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HINDUSTAN ZINC
Zinc & Silver of India

HZL/PMP/ENV/Silver/2022-23/01

Date 05.09.2023

To,

The Member Secretary,
Uttarakhand Environment Protection & Pollution Control Board
46 B, IT Park, Sahastradhara Road, Dehradun- 248001

Sub: Environmental Statement (Form-V) for the year 2022-23 for Hindustan Zinc Limited, Pantnagar Silver Refining Plant.

Ref: Letter no:- *E.C. No.- 10-9(10)/2018 dated 08-02-2019 from SEIAA, Dehradun.*

Consent to Operate No: UKPCB/HO/Con-H-71/2019/1628 dated 06.03.2021

Sir,

With reference to above subject please find enclosed herewith the Environmental Statement for the financial year 2022-23 for Hindustan Zinc Limited, Pantnagar Silver Refining Plant located at Plot No 2 & 3, Sector 14, IIE, SIDCUL, Pantnagar, Dist. U.S. Nagar.

Thanking You.
Yours Faithfully,

Hindustan Zinc Limited
Pantnagar Metal Plant
Plot No.2&3, Sector 14, IIE, SIDCUL,
Rudrapur – 263153, Uttarakhand.

(Deepkumar Agarwal)
SBU Director
Pantnagar Silver Refining Plant
Hindustan Zinc Limited

Cc:

1. The Regional Officer, UKPCB Kashipur
   Chamunda Complex, Ramnagar Road
   Kashipur, Distt - Udham Singh Nagar, Uttarakhand- 244713

2. Regional Officer, NCZ (North Central Zone)
   Ministry of Environment Forest & Climate Change
   25, Subhash Road, Dehradun, Uttarakhand- 248001

3. The Member Secretary,
   State Level Environment Impact Assessment Authority, Uttarakhand
   653, Indira Nagar Colony, Seemadwar Road,
   Dehradun, Uttarakhand-248006

4. Office Copy, HZL

Hindustan Zinc Limited
Pantnagar Silver Refining Plant

HINDUSTAN ZINC
Zinc & Silver of India

ENVIRONMENTAL STATEMENT
(FINANCIAL YEAR ENDING MARCH 31ST 2023)

PREPARED & SUBMITTED BY

Hindustan Zinc Limited
Pantnagar Silver Refining Plant
Plot No. 2 & 3, Sector-14,
IIE, SIDCUL, Pantnagar.
Uttarakhand

FORM-V

Environmental Statement
For the financial year ending the 31st March 2023

PART-A

(i)	Name and address of the owner/occupier of the industry operation or process	:	Sh. Arun Mishra Chief Executive Officer Hindustan Zinc Limited, Yashad Bhawan, Udaipur, 313001
	Name and address of the Unit Head		Sh. Deepkumar Agarwal SBU Director Hindustan Zinc limited Pantnagar Silver Refinery Plant Rudrapur, Dist.- U.S. Nagar, Uttarakhand- 263153
(ii)	Industry category	:	Red category
	Primary – (GST Code)		05AAACH7354K1ZH
	Secondary- (SIC Code)		
(iii)	Production Capacity	:	800 TPA Refined Silver
iv)	Year of Establishment	:	2011-12
(v)	Date of Last Environmental Statement Submitted	:	27.08.2022

PART -B

WATER AND RAW MATERIAL CONSUMPTION

(1) Water consumption (M3 /d)*

~~Boiler~~/Cooling	120 M3/Day (Common for Zinc, Lead & Silver)
Domestic	24 M3/Day (Common for Zinc, Lead & Silver)

Name of Product	Process water consumption per unit of product output(cum/MT)	
	During the previous financial year	During the current financial year
	(1)	(2)
Zinc Metal, Lead and Refined Silver (Common for Zinc, Lead & Silver)	0.24 M3/MT	0.26 M3/MT

(2) Raw material consumption

Name of raw material	Name of products	Consumption of raw material per unit of output	
		During the previous financial year	During the current financial year
Anode Slime/ Dore Silver/High grade Metal sp. Consumption	Refined Silver Ingot	4.104 Mt/Mt	4.174 Mt/Mt

PART-C

Pollution discharged to environment/ unit of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/ volume)	Percentage of variation from prescribed standards
a) Water	NIL (Zero discharge maintained always)		
pH			
TDS			
DO			
Suspended Solids			
Oil and Grease			
Chromium as hexavalent			
Manganese			
Nickel			
Copper			
Zinc			
Cadmium			
Lead			
Mercury			
Cyanide			
b) Air			
Particulate matter			

Particulate matter (Mg/Nm3)			
Month	Stack attached to furnace	Stack of NOX Scrubber	Average
Apr-22	28.4	29.8	**29.1**
May-22	26.3	27.3	**26.8**
Jun-22	31.8	31.5	**31.7**
Jul-22	24.6	25.1	**24.9**
Aug-22	22.9	23.7	**23.3**
Sep-22	33.4	29.9	**31.7**
Oct-22	35.7	32.4	**34.1**
Nov-22	33.8	30.8	**32.3**
Dec-22	32.4	28.4	**30.4**
Jan-23	30.8	26.1	**28.5**
Feb-23	34.7	30.3	**32.5**
Mar-23	30.9	29.7	**30.3**

