

# ENVIRONMENTAL QUALITY PARAMETERS

(APRIL-2015 TO SEPTEMBER-2015)

Annexure-I

## STACK EMISSION FUME TREATMENT PLANT (DRY SCRUBBERS)

Particulate Matter: Standard: 100 mg/Nm<sup>3</sup> Total Fluoride: Standard: 0.3 Kg/MT. Al.

Location of sampling	Unit	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
<b>FTP I - Stack I</b>							
Particulate Matter	mg/Nm <sup>3</sup>	9.98	10.69	10.16	9.47	10.54	8.87
Total Fluoride	Kg/t. Al.	0.19	0.22	0.23	0.21	0.20	0.21
<b>FTP - I - Stack II</b>							
Particulate Matter	mg/Nm <sup>3</sup>	12.94	13.60	12.26	13.52	12.03	9.35
Total Fluoride	Kg/t. Al.	0.22	0.24	0.25	0.24	0.23	0.22
<b>FTP - II - Stack - III</b>							
Particulate Matter	mg/Nm <sup>3</sup>	14.17	14.49	13.44	12.40	8.18	11.12
Total Fluoride	Kg/t. Al.	0.24	0.25	0.24	0.23	0.21	0.24
<b>FTP - III- Stack - IV</b>							
Particulate Matter	mg/Nm <sup>3</sup>	8.74	10.48	10.37	10.29	9.31	8.29
Total Fluoride	Kg/t. Al.	0.20	0.21	0.22	0.20	0.22	0.23
<b>FTP - IV- Stack - V</b>							
Particulate Matter	mg/Nm <sup>3</sup>	21.3	20.5	20.8	21.3	17.6	19.8
Total Fluoride	Kg/t. Al.	0.23	0.22	0.25	0.24	0.22	0.26

STACK EMISSION Particulate Matter: Unit: mg/Nm<sup>3</sup>

Standard: 100 mg/Nm<sup>3</sup>

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
<b>CAST HOUSE - I :</b>						
Stack-5 (Furnace -A)	63.2	63.8	62.6	63.1	61.5	62.3
Stack-6 (Furnace -B)	62.7	64.1	61.9	62.7	62.1	61.2
Stack-7 (Furnace -C)	Shut down	Shut down	Shut down	Shut down	Shut down	Shut down
<b>CAST HOUSE - II</b>						
Stack - 8 (Furnace-1&2)	64.6	65.2	64.3	61.4	61.8	63.8
<b>CAST HOUSE - III</b>						
Stack - 9 (Furnace-A&B)	65.2	64.6	65.1	64.0	63.6	62.4

FUGITIVE EMISSION Total Fluoride: Unit: Kg/MT. Al.

Standard: 0.4 kg/MT.Al.

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
PR-I, Section XII	0.34	0.32	0.33	Shut down	Shut down	Shut down
PR-II, Section IV	0.32	0.30	0.32	0.34	0.35	0.34
PR-III, Section V	0.31	0.33	0.31	0.30	0.32	0.34
PR-IV, Section VIII	0.33	0.32	0.35	0.32	0.34	0.32
PR-V, Section IX&X	0.31	0.30	0.32	Shut down	Shut down	Shut down
PR-VI,RS End	0.35	0.36	0.34	Shut down	Shut down	Shut down
PR-VII,RS End	0.33	0.34	0.31	0.32	0.33	0.35
PR -VIII,RS End	0.32	0.31	0.33	0.35	0.34	0.33
PR- IX ,RS End	0.36	0.35	0.34	0.34	0.36	0.35
PR -X , RS End	0.34	0.36	0.34	0.36	0.35	0.36
PR -XI, RS End	0.35	0.35	0.36	Shut down	Shut down	Shut down
80-POT Area (Middle)	0.34	0.33	0.35	0.33	0.34	0.33

**AMBIENT AIR SAMPLING****PARTICULATE MATTER (PM<sub>10</sub>): Unit: µg/Nm<sup>3</sup>****Standard: 100 µg/Nm<sup>3</sup>**

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
Pump House Near Adm. Building	57.15	58.15	58.15	57.98	56.92	59.54
R/S Cooling Tower MCC Room	75.1	76.09	57.73	58.0	57.22	60.45
R&D Building	51.8	53.40	57.85	57.16	58.37	60.77
Near caster Security Kiosk	86.9	88.12	58.13	57.27	57.60	59.94
Near New Security watch tower	55.46	56.10	58.26	56.39	57.79	59.47
Project office near Old Rectifier	60.80	61.62	58.05	57.46	57.78	58.0
Hindalco club	52.26	53.52	58.43	57.07	45.76	61.12

**PARTICULATE MATTER (PM<sub>2.5</sub>): Unit: µg/Nm<sup>3</sup>****Standard: 60 µg/Nm<sup>3</sup>**

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
Pump House Near Adm. Building	34.18	34.77	35.18	34.14	34.10	35.90
R/S Cooling Tower MCC Room	45.18	45.95	34.38	34.52	34.42	35.62
R&D Building	30.6	31.76	34.28	34.07	34.12	36.06
Near caster Security Kiosk	52.0	53.09	34.53	34.09	33.99	36.15
Near New Security watch tower	33.60	33.89	34.34	32.73	34.28	34.98
Project office near Old Rectifier	36.70	37.50	34.16	33.59	34.19	34.18
Hindalco club	30.60	31.55	34.70	33.32	27.24	36.36

