INDIAN METALS & FERRO ALLOYS LIMITED

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Ref. No.IMFA(CCP-UNIT-II)/ENV/20 /185 Date: 31.07.2020

The Member Secretary,
State Pollution Control Board, Odisha,
Paribesh Bhawan,
A/118, Nilakanthanagar, Unit VIII,
Bhubaneswar – 751 012.

Sub: Environmental statement of High Carbon Ferro Chrome/Charge Chrome plant, Unit-II (2X27 MVA Furnace) for the financial year 2019-20.

Dear Sir,

We are herewith submitting Annual Environmental Statement of High Carbon Ferro Chrome/Charge Chrome plant, Unit-II for the financial year 2019-20 for your kind information and record.

Thanking you,

Yours faithfully,
for INDIAN METALS AND FERRO ALLOYS LTD.

(B. Mohapatra)
Sr. Vice President, Head - PBU & EIC, Choudwar

Encl: As above.

CC : The Regional Officer,
State Pollution Control Board, Odisha,
586, Suryavihar, Link Road,
Cuttack – 753 012

FORM – V

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING 31ST MARCH, 2020 (FOR HIGH CARBON FERRO CHROME PLANT, UNIT-II)

PART – A

i. Name & address of the owner/occupier of the industry operation or process	Chitta Ranjan Ray Whole Time Director Indian Metals & Ferro Alloys Ltd., Rasulgarh, Bhubaneswar – 751 010
ii Industry category	Primary (STC Code) , Major, CK- 650 Secondary (STC Code)
iii Production capacity	High Carbon Ferro Chrome (HCFC) 2X27 MVA Furnace-96000MTPA
iv. Year of establishment	2005(CCP-2 Furnace)/ 2010 (CCP-3 Furnace)
v. Date of the last environmental statement submitted	23-07-2019

PART – B

Water and Raw Material consumption:

i. Water consumption (For 2X27 MVA): (M^3/day)

Process	NIL
Cooling	338.31 M^3/day
Domestic	1274.10 M^3/day
(IMFA, Choudwar)	

Name of the products/ Generation	Process water consumption per product output	
	During the previous financial year	During the current financial year
High Carbon Ferro Chrome	Water is not used in the process	Water is not used in the process

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ii. Raw material consumption: (CCP-2 Furnace)

Name of the product	Name of the raw material	Consumption of raw material per unit output (in MT)	
		During the previous financial year 2018-19	During the current financial year 2019-20
High Carbon Ferro Chrome Chrome (HCFC)	i. Chrome Ore	2.374	2.346
	ii. Coke&Coal	0.496	0.480
	iii. Quartzite	0.124	0.164
	iv. Bauxite	0.043	0.075
	v. Magnesite	0.000	0.000
	vi. Molasses	0.089	0.106
	vii Lime	0.050	0.055
	viii.Carbon Paste	0.014	0.015
	ix. Dolomite	0.000	0.000

iii. Raw material consumption: (CCP-3 Furnace)

Name of the product	Name of the raw material	Consumption of raw material per unit output (in MT)	
		During the previous financial year 2018-19	During the current financial year 2019-20
High Carbon Ferro Chrome (HCFC)	i. Chrome Ore	2.277	2.331
	ii. Coke&Coal	0.501	0.478
	iii. Quartzite	0.130	0.145
	iv. Bauxite	0.018	0.052
	v. Magnesite	0.000	0.000
	vi. Molasses	0.094	0.099
	vii Lime	0.046	0.050
	viii.Carbon Paste	0.015	0.015
	ix. Dolomite	0.000	0.000

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PART – C

Pollution discharged to environment per unit of output (Parameters as specified in the consent issued)

Pollutants	Quantity of pollutants discharged in (mass/day)	Concentrations of pollutants discharged (mass/volume)	Percentage of variation from prescribed standard with reason
a) Water : Cooling water is completely recycled. Since the gas cleaning plant attached to the furnace is dry system having bag filters to clean process gas, there is no generation of effluent from the industry.			
b) Air (CCP-2 Furnace) :			
i. Particulate matter	301.6 Kg/day	51 mg/Nm^3	N.A.
ii. Sulfur Dioxide	N.A.	N.A.	N.A.
Air (CCP-3 Furnace):			
i. Particulate matter	352.9 Kg/day	56 mg/Nm^3	N.A.
ii. Sulfur	N.A.	N.A.	N.A.

