## Hindalco Industries Limited Unit: Birla Copper, Dahej

## Status of compliance to conditions of Environmental Clearance No. J-11011/81/2000-I (A) II (I) dated 8<sup>th</sup> January 2002 (Six monthly compliance report from October-23 to March-2024)

Sub.: Copper Smelter expansion and Copper foil plant by M/s Indo Gulf Corporation Limited at Dahej, District Bharuch. The expansion proposal is for increasing the capacity of copper smelter plant from 1.0 lakh TPA to 1.50 lakh TPA.

## [A] SPECIFIC CONDITIONS:

Sr. No.	Details	of condition	Compliance status					
01	environmental clearance	d by MoEF while according to J-11011/ 07/94-I(A)II (I) dated melter project shall be strictly	There are thirteen conditions stipulated in environmental clearance issued by the Ministry Vide Letter No. J-11011/ 07/94-I(A)II (I) dated 14-03-1995. The total conditions are complied with. The compliance report is attached as Annexure- (A)					
02	declining trend with re Procedure of sampling ar through other referral	Hindalco Industries Li	with respect to all the part of the concentration of Part of Pa					
		AMBIENT AIR QUAL	ITY AVERAGE MEAN (μg/	m3)				
Sr. No.	Monitoring Stations		Oct-23 to Ma	rch-2024				
		PM 10	PM 2.5	SO2	NOx			
1	Township	54.54	40.52 35.20 11.38					
2	Jetty	58.36	41.57 35.13 12.12					
3	Near 16 ha	59.61	44.03	34.49	59.61			
4	Near YMA	56.31	44.00	35.17	10.70			

The company should utilize the treated effluent to the maximum extent possible for green belt development. However, additional treated effluent or during the rainy season, effluent could be discharged into the deep sea through HDPE pipeline at a point through multiple diffuser system as recommended by the NIO. The treated effluent should confirm to the standards including Bio-Assay test as per the GPCB. The monitoring report should be submitted to the ministry regularly.

The treated effluent conforming to the standards is mainly reutilized for Lime slurry preparation and green belt development. Additional treated effluent is discharged into the deep sea through a HDPE pipeline having multiple diffuser system at a point lat 21° 42′0′, long 72° 30′35″, as recommended by National Institute of Oceanography, Goa. As per the study carried out by NIO, Goa is no impact on marine aquatic life. The treated effluent conforms to the standards including Bio-Assay test as per the GPCB guidelines. The monitoring report is submitted regularly to GPCB (Monthly) & Ministry (Six months). The quality of treated effluent is as under:

	The observed values of parameters monitored are well within limits, hence condition is complied with.									
C.,			Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	GPCB	Treated Effluent
Sr.	Parameters	Units							Norms	analysis report
No										Average
1	рН		7.71	7.64	7.66	7.60	7.53	7.56	5.5-9.0	7.62
2	Temp	οС	30.40	30.98	30.16	30.54	30.00	30.43	45	30.42
3	Colour	units	10.14	10.15	10.07	10.76	10.10	10.86	100	10.35
4	Suspended Solids	mg/L	19.02	19.87	19.49	19.77	19.86	19.64	100	19.61
5	COD	mg/L	33.81	37.00	37.81	32.75	32.55	36.06	250	35.00
6	BOD 3 day at 27o C	mg/L	8.34	8.01	8.40	8.00	7.84	8.04	100	8.10
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	9.70	9.63	9.01	9.57	9.69	9.84	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	Nil	Nil	Nil	Nil	0.2	Nil
12	Fluoride	mg/L	1.85	1.93	2.05	2.12	1.98	2.16	10	2.02
13	Hexa. Chromium	mg/L	0.39	0.36	0.42	0.45	0.43	0.41	1.0	0.41
14	Total Chromium	mg/L	0.45	0.47	0.43	0.40	0.44	0.46	2.0	0.44
15	Copper	mg/L	0.21	0.26	0.21	0.24	0.24	0.22	3.0	0.23
16	Nickel	mg/L	0.09	0.08	0.10	0.09	0.10	0.09	5.0	0.09
17	Zinc	mg/L	0.26	0.25	0.25	0.22	0.28	0.30	15.0	0.26
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

