

REGISTERED A.D.

DZS/ENV/A-01/ENV/2025-26/439

Date: 27/11/2025

To,
Member Secretary
Rajasthan State Pollution Control Board
4, Institutional Area, Jhalana Doongri,
Jaipur-302004


Sub: Compliance report for Zinc Smelter (1,00,000 ton to 1,20,000 ton) at Debari, Udaipur, Rajasthan by Hindustan Zinc Limited.

Ref.: J-11011/479/2006-IA-II(I) dated 23.07.2025

Dear Sir,

With reference to the above-mentioned subject, please find enclosed herewith the compliance report of stipulated condition of Environment clearance for the period from **April 25 to Sept 2025** for Zinc Smelter, Debari.

Thanking you,
Yours faithfully



Vivek Yadav
(SBU Director, ZSD)

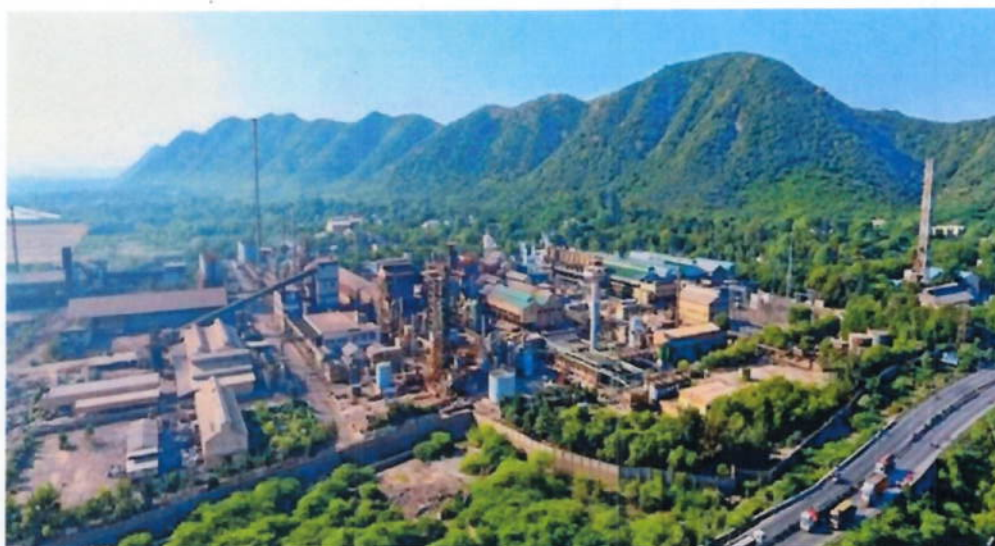
- C.C. : 1. Regional Officer,
Rajasthan State Pollution Control Board
F-470, Mewar Industrial Area, UCCI-UDAIPUR (RAJ)-313001
2. Scientist 'D' & In charge
Zonal Office (Central),
Central Pollution Control Board, 3rd Floor, Sahkar Bhawan,
North T.T. Nagar, Bhopal- 462003
3. The Deputy Director (S)/ Scientist- C,
Ministry of Environment, Forest & Climate Change
Integrated Regional Office, A- 209 & 218, Aranya Bhawan,
Jhalana Institutional Area, Jaipur (Rajasthan) - 302004



HINDUSTAN ZINC

Zinc & Silver of India

**Six Monthly Compliance Report
of
Environmental Clearance Conditions
for**



Zinc Smelter Debari

M/s Hindustan Zinc Limited

Debari – 313024, Udaipur, Rajasthan

**For the period
1st April 2025 to 30th Sept 2025**

(EC Letter No. J-11011/479/2006-IA .II (I) dated 23rd July, 2025)

Nov, 2025

S. No.	Particulars	Details
1	Name of Project	M/s Hindustan Zinc Limited, Zinc Smelter Debari
2	Address of Project	M/s Hindustan Zinc Limited, Zinc Smelter Debari, Village Debari, District- Udaipur, Rajasthan
3	Environment Clearance Letter no & Date	Letter No. J-11011/479/2006-IA .II (I) dated 23 rd July 2025
4	Status of Project	Operational

Zinc Smelter Debari of Hindustan Zinc Limited, located at Udaipur District of Rajasthan, over a lease area of 190.05 Ha. The smelter is based on hydrometallurgical zinc smelting technology through Roast-Leach-Electrowinning process.

S. No.	Unit	Capacity	Year of Commissioning	Production April 25 to Sept 25 (FY 25-26)
1	Zinc Smelter	Zn: 1,20,000 TPA	1968	45704.39MT

Details of Consents to Operate & Hazardous Waste Authorization (HWA) granted to unit are given below:

Unit Name	CTO / HWA References File Nos.
CTO Details	
Zinc Smelter, Debari	F(HDF)/Udaipur(Girwa)/1328(1)/2022-2023/7460-7462 Dtd:17/03/2023 F(HDF)/Udaipur(Girwa)/1347(1)/2025-2026/2237-2239 Dtd: 29/09/2025
Captive Power Plant (D.G. Set 2x7.4 MW)	F(HDF)/Udaipur(Girwa)/1338(1)/2023-2024/6961-6963 Dtd: 07/02/2024
MCTP	F(HDF)/Udaipur(Girwa)/1330(1)/2023-2024/4374-4376 Dtd: 09/10/2023
Zinc Smelter Township	F(HDF)/Udaipur(Girwa)/1341(1)/2024-2025/1340-1342 Dtd: 05/08/2024
Zinc Smelter Hospital	F(BMW)/Udaipur(Girwa)/7008(1)/2021-2022/1340-1341, dtd: 21/01/2022.
HWA Details	
Zinc Smelter, Debari	F(HSW)/Udaipur(Girwa)/7034(1)/2022-2023/7463-7465 Dtd: 17/03/2023

Environmental Clearance Proposal Details

I	EC Identification No.	EC24A1005RJ5523282N
II	File No.	J-11011/479/2006-IA-II(I)
III	Clearance Type	Fresh EC
IV	Category	A
V	Project/Activity Included Schedule No.	3(a) – Metallurgical Industries (Ferrous & Non-Ferrous)
VI	Sector	Industrial Projects - 1
VII	Name of Project	Proposed Expansion of Zinc Smelter (1,00,000 TPA to 1,20,000 TPA) through Modernization within the existing premises of Debari Zinc Smelter under clause 7(ii) of EIA Notification 2006 amended from time to time At Villages: Debari and Bichhri, Tehsil: Girwa, District: Udaipur (Rajasthan)
VIII	Name of Company/Organization	Hindustan zinc limited, zinc smelter Debari
IX	Location of the Project (District, State)	UDAIPUR, RAJASTHAN
X	Issuing Authority	MoEF&CC
XI	Applicability of General Conditions as per EIA Notification, 2006	No

Period of Compliance Report: 01st April 2025 to 30th Sept 2025

**Status of the Compliance of the Stipulated Environmental Conditions in
Environment Clearance Letter No: J-11011/479/2006-IA-II(I) dated 23.07.2025**

Unit: M/s. Hindustan Zinc Ltd, Zinc Smelter Debari,
Village Debari and Bichhri, Tehsil Girwa
District: Udaipur, Rajasthan – 313024.

Project: Proposed Expansion of Zinc Smelter (1,00,000 TPA To 1,20,000 TPA) through Modernization within the existing premises of Debari Zinc Smelter under clause 7(ii) of EIA Notification 2006 amended from time to time by M/s. Hindustan Zinc Limited, located at Village: Debari and Bichhri; Tehsil: Girwa; District: Udaipur, Rajasthan-

S.no	EC condition	Compliance Status
	Specific EC Conditions for (Metallurgical Industries (Ferrous And Non Ferrous))	
1.1	This Environmental clearance is granted subject to outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Noted.
1.2	The project proponent shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	All protection measures and safeguards, recommendation of EIA/EMP have been ensured in design stage of projects. Accordingly, project execution is planned and being implemented at site.
1.3	The project proponent shall utilize modern technologies for capturing carbon emission and shall also develop adequate carbon sink/ carbon sequestration resources with an aim to meet the carbon neutrality mission in a time bound manner. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.	Detailed Decarbonisation plan for emissions reduction is developed and being implemented and attached herewith as Annexure 1
1.4	PP shall comply with the provisions of the Van (San Rakshan Evam Samvardhan) Adhiniyam, 1980 (as amended). Further, as committed, it shall not undertake any change in the Land Use of the forestland falling with the project site for the proposed expansion project or otherwise. Prior consultation with State Forest Department shall be made w.r.t. any proposal for change in land use of the forestland within project site.	Noted. Changes in land use will not be done for forest land falling under project site.
1.5	As reported, there are several sensitive areas within the study area of the project site. Proponent shall take appropriate environmental safeguard measures to minimise the impact on the habitation of the locals. The project proponent needs to strengthen green belt all around the plant area to reduce the dust pollution. The PP shall also include some of these locations in its environmental monitoring programme.	Modern technologies have been adopted. All protection measures and safeguards, recommendation of EIA/EMP have been ensured in design stage of projects. Accordingly, project execution is planned and being implemented at site. Work of strengthening greenbelt is under progress as

		<div>per following plan.to minimise the impact of project activities in surrounding.</div> <table><tr><th rowspan="2">Existing Plantation Nos.</th><th colspan="2">Proposed (Gap Plantation)</th><th rowspan="2">Total</th></tr><tr><th>2025-26 till Sept 25</th><th>2026-27</th></tr><tr><td>165000</td><td>11663</td><td>10,700</td><td>1,90,700</td></tr></table> <div>AAQ monitoring in near by area of Panwari and Kantia Reserve Forest also planned for CAAQMS as per attached Annexure 1A</div>	Existing Plantation Nos.	Proposed (Gap Plantation)		Total	2025-26 till Sept 25	2026-27	165000	11663	10,700	1,90,700
Existing Plantation Nos.	Proposed (Gap Plantation)			Total								
	2025-26 till Sept 25	2026-27										
165000	11663	10,700	1,90,700									
1.6	PP shall comply with the conditions stipulated in the NOC, if any, from the State Wetland Authority as Udai Sagar Lake (-1.0 km, SSW) has been listed as Wetland by State Wetland Authority, Rajasthan, and 3 seasonal nallah as are passing through the plant site, which have run off water from the nearby hill in west direction. Further, due to presence of water bodies within study area of the project site, a robust and foolproof Drainage Conservation scheme to protect the natural drainage and its flow parameters; along with Soil conservation scheme and multiple Erosion control measures shall be implemented.	All safeguards and preventive measures are taken to prevent adverse impact on wetland. As well as natural stream passing through plant site by implementing fool proof Drainage conservation measures to protect the natural drainage and its flow parameters; along with Soil conservation scheme and multiple Erosion control measures.										
1.7	The total water requirement after expansion will be 9046 KLD which is being/will be sourced from Mansi Wakal Dam/ STP Udaipur. PP shall obtain necessary permission from the Competent Authority.	Noted and ensured. HZL has already agreement for withdrawal of water from Mansi wakal dam and Agreement with Udaipur Municipal Corporation /Udaipur Smart City Limited (USCL) for operations of STP and use of treated water from the same.										
1.8	PP shall prepare and implement a project specific AAQ Management plan to minimise the levels of PM10 and PM2.5.	Action plan for AAQ management plan is in place and being ensured and attached here with as Annexure 1B										
1.9	Three tier Green Belt shall be maintained in at least 33% of the project area, as committed, along the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. PP shall also develop greenbelt in the form of shelter belt comprising of total of 6 rows of 2x2 m plantation with a width of 25 meters with tall trees & broad leaves with thick canopy along with windshield inside the plant premises to act as green barrier for air pollution & noise levels towards sensitive areas. PP shall practice geotagging of plant for better monitoring. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.	Noted. Well-developed green belt of > 33 % of the project area is already in place and actions are being taken to increase density of plantation to 2500/Ha along with as well to strengthen green belt as shelter, wind shield and green barrier to minimise impact on surrounding. Status of the same will be submitted to regional office along with half yearly Compliance of report.										
1.1	The PP shall undertake plantation, in compliance to MoEFCC OM dated 24.07.2024, in the earmarked 33% or 40% greenbelt area, as the case may be, as a part of tree plantation campaign 'Ek Ped Maa Ke Naam' Campaign and the details of the same shall be uploaded on MeriLIFE portal at(https://merilife.nic.in)	Being ensured as per details given in status of above point no. 1.5 and 1.9										