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PART – D

Hazardous Wastes (CCP-2 and CCP-3 Furnaces)

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

Hazardous wastes	Total quantity	
	During previous financial year 2018-19	During current financial year 2019-20
a. From process	Used Oil : 2730 liters generated and disposed 2730 liters Balance qty: Nil Waste or residue containing oil 198 Kg generated and disposed. Discarded containers contaminated with hazardous wastes: 0.26T generated and given to recyclers.	Used oil: 830 liters generated and disposed 830 liters Balance qty: Nil Waste or residue containing oil 173.85 Kg generated and disposed. Discarded containers contaminated with hazardous wastes: 0.08T generated and given to recyclers.
b. From pollution control facilities	GCP residue: 4105 MT recycled	GCP residue: 3923 MT recycled

PART – E

Solid wastes: (1st and 2nd furnaces)	Total quantity	
	During previous financial year 2018-19	During current financial year 2019-20
a)From process	Ferro Chrome Slag 89,846 MT	Ferro Chrome Slag 98,059 MT
b)From pollution control facilities	NA	NA
c) 1. Quantity re-cycled or re-utilized within the unit	8316 MT(in making roads, concrete yards etc.)	5470 MT(in making roads, concrete yards etc.)
2. Sold	NA	NA
3. Disposed	82,209 MT	1,00,593 MT (including previous stock)

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PART – F

A. Hazardous wastes are disposed as per the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 and amendment thereof.

B. Characteristics (in terms of concentration and quantum) of solid waste.

Ferro chrome slag which is in lumpy form dumped in dump yard of Unit outside plant premises.

Characteristics:

Ferro chrome slag

Parameters	Result (%)
Cr_2O_3	10-13
SiO_2	27-30
MgO	23-27
Al_2O_3	22-25
CaO	5-7
FeO	3-5

PART – G

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

Full fledged gas cleaning plant of modern design with adequate capacity has been installed at both the furnaces to clean process gas generated from the furnace. Bag filters were installed at Briquette plants of both the furnace to control dust emission during operation.

Final dust of gas cleaning plant is collected from silo through telescopic chute to control fugitive emission and transported to Briquette plants for recycling with chrome ore fines in manufacturing of chrome ore briquettes.

In-plant control measures, Dust Extraction System and De-Dusting System with Bag Filters, Dry-fog dust suppression system, Fume Extraction system have been installed at vulnerable sources of fugitive emission.

Waste water utilization is continuing in regular activities like metal and slag cooling, product processing, Jigging operation, road sprinkling, dust suppression, gardening etc.

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Cooling water is completely recycled and cooling towers blow-down is treated in ETP and recycled.

The following measures have been taken in the **financial year 2019-20** for improvement of environmental performance.

1. Ceramic coating is applied inside pump casings at pump house to reduce power consumption.
2. Forced Draft Cooler has been installed by replacing Trombone Cooler at CCP-2 for cooling of flue gas.
3. Belt scrapers of poly-butadiene material are fixed at BC-2 & BC-3 conveyors of Briquetting Plant- 2 & Briquetting Plant-3 respectively to control spillage & fugitive emission in addition to existing Dust Extraction system.
4. Four nos. of IE3 (energy efficient) motors of 74 kW are installed by replacing with conventional motors.
5. 600 sq. mtr of shed is constructed for storage of coke/coal etc.
6. Aprx. 68.87 kW lighting energy of MCC rooms is saved in a month by installing limit switches in doors of MCC rooms.
7. 528 sq. mtr. area is concreted at PPD area to reduce fugitive dust.
8. Aprx. 30 mtr of masonry drain is constructed and connected to main surface run-off water drain at PPD area.
9. 300 sq. mtr. area near ground hopper of Briquetting Plant-2 & 3 is concreted to reduce fugitive emission during vehicular movement.
10. Around 1000 sq. mtr. area will be concreted in front of Shed no. 4 at Briquetting Plant-3.
11. 5,630 nos. of various saplings were planted at inside and outside of plant premises

PART – H

Additional measure/investment proposal during FY 2020-21 for environmental protection including abatement of pollution and prevention of pollution.

1. One no. new package AC system with Eco-friendly gas will be installed by replacing the old one at control room.
2. Energy efficient motors aprx. total of 30 KW will be replaced for energy conservation.
3. Out of 6300 sq. mtr. of yard, 2800 sq. mtr. will be concreted at Sales & Marketing Division to reduce fugitive emission during vehicular movement.
4. Aprx. 688 sq. mtr of shed and 4640 sq. mtr out of 8852 of shed will be constructed for storage of raw material & finished product etc.

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5. Covering the top side with Shed arrangement for Bag House of Dust Extraction system at Raw Material Handling System and Day-Bin are to be constructed to maintain the performance of bag house and life of filter bags.
6. One improvement is to be carried out by optimizing Gas Cleaning Plant-3 parameter performance to save aprx. 200 MWh of energy per month.
7. An overhead portable water storage tank of 40kL is to be constructed near canteen area of Unit-II.
8. Water sprinklers along the road are to be provided in the new Sales & Marketing yard and near ground hopper of RMHS area to reduce fugitive emission during vehicular movement.

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