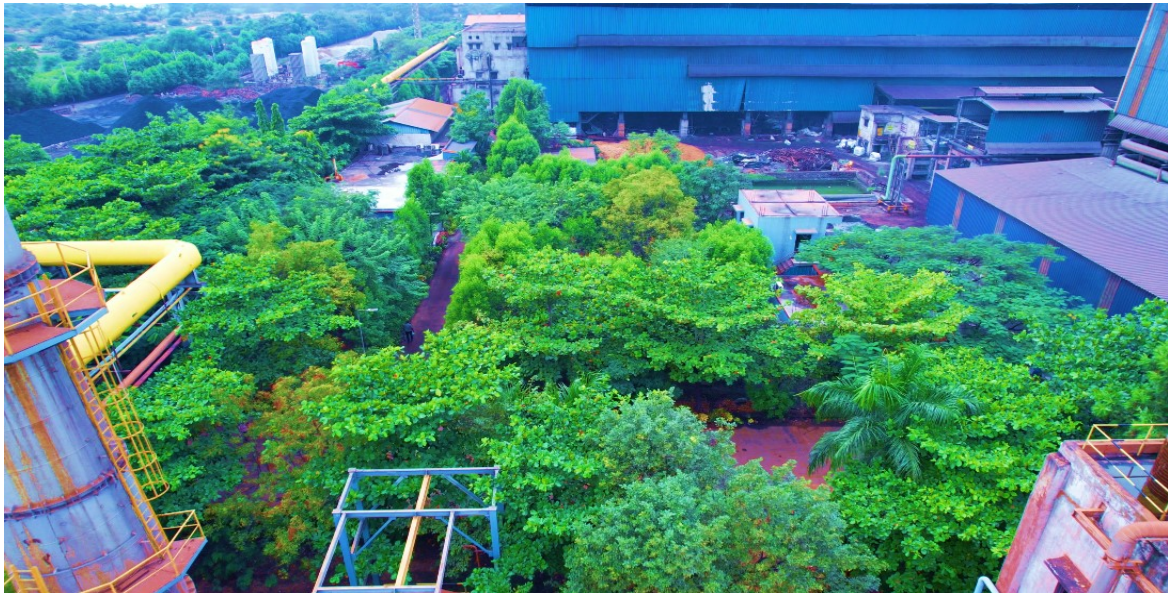


**FORM-V  
ENVIRONMENTAL STATEMENT  
FOR THE FY 2023-24**



**MAY 2024**

◆—————◆  
**SLR Metaliks Limited**

Sy. No.632, Narayandevakere Lokappanahola,  
Near Mariyamanahalli,  
Hagaribommanahalli Taluk, Vijayanagar - Dist,  
Karnataka.

To

**The Regional Environmental Officer**

Karnataka State Pollution Control Board

Shri Sai Sharana Plaza, No.71/A,

2nd Floor, KEB-Dam Road,

Hospet-583205, Vijayanagar District.

Dear Sir,

**Sub:** Submission of Environmental Statement (Form-V) for the financial year 2023 -24 in respect of M/s. SLR Metaliks Limited, ND Kere & Lokappanahola Villages-583 222, HB Halli Taluk & Vijayanagara District, Karnataka.

**Ref:** Combined Consent order No: AW-332167 dtd: 08-07-2022 valid upto 03.06.2027.

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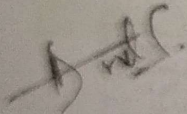
With respect to the above subject, we here with submit the Environmental Statement in prescribed Form-V, in respect of M/s. SLR Metaliks Limited, ND Kere & Lokappanahola Villages, HB Halli Taluk & Vijayanagara District, for the Financial Year ending 31<sup>st</sup> March 2024.

Kindly acknowledge the receipt of the same.

