



**vedanta**

HZL/RAM/ENV/2018-19/1503  
transforming elements



September 22, 2018

**Member secretary  
Raj. Pollution Control Board  
4, Institutional Area  
Jhalan Doongri  
JAIPUR**

**Sub : Environmental Statement of Rampura Agucha Mine for year 2017-18.**

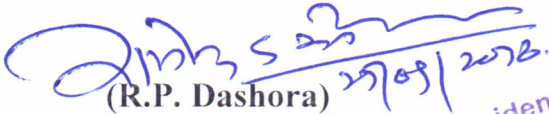
**Ref: CTO granted vide order No 2015-2016/Mines/6781 dated 24/09/2015**

Dear Sir

Please find enclosed herewith the environmental statement for financial year ending on 31<sup>st</sup> March 2018

Thanking you

Yours truly,

  
(R.P. Dashora) 27/09/2018

Director (SBU),  
RA Mine

Site President  
Hindustan Zinc Limited  
Rampura Agucha IBU  
PO - Agucha  
Distt. Bhilwara (Raj.)

cc to: Regional Officer : for kind information please.

**Raj. State Pollution Control Board  
18, Azad Nagar, Pannadhay Circle,  
Mining Engineer Office Road (Near Telephone Exchange)  
Bhilwara (Raj.)**

**The Director,  
Ministry of Environment and Forests,  
5<sup>th</sup> Floor, Kendriya Bhawan  
Lucknow**

O/C Env

**Hindustan Zinc Limited**

Rampura Agucha Mines, P.O. Agucha, Dist. Bhilwara (Rajasthan) - 311 022  
M +91-9001294956-57, F +91-1483 229012 www.hzllindia.com

Registered Office : Yashad Bhawan, Udaipur (Rajasthan) 313 004  
CIN No. L27204RJ1966PLC001208

## FORM – 5

### **ENVIRONMENTAL STATEMENT FOR FINANCIAL YEAR ENDING ON 31<sup>ST</sup> MARCH 2011**

#### PART – A

- (i). Name and address of the owner / occupier of the industry/ operation or process : Sh. Sunil Duggal  
Chief Executive Officer &  
Whole Time Director  
Hindustan Zinc Limited  
Yashad Bhawan  
Udaipur 313 001
- Name and address of unit head : Sh. R.P. Dashora  
Site President -RA Mine  
Hindustan Zinc Limited  
Rampura Agucha Mine  
AGUCHA 311 022  
Distt. Bhilwara (Raj)  
Phone: 01483 – 229011  
Fax : 01483 – 229012
- (ii). Industry category : Red  
Primary (STC code) Mining of lead-zinc minerals  
and ore beneficiation  
Secondary (STC code) Not Applicable
- (iii). Production Capacity -Units : 6.15 Mtpa of lead- zinc ore  
production & 6.50 Mtpa lead zinc  
ore beneficiation
- (iv) Year of establishment : Commissioned on 25/03/91
- (v). Date of last environmental statement submitted : 23/09/2017

**PART – B**  
**Water and Raw Material Consumption**

(i) Water Consumption (m<sup>3</sup>/day)

	<b>Cum/day</b>
Process	7094.5
Cooling / Services	326.7
Domestic	1704.2

<b>Name of Product</b>	<b>Process water consumption (fresh water) per unit of product output (Ore treatment)</b>	
	<b>During Previous Financial year 2016-17</b>	<b>During current year 2017-18</b>
Lead & Zinc concentrate	0.486 cum/MT	0.450 cum/MT

(ii) Raw material consumption

<b>Name of raw material</b>	<b>Name of product</b>	<b>Consumption of raw material per unit of output (gm/MT)*</b>	
		<b>2016-17</b>	<b>2017-18</b>
Copper Sulphate	Lead & Zinc Concentrate	884.238	941.74
MIBC	--do--	42.439	40.70
Hydrated Lime	--do--	97.837	190.70
Nigrosine	--do--	180.905	182.58
Xanthate (PEX & SIPX)	--do--	177.949	175.04
Sodium Cyanide	--do--	67.187	73.86

\* Raw material consumption is shown as grams per ton of ore treatment.

