Ref. No.IMFA(FA)/ENV/2022/ 337 Date: 25-07-2022

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

Sub : Environmental statements of High Carbon Ferro Chrome / Charge Chrome plant, Unit-II (2X30 MVA Furnace) for the financial year 2021-22.

Dear Sir,

We are sending herewith environmental statements of High Carbon Ferro Chrome / Charge Chrome plant, Unit-II (2X30 MVA Furnace) for the financial year 2021-2022 for your kind information and record.

Thanking you,

Yours faithfully,
for Indian Metals & Ferro Alloys Ltd.,

(B.Agarwalla)
Vice President(D), Head-Power Business Unit &
Executive In-Charge, 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, 2022 (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	16-07-2021

PART – B

Water and Raw Material consumption:

i. Water consumption (For 2X30 MVA): (M^3/day)

Process	NIL
Cooling	362.5 M^3/day
Domestic (IMFA, Choudwar)	1092.48 M^3/day

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

Contd. Page 2

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 2020-21	During the current financial year 2021-22
High Carbon Ferro Chrome Chrome (HCFC)	i. Chrome Ore	2.292	2.446
	ii. Coke&Coal	0.474	0.489
	iii. Quartzite	0.169	0.138
	iv. Bauxite	0.044	0.121
	v. Magnesite	0.000	0.000
	vi. Molasses	0.092	0.092
	vii Lime	0.045	0.046
	viii.Carbon Paste	0.014	0.015

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 2020-21	During the current financial year 2021-22
High Carbon Ferro Chrome (HCFC)	i. Chrome Ore	2.263	2.439
	ii. Coke&Coal	0.472	0.489
	iii. Quartzite	0.156	0.129
	iv. Bauxite	0.053	0.127
	v. Magnesite	0.000	0.000
	vi. Molasses	0.102	0.089
	vii Lime	0.049	0.044
	viii.Carbon Paste	0.014	0.015

Contd. Page 3

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	337.46 Kg/day	53.7 mg/Nm^3	N.A.
ii. Sulfur Dioxide	N.A.	N.A.	N.A.
Air (CCP-3 Furnace):			
i. Particulate matter	308.21 Kg/day	49.5 mg/Nm^3	N.A.
ii. Sulfur	N.A.	N.A.	N.A.

Contd. Page 4

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 2020-21	During current financial year 2021-22
a. From process	Used Oil : 5702 liters generated and disposed 5702 liters Balance qty: Nil Waste or residue containing oil 163.35 Kg generated and disposed. Discarded containers contaminated with hazardous wastes: 0.56T generated and given to recyclers.	Used oil: 630 liters generated and disposed 630 liters Balance qty: Nil Waste or residue containing oil 198 Kg generated and disposed. Discarded containers contaminated with hazardous wastes: 0.06T generated and given to recyclers.
b. From pollution control facilities	GCP residue: 4220 MT recycled	GCP residue: 4598 MT recycled

PART – E

Solid wastes: (1st and 2nd furnaces) Total quantity		
	During previous financial year 2020-21	During current financial year 2021-22
a)From process	Ferro Chrome Slag 1,06,292 MT	Ferro Chrome Slag 1,08,398 MT
b)From pollution control facilities	NA	NA
c) 1. Quantity re-cycled or re-utilized within the unit	1730 MT(in making roads, concrete yards etc.)	890 MT(in making roads, concrete yards etc.)
2. Sold	NA	NA
3. Disposed	1,04,562 MT	1,19,664 MT (including previous stock)

Contd. Page 5

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	10-12
SiO_2	27-32
MgO	23-29
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 2021-22** for improvement of environmental performance.

1. One no. new package AC system with Eco-friendly gas has been installed by replacing the old one at Furnace control rooms.
2. Fume Extraction System has been modified to improve the suction of secondary fumes generated during tapping time.
3. Total 32 nos. of Energy efficient motors have been installed by replacing conventional motors to save aprx. 12895 kWh of energy.
4. Damaged sheets of CCP-2 & CCP-3 roof will be replaced by meta color sheets.
5. Aprx. 4425 sq. mtr. of flooring area will be concreted to reduce & control fugitive emission generated during handling, vehicular movement etc.
6. Aprx. 375 sq. mtr. yard will be concreted near Product Processing Division.
7. Raw material storage shed of 4176 sq. mtr. (58mX72m) will be constructed to store raw material for furnace including briquettes.
8. Like every year, Plantation activity will be carried out inside and outside of the plant premises.
9. 201 nos of various saplings were planted inside company premises and 4100 nos various sampling were planted outside company premises.

PART – H

Additional measure/investment proposal during **FY 2022-23** for environmental protection including abatement of pollution and prevention of pollution.

1. IE3(Energy efficient) motors will be installed by replacing conventional motors.
2. Two nos. of 75 kW pump motor will be replaced by 45 kWh motors at pump house under energy saving initiatives.
3. A new shed of dimension aprx. 42mX32m will be constructed for Product Processing Yard.
4. Another new storage shed of dimension aprx. 20mX10m will be constructed near GCP area.
5. Surveillance IP camera will be installed.
6. To reduce and control fugitive emission during floor cleaning, vacuum cleaning system will be introduced at Briquetting Plant.

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