Thanking You,

Yours faithfully

For **SLR Metaliks Limited**



**Authorised Signatory**

**Encl:** Form-V

ಸ್ವೀಕೃತ  
ಶ್ರೀ ಸಾಧು ಶರಣಾ ಪ್ಲಾಜಾ  
ನಂ. 71/ಎ, 2ನೇ ಮಹಡಿ, ಕೆಬಿ-ಡ್ಯಾಂ ರೋಡ್,  
ಹೊಪೆಟ್-583205, ವಿಜಯನಗರ ಜಿಲ್ಲೆ  
29/05/2024



**Corporate Office :**

519, Phase V, Udyog Vihar,  
Gurgaon -122016 (Haryana)

**Works :**

Sy. No. 32, 636, Narayandevarakere,  
Village Lokappana Hala, Tq. H.B. Halli,

**Regd. Office:**

A-2/452, Sec-8, Rohini,  
New Delhi-110085

**FORM V**  
**(See rule 14)**  
**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR**  
**ENDING THE 31<sup>ST</sup> MARCH-2024**

**PART A**

- i. Name and address of the owner:  
Occupier of the industry
- Mr. Dev Dyuti Sen**  
Director-Operations  
M/s. SLR Metaliks Limited  
Sy.No:632 & 635 Other  
Narayandevarakere, Hagaribommanhalli (Tq),  
Vijayanagara Dist, Karnataka.
- ii. Industry category Primary - (STC Code) : Large- Red  
Secondary- (STC Code)
- iii. Production category Units –Power Plant BFG Based : 1x 6 MWH  
Rolled steel product : 3,20,000 TPA
- iv. Year of establishment: 2009
- v. Date of the last environmental statement submitted. : 29-05-2023.

**PART B**

**Water and Raw Material Consumption:**

**i. Water consumption in m<sup>3</sup>/A**

- Process:

Sl. No.	Unit	Water consumption in m <sup>3</sup> per Annum
1	Pig Iron	52,314 m <sup>3</sup> /A
2	Sinter	10,768 m <sup>3</sup> /A
3	Power Plant – BF Gas Fired	5,285 m <sup>3</sup> /A
4	SMS-Billets	1,35,928 m <sup>3</sup> /A
5	Rolled Steel Products	87,052 m <sup>3</sup> /A

- Cooling : (included in the above list)

Domestic: **17,885 m<sup>3</sup>/A.**

ii. Specific water consumption

Name of Products	Process water consumption per unit of products	
	During the previous financial year (2022-23)	During the current financial year (2023-24)
Pig Iron	0.217 m3/MT	0.181 m3/MT
Sinter	0.068 m3/MT	0.033 m3/MT
Power Plant – BF Gas Fired	0.000342 m3/Kwh	0.000239 m3/Kwh
SMS-Billets	0.789 m3/MT	0.482 m3/MT
Rolled Steel Products	0.342 m3/MT	0.310 m3/MT

iii. Raw material consumption

Name of Product	Name of raw materials*	Consumption of raw material per unit of output	
		During the previous financial year (2022-23) (in tons)	During the current financial year (2023-24) (in tons)
<b>Pig Iron</b>	Sinter	1.117	1.057
	Ore lumps	0.222	0.312
	Iron Ore Pellet	0.295	0.296
	Coke	0.482	0.425
	PCI Coal	0.130	0.146
	Dolomite	0.020	0.026
	Quartz	0.010	0.013
<b>Sinter Plant</b>	Iron Ore / Fines	0.782	0.649
	Mill Scale	0.166	0.093
	BF Return Fines	0.254	0.226
	Flue Dust	0.018	0.017
	Lime Stone	0.076	0.033
	Dolomite	0.084	0.071
	Coke Fines	0.069	0.033
	Quick Lime	0.066	0.054
EOF Slurry & Dry Sludge	0.006	0.076	
<b>Power Plant – BF Gas Fired</b>	BF Gas	5600 m3 /MWh	5411 m3 /MWh
<b>SMS</b>	Hot Metal	0.982	1.008
	Pig iron	0.002	0.007
	Scrap	0.112	0.119
	DRI	0.084	0.066
	Flux	0.077	0.081
	Alloys	0.038	0.039
	FO ( in kL)	0.002	0.002

