JINDAL STAINLESS

JSL/JRD/ENV/2023-24/32 **Date: 28.09.2023**

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

Sub: Submission of Environment Statement for the year 2022-23.

Dear Sir,

With reference to the above subject, we are herewith submitting the Environment Statement Report dully filled in FORM-V for the year 2022-23 (Copy enclosed).

This is for your kind perusal please.

Thanking You,

Yours faithfully,
For **Jindal Stainless Limited**

Deepak Agrawal
Unit Head

Encl: As Above

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

Received
29/9/23

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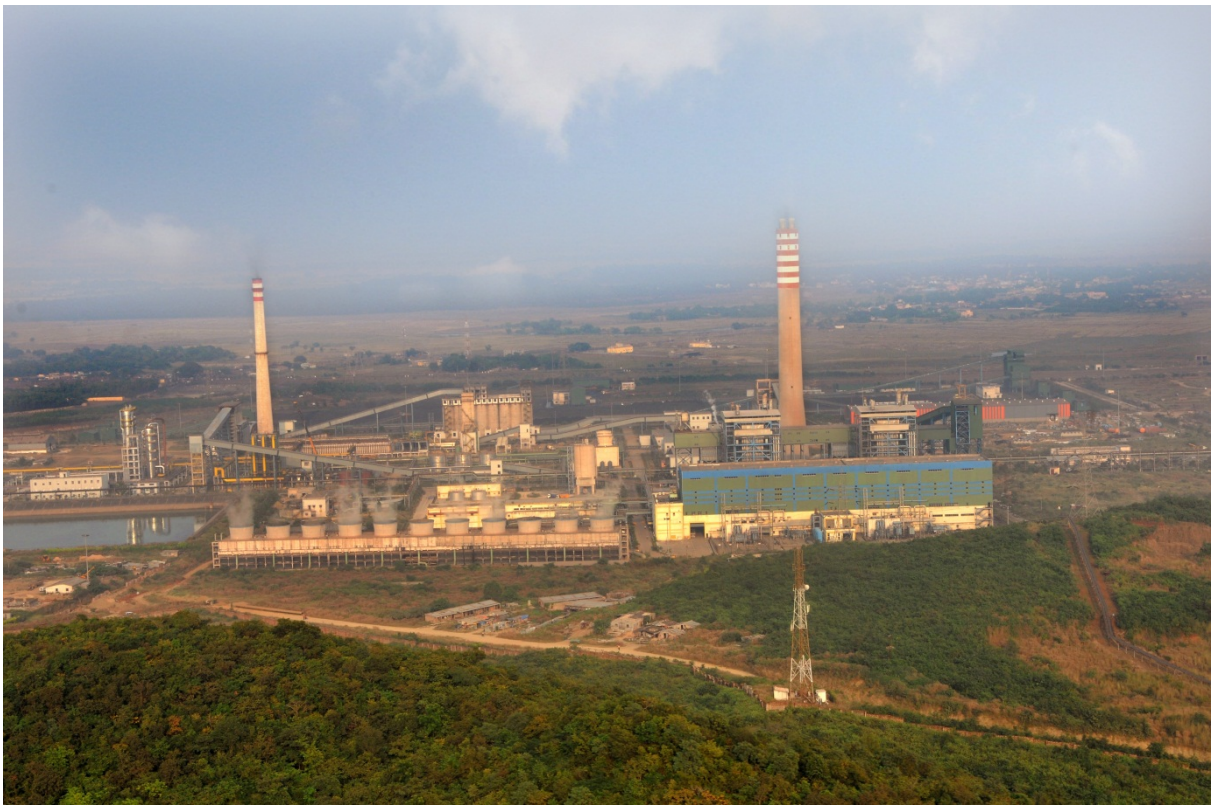
9 SEP 2023
JINDAL
S.P.C. BOARD
BHUBANESWAR-12



