



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/2024/972

Date : 06.06.2024

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 Division, Sinter Plant and Oxygen Plant for 2023 - 2024.

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 Division, Sinter Plant and Oxygen Plant** for the financial year **2023 - 2024, ended on 31.03.2024.**

We hope you will find the same in order.

Yours faithfully,
FOR PRAKASH INDUSTRIES LTD.,


06/06/2024
Santosh Thawait
Asst. General 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 2023 – 2024)
PERIOD ENDED 31.03.2024**



**By
PRAKASH INDUSTRIES LIMITED
CHAMPA**





FORM – V
(SEE RULE – 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL
YEAR ENDING 31ST MARCH 2024

PART-A

- (i) **Name and address of the owner/ Occupier of the Industry, Operation or process** : **Sh. Sanjay Jain
Occupier,
Prakash Industries Ltd.,
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** : 20.05.2023

PART – B

WATER AND RAW MATERIAL CONSUMPTION

(1) WATER CONSUMPTION (m³/day)

Process (Boiler)	= 897.11
Cooling (SID+CPP+IFD+SAF+SINTER+OXYGEN)	= 21615.40
Domestic	= 206.46



**NAME OF THE PRODUCTS****Process Water Consumption Per Unit of Product Output**

During the previous
Financial year
2022 – 2023
(1)

During the current
Financial year
2023 – 2024
(2)

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

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

(2) RAW MATERIAL CONSUMPTION

Name of Raw Material	Name of Products	<u>Consumption of Raw Material per unit of output (Ton/Ton & Ton/MW)</u>	
		Previous Financial year	Current Financial year

SPONGE IRON PRODUCTION

1. Iron Ore	Sponge Iron	1.514	1.547
2. Coal		1.344	1.314
3. Dolomite		0.068	0.076

POWER GENERATION

1. ROM Coal/ Coal Fines	Power Generation	0.913	0.808
2. Coal char		0.251	0.298

STEEL (BLOOM/BILLET) PRODUCTION

1. Sponge Iron+Slag Rec.	Steel	1.017	1.000
2. Ferro alloys & Aluminum Notch Bar		0.012	0.012
3. MS Scrap		0.079	0.078
4. Coke		0.005	0.006
5. Pig Iron/Mould Scrap/Hi Fe Si Mn		0.146	0.164

FERRO ALLOYS PRODUCTION

1. Manganese Ore	Si-Mn, Hi Fe-Si Mn	Nil	Nil
2. Coal		0.373	0.328
3. Coke		0.332	0.484
4. Dolomite		0.146	0.181
5. Quartz		0.007	0.029
6. Ele. Carbon Paste		0.009	0.012
7. Iron Ore Fines		1.131	1.428
8. Mill Scale		0.554	0.610
9. Kiln Accretion		0.099	0.129
10. Lime Stone		0.149	0.189
11. Flour Spar		0.035	0.043





SINTER PRODUCTION

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

OXYGEN PRODUCTION

1. Natural Gas	Oxygen	Production 5.78 TPD	Production 6.22 TPD
----------------	--------	------------------------	------------------------

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	No water is discharged out side the Plant premises. We are maintaining zero discharge.		Nil
(b) Air	Air pollutant are within 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	Total Quantity (Kg)	
	Previous financial year	Current financial year
(a) From process	5060 Kg from all divisions of the plant	14010 Kg from all divisions of the plant
(b) From pollution control facilities	Nil	Nil

* We have disposed off whole quantity of 14010 kg used oil to the CPCB authorized recyclers.

* Used Ion exchange material (waste resin) has not been generated from DM plant in the financial year 2023 – 2024. Whenever it will be generated, we will utilize the same for energy recovery in boiler for power generation within premises.





**PART - E
SOLID WASTES**

Solid Waste	TOTAL QUANTITY	
	Previous Financial year	Current Financial year
(a) From Process		
SID – Kiln Waste	235149 MT	399429 MT
Power Plant	Nil	Nil
IFD – Slag	237232 MT	244839 MT
SAF – Slag	51167 MT	61306 MT
Sinter Plant	Nil	Nil
(b) From Pollution Control Facilities		
SID – ESP and Bag Filter Dust	103202 MT	46960 MT
Power Plant – Fly Ash	581101 MT (total quantity generated)	580433 MT (total quantity generated)
IFD – Venturi Scrubber and Bag Filter Dust	4275 MT	5154 MT
SAF – Bag Filter Dust	6178 MT	6835 MT
Sinter– Venturi Scrubber Dust	Nil MT	Nil MT
(c) 1. Quantity recycled or reutilized in the plant		
SID	Nil	Nil
POWER PLANT	150997 MT	245076 MT
IFD	26156 MT	25842 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	187354 MT of ESP dust & solid wastes were disposed off in abandoned mines to reclaim land.	201313 MT of ESP dust & solid wastes have been disposed off in abandoned mines to reclaim land.





