

## Hindalco Industries Limited

Unit: Birla Copper, Dahej

Status of compliance to conditions of Environmental Clearance No. J-11011/927/2008 -I A II (I) dated 11<sup>th</sup> Feb 2009.

(Six monthly compliance report from April-24 to September-2024)

Sub.: Expansion of Continuous Cast Copper Rod (CCR) Plant (120000 to 240000 TPA) by de-bottlenecking at GIDC Industrial Area, Dahej, Lakhigam, District Bharuch by M/s Hindalco Industries Limited (Unit: Birla Copper, Dahej) – Environmental Clearance reg.

### [A] SPECIFIC CONDITIONS:

Sl No	Condition stipulated	Compliance Status
1	The company shall comply with the stipulations made in the environmental clearance issued by the Ministry vide letter No. J-11011/220/2004-IA. II (I) dated 18.03.2005.	There are eleven specific condition, and eleven general conditions stipulated in environmental clearance issued by the Ministry Vide Letter No. J-11011/220/2004-IA. II (I) dated 18.03.2005. The total conditions have been complied with. The compliance report is attached as Annexure- (D)
2	The company shall install sufficient air pollution control equipment's to comply with the emission norms prescribed by the Gujarat Pollution Control Board.	The company has installed sufficient air pollution control equipment's to comply with the emission norms. The pollution control equipment installed in Birla copper complex is as under: 1. ESPs installed: 16 Nos. 2. Scrubbers: 4 Nos. 3. Bag Filters : 27 Nos. 4. Tail Gas Scrubber SAP-III installed in March 2019.
3	The company shall provide the monitoring arrangement with stacks/vents and regular monitoring carried out and reports submitted to the SPCB, CPCB and Ministry's Regional Office at Bhopal.	The gaseous emission from various process units is within the standards prescribed by GPCB. The efficient and adequate capacity of pollution control equipment and sufficient stack height is provided to ensure the emission level well within the prescribed standards. The process operation is interlocked. It is ensured that in case of failure of pollution control system, the respective plant is stopped till the control system is rectified and restarted. The condition is complied with.

Stack analysis report April-24 to Sept-24		SO <sub>2</sub>		NO <sub>x</sub>		PM	
Sr No	Stack list at Birla Copper	GPCB Norms	Observed	GPCB Norms	Observed	GPCB Norms	Observed
			Value		Value		value
1	Dore furnace of PMR plant	100 ppm	61.71	50 ppm	18.44	150 mg/Nm <sup>3</sup>	73.13
2	Sulphuric acid Preheater I	100 ppm	63.20	50 ppm	25.0	150 mg/Nm <sup>3</sup>	85.11
3	CPP-I (CFBC Boiler) 35 MW	600 mg/Nm <sup>3</sup>	351.63	600 mg/Nm <sup>3</sup>	187.2	100 mg/Nm <sup>3</sup>	83.33
4	Shaft furnace of CC Rod plant I	100 ppm	ND	50 ppm	ND	150 mg/Nm <sup>3</sup>	86.57
5	Shaft furnace of CC Rod plant-II	-	Plant s/d	--	NA	-	Plant s/d
6	Sulphuric acid Pre-heater-III	100 ppm	42.34	50 ppm	19.62	150 mg/Nm <sup>3</sup>	55.08
7	CPP-II (CFBC Boiler) 15.35 MW	600 mg/Nm <sup>3</sup>	Plant s/d	600 mg/Nm <sup>3</sup>	Plant s/d	150 mg/Nm <sup>3</sup>	Plant s/d
8	CPP-III (CFBC Boiler) 60 MW	600 mg/Nm <sup>3</sup>	342.87	300 mg/Nm <sup>3</sup>	179.72	50 mg/Nm <sup>3</sup>	32.65
9	Shaft furnace of CC Rod plant-III	100 ppm	ND	50 ppm	ND	150 mg/Nm <sup>3</sup>	86.56
10	Anode Casting of Smelter-I	40 mg/Nm <sup>3</sup>	ND	25 mg/Nm <sup>3</sup>	ND	150 mg/Nm <sup>3</sup>	84.93
11	Main stack Sec. Gas Scrubber of Smelter-I	40 mg/Nm <sup>3</sup>	29.54	NA	NA	NA	NA
12	Main stack Slag Cleaning Furnace of Smelter-I	40 mg/Nm <sup>3</sup>	30.36	NA	NA	150 mg/Nm <sup>3</sup>	86.05
13	Main Stack Sulphuric Acid plant - I	2.0 kg/T of 100 % H <sub>2</sub> SO <sub>4</sub>	1.04 Kg/T	Acid Mist 25 mg/Nm <sup>3</sup>	ND	NA	NA
14	Cathode Stripping m/c of Ref-I	40 mg/Nm <sup>3</sup>	ND	NA	NA	NA	NA
15	Anode scrap Washing m/c of Ref-I	40 mg/Nm <sup>3</sup>	ND	NA	NA	NA	NA
16	Liberator stack of Refinery-I	40 mg/Nm <sup>3</sup>	ND	Acid Mist 25 mg/Nm <sup>3</sup>	ND	NA	NA
17	Slag granulation of Smelter-I	40 mg/Nm <sup>3</sup>	ND	NA	NA	150 mg/Nm <sup>3</sup>	82.32
18	Steam Dryer of Copper Conc. of Smelter-I	40 mg/Nm <sup>3</sup>	ND	NA	NA	150 mg/Nm <sup>3</sup>	82.86
19	Centralized Scrubbing System Smelter-III	40 mg/Nm <sup>3</sup>	19.41	NA	NA	150 mg/Nm <sup>3</sup>	51.16
20	Sulphuric Acid plant – III (TGS Scrubber)	1.0 kg/T of 100 %	0.34	Acid Mist 25	ND	NA	NA