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

**PART.C**

**Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)**

<b>Pollutants</b>	<b>Quantity of Pollutants discharged (mass/day) kg/day</b>	<b>Concentration of Pollutants discharged (mass/volume) mg/m<sup>3</sup></b>	<b>Percentage of variation from prescribed standards with reasons</b>
<b>a. Water</b>	Zero Discharge of waste water		
<b>b. Air</b>			
Sinter Head End	25.3	41.55	17.65% Below
Sinter Tail End	23.1	39.69	21.34% Below
Sinter Fux Crusher	19.0	36.89	26.89% Below
Sinter Fuel Crusher	19.5	38.02	24.66% Below
Sinter Fuel Screen	19.6	38.13	24.42% Below
Sinter Flux Screen	18.4	35.80	29.05% Below
Finished Sinter De-dusting	20.7	40.28	20.16% Below
MBF Stove Chimney	14.8	25.15	16.17% Below
PCI	23.3	38.28	23.43% Below
SMS Energy Optimizing Furnace(EOF)	36.5	38.51	27.63% Below
SMS Ladle refining furnace	37.1	39.18	26.38% Below
RMS- Reheating furnace(RHF) - 2nos	26.6	28.26	47.18% Below
6MW Power Plant	14.8	35.06	69.25% Below

**PART.D**

**HAZARDOUS WASTE**

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

<b>Hazardous Wastes</b>	<b>Total Quantity (KL/MT)</b>	
	<b>During the previous financial year (2022-23)</b>	<b>During the current financial year (2023-24)</b>
1.From Process		
1. Used Oil	4.52 KL/A	-
2. Discarded Container	-	5.65MT/A
3. Oil Soaked Cotton Waste	-	-
4. Oil & Grease Skimming	1.03 MT/A	-
5. Spent ion exchange resin containing toxic metals	Nil	-

**PART- E**

**SOLID WASTES:**

Solid Wastes	Total Quantity	
	During the previous financial year (2022-23) in tons	During the current financial year (2023-24) in tons
<b>i) Pig Iron Plant</b>		
<b><u>A. From process</u></b>		
<b>PIG IRON:</b>		
Skull	3881	4675
Granulated slag	67,200	1,05,197
Ungranulated slag	551	758.33
GCP & Dust catcher dust	4506	6324.24
Bag filter /De-dusting system dust collected	1,014	750.83
<b>SINTER PLANT:</b>		
Head ESP dust	7,008	5,621
Tail ESP dust	5,114	4,102
<b>SMS:</b>		
EOF slag after metal recovery	50,991	59,142
Skull	3,546	5,073
LRF slag	7,082	12,684
LRF FES dust	7,800	845.64
<b><u>B. From Pollution Control Facility</u></b>		
GCP Dust	6,226.12	6,324.24
GCP Sludge	1,303.11	5,637.60
<b><u>B. Quantity recycled or re- utilized within the unit</u></b>		
<b><u>1) Sold</u></b>		
Granulated Slag	100% sold to Ground Granulated Blast furnace slag (GGBFS) plant	
Un-Granulated Slag	100% sold to GGBFS	
Skull	100% recycled within plant	
<b><u>2) Disposed/Stored</u></b>		
Granulated Slag	Granulated slag from the Blast furnace is 100% sold to GGBFS Plant. No waste is used for land filling.	
Un-Granulated	Sold to GGBFS	
EOF Slag	Used for road making concrete and embankment construction	
<b><u>3) Reuse</u></b>		
GCP & Dust catcher & FES dust	Reused in Sinter Plant	

## 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.**

### A) SOLID WASTES:

- ❖ The solid waste generated from the process is reused, recycled and disposed in scientific manner.
- ❖ GCP dust generated from MBF operations is being reused in sinter plant for sinter making.
- ❖ GCP sludge generated in gas cleaning plant from SMS-EOF is being used in sinter plant for sinter making.
- ❖ Metal scraps generated are being used back in SMS.
- ❖ FES dust collected from LRF is also used in sinter plant
- ❖ The other domestic solid waste generated viz., paper, plastic, wood, scrap, garden waste etc., are segregated at source. The same sold to scrap vendor.
- ❖ Canteen food waste & Garden waste is converted into compost and generated the bio fertiliser is used for plantation purpose
- ❖ Peeled vegetable waste generated from canteen is being sent to piggeries.

