ज़ावर माइन्स
पिन कोड - 313901
जिला - उदयपुर (राज.)

HINDUSTAN ZINC LIMITED
हिन्दुस्तान जिंक लिमिटेड

Telephone - (0294) 2723400

Zawar Mines
PIN Code – 313901
Dist-Udaipur (Raj.)

HZL/ZM/ENV/CPP/2024 /179

Date: 18.05.2024

The Deputy Director (S)/Scientist- C,
Ministry of Environment and Forest & Climate Change,
Integrated Regional Office,
A – 209 & 218, Aranya Bhawan, Jhalana Institutional Area
Jaipur (Rajasthan) - 302004

Sub: – Six monthly Environment Compliance report for 90 MW Coal Based Captive Power Plant at Village-Zawar, Dist. Udaipur, Rajasthan of M/S Hindustan Zinc Limited

Ref: - Environment Clearance Letter No. – J-13011/79/2007-IA. II (T), dated 05.02.2008 & J-13011/79/2007- IA. II (T), dated 20.10.2008

Sir,

With reference to aforesaid subject and cited reference, please find enclosed six monthly compliance report for the conditions stipulated in the Environment Clearances for 90 MW Coal Based Captive Power Plant at Village-Zawar, Dist. Udaipur, Rajasthan of M/S Hindustan Zinc Limited for the period from October'2023 to March'2023 along with monitoring data report for your kind consideration.

We trust that the measures taken towards environmental safeguards comply with the stipulated environmental conditions. We look forward to your further guidance which shall certainly help us in our endeavour to further improve upon our Environmental Management Practices.

Thanking You,

For Hindustan Zinc Limited

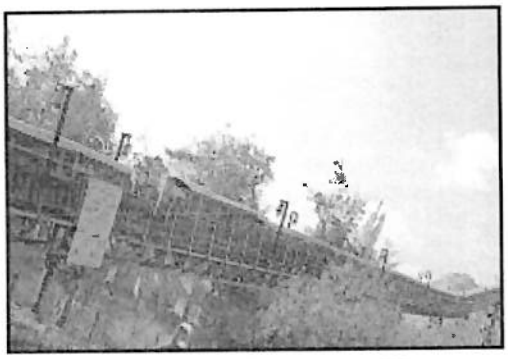
Yours faithfully,

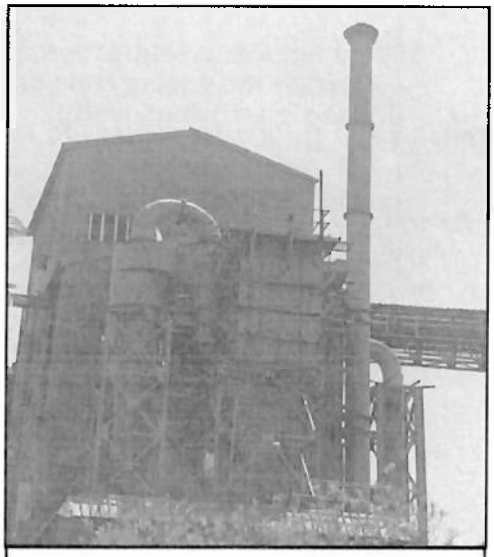
Abhay Pratap Singh
Unit Head- Zawar CPP,
Hindustan Zinc Ltd

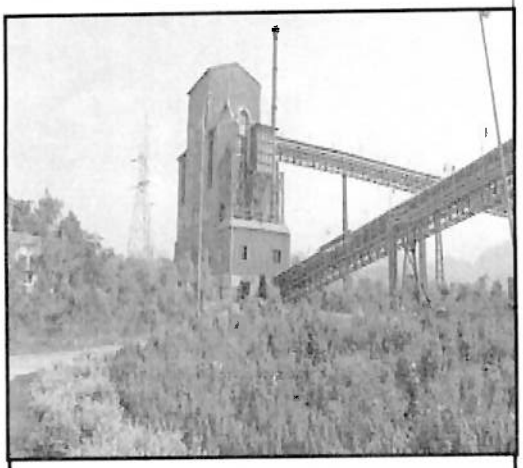
CC:

- Incharge (Zonal Office)
  Central Pollution Control Board,
  3rd Floor, Sahkar Bhawan, North T.T. Nagar, Bhopal – 462003
- Member Secretary,
  Rajasthan State Pollution Control Board,
  4, Institutional Area, Jhalana Doongri, Jaipur-302004 (Raj)
- Regional Officer,
  Rajasthan State Pollution Control Board,
  F-470, Near UCCI Building, Madri Industrial Area, Udaipur-313003 (Raj)
- Office Copy Env Cell

