

## **FORM-V**

### **ENVIRONMENTAL STATEMENT (Rule 14 of The Environment Protection, 1986)**

**Environmental Statement for the financial year ending on 31<sup>st</sup> March 2022**

#### **PART-A**

1	Name and address of the owner Occupier of the industry Operation or process	Mr. B.N.S.Prakash Rao Executive Vice President JSW Steel Limited, Salem works Pottaneri & M. Kalipatti Village Salem Dist – 636 453
2	Industry category Primary	Ultra Red – Large
3	Production Capacity	1. Steel products - 11,50,000 TPA 2. Captive power - 7.0 MW* 3. Pig Iron - 3,00,000 TPA (Intermediate product)
4	Year of establishment	1996, Expansion on 2007 & 2017
5	Date of the last environmental statement submitted.	29 <sup>th</sup> June 2021

#### **Production details against the Consent quantity**

Sl.NO	Description	Unit	Quantity	Actual
<b>Product details</b>				
1	Steel production (Mild Steel, Carbon Steel, Alloy Steel and Special Steel) Products(Billets, Round bars, Round Corner Square, Flats, Coils, Bars & Rods, Annealed, Pickled and peeled & ground products)	MT/Year	1150000	1091578
2	Power Generation (By Blast Furnace GAS)	MW	7	2.10*
<b>By product details</b>				
1	Ferrous Sulfate	MTPA	0.0012	0.000645
2	Liquid oxygen	MTPA	0.015	0.00522
3	Liquid Nitrogen	MTPA	0.002	0.000096
4	Liquid Argon	MTPA	0.008	0.004091
<b>Intermediate product details</b>				
1	Pig Iron Production	MT/Year	300000	3499

\* CPP1 power generation from April 21 to September 21. From October 21 onwards plant is stopped and the product withdrawn from CTO

## PART - B

### Water and Raw Material Consumption:

#### 1. Water consumption in m<sup>3</sup>/d @ 365 days

Process	:1495 m <sup>3</sup> /day
Cooling	:7277 m <sup>3</sup> /day
Domestic	:1260 m <sup>3</sup> /day

Name of Products	Process (specific) Water consumption per unit of products	
	During the previous financial year (2020 – 2021)	During the current financial year (2021 – 2022)
1. Pig Iron (m <sup>3</sup> / TCS)	0.47	0.69
2. Steel products (m <sup>3</sup> /TCS)	2.43	2.19
3. Captive power (m <sup>3</sup> /MWh –including process steam generation)	0.008	0.042

#### 2. Raw material consumption and Production

Name of raw materials	Name of Products	Consumption of raw material (TPA)	
		During the Previous financial year (2020 – 2021)	During the current financial year (2021 – 2022)
<b>SINTER PLANT</b>	Sinter	<b>1048000</b>	<b>1094081</b>
Iron Ore & Iron ore Fines		795728	774393
Coke Fines		42591	73939
Lime Stone		105231	76159
Dolomite fines		40917	64602
Lime Powder		59538	50933
Filter Cake (BF & EOF Sludge)		28302	26919
Dust Catcher Fines		14699	9701
<b>BLAST FURNACE</b>	Hot Metal	<b>941,327</b>	<b>1048267</b>
Iron Ore		717393	732659
Coke		446140	494123
PCI Coal		124839	144171

Nut Coke		11154	15793
Lime Stone		214	2720
Quartzite		7717	1564
Dunite		27083	18743
Dolomite		1556	36530
Sinter including fines		1045000	1090081
<b>STEEL MELTING SHOP</b>	Billets	<b>949,577</b>	<b>1091578</b>
Hot Metal from BF	/ Blooms	904763	1021982
Pig Iron		13242	3499
Iron Skull & Steel Scrap and Skull (include Purchased)		123107	208135
FeMn		3072	2267
FeSi		1433	1562
Ferro Mo		296	619
Ferro - Cr		1788	1563
Ferro Ni		365	-
Burnt Lime		61887	71106
Name of raw materials	Name of Products	Consumption of raw material (MT)	
		During the Previous financial year ( 2020 – 2021)	During the current financial year ( 2021 – 2022)
<b>Captive power Plant I</b>	Power Generation (KWh)	<b>23862420</b>	<b>12598198</b>
Furnace Oil (KL)		298.36	233.67
BF gas (KNm <sup>3</sup> )		175114	111762