1.11	All the commitments made towards socio-economic development of the nearby villages to the tune of Rs.35.27Crores shall be satisfactorily implemented as annexed. The action plan based on the social impact assessment study of the project as per the EMP in accordance to the Ministry's OM dated 30.09.2020 shall be strictly implemented and progress shall be submitted to the Regional Office of MoEF&CC. PP shall strictly comply with the timeline for completion of activities envisaged in the action plan of the earlier PH.	Noted and Undertake initiatives across education, women empowerment, sanitation, and sustainable livelihood focused areas, benefitting over 20,000 individuals. These efforts focus on improving learning outcomes, enhancing women's socio-economic participation, promoting health and hygiene, and fostering sustainable community development. Detailed Action plan Progress as per MoEF&CC O.M. dated 30/09/2020: is attached herewith as Annexure 10
1.12	The project proponent shall undertake village adoption programme, as annexed, and prepare and implement the action plan to develop them into a model village in consultation with the State Administration.	Noted and Strengthened village infrastructure to develop model villages, benefiting community members of 2 villages. The initiative focuses on improving basic amenities, community spaces, and access to essential services, creating sustainable and self-reliant rural communities. Detailed Action plan progress is attached herewith as Annexure 11 A and 11B
1.13	PP shall implement skill development programs (like Mission LiFE, ODOP, GSDP etc.) aligned with relevant Government initiatives/ programmes to enhance employability and livelihood opportunities for local communities. These programs shall be designed in consultation with the concerned authorities, such as the District Skill Development Mission, State Government agencies, or other relevant institutions. A detailed action plan and monitoring mechanism (covering target beneficiaries, training modules, and expected outcomes). Periodic progress reports shall be maintained and submitted to RO MoEFCC.	Noted. Provide skill development training and employment opportunities to local unemployed youth, enabling them to enhance their livelihoods. The initiative focuses on building job-ready skills, fostering entrepreneurship, and promoting sustainable income generation within the community.
1.14	The recommendations of the approved Site-Specific Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.	WLCP has been made and it is under approval. Implementation report of the same will be along submitted with the six-monthly compliance report to the Regional Office of the MoEF&CC.
1.15	PP shall implement the proposed mitigation measures for managing toxic elements such as mercury (Hg), cadmium (Cd), and nickel (Ni) as per the detailed mass balance study submitted. This shall include strict monitoring of source emissions, proper containment and treatment of hazardous waste, and prevention of environmental contamination through effective control measures.	Noted and being ensured.
1.16	PP shall undertake internal Environmental Audit of the plant through a recognized/ empanelled 3rd party Agency. The report shall be shared with concerned SPCB and MoEFCC RO, along with CPCB and MoEFCC (Industry-1 sector).	Noted. Process of engaging recognized/ empanelled 3rd party Agency for Environment audit is under progress. Audit will be conducted and the report shall be shared with concerned SPCB and MoEFCC RO, along with CPCB and MoEFCC (Industry-1 sector).
1.17	PP shall ensure strict implementation of the approved management and disposal plan for spent electrolyte generated from the electrolysis process. This shall include proper storage, treatment, recycling, or disposal methods in	All spent electrolyte is being treated scientifically in process and recycling of the same after treatment is being done and will be ensured for project also.

	compliance with applicable environmental standards and regulations to prevent contamination.	
1.18	The proponent shall ensure the exclusive use of indigenous zinc concentrate to reduce dependency on imported raw materials and minimize environmental impact.	Now 100 % of Zinc concentrate is from our own mines available within same state of Rajasthan.
1.19	Sulphur Dioxide (SO ₂) scrubbing systems shall be installed to ensure SO ₂ emissions remain within prescribed CPCB/SPCB limits.	The same is integrated in design with DCDA Double Conversion and Double Absorption process.
1.2	TSS, TDS and Heavy metals in wastewater, including zinc, cadmium, and lead, shall be monitored and treated as per prescribed standards. The records of the same shall be maintained.	Noted. It is being ensured and will be ensured in future also and records will be maintained.
1.21	A dedicated leachate treatment system shall be installed for managing trace heavy metal contamination in storage yards.	All storage yards and are covered and closed to prevent contamination with air and water, However, all leachate from process activities is being transferred to ETP for removal of heavy metals.
1.22	The Jarosite sludge shall be neutralized with hydrated lime and disposed of in secured landfill (SLF) inside the plant premises. ETP Sludge in the form of cake shall be recycled in the Moore cake treatment plant Waste/used of shall be sold to registered recyclers Valid membership to CHWMF shall be obtained.	All Jarosite is being neutralised with lime and slurry is being filtered in filter press. After filtration, Jarosite in the form of solid is being sent to cement industries for recycling and filtrate is being recycled in process after treatment in ETP. The same will be ensured in projects.
1.23	Jarosite and leached residues generated from the smelting process shall be managed as per Hazardous Waste Management Rules, with appropriate safe disposal in secured landfills or utilization in cement industries.	The proper storage, handling and disposal of all process waste and jarosite is being ensured as per Hazardous Waste Management Rules, with appropriate safe disposal in secured landfills as well as recycling through registered recyclers and jarosite is being sent to cement industries. the same will ensured in projects.
1.24	Spent catalyst, slag, and sludge shall be disposed of in accordance with CPCB guidelines and shall not be stored beyond the prescribed limit.	Noted. Being ensured accordingly. The same will be ensured in expansion project.
1.25	Workers shall be provided with adequate Personal Protective Equipment (PPE) to prevent exposure to lead, zinc, and SO ₂ emissions. Regular medical examination and health monitoring of all the employees for Lead (Pb) and Cadmium (Cd) shall be carried out and if cases of presence of Lead (Pb) and Cadmium (Cd) are detected, necessary compensation shall be arranged under the existing laws. A competent occupational health physician shall be appointed to carry out medical surveillance Occupational health of all the workers shall be monitored for relevant parameters and records maintained as per Factory Act.	Noted and being done. The same will be continued.
1.26	PP shall implement cleaner production and waste minimisation measures, and initiate coordinated action on activities of environmental awareness, education and conservation (covering plantation, solar energy, water harvesting, waste management, green skills etc.) through a dedicated institutional mechanism. The actions shall be monitored reported to RO MoEFCC on regular basis through the self-compliance reporting mechanism.	Adoption of latest technologies have been integrated in design stage and being implemented for reduction & conservation of natural resources like water, energy etc. and minimising waste. Various programs for training and awareness in internal & external stake holders (nearby community) are being conducted in the occasion. e.g World Environment Day, World Water Day, National

		Energy conservation day, Earth Day though various competitions, rallies etc.
1.27	Necessary coordination shall be made with concerned SPCB (who is responsible for Compliance of OM dated 14-01-2025) regarding streamlining the implementation of GSR 702 and GSR 703 dated 12-11-2024 through which projects requiring prior EC were exempted from requirement of CTE.	Project proposal of EC was dated 19.09.2024. Hence, we have obtained EC and CTE Separately.
	Standard EC Conditions for (Metallurgical Industries (ferrous and non ferrous))	
1	Statutory Compliance	
1.1	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 approvals/ consent/ 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.	Noted.
1.2	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Noted.
2	Air Quality Monitoring And Preservation	
2.1	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 06 Nos. Continuous Ambient Air Quality Station (CAAQMS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be 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	OCEMs have installed in all process stacks. 4 nos of CAAQMS are available at site and connected to RSPCB and CPCB site. Calibration is being done as per guidelines. Remaining two CAAQMS will be procured and installed by 31.03.2027 and will be connected to RPSCB and CPCB site.
2.2	The project proponent shall carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 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° each), covering upwind and downwind directions.	Noted and will be ensured.
2.3	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Noted. Ambient air Monitoring report is attached here with as Annexure 2 done by laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
2.4	Sampling facility at process stacks shall be provided as per CPCB guidelines for manual monitoring of emissions.	Ensured as per CPCB guidelines.
2.5	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.	This is being ensured by installation Efficient bag filters, dust suppression system in material handling areas, closed conveyors, material handling through covered trucks. Regular Road sweeping by heavy duty truck

		mounted vacuum sweepers and regular water sprinkling is being done.
2.6	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Noted and being ensured and will be ensured for project also.
2.7	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	Regular Road sweeping by heavy duty truck mounted vacuum sweepers and regular water sprinkling is being done. Manual vacuum cleaners are provided in all areas for cleaning.
2.8	Ensure covered transportation and conveying of raw material to prevent spillage and dust generation. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.	All material transportation is being ensured by trucks covered by tarpaulin.
2.9	The project proponent shall provide primary and secondary fume extraction system at all heat treatment furnaces.	This is hydro smelters. Hence, it is not applicable.
2.1	Wind shelter fence and chemical spraying shall be provided on the raw material stockpiles.	All raw material is being stored in covered shed. And required moisture is being ensured to prevent emissions.
2.11	Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.	This is hydro smelters. such activities are not envisaged in the projects Hence, it is not applicable.
2.12	Pollution control system in the plant shall be provided as per the CREP Guidelines of CPCB.	Noted. Implementation of CREP guidelines for Zinc is being ensured and the same will be ensured for projects.
2.13	The project proponent shall adopt the Clean Air practices like mechanical collectors, wet scrubbers, fabric filters (bag houses), electrostatic precipitators, combustion systems (thermal oxidizers), condensers, absorbers, adsorbers, and biological degradation. Controlling emissions related to transportation shall include emission controls on vehicles as well as use of cleaner fuels. Sufficient numbers of additional truck mounted Fog/Mist water cannons shall be procured and operated regularly inside the project premises and in the surrounding villages to arrest suspended dust in the atmosphere.	Clean Air practices/technologies like mechanical collectors, wet scrubbers, fabric filters (bag houses), electrostatic precipitators, condensers, absorbers are integrated part of process. LNG trucks are engaged for Raw material and finished good transportation. Sufficient numbers of additional truck mounted Fog/Mist water cannons shall be procured and operated regularly inside the project premises and in the surrounding villages to arrest suspended dust in the atmosphere.
2.14	Bag filters shall be cleaned regularly, and efficiency of bag filter system shall be monitored at regular intervals.	Noted being ensured and will be continued.
2.15	Water Sprinklers/Water mist system shall be installed near raw material yards, operational units and other strategic locations to control fugitive emissions from the plant.	This is being ensured by installation Efficient bag filters, dust suppression system/water sprinkling in material handling areas, closed conveyors, material handling through covered trucks. Regular Road sweeping by heavy duty truck mounted vacuum sweepers and regular water sprinkling is being done.
2.16	The particulate matter emissions from the process stacks shall be less than 30 mg/Nm ³ and measures shall be undertaken as per the submitted action plan. Efficient Air monitoring equipment shall be installed.	Noted and will be ensured.
2.17	Following additional arrangements to control fugitive dust shall be provided: a. Fog / Mist Sprinklers at all on bulk raw material storage area (at the transfer points) like Iron Ore, Coal	This is being ensured by installation Efficient bag filters, dust suppression system/water sprinkling in material handling areas, closed

	and for Fly Ash and similar solid waste storage areas. b. Proper covered vehicle shall be used while transport of materials. c. Wheel washing mechanism shall be provided in entry and exit gates with complete recirculation system.	conveyors, material handling through covered trucks. Regular Road sweeping by heavy duty truck mounted vacuum sweepers and regular water sprinkling is being done. Sufficient numbers of additional truck mounted Fog/Mist water cannons and wheel washing system shall be procured, installed and operated regularly inside the project premises and also in the surrounding villages to arrest suspended dust
Water Quality Monitoring And Preservation		
3.1	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 system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Noted, installed and connected to RSPCB & COCB server. The same will be ensured in expansion project.
3.2	The 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 areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	Being done and will be continued. Further report of Piezowell monitoring report is attached herewith as Annexure 3 done by laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
3.3	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.	All the material is being kept in closed and covered sheds.
3.4	Water meters shall be provided at the inlet to all unit processes in the steel plants.	Ensured and will be ensured.
3.5	The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.	HZL has installed and operating 60 MLD STP plant in various locations of Udaipur city to tret the domestic sewage. Treated water from the same is being used in Industrial purpose. process effluent is being treated in ETP & RO-ZLD/MVR system and 100 % this recycled water is also being used in process. Domestic effluent is being treated in 200 KLD capacity STP and treated water is being used in plantation and horticulture process.
3.6	The proposed project shall be designed as Zero Liquid Discharge Plant. ETP shall be installed an there shall be no discharge of effluent from the plant. Domestic effluent shall be treated in Sewage Treatment Plant. Suitable measures shall be adopted for sewage water handling to ensure no contamination of any kind of water body. All stockyards shall have impervious flooring.	5760 KLD ETP with 3000 KLD RO-ZLD system with MVR is available to ensure zero liquid discharge. All treated water is being used in process. Additional 2000 KLD ETP with RO-ZLD system is being installed in expansion projects and Zero Liquid Discharge will be ensured. 200 KLD STP is available to treat domestic sewage to treated water is now used in plantation and Horticulture. All stockyards having impervious flooring.
3.7	All stockyards shall have impervious flooring and shall be equipped with water spray system for dust suppression. Stock	Ensured and being implemented.