ENVIRONMENT STATEMENT REPORT

FOR THE FINANCIAL YEAR 2022-23

Submitted to SPCB under Rule 14 of The Environment (Protection) Rules 1986

JINDAL STAINLESS LIMITED

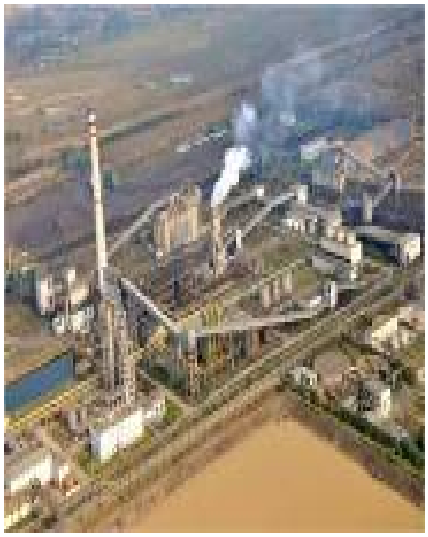
Kalinganagar Industrial Complex, Duburi, Dist. Jajpur - 755026, Orissa, India

Tel: +91 06726 266031 - 33

Fax: +91 06726 266006

E-mail: info.jajpur@jindalsteel.com

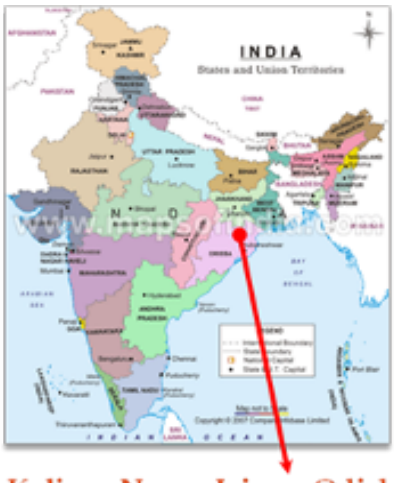
INTRODUCTION



M/S Jindal Stainless Limited is the largest manufacturer of stainless steel in India with a capacity of 1.1 million tonnes per annum. A leader and a name synonymous with Enterprise, Excellence and Success, the company's ethos mirrors most characteristics similar to the metal it produces. Akin to stainless steel, Jindal Stainless Limited is innovative and versatile in its thought process; strong and unrelenting in its operations. JSL has crafted its success story by fully integrating its operations based on a strategy of both, backward and forward integration, starting from mining, melting, casting, hot rolling to cold rolling and further value additions .

This has been the driving philosophy of the company from its one unit presence in the early 70's to its present multi- location presence across the globe. An ISO: 14001 compliant, JSL product range includes: Ferro Alloys, Stainless Steel Slabs, Blooms, Cold Rolled Coils/ Sheets, Stainless Steel Strips for Razor Blade Steel and Coin Blanks for mints in India & EU.

JSL has set up its fully integrated stainless steel plant with most modern, technology efficient and eco-friendly integrated Stainless Steel plant at Kalinga Nagar, Dist Jajpur Road, Orissa in order to meet the rising demand for wider products, Jindal stainless Limited (JSL) at Jajpur, Odisha. This plant is capable of producing unique and wide range of products both in terms of grades and dimensions. Company's Jajpur plant is one of its kinds and envisages complete integration from mining to cold rolling along with Captive Power Plant. The plant has the best chosen and advanced state of the art technologies from world's reputed technology suppliers like SMS-DEMAG for Stainless Steel Melting & Casting and Andritz Sundwig for Cold Rolling manufacturing facilities.



The site of the stainless steel plant is located in Jajpur district of Orissa. The site is covered under Survey of India Toposheet No. 73 L/1 bounded between latitudes 20°56'58" N to 20° 58' N and longitudes 86° 02'17" E to 86° 03'53" E. The plant area is bounded by East Coast Railway's line connecting Jakhapura and Daitari station on the east and the Jajpur-Talcher State Highway on the north. The nearest railway station is Jakhapura, on the Howrah – Kharagpur – Bhubaneswar –Vishakhapatnam line, which is about 10 km towards SE.

The expressway (NH-215) connecting Daitari mines to Paradip port is about 8 km W from the site. Duburi is at a distance 7 km from the site and district head quarter Jajpur is at a distance 35 km from the site. The nearest National Highway is NH-6, which is about 20 km E of the plant at its nearest point. The nearest civilian airport is Bhubaneswar, which is more than 110 km away. The river Brahmani flows from west to east on the southern side of the plant site.