## PART-C

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

#### (a) Water Environment:

##### i) Sewage Treatment Plant – STP @ plant

Pollutants discharged in the plant Treated Effluent

Pollutants	Quantity of Pollutants discharged (Kgs / day)	Concentration of Pollutants discharged (mg / L)	Percentage of variation from prescribed standards with reasons.
Pollutants discharged in the canteen Treated Effluent			
pH	–	6.87	Zero % variation
TSS (mg/L)	0.451	8.8	
BOD 5 days @20 deg.C ( mg/L)	0.154	3.7	

##### ii) Sewage Treatment plant – STP @Township

Pollutants discharged in the Township Treated Effluent

Pollutants	Quantity of Pollutants discharged (Kgs / day)	Concentration of Pollutants discharged (mg / L)	Percentage of variation from prescribed standards with
Pollutants discharged in the township Treated Effluent			
pH	–	6.9	Zero % variation
TSS (mg/L)	0.267	9.2	
BOD <sub>5</sub> @20 °C ( mg/L)	0.058	2.6	

All Sewage water is treated in the respective treatment plant and treated water is reused for gardening purpose at STP peripheral area.

#### (b) Air Environment

##### Details of the Stack Emission from the Plant

The details of the average Stack Emission for the year 2021 – 22 are given under.

Pollutants prescribed	Prescribed the Limits	Quantity of pollution Discharged (kg/day)	Con. of pollution in Discharged (mg/Nm <sup>3</sup> )	% of variation from Prescribed Standards with
SPM	As per MoEF&CC notification 2012 for Iron & Steel plant	5221	77.72	Zero % variation
SO <sub>2</sub>		3226	114.3	
NO <sub>x</sub>		2644	68.15	

## PART-D HAZARDOUS WASTES (Generation)

As specified under Hazardous and other Wastes (Management & Transboundary Movement) rules 2016.

### (a) From process

Hazardous Wastes	Authorization Qty as per HWMR (MT/Annum)	Total Quantity (MT)	
		During the previous financial year ( 2020 – 2021 )	During the current financial year ( 2021 – 2022 )
3.3 - Sludge and filters contaminated with oil (Furnace oil cleaning sludge once in 5 Years)	1.5	---	0
5.1 - Used / Spent oil	70	34.71	51.35
5.2 - Waste / Residues containing oil (Used Grease)	25	12.21	13.25
5.2 - Waste / Residues containing oil(Oil Soaked Waste)	40	15.31	18.78
33.1 - Discarded containers / Barrels / Liners contaminated with hazardous waste / Chemicals	30	15.4	16.91
12.5 - Phosphate sludge	100	0	6.86
35.3 - Chemical Sludge from waste water treatment	700	0	0
35.3 - Chemical Sludge from waste water treatment	600	0	5.91

### (b) From Air Pollution Control Facilities

No Hazardous waste generated from APC measures.

### The Batteries (Management & Handling) Rules, 2001 Disposal

Battery Waste	Total Quantity (MT) Disposal	
	During the previous financial year ( 2020 – 2021 )	During the current financial year ( 2021 – 2022 )
Lead and lead compounds (Used Battery)	10.5	9.35

