

Environmental Statement for the financial year 2021-22

ENVIRONMENTAL STATEMENT for the financial year 2021-22

FORM-V

(See rule 14)

PART – A

1. Name And Address Of the Owner of the Industry :

Sri Dhananjay Kumar [Director]

RADHA CASTING & METALIK PRIVATE LIMITED

At – Paiki, P.O –Marar

Dist- Ramgarh [Jharkhand] PIN: 829117

2. INDUSTRY CATEGORY : RED

3. PRODUCTION CAPACITY :

UNITS	Products)	Capacity (MT/Annum)
INDUCTION FURNACE	INGOTS/BILLETS	15000
BLAST FURNACE	PIG IRON	15000

4. Date of Last Environment Statement Submitted: Dated -29.11.2021 vide letter no. RC MPL/421/2021-22

PART – B

WATER AND RAW MATERIAL CONSUMPTION

- I. WATER CONSUMPTION (m³ / day) Approx:

- a) Water Consumption per day in m³ per day

S/No.	Category	Water Consumption per day in m ³ /day in the unit	
		Induction Furnace unit	Blast Furnace unit
1	Process & Cooling Purpose	20 KL	20 KL
2	Total for Domestic Use & Other	10 KL	

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b) Process water consumption in m³ per MT of Product-

S/No.	Unit	Name of Product	Process water Consumption in m ³ per MT of Product during the Financial Year	
			F.Y : 2020-21	F.Y : 2021-22
1	Induction Furnace	Ingots/Billets	0.5	0.5
2	Blast Furnace	Pig Iron	Unit was not in operation in F.Y 2020-21	0.4

II. RAW MATERIAL CONSUMPTION -

Total Raw Material Consumption for the all units for the F.Y – 2020 -21 and 2021-22 as given below:

S/No.	Unit	Name of Product	Name of Raw Material	Raw Material Consumption per MT of Product during the	
				F.Y : 2020-21	F.Y : 2021-22
1	Induction Furnace	Ingots/Billets	Sponge iron	0.950 MT	0.950 MT
			Scrap	0.050 MT	0.050 MT
			Pig Iron	0.200 MT	0.200 MT
2	Blast Furnace	Pig Iron	Iron Ore	Unit was not in operation during this year.	1.600 MT
			Hard Coke		0.750 MT
			Dolomite		0.100 MT
			Lime Stone		0.125 MT

PART – C

Pollution discharged to environment per unit of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mg/ltr)	Concentration of pollutants in discharges (mass/volume) as per CTO	Percentage of variation from prescribed standards with reasons
(i) Water (mg/l)	F.Y : 2021-22	mg/ltr	As per prescribed standard
TSS	62	100	
COD	74	250	
BOD	6.0	30	

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Oil & Grease	<5	10	As per prescribed standard
(ii) Air	F.Y : 2021-22	As per CTO	
PM10	79.80 – 86.40	100 µg/m ³	
NOx	31.30 – 34.50	80 µg/m ³	
SOx	16.40 – 18.00	80 µg/m ³	

WATER POLLUTION

A). WATER POLLUTION:

Water used in the manufacturing process of Billets and Pig Iron for cooling purposes and discharged water of Induction Furnace and Blast Furnace is re-circulated through a settling tank. Domestic waste water is collected in a properly designed pit and it is used for plantation and water spraying on roadside and different yard area.

B) AIR POLLUTION:

(i) Summarized Results of Ambient Air Quality Monitoring for the year 2021-2022.

S.No.	MONITORING LOCATION	PM 10 (µg/m ³)	PM2.5 (µg/m ³)	SO ₂ (µg/m ³)	Nox (µg/m ³)
1.	Near Office Building	79.80	43.00	16.40	32.5
2.	Near Western Boundary	86.4	50.00	18.00	34.50
3.	Near Staff Quarter	83.6	43.00	15.50	31.30

NOTE : Reports attached _

(ii) Results of stack emission monitoring for the year 2021-2022

S.N.	NAME OF STACK	TEMP(°C)	Particulate Concentration Mg/Nm ³	REMARKS
1.	Induction Furnace stack	106	78 mg/Nm ³	As per CTO, PM Concentration = 150 mg/Nm ³

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2.	Blast Furnace Stack	124	24 mg/Nm ³	As per EC, PM Concentration = 50 mg/Nm ³
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PART – D

HAZARDOUS WASTES

(As specified under the hazardous wastes (management handling and transboundary movement rules, 2016)

Hazardous Waste	TOTAL QUANTITY (APPROX)	
	During the previous year 2020 – 21	During the current year 2021 – 22
From Process (Used Oil)	0.2 KL	0.5 KL
From Pollution Control Facility	NIL	NIL

Note: Only used oil is generated from the different sections of the plant, which is stored at designated place and is reused in the plant again.

SOLID WASTE

PART – E

Solid Waste generated from Induction Furnace is Slag which is used to road filling and land leveling in nearby low land areas & Solid waste generated from Blast Furnace is Granulated Slag which is sold to Cement Manufacturing Unit.

