Extra copy for visit.

Vinod V Kumar

From:	Vinod V Kumar
Sent:	Friday, November 25, 2022 5:56 PM
To:	rowz.bpl-mef@nic.in
Cc:	RO MPPCB Singrauli
Subject:	Environmental clearance Compliance for the period of April to September 2022 # Hindalco-Mahan Aluminium
Attachments:	Part 1 - EC Compliance Apr to Sept 22.pdf; Part 2 - EC Compliance Apr to Sept 22.pdf; Annexure-1 Treated Effluent Water Apr22 to Sep22.pdf; Annexure-2 PME Report April to Sept22.pdf; Annexure-3 Compliance of CTO AWH-54289 Dated 25.09.2021.pdf; Annexure-4 Environment Statement Form-V FY 2021-22.pdf; Annexure-5 IMS certificate.pdf; Annexure-6 Letter to PWD & Forest Regarding Road Side.pdf; Annexure-7 PAH report Submitted to MPPCB.pdf

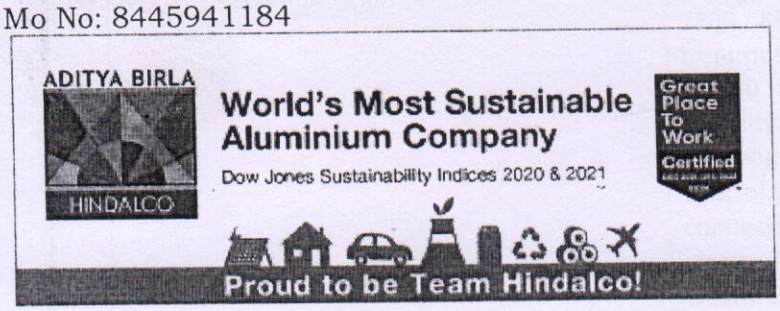
Respected Sir,

Please find compliance report of Environmental clearance of Hindalco Industries Ltd, Unit: Mahan Aluminium, Bargawan, Singrauli (M.P.), for the period of April to September 2022.

Contains following Attachments:

1. *Part 1- EC Compliance Apr to Sept 22,*
2. *Part 2 - EC Compliance Apr to Sept 22,*
3. *Annexure-1 Treated Effluent Water Apr22 to Sep22,*
4. *Annexure-2 PME Report April to Sept22,*
5. *Annexure-3 Compliance of CTO AWH-54289 Dated 25.09.2021,*
6. *Annexure-4 Environment Statement Form-V FY 2021-22,*
7. *Annexure-5 IMS certificate*
8. *Annexure-6 Letter to PWD & Forest Regarding Road Side*
9. *Annexure-7 PAH report Submitted to MPPCB*

Thanks & Regards
Vinod Kumar
Environmental Health & Safety
Hindalco Industries Ltd, Mahan-Unit
Mo No: 8445941184



PART -1

DATA SHEET

1	**Project Type**	Aluminium
2	**Name of the project**	Integrated Aluminium Smelter complex along with coal based Captive Power plant by Hindalco Industries Limited
3	**Clearance letter /OM No& Date:**	J-11011/217/2007-IA II (I), Dt. - 18th March 2009 amended on 15th February, 2012 and 23 July, 2018
4	**Location:**	Village - Orgari, Bargawan
a	District (S)	Singrauli (Formerly - Sidhi)
b	State	Madhya Pradesh
5	**Address For the correspondence**	
a	Address of concerned project chief (with pin code & telephone /Telex/fax numbers)	Mr. Senthil Nath President Hindalco Industries Limited, Unit - Mahan Aluminium, Vill.- Orgari, Bargawan, Distt - Singrauli (Formerly - Sidhi) – 486886 (M.P.) Phone - 07805261111
b	Address of Executive project engineer (with pin code & telephone /Telex/fax numbers)	Mr. Senthil Nath President Hindalco Industries Limited, Unit - Mahan Aluminium, Vill.- Orgari, Bargawan, Distt - Singrauli (Formerly - Sidhi) – 486886 (M.P.) Phone - 07805261111
6	**Salient Features**	
a	Of the Project	It's an Integrated Aluminium smelter having capacity of 3.98 LTPA along with 900 MW Captive Power Plant including 1 X 150 MW stand by unit. Water sourced from River Gopad through underground pipeline which is about 40 KM from plant side. Nearest town is Bargawan located about 4 KM southwards. Main Raw Material Alumina is sourced from Captive units.
b	Of the Environmental Management plans	It's a ZLD project. Individual Effluent treatment plant for Smelter and CPP have been provided having capacity of 7200 KLD and 12600 KLD respectively. For Sewage treatment two no's of STP in colony having capacity of 300 & 150 KLD and one no's for Industrial sewage having capacity of 240 KLD have been installed. All treated effluent is being reused in process, cooling, horticulture etc. To control the particulate and gaseous emission, every boiler is connected with ESP followed by 125 mtr height stack. In smelter division two Gas treatment system and one Fume treatment center have been installed. All stack is equipped with online monitoring system and data are being transmitted online to CPCB, MPPCB. We have obtained the membership of TSDF M/s Pithampur Industrial Waste Management Ltd. for Haz Waste Disposal & management. 04 no's of CAAQMS are installed and data are being transmitted online to CPCB, MPPCB. We have also installed the semi dry FGD in Unit# 6 for reduction of SO_2 emission. We have also started the initiative for disposal of Hazardous

		waste with Cement plant as co-processing which is one step forwarded to Zero waste to Landfill.
7	**Break up the project area**	
a	Submergence area (forest & Non-forest)	1279.32 Ha. (Non-Forest Area)
b	Others	-
8	**Break up the project affected population with enumeration of those losing houses /dwelling unit only and agricultural land only**	2958 Families
a	SC/ST/ Adivasi	SC – 1095, ST/ Adiwasi -343
b	Others	528
c	Numbers of villages Affected	04
d	Status	1628 families Living in R & R Colony and remaining in Self houses against Compensation of Houses distributed
	(Please indicate whether these figures are based on any scientific survey carried out or only provisional figure. If a survey is carried out give details and year of survey.	Figure are based on the actual numbers of compensation and rehabilitation done
9	**Financial details**	
a	Project Cost as originally planned subsequent revised estimates and year of price reference	10500 Crores 14000 Crores [revised]
b	Allocations made for environment managements plans,	Total Rs. 1309.72 Cr. was invested towards Environment management plan
c	Benefit cost ratio/ internal rate of return and the year of assessment.	NA
d	Whether (c) include the cost of environmental Management as shown in (b) above	Yes
e	Actual expenditure incurred on the project so far.	14968.64 CR [as on 30th Sep, 2024]
f	Actual Expenditure incurred on the Environmental Management plans from April 24 to September 2024	77.05 CR
10	**Forest land requirement**	
a	The status of approval for a diversion of forest land for non-forest use	No forest land is occupied for the project.
b	The status of the clearing filling	No forest land is occupied for the project, hence clearing filling is not required.
c	The status of Compensatory afforestation if any	No forest land is occupied for the project, hence compensatory afforestation is not applicable.
d	Comments of the viability & sustainability of compensatory a forestation program in the light of actual field experience so far.	No forest land is occupied for the project, hence compensatory afforestation is not applicable.