**PART – E**  
**SOLID WASTE (Generation)**

Solid Wastes	Total Quantity (MT)	
	During the previous financial year ( 2020 – 2021 )	During the current financial year (2021– 2022)
<b>a. From Process</b>		
BF Slag (granulated)	395392	451,752
SMS Slag	205710	240,657
Steel scrap and skull	21028	24721
Mill Scale	12168	15011
<b>b. From Pollution Control Facility</b>		
Dust catcher fines	21159	25,609
Filter cake (BF & EOF)	41699	36789
STP Sludge	16.6	42.6
<b>c. (1) Quantity recycled or re-utilized with in the unit</b>		
Solid Wastes	During the previous financial year ( 2020 – 2021 )	During the current financial year (2021– 2022)
BF Granulated Slag	894	311
Coke fines	45762	47585
Dust Catcher fines	14849	12,607
Filter cake (BF & EOF)	28306	34989
Steel scrap and skull from SMS slag	21437	24692
SMS Slag (0 mm to 140 mm)	29489	168723
Mill Scale	9744	16258
STP Sludge	16.6	42.6
<b>(2) Sold/Disposed</b>		
BF Granulated Slag	369652	227,431
SMS slag ( 0 mm to 140 mm)	114291	141,467
Dust Catcher fines	19581	13,703
<b>(3) Disposed for land filling</b>		
<b>Nil</b>		

## 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.

Sl. No.	Description of the Waste	Characteristics	Total Utilization Quantity (TPA)	Method of Disposal
<b>Non Hazardous Waste</b>				
1	Blast Furnace Slag	Non Hazardous	227,431	Disposed to cement plant
2	Coke Fines	Non Hazardous	47585	Re-used in the Sinter Plant
3	Dust catcher fines	Non Hazardous	12,607	Reused in sinter plant and portion sold
4	Filter Cake BF & EOF	Non Hazardous	34989	Re-used in Sinter plant
5	Steel Scrap & Skull	Non Hazardous	24692	Re-used in SMS
6	SMS Slag	Non Hazardous	310910	Disposed to Cement industries and internal use
7	Mill Scale	Non Hazardous	16258	Re-used in Sinter Plant
<b>Hazardous Wastes</b>				
9	3.3.Sludge and filters contaminated with oil (Furnace oil cleaning sludge once in 5	Hazardous	--	Generation, Collection, Storage, Send to GGEPIPL, Ranipet for preprocessing ( Utilizable)
10	5.1.Used / Spent oil ( Litres / Year)	Hazardous	51.35	Generation, Collection, Storage, Send to TNPCB Authorised recycler for recycling ( Recyclable)

11	5.2 Waste / Residues containing oil (Oil soaked cotton waste)	Hazardous	15.49	Generation, Collection, Storage, Send to M/s. Sandhiya Enviro Tech System Villupuram for preprocessing ( Utilizable)
12	5.2. Waste / Residues containing oil (Used Grease)	Hazardous	13.25	Generation, Collection, Storage, Send to GGEPIPL, Ranipet for preprocessing ( Utilizable)
13	12.5.Phosphate sludge	Hazardous	0	Generation, Collection, Storage, Send to GGEPIPL, Ranipet for preprocessing ( Utilizable)
14	33.1. Discarded containers / Barrels / Liners contaminated with hazardous waste /	Hazardous	16.91	Generation, Collection, Storage, Send to M/s. Sandhiya Enviro Tech System Villupuram for preprocessing ( Utilizable)
15	33.5. Chemical Sludge from waste water treatment	Hazardous	0	Generation, Collection, Storage, Send to GGEPIPL, Ranipet for preprocessing ( Utilizable)
16	33.5. Chemical Sludge from waste water treatment	Hazardous	0	Generation, Collection, Storage, with in the premises

**TPA- Tonne Per Annum**



## **PART-G**

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

Pollutants generated are controlled at source by Air pollution control facilities like wet gas cleaning system and dry gas cleaning system, bag filters, dust catchers, venturi spray, venturi scrubbers, Electro Static Precipitators and Multi-cyclones, etc.

Operation and Maintenance of pollution control equipments increases the manufacturing cost of pig iron, steel billets, Blooms and Rolled Products. Most of the solid waste generated is consumed in sinter plant for the production of sinter, which is directly replacing Iron ore consumption based on Fe content in Blast Furnace and solid waste partly disposed commercially. The reuse of solid waste in the sinter plant unit is directly replacing the Iron ore consumption based on the Fe content in the sinter which is resulted in cost of final product.

