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### Vijayanagar Metallics Limited

#### Vijayanagar Works :

**Regd:** Room No. 8/, First Floor, HSM 1 Old Lab, JSW Steel Ltd, Toranagallu - 583 275.

Correspondence: F&A, Dept. HRD Building, JSW Steel Ltd, P.O. Vidyanagar - 583275. Toranagallu. Dist. Bellary, Karnataka, India.

CIN. : U27300MH2019PLC334944 Phone : +91 8395 250 120-30 Fax : +91 8395 250 131/142

Website: www.jsw.in

24 Date .09.2025

JVML/ENV/GOV/KSPCB//STM/092025 4037

To,

Member Secretary, Karnataka State Pollution Control Board. 5<sup>th</sup> Floor, #49, Parisara Bhavan, Church Street, Banglore-560 001

Sub: Environment Statement for the Financial Year 2024-2025

Ref:

1. Combined Consent Order No. AW 345131 PCB ID 182777 Dated 23.09.2024

Dear Sir,

With reference to the above subject, we are submitting herewith the Environment Statement FY 2024-2025 report for our integrated Steel Plant JSW Vijayanagar Metallics Limited, Village Toranagallu, District Bellary, Karnataka.

Submitted for your record please.

Thanking You,
Yours faithfully
Authorized Signatory
For M/s JSW Vijayanagar Metallics Limited

A

Mr. Godavvarthi Jaya Prakash Head (Environment & Sustainability)

#### CC:

- 1. Environmental officer, KSPCB, Regional Office, 4th Main, Kuvempunagara, Bellary 583104
- II. Director, Regional Office MOEF (SZ), Kendriya Sadana, IV Floor, E&F Wing, 17<sup>th</sup> Main Road, Koramangala, Banglore-560034
- III. Regional Director, CPCB, A-Block, Nisarga Bhavan 1<sup>st</sup> & 2<sup>nd</sup> Floor, 7<sup>th</sup> D Cross, Thimmaiah Road, Shivaji Nagar, Bengaluru-560079.

iv. Office copy



Regd. Office: 5th Floor, JSW Centre Bandra Kurla Complex, Branch (East), Mumbai - 400 051

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# **ENVIRONMENTAL STATEMENT**

For Financial Year 2024-2025





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# JVML

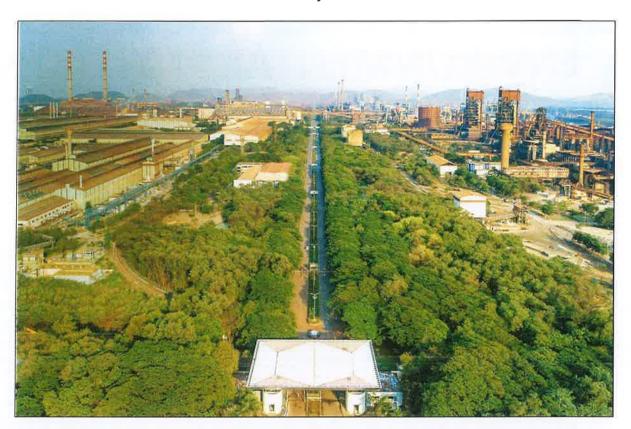
## **JSW VIJAYANAGAR METALLICS LIMITED**

Toranagallu, P.O. Vidyanagar Dist. Ballari Karnataka-583275



# **ENVIRONMENTAL STATEMENT**

Of



# JVML JSW VIJAYANAGAR METALLICS LIMITED

For

Financial year 01<sup>st</sup> April 2024 - 31<sup>st</sup> March, 2025
(In the prescribed Form # 5)
As specified by Rule 14 of The Environment (P) Rules, 1986
&
Notified by G.S.R. # 396 (E) dated 22.4.1993



## PART-A

**GENERAL INFORMATION ABOUT THE PLANT** 



#### **Statutory Clearances Details:**

- 1. Environmental Clearance granted to JSW Vijayanagar Metallics Limited (JVML) with EC Identification No. EC24A1001KA5580178S and File No. J-11011/489/2009-IA.II(I) dated 25.07.2024 for the crude steel production capacity of 5 MTPA
- 2. Combined Consent Order No: AW-345131 PCB ID: 182777 dated 23.09.2024 for JSW Vijayanagar Metallics Limited (JVML) of crude steel production capacity 5 MTPA
- 3. Form-2 Authorization under Hazardous & Other Wastes [Management & Transboundary Movement] Rules,2016 with Authorization No. 348205, PCB ID: 182777 Dated: 26/03/2025 valid till 30.06.2026 in the name of JSW Vijayanagar Metallics Limited (JVML)