		H2SO4	Kg/T	mg/Nm3			
21	Cathode Stripping m/c - Ref-III	40 mg/Nm3	ND	NA	NA	NA	NA
22	Liberator stack of Refinery-III	40 mg/Nm3	Nil	Acid Mist 25 mg/Nm3	NA	NA	NA
23	PMR Phase -III	40 mg/Nm3	30.77	25 mg/Nm3	18.41	150 mg/Nm3	73.13
DAP / PAP Fertilizer		F Norms	F	NH3 Norms	NH3	PM Norms	PM
DAP		6.0 mg/Nm3	Plant s/d	175 mg/Nm3	Plant s/d	150 mg/Nm3	Plant s/d
Reactor (Phosphoric Acid plant)		6.0 mg/Nm3	Plant s/d	NA	NA	NA	NA
4	Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of practice issued by the CPCB shall be followed	Secondary fugitive emissions from all the sources are within the permissible limits issued by the Ministry and are regularly monitored. Fugitive emission monitored as per CPCB code of practices.					
5	The water requirement and wastewater generation for expansion project shall not exceed 500.0 KLD and 0.5 KLD respectively.	The water consumption from April-24 to September-24 was <b>157.95 KLD</b> and wastewater generation was <b>0.496 KLD</b> .					
6	The company shall obtain the permission for drawl of 500 KLD water from Narmada River and submit a copy to the Ministry's Regional Office at Bhopal.	Condition is already complied with; the Company has obtained permission of 11 MGD water from GIDC, as the approving authority for water drawl from Narmada River is GIDC.					
7	Green belt shall be developed in 33% area in and around the plant as per the CPCB guidelines in consultation with DFO	The green belt is being developed as per the CPCB guidelines in consultation with local DFO.					
8	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Already complied with.					

[B] GENERAL CONDITIONS:

SI No	Description	Status
1	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB) and the State Government.	The company is fully committed to adhere to the stipulated conditions made by the GPCB.
2	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment & Forests.	The company has obtained prior environmental clearance before expansion or modification in the plant. No deviations or alteration in the project proposal is carried out.