### A) HAZARDOUS WASTES:

- ❖ Used Oil, Discarded Container, Oil Soaked Cotton Waste, Oil & Grease Skimming & Spent ion exchange resin containing toxic metals waste are the hazardous waste generated in our industry. It is being disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2019.
- ❖ Used Oil, Discarded Containers, Oil Soaked Cotton waste, Oil & Grease Skimming generated from process is stored in a dedicated storage shed and sold to CPCB / SPCB authorized re- Processors / recyclers.
- ❖ E-wastes like, used printer cartridges are given back to vendor on buyback and non-working computer peripherals are stored in a dedicated storage area and will be disposed after an economical quantity to authorised re-processors.
- ❖ Used batteries are collected and return to the vendor on buy back basis.
- ❖ The Quantity of Hazardous wastes generated and disposed are given in Part -D.

## PART.G

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

Water is used in various processes are mainly for cooling and quenching purpose, hence there were no generation of trade effluent. Through reuse and recycling technique waste water generated from one process will be used in other process and zero liquid discharge is adopted.

Waste water generated in DM plant during re-generation, back wash etc., is being collected in a neutralising pit and the same is reused in MBF for slag granulation, where all the water gets evaporated, ensuring zero liquid waste generation.

Water conservation is practised by rain water harvesting. Bore wells are provided with rain water filtration and recharge system through filtration media and recharge techniques. Rain water from building roof top is made to channelized to the bore well recharge pits.

Provided guard, ponds where storm water washed out from the processing area is channelized to collect in this pond. The water collected by rain water will be used in the process for slag granulation. This water is also utilised for dust suppression on the unpaved roads inside the raw material yards. Domestic water is being treated in STP with 60KLD installed capacity and the treated water is used for garden development and green belt watering.

SLRM has taken as objectives of conservation of Water, Energy, Hydraulic Oil, Coolant Oil and Lube Oil conservation under ISO 14001:2015, Environmental Management System.

Company has bench marked the specific consumption target for all resources and continuous follow-up is made for improving process efficiency to reduce the specific consumption, thereby controlling on the cost of production and resource conservation.

#### A) RE-USE OF SOLID WASTE:

The type of solid waste generated from the Pig Iron and SMS Units are already tabulated in Part "E". Re-use of solid wastes generated is summarized as below.

- ◆ Iron ore fines and Coke fines generated from Pig Iron plant are reused for sinter making in sinter plant as raw material
- ◆ Granulated Slag generated from Pig Iron Plant is 100% sold to Ground granulated blast furnace slag (GGBFS) Manufacturer and Cement Industries.
- ◆ Process wastes like sludge from Gas Cleaning Plant & dry dust are being utilized in the Sinter plant.
- ◆ The skull and UG slag generated from SMS are processed for recovery of iron in the slag crusher plant and the recovered iron is used back in the steel melt shop. Non mag slag will be used for filling low lying area, brick manufacturing and embankment construction purposes

#### B) RE-USE OF AIR POLLUTANTS:

- ◆ Blast Furnace Gas generated from Blast Furnaces contains 22-24%of Carbon Monoxide (CO), which has a calorific value of about 750-800 kCal. This is being cleaned in Gas Cleaning Plant and used as a fuel in hot blast stoves for preheating the air, used as fuel in burner of sinter machine, also used as fuel in Rolling Mill Re-heating furnace, the balance quantity of BF gas is being used in Steam Boiler to produce electrical Power.
- ◆ The dust collected from the bag filter, ESP and FES pollution control equipment's are having iron bearing, coke and lime content is reused back in sinter plant for sinter making.