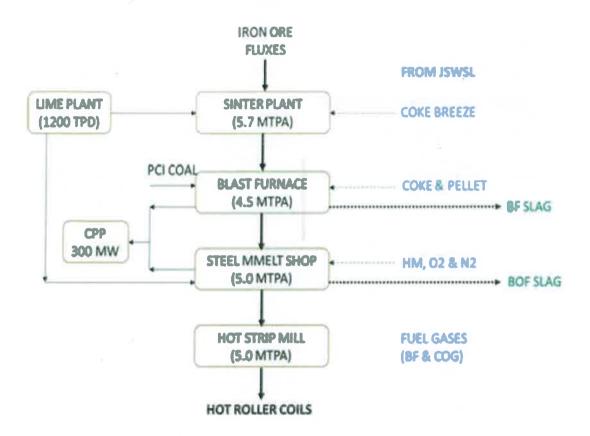
1. Name and address of the owner/ : Mr. Lokendra	Raj Singh,				
occupier of the industry Director,					
operation or process JSW Vijayanag	gar Metallics Limited,				
Toranagallu, B	Sallari, Karnataka				
1.a Authorized person for the : Mr. Godavvar	thi Jayaprakash				
occupier AVP (Environm	nent & Sustainability),				
JSW Vijayanga	r Metallics Limited,				
Vijayanagar W	/orks,				
Toranagallu, B	allari, Karnataka				
2 Industry category : Primary Metal	lurgical Industry				
STC Code : 14 (a)					
3a. Production capacity : Crude Steel Pro	oduction - 5 MTPA				
b. Units					
"					
SI. Manufacturing facilities	Capacity				
Sinter plant	Sinter plant				
	(after relocation)				
Hot metal - Blast Furnace					
Blast Furnace - BF5 (Hot Metal) 1 x 4.5 MTPA	1 x 4.5 MTPA				
Steel Melting Shop					
3 Steel Melting Shop- SMS4 Basic Oxygen Furnace (BOF) 1 x 4.8 MTPA					
Slab caster					
Slab caster 4 5.0 MTPA	5.0 MTPA				



SI. No.	Manufacturing facilities	Capacity	
5	Finishing mill		
5	Hot Strip Mill - HSM3	1 x 5.0 MTPA	
_	Lime Kiln		
6	Lime Kiln – LCP4	3 x 600TPD (Total 1800 TPD)	
7	Metal Granulation Plant (MGP)		
7	Metal Granulation Plant (MGP)	1 x 5000 TPD	
4	Year of establishment	2024 - 25	
5	Date of the last environmental statement submitted	Not applicable (1st year of submission)	



#### **PROCESS FLOW SHEET**





#### A. Agglomeration:

a) Sintering: Sintering is a high temperature (1200-1300°C) process for agglomeration of iron ore fines with coke breeze and other fluxes like limestone, and recyclable solid wastes like lime fines, BOF sludge, BF flue dusts etc which are blended in base mix yard.

#### B. Iron making

a) Blast Furnace: Sized iron ore, pellet, sinter and coke along with other fluxing materials are charged to the tall vertical BF for production of hot metal in presence of hot blast air. The temperature within the furnace is above 1600°C. The gangue minerals present in the iron ore are converted to slag known as BF slag and 'Fe' content of the oxide ore gets converted to molten iron due to reduction of iron oxides of the ore with carbon present in the coke. In order to have adequate carbon for reduction purpose, as well as to reduce coke consumption, powdered coal is injected into the furnace. The hot iron metal after desulphurization with carbide compound is ready for conversion to steel in BOF. For balancing the hot metal production and consumption, provision of pigging of the hot metal becomes necessary. The BF slag is granulated by water jetting and granulated BF slag produced can be used for cement making. The BF gas containing mostly Carbon monoxide (CO) is cleaned in venturi scrubbers, to bring down the dust level in the gas to below 5 mg/N cu m. The cleaned BF gas is used as plant fuel and for heating the BF stoves to produce hot blast air.

#### C. Lime calcinations:

Burnt lime (CaO) is required for steel making. Limestone is burnt in the tall vertical limekilns at a temperature of around 1050°C to produce burnt lime. The energy required for the endothermic reaction is provided by fuel gases. The burnt lime collected at the bottom of the kilns is screened. Lime dusts are recycled to the Sinter Plant.

D. Steel making: In the Steel Melt Shop (SMS), the desulphurised hot metal along with burnt lime and fluxing agents is charged to the BOF. Carbon present in the hot metal is oxidized by controlled blowing of oxygen. The temperature of BOF is around 1700°C, with the energy generated by the combustion of carbon present in the hot metal. The BOF gas having carbon monoxide and dust passes through the wet gas cleaning plant, comprising of venturi-scrubber



where the dust in the gas is separated due to inertial impaction. The water containing dust is treated in a water treatment plant and recycled to the system. The clean BOF gas depending on 'CO' content is recovered and used as a fuel within the plant.

After tapping of BOF slag, the crude liquid steel is poured and transferred to ladle for further refining and chemistry adjustment in the subsequent steel refining operations. In this special type of ladle, crude liquid steel is vacuum-degasified and chemistry adjusted by addition of micro alloys to produce liquid steel of desired chemistry. Thereafter, the refined liquid steel is continuously cast to the slabs/billets in the casting machines.

E. Hot rolling of slabs / billets: The slabs/billets are reheated to a temperature of around 1250°C in walking beam type reheating furnace. After descaling of heated slabs/billets/blooms by high pressure water jet, the same is hot rolled in separate mills to produce shaped products like hot rolled coils. The products are ready for dispatch. Some of the intermediates like slabs and billets are also sold outside for carrying out finishing operations at the customer end.



