

QUARTERLY PERFORMANCE WITH RESPECT TO ENVIRONMENTAL ASPECTS

DURING QUARTER II (JULY-SEP'24)2024-25

Name of Enterprise : Numaligarh Refinery Limited

I. Fresh Water in Cubic Meter Per Tonne of Crude Processed

Table A-I	JULY	AUG	SEP	Cummulative JULY-SEP'24	Cumm. for the period APRIL'24-MARCH'25
Crude Processed, MT	217673	216238	249505	683415	1447533
Fresh Water Consumed, M3	693476	729819	659919	2083214	4105303
Water Consumed, M3/MT of Crude Processed (Design capacity is 2.8 M3/MT of Crude Processed)	3.2	3.4	2.6	3.05	2.84

II. Liquid Effluent Quantity

Table A-II	JULY	AUG	SEP	Cummulative JULY-SEP'24	Cumm. for the period APRIL'24-MARCH'25
Quantity of Effluent Discharged/loss, M3***	30337	27513	37559	95408	198714
Effluent Discharged/loss, M3/1000 MT of Crude Processed	139	127	151	140	137
Reuse, M3	69825	65125	74696	209646	420880
% Reuse/Recycled on Effluent Generated	69.71	69.11	66.31	68.28	67.06

III. Average Sulphur Dioxide Emission

Table A-III	JULY	AUG	SEP	Average JULY-SEP'24	Average for the period APRIL'24-MARCH'25
SO2 Emission, Kg/Hr (SPCB Norms: 256 Kg/Hr as SO2)	50.36	57.50	60.21	56.0	58.6

Remarks ***Treated water discharge to outside environment directly from ETP via dedicated pipeline discontinued since 2006. Presently there is no dedicated facility for discharging Treated effluent from ETP. The quantities provided are representation of the system/operational losses in ETP due to various constraints

QUARTERLY PERFORMANCE REPORT W.R.T ENVIRONMENTAL ASPECT

DURING QR. II(JULY-SEP'24) 2024 -25

TABLE-1 LIQUID EFFLUENT POLLUTANT LEVEL -								
MONITORED VALUES in mg/lit.except pH						Limiting value for conc. (mg/l except for pH)	Quantum limit in Kg / 1000 MT of crude processed	
SL. NO	PARAMETERS	NO. OF OBS	MAX.	MIN.	AVG.		Actual	Standard
1	pH	92	8.3	6.8	7.4	6-8.5	-	-
2	OIL & GREASE	92	2.6	0.7	1.10	5	0.49	2.0
3	SULPHIDE	92	<0.1	<0.1	<0.1	0.5	<0.1	0.2
4	PHENOL	92	0.19	0.02	0.05	0.35	0.02	0.14
5	S. SOLID	92	18.0	1.2	7.62	20.0	3.42	8.0
6	COD	92	115.2	6.80	27.5	125.0	12.35	50.0
7	BOD3	92	14.9	2.0	7.67	15.0	3.45	6.0
8	CN	92	<0.02	<0.02	<0.02	0.2	<0.02	0.08
9	Ammonia as N	3	12.2	10.2	10.87	15.0	4.88	6.0
10	Cr (Hexavalent)	3	0	0	0.00	0.1	0.0000	0.04
11	Cr (Total)	3	0.001	0.001	0.001	2.0	0.0004	0.8
12	Pb	3	0	0	0.0000	0.1	0.0000	0.04
13	Zn	3	0.075	0.042	0.060	5.0	0.0268	2.0
14	Ni	3	0.002	0.001	0.002	1.0	0.0007	0.4
15	Cu	3	0.001	0	0.001	1.0	0.0003	0.4
16	Benzene	3	<0.1	<0.1	<0.1	0.1	<0.1	0.04
17	Benzo (a)- Pyrene	3	<0.2	<0.2	<0.2	0.2	<0.2	0.08
18	Hg	3	<0.01	<0.01	<0.01	0.01	<0.01	0.004
19	V	3	<0.2	<0.2	<0.2	0.2	<0.2	0.8
20	TKN	3	16.8	5.60	10.45	40.0	4.70	16.0
21	P	3	1.21	0.66	0.90	3.0	0.40	1.2

Limiting concentration of effluent is as per MoEF notification on standard vide GSR-186 (E)dated 18th March, 2008.