3	The gaseous emissions from various process units shall conform to the load/mass-based standards notified by this Ministry on 19 <sup>th</sup> May, 1993 and standards prescribed from time to time. The State Pollution Control Board (SPCB) may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emissions level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	The emission level is well below the prescribed standards. The process is interlocked with the operation of Pollution control devices. The copy of emission observed and reported to the GPCB and Ministry is as under attached (Ref Special Condition No.3)
4	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO <sub>2</sub> and NO <sub>x</sub> are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office and the SPCB/CPCB once in six months.	The concentration of SPM, SO <sub>x</sub> and NO <sub>x</sub> is being monitored and reported to GPCB, CPCB and Ministry. The copy of monitoring data is as below.

The concentration of SPM, SO<sub>x</sub> and NO<sub>x</sub> is being monitored at four locations and Reported to GPCB, CPCB and Ministry. The copy of monitoring data is as under: The statistical analysis of ambient air quality is as under: AAQMS Average ((µg/m<sup>3</sup>) (April-24 to September-24).

Hindalco Industries Limited Unit: Birla Copper, Dahej AMBIENT AIR QUALITY AVERAGE MEAN (µg/m <sup>3</sup> )					
Sr. No.	Monitoring Stations	April-24 to September-24			
		PM 10	PM 2.5	SO <sub>2</sub>	NO <sub>x</sub>
1	Township	55.28	41.50	37.18	11.86
2	Jetty	56.16	43.44	33.86	12.02
3	Near 16 ha	59.46	43.46	34.75	12.67
4	Near YMA	57.25	42.28	32.20	12.63

5	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions.	All possible measures have been adopted to mitigate the fugitive emission; dedicated water sprinkling system is deployed control the fugitive emission. The roads are made concrete or asphalt to reduce fugitive emission.
6	Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E)	Adequate capacity effluent treatment plant is installed to treat effluent from different parts of plant. The treated effluent maintains the

dated 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.

prescribed standards. The copy of quality of treated effluent is attached as under: Treated Effluent analysis report for month of April-24 to September-24 is as under:

The observed values of parameters monitored are well within limits, hence condition is complied with.

Treated effluent analysis report

Sr. No	Parameters	Units	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	GPCB Norms	Treated Effluent analysis report Average
1	pH	--	7.67	7.93	7.88	7.71	7.61	7.72	5.5-9.0	7.79
2	Temp	oC	30.39	30.78	30.70	30.32	30.57	30.76	45	30.60
3	Colour	units	10.02	10.16	10.67	10.02	10.06	10.17	100	10.17
4	Suspended Solids	mg/L	19.45	19.30	19.81	18.22	18.28	19.11	100	18.90
5	COD	mg/L	36.15	32.33	36.70	34.31	33.75	37.59	250	34.97
6	BOD 3 day at 27o C	mg/L	8.07	8.24	8.97	7.57	8.11	7.64	100	8.11
7	Oil & Grease	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20	<0.1
8	Phenolic compound	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.0	<0.1
9	Ammonical N2	mg/L	9.4	9.04	9.14	9.53	9.99	10.03	50	9.57
10	Sulphide	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5.0	<0.2
11	Cyanides	mg/L	ND	ND	ND	ND	ND	ND	0.2	Nil
12	Fluoride	mg/L	1.59	1.78	1.64	1.62	1.76	1.51	10	1.63
13	Hexa. Chromium	mg/L	0.38	0.36	0.39	0.36	0.40	0.38	1.0	0.38
14	Total Chromium	mg/L	0.44	0.44	0.45	0.44	0.47	0.45	2.0	0.45
15	Copper	mg/L	0.23	0.22	0.22	0.24	0.25	0.22	3.0	0.23
16	Nickel	mg/L	0.09	0.09	0.08	0.06	0.10	0.09	5.0	0.08
17	Zinc	mg/L	0.29	0.29	0.25	0.22	0.26	0.24	15.0	0.25
18	Mercury	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	<0.005
19	Lead	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1	<0.005
20	Arsenic	mg/L	0.032	0.035	0.032	0.019	0.037	0.029	0.2	0.03