PART-D

HAZARDOUS WASTES

As specified under Hazardous Wastes (Management, Handling & Trans boundary Movement) Rules, 2016

Hazardous Waste	Total Quantity (MT)	
	During the previous financial year	During the current financial Year
(a) From process		
Used/Waste Oil	NIL	NIL
SCRAP OIL FILTER	NIL	NIL
Oil Soaked Cotton Material	NIL	NIL
Process residues	NIL	NIL
Nonferrous sludge	NIL	NIL
(b) From pollution control facilities		
-	NIL	NIL

PART-E

SOLID WASTE

Solid Waste		Total Quantity (Kg)	
		During the previous financial year	During the current financial Year#
(a)	**From process:**		
	-	Hazardous waste details already mentioned in Part - D	Hazardous waste details already mentioned in Part - D
(b)	**From pollution control facilities**		
	-	NIL	NIL
(c)	**1) Quantity recycled or reutilized within the unit.**	NIL	NIL
	2) Sold	NIL	NIL
	3) Disposed	NIL	NIL

PART-F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both the categories of wastes.

Following Hazardous waste will be generated during operation, Used/Waste oil, Scrap Oil Filter/ Oil Soaked Cotton Material/Cotton bag filters and Empty barrels/Plastic Jerry can will be sold to MOEF/CPCB/SPCB registered recyclers (M/s Bharat Oil & Waste Management, Mauza Mukimpur, Roorkee-Laksar road Roorkee, Uttarakhand).

Name of Haz Waste generated	Quality	Authorized Quantity (MTA) for generation	Quantity (MTA) generated	Category as per HWMR	Treatment/Disposal method
Used & waste oil	---	5	Nil	Schedule I, 5.1	HW is being sold to registered recyclers.
SCRAP OIL FILTER/ Oil Soaked Cotton Material	---	5	Nil	Schedule I, 5.2	HW is being sold to registered recyclers.
Process residues	---	5	Nil	Schedule I, 7.2	HW is being sold to registered recyclers.
Nonferrous sludge	---	2	Nil	Schedule I, 7.4	HW is being sold to registered recyclers.

PART-G

In respect of the pollution abatement measures taken up on conservation of natural resources and on the cost of production.

Our aim is to preserve the long-term health of the natural environment affected by our operations. We set and achieve targets that promote effective use of resource and include the reduction and prevention pollution.

- **Air Environment**
  Control of Particulate matter Emission

  Efficient bag filters with appropriate stacks and online PM analyzers for controlling PM emission are designed, installed at every stack and performance parameters verified and found below 50 mg/Nm3. We have developed facility of CAAQMS (Continuous ambient air quality monitoring station) with the consultation & approval of SPCB.

- **Water Environment**

- We have a long term approach to water management that aims to improve our performance, recognize the significance of water and contribute to sustainable water management. We understand its importance and adopt best practices for making the judicious use of water and conserve it.

- Water generated from various areas is being recycled for gardening after confirming the quality parameters in prescribed limit. We have installed online & continuous monitoring facility in outlet.

- Sewage treatment plant (STP) of capacity 30 KL/D is installed to treat the sewage from unit and 100% treated water is being used for horticulture after confirming the quality parameters in prescribed limit. (STP- Common for Zinc, Lead & Silver)

- Drip irrigation system is provided to optimize the water uses for Horticulture.

- Water meters are provided in various areas of process for measurement and control of water consumption.

- 4 Storm water pond of capacity (2542, 1500, 841 and 750 cum) have been constructed inside the plant premises for storing and conserving the rainwater and further use in gardening and plant operation. In FY22-23, We have reused 14,228 Cu.m rainwater into the process by replacing ground water. (RW- Common for Zinc, Lead & Silver)

- **Waste Management**

- We focus on a '4R' waste strategy – Reduce, Recycle, Reuse and Reclaim and 'Eco-friendly' disposal of process. Waste management plan in place to ensure the proper handling and disposal of waste.

- **Noise**

- Noise generating equipment's are designed with necessary noise controlling measures and being operated to have a noise level in the line with the regulatory requirements. Preventive maintenance of the same is being ensured as per schedule.

PART-H

Additional measures/investment proposal for environment protection including abatement of pollution /prevention of pollution (Common for Zinc, Lead & Silver)

- **Green belt Development**

- Implementation of afforestation program is of paramount importance for Pantnagar Metal Plant. Plantation in more than 33 *per cent* area of plant has been covered by selection of plant species as per MoEF&CC/CPCB/SPCB guideline. Drip irrigation facility has been provided to all the plant saplings to ensure timely and required amount water supply.