Environment Clearance Letter No. – J-13011/79/2007-IA.II (T), dated 05.02.2008		
S.No.	**SPECIFIC CONDITIONS**	**STATUS**
(i)	The land requirement shall be restricted to 10 ha for all the activities/facilities of the power project.	Noted and complied.
(ii)	Blended coal having Sulphur content up to 1.5% and ash content up to 18% shall be used as fuel. (as amended vide MoEF letter No. J-13011/79/2007-IA.II(T) dated 20.10.2008, Enclosed at **Annexure- 1**)	Noted and in compliance as per MoEFCC's Office Memorandum dated 11.11.2020 which states that all the thermal power plants (including CPPs) having Environmental Clearance can change the coal sources including lignite without seeking amendment in EC. Details of compliance as per OM are enclosed at **Annexure-2**.
(iii)	The height of the stack shall be as per the standards prescribed under the Environment (Protection) Act 1986 in this regard or 165 m, whichever is more with continuous online monitoring system. The exit velocity of the flue shall not be less than 19.37 m/sec.	• As against the stack height of 120 meters as per the stipulation by the EP Act, 1986 based on the SO_2 emission, 165 m high stack has been provided with an online monitoring system for PM, SOx & NOx. • Exit velocity of Flue gas is maintained above 19.37 m/sec  165 METRE HEIGHT STACK
(iv)	High efficiency electrostatic precipitators of not less than 99.87% efficiency shall be installed to limit particulate emission to 100mg/nm^3. It shall be ensured that AAQ in the reserved forest downwind of the power plant does not exceed the prescribed norms	• Electrostatic Precipitators of 99.87% efficiency BHEL make have been installed to restrict the particulate emission below 50 mg/Nm^3. • AAQ is monitored around the plant at 4 locations and the results of the monitoring near the reserved forest downwind the power plant is found to be within the prescribed norms. • The AAQ monitoring results are enclosed as **Annexure 3.**  **8 FIELD ESP**

Environment Clearance Letter No. – J-13011/79/2007-IA.II (T), dated 05.02.2008		
S.No.	**SPECIFIC CONDITIONS**	**STATUS**
(v)	It shall be ensured that the movement of coal is made through covered conveyors only.	• Movement of coal from the coal yard to the coal crusher and further to the boilers are done through covered conveyors.  **CLOSED CONVEYOR BELTS**
(vi)	Low NOx burners shall be installed to control NOx	• Low NOx burners are installed in the boilers of the Power plant to control NOx emissions.
(vii)	Dust Extraction and dust suppression system and water sprinklers shall be provided for controlling fugitive dust during coal transportation, in coal storage & handling area and other vulnerable areas of the plant.	• Dust extraction & dust suppression system has been installed at transfer points in the coal crushing and conveying facility to reduce dust emission. • Similarly, water sprinklers are installed in coal storage, handling and crushing area.  **WATER SPRINKLING SYSTEM AT COAL YARD**
(viii)	Water requirement shall not exceed 6800m^3/day which will be met from Tidi Dam. No ground Water shall be extracted for any activity of this project including during construction phase.	• Water is being drawn from captive Tidi dam and total requirement is maintained within 6800 m^3/day. • No ground water is drawn for any activity
(ix)	It shall be ensured that the project site is at least 500m away from Tidi Dam.	• Complied.
(x)	COC of not less than 5 shall be adopted	• COC is maintained More than 5
(xi)	Close circuit cooling System with cooling Towers shall be installed	• Closed circuit cooling water system with cooling tower is installed.
(xii)	Treated effluents conforming to the prescribed standard shall be re circulated and reused within plant. No effluent shall be discharged outside the project boundary.	• Effluents are treated to meet the prescribed norms and recycled partly in CPP and balance is reused in Ore Beneficiation Plant of the captive mines. • No effluent is discharged outside the project boundary. • Zero discharge is maintained.
(xiii)	Rain water harvesting shall be practiced. A detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground water Authority/ State Ground Water Board and a copy of the same shall be submitted within three months to this Ministry.	• Detailed scheme of Rain water harvesting prepared as per norms of CGWA and duly approved by Government of Rajasthan, Ground Water Department, Jodhpur vide letter no. No. F.Tech. (III)/ DSPC/ GWD/ 07 /1910 dated 31.03.2008. • The Rain Water Harvesting system is implemented as approved.