11	**The status of clear felling in non-forest area. (Such as submergence area or reservoir, approach roads), if any with quantitative information required**	Following was fall under project area (non-forest) – Galla Godown - 01 Nos. Handpump - 28 Nos. Pond - 03 Nos. Primary School - 03 Nos. Gov. Junior High School - 01 Nos. Bhed Palan - 01 Nos. Kazi house - 01 Nos. Well - 02 Nos. Reservoir - 01 Nos. (21.11 ha.) Angan badi - 01 Nos.
12	**Status of Construction**	
a	Date of Commencement (actual)	9th July, 2009
b	Dated of completion (actual)	28th September, 2016
13	**Reasons for the delay if project is yet to start**	Project is completed and production is started.
14	**Dates of visits**	
a	The dates on which the project was monitored by the RO on previous occasions	26.07.2024
b	Date of site visit for this monitoring	Inspection regarding consent of CPP, 07.10.2024
14	Details of correspondence with PA for obtaining action plan /information on status of compliance to safeguard other than the routine letters for logistic for site visits.	NIL
15	Environment clearance condition wise compliance report.	Enclosed as PART - 2

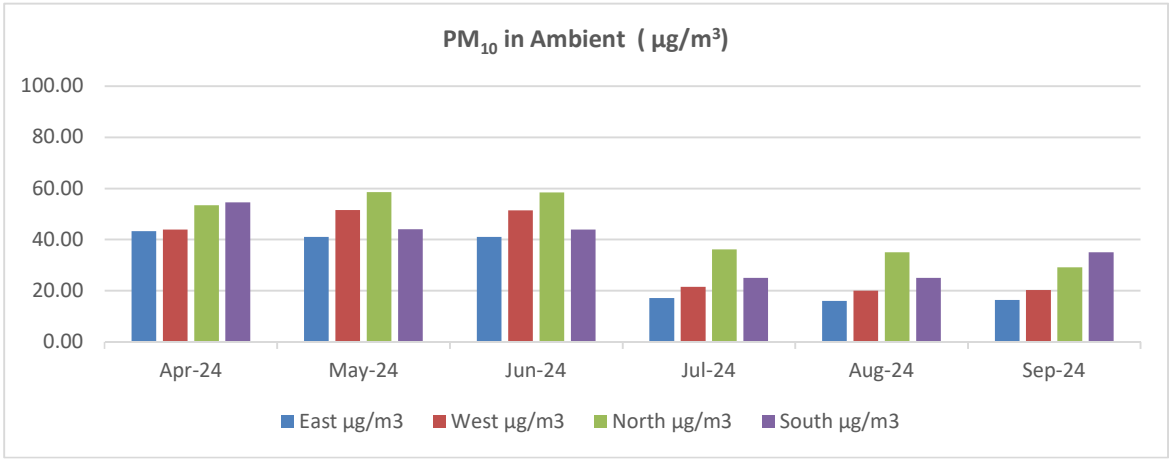
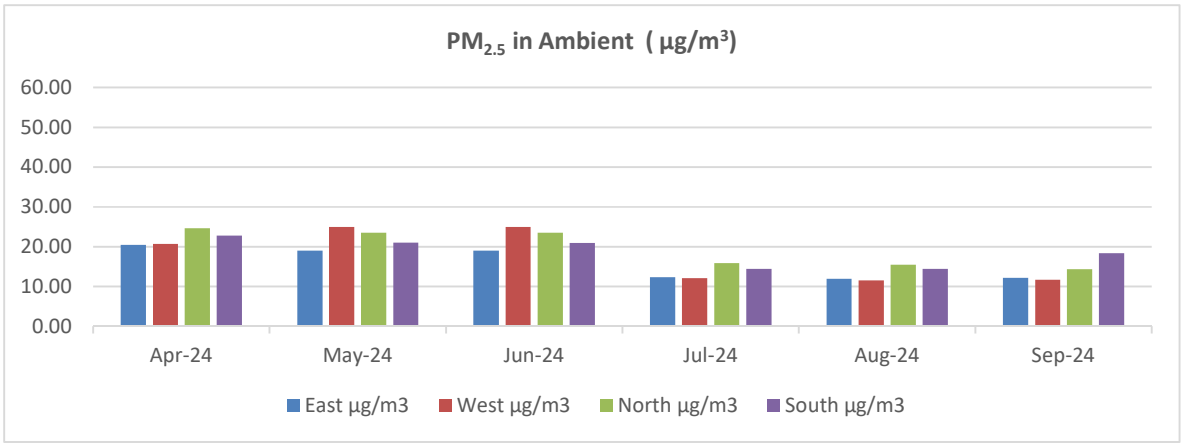
PART – 2

Integrated Aluminium Smelter Complex (3.98 LTPA & Primary Aluminium) Along with Coal Based Captive Power Plant (900 MW)

Name of the Project	**:**	**Integrated Aluminium Smelter Complex (3.25 LTPA & Primary Aluminium) Along with Coal Based Captive Power Plant (750 MW)**
Clearance Letter No.	**:**	**J-11011/217/2007-IA II (I), Dated 18th March 2009**
Period of Compliance Report	**:**	**April 2024 to September 2024**

A. Specific Conditions: -

Sl.	CONDITIONS	COMPLIANCE STATUS
i.	Efforts shall be made to reduce RSPM levels in ambient air and a time bound action plan shall be submitted.	To reduce RSPM levels in ambient air, following efforts has been taken; • Proper upkeep and maintenance of vehicle, water sprinkling, and sweeping on roads are doing regularly for dust Suppression. • Internal roads are made with black top. • Bag filters provided at all raw material transfer points to control fugitive emission during handling of materials. • Dust suppression/dedusting system has been provided at coal crushing house, conveyor belt, transfer points, raw material handling area etc. • Regular water sprinkling done at nearby area site to minimize fugitive emission due to vehicle movement. • Development of green belt in & around the plant and colony is in progress. We have planted about 11.63 Lacs plants till date. • Closed conveying system for alumina handling installed to control fugitive emission during handling. • Dry fog system is provided at rail wagon tippler for coal unloading.

	Online ambient air monitoring and continuous stack monitoring facilities for all the stacks and sufficient air pollution control devices shall be provided to all the stacks including captive power plant to keep the emission levels below 100 mg/Nm3.	Due to above said efforts, ambient quality lies within limit, stipulated in NAAQM notification. The monitoring results during the compliance period are as under   **Graph 1 – Ambient Air Monitoring Trend during compliance period** We have installed online continuous stack monitoring facilities (CEMS) at all the stacks and online continuous ambient air monitoring stations (CAAQMS) at all four directions along with following air pollution control devices to control the ambient and emissions from stacks;

Parameters	Standard	North Direction			East Direction			South Direction			West Direction		
		Min	Max	AVG	Min	Max	AVG	Min	Max	AVG	Min	Max	AVG
PM_{10} µg/m3	100	29.1	58.55	45.12	16	43.2	29.12	25	54.51	37.9	20	51.54	34.79
$PM_{2.5}$ µg/m3	60	14.3	24.61	19.55	12	20.46	15.82	14.5	22.82	18.69	11.5	25.02	17.67
SO2 µg/m3	80	5.3	37.77	21.53	3.76	8.7	5.37	6.09	23.96	16.39	2.99	35.83	17.96
NOx µg/m3	80	6.35	31.28	19.13	3.76	7.55	5.69	4.8	5.99	5.3	2.5	29.89	15.18
PAH µg/m3	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CO mg/m3	4	0.33	0.55	0.44	0.17	0.22	0.19	0.35	0.47	0.38	0.55	0.57	0.55
Fluoride	-	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0

Table 1 – Ambient Air Quality during compliance period

Aluminium Smelter

Sr.	Stack	Attached to	Flow	APCE	Technical Specification
1	Gas Treatment Centre -1	First 180 Pots of Pot room – A&B	990 m^3/S	Dry Scrubber & Stack	Inlet Temp- 125 ^{0}C Outlet Temp 80-120 ^{0}C Stack hight-100 Mtr
2	Gas Treatment Centre-2	Last 180 Pots of Pot room – A&B	990 m^3/S	Dry Scrubber & Stack	Inlet Temp- 125 ^{0}C Outlet Temp 80-120 ^{0}C Stack hight-100 Mtr
3	Fume Treatment Centre	Anode baking furnace	196681 Am^3/hr	Dry Scrubber & Stack	Section -66 Nos. Stack height – 70 Mtr.

Captive Power Plant (in each plant out of 6 x 150MW)

Sr.	Stack	Attached to	APCE	Technical Specification
1.	Power Plant Unit [6Nos]	Boilers	Electro Static precipitator & stack	Gas Flow rate(wet)-263.4 m^3/s Collection efficiency-99.929% Precipitator per Boiler- 2 Nos. Field in series in each Gas path-7 Stack Height – 125 mtr. each.