### PART -B

WATER AND RAW MATERIAL CONSUMPTION



#### i. Water consumption in m³/d

Type of water	Water consumption in m³/day			
	During the previous Financial Year (2023-24)	During the current Financial Year (2024-25)		
Industrial	NA	10453.16		
Domestic (Plant Premises)	NA	70		

#### ii. Process water consumption per unit of product

Name of Products	Process water consumption per unit of products (m <sup>3</sup> /tcs)		
	During the previous Financial Year (2023-24)	During the current Financial Year (2024-25)	
Crude Steel	NA	2.36	

#### **Consumption of Raw Material**

Raw material consumption per unit of product

Name of Material	Unit	Financial Year 2024-25		
		Crude Steel Production - 796398 tons		
		Consumption in tons	Rate kg/tcs	
Anthracite	tons	34163.909	42.89803465	
PCI Coal	tons	318995.925	400.5483753	
Corex Coal	tons	5330.921	6.69379004	
Purchase Coke	tons	50841.97	63.83990166	
Iron Ore lumps	tons	677296.562	850.449853	
Iron Ore fines	tons	1322346.442	1660.409044	
Pellet	tons	236550.8	297.0258589	
Limestone	tons	451980.821	567.5313361	
Dolomite	tons	252016.148	316.4449785	
Quartzite	tons	8124.673	10.20177474	



## PART-C

# POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUTPUT

**WATER AND AIR** 



#### a) Water

All the effluent generated from JSW Vijayanagar Metallic Limited (JVML) is collected and treated in treatment facilities where the process units are equipped with treatment facility (ETP), i.e. Clarifier / Thickener, Pressure Filters and cooling tower to recirculate water back to process.

- All the process units are equipped with the extensive water recirculation system with treatment facility (ETP), i.e. Clarifier / Thickener, Pressure Filters and cooling tower to recirculate water back to process.
- As stated above, following water pollution control systems have been provided for recycle and reuse of the water.

Water Pollution Control Equipment	Nos
ETP's	1 Nos
RO Plant	1 Nos
Sewage Treatment Plant (STP) based on MBR Technology	1 Nos

- To sustain Zero Discharge, above latest treatment technologies such as Sewage treatment
  Plant based on MBR Technology (STP)-1 Nos, Effluent Treatment Plant (ETP)-1 Nos and RO
  Plant 1 Nos are provided for recycling and reuse of the water back in the process and
  remaining for dust suppression and gardening.
- Use of OPJC STP treated water in steel process that resulted in water savings of 180 m3/day



#### 1 Air: Quantity of pollutants measured in plant is given below

Pollutants (Air)	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants discharged (mass / volume)	% of variation from prescribed standards
	T/day	mg/Nm³	%
Dust emission (PM)	20.10	23.82	-52.3563
SO <sub>2</sub> emission	31.63	264.31	-55.9478
NO <sub>x</sub> emission	17.42	153.46	-48.8482

#### **NAAQ Standard:**

#### NATIONAL AMBIENT AIR QUALITY STANDARDS (2009)

Pollutants	Time	Concentration	in Ambient Air	Methods of Measurement
	Weighted	Industrial,	Ecologically	
	Average	Residential,	Sensitive Area	
		Rural and	(Notified by	
		other Areas	Central	
			Government)	
Sulphur Dioxide	Annual *	50	20	-Improved West and Gaeke Method
(SO <sub>2</sub> ), μg/m <sup>3</sup>	24 Hours **	80	80	-Ultraviolet Fluorescence
Nitrogen Dioxide	Annual *	10	30	Jacob & Hochheiser modified
(NO <sub>2</sub> ), μg/m <sup>3</sup>	24 Hours **	80	80	(NaOH-NaAsO <sub>2</sub> ) Method
	14			-Gas Phase Chemiluminescence
Particulate Matter	Annual *	60	60	-Gravimetric
(Size less than 10µm)	24 Hours **	100	100	-TEOM
or PM <sub>10</sub> , μg/m³				-Beta attenuation
Particulate Matter	Annual *	40	40	-Gravimetric
(Size less than 2.5µm)	24 Hours **	60	60	-TEOM
or PM <sub>2.5</sub> , μg/m <sup>3</sup>				-Beta attenuation

#### Continuous Ambient Air Quality Monitoring at 06 stations FY 2024-25

JSW Steel Limited has installed 06 number of Continuous Ambient Air Quality Monitoring Stations around the JSW and JVML Complex. Continuous Emission monitoring of  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ , NOx & CO is being done at all 06 CAAQMS Stations. The data of all CAAQMS Stations is being transferred to KSPCB Portal.