(xiv)	Leq Of Noise level shall be limited to 75 dBA and regular maintenance of equipments should be undertaken. For people working in high noise areas, personal protection devices should be provided.	• Noise reduction at source is achieved by providing inbuilt noise insulation and further construction of enclosures with noise insulations to ensure noise levels at a distance of 1 mtr from the equipment/ enclosure is below 75 dB(A). • Further, control rooms are provided for operating personnel that further reduces continues exposure to noise. The noise levels measured are enclosed as **Annexure-4.** • Suitable Personal protective devices are provided to the peoples working in high noise area.
(xv)	Dry fly Ash collection system shall be provided. 100% fly Ash utilization shall be ensured from day one. Bottom ash may be disposed in the existing tailing pond. The tailing pond, after it is filled, shall be covered with one-meter-thick layer of clay and reclaimed by plantation. (as amended vide MoEF letter No. J-13011/79/2007-IA.II(T) dated 20.10.2008	Dry collection system has been installed for collection of fly ash from ESPs. Entire fly ash generated is being sold to cement industries. Bottom ash is reused back in the system and/or sold to brick manufacturers.  **BAG FILTER AT COAL CRSUHER**
(xvi)	Conservation Measures for Schedule-I animals, as per wild life (Protection) Act 1972, found in the study area shall be taken up on before commissioning the project in consultation with state forest and Wildlife Department.	• Conservation Plan approved by Dy. Chief Wild Life Warden, Udaipur vide letter No. F.9(10)Survey/Dy.CWLW/Udr/11-12/9477 dated 06.07.2011. • Conservation measures as approved are under implementation jointly with the Forest and the Wildlife department.

(xvii)	A greenbelt shall be developed with local species around the plant boundary with tree density of 1500-2000 per ha covering at least 3.6 ha area.	• Total 7000 saplings were planted covering an area of 4.0 ha in and around CPP.  PLANTATION
(xviii)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	• The First Aid and Sanitation arrangements was provided to the construction workers during construction phase and is now extended to the contract labors in operation phase.
(xix)	Regular monitoring of the ambient air quality shall be carried out in and around the power plant and record maintained. The location of monitoring stations and frequency of monitoring shall be decided in consultation with the state pollution control Board. Periodic reports shall be submitted to the regional office of this ministry at Lucknow.	• Regular monitoring of ambient air is carried out at 4 locations that are identified in consultation with RSPCB. Monitoring reports are submitted to the MoEF, IRO, Jaipur, CPCB, Bhopal and RSPCB, Jaipur. • Monitoring results for the past 6 months is enclosed as **Annexure-3.**
(xx)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forest at http://envfor.nic.in	• The grant of EC has been advertised in two local newspapers, both in vernacular language and a copy of the same has been sent to MoEF Lucknow vide our letter No. Zawar CPP/08-09/ dated 31.03.2008.
(xxi)	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards	• An environment management cell with adequate qualified staff exists jointly for Zawar mines as well as CPP to ensure implementation of stipulated environmental safeguards.
(xxii)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to Ministry, the regional office, CPCB/SPCB	• Compliance reports are submitted to the MoEF- IR office Jaipur, CPCB-Bhopal and RSPCB- Jaipur and Udaipur
(xxiii)	Regional office of Ministry of Environment and Forest located at Lucknow will monitor the implementation of the stipulated conditions. A complete set of document including Environmental Impact Assessment Report and	• EIA & EMP submitted to MoEF vide our letter No. ZM/ENV/CPP/08-09/290 dated 03.07.2008. Monitoring report is being submitted

	Environment Management plan along with the additional information submitted from time to time shall be forwarded to the Regional office for their use during monitoring.	regularly every 6 months as stipulated.
(xxiv)	Separate funds shall be allocated for implementation of environmental protection measures along with item wise break up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year wise expenditure shall be reported to ministry	• Complied. • The operating cost for environment protection during the **Oct'23** to **Mar'24** is **Rs. 3,50,631.25 /-**
(xxv)	Full Cooperation shall be extended to the scientist/Officers from ministry/Regional Office of Ministry at Lucknow/the CPCB/the SPCB who would be monitoring the compliance of environmental status	• Full cooperation is extended during inspections / monitoring.