2	Dust Suppression System	Reclaiming Hopper (CHP), Wagon Tippler, Track hopper, Stacker & Reclaimer	Water Sprinkling	Nozzle cap -9 Liter/hr Spraying Fog pressure 2 Kg/Cm^2 compressed Air pressure ^{5} Kg/Cm^2
3	Dust Extraction	Coal bankers, Crusher house	Bag filter	Bag Type – Polyester Needle Felt Emission < 50 mg/Nm^3 Efficiency – 99.6
4	De-dusting System	Ash Silos	Bag filter	Bag Type – Polyester Needle Felt Emission < 50 mg/Nm^3 Efficiency – 99.6

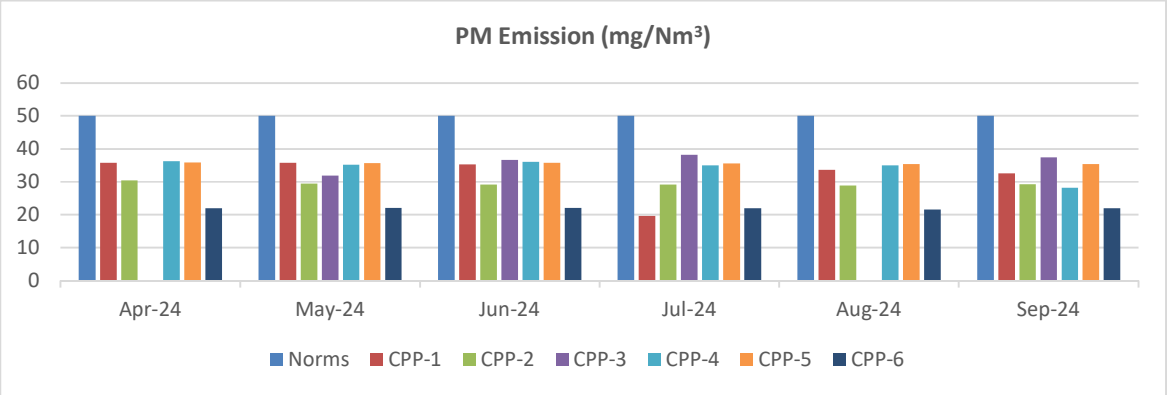
Table No. 2 - List of Air Pollution Control Equipment

Photo 1 – ESP along with Stack and Dust Suppression System in CPP respectively along with new commissioning of FGD

Table No. 3 – Max, Min & Avg. of PM Monitoring results

		CPP 1	CPP 2	CPP 3	CPP 4	CPP 5	CPP 6
Standard		50	50	50	50	50	50
Results of PM Monitoring in mg/Nm³	**Min**	19.66	28.87	31.90	28.17	35.35	21.58
	Max	35.79	30.40	38.19	36.28	35.80	22.01
	Avg.	32.12	29.39	36.05	34.27	35.58	21.90

With effective monitoring and operations of the pollution control equipment we achieved following emission level during the compliance period –



Graph 2 - Particulate Matter Emission

Details are as per **Table - 5**.

ii.	Electrostatic precipitator (s) shall be provided to Captive Power Plant to control gaseous emission within 100 mg/Nm3. The stack of adequate height to be provided to power plant and anode plant as per CPCB guidelines.	As per condition we have provided individual ESP for each CPP units which is designed to control the emission level below 50 mg/Nm3. Stacks at Power plant and Smelter has been made as per CPCB guideline. Calculation as per CPCB guideline for determination of height are as per below-

Stack	Calculation		Required Height (Mtr.)	Actual Height (Mtr.)
CPP (1 to 6)	**$14 \times 840^{(0.3)}$**	**@SO_2 840 kg/hr**	**106**	**125**
GTC (1 & 2)	**$14 \times 627.26^{(0.3)}$**	**@SO_2 627.26 kg/hr**	**96.70**	**100**
FTC	**$14 \times 205.697^{(0.3)}$**	**@SO_2 205.697 kg/hr**	**69.20**	**70**

	Gaseous emission shall be regularly monitored and record maintained and reports submitted to the Ministry including its Regional Office at Bhopal/Central Pollution Control Board (CPCB) and M.P. Pollution Control Board (MPPCB) six monthly.	**Table No 4 – Calculation for Stack Height Determination** Online monitoring system at each ESP stacks and process stack are installed for gaseous monitoring and continuously data is being transmitted directly. Apart from this we are conducting third party monitoring in every month and reports are being shared with Ministry including its Regional Office at Bhopal/Central Pollution Control Board (CPCB) and M.P. Pollution Control Board (MPPCB). Six monthly compliance reports are being submitted to Ministry and MPPCB regularly. Monthly avg. value of emission from stack, during the compliance period are as below; **Table No 5 – Month wise Emission level at CPP in (mg/Nm3)**

Month	CPP 1			CPP 2			CPP 3			CPP 4			CPP 5			CPP 6		
Parameter	PM	SO2	Nox	PM	SO2	Nox	PM	SO2	Nox	PM	SO2	Nox	PM	SO2	Nox	PM	SO2	Nox
Standard	Mg/Nm³																	
	50	600	450	50	600	450	50	600	450	50	600	450	50	600	450	50	600	450
Apr-24	35.74	273.39	230.77	30.40	434.55	179.00	Shut down			36.28	356.79	200.03	35.80	264.80	219.42	21.97	323.65	223.44
May-24	35.79	328.45	203.17	29.43	436.80	174.36	31.90	370.47	210.99	35.19	400.04	207.81	35.63	329.00	229.98	22.01	281.71	236.00
Jun-24	35.33	382.58	194.73	29.18	417.06	172.23	36.71	429.36	209.31	35.99	348.29	184.95	35.71	251.34	198.43	22.00	249.22	236.16
Jul-24	19.66	248.38	134.08	29.20	385.15	190.09	38.19	455.59	156.45	35.00	322.43	184.93	35.61	329.16	208.18	21.92	242.43	239.32
Aug-24	33.65	381.57	215.42	28.87	432.09	140.88	Shut down			34.99	322.29	184.81	35.37	374.91	199.86	21.58	334.32	249.58
Sep-24	32.56	360.34	215.27	29.26	365.64	120.90	37.40	435.84	163.97	28.17	253.56	157.21	35.35	301.41	231.79	21.91	230.72	174.49

STACK	PM mg/Nm³	SO2 mg/Nm³	NOx mg/Nm³
Standard	50	600	450
CPP 1 ESP	32.12	329.12	198.91
CPP 2 ESP	29.39	411.88	162.91
CPP 3 ESP	36.05	422.81	185.18
CPP 4 ESP	34.27	333.90	186.62
CPP 5 ESP	35.58	308.44	214.61
CPP 6 ESP	21.90	277.01	226.50

Table No 6 – Avg. Emission at CPP in (mg/Nm3), during Compliance period

<table>
<tr>
<td>iii.</td>
<td>Particulate fluoride emission shall not be more than 0.65 mg/Nm3 and Fugitive particulate fluoride emission from pot rooms shall not be more than 1.85 mg/Nm3.