The location details of 06 CAAQMS Stations is as follows:

- 1. Vidyanagar
- 2. Vaddu
- 3. Shankar Hill Township
- 4. 10 MT
- 5. Sulthanpur
- 6. VV Nagar Township

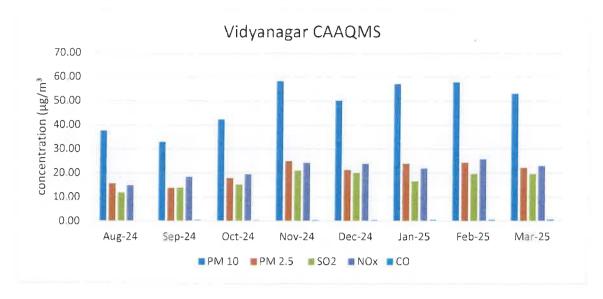


**Continuous Ambient Air Quality Monitoring Stations** 

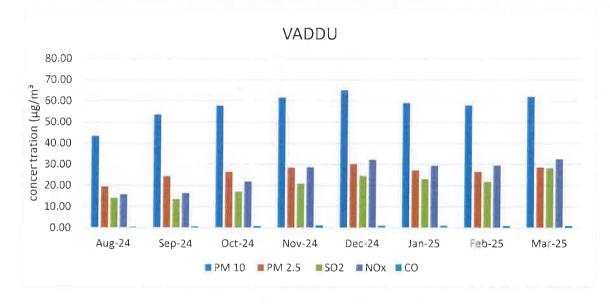
The data reported here is based on the time weighted average standard of 24 hrs as stipulated in NAAQS 2009.



#### Continuous Ambient Air Quality Station Report - Vidyanagar 2024-25

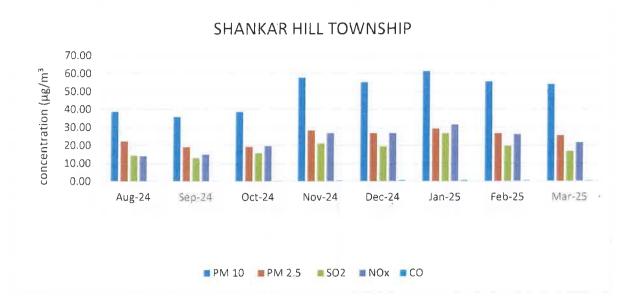


#### Continuous Ambient Air Quality Station Report - Vaddu 2024-25

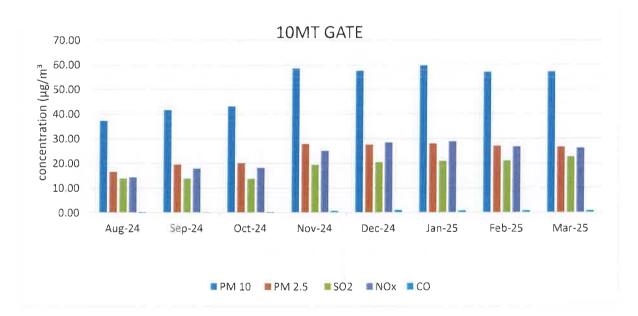




#### Continuous Ambient Air Quality Station Report - Shankar Hill Township 2024-25

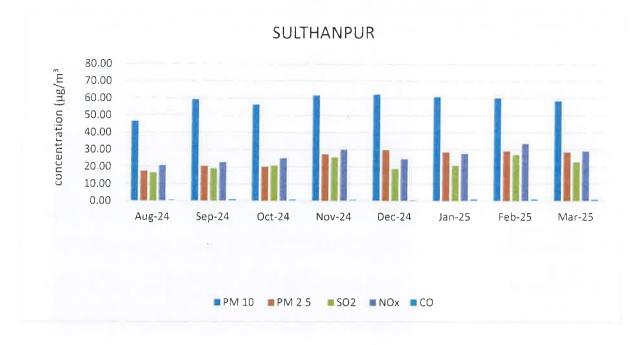


#### Continuous Ambient Air Quality Station Report - 10 MT 2024-25

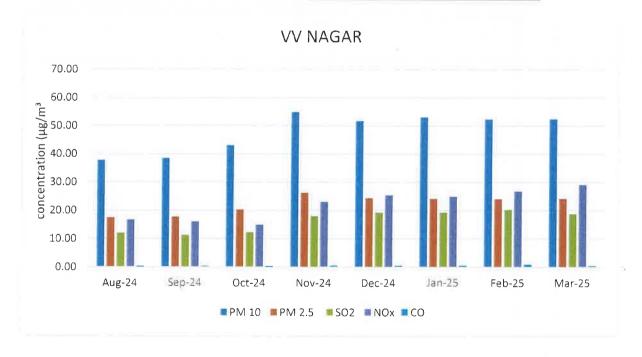




#### Continuous Ambient Air Quality Station Report - Sulthanpur 2024-25



#### Continuous Ambient Air Quality Station Report - VV Nagar Township 2024-25



Note: Sourced from JSW Steel Limited CAAQMS Station



#### Ambient Air Quality Monitoring (Manual) at 11 stations FY2024-25

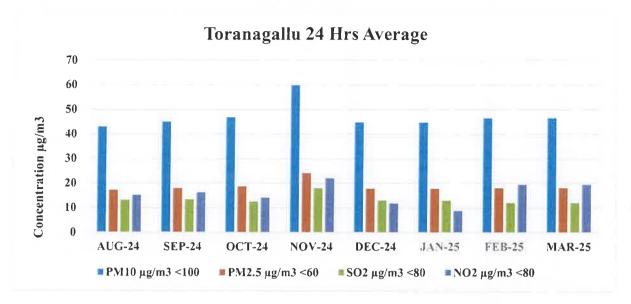
JSW Steel Limited is manually monitoring at 11 number of locations at nearby villages