Environment Clearance Letter No. – J-13011/79/2007-IA.II (T), dated 05.02.2008		
S.No.	**GENERAL CONDITIONS**	**STATUS**
1	The proposal is for grant of environmental clearance under EIA Notification, 2006 for setting up of a 90 MW coal based captive thermal power project at Zawar. The land requirement is estimated as 10 ha, which is already available with the company. The water requirement is 6800m3/ day, which will be obtained from Tidi dam. Imported coal shall be used as fuel and the requirement will be 800 TPD. No national park and wild life sanctuary is reported within 10 km radius of the project boundary however two reserve forest falls within 2.6 km radius. Public hearing of the project was held on 18.08.2007. Capital cost of the project is 285 crores, which includes Rs 14.40 crores for environmental protection measures.	• Complied
2	The proposal has been considered and Ministry of Environment & Forest hereby accords environmental clearance to the said project under the provision of Environment Impact Notification, 2006 subject to implementation of following terms and conditions.	• Noted
3	The ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry	• Noted
4	The environmental clearance accorded shall be valid for a period of 5 years to start of production operation by the power plant.	• Noted
5	In case of any deviation or alteration in the project proposed from that submitted to this ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of condition(s) imposed and to incorporate additional environmental protection measures required if any	• There has been no change in the project scope.
6	The above stipulations shall be enforced along with others as under the Water (Prevention and Control of Pollution) Act,1974 the Air (Prevention and Control of Pollution)Act 1981, the Environment(Protection)Act 1986, The manufacture, Storage and Import of Hazardous Chemical Rules 1989, Hazardous Wastes (Management and Handling)Rules 1989, the Public Liability Insurance Act 1991.	• Latest CTO granted under air and water act by RPCB vide letter No. F(Mines)/Udaipur (Sarada)/50(1)/2016-2017/2021-2023 dated 21.06.2023 with a validity up to 31.10.2027. • Hazardous waste authorization is in place with validity upto 31.01.2025

Annexure- 1

By Speed Post

No.J-13011/79/2007-IA.II(T)
Government of India
Ministry of Environment & Forests

Prayavaran Bhawan
CGO Complex, Lodi Road
New Delhi-110 003

Dated: 20th Oct ,2008

To

The General Manager(EOHS)
Hindustan Zinc Limited
Yashad Bhawan
Udaipur- 313 004

Subject: 90 MW Coal based Captive Power Plant at Zawar, District Udaipur, Rajasthan by M/s Hindustan Zinc Ltd – Change in environmental clearance- regarding.

Sir,

The undersigned is directed to refer your communication no. HZL/Env/08 dated 16.2.2008 on the subject mentioned above. Subsequent information furnished vide letter dated 1.8.2008 and 25.9.2008 have also been considered.

2. The Ministry of Environment and Forests here by amends the conditions no. 3 (ii) and 3 (xv) contained in this Ministry's letter of even no. dated 5th Feb, 2008 to read as under:-

Condition no. 3 (ii) - "Blended coal having sulphur content up to 1.5% and ash content up to 18% shall be used as fuel".

Condition no. 3(xv) - "Dry fly ash collection system shall be provided. 100% fly ash utilization shall be ensured from day one. Bottom ash may be disposed in the existing tailing pond. The tailing pond, after it is filled, shall be covered with a one meter thick layer of clay and reclaimed by plantation."

3. All other conditions contained in this Ministry's earlier letter of even no. dated 5th Feb, 2008 shall remain unchanged.

This issues with the approval of the Competent Authority.

Yours faithfully;

(OM PRAKASH)
DEPUTY DIRECTOR

Copy to:-

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001.
2. The Secretary, Deptt. of Forests & Environment, Government of Rajasthan, Secretariat, Jaipur.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Rajasthan Pollution Control Board, 4, Institutional Area, Jhalana Doongri, Jaipur.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. The Chief Conservator of Forests, Regional Office(CZ), Kendriya Bhandar , 5th Floor ,Sector-H, Aliganj, Lucknow-226 020, Uttar Pradesh.
7. Director (EI), MOEF.
8. Guard file.
9. Monitoring file.

(OM PRAKASH)
DEPUTY DIRECTOR

Annexure- 2

Details of Compliances of MoEFCC's OM dated 11.11.2020

<table>
<tr><th>S. No.</th><th>Details required</th><th>Details/ Progress Update</th></tr>
<tr><td>(a)</td><td>Details regarding change in source (location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (Ash, Sulphur, Moisture content and Calorific value) shall be informed to the Ministry and its concerned Regional Office.

