 mg/lit.
O&G	:	0.50 – 0.60 mg/lit.

All wastewater generated from the residential colony is treated in Sewage Treatment Plant and reused for plantation purpose. We are regularly monitoring the quality of water at outlet of STP for which results are mentioned below:

pH	:	7.76 – 7.92
BOD 3 days 27 ° C.	:	8.00 – 9.50 mg/lit.
COD	:	40.00 – 45.00 mg/lit.
S.S.	:	8.19 – 9.34 mg/lit.
O&G	:	0.60 – 0.70 mg/lit.

Ambient air quality and Stack monitoring is being done on regular basis and observed results (average) are given as below:

Ambient Air Quality

PM ₁₀	:	27.77 – 57.84 µg/m ³
PM _{2.5}	:	16.66 – 40.91 µg/ m ³
SO ₂	:	9.57 – 24.76 µg/ m ³
NO _x	:	14.60 – 37.64 µg/ m ³
CO	:	0.0014 – 0.0032 µg/ m ³

Stack Monitoring Results:

PM	:	17.65 – 40.75 mg/ Nm ³
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