03

20	Arsenic	mg/L	0.02	0.01	0.05	0.04	0.04	0.04	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.	96.38	96.57	96.94	96.70	96.54	96.25	95.000	96.56
04	The company should also set up a separate online fish pond using treated effluent to ensure that the quality of treated effluent discharged into the sea does not have any adverse impact on marine life. The effluent quality at the marine discharge point must also be monitored periodically by an independent agency authorized by CPCB and report of the independent agency should be submitted to the ministry's regional office at Bhopal / CPCB / GPCB.					Kindly refer point No.3.  A separate fishpond has been prepared to ensure the quality of treated effluent; the effluent quality Is also monitored at marine discharge point. The reports of same are sent to regional office at Bhopal. CPCB and GPCB on regular basis.  The condition is complied with.				
05	The industry should develop within three months a new secured landfill sit of disposal of ETP sludge and the hazardous wastes as per the CPCB guidelines. Authorization under the hazardous wastes (Managements & handling) Rules, 2000 from the GPCB should be obtained.					site for d B guidelind ardous oth B vide lett	isposal of es. The cor ner waste	ETP sludge mpany has Managem CB/HAZ/GE	e and the har also obtained ents & hand	as developed a secure azardous waste as per ed authorization under lling) Rules, 2000 from .31 dated. 01.12.2000.
06	Adequate facilities and safety measures, including protective clothing for personnel working in the critical areas, e.g., in the anode casting area, must be strictly explored. The company should get an occupational health and safety study done through NIOH, Ahmedabad and submit a report to the ministry within one year. The recommendations of the study must be implemented by the company.					el working Goggles, ented in the pany con bad in the country con the country c	g in critica Hand Glo ne Anode C ducted oc e year of B ommendat	areas are ves, Gas Casting are cupational feb-2005 a	implements mask and A a. health and and the repo	protective clothing for ed. The PPEs given are sprons. This is strictly safety study by NIOH, ort is submitted to the nented:  d by providing better

07	Green belt of adequate width and density in 36 ha of project area in addition to the 40 ha of area already afforested should be provided to mitigate the effects of fugitive emission all around the plant. The development of green belt along the boundary walls, open space and avenue roads should be as per the CPCB guidelines.	ventilation and light.  2. A system of environment monitoring is in place.  3. Regular medical check-up is done.  4. Providing personal protective equipment's  5. Maintain good housekeeping and good hygiene.  6. Records of environmental and occupational health are maintained.  7. Medical services are provided as per the OHS principles.  8. Orientation of machine and manpower is done.  The safety measures are taken adequately; hence condition is complied with.  The project is developed within the existing copper complex area where green belt development is done. The 36 Ha project area is already taken care of to mitigate the effect of fugitive emission all around the plant. The development of green belt along the boundary as well as the open space available in the plant area, the plantation is also done all along the road as per the CPCB guidelines. The green belt is developed in scientific manner; hence the condition is complied with.
01	The project authorities must strictly adhere to the stipulations made by the Gujarat State Pollution Control Board.	The company is fully committed to adhering to the stipulated conditions made by the GPCB. Hence condition is complied with.
02	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	The company has obtained prior environmental clearance before expansion or modification in the plant. In case of any deviations or alterations in the project proposal, the company has approached the Ministry and accordingly, Ministry has accessed the adequacy of conditions imposed for environment protection measures. Hence the condition is complied with.
03	The project authorities must strictly comply with the rules and regulations under Manufacture, storage and import of hazardous chemicals rules, 1989 as amended in October 1994 and January, 2000. Prior approval from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire	The company has already obtained the permission from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire safety Inspectorate for Manufacture, storage and import of hazardous chemicals rules, 1989 as amended in October 1994 and January 2000. The permission obtained from Factories Inspectorate is attached as

	safety Inspectorate etc. must be obtained.	Annexure-V				
		The Rules and regulations under Manufacture, storage and import of				
		•	hazardous chemicals rules, 1989 is complied with. The necessary			
		permission is attached as Annexure-V				
		The company has already obtained nece	ssary licenses from Controller of			
		Explosives, the necessary permission is a	ttached as Annexure-VI			
		Boiler inspectorate permission is attache	d as Annexure-VII			
		The desired permission is obtained; hence	e condition is complied with.			
04	The project authorities must strictly comply with the rules	The company has strictly complied with t	he rules and regulations with			
	and regulations with regard to handling and disposal of	regard to handling and disposal of Hazard				
	Hazardous wastes in accordance with the Hazardous wastes	the Hazardous wastes (management and	Handling) Rules, 1989 as			
	(management and Handling) Rules, 1989 as amended in	amended in January, 1994 and in January				
	January 1994 and in January, 2000. Authorization from the	obtained authorization for collections/tre				
	State Pollution Control Board must be obtained for	hazardous waste, Under the Hazardous V				
	collections/treatment/storage/disposal of hazardous wastes.		ules, 2003 vide CCA No. AWH-108216 dated 30-05-2020			
		which is valid up to 02-03-2025 by GPCB.				
		The rules and regulation regarding hazardous waste is followed, hence				
	condition is complied with.					
05	The overall noise levels in and around the plant area should	The overall noise levels in and around	the plant area is 63.20 dB(A) in			
	be kept well within the standards (85 dBA) by providing	daytime and 61.40 dB(A) in nighttime which is well within the standards				
	noise control measures including acoustic hoods, silencers,	75 dB(A) in day time and 70 dB(A) in night time. The ambient noise level				
	enclosures etc. on all sources of noise generation. The	measured are as under:				
	ambient noise levels should conform to the standards	illeasured are as under.				
	prescribed under EPA rules 1989 viz. 75 dBA (daytime) and					
	70 (dBA nighttime).	1	1			
IVIONI	tored ambient noise levels(dB) from Oct-23 to Mar-2024 (Avera					
		Day time	Nighttime			
Sr N		Noise Level in dB(A) Noise Level in dB(A)				
1	Near Smelter-I	65.2	62.5			
2	Near SAP-I	63.8 62.5				
3	Near ETP Plant	62.6	61.0			
4	Near Captive Power Plant-1	66.8	64.2			
5	Near DAP	63.4	61.8			