The quantity of coal transported from each source along with the mode of transportation shall be submitted as part of EC Compliance Report.</td><td>
Details wrt Coal Source:
<table>
<tr><th>Source of Coal and its distance</th><th>Imported/ Indian</th><th>Proposed Quantity of Coal (TPD) with</th></tr>
<tr><td>Old and New Kusmunda, Rajnagar RO and Churcha Siding of NCL,WCL SECL,Thangardh,Mathasukh</td><td>Indian 1300KM</td><td>600 MT Calorific value 2800-6000, Ash 20 - 50% and moisture 6-45% S% 1 to 3%</td></tr>
<tr><td>West Coast Ports like Kandla, Mundra , Dahej & Tuna port</td><td>Imported 720KM</td><td>600 MT Calorific value 5200 -6300, Ash 6 - 22% and moisture 6-22% content S% 0.3% to 1.7%</td></tr>
<tr><td>Biomass tonk, Newei, Deoli</td><td>Indian 350KM</td><td>150 MT Calorific value2500 - 4000, Ash 10 - 25% and moisture 3-10% content S% 0.3% to 0.6</td></tr>
<tr><td>Blended coal (Total)</td><td></td><td>1350 TPD Calorific value 5200-6300, Ash 8.5 - 23% and moisture 9-23 %content S% 0.6% to 1.4%</td></tr>
</table>
<u>Details for Oct' 2023</u>
<table>
<tr><th>Coal Quantity Transported (MT)</th><th>Source</th><th>Mode of transportation</th></tr>
<tr><td>366.22</td><td>MV INCE ANKARA Russian</td><td>Mundra to plant (Trucks- Road)</td></tr>
<tr><td>164.37</td><td>MV MINERAL DESTEBERGEN</td><td>Mundra to plant (Trucks- Road)</td></tr>
<tr><td>10835.12</td><td>MV SSI INEVTABLE Russian</td><td>Mundra to plant (Trucks- Road)</td></tr>
<tr><td>7330.01</td><td>MV HORIZON russian</td><td>Dahej to plant (Trucks- Road)</td></tr>
<tr><td>411.76</td><td>MV ES WARRIOR Indo</td><td>Dahej to plant (Trucks- Road)</td></tr>
</table>
</td></tr>
</table>

6491.39	IUT NCL	CLZS CPP to Zawar CPP (Trucks- Road)

Details for Nov' 2023

Coal Quantity Transported (MT)	Source	Mode of transportation
1134.64	MV MINERAL DESTEBERGEN	Mundra to plant (Trucks- Road)
10167.04	MV ES WARRIOR Indo	Dahej to plant (Trucks-Road)
5984.98	KAMPL kandla Nov'23	Kandla to plant (Trucks- Road)
2708.34	JSW S&S russian kandla	Kandla to plant (Trucks- Road)
1110.55	ADITYABIRLA(SWISS) US COAL KANDLA	Kandla to plant (Trucks- Road)
2013.85	Biomass	Tonk, Newei, Deoli to Zawar CPP (Trucks-Road)

Details for Dec' 2023

Coal Quantity Transported (MT)	Source	Mode of transportation
5507.67	MV ES WARRIOR Indo	Dahej to plant (Trucks-Road)
996.04	KAMPL kandla Nov'23	Kandla to plant (Trucks-Road)
4013.45	JSW S&S russian kandla	Kandla to plant (Trucks-Road)
1893.76	ADITYABIRLA(SWISS) US COAL KANDLA	Kandla to plant (Trucks-Road)
14970.16	ADANI S&S AUS MUNDRA 60KT	Mundra to plant (Trucks-Road)
2068.75	MV PATRIOTSHIP GLEN SA MUNDRA HA	Mundra to plant (Trucks-Road)

2738.48	Biomass	Tonk,Newei ,Deoli to Zawar CPP (Trucks-Road)

Details for Jan' 2024

Coal Quantity Transported (MT)	Source	Mode of transportation
17043.90	MV INCE ANKARA	Dahej to plant (Trucks-Road)
82.91	MV Yasa Mulla	Mundra to plant (Trucks- Road)
12255.55	MV PATRIOTSHIP GLEN SA MUNDRA HA	Mundra to plant (Trucks- Road)
1359.22	Biomass	Tonk, Newei, Deoli to Zawar CPP (Trucks-Road)

Details for Feb' 2024

Coal Quantity Transported (MT)	Source	Mode of transportation
5589.78	MV INCE ANKARA	Dahej to plant (Trucks- Road)
16746.00	MV PATRIOTSHIP GLEN SA MUNDRA HA	Mundra to plant (Trucks- Road)
4265.80	KAMPL S&S INDONESIA KANDLA	Kandla to plant (Trucks- Road)
193.41	Biomass	Tonk, Newei, Deoli to Zawar CPP (Trucks-Road)
2129.58	Indian Coal	CLZS CPP to ZCPP

Details for Mar' 2024

Coal Quantity Transported (MT)	Source	Mode of transportation
6693.26	KAMPL S&S INDONESIA KANDLA	Kandla to plant (Trucks- Road)