Continuous fluoride emission monitoring system shall be installed at pot room stack.</td>
<td>Average Particulate fluoride emissions from pot room stack is 0.290 mg /Nm3 during the compliance period.
Online continuous stack monitoring equipment's are installed at Gas treatment Centre (GTC) stacks of Pot room for measuring particulate matter and fluoride emission and data is being transmitted to the board directly. Parallelly manual monitoring is also being done by external agency. Results are tabulated as below in Table - 7.
<table>
<tr><th colspan="5">Gaseous and particulate fluoride Report Apr-24 to Sept-24</th></tr>
<tr><th rowspan="2">Months</th><th colspan="2">GTC 1</th><th colspan="2">GTC 2</th></tr>
<tr><th>HF</th><th>F(p)</th><th>HF</th><th>F(p)</th></tr>
<tr><td>Standard</td><td>-
mg/Nm3</td><td>0.65 mg/Nm3</td><td>---
mg/Nm3</td><td>0.65 mg/Nm3</td></tr>
<tr><td>Apr-24</td><td>0.17</td><td>-</td><td>0.31</td><td>-</td></tr>
<tr><td>May-24</td><td>0.18</td><td>0.12</td><td>0.42</td><td>0.13</td></tr>
<tr><td>Jun-24</td><td>0.18</td><td>0.13</td><td>0.31</td><td>0.15</td></tr>
<tr><td>Jul-24</td><td>0.17</td><td>0.14</td><td>0.29</td><td>0.18</td></tr>
<tr><td>Aug-24</td><td>0.18</td><td>0.14</td><td>0.20</td><td>0.17</td></tr>
<tr><td>Sep-24</td><td>0.18</td><td>0.14</td><td>0.36</td><td>0.17</td></tr>
<tr><td>Min</td><td>0.17</td><td>0.12</td><td>0.20</td><td>0.13</td></tr>
<tr><td>Max</td><td>0.18</td><td>0.14</td><td>0.42</td><td>0.18</td></tr>
<tr><td>Avg.</td><td>0.18</td><td>0.13</td><td>0.31</td><td>0.16</td></tr>
</table>
<u>Table 7 – Pot Room Stack Monitoring</u></td>
</tr>
<tr>
<td>iv.</td>
<td>The particulate emission from bake oven plant shall not exceed 50 mg/ Nm3.</td>
<td>The particulate emission from bake oven plant is well within the limit against 50 mg/Nm3. Details are as per below Table - 8.
<table>
<tr><th>Month</th><th>PM</th><th>HF</th><th>PAH</th></tr>
<tr><td>Standard</td><td>50
mg/Nm3</td><td>-
mg/Nm3</td><td>2
mg/Nm3</td></tr>
<tr><td>Apr-24</td><td>7.19</td><td>0.50</td><td>BDL[<0.001]</td></tr>
<tr><td>May-24</td><td>8.34</td><td>0.31</td><td>BDL[<0.001]</td></tr>
<tr><td>Jun-24</td><td>8.33</td><td>0.29</td><td>BDL[<0.001]</td></tr>
<tr><td>Jul-24</td><td>8.99</td><td>0.30</td><td>BDL[<0.001]</td></tr>
<tr><td>Aug-24</td><td>10.76</td><td>0.50</td><td>BDL[<0.001]</td></tr>
<tr><td>Sep-24</td><td>22.33</td><td>0.23</td><td>BDL[<0.001]</td></tr>
<tr><td>Min</td><td>7.19</td><td>0.23</td><td>BDL[<0.001]</td></tr>
<tr><td>Max</td><td>22.33</td><td>0.50</td><td>BDL[<0.001]</td></tr>
<tr><td>Avg.</td><td>10.99</td><td>0.36</td><td>BDL[<0.001]</td></tr>
</table>
<u>Table 8 – Anode Bake Oven Stack Monitoring</u></td>
</tr>
<tr>
<td>v.</td>
<td>Data on ambient air quality, stack emission and fugitive emission shall be regularly</td>
<td>The monitoring data from stacks, ambient, & effluent are being transmitted directly to the server of CPCB, MPPCB. The online</td>
</tr>
</table>

submitted on-line to the Ministry's Regional Office at Bhopal, M.P. Pollution Control Board (MPPCB) and Central Pollution Control Board (CPCB) as well as hard copy once in six months.

Parameters	Standard	North Direction			East Direction			South Direction			West Direction		
		Min	Max	AVG	Min	Max	AVG	Min	Max	AVG	Min	Max	AVG
PM_{10} µg/m3	100	29.1	58.55	45.12	16	43.2	29.12	25	54.51	37.9	20	51.54	34.79
$PM_{2.5}$ µg/m3	60	14.3	24.61	19.55	12	20.46	15.82	14.5	22.82	18.69	11.5	25.02	17.67
SO2 µg/m3	80	5.3	37.77	21.53	3.76	8.7	5.37	6.09	23.96	16.39	2.99	35.83	17.96
Nox µg/m3	80	6.35	31.28	19.13	3.76	7.55	5.69	4.8	5.99	5.3	2.5	29.89	15.18
PAH µg/m3	-	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CO mg/m3	4	0.33	0.55	0.44	0.17	0.22	0.19	0.35	0.47	0.38	0.55	0.57	0.55
Fluoride	-	0	0	0	0	0	0	0	0	0	0	0	0

Table 9 – Online Monitored Ambient Air Quality for compliance period

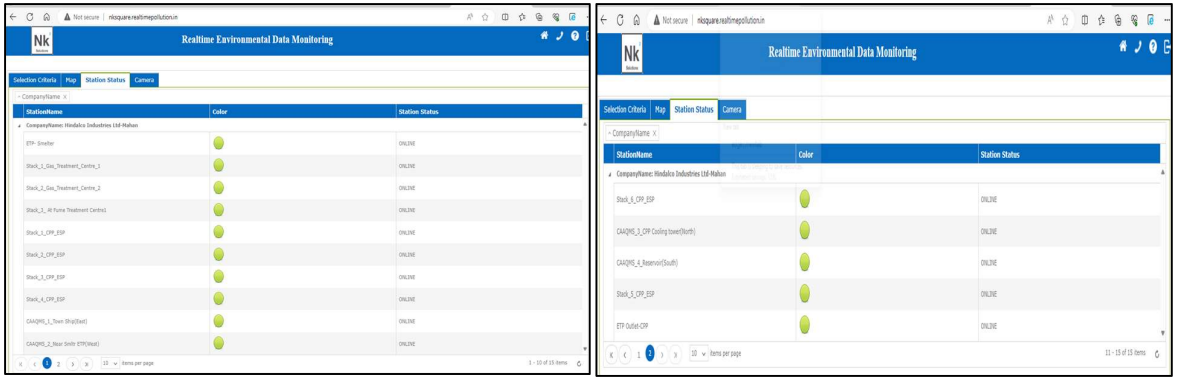


Photo 2 - Screenshot of status Display at CPCB & MPPCB Website respectively

All Data on Environmental Parameters has been displayed at the main gate for general public.

	Data on SPM, SO_2 and NOx shall also be displayed outside the premises at the appropriate place for the general public.	 **Photo 3 - Data Displayed at Main Gate**
vi.	In plant, control measures for checking fugitive emissions from spillage/raw material handling shall be provided.	To control fugitive emission, all transfer points are equipped with deducting systems. All the circuits are closed and covered to avoid/minimize the spillage from material handling circuits. Dry fog system is provided at rail wagon tippler for coal unloading.   **Photo 4 - Conveyer belt For Alumina & Pet Coke Handling and Coal respectively** Fluoride emission is monitored continuously at the stacks of Gas treatment centers connected with Pot room. Forage fluoride is monitored at all around the smelter complex. Reports is submitted to Ministry Regional office, MPPCB.
	Fluoride emissions shall be monitored from the pot room and in the forage around the	Monitoring of forage fluoride analysis around the complex is continue **(Please refer Table no. 10 for monitoring results).**

	smelter complex and the data submitted regularly to the Ministry/Regional Office at Bhopal and MPPCB.	

Location	Value of Forage Fluoride (ppm)
Standard	**One month – 80 ppm**
Nr.Primary School.Adiwasi basti	4.71
Nr.Temple barchi tola	5.11
Nr.Gurchi tola gidher village	5.17
Nr.dharsara tola bargawan village	4.61

Table No 10 –Avg. Forage Fluoride Monitoring Location Wise

Further dry scrubbing system to control the emission from the pot lines shall be provided.	Dry scrubbing system is already in place to control emission from pot room. GTC emission is well within limit. **(Please Refer the Table No 7 for monitoring results.)**

Photo No 5 – Dry Scrubbing System for Pot Room and Anode baking System respectively.

Total fluoride emissions shall not exceed 0.7 kg/ton of Aluminium produced. Further the pot emissions through fume treatment plants shall not exceed 0.30 kg/ton of Aluminium produced. Fugitive fluoride emission from the pot room shall be monitored and report submitted regularly to the Ministry/Regional Office at Bhopal and MPPCB.	Total Fluoride emission is 0.61 Kg/Ton of Aluminium against the 0.7 Kg/ton of Al during compliance period of April 2024 to September 2024. Continuous monitoring system for fugitive fluoride (gaseous) has been installed. It was 2.34 mg/Nm^3 on an avg during compliance period.

vii.	The company shall install gas treatment centers (GTC) to treat fumes coming out from pot line pots. The emissions shall conform to the standards prescribed by the Ministry/CPCB/MPPCB whichever is more stringent.	HIL has installed the 02 no's of Gas treatment Centre (GTC) to treat fumes coming out from pots towards the compliance of condition. Emission level from GTC is well within the standards prescribed by MoEFCC /CPCB/MPPCB. **(Please refer Table No 7 for monitoring results.)**
viii.	Bag filters shall be provided to anode baking plant and transfer points to control fugitive emissions. Gas treatment center (GTC) shall be provided to treat the fumes from the pot line. Closed alumina wagon and dense phase conveying for alumina handling shall be provided to reduce the fugitive emission. High efficiency collection hoods, flue gas treatment plants and dry scrubbers shall be provided to keep the fluoride emission below 0.7 kg/ton from Anode bake oven. Internal roads shall be paved /asphalted. Calcined petroleum based dry scrubbers, dust suppression and collection system shall be provided to Carbon paste plant. De-dusting system shall be provided to control the fugitive emissions.	Bag filters in anode baking plant, transfer points are installed for controlling of fugitive emission. Gas treatment centers are installed for treatment of fumes from pot lines. **(Pl. refer Photo 5)** Closed alumina wagon and closed conveying system for alumina handling has been installed to reduce fugitive emission during handling.  **Photo 6 - Wagon for Alumina Transportation** High efficiency collection hoods have been provided at Pot rooms to avoid fugitive emission. Presently Fluoride emission from Anode baking is 0.0011 kg/ton Al. Dry scrubber has been provided at Anode bake oven. **(Please refer Photo -5)** Internal roads made black topped. De-dusting systems are provided and in operation at carbon plant.