6	Near Smelter-III	65.5		63.	3	
7	Near Guest house in T/ship	60.3		59.	0	
8	Near Central Park in T/ship	60.1		58.6		
9	Near YMA Hostel	60.7		59.3		
10	Near Gypsum yard (boundary wall)	62.5		61.	0	
11	Near Coal yard	62.8		61.	0	
12	Near Jetty Platform	65.1		63.		
06	Occupational health surveillance programme should be	Medical examinations a			_	
	undertaken as regular exercise for all the employees,	and the records are mai	•	e factory act. The	e copy of	
	specifically for those engaged in handling hazardous	records is attached as A	nnexure-l			
	substances. The first aid facilities in occupational health center should be strengthened & medical record of each employee should be maintained.	The medical examinati condition is complied w	• •	is carried out r	egularly, hence	
07	The project proponent should have scheme for social	The company is comm	nitted to underta	ke the activitie	es to uplift the	
	upliftment in the surrounding village with reference to	socioeconomic status	of surroundir	ng villages lil	ke community	
	contribution in road construction, education of Children,	development programme, educational programme, drinking water				
	festivals, health centers, sanitation facilities, drinking water	supply and health care etc. The activities conducted in surrounding				
	supply, community awareness and employment to local	villages and beneficiarie		R data: Oct-23 to		
	people whenever and whenever possible both for technical	Activities	No. of	Beneficiaries	No. of Villages	
	and non-technical jobs.	Undertaken	Activities		Benefited	
		Education	7	849	2	
		Health	141	28810	16	
		Sustainable livelihood	207	5475	21	
		Social	2	10042	15	
		Others	4	331	9	
		Total	361	45507	63	
08	The project proponent shall also comply with all the	The company has u	ndertaken sever	al measures t	o protect the	
	environmental protection measures and safeguards	environment and safe	guard the recon	nmendations al	ready made in	
	recommended in the EIA and Risk analysis report.	EIA/EMP report. The protection measures taken are attached as				
		Annexure-II. The risk as	ssessed and accor	dingly EMP is p	repared, hence	
		condition is complied w	ith.			

A separate Environmental Management Cell equipped with full-fledged laboratory Facilities should be set up to carry out the environmental Management and monitoring functions.

A separate Environmental Management Cell equipped with full-fledged laboratory facilities is set up to carry out the environmental management and monitoring functions. List of equipment and consumable available in the laboratory are as under:

A full-fledged separate Environmental Laboratory is set up and equipped with all necessary instruments/ equipment's. The following equipment and consumable are available in the laboratory:

CAAQMS (04)	OCEMS (35)
Atomic Absorption	Weather station
Spectrophotometer	
PM2.5, PM10 Combo	Stack Monitoring Kit (1)
Noise Level monitors (02)	Handheld SO2, NH3, HF analyzer
Multi gas Analyzer (SO2, NOx,	Ion selected Fluoride analyzers
CO2, HC, O2, and CO)	
Spectrophotometer	BOD incubator
(visible range)	
COD reflux set up	Single pan balance
Relevant chemicals as per IS 5182	Hot Air Oven
Stopwatch	Thermometer
PH Meter	Titration set

The company has separate environment cell and sufficient infrastructure to monitor and analyzes the environmental parameters.

Hence condition is complied with

The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.