<b>Production</b>	<b>2016-17 (MT)</b>	<b>2017-18 (MT)</b>
Ore treatment	5483197	5750335
Lead Concentrate	102067	92676
Zinc Concentrate	1129275	1065438

## PART – C

### POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT

(Parameters as specified in the consent issued)

Sr. No	Pollutants		Quantity of pollutants discharged	Concentration of pollutants in discharge (mass/volume)	%age of variation from prescribed standards and reason
a	Water		Zero discharge status	No Discharge	Zero discharge is maintained. Water is reclaimed from tailing dam and reused in beneficiation plant.
b	Air dust emission from stack (SPM)	Primary Crusher Old	14.20 kg/day	25.38 mg/Nm <sup>3</sup>	83.08 % lesser than stack emission standard
		Primary Crusher New	14.58 kg/day	23.54 mg/Nm <sup>3</sup>	84.31% lesser than stack emission standard
		Sec./Ter Crusher	16.06 kg/day	25.28 mg/ Nm <sup>3</sup>	83.15% lesser than standard of stack emission

## PART – D

### HAZARDOUS WASTE

[As specified under Hazardous and other Waste (Management, & Transboundary Movement) Rules 2016]

Hazardous wastes	Total quantity generated during the year	
	2016-17	2017-18
a. From Process		
Decontaminated drums	6027Nos.	6654
Used oil	597.91MT	626.77
Scrap lead acid batteries	20.88MT	17.450MT

## PART – E

### Solid Waste

Sr. No.		Total quantity during the year	
		2016-17	2017-18
a	From process (Tailings)*	4322785 MT	4922651 MT
b	From pollution control facility **	Nil	Nil
c	1. Quantity recycled or reutilised	Nil	Nil
	2. Solid	Nil	Nil
	3. Disposed***	Nil	Nil

\* All the tailings of beneficiation plant are being discharged to tailing dam and zero discharge is maintained. Water is reclaimed from tailing dam and is pumped back to beneficiation plant for reuse.

\*\* All the dust slurry transported to process plant and utilized.

\*\*\* Used oil sold to registered parties with MoEF / CPCB.

## PART – F

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

- i. The Solid Waste in form of tailings (Non hazardous) generated from beneficiation plant having following mineralogical composition:

Particular	% Content
Total Lead	0.40 – 0.64%
Total Zinc	1.10 – 1.40%
Total Iron	8.30 – 12.10%
Insoluble	60.0 – 66.40%
Gr. Carbon	4.90 – 6.65%
Silica	41.10 – 44.80%
Cd	0.0022 - 0.0044%

Tailing in the form of slurry (containing 60% solids) is being discharged in the tailing dam. These solids of the slurry settles and clear water are reclaimed and put in water recirculation system.

- |      |                               |   |   |
|------|-------------------------------|---|---|
| ii.  | Over burden                   | - | Quantity: 14039745MT<br>This over burden does not contain any minerals and are inactive rocks. This waste is dumped in the non-mineralized zone area with 7 X 20 m lifts with 20 m benches between successive lifts. The rock faces are dozed and covered with available topsoil and saplings have been planted on matured benches. |
| iii. | Used oil                      | - | 626.77 MT of used oil is recovered from the different machinery and heavy earth movers. Used oil is stored in drums and kept in the specified area for disposal to registered re-refiners with MoEF / CPCB.   |
| iv.  | Discarded Containers and bags | - | Discarded containers of chemicals are stored in the earmarked place, decontamination is Carried out before disposal to TSDF.  |

### **PART – G**

#### **Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production:**

Beneficiation plant is discharging the tailing slurry, which contains about 40% water and 60% solids. For this purpose tailing dam was constructed having an area of 1.25 sq. km. to collect water in down streamside. The pumps are installed in collection wells at tailing dam to pump this water to reclaim pump house sump and from there it is pumped to beneficiation plant for reuse. To meet out water requirement, radial well constructed in Banas River bed and laid down 60 kms long pipe line for supply of water for industrial and domestic use. The water requirement for process plant is met by 60% reclaimed water of tailing dam and 40% by fresh water. The tailing dam is constructed with bottom and inside walls lined with impervious soil and LDPE for containment of tailings. The reclaimed water is used in plant to reduce the fresh water consumption by about 60%. The mine pit water is being used in process plant. Thus conserves water a natural resource.