JSL has laid-down its Environmental Policy along with Quality Policy and OHSAS Policy and communicated to all employees. Jindal stainless Limited (JSL) is an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 and ISO 50001:2011 certified company. The Company goes beyond mere compliance legislation to create a healthy environment both within and outside plants. It has adopted state of art technologies in Stainless Steel production at site with best available facilities on control of Pollution measures and has set-up Centre for Environment Excellence – a well equipped environmental laboratory for monitoring of environmental parameters. JSL has given the prior focus on the environment protection as well as environmental improvement scheme.

FACILITIES INSTALLED :

In order to cater the requirement of 1.1 MTPA integrated Stainless Steel, JSL has installed the following facilities at Kalinga Nagar Industrial Complex, Jajpur Road, Odisha.

1. Ferro-Alloys Complex
    - 2 X 60 MVA SAF
    - 3 X 27.6 MVA SAF
    - 2 X 33 TPH + 2 X 30 TPH Briquette Plant
    - Jigging Plant / sludge beneficiation / Metal recovery plant for Metal Recovery
2. 1 X 13 MW TG connected to 2 Nos. WHRB & 1 No. AFBC Boiler
3. Captive Power Plant: 2 x 125 MW
4. SMS Plant: 1.1 MTPA
5. CRM Plant: 0.8 MTPA
6. Oxygen Plant: 425 TPD
7. Metal Recovery Plant: 1x50 TPH + 1x40 TPH

The Plant is having Consent to Operate (CTO) from SPCB, Odisha for its entire Plant, valid up to 31st March, 2025. Further, JSL has obtained authorization under Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016, valid up to 31st March, 2025.

FORM –V

Form-V

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR
ENDING ON 31ST MARCH, 2022

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)	:	Metal and Mining
Secondary (STC code)	:	Large Industry
Production Capacity	:	During the FY 2022-23
	:	Ferro-Alloys Complex: ➢ 2 X 60 MVA SAF ➢ 3 X 27.6 MVA SAF ➢ 2 X 33 TPH + 2 X 30 TPH Briquette Plant ➢ Jigging Plant / Sludge beneficiation plant / Metal Recovery Plant for Metal Recovery ➢ 1 X 13 MW TG connected with 2nos. WHRB Boiler & 1 no. AFBC Boiler
	:	Captive Power Plant: 2 x 125 MW
	:	SMS Plant: 1.1 MTPA
	:	CRM Plant: 0.8 MTPA
	:	Oxygen Plant: 425 TPD
	:	Metal Recovery Plant: 1x50 TPH + 1x40 TPH
Year of Establishment	:	2007
Date of Last Environmental /Audit Report submitted	:	28.09.2022

Part-B

WATER AND RAW MATERIAL CONSUMPTION

Water consumption (m^3/Day)	2021-22	2022-23
Process*	4939	4536
Cooling**	12348	11339
Domestic***	3293	3024
Total	20580	18899
* 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 2022-23
CPP – Electricity	2.74 m^3/MW
SMS	0.85 m^3/MT
CRM	1.46 m^3/MT
Ferro Alloys	0.88 m^3/MT

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 (2021-22)	During the current Financial Year (2022-23)
Chrome ore	Fe Alloy	2411 Kg/MT	2479 Kg/MT
Quartz	Fe Alloy	107 Kg/MT	100 Kg/MT
Coke	Fe Alloy	425 Kg/MT	419 Kg/MT
Coal	Fe Alloy	135Kg/MT	128 Kg/MT
Pulverized Coal	Power	773 Kg/MW	785 Kg/MW
MS Scrap	SMS	280 Kg/MT	446 Kg/MT
SS Scrap	SMS	469 Kg/MT	314 Kg/MT
Ferro Alloy	SMS	153 Kg/MT	171 Kg/MT
Coke	SMS	13 Kg/ MT	13 Kg/ MT
Ferro Nickel	SMS	85 Kg/MT	43 Kg/MT
Si Manganese	SMS	22 Kg/MT	35 Kg/MT
Fe Manganese	SMS	20 Kg/MT	20 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) 2022-23	Concentration of Pollutants discharged (mass/volume) (mg /Nm^3) 2022-23	Percentage of variation from prescribed standard with reasons
1	CPP-1	PM	0.31	41.34	Complied. All the parameters are observed within the stipulated limits.
2	CPP-2		0.32	41.59	
3	SMS –EAF		0.46	25.88	
4	SMS- AOD		0.48	27.51	
5	CRM-Shot Blaster		0.07	72.03	
6	SAF # 3		0.18	51.22	
7	SAF # 4&5		0.27	54.01	