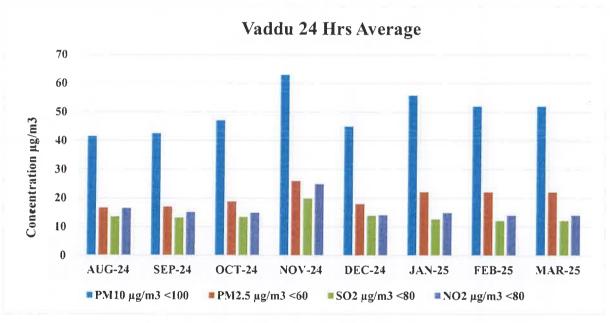
- 1. Toranagallu
- 2. Vaddu
- 3. Basapur
- 4. Talur
- 5. Kurekuppa
- 6. Gadiganur
- 7. Kuditini
- 8. Sultanpur
- 9. Karadidhama
- 10. Hampi
- 11. Vidyanagar



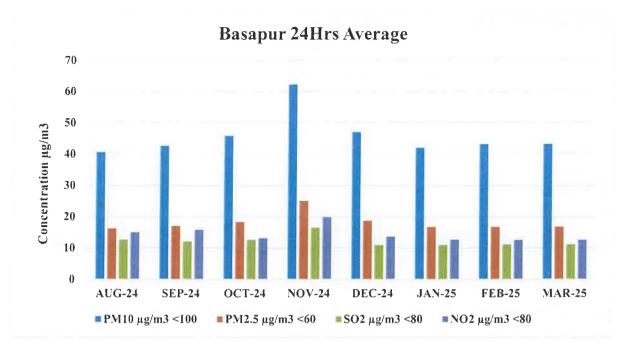


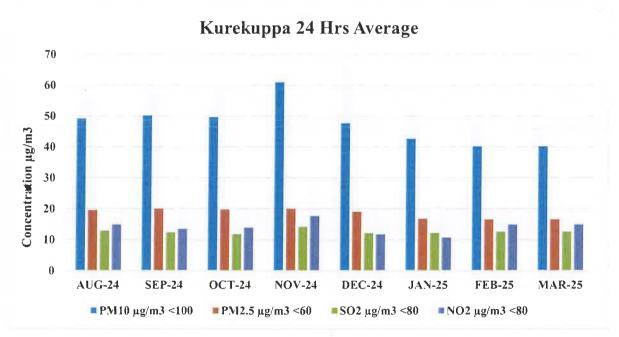
#### **Ambient Air Quality Manual Monitoring Stations**



