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HINDUSTAN ZINC
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HZL/CLZS/ENV/33/2023-24

30.11.2023

To,
The Deputy Director(S)/Scientist-C
MoEF & CC
Integrated Regional Office,
A-209 & 218, Aranya Bhawan,
Jhalana Institutional Area
Jaipur - 302004

Sub: Six Monthly EC compliance report of Pyro plant, CLZS and Gosunda Dam

Ref: Environmental Clearance Letter No. J-11013/29/92-EI. Dated 03.06.83
Environmental Clearance Letter No. 3/29/79/HCT/ENV. Dated 25.08.80

Sir,

Please find enclosed herewith the six-monthly compliance report with reference to above Environmental Clearances for our Pyro Plant of CLZS and Gosunda Dam for period 01.04.2023 to 30.09.2023 with all the enclosures as annexures.

Thanking you,
Yours faithfully,

(T K MEGHWAL) 30/11/23
Associate General Manager (Environment)
Chanderiya Lead Zinc Smelter

Encl. Annexures

Enclosures

Annexure I	Work Zone (8 Hours) Environment Monitoring
Annexure II	Work Zone (15 Minutes) Environment Monitoring
Annexure III	Stack Details
Annexure IV	Stack Monitoring Results (PM & Lead)
Annexure V	Treated Water Monitoring results
Annexure VI	River Water Monitoring Results
Annexure VII	Piezometer Borewell Results
Annexure VIII	Acid Plant Stack Monitoring Results
Annexure IX	Ambient Air Quality (CAAQM) Report
Annexure X	Ambient Air Quality Monitoring (AAQM) Results
Annexure XI	Ambient Noise Monitoring Results
Annexure XII	Noise Mapping Report
Annexure XIII	Online Emission Monitoring Report
Annexure XIV	Online Effluent Monitoring Report
Annexure XV	GHG Emission Inventory
Annexure- XVI	Net Zero Strategy
Annexure- XVII	Green Cover Assessment Report
Annexure- XVIII	Health & Safety Policy
Annexure- XIX	Environmental Policy
Annexure- XX	Biodiversity Policy

CC:

- The Regional Officer,
  Rajasthan State Pollution Control Board, Near FCI Godown,
  Chanderiya, Chittorgarh – 312001

- The Member Secretary,
  Rajasthan State Pollution Control Board,
  4, Institutional Area, Jhalana Doongri,
  Jaipur (Raj.)- 302004

- In-Charge (Zonal Officer)
  Central Pollution Control Board,
  Vithal Market, Paryavaran Parisar, E-5, Arera Colony,
  Bhopal – 462016 (MP)

- Office Copy

Sensitivity: Internal [C2]

Six monthly point wise compliance report for Gosunda dam

Environmental clearance letter no. 3/29/79/HTC/ENV dated 25.08.80

1) Majority of labours engaged by the contractor during the construction phase of dam were locals with residential dwellings in nearby villages, hence there was no requirement of fuel wood supply to villages. No trees were felling in the area.
2) The excavated mud of the main dam has been utilized in the construction of rock fill dam at the left flank. The soil for the construction of earthen dam has been taken form various borrow area to a maximum depth of uniformly consequently, there are no holes, irregular surface left in the borrow areas. Due to the almost level surface left, no restoration is required.
3) General health condition of the persons in the rehabilitation colonies are very good.
4) No deforestation or clear felling was resort for any construction activity associated with the dam construction.
5) Environmental plantation of Gosunda dam area has been taken up in right earnest. Plantation of more than 11,000 numbers of saplings has been done and its subsequent maintenance in all respect. The species chosen are all locally endemic species and are known to register fast growth and good canopy cover.

Note:-The height of Gosunda Dam has been raised from 420 MRL to 422.5 MRL.

a. Forest clearance for storage of water up to 422.5 MRL.

b. Plantation coming under submergence between 420 to 422.5 MRL shall be replaced by Forest Department.

c. No village is coming under submergence.

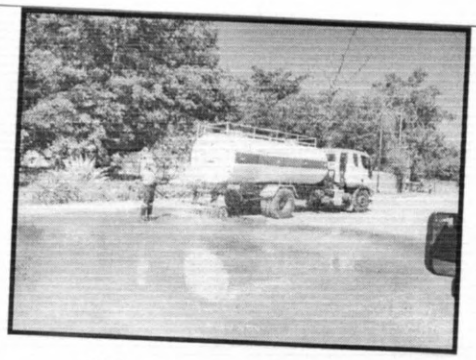
Sensitivity: Internal (C3)

PYRO PLANT

Environment Compliance Report of Chanderiya Lead Zinc Smelter, Chittorgarh with reference to Environmental Clearance letter No. J-11013/29/92-EI dated 03.06.1983.

S. NO.	CONDITION	STATUS
1	Transportation of concentrates from mine to the Smelter site should be done in containers or closed trucks to minimize/avoid the entry of metal into environment through spillage, carry over, pilferage etc. trucks used should be washed & cleaned at the centralized place HZL should looks in this aspect make proper arrangements. This washing should be properly treated & disposed.	(1) Transportation of concentrate from mine is done in covered dumpers to minimize any spillage, carry over pilferage etc. (2) The concentrate contains 8% to 10% moisture. (3) After unloading, the trucks are washed at the truck washing facility. (4) The wash water is being treated in ETP followed by RO & solids in slurry form are being recycled to the sinter plant and ETP cake is being disposed into SLF. (5) Proper care is being taken during transportation of concentrates.  **Roof Flip Top Dumper**
2	Spillage & fugitive dust emission at loading and unloading points should be kept to minimum & for this purpose water spray should be adopted.	(1) Moisture in concentrate received at site is maintained approximately 8%. This minimizes fugitive emission at unloading point & concentrate handling area in RMH. (2) Water spraying and vacuum road sweeper are being used at site to reduce & mitigate fugitive dust emission if any at site. (3) We are complying with all applicable norms of fugitive emission.

Sensitivity: Internal (C3)

		 **Water spraying at site**  **Road sweeping by Vaccum road sweeper**
3	The levels of lead, zinc, and cadmium in the working environment should always be kept within stipulated/well below the standards laid dawn. If the standards in our country are not available. Standards laid dawn in US/Canada should be adopted.	(1) Levels of lead and Zinc in the working Environment are within the stipulated limits. (2) Cadmium levels in the working environment have always been found below detection limits. (3) All norms of metal value in the working environment is been followed at site. Work zone environment monitoring results are annexed as **annexure-I & annexure-II.**
4	The local ventilation in all workplaces should designed in such a way to have a suitable draft circulation.	(1) The stipulated conditions have been taken care of in designing and adequate ventilation system has been provided in work place. 2) Suitable draft circulation is being maintained.
5	The height & design of the stacks should be such that ground level concentration of the gaseous pollutant should be within the stipulated standards of state board.	(1) The height & design of the stacks are adequate. (2) Ground level concentration of the gaseous pollutant is maintained within the standards issued by State Pollution Control Board. Stack height is attached as **annexure-III.**

Sensitivity: Internal (C3)

6	Location & height of the stack on buildings should be such that the turbulence will be on beside of the building. The total meteorological condition should be taken into consideration for this purpose.	Location and height of the stack is designed as per CPCB Guidelines. Total meteorological condition is taken into consideration during and after project.
7	The HZL authorities should make arrangement for regular monitoring of combustion gases, particulate matter & concentration of heavy metals in the particulate size, distribution & deposition of particles on similar type of plants (e.g. Visakhapatnam) in consultation with expert in this field to have an idea & base information. Based on this suitable measure can be adopted & reports should be sent to State/Central Board/ Deptt Of Environment.	(1) HZL authorities have arranged for regular monitoring of combustion gases, particulate matter & concentration of heavy metals in the particulate size, distribution & deposition of particles on similar type of plants (e.g. Visakhapatnam) in consultation with expert in this field to have an idea & base information. (2) Based on these suitable measures has been adopted & reports is sent to State/Central Board/ Deptt Of Environment. Stack Monitoring results are annexed as **annexure – IV.**
8	The liquid effluent emanating from various process operations should be recycled to the maximum possible extent. The effluent should be subjected to rigorous physico-chemical or other suitable treatment method to bring down the pollutant concentration below the standards laid dawn by State/Central Board.	(1) All effluent is treated in ETP followed by RO and MEE. (2) Zero discharge is being maintained at our plant. Treated water monitoring results are annexed as **annexure-V**
9	The waste treatment plant operation should be watched at Senior Management level & regular reports on its performance and effluents quality should be submitted to state/central authorities.	(1) Regular reports of the analysis of final treated water are submitted to RPCB, Jaipur on quarterly basis. (2) The waste treatment plant operation is being monitored by Senior or Management officials regularly through daily and monthly meetings.
10	The two sludge lagoon should be made imperious to avoid pollution of ground water.	Three nos. of concrete lagoons with lining have been constructed as per condition. At present we are not using lagoons.
11	Water quality of river and ground water should be collected at regular intervals to	Water quality of upstream & down stream of Berach river & the sample of wells water from nearby village

Sensitivity: Internal (C3)

	form as the base line data wells in the near by area should be monitored from now onwards & later also.	area is being monitored and attached as **annexure-VI** & **annexure-VII.**
12	The effluent should be used on land to the maximum extent for social forestry purpose & should be a model for others in that area. HZL authorities should explore the possibility of adding treated wastes from town ship to factory wastes to enhance their utility.	Treated water is recycled back in the process through ETP followed by RO and MEE. Zero liquid discharge is being maintained. STP treated water is being used for plantation purpose.
13	State authorities be requested to plant trees in the vicinity & surrounding the monuments to enhance the protection & to reduce the wind / sand erosion of monuments.	Plant saplings are distributed in nearby villages every year and also saplings are planted under our CSR activity like Punchfal scheme.
14	Rigorous & stringent measure for maintaining the various process & control equipment in the plant at highest possible standards should be adopted by HZL. If there is a failure of any control equipment these units should not be operated except emergencies.	Stringent measures are being taken to keep all the pollution control equipment in good condition. In/during monthly & annual shutdowns, through checking of pollution control system.
15	An Environmental Management plan stipulating various condition & requirement of operation, maintenance & monitoring should be drawn up. Various levels in the Organisation(s) should be trained to adopt the plans.	EIA study & EMP for CLZS have been prepared. A full fledge Environment Lab exist at site to meet the process and statuary norms. Environmental training is also imparted, and Site Environment Cell is well equipped and trained to adopt the Environment Management Plans at site.
16	Contingency & disaster plans should be drafted for adoption.	Disaster management plan being updated suitably in consultation with Inspector of Factories & Boilers, Jaipur, for the entire location. Site level ERCP is also available at site.

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17	Suitable Environmental management & monitoring cell should be created a Sr. Environmental Manager with suitably qualified personnel of various disciplines to undertake the various functions. They should be directly reporting to the head of the Organization.	Suitable Environmental management & monitoring cell is created a Sr. Environmental Manager with suitably qualified personnel of various disciplines to undertake the various functions. He is directly reporting to the head of the Organization.
18	Suitable programs should be organized within the Organization to apprise workers, staff and people in the surroundings regarding value and necessity of good housekeeping and proper environmental management for the welfare of all.	Regular training programs are conducted for employees, these programs highlight the importance of clean environment, environmental issues and its solutions. World Environment Day, Van Mahotsav and World Water Day are celebrated every year to create awareness about clean environment. Various competitions are also conducted on the theme biodiversity, water conservation, save environment etc.

Sensitivity: Internal [C2]

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HZL/CLZS/ENV/33/2023-24 **30.11.2023**

To,
The Deputy Director(S)/Scientist-C
MoEF & CC
Integrated Regional Office,
A-209 & 218, Aranya Bhawan,
Jhalana Institutional Area
Jaipur - 302004

Sub: Six Monthly EC compliance report of Ausmelt Lead plant, CLZS

Ref: Environmental Clearance Letter No. J-11011/17/2005.IA.II(I), Dated 03.08.2005

Sir,

Please find enclosed herewith the six-monthly compliance report with reference to above Environmental Clearances for Ausmelt Lead Plant of CLZS for period 01.04.2023 to 30.09.2023 with all the enclosures as annexures.

Thanking you,
Yours faithfully,

(T K MEGHWAL) 30/11/23
Associate General Manager (Environment)
Chanderiya Lead Zinc Smelter

Encl. Annexures

CC:

- The Regional Officer,
  Rajasthan State Pollution Control Board, Near FCI Godown,
  Chanderiya, Chittorgarh – 312001

- The Member Secretary,
  Rajasthan State Pollution Control Board,
  4, Institutional Area, Jhalana Doongri,
  Jaipur (Raj.)- 302004

- In-Charge (Zonal Officer)
  Central Pollution Control Board,
  Vithal Market, Paryavaran Parisar, E-5, Arera Colony,
  Bhopal – 462016 (MP)

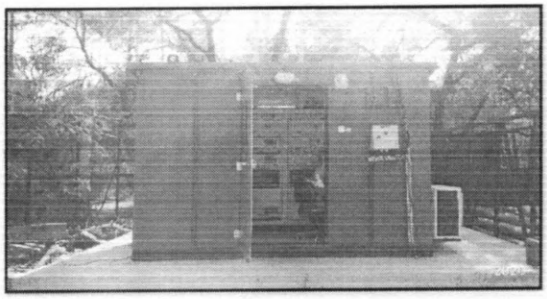
- Office Copy

AUSMELT LEAD PLANT

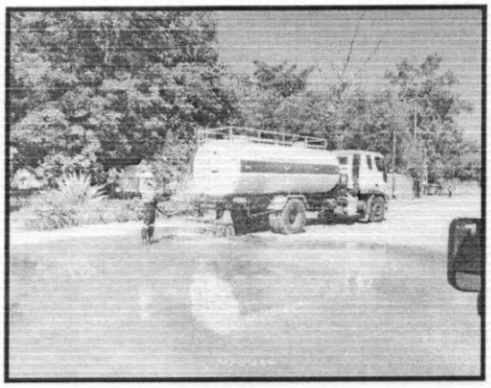
Environment Compliance Report of Chanderiya Lead Zinc Smelter, Chittorgarh with reference to Environmental Clearance letter No. J-11011/17/2005.IA.II(I), dated 03.08.2005

	CONDITION	STATUS
A. SPECIFIC CONDITIONS		
i.	The gaseous emission from various process units shall confirm to the standard prescribed by the concerned authority from time to time .The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location .At no time the emission level should go beyond the prescribed standard in the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desire efficiency,	(1) The gaseous emission from various process units is being conform to the standard prescribed by the concerned authority from time to time. (2) At no time the emission level go beyond the prescribed standard in the event of failure of any pollution control system adopted by the unit, the respective unit is not restarted until the control measures are rectified to achieve the desire efficiency,
ii.	As reflected in the EIA /EMP, exiting DCDA plant for sulphuric acid plant recovery from SO_2 shall be upgraded by use of high active catalyst and high efficiency plate heat exchangers. The company shall ensure that SO_2 emission from the lead smelter plant are taken to existing Sulphuric acid plant properly and converted to H_2SO_4. The stack from the sulphuric acid plant shall be provided with online stack emission monitoring equipment for continuous monitoring of SO_2. As per recommendation made in CREP for environment protection SO_2 emission limit	(1) The SO_2 from Ausmelt is taken to pyro-acid plant mainly. Sometimes it is taken to hydro - acid plant. (2) In Pyro Plant: Tail gas treatment plant is already installed. a) Complying the condition of EC. b) Acid plant is followed by Tail gas Treatment plant for keeping the SO_2 & Mist as per norms. c) Pyro TGT Online Analyzer is connected to SPCB/CPCB. d) Using Very high power catalyst for increasing the efficiency of

Sensitivity: Internal (C3)

	shall be controlled less than 2 kg/t of H_2SO_4 produced and Acid mist limit of 50 mg/Nm^3 shall be achieved by 31 Dec.2006.	conversion. Basically, cesium based V_2O_5 catalyst is being used in Acid Plant.  **Tail Gas Treatment Plant** Analysis report of Acid Plant is attached as **annexure -VIII**
iii.	The company shall install continuous air quality monitoring station. one CAAQM shall be set up at Chittorgarh Fort to assess the impact of the lead smelter on the Fort .Data monitored shall be submitted to MOEF and CPCB/RPCB once in six month.	(1)The company has installed continuous air quality monitoring stations. (2) One CAAQM has set up at Chittorgarh Fort to assess the impact of the smelter on the Fort. (3) Data monitored is being submitted to MOEF and CPCB/RPCB once in six month.  **CAAQM** Analysis report of CAAQM Station is attached as **annexure-IX**
iv.	Fugitive emissions, acid mist vapors, fumes and SO2 shall be controlled and work environment monitored for prevailing contaminants regularly.	(1) In order to minimize fugitive emissions Lead Concentrate containing 8-10% moisture is being handled. (2) Provision of water spraying at Pb

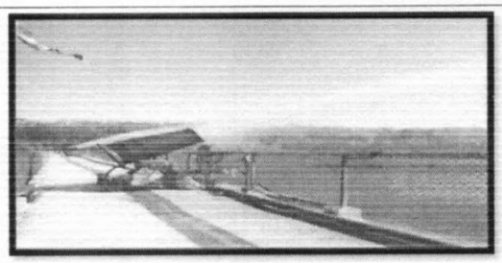
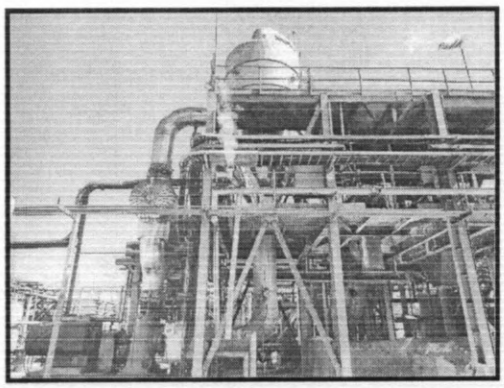
Sensitivity: Internal (C3)

	Fugitive dust emissions in the lead concentrate handling area and at various transfer points shall be minimized by provision of dust suppression system. The trucks carrying concentrate shall be fully covered. The Company shall improve overall house keeping by asphalting the internal roads and to reduce the generation of fugitive dust from vehicle movements.	concentrate stock yard has been provided and working satisfactorily. (3) Dust control system has been provided at material transfer points. (4) Mobile Vacuum dust sweeping system on industrial roads and vacuum dust cleaning system for plant area are exist at smelter to control airborne dust due to the vehicles movement. (5) Regular road washing is being done on industrial roads. (6) Truck & truck tire washing system has been provided and working satisfactorily. (7) All roads are made pucca with cement concrete.  **Roof Flip Top Dumper**  **Water spraying at site**

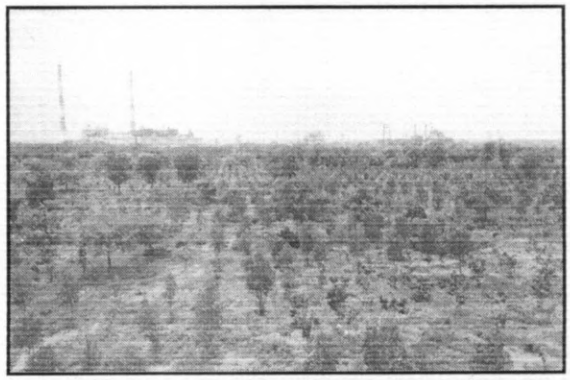
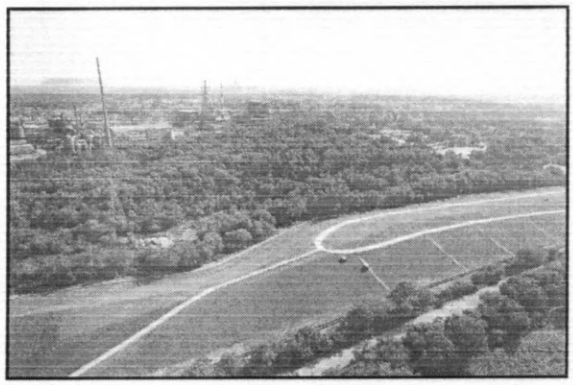
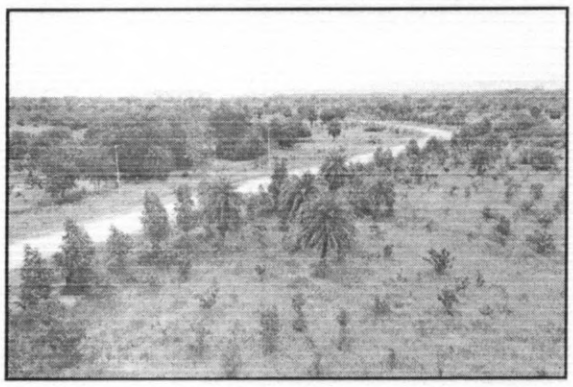
Sensitivity: Internal (C3)

		 **Road sweeping by vaccum road sweeper**  **Concreted internal roads**
v.	The company shall install fume extractors and bag filters to control the emission from all melting and casting units. The emission shall confirm to the prescribed standards of 50 mg/Nm^3. The particulate emission from captive power plant should be controlled by installation of ESP and controlled with in the stipulated limits of 50 mg/Nm^3.The low NO_X burners shall be installed to control the NO_X emission	All pollution control equipment installed properly and operated regularly. Monitoring of stacks are regularly carried out by our team.
vi.	As reflected in the EIA /Environment Management Plan, discharge of process effluent shall not exceed 19 m3/hr. The treated effluent shall conform to the prescribed standard and recycled to maintain zero discharge ,Reveres Osmosis plant shall be installed for desalination and reuse to effluent to achieve zero discharge .The rejects from RO Plant shall be evaporated in a solar evaporation pond to be constructed with in	1) Process effluent is well in prescribed limits both qualitatively and quantitatively, 2) Zero discharge is being maintained from the premises of the industry. 3) RO plant is being operated in order to maximize recycling of treated effluents. 4) RO reject is being treated through MEE & rest evaporated at solar evaporation pond through Mist Evaporators / Foggers.