B.2 Discharge of water pollutant: Zero Discharge

Part-D

HAZARDOUS WASTES

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

Hazardous wastes		Quantity (in KL)	
		During the previous financial year 2021-22	**During the current financial year 2022-23**
From Process	Used Oil	114.24 KL	55.68 KL
	Waste / Residue containing Oil	68.46 KL	75.42 KL
	Discarded Containers	525 Nos.	198 Nos.
	Spent Catalyst	4.02 MT	Nil
	CRM ETP Sludge (CRM) *Inclusive of Moisture content.	26523* MT	28875.74* MT
From Pollution Control facilities	Bag Filter dust of Ferro Alloys	13214 MT	20276 MT

NOTE :

*****28875.74 *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		Quantity (in MT)	
		During the previous financial year 2021-22	**During the current financial year 2022-23**
From process	Fe-Cr slag	225015 MT	184637 MT
	SMS Slag (EAF + AOD)	270760 MT	244274 MT
	Furnace Scale (CRM)	*3038* MT	3453 MT
	Bottom Ash	81840 MT	50314 MT
From Pollution Control facilities	Bag Filter Dust from SMS (EAF + AOD)	47691 MT	46513 MT
	Fly Ash	564385 MT	554367 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	55.68 KL	Sold to Authorised recycler
2.	Waste Oil	Liquid	75.42 KL	Sold to Authorised recycler
3.	CRM Sludge	Solid	28875.74* MT	Disposed at CHWTSDF of M/s. Re Sustainability Limited, Sukinda.
4.	Flue gas cleaning residue (Ferro-Chrome Plant)	Solid	20276 MT	Recycled in the process.
5.	Discarded Containers	Solid	198 Nos.	Will be sold to Authorised recycler
7	Oil soaked cotton jute	Solid	0.1 MT	Will be disposed at CHWTSDF of M/s. Re Sustainability Limited, Sukinda.

Note:

* CRM Sludge – *28875.74MT (Inclusive of Moisture content) of CRM Sludge is being disposed at CHWTSDF of M/s. Re Sustainability Limited, Sukinda., Odisha.

B) Solid Wastes

Solid Wastes Characteristics and Disposal practice:

Solid Wastes	Characteristics (Chemical Analysis)	Mode of Disposal
Fe-Cr slag	Cr_2O_3%:12.1, SiO_2%:28.07, Al_2O_3%:22.44, MgO% :26.39, CaO% : 5.85, FeO% : 3.49	Sent to Jigging Plant for metal recovery. In FY 2022-23, 478985 MT of Jigged Slag has been sent out side for road construction.
SMS EAF Slag	SiO_2%:26.69, Fe_2O_3%:1.35, CaO%:39.69, MgO%: 8.37, Al_2O_3%: 12.00, Cr_2O_3% :7.88	Sent to Metal Recovery Plant for metal recovery. In FY 2022-23, 602353 MT of rejected Slag has been sent out side for road construction.
SMS AOD Slag	SiO_2%:29.88, Fe_2O_3%:0.79, CaO%:48.41, MgO%: 11.63, Al_2O_3%:2.72, Cr_2O_3% :1.16	
Bottom Ash	SiO_2%:62.90, Fe_2O_3%:7.58, CaO%:2.02, MgO%: 2.74, Al_2O_3%: 22.52	Entire quantity is being disposed at bottom ash pond and subsequently use for road making/Low laying area filling as per the statutory permission obtained.
EAF dust from Bag filter in SMS	SiO_2%:6.13, Fe_2O_3%:33.93, CaO%:18.54, MgO%: 5.08, Al_2O_3%: 0.91, Cr_2O_3% :9.66	Entire quantity is being reused in Ferro Alloy making.
AOD dust from Bag filter in SMS	SiO_2%:3.42, Fe_2O_3%:29.37, CaO%:23.37, MgO%: 7.82, Al_2O_3%: 0.36, Cr_2O_3% :8.70	Entire quantity is being reused in Ferro Alloy making.
Fly Ash	SiO_2%:61.80, Fe_2O_3%:5.21, CaO%:1.79, MgO%:2.26, Al_2O_3%:26.70	100 % utilization towards Bricks, Asbestos manufacturing units along with Cement Plant.

