FORM-V

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

Environmental Statement for the financial year ending on 31st March 2020

PART-A

i. Name and address of the owner Occupier of the industry Operation or process .	:- Mr. B.N.S.Prakash Rao Sr. Vice President JSW Steel Limited, Salem works Pottaneri & M. Kalipatti Village, Salem Dist – 636 453.
ii. Industry category Primary	:- Ultra Red - Large
iii. Production Capacity	:- 1. Pig Iron - 3,00,000 TPA 2. Steel products - 11,50,000 TPA 3. Captive power - 7. 0 MW
iv. Year of establishment	:- 1996,Expansion on 2007 & 2017
v. Date of the last environmental statement submitted.	:- 8th July 2019

PART - B

Water and Raw Material Consumption:

1. Water consumption in m^3/d @ 365 days

Process	:1250 m^3/day
Cooling	:7357 m^3/day
Domestic	:1152 m^3/day

Name of Products	Process (specific) Water consumption per unit of products	
	During the previous financial year (2018 – 2019)	During the current financial year (2019 – 2020)
1. Pig Iron (m^3/ TCS)	0.23	0.14
2. Steel products (m^3/TCS)	2.66	2.48

2. Raw material consumption and Production

Name of raw materials	Name of Products	Consumption of raw material (TPA)	
		During the previous financial year (2018 – 2019)	During the current financial year (2019 – 2020)
SINTER PLANT	Sinter	**1130425**	**1106000**
Iron Ore & Iron ore Fines		837898	827595
Coke Fines		85741	83036
Lime Stone		66842	94429
Dolomite fines		63448	26256
Lime Powder		61821	66134
Filter Cake (BF & EOF Sludge)		46286	39121
Dust Catcher Fines		19954	22069
Mill Scale		95253	38954
BLAST FURNACE	Hot Metal	**950796**	**959211**
Iron Ore		689177	686845
Coke		443422	437304
PCI Coal		137401	146806
Nut Coke		18051	13374
Lime Stone		257.15	120.15
Quartzite		6397	7069
Dunite		13545	21732
Dolomite		11834	13923
Sinter including fines		1369304	1423389
STEEL MELTING SHOP	Billets / Blooms	**969673**	**977351**
Hot Metal from BF		929904	911846
Pig Iron		18308	27702
Iron Skull & Steel Scrap and Skull (include Purchased)		87825	196399
FeMn		2733	3237
FeSi		1409	1640
Ferro Mo		2733	3237
Ferro - Cr		1409	1640
Ferro Ni		13.1	12.7
Burnt Lime		62385	63331

Name of raw materials	Name of Products	Consumption of raw material (MT)	
		During the Previous financial year (2018 – 2019)	During the current financial year (2019 – 2020)
Captive power Plant I	Power Generation	**3.22 MWh**	**3.29 MWh**
Furnace Oil (KL)		472	386
BF gas (KNm^3)		172935	179972

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	_	7.6	Zero % variation
TSS (mg/L)	0.7	16.0	
BOD5 @20 deg.C (mg/L)	0.09	2.07	

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	--	7.5	Zero % variation
TSS (mg/L)	0.38	15.1	
BOD_5 @20 ^oC (mg/L)	0.05	2	

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

i) Details of the Stack Emission from the Plant

The details of the average Stack Emission for the year 2019 – 20 are given under.

Pollutants prescribed	Prescribed the Limits	Quantity of pollution Discharged (kg/day)	Con. of pollution in Discharged (mg/Nm^3)	% of variation from Prescribed Standards with
SPM	As per MoEF&CC notification 2012 for Iron & Steel plant	4770	75.3	Zero % variation
SO_2		2971	189.6	
NOx		2383	82.9	

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 (2018 – 2019)	During the current financial year (2019 – 2020)
3.3 - Sludge and filters contaminated with oil (Furnace oil cleaning sludge once in 5 Years)	1	---	---
5.1 - Used / Spent oil	35	30.93	34.11
5.2 - Waste / Residues containing oil (Used Grease)	15	12.93	12.38
5.2 - Waste / Residues containing oil(Oil Soaked Waste)	25	24.037	13.64
33.3 - Discarded containers / Barrels / Liners contaminated with hazardous waste / Chemicals	20.0	11.29	15.83