	yards shall also have garland drains and catch pits to trap the runoff material and shall be implemented as per the action plan submitted in EIA/EMP report.	
3.8	Rain water harvesting shall be implemented to recharge/harvest water as per the action plan submitted in the EIA/EMP report.	Ensured and being implemented.
4	Noise Monitoring And Prevention	
4.1	Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and amendments thereof, and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Noise Monitoring is being done by third party approved laboratory (Attached as Annexure 4) and same will be ensured and reports will be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
4.2	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz.75 dB(A) during daytime and 70 dB(A) during night time.	Noted and will be ensured.
5	Energy Conservation Measures	
5.1	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, streetlights, parking around project area and maintain the same regularly;	Noted and being ensured. Some of the Installation inside plant are attached as Annexure 5 .
5.2	Provide LED lights in their offices and residential areas.	Ensured.
6	Waste Management	
	Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil.	No such installation is required.
6.2	Kitchen waste shall be composted or converted to biogas for further use.	Very small quantity of food waste generation I envisaged. However, food waste is being disposed to make manure/vermicompost. The same is being used in horticulture.
6.3	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office	Fly Ash generation is not envisaged.
6.4	The Plastic Waste Management Rules 2016, inter-alia, mandated banning of identified Single Use Plastic (SUP) items with effect from 01/07/2022. In this regard, CPCB has issued a direction to all the State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) on 30/06/2022 to ensure the compliance of Notification published by Ministry on 12/08/2021. The technical guidelines issued by the CPCB in this regard is available at https://cpcb.nic.in/technical-guidelines-3/ . All the project proponents are hereby requested to sensitize and create awareness among people working within the Project area as well as its surrounding area on the ban of SUP in order to ensure the compliance of Notification published by this Ministry on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six-monthly compliance report being submitted by the project proponents.	Trainings and Awareness programs have been conducted to stop use of Single Use Plastic (SUP). Now, SUP items are completely restricted .
6.5	A proper action plan must be implemented to dispose of the electronic waste generated in the industry.	All E waste is being stored and disposed as per E waste management Rule 2022.
7	Green Belt	
7.1	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.	Detailed Decarbonisation plan for GHG emissions inventory is developed and being implemented and attached herewith as Annexure 1

7.2	Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.	Detailed Decarbonisation Study report is developed and being implemented and attached herewith as Annexure 1
7.3	Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.	Being ensured.
8	Public Hearing And Human Health Issues	
8.1	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan is made and will be ensured for handling emergencies.
8.2	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) as per the norms.	Heat stress assessment for the workmen who work in high temperature work zone have been conducted and required mitigation measures have implemented and providing industrial man cooler /fans and Personal Protection Equipment's (PPEs)
8.3	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, mobile STP. Safe 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.	We do not provide houses for construction within project premises. However, all necessary facilities are being provided to them in their residential area/colony.
8.4	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	Periodical health check up is being ensured and will be continued.
9	Environment Management	
9.1	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.	Noted and Strengthened village infrastructure to develop model villages, benefiting community members of 2 villages. The initiative focuses on improving basic amenities, community spaces, and access to essential services, creating sustainable and self-reliant rural communities. Detailed Action plan progress is attached herewith as Annexure 11 A and 11B
9.2	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks 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-monthly report.	Environmental policy & Biodiversity policy as per given guideline prepared and it is duly approved by CEO. The same is being implemented at site and attached also as Annexure 6A and Annexure 6B

9.3	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 is available. Environment head at site reports administratively to Unit Head and functionally to Chief of HSE&S -HZL. Further Chief of HSE&S -HZL is directly reporting to the CEO of HZL.
9.4	Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Integrated Regional Office of the MoEF&CC.	Noted and the same will be implemented.
10	Miscellaneous	
10.1	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 proponent's website permanently.	Advertisement of Environmental Clearance of project has been published in Pratahkaal and Indian Express dated 30.07.2025. and herewith attached as Annexure 7 . The same is displayed at company website.
10.2	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 Environmental Clearance has been submitted to the panchayat and municipal corporation Udaipur and Regional officer - RSPCB on 30.07.2025. and herewith attached as Annexure 8
10.3	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	Noted and will be ensured same has been attached as Annexure 9
10.4	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.	Noted and will be ensured as attached in Annexure 1B
10.5	Action plan for developing connecting and internal road in terms of MSA as per IRC guidelines shall be implemented	Ensured.
10.6	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Noted and being done and will be ensured in future also.
10.7	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	Noted and being done and will be ensured in future also.
10.8	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.	Noted and will be ensured.
10.9	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 and will be ensured.



10.1	The recommendations of the approved Site-Specific Wildlife Management Plan (in case of involvement of Schedule-I species) shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.	WLCP is under approval in forest department. The implementation report will be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.
10.11	The PP shall put all the environment related expenditure, expenditure related to Action Plan on the PH issues, and other commitments made in the EIA/EMP Report etc. in the company web site for the information to public/public domain. The PP shall also put the information on the left over funds allocated to EMP and PH as committed in the earlier ECs and shall be carried out and spent in next three years, in the company web site for the information to public/public domain.	Noted and will be ensured.
10.12	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Noted and will be ensured.
10.13	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.	Noted and will be ensured.
10.14	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Noted.
10.15	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted.
10.16	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	Noted and will be ensured.
10.17	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	Noted.

ANNEXURE 1

**Report on Decarbonization, GHG
Inventory and its Reduction Plan
of
Zinc Smelter Debari
Unit of Hindustan Zinc Limited**



**Situated at Village Debari, Tehsil Girwa, District
Udaipur, Rajasthan**

Submitted to
IRO, MoEF&CC

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Executive Summary

Recently Zinc Smelter Debari, Unit of Hindustan Zinc Limited has obtained Environment Clearance (J-11011/479/2006-IA-II(I) dated: 23/07/2025) from Ministry of Environment, Forest and Climate Change for its expansion of Zinc metal production from 1,00,000 TPA To 1,20,000 TPA through Modernization within the existing premises of Debari Zinc Smelter under clause 7(ii) of EIA Notification 2006 amended from time to time. Which contains the following conditions-



1.3 The project proponent shall utilize modern technologies for capturing carbon emission and shall also develop adequate carbon sink/ carbon sequestration resources with an aim to meet the carbon neutrality mission in a time bound manner. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.

7.1 The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.

7.2 Project proponent shall submit a study report on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

Basis the above-mentioned conditions this report, assesses the current greenhouse gas (GHG) emissions profile and decarbonisation roadmap for Hindustan Zinc Limited's (HZL) Debari Zinc Smelter, located in Udaipur, Rajasthan. Established in 1968, the smelter is one of India's oldest zinc production facilities and has currently expanded its capacity from 100,000 TPA to 120,000 TPA. The study aims to evaluate existing energy and emissions baselines, identify key sources of carbon intensity, and proposed targeted interventions to align with HZL's commitment to achieving net-zero carbon operations by 2050.

The smelter's current annual carbon footprint is primarily attributed to thermal energy consumption (diesel), grid electricity usage, and process-related CO₂ emissions from its hydro smelting operations for operations of calcine roasting and zinc production. The



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existing total emission intensity stands at approximately 3.39 tCO₂e per MT of Zinc Metal (FG), benchmarked against industry standards. Around 70–75% of emissions are energy-related, while 25–30% arise from process and indirect sources.

With the updated capacity expansion to 120,000 TPA, the overall energy demand has increased proportionally. However, the decarbonisation plan is structured to decouple production growth from emissions, ensuring that total carbon intensity per tonne of zinc metal continues to decline through efficiency upgrades, renewable energy integration, and process innovation in its all stages of operations.



To meet its long-term (2050) emission reduction goals, the Debari Zinc Smelter will implement the following key initiatives:

1. Transitioning up to 85% of electricity consumption to renewable sources through solar power procurement by installation of captive solar installations under the Vedanta Group's Renewable Energy (RE) roadmap.
2. Upgradation of waste heat recovery systems.
3. Gradual phasing out of coal-based energy from sister units/ open access in favour of cleaner alternatives like solar for the unit and low emission fuels like LNG for FG and IUT (scope 3) wherever feasible.
4. Adoption of best available technologies in the roaster and acid plants, leaching & purification, melting & casting sections.
5. Utilization of biochar from sludge and organic waste, increased use of secondary zinc feed, and large-scale afforestation and carbon sequestration projects within and around the smelter premises.
6. The smelter aligns its decarbonisation strategy with Science-Based Targets initiative (SBTi) pathways and ICMM Climate Change Position Statement. Regular carbon accounting and third-party GHG audits are conducted and reports progress through HZL's corporate ESG disclosures.
7. ZSD is ISO 50001:2018 - certified. We conduct an annual IMS Surveillance Audit to ensure ongoing compliance and effectiveness, simultaneously focusing on maintaining certification, evaluating energy equipment performance, and identifying improvement opportunities. Additionally, third-party energy audits are performed every three years by BEE-certified auditors. These audits help assess overall energy use, track energy-savings, and ensure we meet all regulatory requirements.

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8. Beyond emission reduction, the plan emphasizes co-benefits such as air quality improvement, community resilience, and local employment in renewable and green technology projects. These initiatives also support HZL's broader ESG commitments and India's Nationally Determined Contributions (NDCs) under the Paris Agreement.

The proposed decarbonisation roadmap reinforces Hindustan Zinc Limited's position as a leader in sustainable metal production. Through a comprehensive blend of technological advancement, renewable integration, and ecosystem restoration, the Debari Zinc Smelter is set to achieve low-carbon growth, ensuring environmental sustainability while meeting production and business expansion goals. This forward-looking approach exemplifies the company's dedication to responsible industrial transformation and long-term climate stewardship.

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Introduction & Background

1.1 Overview

Hindustan Zinc Limited (HZL), a Vedanta Group company, is India's largest and the world's second-largest integrated zinc producer. The Debari Zinc Smelter (ZSD), located approximately 13 km east of Udaipur city in Rajasthan, holds historical significance as HZL's first zinc smelting unit, commissioned in 1968. Over the decades, the smelter has evolved from a conventional hydro-metallurgical plant into a modern, technology-driven facility adopting best available techniques for environmental management, energy efficiency, optimizing of natural resources and process optimization.



In alignment with Vedanta's corporate vision of "Transforming for Good" and the group-wide commitment to achieving Net Zero Carbon by 2050, the Debari Zinc Smelter has undertaken a comprehensive Decarbonisation Plan. This plan aims to systematically reduce greenhouse gas (GHG) emissions, optimize energy utilization, and integrate renewable and low-carbon technologies across operations.

1.2 Rationale for Decarbonisation

Globally, the metals and mining sector contributes significantly to industrial GHG emissions due to its high reliance on energy-intensive processes and fossil fuel consumption. In India, the zinc smelting industry—traditionally dependent on coal-based thermal energy—faces increasing pressure to transition toward low-carbon production pathways in response to climate imperatives, national policies, and stakeholder expectations.

Recognizing this challenge, Hindustan Zinc has proactively embedded climate action within its sustainability strategy. The company's roadmap is guided by the Task Force on Climate-related Financial Disclosures (TCFD) framework, and the ICMM Climate Change Position Statement, ensuring alignment with global standards for emission reduction and resilience building.