*** BDL- Detectable Limit : 0.1 microgram/Litre**

*** Parameters from 9 to 21 are monitored once in a month as per CPCB norms**

QUARTERLY PERFORMANCE REPORT W.R.T ENVIRONMENTAL ASPECT.

DURING QUARTER II (JULY-SEP'24), 2024-25

Online Stack Analyser data

UNIT	FURNACE STACK	PARAMETER	OBSERVED VALUE in mg/Nm3			Limiting Concentration in mg/Nm3	Remarks
			MAX.	MIN.	AVG		
CDU/VDU	FF-01/02	SO2	584.93	11.80	193.08	750	Stack with dual firing (FG:FO=58:42)
		NOx	174.74	72.11	135.99	392	
		CO	7.04	3.92	5.21	171	
		PM	16.76	11.79	14.13	48	
DCU	FF-01	SO2	210.71	11.55	121.19	918	Stack with dual firing (FG:FO=47:53)
		NOx	151.34	64.09	134.90	403	
		CO	1.10	0.72	0.87	176	
		PM	52.56	5.74	8.11	57	
HCU	FF-01/02	SO2	9.23	8.05	8.60	50	Stack with Gas firing
		NOx	9.62	8.14	8.89	350	
		CO	8.99	8.41	8.69	150	
		PM	8.96	2.15	5.45	10	
HCU	FF-03	SO2	177.41	3.42	30.60	209	Stack with dual firing (FG:FO=90:10)
		NOx	67.02	0.45	18.10	360	
		CO	87.67	16.90	28.68	155	
		PM	6.60	3.91	4.63	19	
H2U	FF-01	SO2	48.75	16.60	33.30	50	Stack with Gas firing
		NOx	46.15	12.96	33.49	350	
		CO	10.69	4.21	9.36	150	
		PM	6.62	4.17	4.50	10	
CPP(HRSG)		SO2	46.99	31.15	39.97	50	Stack with Gas firing
		NOx	164.30	12.92	71.19	350	
		CO	26.95	0.13	6.68	150	
		PM	2.51	0.004	0.07	10	
CPP (UB)		SO2	49.57	31.78	38.14	50	Stack with dual firing
		NOx	96.01	67.35	78.78	350	

	CO	7.52	0.21	2.03	150	
	PM	8.39	5.25	6.74	10	
MSP (CRU)	SO2	34.91	1.15	3.96	50	Stack with Gas firing
	NOx	54.44	9.67	42.30	350	
	CO	2.68	0.51	1.40	150	
	PM	8.95	6.03	7.20	10	
MSP (NHTU)	SO2	25.19	3.27	5.79	50	Stack with Gas firing
	NOx	43.44	3.96	33.66	350	
	CO	9.06	1.15	2.97	150	
	PM	8.95	6.03	7.20	10	
DHD T	SO2	34.50	0.17	10.71	50	Stack with Gas firing
	NOx	45.72	14.17	26.92	250	
	CO	22.24	0.005	4.25	100	
	PM	0.80	0.72	0.76	5	

Limiting concentration of emission calculated as per MOEF notification on standard vide GSR-186 (E) dated 18th March, 2008.