(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 (2018 – 2019)	During the current financial year (2019 – 2020)
Lead and lead compounds (Used Battery)	14.29	7.20

PART - E

SOLID WASTE (Generation)

Solid Wastes	Total Quantity (MT)	
	During the previous financial year (2018 – 2019)	During the current financial year (2019– 2020)
a. From Process		
BF Slag (granulated)	389235	424012
SMS Slag	169040	151121
Steel scrap and skull	18815	21556
Mill Scale	2884	10686
b. From Pollution Control Facility		
Dust catcher fines	24812	25830
Filter cake (BF & EOF)	57155	39550
STP Sludge	0.28	0.26
c. (1) Quantity recycled or re-utilized with in the unit		
Solid Wastes	During the previous financial year (2018 – 2019)	During the current financial year (2019– 2020)
BF Granulated Slag	149	1137
SMS slag	27216	39844
Coke fines	38252	42630
Dust Catcher fines	17426	21279
Filter cake (BF & EOF)	40393	35643
Steel scrap and skull	15917	19739
SMS Slag (crushed)	28075	27748
Mill Scale	2598	10471
STP Sludge	0.28	0.26
(2) Sold/Disposed		
BF Granulated Slag	394660	447976

SMS slag (crushed)	213915	147001
Dust Catcher fines	6015	5887
(3) Disposed for land filling		
Nil		

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
Non Hazardous Waste				
1	Blast Furnace Slag	Non Hazardous	449113	Disposed to cement plant
2	Coke Fines	Non Hazardous	42630	Re-used in the Sinter Plant
3	Process Dust/ Flue Dust	Non Hazardous	21279	Re-used in the Sinter Plant
4	Dust catcher fines	Non Hazardous	27166	Reused in sinter plant and portion sold
5	Filter Cake BF & EOF	Non Hazardous	35643	Re-used in Sinter plant
6	Steel Scrap & Skull	Non Hazardous	19739	Re-used in SMS
7	SMS Slag	Non Hazardous	186845	Disposed to Cement industries and internal use
8	Mill Scale	Non Hazardous	10471	Re-used in Sinter Plant
Hazardous Wastes				
9	5.2Waste / Residues containing oil (Oil soaked cotton waste)	Hazardous	13.64	Sold to TNPCB authorized agency

10	Waste / Residues containing oil (Used Grease)	Hazardous	12.38	Sold to TNPCB authorized agency
11	Used / Spent oil (Litres / Year)	Hazardous	34.11 MT	Sold to TNPCB authorized agency
12	Discarded containers / Barrels / Liners contaminated with hazardous waste /	Hazardous	15.83 MT	Sold to TNPCB authorized agency
13	Sludge and filters contaminated with oil (Furnace oil cleaning sludge once in 5 Years)	Hazardous	--	---

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 (aprox. 50 %) Iron ore consumption 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.

- Concrete road provided inside the plant premises to the distance of 1.5 KM (North gate to VIP road, VD boiler road and pickling plant road) to control the fugitive emission from vehicular movement. So far about 15 KM concrete road formed inside the plant.
- SP#1 sinter machine ESP is upgraded to control the dust emission level from 130 mg/Nm^3 to 70 mg/Nm^3 and resulted in ambient air quality improvement
- Dedicated ETP plant (ALD) is installed in pickling plant to treat the effluent and ensure ZLD. To improve the work area environment acid fumes extraction system is installed in pickling area.

- Provision of an additional (5000 m3 capacity) Road sweeping machine to control the dust emission due to vehicular movement and frequent cleaning of internal roads resulted to good control on dust emission from vehicular movement.
- Provision of proper rain water drains (0.75 km) near COP area for collection & reuse. It has increased in rain water harvesting and ground recharge.
- About 14800 Tree saplings (Various species) planted in & around the plant premises and so far the total quantity of tree plantation is about 2.2 Laks with the surveil rate of 90%. CO2 sequestration study is conducted every year and the CO2 neutral is about 4000 MT/Annum.