Sensitivity: Internal (C3)

	smelter premises .	 **Mist evaporator installed at solar evaporation pond**  **MEE**
vii.	The solid waste generated in the form of Slag shall be granulated and sold to cement manufacturing and also for use in road construction.	(1) The slag generated is granulated and disposed at the specific location in the slag storage yard. (2) Slag is sold to cement manufacturing and also for use in road construction.
viii.	Green belt of adequate width and density in and around the captive power plant shall be developed as per Central pollution Control Board guidelines in 61.12 ha of area in addition to 106 ha of existing area already brought under green belt. Around the periphery of plant and township canopy based green belt should be developed.	(1) Green belt of adequate width and density in and around the captive power plant is being developed as per Central pollution Control Board guidelines. (2) Canopy based greenbelt is developed around periphery of plant and township. (3) Presently more than 33% of the Plant area developed as green belt.

Sensitivity: Internal (C3)

		    **Green Belt**
B. GENERAL CONDITIONS:		
i.	The project authorities must strictly adhere to the stipulations made by the Rajasthan State Pollution Control Board and the State	Site is strictly following the stipulations made by the Rajasthan State Pollution Control Board and the State Government.

Sensitivity: Internal (C3)

	Government.	
ii.	No expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	No expansion or modifications in the plant is carried out without prior approval of the Ministry of Environment and Forests.
iii.	Adequate number of ambient air quality-monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NOx are anticipated in consultation with the Rajasthan State Pollution Control Board. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Lucknow and the State Pollution Control Board/Central Pollution Control Board once in six months.	(1) Adequate number of ambient air quality-monitoring stations already established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NOx are anticipated in consultation with the Rajasthan State Pollution Control Board. (2) Data on ambient air quality and stack emission is being submitted to this Ministry including its Regional Office and the State Pollution Control Board/Central Pollution Control Board once in six months and also stack emissions are connected with PCB server on real time basis. Stack emission monitoring and ambient air quality monitoring results are attached as **annexure-IV** & **annexure-X.**
iv.	Industrial waste water should be properly collected treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater should be recycled in the plant as well as utilization for plantation purposes.	(1) Industrial waste water is being properly collected and treated in ETP to to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December, 1993 or as amended form time to time. (2) The treated wastewater is recycled back into the process.
v.	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules 2003. Authorization from the State Pollution Control	(1) CLZS strictly complied with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules 2003. (2) Authorization from the State Pollution

Sensitivity: Internal (C3)

	Board must be obtained for collection, storage, treatment and disposal of hazardous wastes.	Control Board is obtained for collection, storage, treatment and disposal of hazardous wastes.
vi.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including Silencers, enclosures etc on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (nighttime).	The overall noise levels in and around the plant area is always below/within the standards (85 dBA) by providing noise control measures including Silencers, enclosures etc on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (nighttime). Ambient Noise monitoring results are attached as **annexure-XI** and noise mapping is attached as **annexure-XII**.
vii.	Occupational Health Surveillance of the workers Shall be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is done on a regular basis and records are maintained as per the Factories Act.
vii	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP/risk analysis and DMP report.	All the pollutions measures are in place along with the proper enforcement of instruments/ PPEs
ix.	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be directed for any other purposes.	The Plant authorities provided adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided is not directed for any other purposes.
x.	The Regional Office of this Ministry at Lucknow/Central Pollution Control Board/State Pollution control Board will	The Regional Office of this Ministry at Lucknow/Central Pollution Control Board/State Pollution control Board is being

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	monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	regularly monitored the stipulated conditions. A six monthly compliance report and the monitored data is being submitted to Regional SPCB regularly.
xi.	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office.	The Plant informed the public that the project is the accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. Our company advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one is in the vernacular language of the locality concerned and a copy of the same was forwarded to the Regional Office.
xii.	The project Authority shall inform the RO as well as MOEF the date of financial closures and final approval of the project by the concerned authority and the date of commencing and land development work.	Agreed. All the details of plant activities is informed to RO & MoEF.

Sensitivity: Internal (C3)

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Zinc & Silver of India

Registered AD

HZL/CLZS/ENV/33/2023-24 **30.11.2023**

To,
The Deputy Director(S)/Scientist-C
MoEF & CC
Integrated Regional Office,
A-209 & 218, Aranya Bhawan,
Jhalana Institutional Area
Jaipur - 302004

Sub: Six Monthly EC compliance report of Hydro plant, CLZS

Ref:
Environmental Clearance Letter No. F. No. J-11011/158/2003-IA. II(I) Dated: 31.03.2004
Environmental Clearance Letter No. F. No. J-11011/279/2006-IA. II(I) Dated: 06.12.2006
Environmental Clearance Letter No. F. No. J-11011/279/2006-IA. II(I) Dated: 14.10.2020

Sir,

Please find enclosed herewith the six-monthly compliance report with reference to above Environmental Clearances for Hydro Plant of CLZS for period 01.04.2023 to 30.09.2023 with all the enclosures as annexures.

Thanking you,
Yours faithfully,

30/11/23

(T K MEGHWAL)
Associate General Manager (Environment)
Chanderiya Lead Zinc Smelter

Encl. Annexures

CC:

- The Regional Officer,
  Rajasthan State Pollution Control Board, Near FCI Godown,
  Chanderiya, Chittorgarh – 312001

- The Member Secretary,
  Rajasthan State Pollution Control Board,
  4, Institutional Area, Jhalana Doongri,
  Jaipur (Raj.)- 302004

- In-Charge (Zonal Officer)
  Central Pollution Control Board,
  Vithal Market, Paryavaran Parisar, E-5, Arera Colony,
  Bhopal – 462016 (MP)

- Office Copy

Environment Compliance Report of Chanderiya Lead Zinc Smelter, Chittorgarh with reference to Environmental Clearance letter No. J-11011/158/2003-IA. II(I) dated 31.03.2004 for Zn smelter & CPP 154 MW.

	CONDITION	STATUS
A. SPECIFIC CONDITIONS		
i	The gaseous emissions from various process units should confirm to the standards prescribed by the concerned authorities from time to time. The state board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emissions level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	1) Pollution control systems are interlocked with process; and it is being ensured that emission levels are well below prescribed limit at any time. 2) In the event of failure of any pollution control system adopted by the unit, the respective unit is restarted until the control measures are rectified to achieve the desired efficiency.
ii	As reflected in the EIA/EMP, Double Contact Double adsorption (DCDA) plant for sulphuric acid recovery from SO2 should be set up. The stack from the sulphuric acid plant should be provided with online stack emission monitoring equipment for continuous monitoring of SO2. As per the recommendations made in charts for corporate responsibility for environment protection, SO_2 emission limit should be controlled less than 2 kg/tonne of H_2SO_4 produced and acid mist limit of 50 mg/m3 should be achieved by December 2006. Continuous monitoring of SO_2 should be carried out.	1) Double Contact Double adsorption (DCDA) plant for sulphuric acid recovery from SO2 has commissioned. 2) The stack from the sulphuric acid plant is provided with online stack emission monitoring equipment for continuous monitoring of SO2. 3) Cesium based V2O5, Very effective catalyst is used for better conversion. 4) Stack of More than 100 mts height is installed. Acid plant monitoring results is attached as **annexure-VIII.**  **DCDA**

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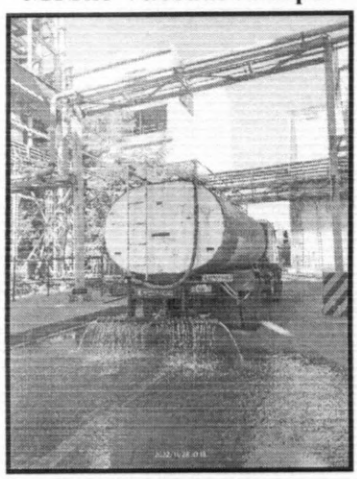
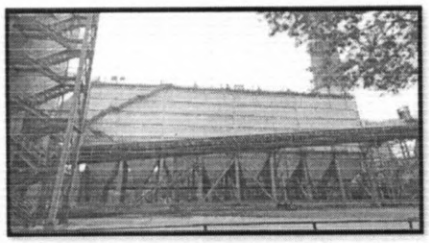
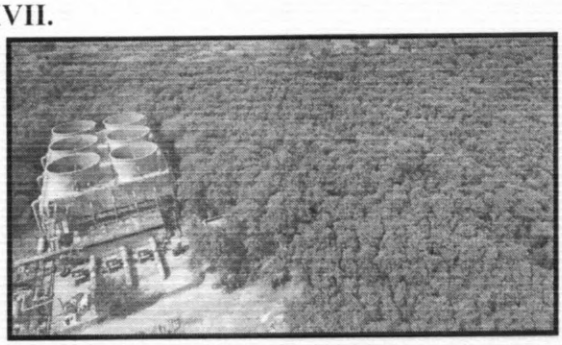
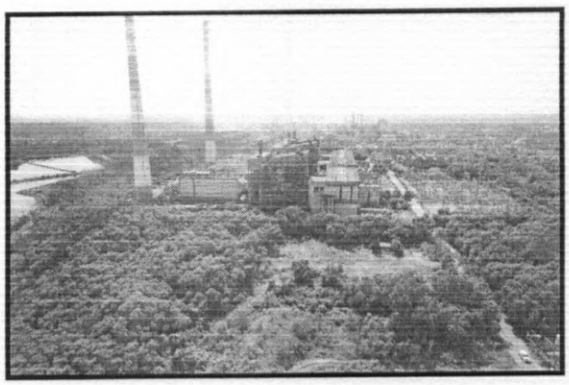
iii	Fugitive emissions, acid mist vapours, fumes and SO2 should be controlled and work environment monitored for prevailing contaminants regularly. Fugitive dust emissions in the zinc concentrate handling area and at various transfer points should be minimized by provision of water sprinkling system. The company should improve overall house keeping by asphalting the internal roads and to reduce the generation of fugitive dust from vehicle movements.	1) In order to minimize fugitive emissions Zn Concentrate containing 8-10% moisture is being handled. 2) Provision of water spraying at Zn concentrate stock yard has been provided and working satisfactorily. 3) Dust control system has been provided at material transfer points. 4) Mobile Vacuum dust sweeping system on industrial roads and vacuum dust cleaning system for plant area are exist at smelter to control airborne dust due to the vehicles movement. 5) Regular road washing is being done on industrial roads. 6) Truck & tyre washing system has been provided and working satisfactorily. 7) All roads are pakka and concreted.  **Mobile Vaccum sweeper**  **Road washing**
iv	The company should install fume extractors	1) The company installed fume extractors and

Sensitivity: Internal (C3)

	and bag filters to control the emissions from all melting and casting units. The emissions shall conform to the prescribed standards of 50 mg/Nm3. The particulate emissions from the captive power plant should be controlled by installation of ESP and controlled within the stipulated limits of 50 mg/Nm3.The low NOx burners should be installed to control the NOx emissions.	bag filters with PTFE bags to control the emissions from all melting and casting units. 2) High efficiency ESP and low NOx burners have been provided at Power Plant to control emissions from plant and meeting the stipulated limits.  **ESP**
v	As reflected in the EIA /Environmental Management plan, discharge of process effluent shall not exceed 139 m3/hr. The treated effluent should confirm the prescribed standards and recycled to maintain the zero discharge. Reverse Osmosis plant should be installed for treatment of surplus effluent for reuse in the process to achieve zero discharge. The rejects from the RO plant should be evaporated in a solar evaporation pond to be constructed within smelter premises.	1) Process effluents are kept with in prescribed limits both qualitatively and quantitatively. 2) Zero discharge is being maintained from the premises of the industry. 3) RO plant is being operational in order to maximize recycling of treated effluents. 4) MEE Installation is already completed in 2021.
vi	The solid/hazardous waste/sludge generated from the process units should be disposed off in a secured double lined landfill with leachate collection and leak detection system. As reflected in EIA /EMP report, the Jarosite should be stabilized to jarofix by application of technology obtained from M/s Canadian Electrolyte Zinc Limited. The landfill should be constructed at a safe height from the highest water table; The design of the land should be approved by SPCB as per Hazardous Wastes (Management and handling) Rules, 2003. Ground water quality in the vicinity of the landfill should be regularly monitored by construction of Piezometers. The efforts should be made to self spent to the authorized reprocesses. The anode mud should be recycled in the leaching plant. The	1) Jarosite is stabilized with lime and Cement into Jarofix and disposed to lined Jarofix disposal yard in systematic way. 2) Design of landfill is approved by RSPCB. 3) Anode mud is being recycled back into the process. Surplus, if any is being disposed into SLF after stabilization. 4) Fly Ash generated from Power Plant is being sold to Cement plants, 5) Bottom ash is also being sold to brick manufacturers. 6) Piezo wells are installed at down/ up stream of Secured landfill and Jarofix Yard. Monitoring of the Piezometer water is being done regularly. Periodically inspection is being carried out by Statutory authority. Monitoring results of Piezometer water analysis is attached as **annexure -VII.**

Sensitivity: Internal [C3]

	ash generated from the captive power plant should be provided to the cement manufacturing unit. The surplus quantity if any, should be disposed off in the ash disposal area by dry disposal method. The Piezometers should be constructed around the ash disposal area to monitor the ground water quality.	
vii	Green belt of adequate width and density in and around the captive power plant should be developed in consultation with the DFO in 61.12 ha. of area in addition to the existing area already brought under green belt. Around the periphery of plant and township, canopy based green belt should be developed.	1) Green belt of adequate width and density in and around the captive power plant is being developed in consultation with the DFO in 61.12 ha. of area in addition to the existing area already brought under green belt. 2) Canopy based greenbelt is already developed around periphery of plant and township . 3) Presently CLZS plant is having more than 33% green area of the Plant area. 4) We are also in process for increasing density of plantation at site. Details of Green Belt is attached as **annexure-XVII.**  **Green belt**  **Green belt**
B. GENERAL CONDITIONS		
i	The project authorities must strictly adhere to the stipulation made by the Rajasthan State Pollution Control Board and the State	All the statutory norms prescribed by RSPCB are being met.

Sensitivity: Internal (C3)

	Government.	
ii	No expansion or modification in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	No expansion or modification in the plant is carried out without prior approval of the Ministry of Environment and Forests.
iii	Adequate number of ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO2, and NOx are anticipated in consultation with the Rajasthan State Pollution Control Board. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Lucknow and the State Pollution Control Board/Central Pollution Control Board once in six months.	1) Adequate number of ambient air quality monitoring stations is established in the downward direction as well as where maximum ground level concentration of SPM, SO2, and NOx are anticipated in consultation with the Rajasthan State Pollution Control Board. 2) Data on ambient air quality and stack emission is being regularly submitted to the Ministry including its Regional Office at Jaipur and the State Pollution Control Board/Central Pollution Control Board once in six months. Stack monitoring results are attached as **annexure-IV.** Ambient air quality monitoring results are attached as **annexure-X.**
iv	Industrial waste water should be properly collected treated so as to conform to the standard prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended form time to time. The treated waste water should be recycled in the plant as well as utilization for plantation purposes.	Industrial wastewater is properly treated in ETP/RO to confirm all the prescribed norms and recycled back into the process to maintain the Zero liquid discharge.
v	The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collection, storage, treatment and disposal of hazardous wastes.	1) All HW activities are carried in accordance with the Hazardous Wastes and other Waste (Management and Handling & Trans boundary) Rules, 2016. 2) Authorization from the State Pollution Control Board is already obtained for collection, storage, treatment and disposal of hazardous wastes.
vi	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers , enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA	1) The overall noise levels in and around the plant area is being kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers 2) , enclosures etc. on all sources of noise generation. 3) The ambient noise levels are observed very below to the standards prescribed under EPA

Sensitivity: Internal [C2]

	(daytime) and 70 dBA (nighttime)	Rules, 1989 viz 75 dBA (daytime) and 70 dBA (nighttime) Ambient Noise Monitoring results is attached **as annexure-XI.**
vii	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Being done and records are maintained.
viii	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP/risk analysis and DMP report.	We are complying with all the recommendations of EIA/EMP/Risk analysis and DMP report.
ix	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	Funds are allocated for capital and revenue expenditures and no fund is diverted to other jobs.
x	The Regional Office of this Ministry at Luck now/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	A six monthly compliance report and the monitored data is submitted to Regional Office of this Ministry at Lucknow/Central Pollution Control Board/State Pollution Control Board.
xi	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office.	Condition already complied with. Accordance of EC advertised in two local widely circulated in leading news paper, copy was already been submitted to your good office.