21	Cadmium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.000	<0.01
22	Insecticides and Pesticides	mg/L	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
23	Selenium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0	<0.01
24	Bio-Assay Test	% Survival of fish after 96 hrs in 100 % effluent.	96.94	96.74	96.84	96.78	96.88	96.44	95	96.79
7	The overall noise levels in and around the plant area should be kept well within the standards 85 dB(A) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) (day time) and 70 dB(A) (night time).		The overall noise levels in and around the plant area is 62.50 dB(A) in daytime and 61.00 dB(A) in nighttime which is well within the standards (75 dB(A) in daytime and 70 dB(A) in nighttime) The ambient noise level measured are as under:							
			Noise Measurement (April-24 to Sept-24)		Day time		Nighttime			
			Location		Noise Level in dB(A)		Noise Level in dB(A)			
			Near Township opp. to Arogya		61.1		59.6			
			Near 16 ha opp. to Smelter-III		63.2		61.8			
			Near YMA Hostel		61.1		59.5			
			Near Jetty Platform		62.3		61.5			
8	Occupational health surveillance of the workers shall be done on a regular basis and the records maintained as per the factory act.		The occupational health surveillance of the workers is carried out by medical examination on a regular basis and the records are maintained as per the factory act. The copy of records is attached Annexure-I							
9	The company shall develop rainwater harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.		The company has developed rainwater harvesting structure and the harvested water is utilized in green belt development. The ground water table of this area is high hence the recharging of ground water is not possible.							
10	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report further, the company must undertake socio-economic development activities in the surrounding villages like community development programme, educational programme, drinking water supply and health care etc. suggestion made during the public hearing shall be implemented		The company has undertaken adequate measures to protect the environment and safeguards as per the recommendations already made in EIA/EMP report. The protection measures taken are attached as Annexure-II. The company is committed to undertake the activities to uplift the socioeconomic status of surrounding villages like community development programme, educational programme, drinking water supply and health care etc. The activities conducted in surrounding villages and beneficiaries are as above: April-24 to Sept-24 CSR data The public hearing of this project was exempted by MoEFCC, New Delhi							

Activities Undertaken		No. of Activities	Beneficiaries	No. of Villages Benefited
Education				
Health				
Sustainable livelihood				
Social				
Others				
Total				
11	Adequate fund shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	Adequate fund has been provided towards the capital cost of pollution control measures and implement the condition stipulated by Ministry of environment and forest. The capital cost earmarked was Rs.60 crores and recurring cost was Rs.3 crores/annum. The funds earmarked had been utilized judiciously for environmental protection purposes only.		
12	The Regional Office of this Ministry / CPCB / SPCB shall monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	The Regional Office MoEFF& CC, Bhopal / GPCB is monitoring the stipulated conditions on a regular basis. A six-monthly compliance report and the monitored data along with statistical interpretation is submitted to MoEFF& CC, Bhopal and MoEFF & CC, New Delhi whereas the monitoring data is being sent to GPCB on monthly basis. The acknowledgement copies of latest six-monthly report submitted to MoEFF Bhopal and MoEFF & CC, New Delhi is attached as under after general condition no.14. The details of monitoring results of various stacks, ambient air quality is given in compliance status of specific condition No. 3 and general condition No. 4 respectively.		
13	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This should be advertised within seven days of the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the	Project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEFF & CC) has been advertised in two local newspapers and a copy of the same has been submitted to the regional office at Bhopal. Complied with		

	vernacular language of the locality concerned and a copy of the same should be forwarded to the regional office.	
14	The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work, if any.	The company has informed the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and commencing the land development work.



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Your (Environment Clearance) application has been Submitted with following details

Proposal No	J-11011/927/2008 -I A II (I)
Compliance ID	72496389
Compliance Number(For Tracking)	EC/M/COMPLIANCE/72496389/2024
Reporting Year	2024
Reporting Period	01 Jun(01 Oct - 31 Mar)
Submission Date	31-05-2024
IRO Name	Shrawan Kumar Verma
IRO Email	kr099.ifs@nic.in
State	GUJARAT
IRO Office Address	Integrated Regional Offices, Gandhi Nagar

**Note:-** SMS and E-Mail has been sent to Shrawan Kumar Verma, GUJARAT with Notification to Project Proponent.

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