## **PART – H**

### **Addition measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.**

The following works are completed to improve the working environment

1. Haul road dust suppression by use of dust suppression chemical along with water to reduce the water consumption and air born dust.
2. Cleaning of industrial roads and yards by Mechanical Road Sweepers.
3. Regular plantation on matured benches, periphery, road side etc.
4. Application of geotextiles over waste dump slope at critical locations for reducing fugitive dust caused by high speed wind and improving slope stability.

## **PART-I**

### **Any other particulars for improving the quality of the environment:**

#### **1. Air pollution control**

- Dust from ore crushing and handling equipment is being controlled by dust extraction system through wet scrubber, dust suppression system & dust extraction system
- Fortnightly monitoring of ambient air quality at 6 locations and stack emissions from crushing section stack for suspended particulate matter.
- Haul road fugitive emission controlled by regular water sprinkling with dust suppression by 40 KL (4 Nos) water sprinkler tankers.



## 2. **Water pollution control:**

- Water quality of wells and piezometers around the mine complex is being monitored on quarterly basis.
- Tailing treatment and disposal: Tailings of beneficiation plant are treated with hydrated lime prior to pumping to the tailing dam and reclaimed water is pumped back to plant for reuse.
- Reclaim water reservoir of 50,000 m<sup>3</sup> & 35000 m<sup>3</sup> capacity, to reduce the water evaporation losses at tailing dam. Water from all the sources is pumped to this reservoir for recycling.



## 3. **Noise and vibration control**

Cabins of all the HEMM are air-conditioned. Sound level for mining equipment, beneficiation plant is regularly monitored. Long hole open stopping blasting technique used in mine and Ground vibrations are regularly monitored by internal and external agencies.

## 4. **Waste dump management**

Overburden is dumped in the form of 7 X 20 m lifts with an ultimate height of 140 m and having an angle of 45° and the overall slope of 27°. The rock faces are dozed and covered with the available top soil and saplings are planted on the inactive benches and slopes.



## 5. **Plantation:**

- Till March 2018, 311650 Plants in 269.20 Hectares area are surviving in acquired land of lease area of which 17000 sapling were planted in 2017-18.



- In township 74.0 hectares land was acquired and 29.00 hectares has been covered by greenbelt.
- Extensive plantation has been carried out along various road sides connected to plant and colony.

## 6. **Environmental awareness:**

- IBM, Ajmer region organizes Mine Environment and Mineral Conservation Week host by Rampura Agucha mine . During celebration of Week, numbers of activities were carried out to increase environmental awareness among the employees. Some of the activities, which are done during the week, are posters, slogans and speech competitions.
- Celebration of World Environment Day on 5<sup>th</sup> June 2018. Drawing competition for children was conducted.
- ISO-14001, 9001, OHSAS 18001, SA 8000 audit by external agency.
- Legal training on Environmental rules & regulations and sustainability etc.
- Environmental awareness is part of works training at vocational training center as per VT rules .
- Online quiz test for employee on Environment

## 7. Water Conservation Measures:

- Water from all the sources is pumped to Reclaim Water Reservoir of 50,000 m<sup>3</sup> & 35,000 m<sup>3</sup> capacity to reduce the evaporation losses.
- Use of reclaim water in place of fresh water in all the de-dusting systems and flocculants preparation tank
- Efficient operation of 425 KL/day Sewage Treatment Plant at residential colony and 300 KL/day Sewage Treatment Plant at Mine area.



- Collection of rainwater in sump & pumping back for usage

## 8. Awards:

- Every year Mine Environment & Mineral Conservation Week is celebrated under the aegis of Indian Bureau of Mines. In year 2017-18, our mine participated in 28th MEMC week of Ajmer Region with Overall second prize in underground mechanized group.