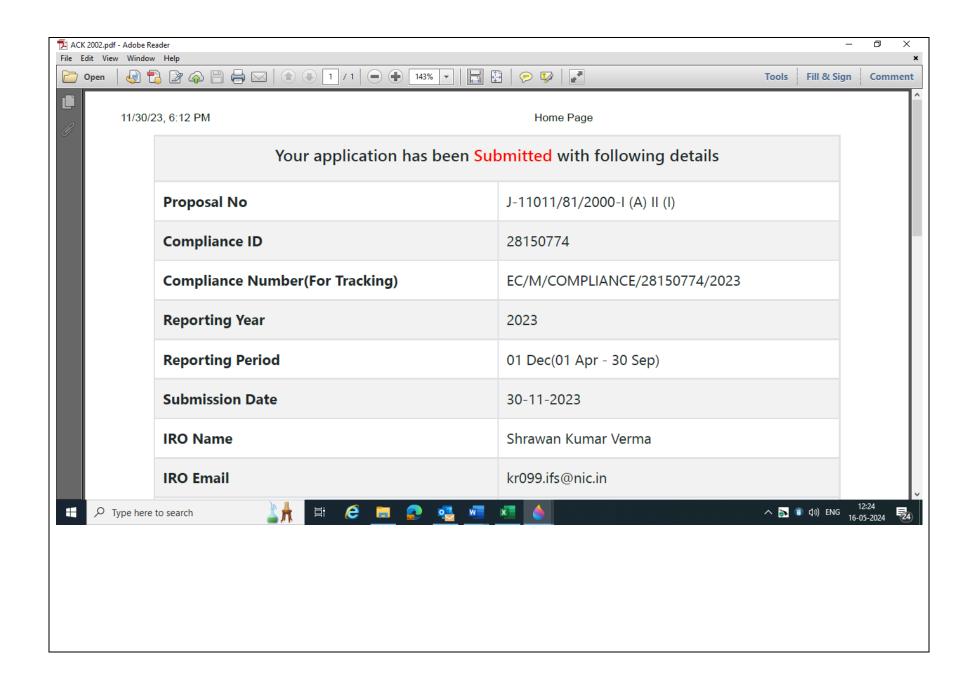
The company has incurred an amount of Rs. 215.57crores to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government. The details of amount incurred is as under

## **Capital Cost for Environmental Control Measures as under:**

Sr. No.	Item	Total(Lacs)
1	Dryer bag filer & de dusting system	669
2	Alkali Scrubber Smelter-1	8500
3	Water Cool hood Smelter-1 Converter 1,2 &3	1770
4	Ventilation hood from S & C furnace & bag house	150

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		5		ESPs of smelter-III	518	
		6		ESP's of CPP	400	
		7	'	Alkali Scrubber of Smelter –III	694	
		8	1	Effluent Treatment –II	1000	
		9	1	Sewage Treatment Plant-II	100	
		10	)	Sulfuric Acid Plant –III	8595	
		1:	1	Tail Gas Scrubber SAP-III	3466.69	
		12	2	SLF for ETP waste	700	
		13	3	PG, slag & Fly ash yard- for Phase-III	2000	
		14	1	Bag filters for CHP CPP-III and ash management	800.38	
		1!	5	Liberator scrubber	141	
		10	5	PMR plant Bag filter	50	
		1	7	Fluorine scrubbing system in PAP-III	203.08	
		18	3	Scrubbing system for DAP-III plant	300	
		19	9	Green belt development	600	
		20	)	Zero Liquid Discharge	6754	
		2:	L	Wind fencing for coal yard	1395	
				Total (388.06 crores)	38806	
		The fund	ds ea	rmarked were used for environmental protecti	on measures	
		and not	diver	ted for any other purposes. The condition is co	mplied with.	
11	The implementation of the project vis-à-vis environmental	The implementation of the project is monitored by Ministry's regional				
	action plans will be monitored by Ministry's regional office at	office at Bhopal / State Pollution Control Board / Central Pollution				
	Bhopal/State Pollution Control Board / Central Pollution	Control Board. A six-monthly compliance status report is submitted				
	Control Board. A six-monthly compliance status report	regularly to monitoring agencies. (RO, MOEF, Bhopal and SPCB.)				
	should be submitted to monitoring agencies.	Hence th	ne co	ndition is complied with.		
		The acknowledge copy of last six month is attached as under.				



12	The project proponent should inform the public that the
	project has been accorded environmental clearance by the
	ministry and copies of the clearance letter are available with
	the state Pollution Control Board / Committee and may also
	be seen at website of the Ministry of Environment and
	Forests at http://envfor.nic.in. This should be advertised
	within seven days from the date of issue of the clearance
	letter, at least in two local newspapers that are widely
	circulated in the region of which one shall be in the
	vernacular language of the locality concerned and a copy of
	the same should be forwarded to the Regional Office.

The company has published the information regarding obtaining the environment clearance for the aforesaid project in two daily news papers i.e. sandesh dtd.13.1.2002 and The Times of India dtd.12.1.2002. A copy of the above letter and a copy of each advertisement was submitted to MoEF & CC, New Delhi vide letter No. IGCL/TIC/01 dated 16.01.2002. The condition is complied with.

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. The condition is complied with.