<table>
<tr><td></td><td>Dust suppression systems to be provided to control fugitive emissions from the crushing house, dumpers, conveyer belt, moving vehicle, pneumatic compressors, raw material handling etc.</td><td>Water sprinklers installed in raw material (coal) handling area. Dust suppression/ extraction (bag filter) systems provided in crushing house, conveyor belt, transfer points etc. Dry fog system is provided for coal unloading at wagon tippler.
  
<u>Photo 7 - Water Spray System at Coal handling plant and at Coal Wagon Tippler in CPP</u></td></tr>
<tr><td>ix.</td><td>The poly aromatic hydrocarbon (PAH) from the carbon plant shall not exceed 2 mg/Nm3.The data on PAH shall be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Bhopal and MPPCB.</td><td>Poly aromatic hydrocarbon (PAH) is monitored from Fume treatment plant (FTC) and found below detection level (BDL).
Details are mentioned in Table – 8. Pls refer.

Quarterly report is being submitted to concerned authorities. Last report i.e. during compliance period has been submitted to the board on dated 12.07.2024.</td></tr>
<tr><td>x.</td><td>Fluoride consumption shall be less than 10 kg/ton of Aluminium produced as specified by the CREP guidelines. Accordingly, fluoride emission load shall be reduced.</td><td>During compliance period, our Fluoride consumption was 8.97 Kg/Ton, which is well within prescribed limit.</td></tr>
<tr><td>xi.</td><td>Efforts shall be made to reduce the impact of transportation system due to movement of raw material, semi-finished products and finished products on the surrounding environment.</td><td>The layout of the smelter and CPP is designed to minimize transport distance of raw materials and intermediate products. The project is employing best material handling techniques e.g. Belt Pipe conveyer, Pneumatic System for Alumina handling. (Please refer the Photo No- 4)
<table>
<tr><th rowspan="2">Material</th><th colspan="2">Mode of Transportation</th></tr>
<tr><th>Truck</th><th>Rail</th></tr>
<tr><td>Coal</td><td>√</td><td>√</td></tr>
</table>
</td></tr>
</table>

Alumina	-	√
CP Coke	-	√
Fuel Oil	√	-
Pitch	√	-
Aluminium Fluoride	√	-

Table 11 - Mode of Transportation for Different Raw Materials

xii.

Total water requirement from River Gopad shall not exceed 4,600 m3/hr and prior permission for the drawl of 4600 m3/hr water from the concern department shall be obtained.

Closed circuit system shall be adopted to reduce water consumption and control water pollution. As reflected in EIA/EMP, all the process effluent shall be treated in effluent treatment plant (ETP) and treated waste water shall be recycled and reused for cooling, dust suppression, green belt development and coal/ash handling to achieve zero discharge.

Domestic effluent shall be treated in sewage treatment plant (STP) and treated waste water conforming to the standards for land application shall be reused for green belt development within the plant premises.

Permission has been obtained from Water Resources Department, Govt. of Madhya Pradesh for withdrawal of water from Gopad river. Total water consumption is 3,502,163 m^3 during compliance period (April 2024 to September 2024), against the permissible limit 20,203,200 m^3, which is well within the withdrawal permission limit.

Month	Total Water Withdrawal Qty.(KL)	Permission @ m3/hr	Actual Withdrawal @ m3/hr
Total	3502163	4600.0	797.39

Table 12 – Water Withdrawal from Gopad River during April 2024 to September 2024

As per EIA/EMP, following effluent/ sewage treatment facility have been installed for smelter, power plant and colony separately as detailed in below table. All the process effluent is being collected and treated at respective treatment facilities. All the treated waste water being used in the different purpose like cooling, green belt development and dust suppression, ash slurry preparation etc.

Sr.	Name of Treatment Facility	Capacity KL/Day	Total Quantity Recycled after Treatment during Period (M^3)
1	Smelter ETP	7200	**1,13,004**
2	CPP ETP	12600	**1,94,711**
3	Industrial STP	240	**5,945.95**
4	STP C Type Colony	150	**19,283.58**
5	STP F Type Colony	300	**19581.53**
Total			**3,52,526**

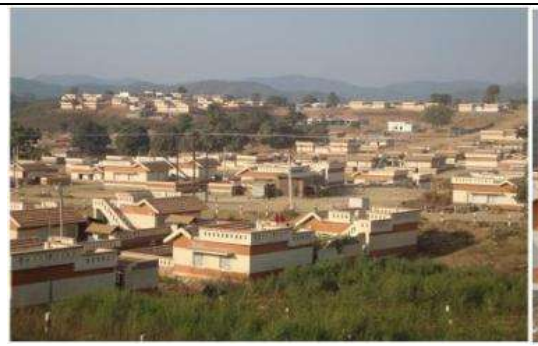
Table 13 – Treated Water Quantity Recycled during April 2024 to September 2024

02 no's of STP is installed and operational at township for treatment of domestic effluent. Treated effluent is being used in green belt development & horticulture purpose

xiii.	A detailed hydrological study of ground water movement shall be carried out for the assessment of ground water contamination to assess the risk of ground water contamination and report submitted to the Ministry and its Regional Office at Bhopal within six months.	A detailed report of Hydro geological study to assess the ground water table and its movement in the core plant area and its surrounding had been done by M/s GEO, Kolkata. Detailed report has been submitted to the Director, MoEFCC, New Delhi & Regional Office at Bhopal vide our letter **MAP/UBA/09-10/11, dt. 04.11.2009.** Further Hydrogeological Study done by M/s WOLKEM INDIA PVT LTD and submitted to CGWA for comments vide letter No- MAP/ENV/CGWB/@)2018-19/156, dated 10.07.2018.
xiv.	Proper care shall be taken to ensure no run off or seepage from the disposal site to natural drainage. Ground water all around the disposal area shall be monitored regularly and report submitted to the MPPCB/CPCB and Regional Office of the Ministry at Bhopal.	HDPE lining used during construction of ash dyke to avoid any leakage /seepage. Monthly monitoring is being conducted in nearby villages for ground water and report submitted to the concerned regulatory body regularly.
xv.	The spent pot lining generated from the smelter shall be properly treated and disposed off in secured landfill site (SLF). The location and design of the landfill site shall be approved by MPPCB as per Hazardous Waste (Management and Handling) Rules, 2003 and should be as per CPCB guidelines. The ground water quality around the landfill site shall be monitored and the data submitted to the Ministry/MPPCB. Spent pot lining generation shall not exceed as per guidelines mentioned in the Corporate Responsibility for Environment Protection (CREP) for Aluminium Sector and shall be disposed off in secured landfill (SLF) designed and constructed as per CPCB guidelines with proper leachate collection system. ETP & STP sludge will be used as soil conditioner for green belt development.	We have a separate covered shed with concrete floor for storage of spent pot lining. Presently we are disposing our SPL to M/s ACC Ltd, Kymore, M/s Krishna Calcination & Refractories Pvt. Ltd. And M/s Greenmac Technologies Raipur Chhattisgarh (authorized recyclers), During the compliance period (April 2024 to September 24) we have total disposed 2266.42 MT of SPL through authorized recycler. ETP sludge is being collected and co-processed through M/s ACC Limited, Kymore time to time. STP Sludge is being used for soil conditioning for horticulture purpose. We have disposed 22209.73 MT of Aluminium Dross to authorized recyclers during compliance period. Used Oil & Batteries are being sold to authorized recyclers.