## **PART – H**

### **Additional measures / investment proposal for environmental protection including abatement of pollution.**

- ❖ About 15180 Tree saplings (Various species) planted in & around the plant premises and so far the total quantity of tree plantation is about 2.52 Laks with the surveil rate of 90%. CO2 sequestration study is conducted every year and the CO2 neutral is about 4539 MT/Annum.
- ❖ Piezo metric sampling bore well construction completed
- ❖ CPP#1 -7 MW unit stopped on 01.10.2021 to meet the TPP emission standard and minimize energy consumption.
- ❖ Rain water harvesting capacity enhancement additional of about 7000 m3 with this overall capacity is 65000 m3.
- ❖ Wastewater segregation project to avoid mixing with storm water drains
- ❖ Climate Action plan road map till 2030 to minimize GHG emissions
- ❖ Hazardous waste authorization obtained from Board with the validity till 31.03.2026
- ❖ Installation of GGBFS facility to the value addition product
- ❖ Installation of night vision based camera (CCTV) at Guard pond and connectivity to CPCB
- ❖ Ambient air quality display boards installation at both gates
- ❖ Won the ICC (Indian Chamber of Commerce) – Environment Excellence Award 2021

### **CSR activities**

- ❖ Continuous supporting to set up Salem COVID CARE CENTRE
- ❖ Renovation of Government School building in M.Kalipatti
- ❖ Magic bus team have started field level data under ASPIRATION Program
- ❖ General Health Camp organized at Savadiur village
- ❖ Established "Mahavanam" project at MECHERI
- ❖ 3750 saplings were planted nearby villages and Mahavanam projects
- ❖ Eye Camp initiated for the community near Plant Area and Mettur ITI (which is under PPP)
- ❖ RO treatment facility provided and handed over to M.Kalipatti Panchayt
- ❖ Jute bag making through women empowerment (near by villages) program initiated
- ❖ Eye Camp at Fire fighting & Reuse training were conducted in nearby government school students and teachers.
- ❖ Inaugurated early intervention center at High school, Mecheri
- ❖ Inaugurated sanitation block at middle school, vannianur
- ❖ About 5000 nos of saplings done outside the plant premises (in 5 panchayat of Mecheri)

### **Green House Gas Emission reduction projects**

- ❖ Awareness on Ban of one time use and throwaway plastic to employees and community.
- ❖ 10 kwh solar panel installed at canteen
- ❖ Stoppage of power generation from CPP#1
- ❖ Usage of NG in SMS facility to replace LPG
- ❖ Optimization of fuel rate in BF to minimize the Energy and GHG emission
- ❖ Maximize power generation through WHRBs and optimum of coal consumption

### **World Environment Day celebration**

- ❖ Periodic training related to Environment aspects to working personnel
- ❖ Celebration of Environment day on 5th June 2021.
- ❖ World water day celebration on 22.03.2022

## ❖ World Environment day celebration



### World Water day celebration



### 10 kwh solar panel installed at canteen



## **PART – I MISCELLANEOUS**

**Any other particulars in respect of Environmental protection and abatement of pollution.**

### **Tree Details**

The company has been planted 2,52,165 trees and saplings up to March 2022 under the green belt development to control the noise level and dust emission out of the boundary. The area covered is about 33.5 % of the total plant area. Carbon sequestration study being conducted every year and the amount of GHG emission neutral is about 4539 TPA.

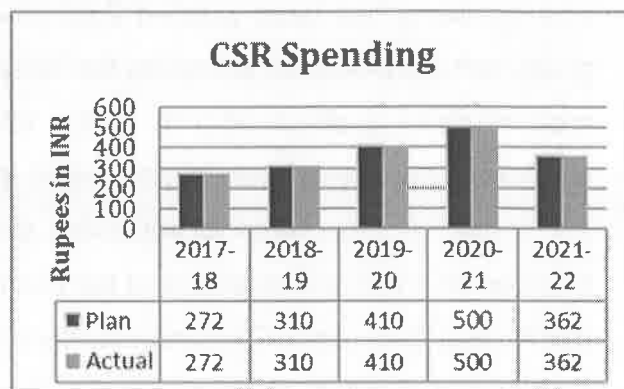
JSW is committed to improving the quality of life of the community. Our focus has been on all round improvement of the community through our Corporate Social Responsibility (CSR) and Corporate Environment Responsibility (CER). Our company has a robust CSR policy with emphasis on areas like Livelihood Initiatives, Education, Health, Infrastructure and Environment. Our strong association with Stakeholders i.e. local leaders and partnership helps us to understand the community needs and widen our reach. The CSR & CER details are attached as annexure -I & Annexure-II.