- Keeping the pollution issue due to the vehicle movements in mind and with the understanding of the role of plants as bio-filter the following various plant species grown at Pantnagar Metal Plant includes: Neem (Azadirachta indica), Amaltas (Cassia fistula), Bottle brush (Callistemon citrinus), Washingtonia Palm (Washingtonia robusta), Curry patta (Murraya koenigi), Pipal (Ficus Religiosa), Arjuna (Terminalia Arjuna), Karanj (Pongamia pinnata), Siris (Albizia lebbeck), Gulmoher (Delonix regia), Babool (Accacia nelotica), Khair (Accacia catechu), Sagwan (Tectona grandis) , etc. While selecting the plant species for green belt, following points have been taken into considering for improve ambient air quality & variety of plant species:-

- Locally availability
- Dust capturing efficiency
- Noise control
- Absorb Gas emission
- Plants growth
- High Survival Rate
- Canopy shapes
- Origin of plant
- Arid Climate condition
- Feeding & Nesting habitats for birds species

➢ Green belt also performs carbon sequestration and act as carbon sink and overall help to reduce the pollution and improve the ambient air quality of the surrounding areas.
➢ We have developed Green belt in our plant with the consultation and approval of DFO (Divisional Forest Officer).
➢ We have celebrated environment day on 5th June every year.

Total expenditure for FY 2022-23 was 54.57 Lacs (Common for Zinc Lead & Silver) on environment protection including abatement of Pollution/Prevention of pollution. Also various Capex work are under pipeline to improve Environment & Safety at workplace. Total estimated expenditure for environment protection including abatement of pollution /prevention of pollution is Rs. ~47 Lacs (Common for Zinc, Lead & Silver) is proposed for FY2023-24 excluding Capex cost.

PART-I

Any other particular for improving the quality of the environment.

Regular monitoring of important and crucial environmental parameters is of immense importance to access the status of environment during plants operation. With the knowledge of baseline conditions, the monitoring program can serve as an indicator for any deterioration in environmental conditions due to operation of the plants and suitable preventive steps could be taken in time to safeguard the environment. Monitoring is an important that of control of pollution since the efficiency of control measures can only be determined by monitoring. Sufficient bag filters with appropriate stack are provided to control emission in environment. A full-fledged environmental laboratory has been set up for regular monitoring of environmental parameters, inside the plant and outside the plant as well as monitoring of all equipment's and area's is being done by external agency registered with MOEF&CC/CPCB/SPCB also. Regular preventive maintenance is being ensured.

The environmental attributes being monitored are as given below:

- Air pollution and Meteorological Aspects
- Water and Waste water Quality
- Noise Levels
- Soil Quantity
- CSR Activities (Annexure 1 attached)

Date: - 05/09/23

Signature.....
(Deepkumar Agarwal)
SBU Director
For: Hindustan Zinc Limited
Pantnagar Silver Refinery Plant

Hindustan Zinc Limited
Pantnagar Metal Plant
Plot No.2&3, Sector 14, IIE, SIDCUL,
Rudrapur – 263153, Uttarakhand.

Annexure-1

(CSR & CER Activities)

Following CSR activities being undertaken during the year 2022-23, for your kind information please.

S. NO.	FOCUS AREA & PROGRAM	HZL, PANTNAGAR
		In Lacs
1	**Education**	
	Unchi Udaan Project (Coaching for IIT entrance)	23.52
	Shiksha Sambal	7.76
	KUSHI - Anganwadi Project	13.00
2	**Health, Water & Sanitation**	
	Health and Awareness Camps	12.73
3	**Sustainable Livelihood**	
	Vocational training - Mining Academy & others	6.67
	Micro enterprises/ SME	41.42
4	**Women Empowerment**	
	Formation and Strengthening of Self Help Groups	87.04
5	**Promotional & Admin**	
	Program Coordination Expenses	0.17
Total	**Amounts as per SAP GL plus allocated**	**192.31 Lac**

On-Going CSR Activities at PMP FY2022-23

Health, Water & Sanitation- Running mobile health clinic van in 25 villages on daily basis. Providing free doctor consultation, free medicine distribution etc. being done through this project. Daily in one village this camp will be held.

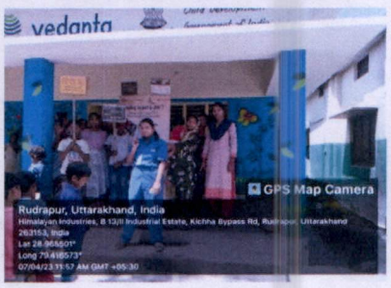
On-Going CSR Activities at PMP FY2022-23

Women Empowerment- Strengthening of Self-Help Group by 33 villages and covered around 3000+ families. This project (Sakhi) was implementing through Manjari Foundation. Started in the year 2017 and continuing.

On-Going CSR Activities at PMP FY2022-23







Youth Skill Development Program- Imparting Skill training program with TATA STRIVE in field of Auto Sales, Auto technicians, Automotive Services in two, three & four wheelers for Youth from nearby community.

On-Going CSR Activities at PMP FY2022-23




Misc. activities- Formation of pickle unit and Rural Sakhi Haat, Women's day celebration

This is for your information please,

Thanking you,
For Hindustan Zinc