	All the dross, used oil and batteries shall be sold to the authorized recycler/re-processors.	
xvi.	Better housekeeping measures should be taken to reduce fluorine levels in the vicinity of the pot line building and in the effluent emanating from anode preparation section. Surface run-off outside the pot house should be properly collected, handled and disposed off.	Good Housekeeping already in practice in plant premises. All the surface run-off water around the pot line/smelter area collected in ETP's collection pond for further treatment. The fluorine level is within prescribed limits. Monitoring report of treated effluent is annexed as **Annexure - 1.**
xvii.	Proper utilization of fly ash shall be ensured as per Fly ash Notification 1999 and subsequent amendments in 2003. All the fly ash generated shall be properly stored in ash storage pond and provided to cement and brick manufacturers for further utilization.	Maximum fly ash is supplied in dry mode to the nearby cement manufacturers at Satna- Rewa cluster and remaining ash is being sent to Ash dyke. An agreement has been made with some cement company for taking fly ash from our unit. During the reporting period total Fly ash was generated **5,77,170 MT**, utilization was **6,01,369 MT and 104.28 %** was total utilization.
xviii.	Occupational health surveillance of workers shall be done on a regular basis and records maintained as per Factories Act.	Conducting health checkups as per schedule and maintaining records**. Annexure -2**
xix.	Green belt shall be developed in 500 ha (33%) out of total 1500ha area to mitigate the impact of fugitive emissions as per CPCB guidelines.	We have developed green belt in 34.79 % up to Mar 24 of total acquired land (i.e. 419 ha) in phased manner and continue. We have acquired only 1279.32 ha land against 1500 ha. Development of green belt in and around the plant and colony is in progress. Till date we have planted about 11.306 Lacs plants.
xx.	The company shall develop rain water structures to harvest the run-off water for recharge of ground water in consultation with the Central Ground Water Authority /Board.	There are multiple ponds which are being used to collect rain water and water collected gets utilized. Study for feasibility of rain water harvesting has completed and report been submitted to CGWB.
xxi.	Land acquisition for the proposed integrated Aluminum Smelter Complex (3.25 LTPA & primary aluminum) along with coal based Captive Power Plant (750 MW) at Village	

	Orgari, Bargawan, District Sidhi, Madhya Pradesh shall not exceed 1,500 ha.	Total land acquired for the Project is less than 1500 ha. We have acquired only 1279.32 ha land against 1500 ha.
xxii.	As proposed no forest land shall be used.	No forest lands are acquired for the project.
xxiii.	Recommendations of the State Forests department regarding the impact of the proposed expansion plant on the surrounding reserve forest viz. Mohanban RF (4 km WSW), Jiwan RF (5.5 km NNE), Muher RF (9.2 km SE), Pokhara RF (6.3 km NE) , Orgari PF (0.2 km N), Majhigawan PF (7 km NNE), Teldah PF (4.6 km SE) , Pachwar PF (9.9 k m NNE) Gidher PF (2.7 km NW) ,Uska PF (6.3 km E), Lohara PF (4.5 km NNW), Bichhi PF (6.6 km N) ,Parihasi PF (4.6 km NNE) and Bori PF (7.8 km N) shall be obtained and implemented	The study has been carried out by **M/s** Vimta lab and it has been mentioned in our comprehensive EIA report, there is no impact envisaged on ecological environment.
xxiv.	Measures shall also be taken to prevent impact of particulate emission /fugitive emissions, if any from the proposed plant on the surrounding forest located within 10 km radius of the project. Further, conservation plan for the conservation of wild fauna of Schedule I located in the forest/reserve forest in consultation with the State Forest Department shall be prepared and implemented.	We have engaged a consultant, M/s Consulting Engineers Group Ltd, Jaipur for study and conservation plan of Wild Fauna as per schedule-1 located in the surrounding forest / reserve forest and report submitted to your good office.
xxv)	Rehabilitation and Resettlement shall be implemented as per R&R Policy of the State Government of Madhya Pradesh. Suitable employment to all the oustees shall be provided. Compensation paid to the land oustees in any case shall not be less than The norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.	The R & R plan was made and signed between Hindalco & Government of MP on 1st May 2009. Total Oustees were 2958, we have provided employment to 1560, pension to 391 oustees as per National Resettlement and Rehabilitation Policy, 2007. As per R & R agreement, the R& R colony has been made near the project site and had designed by the agency of International repute. All the house outees (1628) families have been relocated from site.

		  **Photo 8 - R & R Colony Constructed By Hindalco**
xxvi)	All the recommendation made in the charter on Corporate Responsibility for Environment Protection (CREP) for Aluminium Sector shall be strictly implemented.	The pollution load of particulate matter and fluorides are calculated based on the CREP norms.
xxvii	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report and suggested during public hearing meeting.	We are complying the recommendation in the EIA/EMP report and suggestions during public hearing meetings.
xxviii	The company shall provide housing for construction labor within the site with all 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.	Company had provided housing and all facilities to construction labor. Presently project has been completed. Hence all Temporary Residence for construction labors have been demolished.

B. GENERAL CONDITIONS :		
i)	The project Authority must strictly adhere to the stipulations made by M.P. Pollution Control Board (MPPCB) and State Government.	Complying with all the conditions stipulated in Consent to Operate issued by MPPCB. CTO Compliance is attached as **Annexure – 3**

ii)	No expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests	The said condition is being strictly complied.
iii)	The gaseous emission from various process units should conform to the standards prescribed by the concerned authorities from time to time. The MPPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industries and its size and location. At no time the emission level should go beyond the prescribed standards. In the event of failure of any Pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	State of the art technology pollution control equipment's of are installed to meet the specified standards prescribed by concerned agencies. **(Please refer Table No 5, 6, 7 & 8)**
iv)	Adequate ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO2 and NOx are anticipated in consultation with the MPPCB. Data on ambient air quality, fugitive emission and stack emission shall be regularly submitted to this Ministry including Regional Office at Bhopal and MPPCB once in six months.	Ambient air quality monitoring station has been installed in all four directions at four locations in consultation with the MPPCB, where maximum ground concentration occurs. On line data for ambient air quality, stack emission etc. regularly being transmitted to the MPPCB/CPCB.

<table>
<tr><td></td><td></td><td> 
<u>Photo 9- Ambient Air Quality monitoring Station</u></td></tr>
<tr><td>v)</td><td>In- plant control measures for checking fugitive emission from spillage /raw materials handling etc shall be provided.
Closed Alumina wagon and dense phase conveying for Alumina handling shall be provided to reduce fugitive emission.
Bag filters and covered conveyers and adequate water sprinkling shall be done to control fugitive emission.</td><td>Suitable dust suppression system provided to control fugitive emission during material handling.
Closed alumina wagon is being engaged for external transport of alumina and Dense phase conveying system provided for transportation of Alumina within plant.
(Please Refer the Photo no -4 & 6.)
Adequate bag filters and covered conveyers provided to control the fugitive emission. We do adequate water sprinkling during the coal handling. Dry fogger is installed to deal with the fugitive dust generated during the coal unloading at wagon tippler point.</td></tr>
<tr><td>vi)</td><td>The overall noise level in and around plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules,1989 viz. 75 dBA (daytime) and 70 dBA (night time)</td><td>Ambient Noise level monitoring is being conducted and it is well within the limit. Suitable personal protective equipment is being used at high noise area at work place within plant.