For Debari, which has presently expanded its production capacity from 100,000 TPA to 120,000 TPA, the decarbonisation initiative provides an opportunity to decouple production growth from carbon intensity, ensuring that efficiency improvements and clean energy transitions offset the incremental emissions arising from expansion.

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1.3 Operational Context

The Debari Zinc Smelter primarily produces High Grade (HG) zinc metal through the hydrometallurgical route, encompassing roasting, leaching, purification, electrolysis, and melting & casting operations. The facility also houses an acid plant, Effluent Treatment Plant (ETP), Reverse Osmosis–Zero Liquid Discharge (RO-ZLD) system with state of the art Mechanical Vapor Recompression (MVR) and captive utilities such as air compressors, cooling towers, and power distribution networks.

Energy is a key operational input, with current demand met through grid electricity AVVNL, diesel, and coal-based thermal inputs in associated processes. Together, these sources contribute to Scope 1 (direct) and Scope 2 (indirect) emissions, forming the major share of the smelter's carbon footprint.

1.4 Policy and Regulatory Alignment



The Decarbonisation Plan is designed in accordance with India's National Action Plan on Climate Change (NAPCC) and supports the country's Nationally Determined Contributions (NDCs) under the Paris Agreement. It also considers emerging national frameworks such as the Perform, Achieve and Trade (PAT) Scheme, Renewable Energy Certificates (REC), and the forthcoming Carbon Credit Trading Scheme (CCTS) under the Energy Conservation (Amendment) Act, 2022.

At the corporate level, the plan aligns with the Vedanta Sustainability Framework (VSF), particularly its pillars on Energy and Climate Change, Air Quality and Emissions Management, and Innovation and Technology. The smelter also complies with the HZL's internal ESG Performance Evaluation System, ensuring traceable and verifiable emission accounting.

1.5 Objectives of the Study

This study aims to establish a scientific and actionable roadmap for carbon reduction at the Debari Zinc Smelter. The key objectives are to:

- Assess the current GHG emission baseline, segregated by scope and source.
- Identify emission hotspots and energy-intensive operations.
- Evaluate potential interventions for emission reduction through process optimization, renewable integration, and cleaner technologies.
- Develop a phased Decarbonisation Roadmap with short-, medium-, and long-term targets; and



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- Recommend monitoring and verification mechanisms to ensure sustained progress toward Net Zero.

1.6 Significance of the Study

The outcomes of this study will support Hindustan Zinc's broader transition toward a low-carbon economy, enabling compliance with emerging regulatory standards while enhancing operational efficiency and cost competitiveness. More importantly, it reinforces HZL's leadership in sustainable mining and metallurgy, setting a benchmark for other industrial units in the region to follow.

By integrating science, technology, and policy-based approaches, the Debari Zinc Smelter's Decarbonisation Plan exemplifies the company's commitment to responsible resource management and environmental stewardship — ensuring that industrial growth proceeds hand in hand with climate responsibility.

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Project Description

2.1 Location and Site Area

The Debari Zinc Smelter (ZSD) of Hindustan Zinc Limited (HZL) is located near Debari village, approximately 13 km east of Udaipur city, in the Udaipur district of Rajasthan. The facility lies between the geographical coordinates of approximately 24°36' N latitude and 73°48' E longitude. The smelter complex occupies a leasehold area of 190.05 hectares, encompassing process units, utilities, greenbelt, administrative facilities, and ancillary infrastructure.



The site is well connected by road via National Highway-27 and lies in proximity to the Udaipur railway station (~15 km) and Maharana Pratap Airport (~18 km). The surrounding land use is primarily industrial and semi-rural, interspersed with agricultural areas and open scrublands. The facility's strategic location facilitates efficient logistics for raw material and product movement while minimizing transport-related emissions through proximity to key suppliers and consumers.

2.2 Site Layout and Land Use

The layout of the Debari Smelter is functionally zoned into the following major components:

1. **Process Area:** Roasting, leaching & purification, electrolysis, melting & casting sections, and associated acid plant.
2. **Utilities and Support Systems:** Including power distribution units, Effluent Treatment Plant (ETP), Reverse Osmosis–Zero Liquid Discharge (RO–ZLD) system, Sewage Treatment Plants (STPs), workshops, and fuel storage areas.
3. **Administrative and Laboratory Buildings:** Office complex, control rooms, and quality & environmental laboratory.
4. **Greenbelt and Landscape Zone:** Peripheral and inter-facility plantation zones developed as part of the biodiversity management plan and minimize impact of operation in surrounding area.
5. **Residential Colony and CSR Infrastructure:** Worker housing, community support facilities, and link roads within the industrial estate boundary.

The overall land use pattern ensures adequate segregation between operational, storage, and green zones, maintaining environmental safety and functional efficiency.

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2.3 Existing Green Cover

Environmental stewardship has been integral to the development of the Debari Smelter. Over the years, the facility has developed and maintained more than 33% green cover of its total area, in line with CPCB and MoEF&CC guidelines for industrial estates.

Dominant Species: Neem (*Azadirachta indica*), Peepal (*Ficus religiosa*), Arjun (*Terminalia arjuna*), Gulmohar (*Delonix regia*), Karanj (*Pongamia pinnata*), and Sheesham (*Dalbergia sissoo*).

Ecosystem Role: The plantation contributes to carbon sequestration, microclimatic stabilization, soil conservation, and serves as a habitat for avifauna and pollinators.

Cumulatively, the site's vegetation acts as a natural carbon sink, offsetting a portion of the smelter's residual emissions under Scope 1 and Scope 2 categories.

2.4 Description of Emission Sources

The Debari Zinc Smelter's GHG emissions are categorized as per the Greenhouse Gas Protocol (WRI-WBCSD) under three scopes:

Scope 1 – Direct Emissions

Fuel Combustion: Use of diesel in thermal energy systems, boilers and furnaces.

Onsite Vehicles and Material Handling Equipment: Diesel-powered forklifts, trucks, and mobile cranes.

Scope 2 – Indirect Emissions (Energy-related)



Purchased Electricity: Grid power sourced primarily from the Rajasthan State Electricity Board and supplemented by renewable power procurement under Vedanta's RE program.

Transmission and Distribution Losses: Minor contributions from electrical infrastructure.

Scope 3 – Other Indirect Emissions

Upstream and Downstream Logistics: Transport of concentrates, raw materials, and finished products.

Purchased Goods and Services: Emissions embedded in consumables, reagents, and materials.

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Employee Commute and Waste Disposal: Daily transport, outsourced services, and offsite waste handling.

CSR and Community Water Supply Activities: Pumping and delivery of 730 KLD treated water to nearby villages.

2.5 Supporting Infrastructure

The smelter's operation is supported by robust infrastructure designed for environmental sustainability and process efficiency, including:



1. ETP of 5,760 KLD (being upgraded to 7,760 KLD) and RO-ZLD plant treating 3,000–5,000 KLD effluent, achieving >90% recovery rate.
2. Bag filters for particulate matter and latest DCDA system SO₂ control across process units.
3. Smart metering, process automation, and waste heat recovery systems integrated with the plant's distributed control system (DCS).
4. Multiple harvesting pits and collection ponds capturing ~17% of annual rainfall runoff.
5. Grid tie-ups and planning for onsite solar installations.
6. Heavy Duty vacuum cleaners, water suppression by fog mist canons to control fugitive emissions

2.6 Site Topography, Soil, and Hydrology

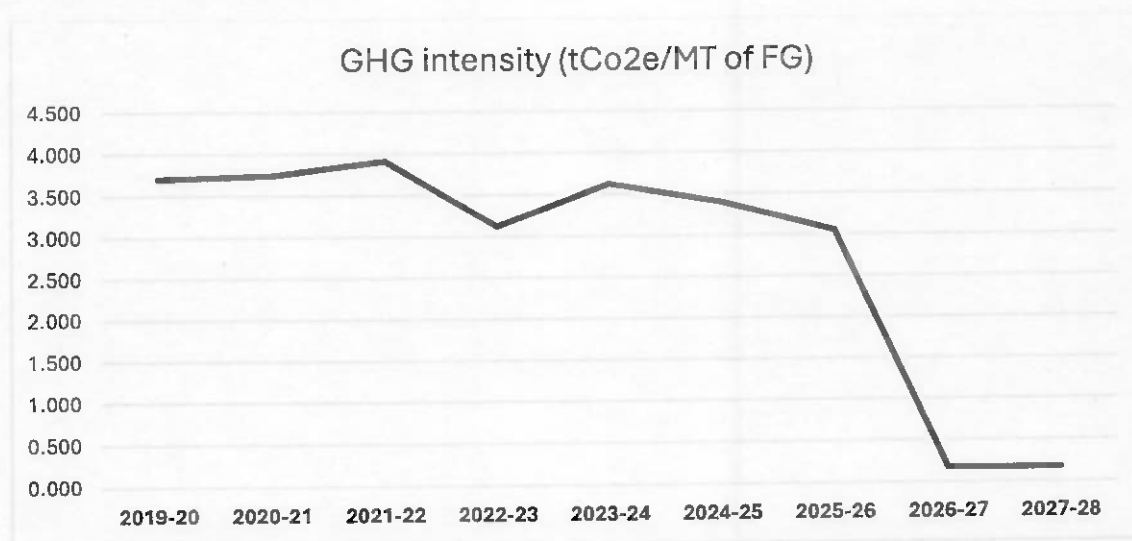
The Debari site lies within the Aravalli hill region, characterized by undulating terrain with gentle slopes ranging from 2–5%. The soil type is predominantly sandy loam to gravelly loam, moderately drained, with low organic carbon content typical of semi-arid conditions.



The smelter area falls within the Ayad River, with controlled stormwater management to prevent offsite discharge. No major natural water body exists within the industrial premises; however, artificial ponds and greenbelt recharge zones serve hydrological and ecological functions.

The Debari Zinc Smelter, with its expansive layout, high green cover, and integrated environmental infrastructure, provides a strong foundation for advancing towards low-carbon and resource-efficient operations. The site's ecological buffers, sustainable

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utilities, and robust monitoring systems will play a key role in enabling successful implementation of the Decarbonisation Roadmap in design stage, ensuring that emission reductions are achieved without compromising operational performance or environmental integrity.



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Carbon Sequestration via Greenbelt & Plantation

This chapter outlines the plan for tree-based carbon sequestration at Debari Zinc Smelter, including estimates of sequestration potential of selected species, plantation plan, and how this contributes to HZL's biodiversity and conservation commitments (Wildlife Conservation Plan, Biodiversity Management Plan).

3.1 Objectives

Offset residual GHG emissions that are not mitigated via process/energy improvements.

- Fulfil regulatory and internal obligations to maintain 33% green cover in the leasehold area (190.05 ha).
- Enhance biodiversity, local microclimate, soil health, erosion control, aesthetic and community benefits.
- Contribute to ICMM (International Council on Mining & Metals) principles of "No Net Loss / Net Positive Impact" for biodiversity.

3.2 Integration with Biodiversity / Conservation Commitments

The sequestration plan forms part of the residual emissions offset after mitigation via energy efficiency, fuel switching, etc.



HZL's Wildlife Conservation Plan has been implemented; additionally, a Biodiversity Management Plan is being developed by IUCN for Debari, aiming for "No Net Loss" in biodiversity in line with ICMM principles. Greenbelt plantation will contribute habitat connectivity, species richness.

Incorporate sequestration estimates into annual reporting and into the group-level carbon footprint to demonstrate progress.

3.3 Integration with Carbon Sequestration Plan

The greenbelt and plantation initiatives at Zinc Smelter Debari (ZSD) form a cornerstone of the site's Decarbonisation and Biodiversity Management Strategy, contributing directly to long-term Scope 1 and Scope 2 emission offsets through the development of natural carbon sinks.

These plantations enhance both ecosystem resilience and climate mitigation potential, aligning with Vedanta's ESG 2030 roadmap and national afforestation objectives.

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Alignment with Global Methodologies

The carbon sequestration potential of ZSD's greenbelt has been estimated using internationally accepted methodologies consistent with the Intergovernmental Panel on Climate Change (IPCC, 2006), Freij et al. (2022), and the ForTomorrow (2023) reforestation framework.

Under this approach, the average annual CO₂ sequestration per tree is derived from global benchmarks applicable to semi-arid tropical species typical of Rajasthan's ecology.