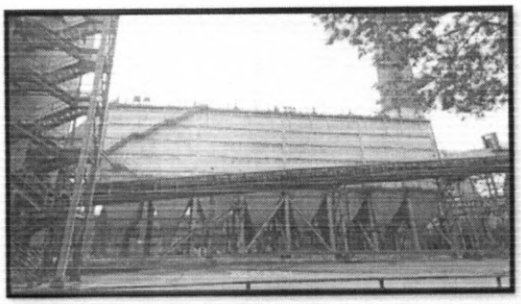
Sensitivity: Internal (C3)

HYDRO 2 PLANT & 100 MW CPP

Environment Compliance Report of Chanderiya Lead Zinc Smelter, Chittorgarh with reference to Environmental Clearance letter No. J-11011/279//2006-IA. II(I) dated, 06.12.2006 for 250,000 TPA Zinc & 100 MW CPP

S. No.	CONDITION	STATUS
1	This has reference to your letter No. HZL/CLZS/ENV/MoEF/06/9586 dated 24th July, 2006 along with application, EIA/EMP and related project documents and subsequent clarifications furnished by you vide your letters dated 7th August, 2006 and 4th September, 2006 for seeking environmental clearance of the above mentioned project under the EIA Notification, 1994.	1) We have obtained Environment Clearance after EIA & Public hearing from MoEF. 2) We are also complying with all conditions imposed by MoEF. 3) We have Strictly followed EIA Notification, 1994.
2	The Ministry of Environment and Forests has examined your application. It is noted that the proposal involves expansion of Zinc smelter 2,50,000 TPA (2,10,000 TPA Zinc smelter and 40,000 TPA by de-bottlenecking of existing 1,70,000 TPA Zinc smelter) and Captive Power Plant (100 MW) at Putholi, Gangrar, Chittorgarh, Rajasthan. No additional land will be required since the expansion project will be set up in 26.5 ha. out of existing 335.85 ha. land available. Zinc concentrates will be sourced from the captive mines of HZL viz. Rampura Agucha Mines, Rajpura Dariba Mines, Zawar Mine, Sindesar Khurd Mines. Calcine will be sourced from other zinc smelters (captive/imported).	1) All expansion carried out as per EIA Notification. 2) It was set up in 26.5 ha out of existing 335.85 ha. land available. 3) Zinc concentrates is a sourced from the captive mines of HZL viz. Rampura Agucha Mines, Rajpura Dariba Mines, Kayad Mines, Zawar Mine, Sindesar Khurd Mines and Calcine is sourced from all zinc smelters (captive/imported).
3	Bag filters and ESP will be installed to control dust and air emissions. Total water requirement from Gosunda Dam will be 11,000 m3/d and permission accorded by the Govt. of Rajasthan. The effluent will be treated in the ETP followed by Reverse Osmosis. The waste water generated from CPP will be recycled and used for dust suppression in coal and ash handling areas. The RO rejects, ETP sludge, Cobalt cake,	1) Bag filters and ESP is installed to control dust and air emissions. 2) Water consumption for the plant is within the limit granted. 3) Process effluent is being treated in ETP (175m3/hr) followed by reverse osmosis plant (160 m3/hr) and 3rd stage RO (42 m3/hr). Zero discharge is being maintained. 4) The effluent generated from the CPP is

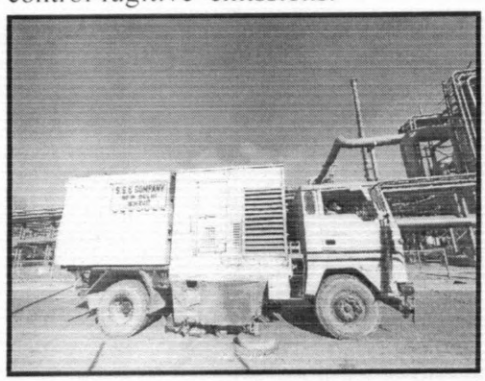
Sensitivity: Internal (C3)

	cooler cake, anode mud, enrichment cake, and spent catalyst etc. will be sent to existing secured landfill. Waste / used oil will be sold to registered recyclers. Ash will be given to cement / brick manufacturers.	being recycled and used for dust suppression in coal and ash handling areas. 5) The hazardous wastes generated from the process are stabilized and disposed in the existing secured landfill. 6) Ash is being disposed to cement/brick manufacturers. 7) Waste and used oil is being sold to registered recyclers. ETP Treated water monitoring results is attached as **annexure-V.**  **ESP**
4.0	Public hearing panel has recommended the project in the meeting held on 29th June, 2006. 'No Objection Certificate' has been accorded by the Rajasthan State Pollution Control Board vide letter No.12 (CII-78) RPCB/G.III/1432 dated 3rd August, 2006. Total cost of the project is Rs. 970.00 Crores.	1) Our project cleared all steps as per EIA notification. 2) Total Project Cost was 970 crore.
5.0	The Ministry of Environment & Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to strict compliance of the following specific and general conditions.	1) Complying all condition imposed in EC letter. 2) Strictly following EIA notification.
A. SPECIFIC CONDITIONS:		

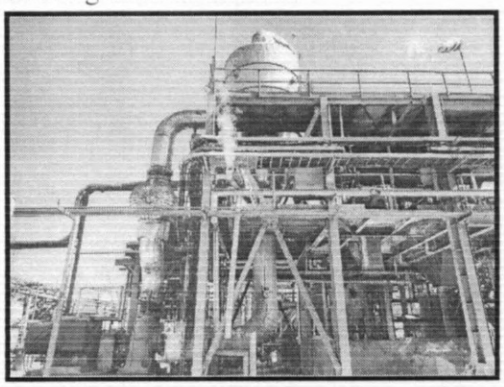
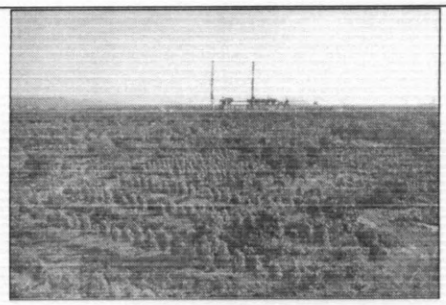
Sensitivity: Internal (C2)

i	The gaseous emissions from various process units shall conform to the standards prescribed by the concerned authorities from time to time. The Rajasthan State Pollution Control Board (RSPCB) may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emissions level shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.	1) Is Being complied for all relevant standards. 2) Pollution control systems are interlocked with process and it is being ensured that emission levels are well below prescribed limit at any time. 3) In the event of failure of any pollution control system adopted by the unit, the respective unit is not restarted until the control measures are rectified to achieve the desired efficiency.
ii	The company shall install on-line stack emission monitoring equipments for continuous monitoring of SO_2, NO_X, SPM and O_2 and all the pollution control measures shall be interlocked. The company shall install fume extractors and bag filters to control the emissions from all melting & casting units. Electrostatic precipitators (ESP) in Captive Power Plant (CPP), Gas Cleaning Plant (GCP) and Sulphuric acid plant shall be installed to control dust and SO_2 emissions within the stipulated limits of 50 mg/Nm^3. The low NO_X burners shall be installed to control the NO_X emissions.	1) Being complied with all the conditions. 2) The company installed fume extractors and bag filters to control the emissions from all melting & casting units. 3) Online SO2 analyzer is installed at Sulphuric Acid plant stack. 4) Online analyzers are installed for the CPP stack to measure SO2, NOx and PM. In CPP, low NOx burners are installed to control the NOx emissions. 5) Electrostatic precipitators (ESP) in Captive Power Plant (CPP), Gas Cleaning Plant (GCP) and Sulphuric acid plant is installed to control dust and SO_2 emissions within the stipulated limits of 50 mg/Nm^3. Stack Monitoring results annexed as **annexure- IV.**
iii	Impact of SO_2 emissions from H_2SO_4 plant and CPP in ambient air shall be assessed by the project proponent and a detailed report submitted to the Ministry including its Regional Office at Lucknow, CPCB and RSPCB	1) SO2 impact assessment report is already submitted to Ministry including its Regional Office at Lucknow, CPCB and RSPCB.
iv	All the recommendations made in Charter for Corporate Responsibility for Environment Protection (CREP) shall be strictly followed and SO_2 emission limit shall be controlled less than 2 kg/ton of	1) CREP is being strictly followed. 2) SO2 emission from acid plant is kept within norms.

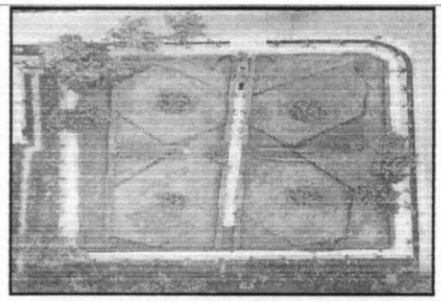
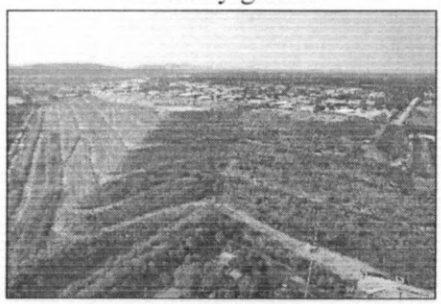
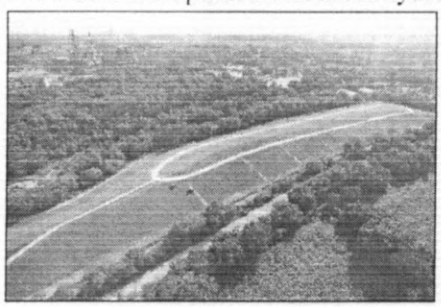
Sensitivity: Internal [C2]

	H_2SO_4 produced and acid mist limit of 50 mg/Nm^3 shall be achieved by December, 2006.	
v	Fugitive emissions, acid mist vapors, fumes and SO_2 shall be controlled and work environment monitored for prevailing contaminants regularly. Fugitive dust emissions in the handling area and at various transfer points shall be minimized by provision of dust suppression system. Bag filters shall be installed in the Roaster, Calcine handling & storage section, Zinc atomizing unit, Dross milling section to control fugitive emissions. The Company shall improve overall house keeping by asphalting the internal roads and to reduce the generation of fugitive dust from vehicle movements.	1) In order to minimize fugitive emissions, Zn concentrate containing 8-10% moisture is being used. 2) Provision of water spraying at Zn concentrate stock yard is being provided. 3) Dust control system is being provided at material transfer points. 4) All the internal roads are concreted to reduce the dust emission. 5) Mobile vacuum dust sweeping system on roads and vacuum dust cleaning system for plant area is being provided at smelter to control airborne dust due to the vehicle movements. 6) Road washing is being done on roads. 7) Bag filters are installed in the Roaster, Calcine handling & storage section, Zinc atomizing unit, Dross milling section to control fugitive emissions.  **Mobile Vaccum Sweeper**
vi	Total water requirement from Gosunda dam shall not exceed 34,000 m^3/d as allocated by the Energy Department, Govt. of Rajasthan and water shall also be released from the Gosunda Dam for the use by the public as per the agreement signed. It shall be ensured that irrigation in the surrounding areas is not affected due to non-release of water by HZL. No ground water will be used. As reflected in the EIA/EMP, all the effluent generated shall be treated in the ETP followed by feeding to Reverse Osmosis (RO)	(1) Total water requirement is not exceeding 34000 m^3/day for the operation of CLZS location. (2) Process effluents being treated in a separate ETP (175 m^3/hr) followed by reverse osmosis plant (160 m^3/hr) and 3rd stage RO (42 m^3/hr) (3) The quality of the treated water is within the prescribed limits. Zero discharge is being maintained. (4) MEE is installed to treat the RO Reject. (5) The effluent generated from the CPP is

Sensitivity: Internal (C3)

	plant. The water treated in RO Plant shall be recycled in the process and rejects of RO plant shall be evaporated in solar evaporation pond. The RO rejects and ETP sludge shall be sent to existing secured landfill. The wastewater generated from CPP shall be recycled and used for dust suppression in coal and ash handling areas. The treated effluent shall conform to the prescribed standards and recycled to maintain the zero discharge.	used for dust suppression in coal and ash handling areas and treated via ETP and RO. (6) MEE cake & ETP sludge is sent to existing secured landfill.  MEE
vii	The solid waste generated in the form of Jarosite shall be stabilized as Jarofix and disposed off in Jarofix disposal yard inside the plant premises. Cobalt cake, cooler cake, anode mud, enrichment cake, ETP sludge and spent catalyst etc. shall be disposed off in secured landfill (SLF). Waste/used oil shall be sold to registered recyclers. Ash shall be given to cement / brick manufacturing units.	1) Jarosite is being stabilized as Jarofix and then disposed in lined Jarofix disposal yard. 2) Cooler cake, enrichment cake, ETP sludge and spent catalyst etc. is disposed off in captive secured landfill (SLF) after stabilization. 3) Anode mud is being recycled back in to the process. Surplus, if any, disposed in SLF after stabilization. 4) Ash generated from Power Plant is sold to Cement plants/brick manufacturing.
viii	Canopy based green belt of adequate width and density in and around the around the periphery of plant, township and captive power plant in 142 ha. shall be developed as per CPCB guidelines.	**Percentage Green-cover** Green-cover Category / Chanderiya Lead Zinc Smelter Land / New Acquired Land / Combined Land Dense Green-cover / 31.56% / 28.61% / 30.41% Sparse Green-cover / New Plantation / 05.66% / 28.59% / 10.98% Total Green-cover / 37.21% / 55.20% / 41.39%  Green belt

Sensitivity: Internal (C3)

		 Butterfly garden  Green belt development on Jarofix yard-2  Scientifix green capping of SLF-1
B. GENERAL CONDITIONS:		
i	The project authorities must strictly adhere to the stipulations made by the Rajasthan State Pollution Control Board and the State Government.	All the conditions stipulated by RSPCB and state Govt is strictly complied.
ii	No expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Modifications or expansion is being done as per EC approval from Ministry of Environment and Forests.
iii	Adequate number of ambient air quality-Monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NO_X are anticipated in consultation with the Rajasthan State Pollution Control Board. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at	1) Four Nos. of ambient air quality monitoring stations installed in the plant upward and downward direction, report is being sent to RSPCB. 2) State pollution control board also monitored the same periodically. AAQ Monitoring results and stack monitoring results are attached as **annexure-IX & annexure-IV.**

Sensitivity: Internal (C3)

	Lucknow and the CPCB / RSPCB once in six months.	
iv	Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be recycled in the plant as well as utilization for plantation purposes.	1) Industrial waste water properly treated to confirm all the prescribed norms and recycled back in to process. 2) Zero discharge is being maintained.
v	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collection, storage, treatment and disposal of hazardous wastes.	All the conditions of Hazardous waste (management and handling) rules 2003, 2008,2016 are followed. Hazardous waste authorization is obtained from RSPCB and is valid till April, 2024.
vi	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Regular monitoring is being done and control measures are being taken.
vii	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health monitoring is regularly carried out.
viii	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP /risk analysis and DMP report.	As per EMP 1) For air emission control, we have installed ESP, bag house, cyclone and gas wash tower. 2) For Effluent management we have integrated water management system in place with ETP, RO, 3rd stage RO and Multi Effect Evaporator. 3) For Hazardous waste management we have adopted best available technology and have captive secured landfill.
ix	The project authorities shall provide Rs. 111.50 Crores and Rs. 12.00 Crores towards capital cost and recurring cost/annum for	(1) All pollution control measures has been installed and checked by RSPCB. (2) Approx. Recurring cost of CLZS was

Sensitivity: Internal (C3)

	environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government and submit an implementation schedule for all the conditions stipulated herein to this Ministry and its Regional Office at Lucknow. The funds so provided shall not be diverted for any other purposes.	approx Rs. 30 Crores to maintain ETP, RO, ESP, Gas cleaning system, Bag houses, and online analyzers etc.
x	The Regional Office of this Ministry at Lucknow, CPCB / RSPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	Six monthly Environment clearance compliance report is submitted on regular basis to MOEF.
xi	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	Accordance of Environment clearance advertised in two local newspapers that are widely circulated and a copy of the same is sent to your good office.
xii	The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Agreed. All the details of plant activities is informed to RO & MoEF.
6	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted and agreed.
7	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner will implement these conditions.	Noted.
8	The above conditions will be enforced, inter-alia under the provisions of the Water	Noted.

Sensitivity: Internal [C2]

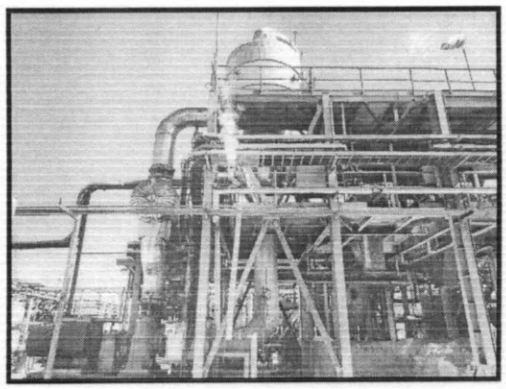
	(Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Wastes (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	

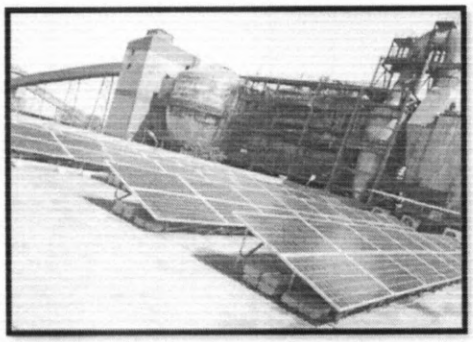
Sensitivity: Internal (C3)

Hydro Plant

Environment Compliance Report of Chanderiya Lead Zinc Smelter, Chittorgarh with reference to Environmental Clearance letter No. F. No. J-11011/279/2006-IA. II(I)

S. No.	CONDITION	STATUS
A.	**Specific General Conditions**	
i	The Environment Clearance (EC) granted to the project/activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/construe to approval/consent to approvals/ Permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations etc. as may be applicable to the project.	We are complying with all the condition of environment clearance issued by MoEF and Strictly follow EIA notification and its amendments.
ii	SO2 emission from H2SO4 plant shall be less than 1 kg/t of Acid production.	SO2 emission from acid plant is within limit of 1 kg/ton of H2SO4 produced. Acid mist from H2SO4 plant is within 30 mg/Nm^3. This is achieved by completing following works: 1. FAT pump circulation from 570 m^3/hr to 620 m^3/hr (including crossing) to improve absorption efficiency. 2. IAT pump circulation from 982 m^3/hr to 1032 m^3/hr (including crossing) to improve absorption efficiency. 3. FAT & IAT irrigation system with improved design to improve adsorption efficiency. 4. IAT & FAT candle filters with collection efficiency of > 1 micron to 100
iii	Acid mist from H2SO4 plant shall be less than 30 mg/Nm^3.	