<table>
<tr><th colspan="9">Ambient Noise Monitoring Data Sheet</th></tr>
<tr><td colspan="9">Sound Level (dBA)</td></tr>
<tr><th>Location</th><th colspan="2">ETP (WEST)</th><th colspan="2">COOLING TOWER (NORTH)</th><th colspan="2">RESERVOIR (SOUTH)</th><th colspan="2">NEAR HOSPITAL (EAST)</th></tr>
<tr><td>Month</td><td>Day</td><td>Night</td><td>Day</td><td>Night</td><td>Day</td><td>Night</td><td>Day</td><td>Night</td></tr>
<tr><td>Sept' 2024</td><td>53.2</td><td>42.8</td><td>52.9</td><td>41.3</td><td>49.3</td><td>42.5</td><td>50.9</td><td>42.6</td></tr>
</table>
<u>Table 15 – Ambient Noise Monitoring Report</u></td></tr>
</table>

<table>
<tr><td>vii)</td><td>The occupational health surveillance of workers shall be done on regular basis and records maintained as per Factories Act.</td><td>Full time medical officer has been appointed for the health checking of workers. Medical health center has been established.</td></tr>
<tr><td>viii)</td><td>The company shall also comply with all environmental protection measures and safeguards recommended in EIA/EMP report. Further, the company shall earmark funds separately for improving the socio – economy and ecology of the region.</td><td>Separate fund has been earmarked for environmental protection and improving socio-economic as well as ecology of the region.</td></tr>
<tr><td>ix)</td><td>As proposed, Rs. 405.00 crores for environmental management plan, Rs. 45.00 Lakhs towards total capital cost and Rs. 21.00 lakhs earmarked towards recurring cost/annum for environmental pollution control measures shall be judiciously utilized for implementation of conditions stipulated by Ministry of environment and Forests as well as 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.</td><td>We have already invested more than Rs. 1255.87 Crores for pollution control and appropriate recurring cost has been earmarked for smooth running of the facilities. Recurring cost during compliance period was 5731 lakhs against 21.0 lakhs for Environmental Pollution Control measures.
<table>
<tr><th>Sr.</th><th>Items</th><th>Supplier</th><th>Actual Cost</th></tr>
<tr><td></td><td></td><td></td><td>(Crores)</td></tr>
<tr><td>1</td><td>Gas Treatment System</td><td>Alstom</td><td>310.52</td></tr>
<tr><td>2</td><td>Fume Treatment Center</td><td>DC/Thermax</td><td>58.17</td></tr>
<tr><td>3</td><td>Smelter & CPP ETP</td><td>Thermax</td><td rowspan="2">111.32</td></tr>
<tr><td>4</td><td>Smelter ETP Settling Pond (Civil)</td><td>Rohan</td></tr>
<tr><td>5</td><td>Pot hoods</td><td>Indfab, Orient</td><td>13</td></tr>
<tr><td>6</td><td>Ventilation System</td><td>Colt</td><td>32.62</td></tr>
<tr><td>7</td><td>Dust suppression / Bag filters (Smelter& CPP)</td><td>Ducon,Techmo, L&T</td><td>17.65</td></tr>
<tr><td>8</td><td>Hyper Dense Phase System(HDPS)</td><td>AP</td><td>94.85</td></tr>
<tr><td>9</td><td>ALPSYS (automatic Pot control system)</td><td>AP</td><td>169.59</td></tr>
<tr><td>10</td><td>Electro Static Precipitator, 6 units</td><td>BHEL</td><td>274.93</td></tr>
<tr><td>11</td><td>Chimney/Closed drainage - 6 Units</td><td>L&T</td><td>45.72</td></tr>
<tr><td>12</td><td>Colony STP</td><td>Ion Exchange</td><td>0.75</td></tr>
<tr><td>13</td><td>FGD for Unit 6</td><td>ISGEC</td><td>126</td></tr>
<tr><td>14</td><td>SPL crusher bag filter</td><td>Geocycle</td><td>0.75</td></tr>
<tr><td>15</td><td>Construction Of Sewer Line And Common Pit In Boiler And Esp Area And Sewer Line Upto Stp</td><td>ADITYA ENTERPRISES</td><td>0.40</td></tr>
<tr><td>16</td><td>Stp For Cpp Area</td><td>Thermax</td><td>1.49</td></tr>
<tr><td>17</td><td>Pneumatic System For Ash Loading In Rakes From Silo</td><td>DEVELOPMENT CONSULTANTS PRIVATE LIMITED</td><td>0.98</td></tr>
</table></td></tr>
</table>

		18 | Air Cleaner at Conveyor Tunnel 3A/3B | FLOWTECH INDUSTRIAL COMPANY | 0.58 **Total** | 1259.317 **Table 16 - Investment towards Pollution Control Equipment & Technology**
x)	The Regional Office of this Ministry at Bhopal /MPPCB/ SPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	Compliance report is being submitted regularly to MoEFCC/MPPCB regularly. Last compliance report was submitted on 01 June 2024 via e-mail.
xi)	The company shall inform the public that the project has been accorded environmental clearance by the Ministry and the copies of the clearance letter are available with the MPPCB 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 vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office.	This has been advertised in two local newspaper in vernacular namely i) Dainik Bhaskar, published from Satna, dated 15.04.2009 ii) Samay, published from Sidhi, dated 15.04.2009 The copy of the relevant portion of the newspapers have been submitted vide our letter dated April 18, 2009.  सूचना सर्व साधारण को सूचित किया जाता है कि मेसर्स हिण्डालको इण्डस्ट्रीज लिमिटेड द्वारा प्रस्तावित एकीकृत 3.25 लाख टन प्रतिवर्ष प्राइमरी अल्युमिनियम तथा 750 मेगावाट कैप्टिव पावर प्लान्ट ग्राम ओरगड़ी, पोस्ट-बरगवां, जिला-सिंगरौली, मध्य प्रदेश में लगाये जाने हेतु भारत सरकार के पर्यावरण एवं वन मंत्रालय के पत्र संख्या F.NO.J- 11011/217/2007-IA 11(1) dated 18.3.09 द्वारा पर्यावरणीय अनुमति (क्लीयरेन्स) प्राप्त हो गया है। पर्यावरणीय अनुमति (क्लीयरेन्स) के पत्र की प्रति मध्य प्रदेश प्रदूषण नियंत्रण बोर्ड, भोपाल के कार्यालय में उपलब्ध है तथा इसके अतिरिक्त भारत सरकार के पर्यावरण एवं वन मंत्रालय के वेवसाईट http//envfor.nic.in पर भी उपलब्ध है। प्रबन्धन SSDH/8549/09 महान अल्युमिनियम परियोजना सूचना सर्व साधारण को सूचित किया जाता है कि मेसर्स हिण्डालको इण्डस्ट्रीज लिमिटेड द्वारा प्रस्तावित एकीकृत 3.25 लाख टन प्रतिवर्ष प्राइमरी अल्युमिनियम तथा 750 मेगावाट कैप्टिव पावर प्लान्ट ग्राम ओरगड़ी पोस्ट-बरगवां, जिला-सिंगरौली, मध्य प्रदेश में लगाये जाने हेतु भारत सरकार के पर्यावरण एवं वन मंत्रालय के पत्र संख्या F.No.J-11011/217/2007-IA II (1) dated 18.03.09 द्वारा पर्यावरणीय अनुमति (क्लीयरेन्स) प्राप्त हो गया है। पर्यावरणीय अनुमति (क्लीयरेन्स) के पत्र की प्रति मध्य प्रदेश प्रदूषण नियंत्रण बोर्ड, भोपाल के कार्यालय में उपलब्ध है तथा इसके अतिरिक्त भारत सरकार के पर्यावरण एवं वन मंत्रालय के वेवसाईट http/envfor.nic.in पर भी उपलब्ध है। प्रबंधन महान अल्युमिनियम परियोजना **Photo 10 - Paper Cutting of Advertisement**
xii)	The project authorities shall inform the Regional Office as well as the Ministry, the date of the financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	HIL has informed to concern Departments.

7.	The ministry may revoke or suspend the clearance, if implementation of any of the above condition is not satisfactory.	We are agreed with condition.
8.	The ministry reserves the right to stipulate additional condition if found necessary. The company in a time bound manner will implement these conditions.	We are agreed with condition.
9.	Any appeal against this environmental clearance shall lie with the national Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environmental Appellate Act, 1997.	We are agreed with condition.
10.	The above conditions will be enforced, inter-alia under the provision of the Water (Prevention & Control of Pollution) Act, 1974, The Air (Prevention & Control of Pollution) Act, The Environment (Protection) Act, 1986, The Hazardous Waste (Management and Handling) Rules, 2003 and The Public Liability Insurance Act, 1991 along with their amendments and rules	We are agreed with condition.
11.	The Environment Clearance letter issued vide even no. letter dated 2nd January, 2009 may be treated as null and void.	We are agreed with condition.