The ForTomorrow methodology further indicates that approximately five trees are required to sequester one tonne of CO₂ over the long term (20–30 years).

ZSD's plantation model—built on similar ecological parameters—thus reflects a scientifically robust and conservative approach to carbon accounting.

Annual Carbon Sequestration Estimates

Based on the established plantation area and average species-level sequestration rates, the ZSD greenbelt demonstrates a significant annual carbon uptake capacity.

During the early establishment and mid-growth phases, annual sequestration is expected to gradually increase with vegetation maturity, enhanced canopy density, and soil carbon stabilization.



In the mature phase, the sequestration rate is projected to be substantially higher, reflecting full canopy closure and optimized biomass accumulation.

This steady annual increase directly supports ZSD's net-zero transition pathway by offsetting operational emissions and enhancing ecosystem services within and around the site.

Cumulative Sequestration Over Time

Over the long term, the greenbelt is projected to accumulate a substantial carbon stock, contributing significantly to ZSD's decarbonisation trajectory.

The cumulative CO₂ sequestration potential over a 20-year period aligns closely with global reforestation models and is corroborated by lifetime estimates derived from the ForTomorrow equivalence ratio.



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These findings confirm that ZSD's carbon sink development strategy is both scientifically credible and conservatively modelled, ensuring transparency and long-term verifiability.

Methodological Considerations

These estimates are based on data from the 2017 Greenhouse Gas Inventory and studies by Paul et al. on carbon sequestration in young, afforested areas. The calculations also incorporate an expansion factor of 1.4 to account for the total biomass, including roots and canopy, beyond just the trunk volume

With parts planted sooner and higher growth species, this can be more.

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Conclusion and Way Forward

The Decarbonisation Plan for Hindustan Zinc Limited's Debari Zinc Smelter demonstrates a comprehensive, science-based approach to reducing greenhouse gas (GHG) emissions and enhancing carbon sequestration through biodiversity initiatives. By integrating advanced energy management practices, renewable energy adoption, and an extensive greenbelt program, the smelter is positioned to achieve its ambitious targets of reducing Scope 1 and 2 specific emissions by 50% by 2030, in alignment with the company-wide 0.5 Mt CO₂e reduction goal against the 2020–21 baseline.



The analysis of carbon sequestration potential through the proposed greenbelt, leveraging native and well-adapted species such as Neem, Peepal, Gulmohar, Sheesham, Arjun, and others, indicates a cumulative sequestration of approximately 65,000–75,000 tonnes of CO₂ equivalent (tCO₂e) over 20 years. This sequestration program not only offsets residual emissions but also supports biodiversity enhancement, soil conservation, and local microclimatic benefits. Furthermore, the ongoing Wildlife Conservation Plan and the IUCN-guided Biodiversity Management Plan ensure that HZL's operations align with the ICMM principles of No Net Loss of biodiversity, contributing to ecosystem resilience and long-term sustainability.

The decarbonisation strategy also emphasizes continuous improvement through:

- Regular energy and carbon audits.
- Implementation of energy-efficient technologies and process optimization.
- Adoption of renewable and low-carbon energy sources.
- Systematic monitoring, reporting, and verification of emissions and sequestration.
- Employee and stakeholder engagement programs to raise awareness and foster sustainable practices.



Way Forward:

- Annual review and recalibration of emission reduction measures and sequestration estimates.
- Expansion of greenbelt areas where feasible, including degraded lands and buffer zones.

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- Strengthening community participation in carbon offset and biodiversity initiatives.
- Continued alignment with global reporting standards (GRI 302/305, IPCC guidelines) and regulatory requirements, ensuring transparency and accountability.

In conclusion, the Debari Zinc Smelter's decarbonisation roadmap exemplifies a holistic and forward-looking approach, balancing operational growth with environmental stewardship. By adopting measurable, monitorable, and time-bound initiatives, HZL demonstrates its commitment to carbon neutrality, biodiversity conservation, and sustainable industrial development, thereby contributing to India's climate action objectives and the global transition towards a low-carbon future.

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	Decarbonization Plan	 HINDUSTAN ZINC Zinc & Silver of India
DOC. NO. HZL/DZS/Decarbonization Plan		
Issue No.: 01	Issue Date: 15/10/2025	Revision Date:
		Revision No.: 00

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Energy Conservation at ZSD by-



1. Process optimization and modification,
2. Energy consumption by significant drives
3. Through improvement in current efficiency

Savings (uom)/year	FY 2024-25	FY 2025-26
GJ	8,240.6	37,379.78
tCo2e	4,230.8	8,670.03

Net Zero Strategy: -

To align with ZSD's long-term Net Zero by 2050 vision and Vedanta's ESG 2030 commitments, The following key commitments form part of the future low-carbon transition pathway:

1. 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.
2. Shifting to renewables and/ or low-carbon solutions where possible.
3. Replace diesel fuelled transportation vehicles with Electric vehicles, install Hydrogen or Electric/ Induction Furnaces, enhance our carbon Capture, Storage and Utilization capacity etc.
4. Increasing current rating of cell house.
5. Plantation activities undertaken at ZSD plant will also contribute to carbon sequestration over a long run.
6. 2 Electric Forklifts introduced in Business partner operations in ZSD, going ahead more electric vehicles to be introduced this will lead to scope 3 emission reduction.
7. 12 MW Solar is installed at ZSD.
8. Approx 12 MW Solar will also be installed at ZSD
9. As a part of long-term Net zero strategy additional 530 MW Renewable energy to be procured in HZL which will replace by FY26.

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10. As a part of long-term Net zero strategy 83% Renewable energy will use against the actual requirement for R-6
11. As a part of our net Zero Strategy Vedanta introduced the EV vehicle policy for employees.
12. Hindustan Zinc launched the first 10 electric bulker trucks at Zinc Smelter Debari, setting the stage for a greener, more sustainable logistics future. This electric fleet, expanded to a total of 40 trucks in the coming months of FY 26, will not only reduce our carbon emissions but also enhance safety and operational efficiency. Together with the newly signed MoU for electric bus deployment, these initiatives highlight our deep commitment to clean, innovative, and future-ready mobility solutions.
13. For the current financial year, our renewable energy withdrawal for consumption is planned at an encouraging 70%, reflecting our strong commitment to sustainable operations. By next year, this is set to rise significantly to 92%, demonstrating a clear and strategic shift toward cleaner energy sources. In addition, further renewable energy contracts are in the pipeline, which will strengthen our long-term decarbonization roadmap by 2030 and reinforce our mission to lead with responsible, future-ready energy choices.

ANNEXURE 1A



Project specific AAQ Management plan

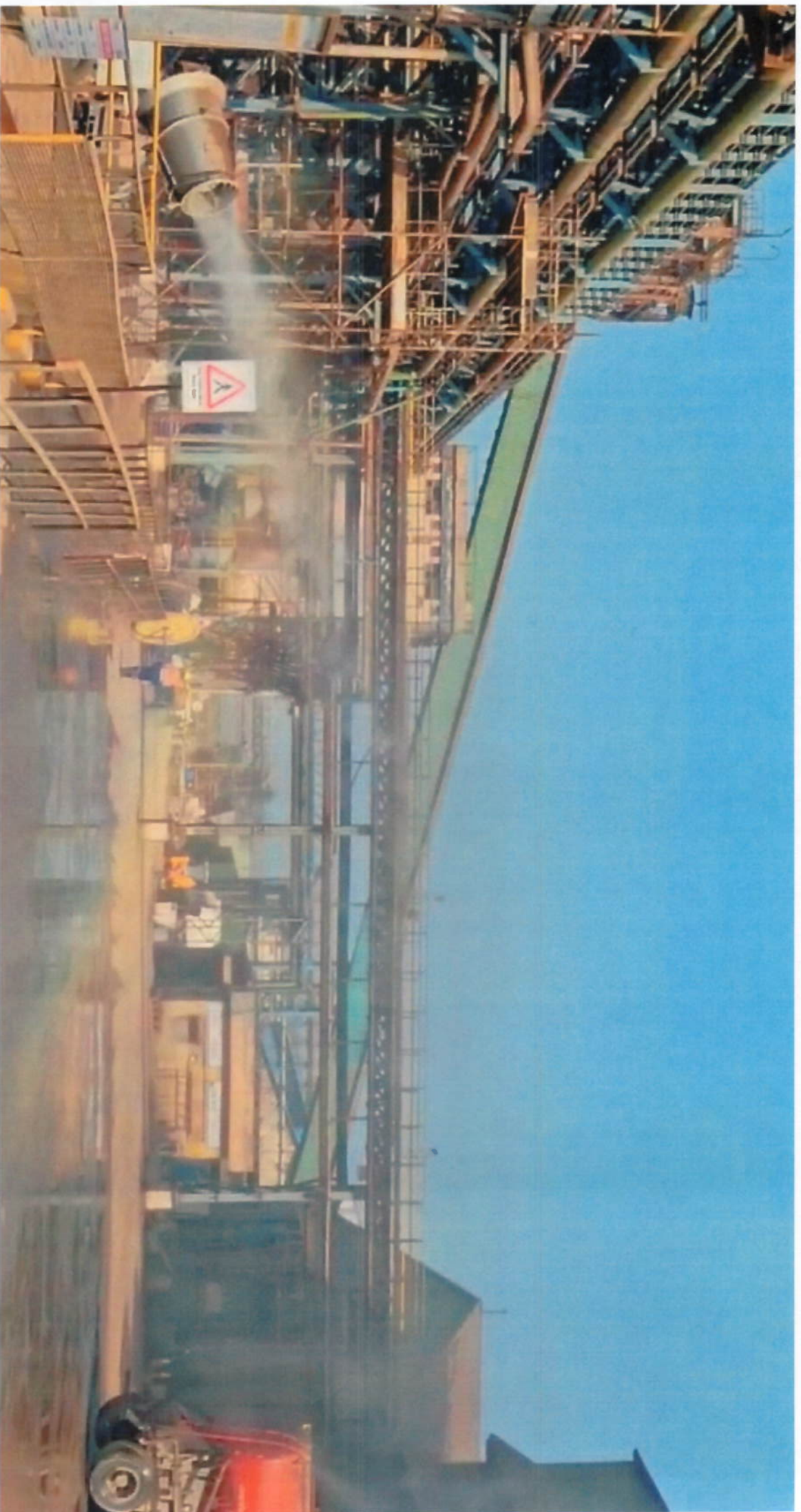
Adequate pollution control measures have been / will be adopted to keep the fugitive emissions from all sources within the statutory norms, brief of the same is given below:

- Dust suppression system have been/ will be maintained to minimize fugitive dust emission in Zinc concentrate handling area & at various transfer points and closed conveyor belts have been /will be maintained for the transfer of material to reduce the fugitive emissions.
- Water sprinkling by Fog Mist Cannon and cleaning of haul roads by Heavy duty vacuum cleaner is being / will be done regularly to control the fugitive emissions generated due to vehicular movement.
- The plant is being/ will be maintain dust collection and extraction system to control fugitive dust emissions at all the transfer points & loading /Unloading areas.
- Bag filters have been / will be installed at all material transfer points.
- Vehicles and machineries are being / will be regularly maintained. Proper upkeep and maintenance of vehicles are being / will be done.
- PPE are being and will be provided to employees working in dust prone areas.
- Out of total area i.e., 184.2 ha of plant area, 76.28 ha (41.41%) has already been covered under greenbelt and plantation and same will be maintained by doing gap plantation to achieve the plantation density @ 2500/ha.
- Native Plant species have been and will be planted in consultation with local DCF.