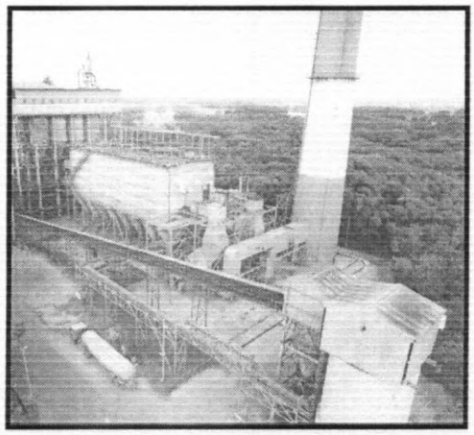
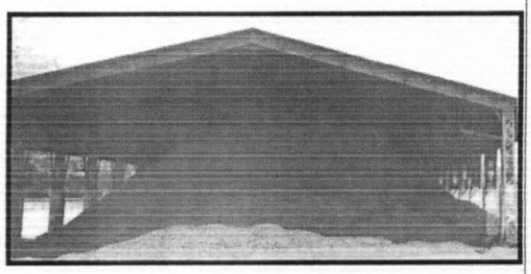
		% and > 0.5 micron to 96%. For further improvement, we have planned the installation of TGT & action plan is submitted regarding the same.
iv	Particulate matter levels from the stacks shall be less than 30 mg/Nm^3.	Particulate matter levels from the stacks is less than 30 mg/Nm^3.
v	Treated sewage from STP of Chittorgarh/ Bhilwara shall be used in the plant processes.	Treated sewage from STP of Chittorgarh is used in the plant processes.
vi	Existing ETP shall be strengthened to recycled additional 580 m3/d of effluent by installing MEE for RO rejects.	Multi Effect Evaporator installed, and treated water is being used for plant operation.  **MEE**
vii	Additional 20 MW power required for the additional load shall be procured from renewable energy sources to reduce GHG emissions. Records of renewable energy purchased shall be maintained and submitted to RO along with EC compliance report.	We have installed more than 20MW Solar power generating units at DSC & ZM Locations to meet the requirement.
viii	Plant shall be operated on Zero Liquid Discharge (ZLD)	CLZS plant is maintaining Zero Liquid Discharge.
ix	Additional 100000 trees shall be planted to improve greenery in the plant premises	Phase wise plantation work is in progress as per plan submitted.
x	Solar energy shall be generated at the roof tops of the plant and office buildings	Solar Power is generated at Hydro 2 CDSS /Lab building, Hydro 1 leaching office, Switchyard control room building,

<table>
<tr><td></td><td></td><td>Zinc School & Boy's Hostel/
Utility Building at Zinc Nagar, Pyro Offices.
 
Solar Panel at roof top</td></tr>
<tr><td>xi</td><td>RWH and recharge shall be done to recharge 200% of the water consumed annually</td><td>We have constructed dam having capacity very larger than our requirement. Further we have constructed Ponds/Anicuts for this, Also exploring for more achievements.</td></tr>
<tr><td>xii</td><td>All CER projects should be completed within 3 years</td><td>Action plan in line</td></tr>
<tr><td></td><td><table>
<tr><td>Area of Intervention</td><td>Expenditure Rs. In Lakhs</td></tr>
<tr><td>Microenterprise development</td><td>50</td></tr>
<tr><td>Skilling of local youths</td><td>40</td></tr>
<tr><td>Drinking water and pipeline</td><td>30</td></tr>
<tr><td>Plantation of saplings in villages and community land</td><td>10</td></tr>
</table></td><td>Total Expenditures is planned and implemented through CSR Total= Rs130Lacs

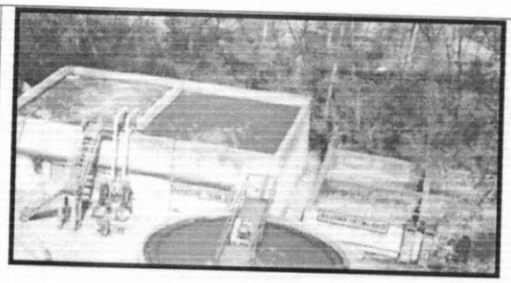
For First Yr = 50Lacs [31.12.21]
For Second Yr = 50 Lacs [31.12.22]
For Third Year = 30 Lacs [31.12.23]</td></tr>
<tr><td colspan="3">B. General Conditions</td></tr>
<tr><td>I</td><td>Statutory compliance</td><td></td></tr>
<tr><td>i.</td><td>The project proponent shall obtain the necessary permission from the competent authority concerned in case of drawl of</td><td>Water Source is our Captive source- Gosunda dam and obtained environmental clearance vide letter no.</td></tr>
</table>

	surface water required for the project.	3/29/79/HTC/ENV Dated 25.08.80.
ii.	The project proponent shall obtain authorization under the Hazardous and Other Waste Management Rules 2016 as amended from time to time.	Hazardous Waste authorization is obtained from RSPCB and valid till 30.04.2024.
II	Air quality monitoring and preservation	
i.	The project proponent shall install 24X7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Installed 24X7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and these systems are being calibrated from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.	Fugitive emission monitoring is done by labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
iii	The Project proponent shall install system to carryout continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM 2.5 in reference to PM emission and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 degree each), covering upwind and downwind directions	(1) Adequate number of ambient air quality monitoring stations are installed in the upward and downward direction to monitor the common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM 2.5 in reference to PM emission and SO2 and NOx in reference to SO2 and NOx emissions). (2) Data of ambient air quality and stack emission is being submitted to the Ministry including its Regional Office at

		Lucknow and the State Pollution Control Board/Central Pollution Control Board once in six months. Continuous ambient air quality report is attached as **annexure-IX.**
iv	The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and result of manual stacks monitoring and manual monitoring of air quality/fugitive emissions to Regional Office of MoEF & CC, Zonal office of CPCB and Regional Office of SPCB along with six monthly monitoring report.	Stacks are connected with PCB server and data is being transferred regularly. Air quality monitoring, manual stack monitoring and manual air quality/fugitive emission reports are submitted to Regional Office of MoEF & CC, Zonal Office of CPCB and Regional Office to SPCB along with six monthly monitoring report. Manual stack monitoring report is attached as **annexure-IV.** Continuous ambient air quality report is attached as **annexure-IX.** Manual ambient air quality report is attached as **annexure-X.** continuous stack emission monitoring report is attached as **annexure- XIII.**
v	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.	Appropriate Air Pollution Control (APC) system is provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
vi	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags	Bag filter and differential pressure monitoring in place with periodic inspection system.
vii	Pollution control system in the plant shall be provided as per the CREP guidelines of CPCB	CREP is strictly followed. SO2/SO3 emission from acid plant is kept with in limit by the implementation

		of various technologies.
viii	Sufficient number of mobile or stationary vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly	Vacuum sweepers and vacuum cleaners are provided to clean the plant roads, shop floors etc.  **Mobile Vaccum Sweeper**
ix	Ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.	Transportation is being done in covered manner by wagons and trucks.  **Covered conveyers**
x	Provide covered sheds for raw materials like coal, etc.	Raw material & Coal is being stored in covered shed, some coal in transit state is in open.  **Coal storage under the shed**
xi	Practice use of low Sulphur tars for baking	We are not using low sulphur tars for

	anodes.	baking anodes.
xii	Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motors house	Woking sections are well ventilated. No tunnel is present at smelters.
III	Water quality monitoring and preservation	
i.	The project proponent shall install 24X7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	The industry has already installed 24X7 continuous effluent monitoring system. Industry is 100% utilizing its wastewater through ETP, RO and MEE and maintaining Zero Liquid discharge & no effluent is discharged at any stage on the ground.
ii.	Project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent area through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Ground water quality monitoring is being done and report is being submitted along with six monthly compliance report. Ground water quality monitoring report is attached as **annexure-VII**.
iii.	The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six monthly monitoring report.	CLZS plant is maintaining zero liquid Discharge & no effluent is discharged at any stage on the ground. Ground water quality is monitored & report is being submitted along with six monthly monitoring report. Monthly summary report of continuous effluent monitoring is attached as **annexure-XIV**.
iv.	Sewage treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards	Sewage water is being treated in STP plant and report is attached.

		 **STP**
v.	Garland drains and collection pits shall be provided for each stockpile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off	Garland drains are available and merging with collection pits to arrest the run-off.
vi.	The project proponent shall make efforts to minimize water consumption in the plant complex by segregation of used water, practicing cascade use and by recycling treated water	Industry is 100% recycling its wastewater through ETP, RO and MEE. Treated wastewater is being utilized in the process.
IV	Noise monitoring and prevention	
i	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional officer of the Ministry as a part of six monthly compliance report	Noise level survey is done and report is annexed herewith six monthly compliance report. Noise level survey report is attached as **annexure-XII.**
ii	The ambient noise levels should conform to the standards prescribed under E(P) A rules, 1986 viz. 75 dB(A) during day time and 70 dB(A)during night time.	The ambient noise levels are always within the standards prescribed under EPA Rules,1986 viz. 75 dBA (day time) and 70 dBA (night time).
V	Energy Conservation measures	
i	The Project proponent shall provide waste heat recovery system (Pre heating of combustion air) at the flue gases.	Waste heat recovery system is in place.
ii	Provision of LED Lights	In Offices and residential area LED lights available & also under replacement as per requirement.
VI	Waste management	

i	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufactures for further utilization and Memorandum of Understanding in this regards shall be submitted to the Ministry's Regional Office.	Presently 100 % utilization is being done and fly ash is being sold to cement and brick manufactures
ii	Oily scum and metallic sludge recovered from ETP shall be mixed, rid, and briquetted and reused.	No oily scum generated, inorganic ETP sludge is disposed off in SLF in scientific manner after stabilization
iii	The waste oil, grease and other hazardous shall be disposed of as per the Hazardous and Other waste (Management &Transboundary Movement) Rule's 2016	Waste and Used oil are being sold to registered recyclers.
Iv	Kitchen waste shall be composited or converted to biogas for further use	Kitchen waste is being compost through OWC.
VII	Green Belt	
i.	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration including plantation.	GHG emissions inventory is attached as **annexure-XV**. GHG reduction plan is attached as **annexure-XVI.**
VIII	Public Hearing and Human health issues	
i.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented	Emergency preparedness plan is prepared and implemented.
ii.	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE)	Heat stress analysis for the workmen is carried out and PPE'S given to workers as per site condition, SOP & nature of work.
iii.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking mobile toilets, STP, safe	All project related labours are local & from near by area, No stay arrangement required. We have site facility of medical, safe drinking water, wash/rest

	drinking water, medical health care, Creche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.	house.
iv.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	PME is being done of workers on regular basis and record is being maintained
IX	Corporate Environment Responsibility	
i.	The company shall have a well laid down environmental policy dully approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper check and balances and to bring into focus any infringements/deviation/ violation of the environmental/ forest/ wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF & CC as a part of six mothly report.	Company has environment policy dually approved by Board of Director.
ii.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of Senior Executive, who will directly to the head of the organization	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel already set up under the control of Sr Manager, he directly reports to the head of the organization.
iii.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection CREP for the Aluminium Industry shall be implemented.	CREP is strictly followed. SO2/SO3 emission from acid plant is kept with in limit by the implementation of various technologies.

X	Miscellaneous	
i.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponents' website permanently.	Environment clearance granted for this project published in two local newspapers of District or state and this EC is displayed in company website permanently.
ii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt	Copies of EC submitted to local bodies /panchayat & RSPCB office of Chittorgarh.
iii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions including results of monitored data on their website and update the same on half yearly basis .	Compliance of environment clearance conditions including results of monitored data is uploaded on company website and updated on half yearly basis.
iv.	The project proponent shall monitor the criteria pollutants level namely PM10, SO2, Nox(ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Ambient levels as well as stack emission is displayed at company outer gate and put on the website of the company along half year compliance report.
v.	The project proponent shall submit six monthly report on the status of the compliance of the stimulated environmental conditions on the website of the ministry of	Six monthly Environment Clearance compliance report submitted on regular basis.

	Environment Forest and Climate Change at environment clearance portal.	
vi.	The project proponent shall submit the environmental statement for each financial year in Form V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules,1986, as amended subsequently and put on the website of the company.	Environment statement for each financial year is submitted in Form V to State Pollution Control Board as prescribed under the Environment (Protection) Rules,1986 as amended subsequently and put on the website of the company.
vii.	The project proponent shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities commencing the land development work and start of production operation by the project.	Agreed. All the details of plant activities is informed to RO & MoEF.
viii.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government	Strictly adhere to the stipulations made by the State Pollution Control Board and the State Government
ix.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Noted & complied.
x.	No further expansion or modification in the plant shall be carried out without prior approval of Ministry of Environment Forests and Climate Change (MoEF&CC)	No further expansion or modifications in the plant is carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF & CC).
xi.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of environment (Protection) Act,1986.	Agreed and noted.

xii.	The Ministry may revoke or suspend the clearance, if implementation of any of the above Condition is not satisfactory.	Agreed.
xiii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Agreed & will follow where ever required.
xiv.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation of the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.	Agreed and we extend full cooperation of the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.
xv.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	Agreed and noted.

vedanta
transforming for good

HINDUSTAN ZINC
Zinc & Silver of India

Registered AD

HZL/CLZS/ENV/33/2023-24 **30.11.2023**

To,
The Deputy Director(S)/Scientist-C
MoEF & CC
Integrated Regional Office,
A-209 & 218, Aranya Bhawan,
Jhalana Institutional Area
Jaipur - 302004

Sub: Six Monthly EC compliance report of Fumer plant, CLZS

Ref:
Environmental Clearance Letter No. F. No. J-11011/279/2006-IA II(I) Dated: 05/10/2015

Sir,

Please find enclosed herewith the six-monthly compliance report with reference to above Environmental Clearances for Fumer Plant of CLZS for period 01.04.2023 to 30.09.2023 with all the enclosures as annexures.

Thanking you,
Yours faithfully,

(T K MEGHWAL) 30/11/23
Associate General Manager (Environment)
Chanderiya Lead Zinc Smelter

Encl. Annexures

CC:

- The Regional Officer,
  Rajasthan State Pollution Control Board, Near FCI Godown,
  Chanderiya, Chittorgarh – 312001

- The Member Secretary,
  Rajasthan State Pollution Control Board,
  4, Institutional Area, Jhalana Doongri,
  Jaipur (Raj.)- 302004

- In-Charge (Zonal Officer)
  Central Pollution Control Board,
  Vithal Market, Paryavaran Parisar, E-5, Arera Colony,
  Bhopal – 462016 (MP)

- Office Copy

Sensitivity: Internal [C3]

FUMER PLANT

Environment Compliance Report of Chanderiya Lead Zinc Smelter, Chittorgarh with reference to Inclusion of Fumer Plant (Pyro metallurgical Process) within the existing Zinc Smelter (2,50,000 TPA) and CPP (100MW) plant to convert Jarosite to slag At Village- Putholi, District, Chittorgarh, Rajasthan by M/s Hindustan Zinc Ltd.

The Ministry of Environment, Forest and Climate Change (MoEF & CC) on recommendations of the EAC (I), decided to grant Environmental Clearance to Include Fumer Plant to convert Jarosite to slag under provisions of EIA Notification dated 14th September 2006, subject to strict compliance of the following Specific and General conditions:

A.	SPECIFIC CONDITIONS	STATUS
i	The project proponent should install 24x7 air monitoring devices to monitor air emission as provided by CPCB and submit report to Ministry and its Regional Office.	1) We have total 4 CAAQM station installed at up wind and down wind direction of plant. 2) One at archaeological important location Chittorgarh Fort. 3) Operation of all instruments are as per CPCB Guidelines. Reports are being regularly sent to statutory authority. CAAQM report is attached as **annexure-IX.**
ii	The Committee observed that the piezometer samples have shown very high sulphate content upto 3158 mg/l. this indicate seepage of leachate from the jarofix in the landfill. This needs to be investigated and an action plan for remedial action needs to be submitted to the ministry within 6 months.	Ground water analysis done by authorities no seepage observed. Further actions are under implementation as a preventive measures (30.06.2023).
iii	All the slag from the Fumer plant should be utilized in the cement plant.	Agreed.
iv	All the existing jarofix landfill site should be scientifically capped as per CPCB guideline	1) We have already covered exhausted Jarofix disposal yard with HDPE liner 2) Current and active site is also being covered with HDPE liner regularly Work in progress for scientifically capping as per guideline.
V	The PP should install piezometer on the northern side of the new landfill site.	Complied, installed as per guidelines.
B.	**General Conditions**	**Status**
i	The project authorities must strictly adhere to the stipulations made by the RSPCB and GoR	We are committed & Agreed
ii	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment,	No further expansion or modifications in the plant is being carried out without prior approval of the Ministry of Environment, Forests and Climate

Sensitivity: Internal [C2]

	Forests and Climate Change (MoEF & CC)	Change (MoEF & CC).
iii	At least four ambient air quality monitoring stations should be established in the downward direction as well as here maximum ground level concentration of PM_{10}, $PM_{2.5}$, SO_2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Lucknow and the SPCB/CPCB once in six months.	1) Four ambient air quality monitoring stations are established. Six monthly report is regularly submitted to CPCB/RSPCB/ MoEF & CC. 2) Whenever the fumer will be operational stack monitoring report will be submitted.
iv	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Industrial wastewater is properly collected, treated at ETP followed by RO & MEE. The treated wastewater is utilized in process.
v	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	1) The overall noise levels in and around the plant area is kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. 2) The ambient noise levels always within the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).
vi	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance of the workers are carried out on a regular basis and records maintained as per the Factories Act.
vii	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	(1) The company has developed rain water harvesting system in colony (Zinc Nagar). (2) No. of Anicut developed through our CSR activity for the recharging of ground water and also recharged the abandoned well in the near by villages. (3) Further construction of rain water harvesting structure is in progress in nearby area.
viii	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the	(1) Complied with all the environmental protection measures and safeguards recommended in the EIA/EMP report. (2) We have also under taken socio-economic development activities in the surrounding

Sensitivity: Internal (C3)

	surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	villages like community development programmes, educational programmes, drinking water supply and health care etc.
ix	Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Lucknow. The funds so provided shall not be diverted for any other purpose.	(1) Requisite funds allotted towards capital cost and recurring cost/annum for environment pollution control measures to comply the stipulated conditions. Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. (2) An implementation schedule for implementing all the conditions stipulated is submitted to the Regional Office of the Ministry at Lucknow, funds so provided will not be diverted for any other purpose.
x	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	(1) Complied, EC letter already sent to concerned Panchayat, Zila Parishad /Municipal Corporation, Urban Local Body etc. (2) EC letter also put on Web site.
xi	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEFCC at Lucknow. The respective Zonal Off of CPCB and the SPCB. The criteria pollutant levels namely; PM_{10}, SO_2, NOx, (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain	Shall be complied after commissioning of the Fumer plant which is under process. Consent to Operate received from SPCB Jaipur.
xii	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data	Six monthly compliance reports regularly sent to all the concerned regulatory authorities for existing operations. Fumer Plant is still not commissioned.

Sensitivity: Internal (C3)

	(both in hard copies as well as by e-mail) to the Regional Office of MOEFCC, the respective Zonal Office of CPCB and the SPCB. The regional Office of this Ministry at Lucknow / CPCB/SPCB shall monitor the stipulated conditions.	
xiii	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEFCC at Lucknow by e-mail.	The environmental statement for each financial year ending 31st March in Form-V is Regularly submitted to RSPCB Jaipur and RO office Chittorgarh. New requirement for the Fumer plant will be complied after commissioning of the plant.
xiv	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEFCC) as http:/envfor.nic.in. this shall be advertised within seven days form the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Lucknow	(1) Informed to all concerned. (2) Already, advertised in two local newspapers that are widely circulated in the region of which one was in the vernacular language of the locality concerned.
xv	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Shall be complied, Commissioning of plant is yet to be done.
8	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted and agreed
9	The Ministry reserves the right to stipulate	Noted and agreed

Sensitivity: Internal (C3)

	additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	
10	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.	Noted and shall be complied.