		8889.71	MV PATRIOTSHIP GLEN SA MUNDRA HA	Mundra to plant (Trucks- Road)
		2400.12	MV EPICTETUS	Mundra to plant (Trucks- Road)
		13919.81	Indian Coal	CLZS CPP to ZCPP
		1432.20	Biomass	Tonk, Newei, Deoli to Zawar CPP (Trucks-Road)
(b)	The applicable flue gas emissions standards for Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen and Mercury shall be complied inline with Ministry's Notification vide S.O. 3305(E) dated 7.12.2015 and subsequent emissions. A progress of implementation and its compliance shall be submitted as part of Compliance Report	We are regularly carrying out the monitoring of flue gas emissions and details are enclosed with this compliance report. Updated status on action plan to control SOx and NOx emission is as below: For Sox control: we have explored various technologies and wet limestone-based technology has been identified as technically suitable option. LOI has been issued to respective EPC vendor. For Nox control: we have selected combustion modification as a technical solution. LOI has been issued to respective EPC vendor.		
(c)	Ash content in the Coal and Coal transportation is governed by the Ministry's Notification vide S.O. 1561(E) dated 21.5.2020. As far as possible, Coal transportation shall be done by rail/conveyor or other eco-friendly modes. However, road transportation is allowed with tarpaulin covered trucks till the railway/conveyor belt infrastructure is made available. A progress (Physical and financial) of rail connectivity from nearest railway siding or conveyor connectivity to the power plant shall be submitted in the EC compliance report.	Coal is transported via two modes Railway and road. Through railway, it is transported upto our sister plant and then via road through Tarpaulin covered trucks. For Imported coal, the covered trucks are being used for transportation as there is no railway connectivity within the area.		
(d)	Additional ash pond is not allowed due to increase in ash content in the raw coal as against the ash pond permitted in the Environmental Clearance. The 100% flyash utilisation is to be achieved within 4 years in line with Flyash Notifications dated 14.9.1999, 27.8.2003, 3.11.2009 & 25.1.2016 and amended time to time or extant regulations on Fly ash Utilisation.	Noted. Ash generated is being sold to cement industries and Brick manufacturers and the same shall be ensured in future. There is no disposal in the ash pond.		
(e)	In case of exceptional circumstances, project proponents may approach the Ministry for seeking permission to use an emergency ash pond with cogent reasons, if any.	Noted		

(f)	The details regarding monthly generation, utilisation and disposal of fly ash (including bottom ash) shall be submitted to the ministry and its regional Office.	Complied. **Detailed fly ash return is enclosed herewith.** Details of ash generation and utilization is as follows.

Month	Generation in MT	Utilization in MT
Oct-23	6325.26	6332.27
Nov-23	3408.54	3479.31
Dec-23	4689.61	4694.23
Jan-24	6075.49	4207.89
Feb-24	5396.06	7365.19
Mar-24	7593.21	7367.69

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HINDUSTAN ZINC LIMITED
हिन्दुस्तान जिंक लिमिटेड

Telephone - (0294) 2723400

Zawar Mines
PIN Code – 313901
Dist-Udaipur (Raj.)

Ref.: ZM/ENV/CPP/2024/ 148

Date – 23.04.2024

By Registered Post

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

Sub: **Fly / Bottom Ash Return of the year 2023-24**

Sir,

Please find enclosed herewith the **fly and Bottom ash return** of the **Zawar Captive Power Plant** for the year **2023 -24**.

Thanking You

Yours faithfully

Abhay Pratap Singh
Unit Head – Zawar CPP

- Incharge (Zonal Office) Central Pollution Control Board,
  3rd Floor, Sahkar Bhawan, North T.T. Nagar, Bhopal – 462003
- Regional Officer, Rajasthan State Pollution Control Board,
  F-470, Near UCCI Building, Madri Industrial Area, Udaipur-313003 (Rajasthan)
- Member Secretary, Central pollution control board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032
- Central Electricity Authority, Sewa Bhawan, R.K.Puram,
  Sector-1, New Delhi-110 066
- The Deputy Director (S)/Scientist- C,
  Ministry of Environment and Forest & Climate Change,
  Integrated Regional Office,
  A – 209 & 218, Aranya Bhawan, Jhalana Institutional Area
  Jaipur (Rajasthan) – 302004
- Office copy