Pollution control Measures

S.no	Section	Name of the Pollutant	Control Systems
1	Slag Grinding	PM	Bag Filters with stack provided to trap particulate matter to meets the stipulated limit of 50 mg/Nm ³ . Existing system will be utilized for the proposed expansion.
2	Sulphuric Acid Plant II & III	SO ₂ , Acid Mist	Double Conversion Double Absorption (DCDA), Demister, Absorption towers, ESP, Gas Conditioning Plant, Scrubbers has been already installed to capture SO ₂ and Acid Mist. Same practice will be continued after proposed expansion.
3	Zinc Melting and Casting Furnaces	PM	These units are provided with Bag Filters stacks to trap Particulate matter to meet the stipulated limit of 50 mg/Nm ³ . The existing system will be utilized.
4	Roaster	PM	Ventilation system has been provided in the Roaster Calcine handling and storage section followed by bag filters to maintain stack emissions less than 30 mg/Nm ³ of PM and Water Sprinkler by Fog Mist Cannon is being done (Herewith attached as Annexure 1C)
5	Leaching Plant	-	Leaching operations are carried out at elevated temperatures and to ensure atmospheric pressure, steam is not widely distributed in the working area. All vessels are equipped with proper venting system.
6	Fugitive Emissions	PM	Concentrate shed, concentrate unloading area shall be provided with water sprinklers to arrest the fugitive dust emissions.

ANNEXURE 1C



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7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,
RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



TC-13363

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250713/06	Date of Registration: 13.07.2025
Report No. SCS/HZL/AAQ/20250713/06(2/2)	Date of Report: 25.07.2025

AMBIENT AIR QUALITY MONITORING REPORT

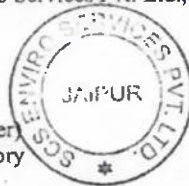
Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the : 24°36'14.21"N
Location : 73°48'51.19"E
Ambient Temperature : 31.8°C
Name of Location : Near Environment Lab Area
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni,
Benzene, B(a)P

**RESULTS**

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	76.6 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	45.1 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	20.2 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	25.8 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	67.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	1,374 µg / m ³	2,000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	63.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	0.50 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Nickel (Ni)	4.11 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(a)Pyrene (BaP)	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)
Particulate phase only			

Per pro SCS Enviro Services Pvt. Ltd.,

[Signature]
Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

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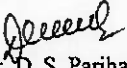
Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the Location : 24°36'14.21"N
73°48'51.19"E
Ambient Temperature : 31.8°C
Name of Location : Near Environment Lab Area
Parameter required : As

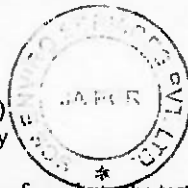


RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
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CIN NO.: U74140RJ2013PTC042216



TC-13363

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250713/07	Date of Registration: 13.07.2025
Report No. SCS/HZL/AAQ/20250713/07(1/2)	Date of Report: 25.07.2025

AMBIENT AIR QUALITY MONITORING REPORT


Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the Location : 24°36'26.79"N
73°48'50.85"E
Ambient Temperature : 31.6°C
Name of Location : Near SRP Ground Area
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni,
Benzene, B(a)P



RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	64.4 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	38.6 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	8.7 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	13.3 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	48.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	916 µg / m ³	2,000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	48.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	0.23 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Nickel (Ni)	0.98 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(a)Pyrene (BaP)	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)
Particulate phase only			

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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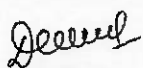
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Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the Location : 24°36'26.79"N
73°48'50.85"E
Ambient Temperature : 31.6°C
Name of Location : Near SRP Ground Area
Parameter required : As

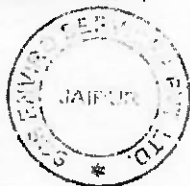


RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

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TC-13363

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250713/08	Date of Registration: 13.07.2025
Report No. SCS/HZL/AAQ/20250713/08(1/2)	Date of Report: 25.07.2025

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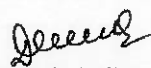
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Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the : 24°36'07.62"N
Location : 73°49'06.09"E
Ambient Temperature : 31.5°C
Name of Location : Near Solar Power Plant Area
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni,
Benzene, B(a)P

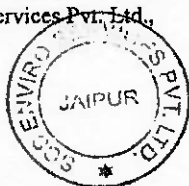


RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	66.0 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	38.5 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	7.6 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	11.2 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	50.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	916 µg / m ³	2,000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	45.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	0.24 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Arsenic (As)	< 1.0 ng / m ³	6 ng / m ³	IS 5182 (Part 22)
Nickel (Ni)	0.87 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(a)Pyrene (BaP)	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)
Particulate phase only			

Per pro SCS Enviro Services Pvt. Ltd.


Dr. D. S. Parihar
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AMBIENT AIR QUALITY MONITORING REPORT

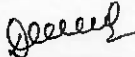
Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the : 24°36'07.62"N
Location : 73°49'06.09"E
Ambient Temperature : 31.5°C
Name of Location : Near Solar Power Plant Area
Parameter required : As



RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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SCS SCS ENVIRO SERVICES PRIVATE LIMITED

7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,
RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



TC-13363

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250713/09	Date of Registration: 13.07.2025
Report No. SCS/HZL/AAQ/20250713/09(1/2)	Date of Report: 25.07.2025

AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the : 24°36'19.41"N
Location : 73°49'18.36"E
Ambient Temperature : 31.5°C
Name of Location : Near ETP / R O Plant Area
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni,
Benzene, B(a)P

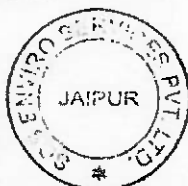


RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	69.4 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	31.0 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	7.5 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	12.0 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	48.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	1,031 µg / m ³	2,000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	48.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	0.35 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Nickel (Ni)	1.08 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(a)Pyrene (BaP)	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)
Particulate phase only			

Per pro SCS Enviro Services Pvt. Ltd.,

Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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SCS SCS ENVIRO SERVICES PRIVATE LIMITED

7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,
RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250713/09	Date of Registration: 13.07.2025
Report No. SCS/HZL/AAQ/20250713/09(2/2)	Date of Report: 25.07.2025

AMBIENT AIR QUALITY MONITORING REPORT

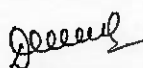
Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 17.07.2025
Date of end of testing : 25.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
GPS Coordinate of the : 24°36'19.41"N
Location : 73°49'18.36"E
Ambient Temperature : 31.5°C
Name of Location : Near ETP / R O Plant Area
Parameter required : As



RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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SCS SCS ENVIRO SERVICES PRIVATE LIMITED

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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



TC-13363

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250915/02	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/02(1/2)	Date of Report: 22.09.2025

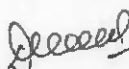
AMBIENT AIR QUALITY MONITORING REPORT

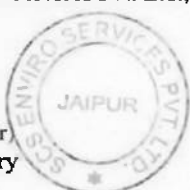
Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.5°C
Name of Location : Inside Plant Lab Area
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni, Benzene, B(α)P

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	72.3 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	44.0 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	10.5 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	16.7 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	60.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	1,145 µg / m ³	2,000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	46.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	0.40 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Nickel (Ni)	2.09 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(α)Pyrene (BaP)	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)
Particulate phase only			

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250915/02	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/02(2/2)	Date of Report: 22.09.2025

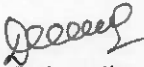
AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.5°C
Name of Location : Inside Plant Lab Area
Parameter required : As

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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Sample ID No.: SCS/AAQ/20250915/03	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/03(1/2)	Date of Report: 22.09.2025

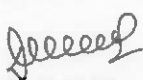
AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.7°C
Name of Location : Near Resident Area
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni, Benzene, B(α)P

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	62.0 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	38.4 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	7.5 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	11.0 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	45.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	802 µg / m ³	2,000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	40.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	0.14 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Nickel (Ni)	0.67 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(α)Pyrene (BaP)	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)
Particulate phase only			

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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SCS SCS ENVIRO SERVICES PRIVATE LIMITED

7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,
RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250915/03	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/03(2/2)	Date of Report: 22.09.2025

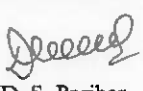
AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.7°C
Name of Location : Near Resident Area
Parameter required : As

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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Sample ID No.: SCS/AAQ/20250915/04	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/04(1/2)	Date of Report: 22.09.2025


AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.8°C
Name of Location : Temple at Govala Near Powerhouse
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni, Benzene, B(a)P

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	54.6 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	32.0 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	7.0 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	9.8 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	42.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	687 µg / m ³	2,000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	37.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	< 0.10 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Nickel (Ni)	0.40 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(a)Pyrene (BaP) Particulate phase only	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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SCS SCS ENVIRO SERVICES PRIVATE LIMITED

7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,
RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250915/04	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/04(2/2)	Date of Report: 22.09.2025

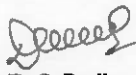
AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.8°C
Name of Location : Temple at Govala Near Powerhouse
Parameter required : As

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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Sample ID No.: SCS/AAQ/20250915/05	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/05(1/2)	Date of Report: 22.09.2025

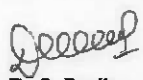
AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.8°C
Name of Location : Near Govt. School at Bichhadi
Parameter required : PM₁₀, PM_{2.5}, SO₂, NO_x, O₃, CO, NH₃, Pb, Ni, Benzene, B(a)P

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Particulate Matter (PM ₁₀)	58.0 µg / m ³	100 µg / m ³	IS 5182 (Part 23)
Particulate Matter (PM _{2.5})	34.5 µg / m ³	60 µg / m ³	IS 5182 (Part 24)
Sulphur Dioxide (SO ₂)	7.4 µg / m ³	80 µg / m ³	IS 5182 (Part 2)
Oxide Of Nitrogen (NO _x)	10.7 µg / m ³	80 µg / m ³	IS 5182 (Part 6)
Ozone (O ₃)	45.0 µg / m ³	100 µg / m ³	IS 5182 (Part 9)
Carbon Monoxide (CO)	802 µg / m ³	2.000 µg / m ³	SCS/SOP/AAQ/013
Ammonia (NH ₃)	38.0 µg / m ³	400 µg / m ³	IS 5182 (Part 25)
Lead (Pb)	0.15 µg / m ³	1 µg / m ³	IS 5182 (Part 22)
Nickel (Ni)	0.87 ng / m ³	20 ng / m ³	IS 5182 (Part 26)
Benzene (C ₆ H ₆)	< 1.0 µg / m ³	5 µg / m ³	IS 5182 (Part 11)
Benzo(a)Pyrene (BaP)	< 1.0 ng / m ³	1 ng / m ³	IS 5182 (Part 12)
Particulate phase only			

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AAQ/20250915/05	Date of Registration: 15.09.2025
Report No. SCS/HZL/AAQ/20250915/05(2/2)	Date of Report: 22.09.2025

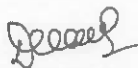
AMBIENT AIR QUALITY MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.09.2025
Date of start of testing : 17.09.2025
Date of end of testing : 22.09.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Ambient Temperature : 31.8°C
Name of Location : Near Govt. School at Bichhadi
Parameter required : As

RESULTS

Parameter	Observed Value	Limit as per NAAQS	Protocol
Arsenic (As)	< 5.5 ng / m ³	6 ng / m ³	EPA/625/R-96/010a US EPA IO 3.4

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,
RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



TC-13363

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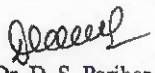
Sample ID No.: SCS/W/20250713/38	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/38	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 1 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	7.26	APHA (24 TH Edition) 4500 H
Iron as Fe	0.05 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.31 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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CIN NO.: U74140RJ2013PTC042216



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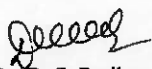
Sample ID No.: SCS/W/20250713/39	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/39	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 2 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	7.07	APHA (24 TH Edition) 4500 H
Iron as Fe	0.05 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.17 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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CIN NO.: U74140RJ2013PTC042216



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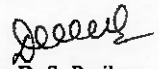
Sample ID No.: SCS/W/20250713/40	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/40	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 3 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	6.88	APHA (24 TH Edition) 4500 H
Iron as Fe	0.06 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.14 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
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RAMNAGARIYA ROAD, JAGATPURA,
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CIN NO.: U74140RJ2013PTC042216



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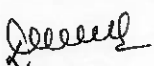
Sample ID No.: SCS/W/20250713/41	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/41	Date of Report: 25.07.2025

TEST REPORT

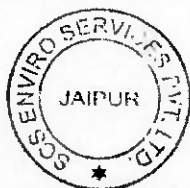
Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 4 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	6.78	APHA (24 TH Edition) 4500 H
Iron as Fe	0.03 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.36 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,



Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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CIN NO.: U74140RJ2013PTC042216



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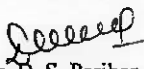
Sample ID No.: SCS/W/20250713/42	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/42	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 5 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	6.69	APHA (24 TH Edition) 4500 H
Iron as Fe	0.04 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.83 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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CIN NO.: U74140RJ2013PTC042216