Sensitivity: Internal (C1)

Annexure - I

HINDUSTAN ZINC LIMITED

CHANDERIA LEAD ZINC SMELTER

Work Zone (8 - Hours) Environment Monitoring Results

(Apr'23 - Sep'23)

Month Location	Parameters /Unit	Prescribed Standards*	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
Pyro Plant								
Pyro RMH	SPM mg/m³	10	0.605	0.944	0.435	0.905	0.456	0.808
	SO_2mg/m³	5	NIL	NIL	0.009	NIL	0.013	NIL
	Zn mg/m³	5	0.064	0.134	BDL	0.129	BDL	0.083
	Pb mg/m³	0.15	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	0.05	BDL	BDL	BDL	BDL	BDL	BDL
Pyro Sinter Area	SPM mg/m³	10	0.539	0.953	0.498	0.259	0.488	0.686
	SO_2mg/m³	5	NIL	NIL	0.007	NIL	0.011	NIL
	Zn mg/m³	5	0.059	0.094	BDL	0.027	BDL	0.070
	Pb mg/m³	0.15	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	0.05	BDL	BDL	BDL	BDL	BDL	BDL
LRP Casting Area	SPM mg/m³	10	0.148	0.820	0.523	0.718	0.519	0.604
	SO_2mg/m³	5	NIL	NIL	.012	NIL	0.01	NIL
	Zn mg/m³	5	0.019	0.097	BDL	0.093	BDL	0.077
	Pb mg/m³	0.15	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	0.05	BDL	BDL	BDL	BDL	BDL	BDL
LRP K-5 Dross Area	SPM mg/m³	10	0.896	0.727	0.488	0.930	0.478	0.743
	SO_2mg/m³	5	NIL	NIL	0.010	NIL	0.009	NIL
	Zn mg/m³	5	0.178	0.133	BDL	0.133	BDL	0.099
	Pb mg/m³	0.15	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	0.05	BDL	BDL	BDL	BDL	BDL	BDL

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - I

HINDUSTAN ZINC LIMITED

CHANDERIA LEAD ZINC SMELTER

Work Zone (8 - Hours) Environment Monitoring Results

(Apr'23 - Sep'23)

Month Location	Parameters /Unit	Prescribed Standards*	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
CPP, H-1 & H-2 Plant								
H-1 Purification	**SPM mg/m³**	**10**	0.248	0.298	0.469	0.367	0.455	0.376
	SO_2mg/m³	**5**	NIL	NIL	0.009	NIL	0.011	NIL
	Zn mg/m³	**5**	0.045	0.054	BDL	0.070	BDL	0.071
	Pb mg/m³	**0.15**	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	**0.05**	BDL	BDL	BDL	BDL	BDL	BDL
H-1 Cell House	**SPM mg/m³**	**10**	0.220	0.154	0.492	0.141	0.488	0.126
	SO_2mg/m³	**5**	0.06	0.15	0.010	0.04	0.012	NIL
	Zn mg/m³	**5**	BDL	BDL	BDL	BDL	BDL	BDL
	Pb mg/m³	**0.15**	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	**0.05**	BDL	BDL	BDL	BDL	BDL	BDL
H-2 Purification	**SPM mg/m³**	**10**	0.351	0.155	0.514	0.344	0.505	0.139
	SO_2mg/m³	**5**	NIL	NIL	0.011	NIL	0.01	NIL
	Zn mg/m³	**5**	0.059	0.034	BDL	0.072	BDL	0.021
	Pb mg/m³	**0.15**	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	**0.05**	BDL	BDL	BDL	BDL	BDL	BDL
H-2 Cell House	**SPM mg/m³**	**10**	0.167	0.294	0.514	0.156	0.509	0.139
	SO_2mg/m³	**5**	0.18	0.18	0.013	NIL	0.011	NIL
	Zn mg/m³	**5**	BDL	BDL	BDL	BDL	BDL	BDL
	Pb mg/m³	**0.15**	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	**0.05**	BDL	BDL	BDL	BDL	BDL	BDL
CPP Coal Yard	**SPM mg/m³**	**10**	0.889	0.338	0.488	0.348	0.475	0.314
	SO_2mg/m³	**5**	NIL	NIL	0.010	NIL	0.009	NIL
	Zn mg/m³	**5**	BDL	BDL	BDL	BDL	BDL	BDL
	Pb mg/m³	**0.15**	BDL	BDL	< 0.1	BDL	< 0.1	BDL
	Cd mg/m³	**0.05**	BDL	BDL	BDL	BDL	BDL	BDL

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C 3)

Annexure - II

HINDUSTAN ZINC LIMITED

CHANDERIA LEAD ZINC SMELTER

Work Zone (15 – Minute) Environment Monitoring Results

(Apr'23 - Sep'23)

Month Location	Parameters /Unit	Prescribed Standards*	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
Pyro Plant								
Pyro RMH	**SPM mg/m³**	-	4.00	4.33	4.67	3.00	4.66	4.00
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.07	0.07	0.07	0.03	0.06	0.05
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL
Pyro Sinter Area	**SPM mg/m³**	-	5.00	5.67	4.67	5.66	6.00	3.66
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.08	0.10	0.07	0.09	0.10	0.06
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL
LRP Casting Area	**SPM mg/m³**	-	3.00	1.67	3.00	1.33	3.66	2.66
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.05	0.03	0.04	0.01	0.07	0.03
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL
LRP K-5 Dross Area	**SPM mg/m³**	-	4.00	5.33	3.33	4.00	6.00	4.66
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.06	0.09	0.05	0.06	0.11	0.07
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL

Tarun Kumar Meghwal
Environment Head
Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - II

HINDUSTAN ZINC LIMITED

CHANDERIA LEAD ZINC SMELTER

Work Zone (15 – Minute) Environment Monitoring Results

(Apr'23 - Sep'23)

Month Location	Parameters /Unit	Prescribed Standards*	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
CPP, H-1 & H-2 Plant								
H-1 Purification	**SPM mg/m³**	-	2.67	3.00	2.33	1.00	2.66	2.33
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.04	0.04	0.03	0.01	0.05	0.03
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL
H-1 Roaster Area	**SPM mg/m³**	-	3.33	2.67	4.33	2.66	4.00	2.66
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.05	0.04	0.07	0.02	0.05	0.04
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL
H-2 Purification	**SPM mg/m³**	-	2.67	3.00	4.00	1.33	2.66	3.00
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.05	0.05	0.07	0.01	0.05	0.06
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL
H-2 Roaster Area	**SPM mg/m³**	-	5.33	4.00	2.67	2.00	4.66	3.00
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	0.08	0.06	0.04	0.02	0.05	0.05
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL
CPP Coal Yard	**SPM mg/m³**	-	4.67	3.67	4.66	2.33	4.33	4.66
	SO_2mg/m³	**10**	NIL	NIL	NIL	NIL	NIL	NIL
	Zn mg/m³	**10**	BDL	BDL	BDL	BDL	BDL	BDL
	Pb mg/m³	**0.45**	BDL	BDL	BDL	BDL	BDL	BDL
	Cd mg/m³	**0.2**	BDL	BDL	BDL	BDL	BDL	BDL

** BDL- Below Detection Limit (The measurement of uncertainty at 95% confidence level is 0.004 Abs. in AAS) **

Tarun Kumar Meghwal
Environment Head
Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - III

HINDUSTAN ZINC LIMITED

CHANDERIA LEAD ZINC SMELTER

STACK HEIGHT

S. No.	Stack Attached to	Height(m)
Ausmelt		
1	Dust extraction system of feed handling	35
2	Hygiene and ventilation system	30
3	Ausmelt furnace	52
4	SO_2 absorption tower	55
Hydro 1		
1	Zinc dross milling bag filter	30
2	Zinc atomizing bag filter (Zinc Dust)	30
3	Zinc melting furnace bag filter (1st stack)	30
4	Zinc melting furnace bag filter (2nd stack)	30
5	Acid plant	100
Pyro		
1	Sinter Venturi	45
2	Sinter Main	75
3	Crusher Venturi	75
4	Crusher Main	75
5	ISF slagging floor	75
6	ZRP fume extraction	35
7	ZRP (Main) ventilation stack	75
8	LRP Main	75
9	Copper Recovery Plant	30
10	LRP Copper Drossing	34
11	PYRO Acid Plant (TGT)	75
Hydro 2		
1	Zinc Melting Furnace bag filter – 1	30
2	Zinc Melting Furnace bag filter - 2	30
3	Zinc Dross Milling bag filter	30
4	Zinc atomizing bag filter (Zinc Dust)	30
5	Acid plant	100
CPP		
1	Captive power plant 154 MW	165
2	Captive power plant 100 MW	165
3	Coal Crusher	
4	16 MW DG SET	30

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal [C3]

Annexure - IV

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Stack Monitoring Results (PM & LEAD)

(Apr'23 - Sep'23)

Location	Parameters	Limit	Unit	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
Sinter Main	PM	150	Mg/Nm^3	52.35	50.68	35.6	39.43	36.2	39.18
	Lead	10	Mg/Nm^3	6.08	5.00	2.29	3.27	2.25	2.87
Sinter Venturi	PM	150	Mg/Nm^3	48.81	60.15	38.2	47.22	36.8	48.39
	Lead	10	Mg/Nm^3	3.94	6.30	2.19	7.45	2.22	5.73
Crusher Main	PM	150	Mg/Nm^3	98.68	77.15	41.1	65.28	39.6	90.88
	Lead	10	Mg/Nm^3	8.70	7.29	2.03	4.04	2.14	7.43
Crusher Venturi	PM	150	Mg/Nm^3	32.48	26.14	37.6	31.56	35.8	17.29
	Lead	10	Mg/Nm^3	3.18	4.79	1.88	5.17	1.84	2.47
LRP Main	PM	150	Mg/Nm^3	28.03	22.03	43.2	26.02	41.6	25.79
	Lead	10	Mg/Nm^3	2.67	1.89	1.68	3.03	1.65	2.92
ZRP Main	PM	150	Mg/Nm^3	9.17	12.76	41.8	9.47	38.9	18.76
	Lead	10	Mg/Nm^3	BDL	BDL	< 1.0	BDL	< 1.0	BDL
ZRP Fume	PM	150	Mg/Nm^3	39.52	35.85	42.5	39.65	40.3	39.71
	Lead	10	Mg/Nm^3	BDL	BDL	< 1.0	BDL	< 1.0	BDL

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C 3)

Annexure - IV

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Stack Monitoring Results (PM & LEAD)

(Apr'23 - Sep'23)

Location	Parameters	Limit	Unit	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
LRP Copper Drossing	PM	150	Mg/Nm^3	30.05	18.17	42.3	20.37	40.6	25.20
	Lead	10	Mg/Nm^3	3.62	3.20	2.15	3.11	2.21	2.36
ISF Slagging Floor	PM	150	Mg/Nm^3	60.21	74.12	36.2	69.21	34.8	85.94
	Lead	10	Mg/Nm^3	6.08	6.38	2.55	6.24	2.15	6.79
CRP Milling	PM	150	Mg/Nm^3	17.14	10.87	43.6	18.21	40.9	19.28
	Lead	10	Mg/Nm^3	1.55	0.79	< 1.0	1.46	< 1.0	1.36
Ausmelt RMH	PM	150	Mg/Nm^3	18.64	25.02	27.3	27.61	28.4	21.84
	Lead	10	Mg/Nm^3	2.12	0.62	2.26	3.36	2.21	2.61
Ausmelt Hygiene	PM	150	Mg/Nm^3	40.47	18.56	23.6	27.50	22.3	21.54
	Lead	10	Mg/Nm^3	3.86	2.93	2.25	3.63	2.19	2.56

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - IV

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Stack Monitoring Results (PM)

(Apr'23 - Sep'23)

Location	Parameters	Limit	Unit	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
H-1 ZMC – 1	PM	30	Mg/Nm^3	22.35	21.09	18.6	22.51	19.3	22.47
H-1 ZMC - 2	PM	30	Mg/Nm^3	24.67	23.57	19.6	24.02	20.3	25.71
H-1 Zinc Dust	PM	30	Mg/Nm^3	29.48	24.87	21.3	27.09	19.8	19.24
H – 1 Zinc Dross	PM	30	Mg/Nm^3	25.11	17.15	20.3	25.32	21.3	20.29
H-2 ZMC -1	PM	30	Mg/Nm^3	23.06	25.95	16.2	20.63	18.7	20.91
H-2 ZMC-2	PM	30	Mg/Nm^3	21.80	23.83	17.3	18.77	18.6	18.28
H-2 Zinc Dross	PM	30	Mg/Nm^3	25.00	20.25	18.3	17.26	20.7	18.25
H-2 Zinc Dust	PM	30	Mg/Nm^3	24.44	26.86	16.3	25.45	18.7	18.62
CPP (154 MW) Unit - 1 & 2	PM	50	Mg/Nm^3	40.77	36.18	38.1	37.41	39.8	31.48
	SO_2	600	Mg/Nm^3	1078.01	1169.89	950.3	971.42	948.5	1075.98
	NO_x	300	Mg/Nm^3	NA	NA	361.8	NA	356.7	NA
	Hg	0.03	Mg/Nm^3	NA	NA	< 0.01	NA	< 0.01	NA
CPP (100 MW) Unit – 3	PM	50	Mg/Nm^3	19.48	42.33	32.5	25.93	31.9	34.16
	SO_2	600	Mg/Nm^3	1105.64	1153.24	995.4	896.0	991.2	1071.84
	NO_x	300	Mg/Nm^3	NA	NA	360.2	NA	355.7	NA
	Hg	0.03	Mg/Nm^3	NA	NA	< 0.01	NA	< 0.01	NA
Coal Crusher	PM	50	Mg/Nm^3	11.79	12.41	31.9	12.82	30.5	11.20

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - V

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Treated Water Monitoring Results

(Apr'23 - Sep'23)

ETP Outlet– (Hydro – 2)

S.NO.	Parameter	Unit	Limit	Apr-Jun'23	Jul-Sep'23
1	pH	-	5.5-9.0	7.29	7.25
2	Chloride	Mg/l	1000	88.6	85.5
3	Oil & Grease	Mg/l	10.0	< 4.0	< 4.0
4	Total Residual Chlorine	Mg/l	1.0	0.32	0.35
5	Ammonical Nitrogen (as N)	Mg/l	50.0	< 1.0	< 1.0
6	Nitrate (as NO_3)	Mg/l	10.0	4.65	4.61
7	BOD	Mg/l	30	20.0	21.0
8	COD	Mg/l	250	113.2	118.5
9	TSS	Mg/l	100	57.0	55.0
10	Fluoride (as F)	Mg/l	2.0	0.66	0.69
11	Sulphate	Mg/l	1000	150.2	148.6

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - V

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Treated Water Monitoring Results

(Apr'23 - Sep'23)

ETP Outlet – (Hydro – 2)

S.NO.	Parameter	Unit	Limit	Apr-Jun'23	Jul-Sep'23
12	Phosphate (as P)	Mg/l	5.0	0.81	0.78
13	Cyanide	Mg/l	0.2	Absent	Absent
14	Hexavalent Chromium	Mg/l	0.1	< 0.05	< 0.05
15	Cadmium	Mg/l	2.0	< 0.001	< 0.001
16	Total Chromium	Mg/l	2.0	< 0.005	< 0.005
17	Copper (as Cu)	Mg/l	1.0	0.056	0.053
18	Iron (as Fe)	Mg/l	1.0	0.29	0.27
19	Lead (as Pb)	Mg/l	0.1	< 0.005	< 0.005
20	Nickel (as Ni)	Mg/l	3.0	< 0.01	< 0.01
21	Zinc (as Zn)	Mg/l	1.0	0.56	0.59

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - V

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Treated Water Monitoring Results

(Apr'23 - Sep'23)

ETP Outlet – (PYRO)

S.NO.	Parameter	Unit	Limit	Apr-Jun'23	Jul-Sep'23
1	pH	-	5.5-9.0	7.31	7.33
2	Chloride	Mg/l	1000	95.6	92.3
3	Oil & Grease	Mg/l	10.0	< 4.0	< 4.0
4	Total Residual Chlorine	Mg/l	1.0	0.31	0.36
5	Ammonical Nitrogen (as N)	Mg/l	50.0	< 1.0	< 1.0
6	Nitrate (as NO_3)	Mg/l	10.0	4.95	4.85
7	BOD	Mg/l	30	21.0	22.0
8	COD	Mg/l	250	115.6	120.8
9	TSS	Mg/l	100	58.0	60.0
10	Fluoride (as F)	Mg/l	2.0	0.62	0.69
11	Sulphate	Mg/l	1000	140.6	145.5

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal [C3]

Annexure - V

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Treated Water Monitoring Results

(Apr'23 - Sep'23)

ETP Outlet – (PYRO)

S.NO.	Parameter	Unit	Limit	Apr-Jun'23	Jul-Sep'23
12	Phosphate (as P)	Mg/l	5.0	0.82	0.85
13	Cyanide	Mg/l	0.2	Absent	Absent
14	Hexavalent Chromium	Mg/l	0.1	< 0.05	< 0.05
15	Cadmium	Mg/l	2.0	< 0.001	< 0.001
16	Total Chromium	Mg/l	2.0	< 0.005	< 0.005
17	Copper (as Cu)	Mg/l	1.0	0.055	0.059
18	Iron (as Fe)	Mg/l	1.0	0.23	0.27
19	Lead (as Pb)	Mg/l	0.1	< 0.005	< 0.005
20	Nickel (as Ni)	Mg/l	3.0	< 0.01	< 0.01
21	Zinc (as Zn)	Mg/l	1.0	0.43	0.45

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - VI

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Water Monitoring Results

(Apr'23 - Sep'23)

Bearach River Up Stream Report

Parameter	Unit	Limit	Result Apr-Jun'23	Result Jul-Sep'23
pH	-	6.5 – 8.5	7.91	7.63
Zinc	Mg/l	15.0	0.196	0.203
Lead	Mg/l	0.1	BDL	BDL
Cadmium	Mg/l	0.01	BDL	BDL
Copper	Mg/l	1.5	BDL	BDL
Iron	Mg/l	5.0	BDL	BDL
Hardness	Mg/l	600	276	212
Chloride	Mg/l	600	102.09	107.76
Sulphate	Mg/l	1000	111.48	121.45
TDS	Mg/l	1500	955	1054

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - VI

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Water Monitoring Results

(Apr'23 - Sep'23)

Bearach River Down Stream Report

Parameter	Unit	Limit	Result Apr- Jun'23	Result Jul-Sep'23
pH	-	6.5 – 8.5	8.06	7.91
Zinc	Mg/l	15.0	0.158	0.174
Lead	Mg/l	0.1	BDL	BDL
Cadmium	Mg/l	0.01	BDL	BDL
Copper	Mg/l	1.5	BDL	BDL
Iron	Mg/l	5.0	BDL	BDL
Hardness	Mg/l	600	236	252
Chloride	Mg/l	600	93.58	124.78
Sulphate	Mg/l	1000	109.65	114.90
TDS	Mg/l	1500	874	981

** BDL- Below Detection Limit (The measurement of uncertainty at 95% confidence level is 0.004 Abs. in AAS) **

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - VII

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

(Piezometer Borewell Results Apr'23 – Jun'23)

