

JSL/JRD/ENV/2024-25/26

Date: 26.09.2024

To
The Member Secretary,
State Pollution Control Board, Odisha
A/118, Nilakantha Nagar, Unit VIII
Bhubaneswar – 750012

Sub: Submission of annual Environmental Statement for the financial year 2023-24.

Dear Sir,

Please find enclosed herewith the "Annual Environmental Statement (Form-V)" dully filled in the prescribed format for the financial year 2023-24.

This is for your kind perusal please.

Thanking You,

Yours faithfully,
For **Jindal Stainless Limited**

Maitreyee Deb
Maitreyee Deb
Head-Environment

Encl: As Above

CC: The Regional Officer, State Pollution Control Board, KNIC, Jajpur Road





ENVIRONMENT STATEMENT

FINANCIAL YEAR 2023-24



JINDAL STAINLESS LIMITED

Kalinganagar Industrial Complex, Duburi, Dist. Jajpur - 755026, Orissa, India

Tel: +91 06726 266031 - 33

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FORM -V

Form-V

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING ON 31ST MARCH, 2024

Part-A

Name and address of the owner/ occupier of the industry, operation or process	:	Shri Tarun Khulbe Director (Occupier) Deepak Agrawal Unit Head Jindal Stainless Limited Jajpur-755026, Orissa
Industry Category Primary/(STC code)	:	Red
Primary (STC code)	:	Large Industry
Secondary (STC code)	:	Metal & Mining
Production Capacity	:	During the FY 2023-24
	:	Crude Stainless Steel: 2.2 MTPA Captive Power: 2 x 125 MW, 13 MW
Year of Establishment	:	2007
Date of Last Environmental /Audit Report submitted	:	28.09.2023

Part-B

WATER AND RAW MATERIAL CONSUMPTION

Water consumption (m ³ /Day)	2022-23	2023-24
Process*	4536	4784
Cooling**	11339	14352
Domestic***	3024	876
Total	18899	20012
* Includes fresh water for water make up, DM water, Service water etc.		
** Includes fresh water for cooling tower make up		
*** Includes water for drinking, toilets, washing & canteen supply in plant.		

Water consumption per Ton of Product:

Name of products	Water consumption per unit of products 2023-24
CPP – Electricity	2.67 m ³ /MW
SMS -	0.95 m ³ /tss

Raw Material Consumption:

Name of raw materials	Name of Products	Consumption of raw material per unit of Output (KG/ MT or (MWH)	
		During the current Financial Year (2022-23)	During the current Financial Year (202324)
Steam Coal	Power	785 Kg/MW	778 Kg/MW
MS Scrap	Crude stainless Steel	446 Kg/MT	417 Kg/MT
SS Scrap		314 Kg/MT	367 Kg/MT
Ferro Alloy		171 Kg/MT	240 Kg/MT
Ferro Nickel		43 Kg/MT	30 Kg/MT
Si Manganese		35 Kg/MT	38 Kg/MT
Fe Manganese		20 Kg/MT	21 Kg/MT
Chrome Ore		-	474 Kg/MT

PART-C

POLLUTION DISCHARGED TO ENVIRONMENT/ UNIT OF OUTPUT
(PARAMETERS AS SPECIFIED IN CONSENT ISSUED)

A. Water Pollutants

The entire effluent from each unit is being treated and recycled within plant premises in different activities being performed and waste water is not allowed to discharge outside the plant complying Zero-Discharge Concept.