Part-G

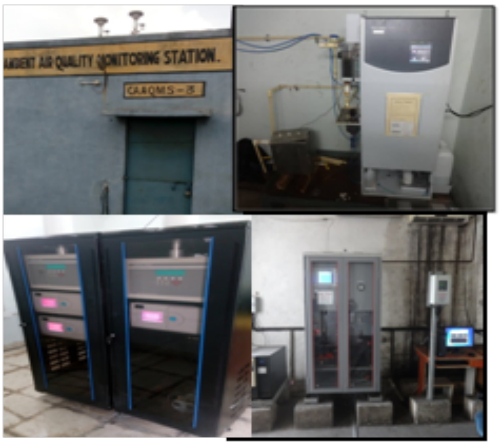
Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

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 100 mg/Nm^3 from the process stacks and 50 mg/Nm^3 from CPP stack installed at our plant.

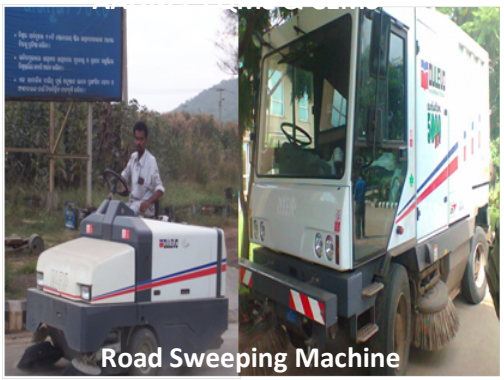
2. The plant is maintaining zero effluent discharge from the entire plant. The CPP blow-down water is being treated in RO plant for further reuse in the process. Treated Effluent from CRM is being reused in slag quenching, jigging plant, dust suppression at CRMHS, road cleaning etc. Treated STP water 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.

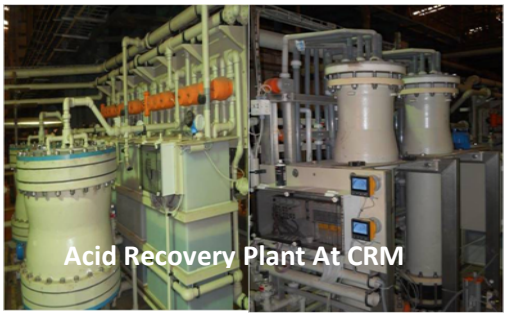
4. Four nos. Continuous Ambient Air Quality Monitoring Stations (CAAQMS), 7 nos. of Continuous Emission Monitoring Systems have been installed at major process stacks and 1no. of Continuous Effluent Quality Monitoring Station (CEQMS) have been installed at the outlet of Effluent Treatment Plant of Cold Rolling Mill. Data are being transmitted to SPCB & CPCB server.



5. Road sweeping machine is in operation for dust extraction during vehicular movement. This also helped in remarkable reduction in water used for sprinkling all along the plant area.


Road Sweeping Machine

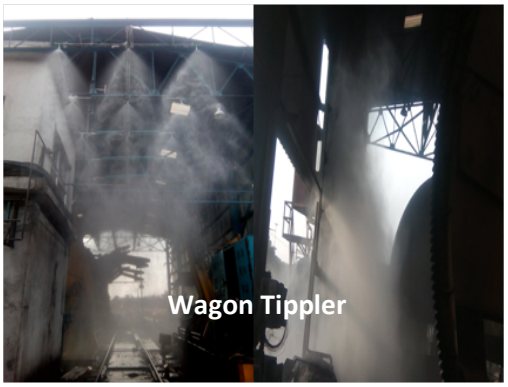
6. Acid Recovery Plant at CRM unit have been installed and commissioned which enable acid recovery @ 90 % as well as reduction in CRM Sludge generation.