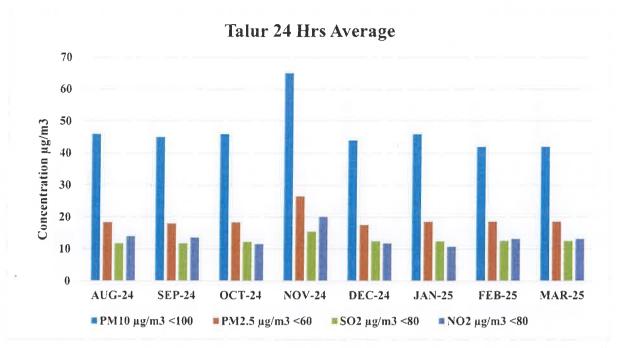


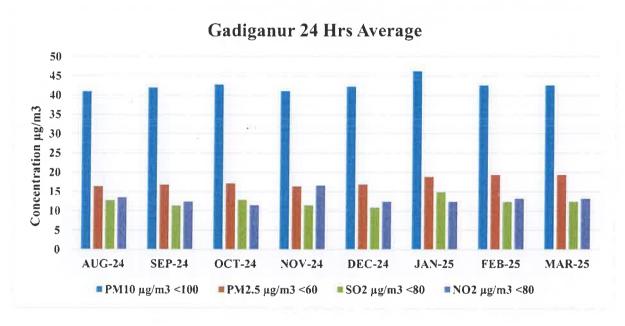




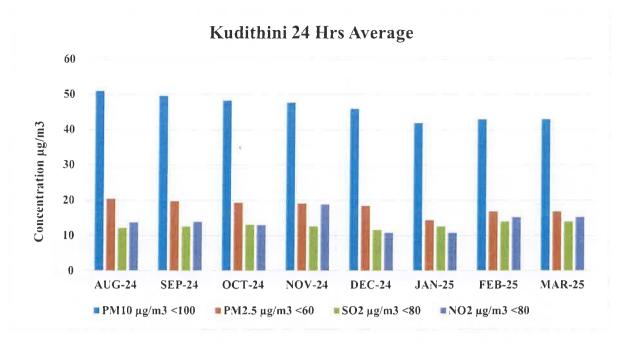


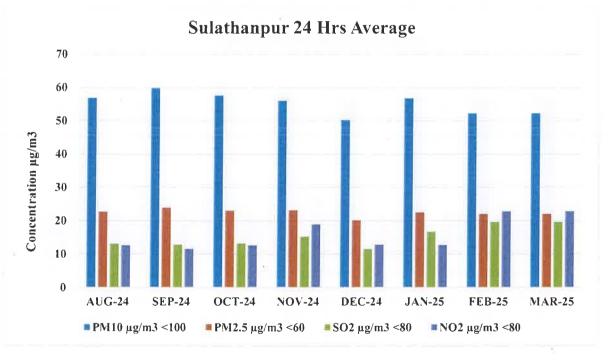




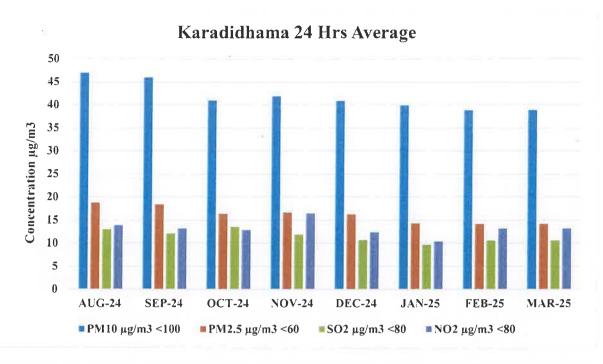


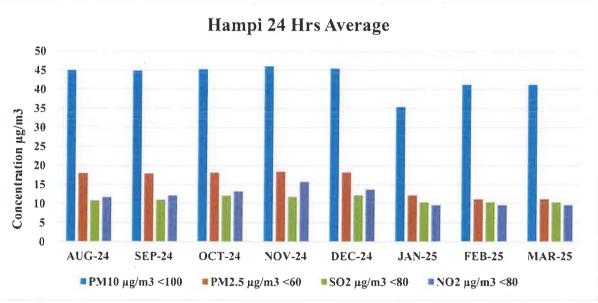




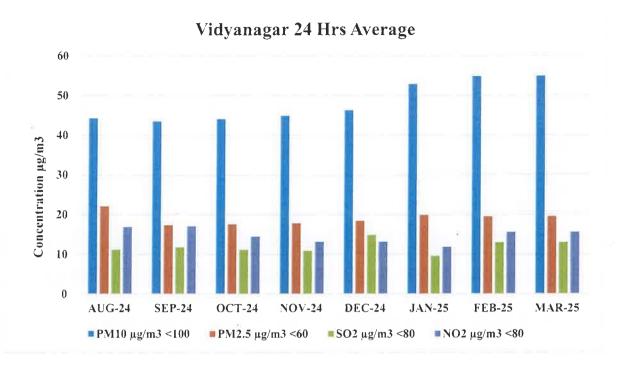












#### Note:

Sourced from JSW Steel Limited monitoring team



### PART-D

HAZARDOUS WASTES
METHOD OF DISPOSAL



#### Hazardous Waste Generation in MT/A

#### Annexure -1

SI. No.	Waste Category	Waste Generated	Consented Quantity MT/A	Generated Quantity MT/A 24-25	Mode of disposal
1	5.1	Used Oil	53	18.9525	Collected in leak proof containers & disposed
2	4.1	Waste Oil (Sludge and Filter contaminated with Oi	346	15.561	to CPCB registered & KSPCB authorized reprocesser
3	33.1	Empty Barrels / containers/liners containing with Hazardous Waste	313	20.72	Stored in a secured manner and handed over to KSPCB authorized recycler after washing.
4	35.4	Oil & grease skimming residue (Emulsion Slurry)	1404	0	Sold to Authorised waste oil recyclers
5	35.3	Chemical Sludge from Waste water treatment (ETP sludge)	5000	0	Used back in Pellet making
6	5.2	Oil soaked cotton waste (Waste residue containing Oil)	41	0	Stored in a secured manner and incinerator in captive incinerator
7	36.2	Spent carbon or filter medium (Filters & filter materials which have organic compound)	25	0	Used back in Micro Pellet Plant
8	33.2	Contaminated cotton rags and other cleaning material	2	0	Stored in a secured manner and incinerator in captive incinerator

#### Note:

We have obtained Authorization for JSW Vijayanagar Metallics Limited on 27-03-2025. Hence the Hazardous waste generated shall be disposed during next FY 2025-26.



PART - E

**SOLID WASTES** 



#### Generation and Utilization of Solid waste in MT/A

0.1.	11014	Solid Waste FY'25		
Category	UOM	Generation	Utilisation	
Iron Making Slag	MT	7,32,804	7,32,804	
Steel Making Slag	MT	2,10,588	2,10,588	
Sludge	MT	0	0	
Process Dust	MT	0	0	
Mill scale	MT	20285.01	20285,01	
% Utilisation	100			

Note: Iron making slag (BF Granulated Slag & BF Air Cooled Slag), Steel Making Slag (BOF Slag & Ladle Furnace Slag)

#### Other wastes

Category UOM		Total Quantity	Total Quantity
		(During the previous	(During the current
		financial year 2023-	financial year 2024-
		2024)	2025)
E-waste	MT	NA	0
Battery Waste	MT	NA	0