### REPORT FOR THE PERIOD of April 2021 to March 2022

#### Background

JSW is deeply conscious of its vision and responsibilities to the community around the plant. Empowering citizen with better health, education and employment opportunities is JSW's mission. JSW is committed to improve the quality of life of surrounding community through Corporate Social Responsibility (CSR) programmes. We have well laid down community development program under CSR. Our focus is on

- Health
- Education
- Environment
- Women Empowerment
- Sports and
- Rural Infrastructure Development.



People in Pottaneri, M.Kalipatti, Kuttapatti, Viruthasampatti, Gonur Panchayats and Mecheri Town are covered under CSR projects. Our CSR spending for the financial year 2022 is Rs. 3.62 Crores.

#### LIVELIHOOD – Trained 30 womens

We have trained 30 female candidates and they have gained knowledge of more than 30 Jute products making such as: Shopping bags, fancy handbags, file folders, pencil pouches, purses, mobile pouches and so forth. All the candidates who have attended the training are very new to sewing machines but after completion of the training, they have become experts in handling normal and power machines. And all 30 of them have completed the training successfully. Now the candidates can make the jute products making on their own. We have encouraged to continue their work in jute product making the same they have showed willingness.



#### WOMEN EMPOWERMENT PROGRAME - BPO

JSW – CSR has initiated BPO with 30 female candidates. We are empowering women to be economically independent. We have recruited candidates from economically weaker section families.



### HEALTH – Yoga Education

We are mobilising 600 people from Pottaneri Panchayat, Savadiyur village. The main objective is to physical, mental & social health of the village by creating awareness through yoga, preventive health care, counseling & environment awareness. Most importantly educating mind and stress management through yoga practice. So far we have touched 600 people irrespective of their age and gender. Also conducted 12 homeopathic health camps for the benefit of the people.



### HEALTH – Eye Camp

In order to prevent vision issues in the surrounding community, we are conducting eye camps and distributing free spectacles based on people vision requirements in surrounding villages. Through this initiative we have targeted 7000 individuals members this year. So far we have screened 5314 individuals and 2720 spectacles have distributed. And 35 village camps were being conducted in 4 panchayats (M.Kalipatti, Pottaneri, Virudhasampatti & Kuttapatti panchayats). People are getting enormous support from this initiatives.



### EDUCATION – JSW ASPIRE Program

To improve life skills among young generation. We have initiated life skill training program, through this initiative targeted 1200 students from 7 government schools within radiation of 5 km. Enhancing the children's life skills, career counseling, problem solving & critical thinking. This initiative is not only targeted schools children but also educating their parents regarding the importance of education. Also established Community Learning Center (CLC) at community level to reach children as well their parents.



### RURAL DEVELOPMENT – Rural Mart

JSW Foundation has constructed the "Rural Mart" as part of rural development projects at Pottaneri Panchayat (DIZ). There are 3000 households in Pottaneri panchayat also encompasses its cluster villages. This initiative is to avoid inconvenience & small risks to public during the weekly market. Especially targeted women's group to get their daily needs in a comfortable & hygienic place. Also this initiative would give a platform to small scale farmers to sell their products in the weekly market. The worth of this initiative is RS. 1700000/-





### COMMUNITY DEVELOPMENT – Haqdarshak Program

The Community development project has initiated on August, 2021. We are supporting to the needy community members in availing the government welfare schemes such as: Citizenship Cards, widow certificate, income certificate, old age pension and so forth. Last two years we have received 19008 applications and availed facilities for the same. The multiple camps are being conducted in every Panchayat to reach out every individual from our DIZ. This year we have reached out 20000 beneficiaries.