Acid Recovery Plant At CRM

7. RO plant of 50 M^3/hr has been installed for treatment of cooling tower water of power plant.

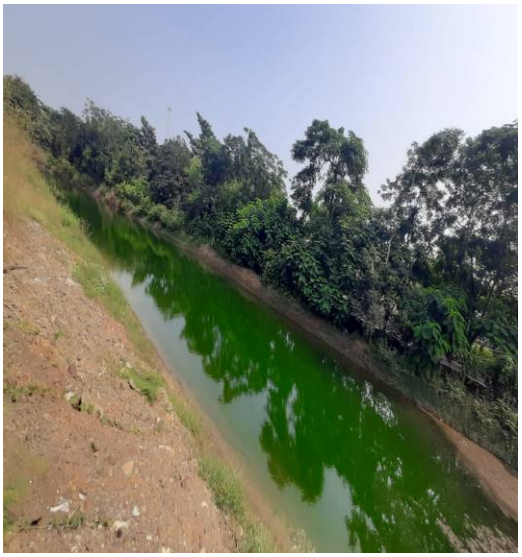
RO Plant of 50 M^3/hr

8. Wagon tippler has been installed and commissioned at CRMHS area with adequate high speed automatic water sprinkling facility to take care of fugitive dust emission during unloading.



Wagon Tippler

9. An earthen pond of 10000M^3 has been constructed for storage of storm water as a part of surface runoff water management.



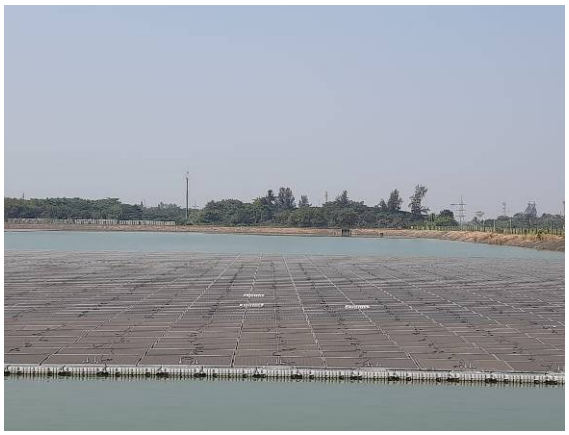
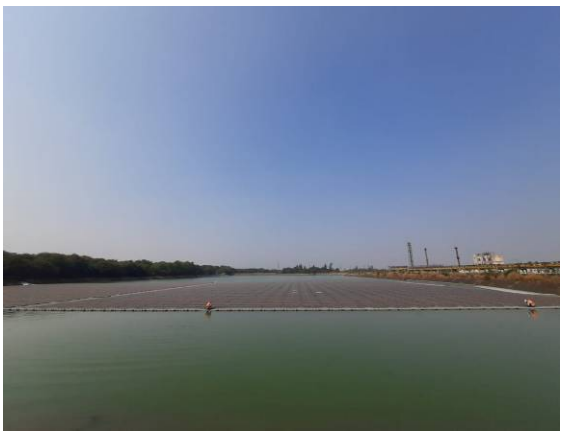
Earthen Pond

Part-H

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

a) Additional Measures

1. Floating Solar Plant of 7.3 MWp capacity has been installed at JSL Water Reservoir.

2. The carbon abatement potential through 300 MW of Hybrid Renewable Energy projects to supply power on an RTC basis by FY 24, a Green Hydrogen project of 790 NM3/Hr, rooftop solar plant of 21 MWp, extensive energy recovery through WHRBs, innovative Energy efficiency & conservation projects, and switching to rail from road transportation are planned to meet our near-term goals. This pivotal initiative not only showcases JSL's dedication to sustainability but also strives to create a greener future, reducing its carbon footprint significantly.
   JSL has set an ambitious target & completely aligned with the goal of reducing Carbon Emission Intensity by 50% by FY 2035 from FY 2022 baseline levels & achieving a Net Zero by 2050.
3. 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.