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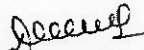
Sample ID No.: SCS/W/20250713/43	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/43	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 6 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	6.71	APHA (24 TH Edition) 4500 H
Iron as Fe	0.02 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.28 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



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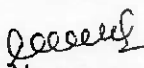
Sample ID No.: SCS/W/20250713/44	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/44	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 7 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	6.74	APHA (24 TH Edition) 4500 H
Iron as Fe	0.06 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.34 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



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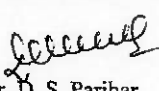
Sample ID No.: SCS/W/20250713/45	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/45	Date of Report: 25.07.2025

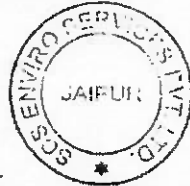
TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 8 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	6.92	APHA (24 TH Edition) 4500 H
Iron as Fe	0.03 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.39 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



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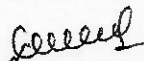
Sample ID No.: SCS/W/20250713/46	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/46	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 9 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	8.06	APHA (24 TH Edition) 4500 H
Iron as Fe	0.05 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.18 Mg / L	APHA (24 TH Edition) 3111B

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Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216



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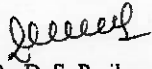
Sample ID No.: SCS/W/20250713/47	Date of Registration: 13.07.2025
Report No. SCS/HZL/W/20250713/47	Date of Report: 25.07.2025

TEST REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Sampling : 16.07.2025
Date of start of testing : 18.07.2025
Date of end of testing : 25.07.2025
Details of Sample : Piezometer No. 10 Water
Sample submitted by : SCS Representative

Parameter	Results	Protocol
pH	7.20	APHA (24 TH Edition) 4500 H
Iron as Fe	0.03 Mg / L	APHA (24 TH Edition) 3111B
Cadmium as Cd	< 0.003 Mg / L	APHA (24 TH Edition) 3111B
Lead as Pb	< 0.01 Mg / L	APHA (24 TH Edition) 3111B
Zinc as Zn	0.62 Mg / L	APHA (24 TH Edition) 3111B

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

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Annexure - 4.

Sample ID No.: SCS/AN/20250713/25	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/25	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near Environment Lab Area
Parameter required : Ambient Noise

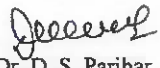
Results

Parameter	Results dB (A)	
	Day Time	Night Time
Leq	61.8	55.5

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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SCS SCS ENVIRO SERVICES PRIVATE LIMITED

7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,
RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

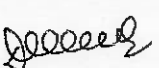
Sample ID No.: SCS/AN/20250713/26	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/26	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near S.R.P Ground Area
Parameter required : Ambient Noise

Parameter	Results dB (A)	
	Day Time	Night Time
Leq	59.4	54.3
Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40
1. Day time if from 6.00 am to 10 pm 2. Night time if from 10.00 pm to 6 am 3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority. 4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority		

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AN/20250713/27	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/27	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Solar Power Plant Area
Parameter required : Ambient Noise

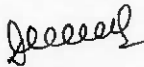
Results

Parameter	Results dB (A)	
	Day Time	Night Time
Leq	55.0	51.7

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AN/20250713/28	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/28	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near ETP / RO Plant Area
Parameter required : Ambient Noise

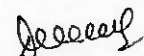
Results

Parameter	Results dB (A)	
	Day Time	Night Time
Leq	63.2	56.4

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority

Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AN/20250713/30	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/30	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

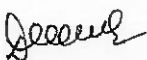
Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near Railway Gate / SRP Area
Parameter required : Ambient Noise

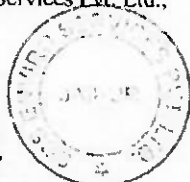
Parameter	Results dB (A)	
	Day Time	Night Time
Leq	59.2	53.0

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
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Per pro SCS Enviro-Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory



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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AN/20250713/31	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/31	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near Leaching Area
Parameter required : Ambient Noise

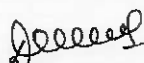
Results

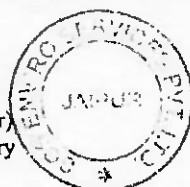
Parameter	Results dB (A)	
	Day Time	Night Time
Leq	72.5	66.1

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority

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(Technical Manager)
Authorised Signatory



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JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AN/20250713/32	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/32	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near DG room Area
Parameter required : Ambient Noise

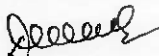
Results

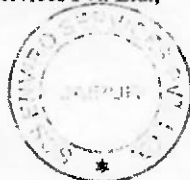
Parameter	Results dB (A)	
	Day Time	Night Time
Leq	61.3	55.6

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
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CIN NO.: U74140RJ2013PTC042216

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ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AN/20250713/33	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/33	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT


Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near ZSD Main Gate Area
Parameter required : Ambient Noise

Parameter	Results dB (A)	
	Day Time	Night Time
Leq	70.5	65.0

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority

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Dr. D. S. Parihar
(Technical Manager)
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RAMNAGARIYA ROAD, JAGATPURA,
JAIPUR-302017, RAJASTHAN (INDIA)
CIN NO.: U74140RJ2013PTC042216

ISO-9001:2015 CERTIFIED LABORATORY
ISO-14001:2015 CERTIFIED LABORATORY
ISO-45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/AN/20250713/34	Date of Registration: 13.07.2025
Report No. SCS/HZL/AN/20250713/34	Date of Report: 25.07.2025

AMBIENT NOISE MONITORING REPORT

Name of Client : M/s. Hindustan Zinc Limited, Zinc Smelter, Debari
Address of Client : Village: Debari, Udaipur-313024, Rajasthan
Date of Monitoring : 15.07.2025
Date of start of testing : 15.07.2025
Date of end of testing : 16.07.2025
Duration of sampling : 24 Hrs.
Type of Industry : Non-Ferrous Metal Industry
Name of Location : Near ZE Area
Parameter required : Ambient Noise

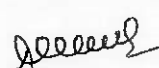
Results

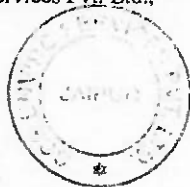
Parameter	Results dB (A)	
	Day Time	Night Time
Leq	69.6	65.4

Category of Zones	Leq in dB(A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

1. Day time if from 6.00 am to 10 pm
2. Night time if from 10.00 pm to 6 am
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
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Per pro SCS Enviro Services Pvt. Ltd.,


Dr. D. S. Parihar
(Technical Manager)
Authorised Signatory

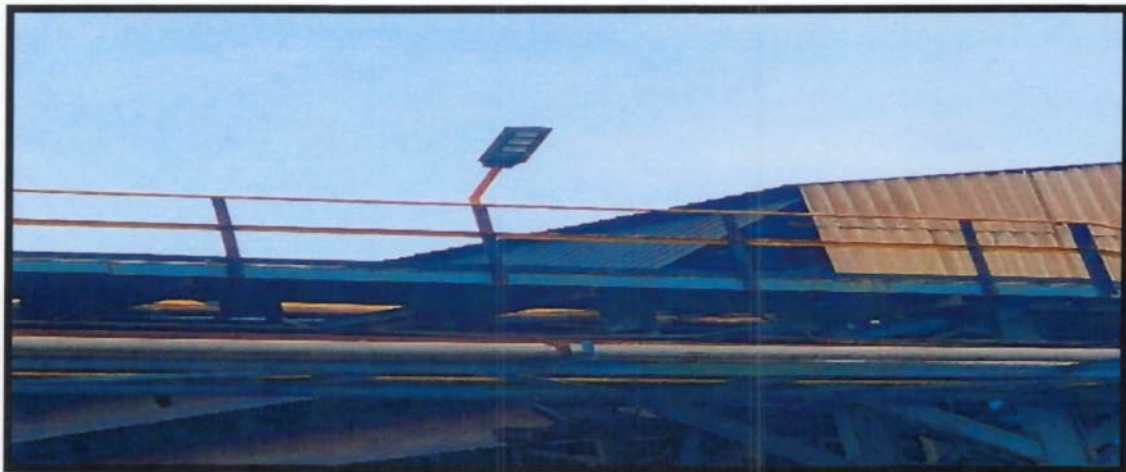


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Solar Panel Capacity 72 K.W at Roof top of CDSS Building.



Solar Light in Plant area.



- **Solar plant with capacity of– 12 MW A.C. power generation.**





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 and respect internationally recognized areas such as World Heritage Sites, IUCN Category (I - IV) Protected areas, legally designated protected areas, and Key Biodiversity Areas.
- ❖ Compensate with future reforestation (no net deforestation) by appropriate on or off-site habitat restoration. Plan to achieve No Gross Deforestation in protected areas and strive to achieve No Net Deforestation in operating sites by 2050 against the baseline of 2020.
- ❖ Plan and strive to achieve No Net Loss (NNL) of biodiversity at all mine sites by closure through applying mitigation hierarchy and ensure that we will operate on the principles of Net Positive Impact (NPI) for critical habitat * to support halting and reversing biodiversity loss by 2030 from a 2020 baseline.
- ❖ Set targets and objectives to avoid, reduce or mitigate biodiversity and nature-based impacts on people and planet.
- ❖ Analyze Nature related financial risks arising in our operations and integrate relevant nature considerations into our strategic approach, financial planning. Also analyzing the nature-related 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.
- ❖ Align with local, national, and global conservation initiatives by collaborating with conservation experts, Indigenous Peoples, local communities, affected stakeholders, 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 aligned with Kunming-Montreal Global Biodiversity Framework is part of our Sustainability Framework, and each Hindustan Zinc business shall implement this policy. 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. Board ESG will review this policy annually and recommend appropriate revisions to the Board as may deem necessary.

*Critical habitats include biodiversity hotspots, ecologically sensitive zones, IUCN Category I-IV protected areas, regions adjacent to World Heritage Sites, and other ecologically significant habitats and ecosystems

Date: 05th June, 2025

Arun Misra
CEO & Whole Time Director, HZL





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 external 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.
- ❖ Engage with relevant stakeholders in building capacity and capability to identify and proactively manage environmental related issues.
- ❖ 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 our 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: 05th June, 2025



प्रातःकाल

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हिन्दुस्तान जिंक लिमिटेड



सीआईएन: L27204RJ1966PLC001208

पंजीकृत कार्यालय : यशव भवन, यशवगढ़, उदयपुर, राजस्थान-313004

वेबसाइट: www.hizlindia.com दूरभाष 91-294-6604000

जिंक स्मेल्टर देवारी, देवारी

सूचना

सर्वे साधारण को सूचित किया जाता है कि, भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के पत्र क्रमांक J-11011/479/2006-IA-II(I) दिनांक 23.07.2025 के द्वारा मैसर्स हिन्दुस्तान जिंक लिमिटेड, जिंक स्मेल्टर देवारी को (1,00,000 टीपीए से 1,20,000 टीपीए जस्ता धातु उत्पादन) विस्तार की स्थापना हेतु पर्यावरण स्वीकृति (क्लीयरेंस) प्रदान की गई है।

उक्त स्वीकृति को पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की वेबसाइट www.moef.gov.in पर देखा जा सकता है एवं इसकी प्रतिलिपि राजस्थान राज्य प्रदूषण नियन्त्रण मंडल के पास भी उपलब्ध है।

मानस त्यागी

(डिप्टी सीईओ-आईबीयू स्मेल्टर्स, हिन्दुस्तान जिंक लिमिटेड)

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हिन्दुस्तान जिंक लिमिटेड



सीआईएन: L27204RJ1966PLC001208

पंजीकृत कार्यालय : यशव भवन, यशवगढ़, उदयपुर, राजस्थान-313004

वेबसाइट: www.hizlindia.com दूरभाष 91-294-6604000

जिंक स्मेल्टर देवारी, देवारी

सूचना

सर्वे साधारण को सूचित किया जाता है कि, भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के पत्र क्रमांक J-11011/479/2006-IA-II(I) दिनांक 23.07.2025 के द्वारा मैसर्स हिन्दुस्तान जिंक लिमिटेड, जिंक स्मेल्टर देवारी को (1,00,000 टीपीए से 1,20,000 टीपीए जस्ता धातु उत्पादन) विस्तार की स्थापना हेतु पर्यावरण स्वीकृति (क्लीयरेंस) प्रदान की गई है।

उक्त स्वीकृति को पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की वेबसाइट www.moef.gov.in पर देखा जा सकता है एवं इसकी प्रतिलिपि राजस्थान राज्य प्रदूषण नियन्त्रण मंडल के पास भी उपलब्ध है।

मानस त्यागी

(डिप्टी सीईओ-आईबीयू स्मेल्टर्स, हिन्दुस्तान जिंक लिमिटेड)

Annexure -VIII



HINDUSTAN ZINC
Zinc & Silver of India

HZL/ZSD/ENV/A-19/2025-26/ 221

दिनांक: 30.07.2025

सेवा में,
माननीय सरपंच,
ग्राम पंचायत – बिछड़ी.