Green House Gas Emission reduction projects

- Improved waste heat recovery from Coke oven battery # 2 & Battery # 3 and reduce the GHG emission 10619 MT
- Reduction in BF gas consumption through Installation of top gas analyser at BF#1 and reduce of GHG emission 6352 MT
- Reduction in power consumption for sinter production through augmentation of waste gas fan and reduce the GHG emission 5896 MT
- Reduction in power consumption through installation of VFD in BF#2 SGP cooling water pump and reduce the GHG emission 317 MT
- Increase in usage of Pulverized coal in blast furnace from 130Kg/THM to 160Kg/THM and reduction in coke production and reduce the GHG emission (upstream) 9607 MT
- Energy savings at blooming mill through VVVF drive for ICW/DCW pumps, fixed load optimization & LED's conversion to reduce the GHG emission 385 MT
  Motivation and awareness
- Awareness on Ban of one time use and throwaway plastic to employees and community.

Training & Celebration

- Periodic training related to Environment aspects to working personnel and suppliers
- Celebration of Environment day on 5th June 2019.

Environment Day Pledge

Environment Awareness programme – Theme: Beat Air Pollutions

Mass Tree Plantation

PART – I
MISCELLANEOUS

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

Tree Details

The company has been planted 2,18,855 trees and saplings up to March 2020 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 4000 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.

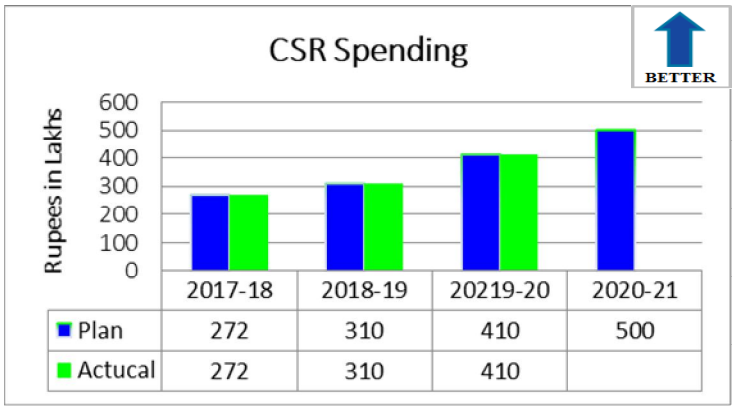
Annexure-I

CSR Report

Background

JSW Steel Ltd., Salem Works is committed to improve the quality of life of surrounding community through Corporate Social Responsibility (CSR) programmes. We have a 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 and Gonur Panchayats and Mecheri Town are covered under CSR projects. Our CSR spent for the financial year 2020 is Rs. 4.10 crores and financial year 2021 planed is Rs. 5.00 Crores till June 2020 about 0.69 Crs spent.

HEALTH

JSW Salem conducts various health camps and hand-washing awareness in villages. Under malnutrition eradication drive, JSW Salem conducts pediatric health camps in 20 government anagawadi centres on a regular basis covering more than 1000 children from the surrounding villages.

The Covid-19 pandemic has brought huge changes for people health. To reduce the risk of outbreaking emergence cases the JSW Steel, Salem CSR donated Rs. 8 Lakhs, eight-seater battery operated car with stretcher to the Government Kumaramangalam Medical College and Hospital, Salem on 30th May 2020. The battery car used for patients' mobility, an emergency from one ward to other ward or any other place.

Covid-19:

1. Provided food grains for the needy - Rice, Dhal, Oil, Cloth Masks – 4000 Households
2. Awareness Campaigns in surrounding villages- 7479 households/32941 Individuals
3. Basic screening in surrounding villages –

3500 Households/15000+ individuals

4. Provided N95 Masks (500) and PPE kits (200) to the GHs.
5. Sanitized with disinfectant spray in surrounding villages.

ENVIRONMENT

Greening Initiative: JSW supported ISHA nursery for raising 3,00,000 saplings. 5000 trees were planted in the lands of surrounding villagers on 5th June to mark the **"World Environment Day"**.