4. Plantation :

- We have planted totally 3,46,154 nos. of trees inside the plant premises over an area of 156.61 Ha (35.8 % of the total area) till 31st March 2023.
- Our plant has 100% complied with the 33% green belt development criteria given by CPCB.
- During the FY 2022-23, 11383 nos. of tress have been planted inside plant premises for gap filling.

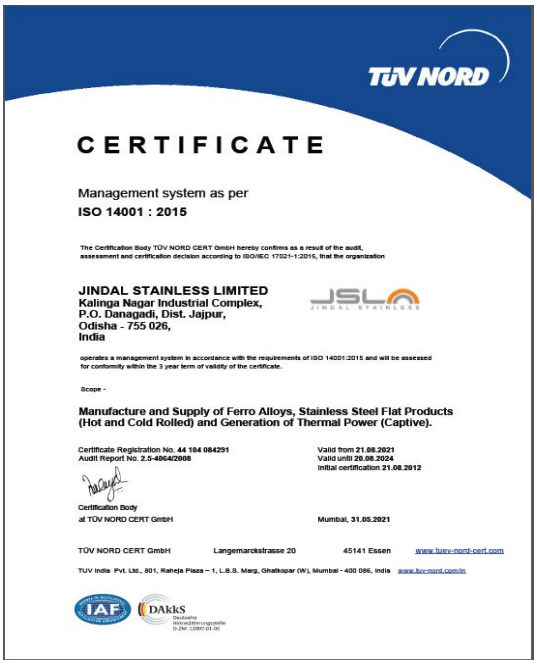
PART –I

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).


TÜV NORD

CERTIFICATE

Management system as per
ISO 14001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

JINDAL STAINLESS LIMITED
Kalinga Nagar Industrial Complex,
P.O. Danagadi, Dist. Jajpur,
Odisha - 755 026,
India

operates a management system in accordance with the requirements of ISO 14001:2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

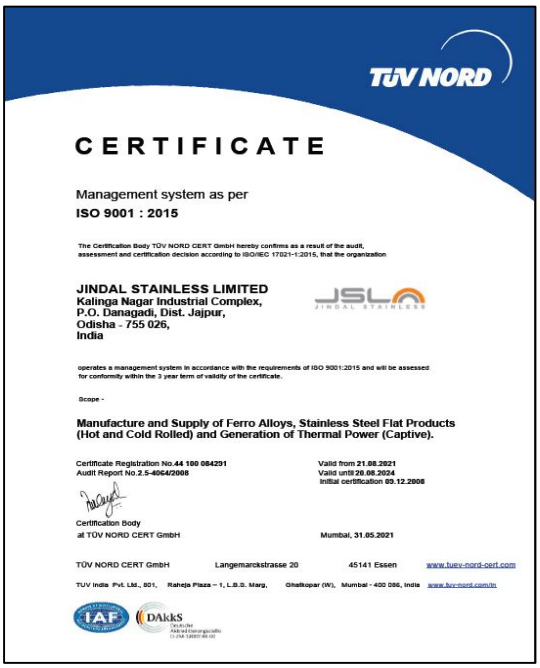
Scope -

Manufacture and Supply of Ferro Alloys, Stainless Steel Flat Products (Hot and Cold Rolled) and Generation of Thermal Power (Captive).