# PART - F

**CHARACTERISTICS OF WASTE** 



#### Generation, Chemical Composition and disposal of Solid Wastes

SI. No.	Type of Waste	Typical Chemical Analysis (and size)	Mode of Utilization/ Disposal
Blast	Furnace (BF)		
1	Blast Furnace Air Cooled Slag	CaO- 35.84, SiO2-32.78, Al2O3-17.82, MgO- 6.59, FeO-0.66, MnO- 1.0, TiO2-0.89, Na2O- 0.17, K2O-0.45, S-0.605	For Road making purpose as a sub base material. Currently it is used for bund construction.
2	Blast Furnace Granulated slag	CaO- 35.84, SiO2-32.78, Al2O3-17.82, MgO- 6.59, FeO-0.66, MnO- 1.0, TiO2-0.89, Na2O- 0.17, K2O-0.45, S-0.605	Selling to Cement Making Plants and as slag sand, an alternate of river sand.
Steel	Melting Shop	·	
3	Ladle Furnace(LF) Slag	Fe2O3-4.40, SiO2-3.27, Al2O3-35.0, CaO-42.0, MgO-9.90, MnO-1.95, TiO2-0.250, P2O5-0.110, K2O-0.015, Na2O-0.030,	Re-used in micro pellet plant further to sinter making
4	BOF slag	Fe2O3-23.0, SiO2-12.11, Al2O3-1.63, CaO-45.16, MgO-8.38, MnO-3.12, TiO2-0.580, P2O5-2.27, K2O-0.020, Na2O-0.003,	Used in micro pellet plant, blast furnace and sinter as source of flux, as scrap in BOF and bund construction
5	Mill Scale	Fe (T)-69.84,FeO-57.16, Fe(M)-13.270, C-0.240, S-0.008, SiO2-4.17, Al2O3-1.17, CaO-3.25, MgO-0.477, MnO-0.354, TiO2-0.046,P-0.007, Na2O-2.083, K2O-0.023	Used for mill scale briquetting for further use in BOF as coolant

#### **Other Wastes**

Category	UOM	Disposal	
E-waste	MT	Will be sent to Authorised E-waste recyclers/vendors	
Battery Waste	MT	Will be sent to Authorised Battery waste recyclers/vendors	

Note: Currently No e-waste or Battery waste is generated from the unit.



## PART - G

IMPACT OF THE POLLUTION CONTROL MEASURES
TAKEN ON CONSERVATION OF NATURAL RESOURCES



#### **CONSERVATION OF NATURAL RESOURCES**

#### A. WATER ENVIRONMENT

JSW Vijayanagar Metallic Limited receives water from JSW Steel Limited (from the resources allocated to them - Tunga Bhadra (TB) Dam and Almatti Dam). Our JVML plant has launched a comprehensive water stewardship initiative aimed at maximising effluent treatment and increasing the use of treated water from sewage treatment plants. This approach includes immediate actions and long-term technological advancements to conserve and recycle water resources. Currently, our efforts are focused on enhancing effluent treatment and increasing the use of treated water from sewage treatment plants. We are addressing water leakage and seepage to prevent wastage and improving RO system efficiency. RO plant has been installed to efficiently reuse and recycle process effluents, significantly decreasing freshwater use. Sewage water is treated through our sewage treatment plant and utilised for both RO feed and horticultural purposes. To optimise wastewater discharge, we are minimising discharge and maximising recycling. Going forward, our short-term goals include streamlining processes for efficient water use, implementing advanced RO technology for better water treatment for maximum water retention. Through continuous innovation and a holistic approach to water stewardship, we aim to set new standards in responsible water management within the industrial sector, safeguarding valuable resources for future generations.

#### **Water Pollution Control Measures implemented:**

JVML has been conserving water through following interventions in FY24-25:

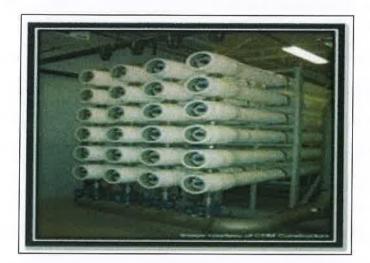
- ➤ Recycling the Blow down water through RO plants in SMS-4 by 400 m3/day.
- Chemical Pyrophosphate dosing in cooling towers to increase the COC in BF-5 Water savings of 100 m3/day
- Water saving through uses of AVGF backwash water in secondary purpose by 200 m3/day.

The following are the major Water Pollution Control systems installed in JVML

SI no	Systems	Quantity (nos)
1	ETP	1
2	STP based on MBR Technology	1
3	RO water plant	1



#### **Water Pollution Control Systems in JVML**



**RO Plant** 





The following Sewage Treatment plant is implemented at OPJC and the treated sewage is recovered and reused.