S. NO.	Location	pH	Zn	Pb	Cd	Hardness	Chloride	Sulphate	TDS
	Limit (IS: 10500)	**6.5-8.5**	**5.0-15.0**	**0.01**	**0.003**	**200-600**	**250-1000**	**200-400**	**500-2000**
1	Piezo Borewell-1	7.19	0.042	< 0.005	< 0.001	580	110.4	240.5	1040
2	Piezo Borewell-2	7.28	< 0.01	< 0.005	< 0.001	590	120.5	240.8	1201
3	Piezo Borewell-3	7.25	0.028	< 0.005	< 0.001	420	95.8	184.6	980
4	Piezo Borewell-4	7.42	0.054	< 0.005	< 0.001	436	180.0	120.5	1334
5	Piezo Borewell-5	7.28	0.051	< 0.005	< 0.001	382	310.0	192.0	1880
6	Piezo Borewell-6	7.46	0.057	< 0.005	< 0.001	540	292.0	362.0	1832
7	Piezo Borewell-7	7.21	0.042	< 0.005	< 0.001	584	140.5	310.8	1590
8	Piezo Borewell-8	7.34	0.094	< 0.005	< 0.001	522	242.0	250.0	1950
9	Piezo Borewell-9	7.18	0.027	< 0.005	< 0.001	430	104.8	210.7	1249
10	Piezo Borewell-10	7.38	0.84	< 0.005	< 0.001	590	260.0	230.0	1990
11	Piezo Borewell-11	7.45	0.047	< 0.005	< 0.001	510	210.8	230.4	1812
12	Piezo Borewell-12	7.46	0.084	< 0.005	< 0.001	363	140.0	290.7	1440
13	Piezo Borewell-13	7.38	< 0.01	< 0.005	< 0.001	440	105.5	220.5	917
14	Piezo Borewell-14	7.48	0.092	< 0.005	< 0.001	560	392.0	312.5	1645
15	Piezo Borewell-15	7.33	0.048	< 0.005	< 0.001	540	118.5	230.6	1061
16	Piezo Borewell-16	7.28	0.024	< 0.005	< 0.001	570	110.5	238.8	1269
17	Piezo Borewell-17	7.28	0.084	< 0.005	< 0.001	564	142.0	242	1238
18	Piezo Borewell-18	7.38	0.036	< 0.005	< 0.001	540	230.5	310.6	1880
19	Piezo Near Fumer	7.38	0.078	< 0.005	< 0.001	512	170.8	295	1095
20	Piezo Near Borrow pit	7.31	0.084	< 0.005	< 0.001	448	216	384	1380
21	Piezo Near RO Reject Pond	6.88	0.094	< 0.005	< 0.001	595	198	368.5	1965

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - VII

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

(Piezometer Borewell Results Jul'23 – Sep'23)

S. NO.	Location	pH	Zn	Pb	Cd	Hardness	Chloride	Sulphate	TDS
	Limit (IS: 10500)	**6.5-8.5**	**5.0-15.0**	**0.01**	**0.003**	**200-600**	**250-1000**	**200-400**	**500-2000**
1	Piezo Borewell-1	7.19	< 0.01	< 0.005	< 0.001	230	35.5	90.6	320
2	Piezo Borewell-2	7.15	< 0.01	< 0.005	< 0.001	223	34.9	82.3	345
3	Piezo Borewell-3	7.25	< 0.01	< 0.005	< 0.001	236	30.9	78.5	336
4	Piezo Borewell-4	7.14	< 0.01	< 0.005	< 0.001	216	36.5	80.2	340
5	Piezo Borewell-5	7.21	< 0.01	< 0.005	< 0.001	226	29.6	92.4	349
6	Piezo Borewell-6	7.24	< 0.01	< 0.005	< 0.001	220	33.5	88.6	352
7	Piezo Borewell-7	7.23	< 0.01	< 0.005	< 0.001	231	35.5	90.0	348
8	Piezo Borewell-8	7.18	< 0.01	< 0.005	< 0.001	226	40.2	85.6	350
9	Piezo Borewell-9	7.21	< 0.01	< 0.005	< 0.001	219	34.7	81.5	336
10	Piezo Borewell-10	7.35	< 0.01	< 0.005	< 0.001	236	36.8	91.9	362
11	Piezo Borewell-11	7.12	< 0.01	< 0.005	< 0.001	230	31.9	82.5	352
12	Piezo Borewell-12	7.18	< 0.01	< 0.005	< 0.001	223	35.8	95.6	350
13	Piezo Borewell-13	7.25	< 0.01	< 0.005	< 0.001	236	38.9	95.8	378
14	Piezo Borewell-14	7.24	< 0.01	< 0.005	< 0.001	225	38.9	85.5	369
15	Piezo Borewell-15	7.25	< 0.01	< 0.005	< 0.001	236	37.8	85.2	337
16	Piezo Borewell-16	7.15	< 0.01	< 0.005	< 0.001	224	29.6	87.6	362
17	Piezo Borewell-17	7.22	< 0.01	< 0.005	< 0.001	232	30.9	84.5	355
18	Piezo Borewell-18	7.28	< 0.01	< 0.005	< 0.001	240	33.6	82.5	380
19	Piezo Near Fumer	7.32	0.081	< 0.005	< 0.001	519	165.5	290.5	1104
20	Piezo Near Borrow pit	7.26	0.083	< 0.005	< 0.001	492	219	393.8	1390
21	Piezo Near RO Reject Pond	6.82	0.092	< 0.005	< 0.001	580	192.5	362.9	1980

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - VIII

HINDUSTAN ZINC LIMITED
Chanderia Lead Zinc Smelter Complex
Putholi, Chanderia, Dist. Chittorgarh, Rajasthan.

ACID PLANT MONITORING
(Apr'23 - Sep'23)

Month → Location ↓	Parameters	Prescribed Limits	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
Acid Plant (Hydro -1)	SO_2 (1Kg/T of H_2SO_4Production) =135 PPM	135 ppm	79.78	76.25	78.3	97.01	76.5	84.22
	Acid Mist	30 (mg/nm^3)	29.23	28.02	18.9	26.19	18.1	25.70
Acid Plant (Hydro-2)	SO_2 (1Kg/T of H_2SO_4Production) =135 PPM	135 ppm	95.58	96.41	75.6	113.98	73.1	98.13
	Acid Mist	30 (mg/nm^3)	23.13	25.44	17.3	27.87	16.9	26.14
Acid Plant TGT (Pyro)	SO_2 (2 Kg/T of H_2SO_4Production) =224 PPM	224 ppm	77.77	87.21	92.5	76.82	90.5	65.60
	Acid Mist	50 (mg/nm^3)	22.35	23.97	21.3	25.98	20.3	26.27
Cansolve acid plant (Ausmelt)	SO_2 (2 Kg/T of H_2SO_4Production) =224 PPM	224 ppm	86.72	98.17	93.2	88.92	91.3	87.41
	Acid Mist	50 (mg/nm^3)	24.33	21.53	24.1	31.39	23.5	26.42

Tarun Kumar Meghwal
Environment Head
Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - IX

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Ambient Air Quality (CAAQM) Report

AMBIENT AIR QUALITY STATUS OF CLZS

Direction West

CAAQMS NO.1 (Near C1 Office)							
LOCATION							
Parameter	Standard of AAQ	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
PM 2.5	60	38	47	53	47	24	18
PM 10	100	78	88	90	104	101	63
SO_X	80	23.8	26.6	26.2	26.4	13.7	11.2
NO_X	80	10.3	11.3	12.9	15.6	15.7	22.5

Direction East

CAAQMS NO.2 (DM Plant – CPP)							
LOCATION							
Parameter	Standard of AAQ	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
PM 2.5	60	22	31	22	28	28	22
PM 10	100	68	83	70	68	79	63
SO_X	80	45	45.2	45.1	39.1	32.2	25.1
NO_X	80	17.1	32.5	22.8	18.5	20.4	14.8

Direction South

CAAQMS NO.3 (Chittorgarh Fort)							
LOCATION							
Parameter	Standard of AAQ	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
PM 10	100	80	88	85	83	83	75
SO_X	80	11.2	11.2	11.1	11.5	10.3	10.6
NO_X	80	27.4	25.4	23.8	24.3	23.6	25.5

Direction North

CAAQMS NO.4 (Pond No 1)							
LOCATION							
Parameter	Standard of AAQ	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23
PM 2.5	60	34	43	55	58	38	26
PM 10	100	84	77	66	87	62	55
SO_X	80	31.9	25.6	28.4	21.5	13.1	15.5
NO_X	80	23.8	31.3	26	23.4	44.7	31.8

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Direction
North

CAAQMS NO.5 (Railway Yard)							
LOCATION							
Parameter	**Standard of AAQ**	**Apr'23**	**May'23**	**Jun'23**	**Jul'23**	**Aug'23**	**Sep'23**
PM 2.5	**60**	39	44	53	74	28	28
PM 10	**100**	74	80	123	101	86	71
SO_X	**80**	43.7	40.8	35	32.6	30.1	31.2
NO_X	**80**	53.2	52.3	51.7	54.6	69.3	66

Tarun Kumar Meghwal
Environment Head
Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure – X

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Ambient Air Quality Monitoring Results (Inside Plant)

Quarterly Monitoring (Apr'23-Jun'23)

Name of Monitoring Station	Parameters (Values are in µg/m³)					
	PM (2.5)	PM (10)	Lead (Pb)	CO	NO_2	SO_2
Limit	60 µg/m³	100 µg/m³	1.0µg/m³	4 mg/m³	80 µg/m³	80 µg/m³
Near CISF Colony C1	50.6	82.3	0.22	1.02	30.2	13.6
Near LOCO Shed C2	53.6	88.2	0.16	0.98	33.2	12.9
Near Slag Gate	55.6	89.3	0.92	0.86	29.5	12.8
Near DM Plant	48.9	81.3	0.13	0.89	30.2	13.6

Ambient Air Quality Monitoring Results

Quarterly Monitoring (Jul'23-Sep'23)

Name of Monitoring Station	Parameters (Values are in µg/m³)					
	PM (2.5)	PM (10)	Lead (Pb)	CO	NO_2	SO_2
Limit	60 µg/m³	100 µg/m³	1.0µg/m³	4 mg/m³	80 µg/m³	80 µg/m³
Near CISF Colony C1	49.3	85.7	0.21	1.16	27.5	12.4
Near LOCO Shed C2	51.4	85.3	0.15	1.03	30.5	12.3
Near Slag Gate	52.4	83.6	0.32	1.02	34.5	13.9
Near DM Plant	50.4	86.5	0.15	1.03	28.6	12.8

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

HINDUSTAN ZINC LIMITED

CHANDERIA LEAD ZINC SMELTER

Ambient Air Quality Monitoring Report (Outside Plant)

Quarterly Monitoring (Apr'23 - Jun'23)

Name of Monitoring Station	Parameters (Values are in µg/m³)					
	PM (2.5)	PM (10)	Lead (Pb)	CO	NO_2	SO_2
Limit	60 µg/m³	100 µg/m³	1.0µg/m³	4 mg/m³	80 µg/m³	80 µg/m³
Putholi	46.8	79.5	< 0.1	0.93	28.4	13.6
Munga Ka Khera	52.4	83.6	< 0.1	1.12	29.6	13.1
Nagari	50.2	84.5	< 0.1	1.06	30.5	12.3
Billiya	49.6	77.8	< 0.1	1.19	27.8	13.9
Ajoliya Ka Khera	50.1	75.6	< 0.1	0.95	29.3	11.9
Anwalhera	54.6	78.5	< 0.1	1.15	30.1	13.8
Zinc Nagar	51.9	84.3	< 0.1	1.09	28.9	13.6

Quarterly Monitoring (Jul'23 - Sep'23)

Name of Monitoring Station	Parameters (Values are in µg/m³)					
	PM (2.5)	PM (10)	Lead (Pb)	CO	NO_2	SO_2
Limit	60 µg/m³	100 µg/m³	1.0µg/m³	4 mg/m³	80 µg/m³	80 µg/m³
Putholi	54.7	85.6	< 0.1	1.03	30.2	12.6
Munga Ka Khera	54.6	88.3	< 0.1	1.18	31.5	14.7
Nagari	55.4	90.6	< 0.1	1.02	29.7	13.6
Billiya	51.7	80.3	< 0.1	1.15	29.7	12.5
Ajoliya Ka Khera	52.4	79.3	< 0.1	1.09	32.4	12.6
Anwalhera	53.9	84.6	< 0.1	1.12	28.6	12.4
Zinc Nagar	53.2	87.6	< 0.1	1.16	31.5	12.4

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Annexure - XI

HINDUSTAN ZINC LIMITED

Chanderia Lead Zinc Smelter

Ambient Noise Monitoring Results

(Apr'23 - Jun'23)

S.No.	Testing Protocol	Parameters/ Unit	Point of Collection	Observed Value (L eq)	Observed Value (L eq)
			Noise Standard(dB)	**DAY – 75**	**Night – 70**
1	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near CISF Colony C1	68.2	52.3
2	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near Loco shade C2	68.2	52.9
3	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near Slag gate	69.1	53.2
4	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near DM Plant	67.8	54.2

(Jul'23 - Sep'23)

S.No.	Testing Protocol	Parameters	Point of Collection	Observed Value (L eq)	Observed Value (L eq)
			Noise Standard(dB)	**DAY – 75**	**Night – 70**
1	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near CISF Colony C1	69.3	53.6
2	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near Loco shade C2	69.3	53.4
3	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near Slag gate	68.2	52.9
4	IS 9989-1981 (RA 2014)	Noise Level (dB)	Near DM Plant	68.2	55.4

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

ANNEXURE-XII

EKO TESTING LABS®
Eko Pro Engineers Pvt. Ltd.
Environmental Consultants and Analytical Laboratory
(An ISO 9001:2015 Certified Company)

Contact : +91 - 9810243870

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA
Contact No.: 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

NOISE MAPPING REPORT

PREPARED FOR

HINDUSTAN ZINC
Zinc & Silver of India

HINDUSTAN ZINC LTD.

Village- Phutholi, Tehsil- Gangrar, Chittorgarh(Rajasthan)

PREPARED BY

EKO PRO ENGINEERS PVT LTD

32/41, SOUTH SIDE OF GT ROAD, UPSIDC, INDUSTRIAL AREA, GHAZIABAD, UTTAR PRADESH – 201009
CONTACT DETAILS: - Mob No. 9810240372, 9810240678
Email Id: - email@ekopro.in

Accreditation/Recognition: NABL, MoEF, UPPCB
FSSAI, APEDA, SFDA, AYUSH
Empanelment: NTPC, Airport Authority of India, DMRC, DDA
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Company

HINDUSTAN ZINC | **NOISEMAPPING**

ACKNOWLEDGMENT

Wearegratefultoo**M/sHINDUSTANZINCLTD**.Forproviding**Eko Pro Engineers Pvt Ltd**opportunitytocarryoutNoiseMappingattheir**plant**whichshallguidethemtowardsexecutingandimplementingbetterworkingenvironmentplan.Wearethankfultothededicatedteamwhocarriedoutthesurveywithheutmostsincerityanddiligence.Itisbecauseoftheirhonesteffort;wecouldbringoutthisresourceful report.

We express our sincere appreciation to management of **HINDUSTAN ZINC LTD** for their co-operation& unstinted help without which the Noise Mapping could not have been possible. The courtesyextendedtoourteamis highly appreciated.

ForEko Pro Engineers Pvt. Ltd.

Ghaziabad

EKO PRO ENGINEERS PVT. LTD. GHAZIABAD SAVE THE ENVIRONMENT

Date –30.08.2023

Analytical Services - Pollution & Environment, Food and Agricultural Products, Food packaging material, All types of Ayush medicines and its raw material, AYUSH, Drugs and Pharmaceuticals products, Cosmetics, All Hygiene Product, Disinfectants/ Sanitizer, Medical Devices, Accessories & Surgical products, Nutraceuticals & Functional Foods, Residue Analysis in food and water, Toy & Material, RoHS, Textiles, Plastic, Footwear & Leather Products, Building Materials Samples
Consulting Services - EIA, SIA, EC Compliances, Consultancy for NOC of Ground Water, Hydrogeological Studies, Environmental Audit & other studies, Ground Water & Soil Investigation
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HINDUSTAN ZINC

NOISEMAPPING

Table6.oResultsshowingNoiselevelinsurroundingareas

S.No.	Area	Location	MeasuredNoise LevelindB(A)
1	IndustrialArea	MainGate	69.3
2		SlagGate	68.2
3		PowerPlant	68.2
4		LocoShed	69.3
5		CenterPoint	70.5
6	ResidentialArea	NearAjoliyaKaKhera	60.9
7		NearVillageBiliya	57.8
8		NearVillageDhordia	57.2
9		NearVillageMungaonKaKhera	55.8
10		VillagePutholi	55.3
11		VillageGhosundi	56.9
12		VillageNagri	52.9
13		VillageChogawadi	56.2
14		VillageNarpatkikheri	54.8
15		VillageGusaiKhera	53.9
16		VillageHokampura	55.9
17		VillageAnwalheda	55.1
18		Village Chanderiya	53.8
19		Village MangaKaKhera	52.9

EKO PRO ENGINEERS PVT. LTD. GHAZIABAD SAVE THE ENVIRONMENT

Analytical Services - Pollution & Environment, Food and Agricultural Products, Food packaging material, All types of Ayush medicines and its raw material, AYUSH, Drugs and Cosmetics Products, Pharmaceuticals, Disinfectants/ Sanitizer, Medical Devices, Accessories & Surgical products, Nutraceuticals & Functional Foods, Residue Analysis in food and water, Toy & Material, RoHS, Textile, Plastic, Paper, Metallurgical, Mechanical, Chemical, Water & Wastewater Analysis Services
Consulting Services - EIA, SIA, EC Compliances, Consultancy for NOC of Ground Water, Hydrogeological Studies, Environmental Audit & other studies, Ground Water & Soil Investigation
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Annexure-XIII

Hindustan Zinc Limited

Chanderiya Lead Zinc Smelter

Online emission monitoring report

S.NO	Month (2023)	H1-ZD- PM (mg/Nm^3)	H1-ZA- PM (mg/Nm^3)	H1-ZMF 1- PM (mg/Nm^3)	H1-ZMF 2- PM (mg/Nm^3)	H1-AP-SO_2 (ppm)
1	April	12.36	37.58	16.83	26.06	85.91
2	May	12.44	11.36	18.21	21.93	99.22
3	June	12.23	9.12	12.80	17.58	86.81
4	July	12.21	9.33	14.49	16.65	100.33
5	August	12.07	10.79	13.11	19.27	99.54
6	September	12.21	9.04	12.36	18.86	81.58
7	Prescribed Standards	0 - 30	0 - 30	0 - 30	0 - 30	0 - 135
8	Geometric Mean	12.25	14.52	14.64	20.04	92.38
9	Remarks		PM data was high in Apr'23 due to analyser issue. The same is resolved from May'23.			