Ash Compliance Report (For the period 1st April 2023 - 31st March 2024)		
S.No.	Details	
1.	Name of Power Plant	HINDUSTAN ZINC LIMITED, 90 MW CAPTIVE POWER PLANT, ZAWAR MINES
2.	Name of the company	HINDUSTAN ZINC LIMITED
3.	District	Udaipur
4.	State	Rajasthan
5.	Postal address for communication:	HINDUSTAN ZINC LIMITED, 90 MW CAPTIVE POWER PLANT, P.O. Zawar Mines – 313901, Dist. Udaipur Tel.: (91-0294) 2726671 Fax: (91-0294) 2726672
6.	E-mail:	singh.abhay@vedanta.co.in hitendra.bhuptawat@vedanta.co.in
7.	Power Plant installed capacity (MW):	90 MW
8.	Plant Load Factor (PLF):	78.03 %
9.	No. of units generated (MWh):	627183 MWh
10.	Total area under power plant (ha): (including area under ash ponds)	10 ha.
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	Coal 289309.03 MT @ GCV 5327.69 Kcal/kg & Biomass 14688.01 MT @ GCV 3285.42 Kcal kg
12.	Average ash content in percentage (per cent):	18.95 %
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	Fly ash : 50927.58 MT Bottom ash: 6190.38 MT
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	150 tonnes
15.	Details of utilisation of current ash generated during reporting period (a) **Total quantity of current ash utilised (MTPA) during reporting period**: (b) Quantity of fly ash utilised (MTPA): (i) **Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels)** (ii) **Cement manufacturing:** (iii) Ready mix concrete: (iv)Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and fly over embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture:	(a) 55679.89 MT (b) (i) 4801.89 MT (ii) 45457.87 MT

	(xii) Construction of shoreline protection structures in coastal districts; (xiii) Export of ash to other countries: (xiv) Others (please specify): (c) Quantity of bottom ash utilised (MTPA): (i) **Bottom ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):** (ii) Cement manufacturing: (iii) Ready mix concrete: (iv)Ash and Geo-polymer based construction material: (v) Manufacturing of sintered or cold bonded ash aggregate: (vi) Construction of roads, road and flyover embankment: (vii) Construction of dams: (viii) Filling up of low lying area: (ix) Filling of mine voids: (x) Use in overburden dumps: (xi) Agriculture: (xii) Construction of shoreline protection structures in coastal districts: (xiii) Export of ash to other countries: (xiv) **Others (please specify):** **Total quantity of current ash unutilised (MTPA) during reporting period:**	(c) (i) 4818.20 MT (xiv) Internal recycling: 601.93 MT (ash unutilized) 1438.07 MT
16.	Percentage utilisation of current ash generated during reporting period (per cent):	97.48 %
17.	Details of disposal of ash in ash ponds (a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period): (b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons): (c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3): (d) Total number of ash ponds: (i) Active: (ii) Exhausted (yet to be reclaimed): (iii) Reclaimed: (e) total area under ash ponds (ha):	NIL, there is no ash pond
18.	Individual ash pond details *Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one)* (a) Status: Under construction or Active or Exhausted or Reclaimed (b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY): (c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY): (Not applicable for active ash ponds)	NA

	(c) area (hectares): (d) dyke height (m): (d) volume (m3): (e) quantity of ash disposed as on 31st March (Metric Tons): (f) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons): (g) expected life of ash pond (number of years and months): (e) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates) (f) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining (g) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD) (h) Ratio of ash: water in slurry mix (1:) (i) Ash water recycling system (AWRS) installed and functioning: Yes or No (j) Quantity of wastewater from ash pond discharged into land or water body (m3): (k) Last date when the dyke stability study was conducted and name of the organisation who conducted the study: (l) Last date when the audit was conducted and name of the organisation who conducted the audit:	
19.	Quantity of legacy ash utilised (MTPA): i. **Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):** ii. Cement manufacturing: iii. Ready mix concrete: iv. Ash and Geo-polymer based construction material: v. Manufacturing of sintered or cold bonded ash aggregate: vi. Construction of roads, road and flyover embankment: vii. Construction of dams: viii. Filling up of low lying area: ix. Filling of mine voids: x. Use in overburden dumps: xi. Agriculture: xii. Construction of shoreline protection structures in coastal districts; xiii. Export of ash to other countries: xiv. Others (please specify):	470.84 MT (Fly ash : 121.31 MT, Bottom Ash : 349.53 MT)

20.	SUMMARY			
	Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)
	Current ash during reporting Period	57117.96	55209.05	1908.91
	Legacy ash	470.84	470.84	0
	Total			1908.91

21.	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to:- moefcc-coalash@gov.in	Noted
22.	Signature of Authorised Signatory	**Abhay Pratap Singh** Unit Head -CPP Zawar