### PART-H

#### **Additional measure / investment proposal for Environment Protection including abatement of Pollution.**

- The plant area is rocky and sandy in nature, however extensive green belt development program has been taken. More than 93,580 saplings are planted along the road, vacant spaces etc., Plantation upto 3 to 4 rows of saplings are planted along the boundary of plant to act as wind barriers.
- Rs.25 Lakhs is spent for procurement of 7No,s of CEMS. Installed & operating of online continuous emission monitoring system (CEMS) to monitor the emission levels on regular basis.
- Rs.70Lakhs is spent for procurement of CAAQMS Station. Installed & operating of Continuous ambient air Quality monitoring to monitor the ambient air quality on regular basis.

- Rs. 12.0 Lakhs is being spent for Operation & maintenance of STP of 60KLD & treated water is used for gardening.
- Mobile tankers are regularly used for sprinkling of water on roads in and outside the plant to suppress the dust.
- During 2023-24, 1060m of roads have been concreted by spending around 1.5 crores.
- Total 10.442 km road has been concreted to prevent dust emission and further concreting work is in progress.
- Constructed Porous mesh fencing of 12m height on the boundary of slag crusher to prevent dust emanating to adjacent fields. For this SLRM has spent Rs. 35 Lakhs.
- Monitoring of environmental quality through NABL & MoEFCC recognized laboratory.

### **Investment made towards Pollution Control / Environment Management,**

SLRM is committed to protect and upkeep the surrounding Environment clean and green. The management commitment towards environmental protection has been incorporated in our “Environmental Occupational Health and Safety Policy”. Adopted cost-effective methods for waste management, adopted best available technology for prevention & control of pollution and resource conservation in all its areas of process, operations & services.

SLRM has invested more than Rupees 14.5 Crores for air & water pollution control equipment and spending around Rs. 3 crores towards operation & maintenance of the same every year.

SLRM has implemented and certified for ISO 14001:2015 - EMS and ISO OHSMS 45001:2018.

### **PART-I**

#### **Any other particulars in respect of environmental protection and abatement of pollution**

#### **Following are the measures taken for Environment protection and abatement of pollution:**

##### **Towards Clean & Green Environment:**

- Plantation of tall growing and thick foliage trees inside the premises, planted 4 rows of plantation along the periphery of the Plant and all along the compound wall inside and outside.
- This Financial year SLRM has planted 2,800 tree saplings within and outside the factory premises.
- Over all plantation totals to 93,580 nos. covering more than 35 % is under green belt with an area coverage of 82.0 acres out of 234 acres.
- Plantation development is a continual process, every year SLRM is planning to improve Greenery. Hence, it is planned to plant 5,000 tree saplings during FY 2024-25.
- SLRM is using 84% of its electricity through a renewable energy source ie., wind, hydel and solar.
- SLRM is also has taken stringent target of GHG emission control more than the specific emission target of CO2 emission prescribed by steel ministry. SLRM has taken CO2 emission control target by 2030 will be 1.9ton of CO2/tonne of crude steel, whereas, steel ministry has given a target of 2.5ton of CO2/tonne of crude steel.