B. Air Pollutants

B.1 Pollutants from Stack:

SI No.	Stack details	Pollutants	Quantity of Pollutants discharged (mass/day) (Ton/day) 2023-24	Concentration of Pollutants discharged (mass/volume) (mg /Nm ³) 2023-24	Percentage of variation from prescribed standard
1	CPP-1	PM	0.51	41.97	(-) 16.06 %
2	CPP-2		0.57	44.27	(-) 11.46 %
3	13 MW		0.02	34.20	(-)31.60 %
4	SMS –EAF		0.41	23.59	(-) 76.41 %
5	SMS- AOD		0.62	37.48	(-) 62.52 %
6	SAF # 3		0.18	37.20	(-) 62.80 %
7	SAF # 4&5		0.17	36.17	(-) 63.83 %

8	CRM-Shot Blaster		0.07	70.69	(-) 29.31 %
9	SAF # 4 & 5 (Process-New)		0.09	25.13	(-) 74.87 %
10	SAF # 4 & 5 (Tapping Fume)		0.001	5.0	(-) 95.00 %
11	Pellet Plant		0.01	9.65	(-)90.35 %
12	Shot Blaster # 2 - CRM		0.02	19.28	(-)80.72 %

B.2 Discharge of water pollutant:

Part-D

HAZARDOUS WASTES

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

Hazardous wastes		Generation Quantity	
		During the previous financial year 2022-23	During the current financial year 2023-24
From Process	Used Oil	55.68 KL	75.69 KL
	Waste / Residue containing Oil	75.42 KL	44.80 KL
	Discarded Containers	198 Nos.	Nil
	Oil soaked jute / cotton	Nil	1.87 MT
	CRM ETP Sludge (CRM) *Inclusive of Moisture content.	28875.74* MT	47652.21MT
From Pollution Control facilities	Flue gas Bag Filter dust	20276 MT	27011.28 MT

NOTE:

***42807.36 MT** (Inclusive of Moisture content.) of CRM Sludge is being disposed at CHWTSDf of M/s. Re Sustainability Limited, Sukinda.

Part-E

SOLID WASTES

Solid wastes		Generation Quantity (in MT)	
		During the previous financial year 2022-23	During the current financial year 2023-24
From process	Fe-Cr slag	184637 MT	235907 MT
	SMS Slag (EAF + AOD)	244274 MT	437719 MT
	Mill Scale (CRM)	3453 MT	4302.66 MT
	Bottom Ash	50314 MT	67639.42 MT
From Pollution Control facilities	Bag Filter & Grinding Dust from SMS (EAF + AOD)	46513 MT	60677.81 MT
	Fly Ash	554367 MT	669739.54 MT

Part-F

Characteristics of Hazardous as well as solid wastes and their disposal practice.

A) Hazardous Wastes

Hazardous Wastes Characteristics and Disposal practice:

Sl. No.	Hazardous Wastes	Characteristics	Quantity	Mode of Disposal
1.	Used Oil	Liquid	75.69 KL	Sold to Authorised recycler
2.	Waste Oil	Liquid	44.80 KL	Sold to Authorised recycler
3.	CRM Sludge	Semi solid	47652.21MT *	Recycled in Briquette Plant rest has been disposed at CHWTSDf of M/s. Re Sustainability Limited, Sukinda.
4.	Flue gas cleaning residue	Solid	27011.28 MT	Recycled in the process and dispose authorized recycler.
5.	Oil soaked cotton jute	Solid	1.87 MT	Disposed at CHWTSDf of M/s. Re Sustainability Limited, Sukinda.

B) Solid Wastes

Solid Wastes Characteristics and Disposal practice:

Solid Wastes	Characteristics (Chemical Analysis)	Mode of Disposal
Fe-Cr slag	Cr ₂ O ₃ :%12.1, SiO ₂ :%28.07, Al ₂ O ₃ :%22.44, MgO% :26.39, CaO%: 5.85, FeO% : 3.49	Recovered metal reused in process. rest has been utilized for road making, low lying area filling.
SMS EAF Slag	SiO ₂ :%26.69, Fe ₂ O ₃ :%1.35, CaO%:39.69, MgO%: 8.37, Al ₂ O ₃ :% 12.00, Cr ₂ O ₃ % :7.88	Recovered metal reused in process. rest has been utilized for road making, low lying area filling.
SMS AOD Slag	SiO ₂ :%29.88, Fe ₂ O ₃ :%0.79, CaO%:48.41, MgO%: 11.63, Al ₂ O ₃ :%2.72, Cr ₂ O ₃ % :1.16	Recovered metal reused in process. rest has been utilized for road making, low lying area filling.
Bottom Ash	SiO ₂ :%62.90, Fe ₂ O ₃ :%7.58, CaO%:2.02, MgO%: 2.74, Al ₂ O ₃ :% 22.52	Entire quantity is being disposed at road making/quarry, mine void filling.
Fly Ash	SiO ₂ :%61.80, Fe ₂ O ₃ :%5.21, CaO%:1.79, MgO%:2.26, Al ₂ O ₃ :%26.70	100 % utilization towards Bricks, Asbestos manufacturing units along with Cement Plant.