SOLID WASTE	Total Quantity (In Mt) Approx		
	During The Current Financial Year (2021 – 2022)		
	Induction Furnace	Blast Furnace	Ramarks
From Process	I.F Slag - 1700.00 MT approx	B.F Slag – 1396.150 MT approx	Slag from induction Furnace is used to fill low land area and Blast furnace slag is sold to Cement Plant

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(B) From Pollution Control Equipments	NIL	223.380 MT	Bag filter dust is used in Sinter Plant.
(C) QUANTITY RE-CYCLED	1700.000 MT	223.380 MT	Used in Sinter Plant
REUTILISED WITHIN THE UNIT.	200.000 MT	NIL	Used in manufacturing.
SOLD	NO	193.760 MT	Sold to Cement Plant.
DISPOSED*	Used to fill low land area	NO	BFG slag will be sold.

PART – F

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

S/No.	Wastes	Quantity per annum	Nature	Method of Disposal
1.	Burn Oil	100 ltr	Hazardous	Used in Different Chain Drive in own plant
2.	IF Slag	1700 MT	Solid Waste	Used as a Soil substitute.
3.	BF Slag	1396.150 MT	Solid Waste	Sold to Cement plant

PART – G

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

As all the emission parameters are being maintained well within the prescribed norms, there is no adverse effect on the conservation of natural resource.

We are continuously doing efforts for the betterment of the Environment, by the adopting zero waste discharge concept and conservation of natural resources. This results significant improvement in environment which also reduces the cost of Productions.

In M.S Ingots manufacturing, solid waste generated from Induction furnace unit is called Slag. This is used as a substitute of soil after extracting iron from it. This slag is used to fill low land areas as well as abandoned pit in the locality/surrounding and also used for making approach roads/by pass roads etc.

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In manufacturing of Pig Iron, BF granulated slag is generated which is sold to cement plant. Apart from this, discharge water from all units is collected in settling tanks and after filtration is used in Horticulture, water spraying is done on internal & external roads and premises to control fugitive dust emission generated by movement of vehicles. Tree Plantation has been done for controlling Air Pollution and reducing atmospheric temp. of the surrounding areas.

PART - H

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

Additional Measure have been taken for improvement of environment:

Apart from Installation & effective operation of Air & Water Pollution control equipments, following additional measures have been taken for the Protection of environment: -

- (1) We have maintained the Stack emission below the 50 mg/Nm³ as instructed by CPCB as well as by JSPCB.
- (2) Online monitoring systems installed in blast furnace stack for continuous monitoring of PM for keeping strict watch on stack emission.
- (3) For better control on fugitive emission, fixed water sprinkler is installed in crushing unit area.
- (4) Installation of dust extraction system with movable hoods in all furnaces of M.S. Ingot/Billets.
- (5) Extensive tree Plantation and development along the roadside & around the Plant premises. There are about 1200 Plants have been developed in and around the plant area.
- (6) Adoption of Good House Keeping technology in which proper & systematic stacking & movement of raw materials, finished goods; solid waste etc. has been implemented. Regular water spraying on roads, yards by water tankers to control fugitive emission.
- (7) Rain water reservoir: We have a water reservoir in the plant premises to collect rain water which has been used to meet water requirement.
- (8) Online Ambient air quality monitoring system PM₁₀ parameters are installed with connectivity to JSPCB server for data transmission.
- (9) Stack emission of blast furnace is below 50 mg/Nm³ and consistently maintained.
- (10) Maximum utilization of discharge water is used for plantation purpose and water Spraying/sprinkling on roads, Yards.

PART – I

Other Particulars Of Improving Of Quality Of The Environment

Pollution Control Equipment

To control pollution, we have installed Pollution Control System with wet scrubber in Induction

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Furnace and Bag Filter and Cyclone is provided with Blast Furnace.

We have installed online continuous Emission monitoring system for measuring PM parameters at blast furnace stack. The PM emission is below 50mg/Nm³.

An Environmental Management team has been constituted to observe the performance and maintenance of the pollution control equipments. Regular checking and preventive maintenance of all the pollution control equipments are being done as per schedule. All preventive measures have been taken for effective operation of the same.

HOUSE KEEPING

Good housekeeping contributes greatly to efficient operations, improved employees morale, better productivity and reduction of accidents. Housekeeping standards reflect an organization's work culture.

Good housekeeping can only be achieved by proper planning. This includes a well-planned process layout, proper arrangement of equipment; systematic material storage stacking and movement; and waste disposal; coupled with day-to-day maintenance of cleanliness and tidiness.

*All the internal roads in the plant premises have been paved with stone bricks and are being watered and cleaned regularly.

*Sufficient no. of fixed type water sprinklers has been installed, at required locations.

*Water tankers are also engaged for water spraying round the clock on all the internal as well as outside roads, yards.

PLANTATION

The species so far planted in and around plant campus has shown tremendous vegetative growth which has contributed considerably in a quantitative and qualitative increase in greenery.

In continuation to the efforts of greenery proposed target is to plant 500 more saplings in the plantation program during the year 2022 – 2023. Some other species viz., tamarind (imli), mangium (an Australia originated plant which is termed as wonder plant, worldwide) and Eucalyptuses were also taken into consideration in the campus for plantation during the coming year plantation program.

Besides the above, the selection of species was made by taking into consideration the available resources and limitations viz., type of soil, availability of rain water and sub-surface water.

For Radha Casting & Metalik Private Limited



(Vinod Verma)

Auth. Signatory

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