#### B. AIR Environment

We have taken extensive air pollution control measures in the plant to control the dust emission. The details are as follows:

- Installation of DDS BF-5 East & West Cast house, Stock house & surge hopper, SMS-4 DDS for process & material handling, SP-5 DDS screen, storage building and JH
- b. SMS-4 dust is now being consumed in both Sinter Plant 1 and Pellet Plant 1.
- c. 1 no. of CAAQMS station has been installed within JVML plant boundary besides OP Jindal centre. The data of the CAAQMS is being submitted to KSPCB/CPCB Servers.
- d. We have provided an independent Fume extraction system (FES) for LRF of SMS 4.
- e. 4 no. of Vacuum sweepers are provided and being operated in the shop floors to capture all fugitive dust.
- f. Vacuum sweeping of the roads and road wetting is done on regular basis.
- g. In addition to the above, all the internal roads have been paved and concreted and ree plantation is done on either sides of the road
- h. Bag leakage detection system provided and PLC based bag cleaning systems are installed.

  Regular maintenance of these bag filters is being done to assure the emission norms.
- i. We have installed efficient air pollution control (APC) equipment for all dust generating points, the summary of APC as follows Bag filter 19 no, Scrubber/Cyclone 1 no, ESP 1 no. We are maintaining the stack emission and fugitive emissions within standard limits. We are submitting the stack emission monitoring data to KSPCB. In addition to this, we are monitoring manual stack emission on monthly basis and report is being submitted to KSPCB.

With the above air pollution control measure insignificant air quality impact on the surrounding villages is envisaged.



#### C. SOLID WASTE MANAGEMENT

- Application of waste glass wool in concrete to improve flexural strength outcome in Piloting the use of waste glass wool as a fibre reinforcement in concrete to enhance its tensile capacity and overall strength, within optimised dosage limits.
- ➤ We are utilizing 100 percent solid waste i.e. dust, mill scales and sludge in Sinter Plant.

  BF Slag is being sold to JSWCL and other cement industries. The steel slag is being utilized 100 percent in slag processing plant of JSWSL.
- > Oil collection trays are being provided at oil handling area. In addition to this, secondary containers are provided at the oil storage area to avoid the spillages.





### PART - H

# ADDITIONAL MEASURES / INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION



#### **Environmental initiatives**

- Reducing steam injection in JVML Blast Furnace (BF) to zero level which results in lower Fuel
   Rate and higher PCI consumption to reduce overall cost.
- The newly commissioned BF-5 transitioned to zero steam. 8 kg of CO2 per tonne of crude steel saved. Beyond carbon reduction and cost savings, the initiative has improved furnace stability and control. With plans to embed this model across all furnaces, we are setting a new benchmark in process-led decarbonisation and operational efficiency in steelmaking.
- Installation of DDS BF-5 East & West Cast house, Stock house & surge hopper, SMS-4 DDS for process & material handling, SP-5 DDS screen, storage building and JH
- SMS-4 dust is now being consumed in both Sinter Plant 1 and Pellet Plant 1.
- The recycle and reuse of coal and coke fines and other fines collected from Pollution Controlling devices and vacuum cleaning devices is being used in the steel manufacturing process after briquetting or agglomeration at JSWSL.
- Wind shelter fence has been provided in the raw material storage yard. We have provided the chemical spraying system at the raw material stock piles.
- We have installed 225 MW solar power plant at Rajapura and Thimmalapura village as part of JSW Renewable energy initiatives. In addition to this 70 KW roof top solar plant is provided at Sanjeevani Hospital.
- JSW has provided 71 electric buses and 59 electric cars as part of Green Initiative/CO2
  emission reduction initiative for commuting of employees from Ballari, Hosapete, townships
  and within the plant.
- We have implemented and operating international standard for environment i.e ISO 14001.
   Environmental Management System. We have Environmental policy as stipulated
- Tree Plantation for improving Overall biodiversity index, this initiative resulted in the Plantation of 21.78 lakhs trees at JSW complex Vijayanagar Works (combined initiative of JSW Steel Limited & JSW Vijayanagar Metallics Limited) till March 2025
- JSW Steel Limited & JSW Vijayanagar Metallics Limited in Karnataka has introduced an 800 kW battery-powered locomotive as a major sustainable transport achievement as a part of Green Initiative/CO2 emission reduction initiative.



- JSW Vijayanagar Metallics Limited has planted 2.80 lakhs plants over 112 ha area to under greenbelt with the tree density of 2500 trees per hectares.
- By product gases like BF gas, Coke oven gases are being used as fuel in the process (Blast Furnace stove, SMS, reheating furnace etc.) and also for power generation, thereby reducing the significant coal consumption, hence improving the ambient air quality.
- Truck parking yard is provided with concrete floor and three tire plantation along the parking
  yard boundary. In addition to this, Tarpaulin covered trucks are provided to transport the raw
  material so as to minimize the fugitive dust emissions. Mechanical Road Sweeping Machines
  with the succession mechanism are provided for the area clearing.
- All Stockyards are provided with concrete flooring with the water sprinkling system. Garland
  drains are provided at Material stock yard to trap the run off material.



# <u>PART – I</u> MISCELLANEOUS



JSW Vijayanagar Metallics Limited has planted 2.80 lakhs plants over 112 ha area to under greenbelt with the tree density of 2500 trees per hectares. JSW group is exploring the possibility of maximum utilization of by-product gases and green energy in process. Additionally we are exploring latest technology of utilization of scrap and Green hydrogen in SMS for reduction of CO<sub>2</sub> Emissions. JSW Vijayangar Metallics Limited is committed to protect the environment and its surroundings.