### **Towards prevention and control of pollution:**

- Dry type gas cleaning plant in place of conventional wet type GCP, resulting in drastic reduction in water requirement: Introduction of dry gas cleaning plant in place of Wet Gas Cleaning Plant for Blast Furnace. First Iron Making Complex in Karnataka, where no water is used in cleaning the BF gas. Wet scrubber is replaced with filter bags, thereby saving of water by 250 cum/day.
- BF gas based power plant: Captive power plant uses the BF gas as a fuel which is otherwise discharged into atmosphere as waste gas. The power plant generates sufficient electricity to run the Pig iron unit thus conserving the energy.
- The BF gas is also used in Re-heating furnace of Rolling mill in place of Furnace oil. This offers a big credit in terms of pollution prevention from furnace oil.
- All iron ore bearing wastes viz. flue dust, GCP dust, FES dust etc. is reused in sinter making, resulting in near zero generation of solid waste: Introduction of Sinter Plant, which is called as Scavenger/Waste Recycling Plant, where all the iron bearing wastes and coke breeze are sintered & used as raw material for the Blast Furnace. i.e. Conservation of natural resources & reduced air pollution.
- Installed 2nos. of ESP for sinter plant for separating dust from off gases. The dust collected is reused in the sinter process as raw material thereby providing better solid waste management and conservation of natural resources and 5no,s Bag Filter technology in Sinter Plant to control the dust emissions.
- Installed Sinter plant for reusing of MBF solid waste (Iron Ore fines & dust, Coke fines and other fluxes).
- Installed Fume Extraction System with Bag Filter Technology for SMS to control fumes & smoke.
- Installation Energy optimizing Furnace (EOF) utilizes the hot metal, avoiding re-melting of Pig iron thereby energy saving about 405 KWH/ton of pig iron.
- Provided 180m length 6m height Porous Fence/ Mesh all along the material yard siding to prevent dust emanating out of premises.
- Provided 180m length 12m height Porous Mesh all along the slag crusher to prevent dust emanating out of premises.
- The power plant is based on blast furnace gas, there is no fly ash generated in our industry, as no coal firing in boiler.
- Installed 3 Stoves each in MBF for reducing the 30% coke consumption.
- Pulverised coal injection & oxygen enrichment systems are adopted to optimise the fuel consumption there by conserving natural resources and reducing CO2 emission.
- Iron ore & coke raw material transport vehicles are covered with tarpaulin to prevent dust emission during transport. The transport of finished product doesn't generate dust.
- Water sprinkling is carried out to control the dust on the unpaved roads and Raw material yards.
- Pollution under check is also being done for all the vehicles.

### **Towards resource conservation:**

- Coke is the primary raw material contributing for pollution. Resource optimisation measures like, Coal injection, oxygen enrichment, optimised burden preparation etc., are taken to optimise the coke consumption in blast furnace.
- Usage of optimised quantity of mill scale in sinter plant, which will yield the production and usage of pellet in MBF to increase the productivity is started,
- Taken initiatives to eliminate wastage of water by training employees & arresting leakages at the outlet of water in shop floors.
- Specific water consumption targets are given for the per ton of production, these targets are made stringent year on year to conserve water.

### **Towards cost effective methods for waste management:**

- Most of the solid wastes / by-products like coke fines, iron ore fines and GCP dust are being reused in Sinter making process.
- Waste wastewater is channelized to Guard pond (Process water pond) and re-used for slag granulation purposes.

Above all, SLRM is incurring about Rs. **~300 Lakhs annually**, towards operation & maintenance of various pollution control equipments provided in the industry and other Environmental Protection measures.

- All key characteristics as per legal requirements are monitored periodically, results submitted to concern Departments and records maintained.
- Complying with all applicable Environmental laws as part of commitment to our Environmental Management System.
- All observations made by the officers of the Karnataka State Pollution Control Board, Ministry of Environment & Forest, during their visit and the suggestions given by them are implemented.
- An Environmental Management Department has been established comprising of a experienced & qualified Environmental Engineers, headed by Director-Operations.
- Water, treated Wastewater and Wastewater samples are analysed through NABL & MoEFCC accredited laboratory.
- “World Environmental Day” is celebrated on June 5th of every year to create awareness among the Employees towards maintaining pollution free Environment.
- The “World Water Day” celebrated on March 22<sup>nd</sup> of every year to create awareness among the Employees towards Importance of water.
- Increasing awareness among the Employees by nominating to attend the external training Programs, as and when organized / conducted by the Pollution Control Board or other agencies and also organizing In-house training programmes.

\*\*\*\*\*End of Report\*\*\*\*\*