**SULPHUR DI-OXIDE (SO<sub>2</sub>): Unit: µg/Nm<sup>3</sup>****Standard: 80 µg/Nm<sup>3</sup>**

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
Pump House Near Adm. Building	9.77	9.50	9.61	9.77	9.94	10.19
R/S Cooling Tower MCC Room	10.5	10.25	9.39	9.66	9.73	9.50
R&D Building	9.60	9.87	9.72	9.71	9.57	9.87
Near caster Security Kiosk	10.35	10.39	9.55	9.64	9.72	9.70
Near New Security watch tower	9.83	9.87	9.61	9.80	9.72	9.68
Project office near Old Rectifier	9.50	9.87	9.72	9.85	9.72	9.75
Hindalco club	9.88	10.0	9.72	9.51	7.67	10.37

**NITROGEN OXIDE (NO<sub>x</sub>): Unit: µg/Nm<sup>3</sup>****Standard: 80 µg/Nm<sup>3</sup>**

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
Pump House Near Adm. Building	7.72	7.87	7.87	7.96	7.98	8.87
R/S Cooling Tower MCC Room	7.77	8.56	7.94	8.08	8.28	8.44
R&D Building	7.00	8.05	7.76	7.93	7.83	8.52
Near caster Security Kiosk	7.72	8.87	7.83	7.87	7.67	8.56
Near New Security watch tower	7.38	7.37	8.11	8.11	8.33	8.45
Project office near Old Rectifier	7.60	8.06	8.05	8.00	8.12	8.18
Hindalco club	7.55	8.50	7.78	7.87	6.56	8.97

**CARBON MONOXIDE (CO):** Unit:  $\mu\text{g}/\text{Nm}^3$ Standard:  $<1000 \mu\text{g}/\text{Nm}^3$ 

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
Pump House Near Adm. Building	158.2	157.62	157.11	156.0	155.33	158.25
R/S Cooling Tower MCC Room	164.7	165.75	156.44	156.22	153.67	158.87
R&D Building	140.8	141.0	158.84	158.11	152.44	161.25
Near caster Security Kiosk	175.6	176.25	158.33	153.33	158.33	159.87
Near New Security watch tower	147.0	147.37	158.33	157.0	158.22	159.0
Project office near Old Rectifier	159.7	160.0	158.0	157.33	158.11	158.75
Hindalco club	134.8	135.0	157.33	157.33	122.44	159.25

**Note:** Hydro-Carbon (HC) and Lead in all seven locations are Not Detectable (ND).

**FORAGE FLUORIDE:** Unit: ppm

Monthly Average Standard: 80 ppm

Sl. No.	Location	Data					
		Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
1	0.5 km NE	33.85	33.05	32.60	32.65	32.46	35.05
2	1.0 km NE	22.35	22.55	23.10	23.15	22.96	23.15
3	2.0 km NE	18.85	18.05	18.60	19.15	18.46	18.85
4	3.0 km NE	15.85	15.55	15.10	14.65	14.96	17.15
5	0.5 km SE	35.85	36.05	35.60	35.15	34.96	33.55
6	1.0 km SE	31.85	32.05	31.10	31.65	30.46	29.05
7	2.0 km SE	19.85	20.05	20.60	19.15	19.46	20.70
8	3.0 km SE	17.85	18.05	19.60	18.65	18.96	19.75
9	5.0 km SE	8.35	8.55	8.10	8.15	8.46	7.95
10	0.5 km NW	22.35	22.55	22.10	22.65	22.46	24.45
11	1.0 km NW	18.35	18.55	19.10	20.15	20.46	20.15
12	0.5 km SW	31.85	33.05	34.60	34.65	35.46	28.05
	Average Month	<b>23.10</b>	<b>23.18</b>	<b>23.35</b>	<b>23.32</b>	<b>23.29</b>	<b>23.15</b>

**GROUND WATER ANALYSIS:** Parameter: F-

Unit: mg/l

Location of sampling	Apr'15	May'15	June'15	July'15	Aug'15	Sept'15
Sludge pit test well (E)	0.45	0.44	0.45	0.44	0.43	0.42
Sludge pit test well(W)	0.52	0.54	0.52	0.53	0.51	0.50
Sludge pit test well (N)	0.46	0.45	0.44	0.43	0.42	0.41
Sludge pit test well (S)	0.44	0.46	0.47	0.46	0.44	0.42
Open well near sludge pit	0.38	0.39	0.40	0.41	0.40	0.39
Tube well near sludge pit	0.30	0.28	0.30	0.31	0.29	0.28

**AMBIENT NOISE QUALITY DATA:**

Unit: dB (A) Leq

Sl.	Location	Category	Standard* Day / Night	Distance / Direction wrt Plant	Day Time; dB(A) Leq	Night Time; dB(A) Leq
1.	Plant Gate	Industrial	75/70	Plant Site	53.5	42.5
2.	Hindalco Colony	Residential	55/45	0.6 km / SW	49.3	38.8
3.	Tarasingpara	Residential	55/45	0.5 km / S	49.6	40.2
4.	Christianpara	Residential	55/45	0.7 km / S	57.1	48.0
5.	Alind Colony	Residential	55/45	1.3 km / NE	43.1	34.9

\* Day Time : 0600 to 2200 Hrs

\* Night Time : 2200 to 0600 Hrs