Certificate Registration No. 44 104 084291
Audit Report No. 2.5-4064/2008
Valid from 21.08.2021
Valid until 20.08.2024
Initial certification 21.08.2012

Certification Body
at TÜV NORD CERT GmbH
Mumbai, 31.05.2021

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com
TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in


TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

JINDAL STAINLESS LIMITED
Kalinga Nagar Industrial Complex,
P.O. Danagadi, Dist. Jajpur,
Odisha - 755 026,
India

operates a management system in accordance with the requirements of ISO 9001:2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

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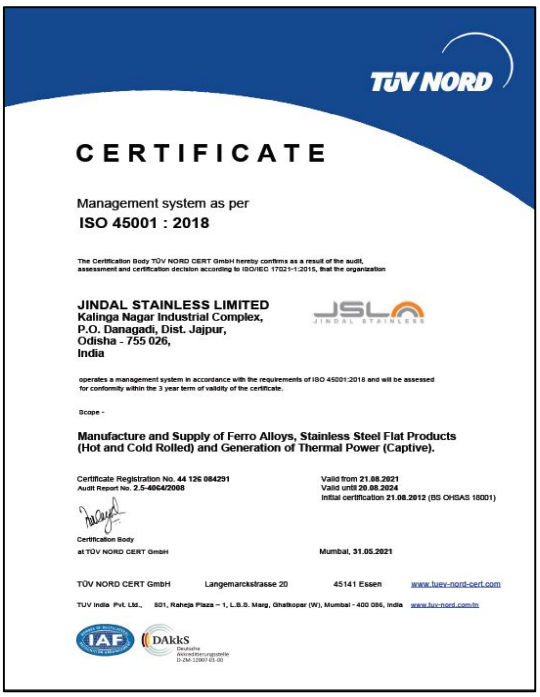

TÜV NORD

CERTIFICATE

Management system as per
ISO 45001 : 2018

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

JINDAL STAINLESS LIMITED
Kalinga Nagar Industrial Complex,
P.O. Danagadi, Dist. Jajpur,
Odisha - 755 026,
India

operates a management system in accordance with the requirements of ISO 45001:2018 and will be assessed for conformity within the 3 year term of validity of the certificate.

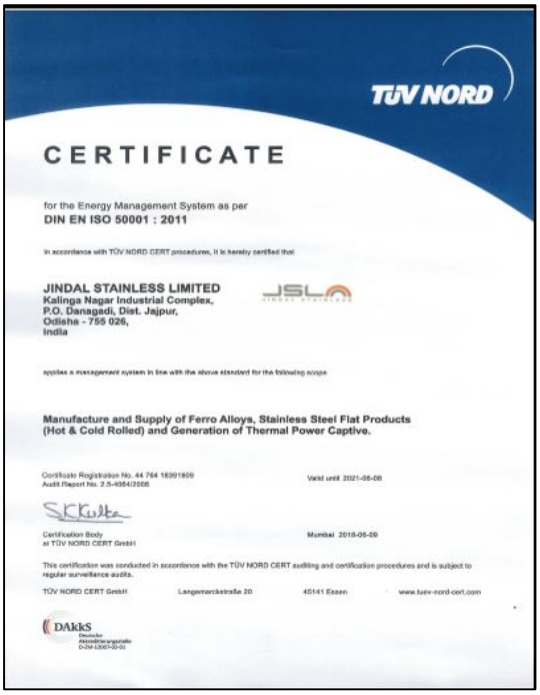
Scope -

Manufacture and Supply of Ferro Alloys, Stainless Steel Flat Products (Hot and Cold Rolled) and Generation of Thermal Power (Captive).

Certificate Registration No. 44 126 084291
Audit Report No. 2.5-4064/2008
Valid from 21.08.2021
Valid until 20.08.2024
Initial certification 21.08.2012 (BS OHSAS 18001)

Certification Body
at TÜV NORD CERT GmbH
Mumbai, 31.05.2021

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com
TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in


TÜV NORD

CERTIFICATE

for the Energy Management System as per
DIN EN ISO 50001 : 2011

In accordance with TÜV NORD CERT procedures, it is hereby certified that

JINDAL STAINLESS LIMITED
Kalinga Nagar Industrial Complex,
P.O. Danagadi, Dist. Jajpur,
Odisha - 755 026,
India

Manufacture and Supply of Ferro Alloys, Stainless Steel Flat Products (Hot & Cold Rolled) and Generation of Thermal Power Captive.

Certificate Registration No. 44 764 18091809
Audit Report No. 2.5-4064/2008
Valid until 2021-08-08

Certification Body
at TÜV NORD CERT GmbH
Mumbai 2018-05-09

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

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