S.NO	Month (2023)	H2-ZD-PM (mg/Nm^3)	H2-ZA-PM (mg/Nm^3)	H2-ZMF-1-PM (mg/Nm^3)	H2-AP-SO_2 (ppm)	H2- ZMF-2-PM (mg/Nm^3)	CPP Coal Crusher-PM (mg/Nm^3)
1	April	2.30	8.19	17.16	68.10	10.97	35.01
2	May	1.37	9.41	15.15	54.15	10.84	18.53
3	June	0.37	7.66	16.79	76.57	10.74	11.99
4	July	0.75	8.08	15.62	77.05	10.70	2.10
5	August	0.80	7.06	12.80	89.68	10.80	1.27
6	September	0.28	8.00	17.22	85.39	10.73	1.33
7	Prescribed Standards	0 - 30	0 - 30	0 - 30	0 - 135	0 - 30	0 - 50
8	Geometric Mean	0.98	8.06	15.76	75.31	10.8	11.56

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

Online emission monitoring report

S.NO	Month (2023)	CPP_UNIT-1&2-NOx (mg/Nm^3)	CPP_UNIT-1&2-PM (mg/Nm^3)	CPP_UNIT1&2-SO_2 (mg/Nm^3)	CPP_UNIT-3-NOx (mg/Nm^3)	CPP_UNIT-3-PM (mg/Nm^3)	CPP_UNIT-3-SO_2 (mg/Nm^3)
1	April	241.87	33.29	1041.90	130.34	32.79	1093.29
2	May	266.58	32.65	814.88	130.40	54.51	928.42
3	June	247.15	30.15	979.04	144.71	41.43	819.69
4	July	259.22	40.98	936.81	149.38	21.23	0.00
5	August	312.67	40.10	1113.40	160.51	24.00	0.00
6	September	310.63	20.21	1015.76	234.74	26.88	1258.59
7	Prescribed Standards	0 - 300	0 - 50	0 - 600	0 - 300	0 - 50	0 - 600
8	Geometric Mean	272.99	33.01	983.87	158.04	33.32	661.16
9	Remarks						Data is not available in July and Aug due to analyser issue. New analyser is installed and working properly from Sep'23.

S.NO	Month (2023)	UNIT_3-Mercury (ug/m^3)	UNIT_1_2-Mercury (ug/m^3)
1	April	14.08	0.00
2	May	13.33	0.00
3	June	16.40	0.00
4	July	17.19	0.00
5	August	14.42	24.54
6	September	19.08	21.85
7	Prescribed Standards	0 - 30	0 - 30
8	Geometric Mean	15.73	5.4
9	Remarks		Data was not available from Apr'23 to Jul'23 due to analyser issue. The same was rectified in Aug'23.

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C1)

Annexure-XIV

Hindustan Zinc Limited

Chanderiya Lead Zinc Smelter

Online effluent monitoring report

S. No	Month (2023)	ETP1-Flow (m^3/hr)	ETP1-TSS (ppm)	ETP1-pH (pH)	ETP2-Flow (m^3/hr)	ETP2-TSS (ppm)	ETP2-pH (pH)	FDD-Flow Meter (m)
1	April	0	110.69	7.57	0	15.42	6.25	0
2	May	0	61.19	6.46	0	45.34	6.25	0
3	June	0	36.46	5.20	0	18.09	5.97	0
4	July	0	168.42	7.07	0	24.41	6.60	0
5	August	0	22.00	7.17	0	50.72	6.56	0
6	September	0	9.72	7.19	0	22.88	6.85	0
7	Prescribed Standards	0 - 100	0 - 100	6.5 - 9	0 - 100	0 - 100	6.5 - 9	0 - 100
8	Geometric Mean	0	47.1	6.78	0	23.95	5.92	0

Tarun Kumar Meghwal

Environment Head

Chanderia Lead Zinc Smelter

Sensitivity: Internal (C3)

ANNEXURE-XV -

GHG Emission Inventory

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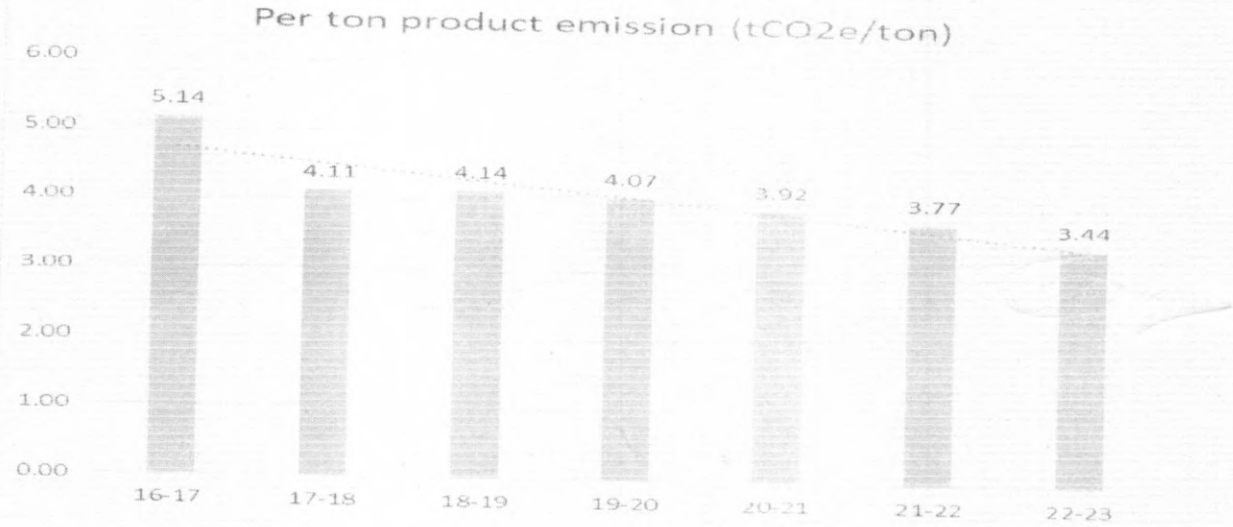
CSC's carbon emissions in FY 2016-17 had reported 2056034 tones CO_2e in scope1 and 22430 tones CO2e in Scope 2. This had taken as base line.

3.3 Emissions since FY 2016-17

The table below indicates the Scope 1 and 2 emissions being produced across the entire CSC. The emissions have been calculated on power and fuel consumption basis.

Scope	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Scope 1 (tCO2e)	2056034	2372170	2217235	2206921	2217395	2040810	1757142
Scope 2 (tCO2e)	22430	32885	32292	42054	65145	186152	388758
Total emission (tCO2e)	2078464	2405055	2249527	2248975	2282540	2226962	2145900
Production (MT)	403980	584758	543713	552049	581814	590635	623910
Per ton product emission (tCO2e/ton)	5.14	4.11	4.14	4.07	3.92	3.77	3.44



GHG emission Plant wise: -

Plant	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
CPP (tCO2e)	153387	166575	161040	160463	162555	144285	121844
Hydro 1 (tCO2e)	740568	857623	834159	843749	928337	880423	816755
Hydro 2 (tCO2e)	764556	909301	877494	870731	921012	892316	815003
Pyro (tCO2e)	113626	457844	343487	333464	283820	343633	389625
Total (tCO2e)	2078464	2405055	2249527	2248975	2282540	2226962	2145900

Sensitive, Internal (C2)

GHG Emission as per Fuel Consumption: -

Fuel	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Coal (tCO2e)	1752027	2054214	1995777	1993426	2047435	1810693	1477346
HSD (tCO2e)	10466	20299	47296	40934	23326	39886	45507
Propane/LPG (tCO2e)	16157	16691	9922	5213	422	0	20497
Coke (tCO2e)	250641	258136	164239	165886	136710	171718	206610
FO (tCO2e)	26744	22831	0	0	0	0	0
PNG (tCO2e)	-	-	-	1462	9502	18513	7182
Purchased Electricity (tCO2e)	22430	32885	32292	42054	65145	186152	388758
Total (tCO2e)	2078464	2405055	2249527	2248975	2282540	2226962	2145900

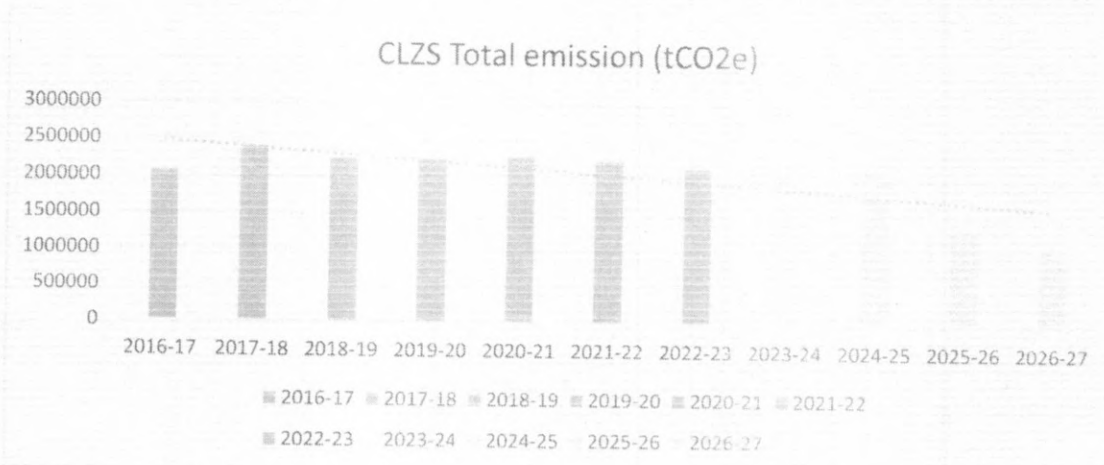
3.4 Targets

A target is set for the HZL to reduce scope 1 and 2 absolute emissions by 14 % by 2026-27 against 2016-17 baseline. In line with the same the target of CSC is set to reduce the Scope 1 and 2 absolute emissions by 14 % by 2026-27 against 2016-17 baseline

Scope	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Scope 1 (tCO2e)	2056034	2027249	1998465	1969680	1940896	1912111	1883327	1854542	1825758	1796973	1768189
Scope 2 (tCO2e)	22430	22116	21802	21488	21174	20860	20546	20232	19918	19604	19290
Total emission (tCO2e)	2078464	2049365	2020267	1991168	1962070	1932971	1903873	1874774	1845676	1816577	1787479

Now we have taken revise emission targets for the coming year but aggregate emission target by FY 2026-27 is less as per previous.

Scope	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Total emission (tCO2e)	2078464	2405055	2249527	2248975	2282540	2226962	2145900	2261107	2159708	1355381	1082398



Achievement till 2022-23: -

In FY 22-23 the total emissions have reduced by 3.64% and we have reduced specific emission from 3.77 tCO2e/MT to 3.44 tCO2e/MT. Now we need to put more focus on reduction of emission to achieve the set target. We will also seek to further assess and reduce our scope 3 emissions.
In calculating progress towards this target on an annual basis, benchmarking will need to consider the following statistics for each year: Emissions from the following sections:
CPP
Hydro 1
Hydro 2
PYRO
Logistic
Administration

Changes in these statistics will need to be considered in the calculation of percentage change in CO2 emissions. It is considered that growth in these areas is likely to result in an increase in energy consumption and carbon emissions.

Scope 3 Emissions

The calculation of the Scope 3 emission is not possible unit wise due to constraint of the double counting. As material are inbound for some unit could be outbound for some other unit. The calculation of the Scope 3 Emission is being done at the company level.

4. Implementation Plan

4.1 Emission Reduction Opportunities

The purpose of this section of the plan is to list and priorities all the opportunities identified for carbon emissions savings and sustainable practices which have been collected from suggestions made at brainstorming sessions/research & innovation was tailored to producing project opportunities that would either directly or indirectly reduce the carbon emissions from CSC.

4.2 Energy and fuel saving projects past and ongoing

CSC has been very active in the field of utility conservation for a long time. Many energy conservation and fuel saving projects have been done and in progress too.

Following carbon emission reduction project, we have implemented on site in FY 2022-23

Sensitivity: Internal (C3)

Sl. No.	Project Description	saving in Energy (GJ)	Emission Reduction (tCO2e)
1	Installation of EC Motors in AHU	71	7
2	Cooling tower Makeup pump VFD installation	442	42
3	VFD installation in ETP transfer pump	410	39
4	VFD installation in Degasser water pump	189	18
5	VFD installation in LDO forwarding pump	32	3
6	BFP automatic recirculation valve replacement	123	12
7	leakage arresting and optimization of new energy efficient compressor	6864	1335
8	LDO consumption reduction in Ausmelt (101 to 90 Lit/MT Ausmelt Bullion)	23756	1760
9	Reduce Power Consumption by 2% in Centac 1 and 2	411	81
10	Reduce Power Consumption by 2% from denseveyor compressor	47	9
11	Reduce Power Consumption by 2% in Zn Conveying Compressor	488	96
12	Reduce Zn Dust Production Norms from 465 to 450 Units/MT	1702	336
13	Reduce Power Consumption by 2% in Centac 1 and 2	91	18
14	Reduce Power Consumption by 2% in Atlas Copco 1 , 2 and 3	22	4
15	Reduce Zn Dust Production Norms from 460 to 450 Units/MT	795	157
16	Reduce Power Consumption by 2% in Cooling Towers	268	53
17	Brushing Unit Motor to be kept Off in Ideal running condition	54	11
18	Reduce M&C Norms by 2.5 Units/MT (excluding 24 TPH line)	4252	839
	Total	**40017**	**4820**

5. GHG Reduction measures

Few of the things which could be done to reduce GHG emissions at CSC are categorized under the following heads i.e., Behavioral Measure, Efficiency Measures, Fuel Replacement Measures and Long-Term Measures.

Governance

We have established Energy and carbon management community, who looks after governance for energy conservation, energy and carbon risk assessment, mitigation strategies and continual improvement in energy and carbon management. The committee plays a strategic role in all business decisions to ensure workplace safety, eliminating any potential damage to the environment, enhancing a commitment towards stakeholders, and maintaining our reputation etc.

Behavioral Measures

Behavioral changes are certain to be an important component in reducing greenhouse gas emissions (GHG) and combating climate change. There are few measures which could be circulated to employee through various engagement modes.

- Switch off appliances – lights, fans, Air conditioners etc. when not in use.
- If leaving the computer for a while, put it on standby. You'll be able to restart it quickly, and it'll take less energy than shutting it down and then restarting it.
- Awareness and training programs: Employee awareness trainings and workshops conducted to let everyone know that they're making changes to reduce your impact on the environment.

Sensitivity: Internal (C2)

- Switch to public transportation, carpooling, biking, telecommuting and other innovative ways to save energy and reduce greenhouse gas emissions on your way to and from work.
- Annual maintenance of refrigerators, ACs, removal of blockages from air vents, replacing older light bulbs with energy-saving fluorescent bulbs.

Efficiency Measures

- Undertake energy audit (Internal Energy audit/brainstorming session – once in year & External energy audit – once in three year) on a regular basis to highlight major energy consuming sections and equipment's including. A well-conducted energy audit would reveal the areas of wastage of energy, and it would lead to suggestions for possible energy savings in all sectors. All operating units are certified ISO 50001 - Energy Management System
- Maintenance of air conditioners and similar equipment's should be done on a regular basis across corporate offices, units and guest houses. Outdated equipment's should be replaced with energy – efficient ones (Star rating).
- Turbine revamp was carried out at CPP to increase the process efficiency.

Innovation

Innovative technologies such as SAP are being implemented to automate and reduce manual errors in a process. This would improve collection of data and increase accuracy. This would help establish a regular and up-to-date monitoring programme for air emissions (point and fugitive) arising from the operations. Across the business, we continue to pursue improvements to air quality management, focusing on emissions of particulate matter, SO2, NOx etc emitted by our operational activities.

Lighting Management

- Replace dated air conditioners and fans.
- Replacing existing lights with CFL and LED.
- Installation of auto transformers and operating all lighting feeders at 210 V.
- Use of voltage controllers on lighting feeders.
- Maximizing the use of natural daylight, wherever possible.
- Use of sensor-based lighting controls at selected locations i.e., washrooms and passageways.

Motor Management

- Avoid using motors at part loads (and avoid over-sized motors)
- Use of soft starters
- Replacement of old motors with high efficiency ones
- Sizing the motor to variable load
- Improving the input power quality
- Power factor correction by installing capacitors.
- Speed control of induction motor

Sensitivity: Internal (C3)

I. Multi-speed motors
II. Variable speed drives
III. New Direct current drives
IV. Wound rotor AC motor drives (slip ring induction motors)

Employee Commute & Business Travel

- Strategies for reduction
  i. Increase % of employees using Mass Transit
  ii. Encourage Carpooling/Bus Pooling
  iii. Use of cleaner fuels for Buses and compliance to Euro 2 standards
  iv. Onsite emission and tyre pressure tests.
  v. Encourage the use of net meetings, Video Conferencing and Telepresence

Green Computing

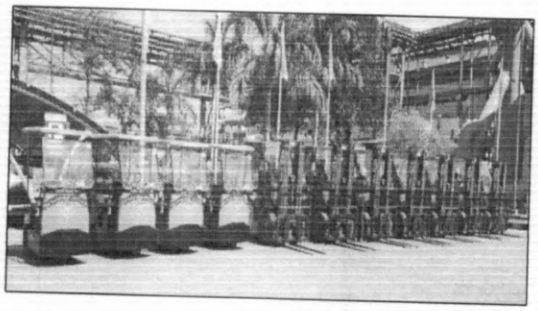
- Conversion of building as green building for the optimum utilization of natural resources
- Optimum utilization of the IT infrastructure through Server Consolidation and virtualization
  vi. Desktop level virtualization
- All CRT monitors to be replaced with LCD.
- Green Procurement: All equipment to be energy star certified.
- Green Data Centers
  vii. Evaluating the performance of all our current data centers.
  viii. New data centers as per the latest technology and HVAC systems.

Fuel Switch/Replacement Measures

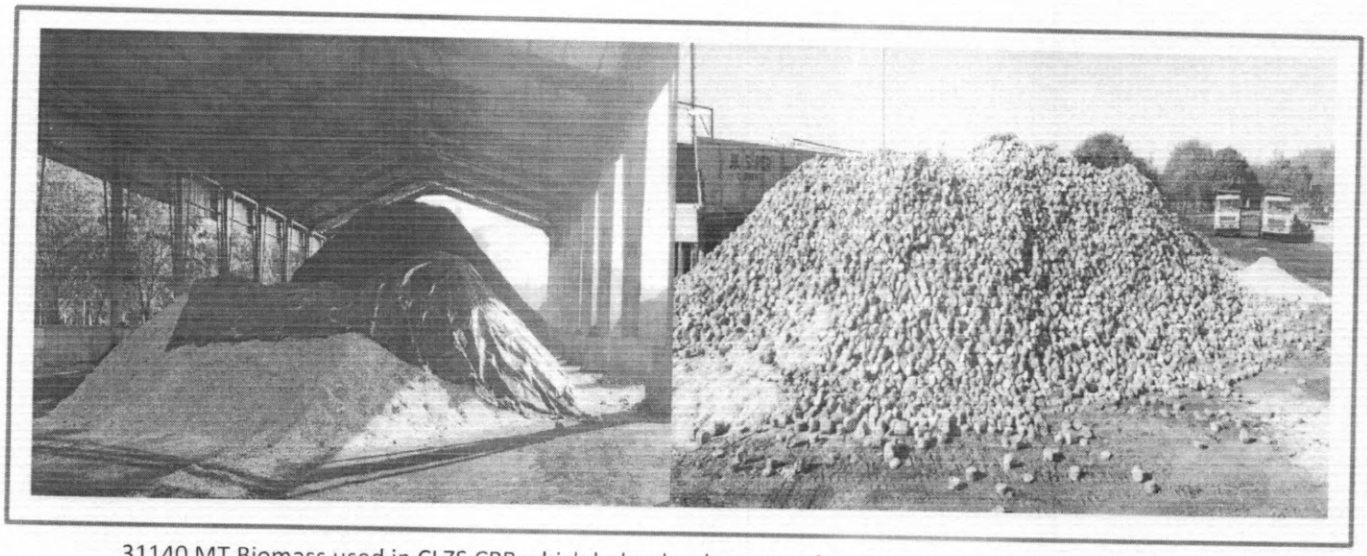
Switching to Cleaner Fuels

As evident from the analysis of data analysis, we can reduce emissions by substituting PNG from propane gas in Pyro, Hydro1 and Hydro 2 plant. However, an assessment of materiality of emissions at the plant is required before evaluating reduction measures. The second way of reducing the emissions in this category is using solar heaters for preheating the water. This technology is well established and is being used in other companies across India. Electric forklifts, two trucks and golf carts have introduced by business partners to reduce emissions. Till 15 vehicles deployed in CLZS.