Agri-business Promotion through Farmer Producer Companies: Building on the relationship JSW Salem had with the farmers in the surrounding villages, a new project is being implemented in the villages. The farmers in the M.Kalipatti and Kuttapatti panchayats are organized into farmer interest groups and a Farmer Producer Company has been registered. The company will help the farmers to market their produce and get a fair share of profits. So far, 2000 farmers are organized. Soil testing, mushroom & honey bee cultivation, bee keeping, organic farming practices etc., are demonstrated in the villages. One more Farmer Producer Company is being promoted in Gonur panchayat with the watershed farmers.

WOMEN EMPOWERMENT

Talioring: We have trained women groups in tailoring and leather gloves making, taken them to garment industries to give them exposure about the market. We have placed orders on self-help women's groups for stitching safety reflective jackets for use in the plant.

Gonur Watershed Programme

Various Soil and water conservation measures like field bunds, farm ponds, loose rock check dams etc., were implemented in seven villages of Gonur Watershed. We have covered 218 acres of land with 125 new farmers in these villages. Officials from NABARD visited the watershed to give technical recommendations as well as to monitor the ongoing programmes.

Beneficiaries	FY 20
Farming families	125

Community development

Haqdarshak: Haqdarshak project being implemented in 16 villages.We have facilitate around 300 citizens to avail Govt. Schemes through Haqdarshak under various 35 Government Schemes. And conducted 3 campus in different panchayat locations.

Beneficiaries	FY 20
citizens	300

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Annexure-II

CER Report

1. Mettur ITI Support

Being an enduring sponsor for Govt. ITI, Mettur Dam, we have been providing needed support every year. In order to make the Mettur ITI students to excel in Sports activities and to participate in Zonal level sports meet, we have contributed sportswear to hundreds of students to Mettur ITI worth of Rs. 54, 000 on 27-02-2020

2. Education Support – Smart Board to School

To ensure interactive learning experience of students, Technology support is necessary. We have offered a smart board with advanced technology worth of Rs. 1, 75, 000 to the Railway School, Salem which can provide them with an enriched learning experience by projecting visual elements during Jan 2020

3. Health Support – COVID 19

JSW envisioned the prominent need of this Pandemic Situation. To alleviate COVID 19 fatalities, life supporting ventilators are needed. Based on the request from District Administration, we have donated 5 well equipped ventilators total worth of 25 lakhs to the Government Hospital, Salem.

4. Covid-19 Relief Support – Ration to 400 families

JSW donated relief materials worth of Rs.1100000 to Pottaneri and M Kalipatty panchayat on 18th of May 2020 through which 4000 families benefitted. Each bag consists of 5 Kg rice, KG Dhal Half and Half liter oil.

5. Water supply through Tankers during summer

Due to insufficient water supply by Panchayat during Summer, JSW started supplying water through tankers only during summer time.Rs . 6,60,000 spent during Mar to June 20 for this .

6. Water supply through Tap

Based on the request from Local People, JSW has additionally put two taps along the south side of the compound wall, through which water will be supplied for four hours. The cost for laying of pipe and tap was 4,00,000.

7. Covid Support

As part of COVID support to local panchayats namely (Pottaneri, M Kalipatty, Viruthasampatty and Kuttapatty) supplied materials like masks, soaps, Bleaching power, Lime power and Lizol worth of Rs.1.5 Lakhs.

8. Push Cart and Dust Bins

To effectively manage the waste disposal, based on the request from Block Development Officer, Mecheri, JSW had donated push carts and dustbins worth of 7,88,000 to all the 17 panchayats.

9. Awareness Creation through Banners:

To create awareness among people in Salem District, JSW printed various awareness creation banners on COVID 19 and displayed in various prominent places of city and villages. Rs.55 ,000 spent for this activity . Total spent for the period Jan20 – June 20 is about 59 Laks and so far spent is 3.68 Crs.