### ENVIRONMENT Greening Initiative

Every year JSW is planting 5000 saplings in and around villages to increase green cover and to control air politions.



### ENVIRONMENT – Mhavanam Project

We have established the Mhavanam forest in three public locations by following the method of Miyawaki. Miyawaki method to increase green cover in Salem. Developing miyawaki method would contribute significantly to control human pollution and contribute towards the global climate change; JSW-CSR is indented to bring sustainable change in surrounding environment by involving in the development of forest to increase green cover at around plant and Salem. On average, one acre of new forest can sequester about 2.5 tons of carbon annually. In one year, an acre of forest can absorb twice the CO2 produced by the average car's annual mileage.



### EDUCATION – Model School Development



We have adopted Amarathanoor Government Middle school to develop as Model School by sponsoring needed supports for the development of school.





### **EDUCATION – Classroom Renovated at 2 Govt Schools**



This year we have renovated 2 government school clasrrom & installed paver block in school ground on request basis from the school head masters. An unused classroom converted into accustomed classrooms for the benefit of rural children. Creating good learning admoshphear to



government school children is our primary focus. Through this intervention 295 children are getting benefit by accessing the schools and play grounds.

### **EDUCATION – Early Intervention center**



We have constructed a Early Intervention Center at Nangavalli. For the benefit of special children and constructed woth of Rs.1200000/- building with the facilitiy of child user friendly toilet. Every year 77 children are accessing this center and children's parents and teachers



are gleeful with our intervention.

### **WATER – Installed 2 RO Plants**

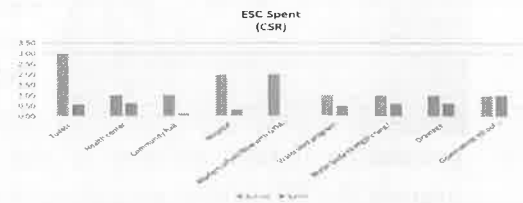
We have installed 2 RO plants in M.Kalipatti and Virudhasampatti Panchayats worth of Rs.1200000/-. To ensure quality and clean water for community members. Through this initiative we are addressing 3000 households.



**ENVIRONMENT SOCIAL COMMITMENT : HALF YEARLY REPORT April 2021 to March 2022**

JSW steel Ltd., Salem works is the only Integrated steel plant in Tamil Nadu and presently operating with production capacity of 1.15 MTPA. JSW Steel Limited, Salem works is highly committed to protect the environment with distinctive focus on Triple bottom growth for sustainable development. The organization has always maintained Statutory and Regulatory compliances and believes in maintaining harmony with all the stake holders and contributes to societal support activities like:

- Water shed programmes
- Supplying drinking water
- Sanitation facilities
- Road repair/constructions
- Health camps
- Education activities, etc.

**HEALTH – Covid Care Center**

Salem district is reporting more number of Covid cases and the district administration is taking all efforts to control the spread and treat every COVID affected patient with utmost care. To tackle the present scenario, we have supported district administration for setting up of permanent 1000 bedded Covid Care Center at Salem District. This intervention is immensely supportive to treat Covid affected patients equally regardless of their economic status. Also this center is helping to mitigate COVID-19 spread.

**COMMUNITY SUPPORT - Pongal Sports**

We have sponsored to conduct rural sports at Pottaneri village. The Rural Sports conducted to encourage young children to upbring their talents, the rural sports included a number of competitions like Rangoli, Athletics, running race etc., every year during Pongal Festival. We are sponsoring since 2013, This year have directed to sponsor the prizes.

**Advanced Printer and Television Sponsored by JSW**

JSW sponsored a advanced printers and TV to Salem District Collector Office worth of Rs. 100000/-

**Sponsored Cement/Steel RCC pipe**

We have sponsored cement/steel RCC pipe to Pottaneri Panchaya to control the overflow of water during rainy season.

**Almora & Chairs Sponsored to Anganwadi & Schools by JSW**

JSW Sponsored 10 Almeras and 30 Chairs to the surrounding selected Anganwadi centers and Mecheri Girls school