Sensitivity: Internal (C3)

	
Golfcarts	Forklifts & Tow-trucks

Biomass substitution in Coal Fuel



31140 MT Biomass used in CLZS CPP which helped reduce use of coal and reduced GHG emissions.

Reducing the amount of fuel combusted

With the huge number of emissions generated by stationary combustion sources, reducing the amount of fuel that needs to be combusted even marginally can result in substantial reduction of CO_2e emissions. This can be achieved in the following ways:

- Implementing Waste Heat Recovery.
- Maximum Energy Utilization from Steam Generated.
- Revamping of turbine to increase energy efficiency.
- Improving the efficiency of combustion in boilers and CPPs.

Sensitivity: Internal (C3)

ANNEXURE - XVI

Net Zero strategy

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HINDUSTAN ZINC
Zinc & Silver of India

- Sonority of approach with the HZL's policy framework, particularly the Energy and Climate change management policy.
- Plays important role in achieving HZL's targets.
- Achieve reduction in cost of product.

Net Zero Strategy

- Our net zero strategy is in line with Reducing fossil fuel-based energy use in our operations by using innovative energy efficiency technologies and process optimization.
- Shifting to renewables and/ or low-carbon solutions where possible.
- Replace diesel fueled transportation vehicles with Electric vehicles, Turbine revamping of all the CPPs, install Hydrogen or Electric/ Induction Furnaces, enhance our carbon Capture, Storage and Utilization capacity etc.
- Climate Change risk assessment based on TCFD guidelines.

Sensitivity: Internal (C1)

STATE REMOTE SENSING APPLICATION CENTRE
DEPARTMENT OF SCIENCE & TECHNOLOGY
GOVERNMENT OF RAJASTHAN

F( )DST/SRSAC/CHANDERIYA-GREEN-COVER/2021 / 754

Date: 25 Mar 2021

To,

Mrs. Manisha Bhati
Deputy Manager – Environment,
HZL, CLZS Complex,
P.O.: Putholi-312021, Dist.: Chittorgarh (Raj.)
Vedanta Resources Pvt. Ltd.
e-mail: manisha.bhati@vedanta.co.in
Mobile: +91-9116134090

SUB.: Final Report for Green Cover Study of Chanderiya Lead Zinc Smelter Complex at Chittorgarh Rajasthan.

REF.: Purchase Order 4500006323 dated 19 Jan 2021

Ma'am,

With the above reference, please find enclosed the final report of green cover assessment for the study area with the results derived using IRS-Cartosat-2E and ESA-Sentinel-2 satellite imageries.

With regards,

Project Director
cum Deputy Secretary
SRSAC, DST, Jodhpur

F( )DST/SRSAC/CHANDERIYA-GREEN-COVER/2021 / 754-55

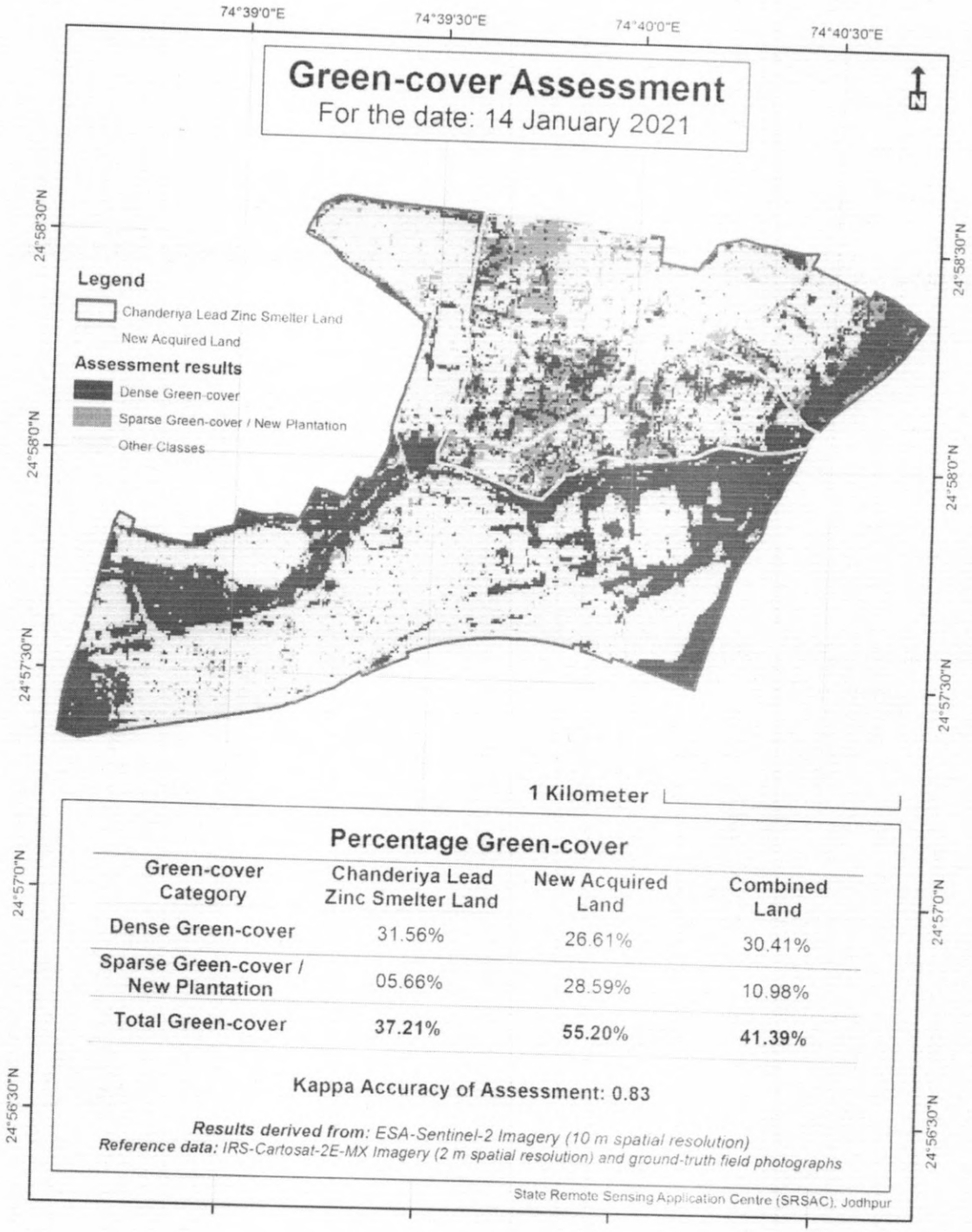
Date: 25 Mar 2021

Copy to:

PS to Secretary, DST, GOR, Japur

Project Director
cum Deputy Secretary
SRSAC, DST, Jodhpur

GST NO. 08JDHP01997C1D0 Date: 24-11-2017
Subhash Nagar, Pal Road, Jodhpur, Rajasthan – 342008
Phone: 0291-2785105, 2786480 Fax: 0291-2785531 E-Mail: srsac.jod@rajasthan.gov.in



Percentage Green-cover

Green-cover Category	Chanderiya Lead Zinc Smelter Land	New Acquired Land	Combined Land
Dense Green-cover	31.56%	26.61%	30.41%
Sparse Green-cover / New Plantation	05.66%	28.59%	10.98%
Total Green-cover	**37.21%**	**55.20%**	**41.39%**

Kappa Accuracy of Assessment: 0.83

Results derived from: *ESA-Sentinel-2 Imagery (10 m spatial resolution)*
Reference data: *IRS-Cartosat-2E-MX Imagery (2 m spatial resolution) and ground-truth field photographs*

State Remote Sensing Application Centre (SRSAC), Jodhpur

Figure 6: Assessment results

ANNEXURE - XVIII

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HINDUSTAN ZINC
Zinc & Silver of India

HINDUSTAN ZINC

Health & Safety Policy

Purpose

Hindustan Zinc Limited is committed to achieving excellence in Health and Safety (H&S) management. Our goal is to minimise safety and health impacts of our operations by eliminating unsafe work conditions either on-site or off-site.

Scope

This policy is applicable to all Hindustan Zinc Limited business units, including subsidiaries, joint ventures, and acquisitions, managed sites, licensees, outsourcing partners, corporate offices, and research facilities. This policy is also applicable to all Hindustan Zinc Limited employees, contractor employees, business partners, suppliers, and others with whom Hindustan Zinc does business.

In addition, this policy is applicable throughout the operational lifecycle of the projects and mines, covering stages from exploration and planning to evaluation, operation, and closure. Furthermore, it extends to activities in our upstream and downstream value chain, limited to distribution, logistics, and sale of products and services to the customer.

Objectives of the Health & Safety Policy

Hindustan Zinc will strive to:

- Comply with applicable national, regional, and local H&S regulations and statutory obligations as well industry best practices. In the absence (or lack) of appropriate legislation, industry best practices and applicable international standards will be used.
- Develop, implement, and improve H&S management systems, with our commitments and values and consistent with world class standards.
- Set targets and objectives to avoid, reduce or mitigate H&S related impacts on people.
- Prevent injury and ill-health to employees and business partners by eliminating hazards and providing a safe and healthy work environment and minimizing the risks associated with occupational hazards.
- Implement regular health surveillance and risk-based exposure monitoring of employees and contractor workers.
- Incorporate appropriate H&S criteria for all business decisions including the planning, operationalization, and closure of the projects.
- Conduct regular H&S review of the projects (including for mergers & acquisitions) to identify, prioritize, assess, and take effective actions for mitigating the potential H&S risks.
- Drive continuous H&S improvement through setting and reviewing targets using appropriate best available practices and technology.
- Review performance against the policy on a periodic basis to ensure management of health & safety as per our objectives including the sharing of good practices throughout the organization and stakeholders.
- Ensure training for all employees training to emphasize the importance of maintaining a safe and healthy workplace.
- Promote a positive H&S culture through effective communication, participation and consultation with employees and business partners.
- Establish processes of consultation and ensure participation of workers, and their representatives (when applicable) in the decision-making process for H&S matters.
- Promote awareness of business partners, suppliers, and other stakeholders on the adoption of practices in alignment with our policies, thereby fostering a collective commitment to health and safety.
- Drive positive healthcare outcomes for our employees, business partners and the local community.
- Communicate to all our stakeholders on the progress and performance of H&S management.
- Provide information and education programs on high-risk diseases including HIV/ AIDS for all employees and contractor employees.
- Ensure prevalence of diseases such as HIV/AIDS in any of our workforce, do not affect employment, employee rights, development opportunities, benefits, or access to sick leaves. We also commit to elimination of stigma and discrimination associated with these diseases through non-discriminatory policies, practices and relevant awareness and outreach programs for our workforce, their families, and the community.

- **Responsibility & Review**

This policy is part of the Vedanta Sustainability Framework, and each Hindustan Zinc Limited business unit shall implement this policy. Our CEO will be accountable for controlling and setting the policy, and the Executive Committee are responsible for the full implementation of the policy and associated standards. The Board ESG committee will review this policy annually and recommend appropriate revisions to the Board as may deem necessary.

Arun Misra

Date: 1st September, 2023

Arun Misra
CEO & Whole Time Director, HZL

ANNEXURE-XIX

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HINDUSTAN ZINC

Environmental Policy

Purpose

Hindustan Zinc Limited is committed to achieving excellence in environmental management. Our goal is to minimise environmental impacts of our business across the entire lifecycle by implementing pollution-prevention and natural resource conservation actions either on site or off site.

This policy is forward looking and sets a vision for businesses across the Hindustan Zinc Limited.

Scope

This policy is applicable to all Hindustan Zinc Limited business units, including subsidiaries, joint ventures, and acquisitions, managed sites, licensees, outsourcing partners, corporate offices, and research facilities. This policy is also applicable to all Hindustan Zinc Limited employees, contractor employees, business partners, suppliers, and others with whom Hindustan Zinc does business.

In addition, this policy is applicable throughout the operational lifecycle of the projects and mines, covering stages from exploration and planning to evaluation, operation, and closure. Furthermore, it extends to activities in our upstream and downstream value chain, limited to distribution, logistics, and sale of products and services to the customer.

Objectives of the Environmental Policy

Hindustan Zinc will strive to:

- Comply with applicable national, regional, and local environmental regulations and statutory obligations. In the absence (or lack) of appropriate legislation, industry best practices and applicable international standards will be used.
- Develop, implement, and improve environmental management systems, consistent with world-class standards.
- Set targets and objectives to avoid, reduce or mitigate Environmental impacts on people and planet.
- Consistently assess our environmental risks, manage our impacts, take appropriate mitigation and adaptation measures, and communicate our environmental strategy to our stakeholders.
- Incorporate appropriate environmental criteria for all business decisions including the planning, operationalization, and closure of the projects.
- Conduct regular environmental review and due diligence of the projects (including for mergers & acquisitions) to identify, prioritize, assess, and take effective actions for mitigating the potential environmental risks.
- Drive continuous environmental performance improvement by implementing appropriate available practices and technology.
- Conserve natural resources by adopting environment-friendly and energy-efficient technologies through process improvements.
- Apply mitigation hierarchy (avoid, reduce, reuse, recycle, disposal) to environmental impacts and adopt the principles of circular economy.
- Manage impacts related to energy, carbon emissions, waste, nature, air emissions, land-use & biodiversity, and water.
- Raise awareness of internal and internal stakeholders including business partners, suppliers, and other stakeholders on adoption of practices in alignment with our policies, thereby fostering a collective commitment to managing environmental impacts.
- Provide appropriate training to all employees and emphasise the importance of minimising risks to environment, while also understanding the impacts of their work activities on the environment.
- Communicate with all our stakeholders on the progress and performance of Environment management.
- Review the performance against the policy on a periodic basis to ensure management of environmental impacts as per our objectives including the sharing of good practices throughout the organization and stakeholders.

Responsibility & Review

This policy is part of the Vedanta Sustainability Framework, and each Hindustan Zinc Limited business unit shall implement this policy. Our CEO will be accountable for controlling and setting the policy, and the Executive Committee are responsible for the full implementation of the policy and associated standards. The Board ESG committee will review this policy annually and recommend appropriate revisions to the Board as may deem necessary.

Related additional policies: Energy & Climate Change Policy, Biodiversity Policy, Water Policy, Tailing Management Policy.

Arun Misra

Arun Misra
CEO & Whole Time Director, HZL

Date: 1st September, 2023

ANNEXURE - XX

vedanta
transforming for good

HINDUSTAN ZINC
Zinc & Silver of India

HINDUSTAN ZINC

Biodiversity Policy

Purpose

Protecting and enhancing biodiversity is an integral part of Hindustan Zinc's commitment to sustainable development. We are conscious of the potential impacts and dependencies of our business on the environment in general and on biodiversity. Integrating the need for biodiversity conservation into operational decision-making processes and taking measures to minimize impacts is a commitment across the company with a vision of Nature Positive.

Biodiversity is a complex phenomenon that needs to be identified, understood, and valued from a biological and societal (i.e., in terms of ecosystem services) perspective and the Company is conscious of the potential impacts and dependencies of our business on the environment in general and on biodiversity in particular. This Biodiversity policy shall help us define, strategize, plan, and implement the essential roadmap, guidance, and measurement towards achieving sustainability goals.

This policy is forward looking and sets a vision for businesses across the Hindustan Zinc.

Scope

This policy is applicable to all Hindustan Zinc Limited business units, including subsidiaries, joint ventures, and acquisitions, managed sites, licensees, outsourcing partners, corporate offices, and research facilities. This policy is also applicable to all Hindustan Zinc Limited employees, contractor employees, business partners, suppliers, and others with whom Hindustan Zinc does business.

In addition, this policy is applicable throughout the operational lifecycle of the projects and mines, covering stages from exploration and planning to evaluation, operation, and closure. Furthermore, it extends to activities in our upstream value chain.

Objectives of the Biodiversity Policy

Hindustan Zinc will strive to:

- Achieve nature positive impacts to biodiversity values by implementing intense management actions either on site or off site, to compensate for any project impacts to areas recognized nationally or internationally for their high values of threatened, endemic or migratory / congregatory species or unique and threatened ecosystems.
- Comply with, and exceed whenever feasible, the local, regional, and national legislative requirements concerning land management and biodiversity conservation, as well as relevant international agreements, in all jurisdictions where we operate.
- Avoid deforestation and habitat loss in internationally recognized areas such as World Heritage Sites and IUCN Protected Area Management Categories 1a, b and 2.
- Compensate with future reforestation (no net deforestation) by appropriate on or off-site habitat restoration.
- Achieve No-Net Loss (NNL) at our project operations and ensure that we will operate on the principles of Net Positive Impact (NPI) for critical habitat (when we operate in or near areas declared as biodiversity hotspot areas, ecologically sensitive zones, International Union for the Conservation of Nature IUCN Category I-IV protected areas, nearby world heritage sites & areas having critical habitat and ecosystems).
- Set targets and objectives to avoid, reduce or mitigate biodiversity and nature-based impacts on people and planet.
- Integrate biodiversity & nature considerations into our strategic approach, financial planning and analyzing the nature-related risks and opportunities throughout the project lifecycle, including decommissioning, closure, and rehabilitation.
- Conduct biodiversity risk assessment and apply the mitigation hierarchy to avoid or minimize biodiversity and nature-based risks.
- Ensure continuous improvements in biodiversity performance through effective management and implementation of action plans in alignment with the "Nature-Based Solutions" approach.
- Review the performance against the policy on a periodic basis to ensure management of biodiversity as per our objectives including the sharing of good practices throughout the organization and stakeholders.
- Engage with local, national, and global conservation initiatives, conservation experts and organizations. Support joint efforts by the private and public sectors, and foster knowledge, awareness, and participation among relevant stakeholders, including employees, to collectively address biodiversity and nature-related challenges.
- Engage and raise awareness amongst our employees, business partners, supply chain and other stakeholders to enhance their knowledge and understanding of biodiversity and ecosystem management practices.
- Actively encourage value chain partners and suppliers to align with this policy and avoid operational activities near sites containing globally or nationally important biodiversity

Responsibility & Review

This policy is part of the Vedanta Sustainability Framework, and each Hindustan Zinc business shall implement this policy. Group CEO will be accountable for controlling and setting the policy, and the Group Executive Committee are responsible for the full implementation of the policy and associated standards. The Board ESG will review this policy annually and recommend appropriate revisions to the Board as may deem necessary.

Arun Misra

Arun Misra
CEO & Whole Time Director, HZL

Date: 1st September, 2023