Name of the Project		**Integrated Aluminium Smelter Complex (Primary Aluminium production capacity from 3.25 to 3.59 LTPA) Along With Coal Based captive Power Plant of 900 MW along with 1x 150 MW stand by unit**
Clearance letter No		**J-11011/217/2007-IA II (I), Dated 18th March 2009, Amended on Dated: 15.02.2012**
Period of Compliance Report		**March-24 to September-24**

Sl. No.	CONDITIONS	Compliance Status
i.	There shall be no additional acquisition of land, requirement of water and coal which will remain same as per the environmental clearance dated 18.03.2009	The said condition is fully complied. No additional requirement of Land, water, coal etc.
	Although the overall power requirement would increase from 624 MW to 695 MW and would be met from CPP 750 MW and lower power consumption by 80 KWH /Ton of Al	No additional power is required after 750 MW.
	Alumina requirement would increase from 6.4 LTPA to 6.9 LTPA and would be met from the captive refinery.	We are complying the condition.
ii.	The company shall achieve levels of fluoride emissions from 0.7 kg/ton to 0.67 kg/ton of Aluminium produced within a period of three years.	We are well within the required limit. Presently it is 0.61 kg/ton of Al during compliance period.
iii.	The particulate emission shall be controlled below 50 mg/Nm^3 by installation of ESP in the captive power plant.	Complied with condition. Particulate emission from Captive Power Plant is well within below 50 mg/$Nm^{3.}$ **(Please refer Table no -3)**
iv.	Data on ambient air quality, stack emission and fugitive emission shall be regularly submitted on-line to the Ministry's Regional Office at Bhopal, SPCB and Central Pollution Control Board (CPCB) as well as hard copy once in six	Online monitoring systems are installed for Ambient Air Quality, Stack emissions and fugitive emissions and data are being transmitted to MPPCB and CPCB server. Display of data on PM10, SO2 and NOx has been provided at main gate for the general public. **(Please refer Photo no -3)**

	months and display data on PM_{10}, SO_2 and NOx outside the premises at the appropriate place for the general public.	
v	The National Ambient Air Quality Standards issued by the ministry vide G.S.R. No.826 (E) dated 16th November ,2009 shall be followed	We are complying with The National Ambient Air Quality Standards and monitoring are being conducted on regularly. Apart from manual monitoring we have provided CAAQMS at four location in all four direction.
vi	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental condition including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of this Ministry at Bhopal/CPCB/SPCB shall monitor the stipulated conditions.	We are regularly submitting the six-monthly compliance reports. Last report was submitted through e-mail dated 01 June 2024.
vii	The environmental statement for each financial year ending 31ST March in form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Board as prescribed under the Environmental (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental condition and shall also be sent to the respective Regional officers of the MOEF by e-mail.	Environmental Statement is being submitted to the concerned body for every FY. Last Environmental Statement was submitted letter void no.- **MAP/ENV/EAS/2024-25/142, dt. - 27.09.2024**, annexed as **Annexure – 4** for your reference.

viii	The company shall submit within three months their policy towards corporate Environment Responsibility which should inter-alia address (i) Standard operating processes/ procedure to being into focus any infringement /deviation /violation of environmental or forest norm/conditions, (ii) Hierarchical system or Administrative order of the company to deal with environmental issues and ensuring compliance to the environmental clearance condition and (iii) System of reporting of non-compliance /violation environmental norms to the Board of Director of the company and /or stakeholders or shareholders.	We have obtained IMS certification from DNV Business Assurance India Pvt. Ltd. and in the system all the SOP and Procedure are incorporated and being followed. IMS Certificate attached as **Annexure - 5**.
5.	The Company shall comply with all the conditions stipulated vide Ministry's letter of even no. dated 18.03.2009. In future, in case of change in the scope of the project, the company shall obtain fresh environmental clearance.	We are agreed with condition.

Name of the Project		**Integrated Aluminium Smelter Complex (Primary Aluminium production capacity from 3.59 to 3.71 LTPA) Along With Coal Based captive Power Plant of 900 MW along with 1x 150 MW stand by unit**
Clearance letter No		**J-11011/217/2007-IA II (I), Dated 18th March 2009, Amended on Dated: 23.07.2018**
Period of Compliance Report		**April-24 to September-24**

Sr. No.	CONDITIONS	Compliance Status
1	Additional environmental mitigation measures proposed by project proponent. Inter alia include water sprinkling for dust suppression from Barainiya to Majhigawan junction (2.2 KM with 2 Water tankers of 5 Kl capacity developed per day during day time for 8 hours and 4 trips per tanker); Baragwan police station to Dhaurar (3.3 KM with 3 water tankers of 5 KL capacity deployed per day during day times for 8 hours and 4 trip per tanker); M/s Hindalco will take up with DFO and PWD and others. As appropriate, to initiate plantation of tree in the vulnerable areas at Barainiya to Majhigawan junction (Badokhar Mod) for 2.2 KM with 2750 no of trees and Bargawan Police station to dhaurar for 3.3 KM with 4750 no of trees.	Water tankers had engaged for dust suppression from Barainiya to Majhigawan junction and Baragwan police station to Dhaurar. Presently, Barainiya to Majhigawan junction has been made concrete road, hence tanker has been diverted other area. For roadside plantation, we have approached to E.E. PWD office to allow us for plantation at road side. Request letters are enclosed for ready reference as **Annexure - 6.**
3	It was reported that following raw materials and other requirements have been envisaged for the proposed production enhancement. • Alumina Hil will require 23500 MT of additional alumina to meet this enhanced volume. This will be sourced from HIL,s captive alumina plants and import, if required based on business decision.	We have produced 1.86296 Lac MT of Aluminium during compliance period. We are sourcing the additional Alumina from our Captive Alumina Plants only.

	• Power- Existing installed capacity of 900 MW (5x150MW units in operation and 1x150 MW unit as standby) will be sufficient. • Water - No additional requirement. Water consumption will be within the approved limit of 4600 m3/h • Coal - Power Generation will remain within 750 MW and the coal consumption will remain within approved limit of 3.5 MTPA. • Aluminium Fluoride — Plant's Fluoride Consumption will remain within approved limit of 10 kg/MT of Aluminium (CREP Guidelines) • Land - No additional requirement; No Forest Land is involved. • Capital Investment - No additional Capital Investment is needed to meet. This enhanced production capacity. • Manpower - No additional Manpower requirement • Addition of New Equipment – None • Change in Product Portfolio - None. The Product will be Aluminium Ingot, SOWS, Billet and Wire Rod.	Power will be consumed within allotted capacity. Water will be consumed within approved limit. During the compliance period, the coal consumption was 0.6375 MT/ MWh of electricity generation during compliance period. Fluoride consumption is within the approved limit. Presently it is 8.97 Kg/MT Al No additional land is required. No capital investment is incurred for increased production. No additional Manpower is required. No additional equipment is required for increased production. No change in product portfolio.
4	• It was also reported that the following change in pollution load: • ETP -— Since there is no additional requirement of water for this enhanced production capacity, no change in the current ETP capacity: 300 m3/h. • Fluoride Level — Since the increase in production capacity is very marginal (3.6 %), with the existing	There will be no increase in pollution load as declared. We are also in process for conducting a study on this by engaging a reputed consultant. No addition in current treatment facility. Fluoride emission level was 0.61 kg / MT Al during April 24 to September 2024

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<td>Gas Treatment Centre, HIL will be able to maintain the Fluoride Emission within approved limit of 0.67 kg/MT, mentioned in the EC.

• PAH Level — No change. Will remain with the approved limit within the Existing Fume Treatment Centre.

• Spent Pot Lining — No additional generation as there is no increase in number of Pots.</td>
<td>There is no increase in PAH emission level. PAH is being monitored on monthly basis and report is being submitted to MPPCB. Last submitted report is attached herewith for reference as Annexure –7.

No additional Spent pot lining will be generated.</td>
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<td>The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry-I) and hereby decided to accord amendment to the Environmental Clearance for increase in the Aluminium metal production from 3.59 LTPA to 3.71 LTPA through process optimization: change in source of fuel for period of 5 years as given below and sale of carbon anode subject to conditions mentioned below:
<table>
<tr><th>Year</th><th>% Allowed Through Road</th><th>% Allowed through Road Via Bina – Anapara – Singrauli-Mahan</th><th>% Allowed via Baikunthpur – Wadhan – Mahan/Shahadol – Sidhi - Mahan</th></tr>
<tr><td>2017-18</td><td>27 %</td><td>75 %</td><td>25 %</td></tr>
<tr><td>2018-19</td><td>21 %</td><td>95 %</td><td>5 %</td></tr>
<tr><td>2019-20</td><td>21 %</td><td>95 %</td><td>5 %</td></tr>
<tr><td>2020-21</td><td>21 %</td><td>95 %</td><td>5 %</td></tr>
<tr><td>2021-22</td><td>16 %</td><td>95 %</td><td>5 %</td></tr>
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<td>We are trying our best to achieve the target.

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