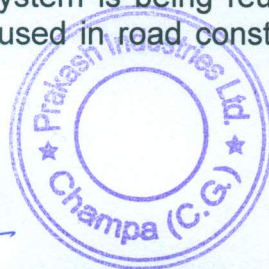
POWER PLANT	526937 MT fly ash used for brick / block manufacturing, 35123 MT fly ash used in filling of low lying area and 19041 MT fly ash was disposed off in permitted abandoned mines to reclaim land.	510155 MT fly ash used for brick / block manufacturing, 42408 MT fly ash used in filling of low lying area and 27870 MT fly ash has been disposed off in permitted abandoned mines to reclaim land.
IFD	211076 MT slag was used in road construction and 4275 MT dust was used in filling of low lying areas to reclaim land.	218997 MT slag is used in road construction and 5154 MT dust is used in filling of low lying areas to reclaim land.
SAF	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.	61306 MT slag is used in road construction & filling of low lying areas and 6835 MT bag filter dust is disposed off in mines to reclaim land.
SINTER PLANT	Nil. MT dust was used in road construction and filling of low lying areas to reclaim land.	Nil. MT dust is 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 being 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. Fly ash & Bottom ash is using bricks making & also provide free of cost to nearby bricks manufacturing plant. Fly ash, bottom ash, ESP dust, Venturi Scrubber dust, dedusting dust are being disposed off in abandoned mines to reclaim land after getting approval from the competent authority. Dedusting dust of coal handling system is being reutilised as coal fines in Coal based Captive Power Plant. Slag is used in road construction & filling of low lying areas.





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 waste water 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 and minimize the use of Coal (natural fossil fuel). We are using pellets after converted of Iron Ore Fines as Raw material in Sponge Iron Division (natural resources conservation). Bag filter dust of coal handling system being coal fines is being reutilised in coal based captive power plant (natural resources conservation). Slag generates during process of steel making in Induction Furnace which contains Iron particles mixed with slag. After recovery of Iron particles from slag. It is used in Induction furnace as Raw Material (natural resources conservation). There is not much impact on cost of production by taking pollution control measures.

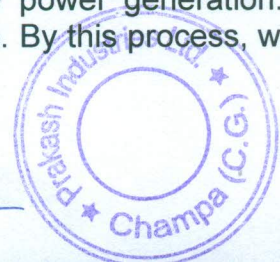
PART – H

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

We have provided ESPs, Bag filter system, Venturi scrubber system for control of source emission and Fogging system for fugitive emission which are working more efficiently. We have deployed road cleaning machines for better house keeping of the plant. We are installing three more bag filters at product separation area and finished product storage silo area to control the fugitive emission in respective areas. 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, Venturi 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 also we have planned to plant minimum 10,000 (Ten Thousand) saplings in the plant premises. We are operating effluent treatment plant and reuse of treated waste water for cooling tower as 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. Resulted huge saving for the consumption of fresh water. We have installed sewage treatment plant for treatment of domestic water and treated water is used for horticulture, 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 Iron 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 recycling & 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 its processing, we are using as fuel for the generation of power in captive power plant.

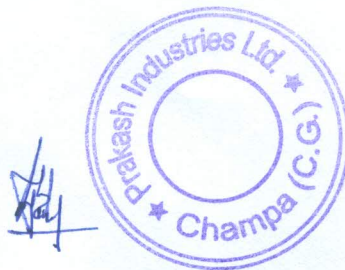
(iii) SLAG CRUSHER:

Slag generates during the process of steel making in Induction Furnace which contains 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 well concern to protect the environment of the plant as well as environment of the nearby area. We are working sincerely to achieve the **Sustainable Development** of the area.





Annexure – I

Results of Concentrations of Pollutants

All waste water 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	:	7.69 – 7.98
BOD 3 days 27 ° C.	:	6.00 – 8.50 mg/lit.
COD	:	30.00 – 40.00 mg/lit.
S.S.	:	7.37 – 8.94 mg/lit.
O&G	:	0.50 – 0.60 mg/lit.

All waste water 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	:	7.64 – 7.96
BOD 3 days 27 ° C.	:	8.00 – 9.50 mg/lit.
COD	:	40.00 – 45.00 mg/lit.
S.S.	:	6.65 – 9.76 mg/lit.
O&G	:	0.60 – 0.70 mg/lit.

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

Ambient Air Quality

PM ₁₀	:	17.59 – 59.38 µg/m ³
PM _{2.5}	:	8.29 – 42.02 µg/ m ³
SO ₂	:	7.56 – 25.64 µg/ m ³
NOx	:	17.57 – 36.76 µg/ m ³
CO	:	0.0007 – 0.0040 µg/ m ³

Stack Monitoring Results:

PM	:	18.55 – 41.20 mg/ Nm ³
----	---	-----------------------------------