Part-G

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

1. The plant is equipped with various state-of-the-art Air Pollution Control devices such as Bag Houses, Electrostatic precipitators etc. designed to control the emission (PM) level below the prescribed standard.
2. The plant is maintaining zero effluent discharge from the entire plant. The CPP blow-down water is being treated in RO plant for further reuse in the process. Treated Effluent from CRM is being reused in slag quenching, jigging plant, dust suppression at CRMHS, road cleaning etc. Treated STP water is being used for green belt development. No process water is being discharged outside.
3. Continuous effort are been made to control air pollution by way of installing effective air pollution control devices at all process units to bring down the air pollution concentration well within the permissible limit. Fugitive emissions are being arrested by way of putting up covered belt conveyors, water sprinklers and mostly concreted /asphalted roads for vehicular movement inside the plant premises.
4. Continuous Emission monitoring system for monitoring of PM has been installed at Shot Blaster of CRM, Tapping Fume of SAF 4&5 and Pellet Plant and the online data is being transmitted to SPCB/CPCB serve.
5. Effluent Quality Monitoring System for monitoring of parameters like Cr+6, F, BOD, COD, pH & TSS at the outlet of both the ETP of CRM.
6. Dedicated surveillance PTZ camera has been installed to monitor the stack and fugitive emission Pellet Plant and connected to SPCB server.

Part-H

Additional measures/Investment proposal for environmental protection including abatement of pollution

a) Additional Measures

1. Installation of Roof Top Solar plant of capacity 23 MWp
2. JSL aims to achieve Net Zero Target by 2050 and reduce 50% of our emissions by 2035 through Energy Substitution, Energy Conservation & Emission Reduction, Technical Sequestration, Ecological Sequestration, Market Trading Mechanism and Green Financial Products.
3. An ETP (SRTS) of capacity 250m³/ hr with provision of grit chamber, oil & grease trap, Equalization tank, Flash Mixture, high rated clarifloculator, intermediate tank, dual sand filter and Filter press for sludge removal is under progress for treatment of surface runoff water.

4. In order to maintain neat and clean environment inside the plant premises, housekeeping is being on regular basis. 5-S system has been implemented across the full plant.

Cost estimation of pollution control in (Rs. Crores)		
Description	Expenditure in Crores during 2023-24	
	Capital	Operational
Air Pollution Control	6.78	65.63
Water Pollution Control	2.27	10.27
Hazardous Waste Management	0.12	12.83
Greenbelt development	-	2.25
Total	9.17	90.98

4. Plantation:

- We have planted total 2,81,804 nos. of trees inside the plant premises over an area of 127.07 Ha till 31st March 2024.
- During the FY 202324, 6651 nos. of tress have been planted inside plant premises for gap filling.

PART -I
Miscellaneous

Any other particular for improving quality of environment:

1. IMS Certification (New Standards):

The unit has obtained its recertification for Integrated Management System that includes ISO 14001:2015 (Environment Management System), ISO 9001:2015 (Quality Management System), ISO 45001:2018 (Occupational health & safety Management System) and ISO 50001:2011 (Energy Management System).

2. Received Platinum award for Environment excellence from Energy & Environment Foundation.
3. Prepared medicinal garden and butterfly garden is under preparation to enhance biodiversity in the area.