Annexure-3

A. Stack Monitoring (in mg/Nm³)

Stacks	Main Stack				Coal Crusher Stack
Parameters	**PM**	**SOx**	**NOx**	**Hg**	**PM**
Limits	**50**	**-**	**-**	**0.03**	**50**
Oct – 23	28.0	845.7	219.2	0.012 (online data)	26.5
Nov – 23	24.3	809.9	230.5	0.0113 (Online data)	28
Dec – 23	26.6	825.3	252	0.007 (Online data)	24.1
Jan – 24	23.9	874.4	263.2	0.0069 (Online data)	24.2
Feb – 24	27.3	828.1	240.6	0.0073 (Online data)	26.5
Mar -24	29.8	875.3	269.4	0.0047 (Online data)	28.7

B. Ambient Air Monitoring (in µg/m³)

Location	Date	Limits	Oct– 23	Nov– 23	Dec– 23	Jan– 24	Feb– 24	Mar– 24
Ashok Nagar STP	**PM 10**	100	53.9	48.9	49.8	51.85	52.6	53.15
	PM 2.5	60	32.4	28.65	29.8	31.45	31.7	31.95
	SOx	80	6.75	6.35	6.35	6.65	6.95	6.75
	NOx	80	10.45	9.1	9.15	10.15	9.9	9.8
	CO	2000	744.5	573	630	687.5	687.5	687
Weigh Bridge	**PM 10**	100	58.1	57	56.55	57.55	57.3	61.35
	PM 2.5	60	35.1	34.15	34.3	34.35	34.55	37.2
	SOx	80	8	7.55	7.35	7.45	7.45	7.85
	NOx	80	14.3	12.1	12.35	12.95	12	13.65
	CO	2000	859	744.5	744.5	801.5	801.5	802
Main Gate	**PM 10**	100	60.55	61.05	61.65	61.55	56.3	59.8

	PM 2.5	60	36.05	36.45	37.3	36.95	34.6	35.8
	SOx	80	8.65	7.7	7.7	8.75	7.65	8
	NOx	80	15.7	13.5	13.75	16.1	13.2	14.15
	CO	2000	916	802	859	916.5	744.5	859
MAS Office	**PM 10**	100	56.3	52.85	53.8	55	57.05	56.1
	PM 2.5	60	34.3	31.6	31.9	32.95	34.85	34
	SOx	80	7.05	6.75	6.6	7.05	7.35	7.5
	NOx	80	12.45	10.2	10.55	12.15	12.65	12.5
	CO	2000	744.5	630	630	744.5	744.5	744.5

B. CPP FINAL TREATED WATER ANALYSIS REPORT

Parameters	**Concentration**	**Oct– 23**	**Nov– 23**	**Dec– 23**	**Jan– 24**	**Feb– 24**	**Mar– 24**
TSS mg/l	100	<5	<5	<5	<5	<5	<5
BOD mg/l	30	<2	<2	<2	<2	<2	<2
COD mg/l	250	<5	<5	<5	<5	<5	<5
pH mg/l	6.0-8.5	7.63	7.25	7.40	7.45	7.81	7.45
Phosphate as P mg/l	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Oil & Grease mg/l	10	<5	<5	<5	<5	<5	<5
Free Available Chlorine mg/l	0.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Copper	1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	1.0	0.04	0.06	0.04	0.03	0.05	0.07
Total Chromium Cr^{+6} mg/l	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc mg/l	1.0	0.10	0.07	0.10	0.08	0.10	0.12
Sulphide mg/l	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Temperature ℃	Not more than 10℃ higher than the intake water temperature	31.5	27.3	22.9	20.4	24.5	28.9

Annexure- 4

AMBIENT NOISE MONITORING AT CPP, ZAWAR

DAY TIME NOISE LEVELS						
Stations/Month	**Oct– 23**	**Nov– 23**	**Dec– 23**	**Jan– 24**	**Feb– 24**	**Mar– 24**
Near Main Gate	63.4	55.9	58.3	59.4	60.2	59.4
Near STP	62.4	63.6	60.4	63.1	61.9	62.6
Near Weigh Bridge	71.2	70.1	67.6	65.1	67.8	64.1
Mass Office	66.8	64.8	62.1	63.4	65.7	63.9
Permissible Limit dB(A)	**75**					

NIGHT TIME NOISE LEVELS						
Stations/Month	**Oct– 23**	**Nov– 23**	**Dec– 23**	**Jan– 24**	**Feb– 24**	**Mar– 24**
Near Main Gate	55.9	50.6	52	52.1	53.7	54.1
Near STP	58.3	60.7	56.3	60.2	57.5	58.8
Near Weigh Bridge	62.5	65.4	63.9	58.2	60.5	62
Mass Office	59.1	60.2	57.5	54.5	56.3	55.7
Permissible Limit dB(A)	**70**					