विषय: पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय द्वारा पर्यावरण मंजूरी प्रदान किए जाने की सूचना

महोदय,

आपको सूचित किया जाता है कि, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय ने पत्र संख्या: J-11011/479/2006-IA-III(I) दिनांक 23.07.2025 के माध्यम से जिंक स्मेल्टर देबारी में जिंक धातु उत्पादन के 1,00,000 मीट्रिक टन प्रति वर्ष से 1,20,000 मीट्रिक टन प्रति वर्ष तक के प्रस्तावित विस्तार के लिए पर्यावरण मंजूरी प्रदान कर दी है।

आपके संदर्भ के लिए पर्यावरण मंजूरी की प्रति यहाँ संलग्न है।

धन्यवाद.

भवदीय,

(विवेक व्यादव)

एसबीयू निदेशक-जिंक स्मेल्टर देबारी





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HINDUSTAN ZINC
Zinc & Silver of India

HZL/ZSD/ENV/A-19/2025-26/ 222

दिनांक: 30.07.2025

सेवा में,
माननीय सरपंच,
ग्राम पंचायत - जिंक स्मेल्टर देबारी.

विषय: पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय द्वारा पर्यावरण मंजूरी प्रदान किए जाने की सूचना

महोदय,

आपको सूचित किया जाता है कि, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय ने पत्र संख्या: J-11011/479/2006-IA-II(I) दिनांक 23.07.2025 के माध्यम से जिंक स्मेल्टर देबारी में जिंक धातु उत्पादन के 1,00,000 मीट्रिक टन प्रति वर्ष से 1,20,000 मीट्रिक टन प्रति वर्ष तक के प्रस्तावित विस्तार के लिए पर्यावरण मंजूरी प्रदान कर दी है।

आपके संदर्भ के लिए पर्यावरण मंजूरी की प्रति यहाँ संलग्न है।

धन्यवाद.

भवदीय,

(विवेक यादव)

एसबीयू निदेशक-जिंक स्मेल्टर देबारी



Hindustan Zinc Limited, Zinc Smelter, Debari - Udaipur 313024, Tel.: (+91-294) 2652520 Fax: (+91-294) 2658147, www.hzindia.com. Registered Office: Yashad Bhawan, Udaipur-313 004, Rajasthan. CIN: L27204RJ1966PLC001208



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HINDUSTAN ZINC

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दिनांक: 30.07.2025

सेवा में,
माननीय आयुक्त,
नगर निगम, उदयपुर.
राजस्थान.

विषय: पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय द्वारा पर्यावरण मंजूरी प्रदान किए जाने की सूचना

महोदय,

आपको सूचित किया जाता है कि, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय ने पत्र संख्या: J-11011/479/2006-IA-II(I) दिनांक 23.07.2025 के माध्यम से जिंक स्मेल्टर देबारी में जिंक धातु उत्पादन के 1,00,000 मीट्रिक टन प्रति वर्ष से 1,20,000 मीट्रिक टन प्रति वर्ष तक के प्रस्तावित विस्तार के लिए पर्यावरण मंजूरी प्रदान कर दी है।

आपके संदर्भ के लिए पर्यावरण मंजूरी की प्रति यहाँ संलग्न है।

धन्यवाद.

भवदीय,

(विवेक यादव)

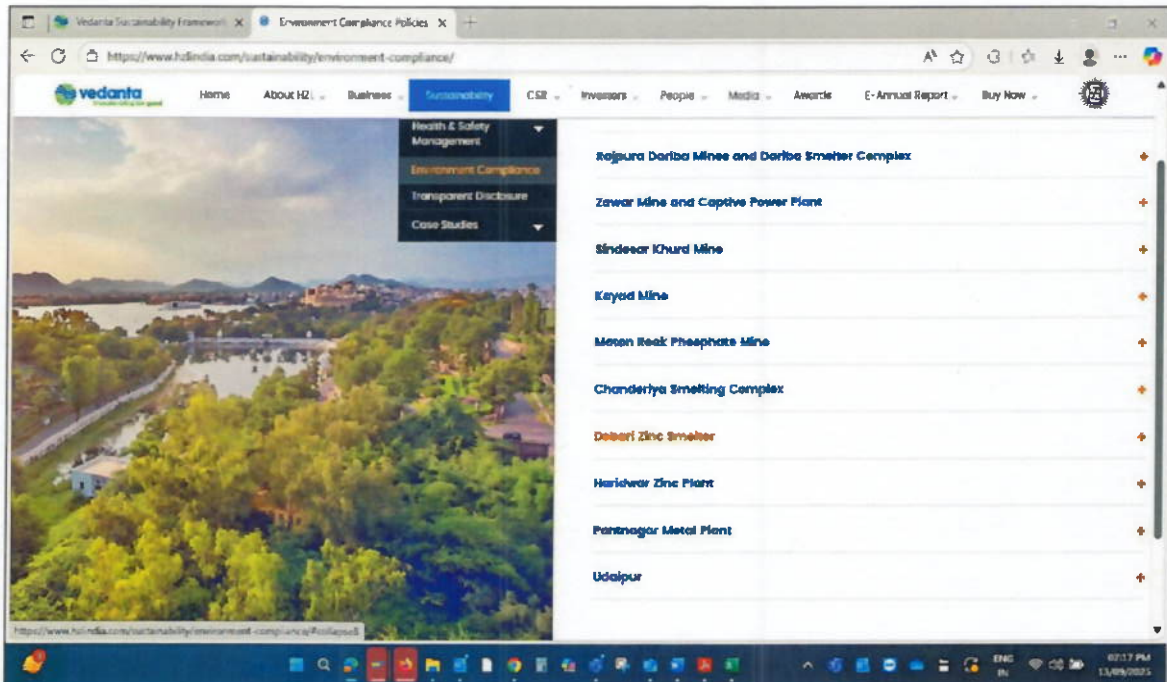
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ANNEXURE 9

Status of compliance of the stipulated environment clearance conditions, on HZL website.



Sector	Activity	2025 - 26 1st Year (Plan)	2025 - 26 1st Year (Rs. lacs) till Sept 25	Total Amount (Rs. Lacs) (Planned)	Total Amount (Rs. Lacs) (Actual till Sept 25)
Community Infra	Construction of roads, community halls, school hall, School classrooms etc. based on need assessment and request from villages.	184	175.53	1412.5	175.53
Education	Support to schools through Siksha Sambal a program for providing education in Science, English and Maths. Support towards education initiatives-IT coaching for students of HZL communities. Support to female students to pursue higher education at Vedanta PG Girls College. Anganwadis strengthening program, supporting preschool education, health of 0 6 kids/pregnant women, stakeholder engagements and developing Nand Ghars.	217.2	39.91	752.88	39.91
Water	Supply of drinking water through tankers and water RO and ATM	45	101.24	234	101.24
Sanitation	Sanitization drive and waste management system to be installed in villages	0	-	105	-
Health	Providing primary health care facilities to nearby villages with the help of Mobile Health Van.	36	-	141	-
Women empowerment	Promoting activities like saving, credit linkage and income generation by forming SHG of women and strengthening them by supporting skill development. Currently 5000+ women are associated with our program.	71.63	-	302.63	-
Sustainable livelihood	Ensuring sustainable livelihoods through integrated farming system in operational area and promoting Sustainable communitybased institutions to empower the rural community. Provide training and employment opportunities to the local unemployed youth communities.	159.62	-	579.62	-
Total		713.45	316.68	3527.63	316.68

ANNEXURE 11A

Village adaption Plan- Village Bichhadi														
S. No.	Nature of activity / Activity details	Tentative total Quantity	2024-25 (Plan)		2024-25 (Actual)		2025-26 (Plan)		2025-26 (Actual till Sept 25)		Total (Plan)		Total (Actual)	
			Quantity	Budget (in lacs)	Quantity	Budget (in lacs)	Quantity	Budget (in Lacs)	Quantity	Budget (in lacs)	Quantity	Budget (in lacs)	Quantity	Budget (in lacs)
1	Drinking Water Facility- Pipeline & Tank, ATMs	Pipeline, Tank, Solar Pump and 1 ATM	1	4	1	26.76	0	30	1	13.14	1	69	2	39.90
2	Road	1500 RM	0	0	0	-	500	25	0	-	1500	75	0	-
3	Over-Bridge	1 no.	0	1	0	-	0	0	0	-	1	76	0	-
4	Street Lights	200 no. of LED lights	0	0	60	4.17	75	3	0	-	150	6	60	4.17
5	Model Schools	2 no.	0	0	3	95.02	0	30	1	30.44	0	60	4	125.46
6	Sub Center – Health	1 no.	0	0	0	-	0	10	0	-	0	25	0	-
7	Nand Char / Model Anganwadi	2 no. of NandChar Development	0	0	0	-	1	17.5	0	-	2	35	0	-
8	Community Hall	2 no.	1	15	2	32.11	1	20	2	74.77	2	35	4	106.88
9	Cremation shed	1 no.	1	20	0	-	0	0	0	-	1	20	0	-
10	Women Washroom	2 no.	0	0	0	-	1	7	0	-	1	7	0	-
11	Plantation Roadside	500 no. of Plants with Maintenance	100	2	0	-	200	4	0	-	500	10	0	-
12	Sanitation Drive with System	1 no.	0	0	1	4.18	1	30	0	-	1	30	1	4.18
13	Signage and boards - Road side	-	0	0	40	5.70	0	5	0	-	0	5	40	5.70
Sub Total			103	42	107	168	779	181.5	4	118.35	2159	453	111	286.29

ANNEXURE 11B

Village adaption Plan - Village Debari

S. No.	Nature of activity / Activity details	Tentative total Quantity	2024-25		2024-25 (Actual)		2025-26		2025-26 (Actual till Sept 25)		Total (Plan)		Total (Actual)	
			Quantity	Budget (in lacs)	Quantity	Budget (in lacs)	Quantity	Budget (in lacs)	Quantity	Budget (in lacs)	Quantity	Budget (in lacs)	Quantity	Budget (in lacs)
1	Drinking Water Facility - Pipeline & Tank	Pipeline, Tank, Solar Pump	-	-	-	31.70	-	30.00	-	77.12	-	60.00	-	108.82
2	Street Lights & High Mast Light	50 no. of LED lights and Poles	-	-	80.00	4.35	25.00	7.50	-	-	50.00	15.00	80.00	4.35
3	Model Schools (High Secondary School)	1 no.	-	30.00	-	4.51	-	25.00	1.00	18.11	-	80.00	1.00	22.62
4	Sub Center - Health	1 no.	-	-	-	-	-	15.00	-	-	-	25.00	-	-
5	Community Hall	1 no.	1.00	20.00	1.00	21.94	-	-	1.00	18.38	1.00	20.00	2.00	40.32
6	Cremation shed	1 no.	-	-	-	-	1.00	10.00	1.00	21.52	1.00	10.00	1.00	21.52
7	Women Washroom	2 no.	1.00	7.00	-	-	-	-	-	-	2.00	4.00	-	-
8	Plantation Roadside	200 no.	50.00	1.00	-	-	50.00	1.00	-	-	200.00	4.00	-	-
9	Sanitation Drive with System	1 no.	1.00	25.00	1.00	4.18	-	-	-	-	1.00	25.00	1.00	4.18
10	Signage and boards - Road side	-	-	-	40.00	5.70	-	5.00	-	-	-	5.00	40.00	5.70
Sub Total			53.00	83.00	122.00	72.38	76.00	93.50	3.00	135.13	255.00	258.00	128.00	207.51