NUMALIGARH REFINERY LIMITED						
QUARTERLY PERFORMANCE WITH RESPECT TO ENVIRONMENTAL ASPECTS DURING QUARTER II (JULY-SEP'24), 2024-25						
Ambient Air Quality Data						
STATION	PARAMETER	STD NAAQS-2009	Unit	OBSERVATIONS		
				MAX	MIN	AVG.
REFINERY (WATCH TOWER NO. 6)	SO2	80 (24 hr avg.)	µg/m3	15.75	6.47	10.58
	NO2	80 (24 hr avg.)	µg/m3	14.93	6.64	10.71
	O3	180 (1 hr avg.)	µg/m3	17.95	6.7	11.04
	CO	4.000 (1 hr.avg.)	mg/m3	0.00	0.00	0.00
	NH3	400 (24 hr.avg.)	µg/m3	35.74	19.68	26.80
	PM 10	100 (24 hr.avg.)	µg/m3	54.28	31.38	43.15
	PM 2.5	60 (24 hr.avg.)	µg/m3	30.71	18.62	23.76
	Benzene	05 (Annual)	µg/m3	0.00	0.00	0.00
	HC	-	mg/m3	0.95	0.51	0.73
	BaP	01 (Annual)	ng/m3	0.00	0.00	0.00
	Pb	1.0 (24 hr.avg.)	µg/m3	0.00	0.00	0.00
	As	06 (Annual)	ng/m3	0.00	0.00	0.00
	Ni	20 (Annual)	ng/m3	0.00	0.00	0.00
ECO-PARK IN NRL TOWNSHIP	SO2	80 (24 hr avg.)	µg/m3	13.43	6.69	9.86
	NO2	80 (24 hr avg.)	µg/m3	13.86	7.34	9.59
	O3	180 (1 hr avg.)	µg/m3	18.14	8.25	10.71
	CO	4.000 (1 hr.avg.)	mg/m3	0.00	0.00	0.00
	NH3	400 (24 hr.avg.)	µg/m3	29.57	16.15	21.98
	PM 10	100 (24 hr.avg.)	µg/m3	59.43	32.21	44.82
	PM 2.5	60 (24 hr.avg.)	µg/m3	31.43	16.16	24.22
	Benzene	05 (Annual)	µg/m3	0.00	0.00	0.00
	HC		mg/m3	0.94	0.51	0.72
	BaP	1.0 (Annual)	ng/m3	0.00	0.00	0.00

		Pb	1.0 (24 hr.avg.)	µg/m3	0.00	0.00	0.00
		As	6.0 (Annual)	ng/m3	0.00	0.00	0.00
RAW WATER INTAKE		Ni	20 (Annual)	ng/m3	0.00	0.00	0.00
		SO2	80 (24 hr avg.)	µg/m3	15.56	6.58	9.81
		NO2	80 (24 hr avg.)	µg/m3	14.75	7.23	10.17
		O3	180 (1 hr avg.)	µg/m3	16.61	7.41	11.10
		CO	4.000 (1 hr.avg.)	mg/m3	0.00	0.00	0.00
		NH3	400 (24 hr.avg.)	µg/m3	30.34	14.42	21.19
		PM 10	100 (24 hr.avg.)	µg/m3	61.81	32.63	43.79
		PM 2.5	60 (24 hr.avg.)	µg/m3	39.18	16.46	25.36
		Benzene	05 (Annual)	µg/m3	0.00	0.00	0.00
		HC		mg/m3	0.94	0.53	0.73
		BaP	01 (Annual)	ng/m3	0.00	0.00	0.00
		Pb	1.0 (24 hr.avg.)	µg/m3	0.00	0.00	0.00
		As	06 (Annual)	ng/m3	0.00	0.00	0.00
		Ni	20 (Annual)	ng/m3	0.00	0.00	0.00
NH-39 BYPASS		SO2	80 (24 hr avg.)	µg/m3	15.25	6.17	9.95
		NO2	80 (24 hr avg.)	µg/m3	15.21	7.14	10.62
		O3	180 (1 hr avg.)	µg/m3	17.43	7.18	10.72
		CO	4.000 (1 hr.avg.)	mg/m3	0.63	0.52	0.57
		NH3	400 (24 hr.avg.)	µg/m3	32.34	17.37	23.27
		PM 10	100 (24 hr.avg.)	µg/m3	58.23	32.78	43.63
		PM 2.5	60 (24 hr.avg.)	µg/m3	35.14	16.58	24.91
		Benzene	05 (Annual)	µg/m3	0.00	0.00	0.00

KAZIRANGA WILDLIFE SANCTUARY AT AGARTOLI	HC	-	mg/m3	0.95	0.49	0.72
	BaP	1	ng/m3	0.00	0.00	0.00
	Pb	1.0 (24 hr.avg.)	µg/m3	0.00	0.00	0.00
	As	6	ng/m3	0.00	0.00	0.00
	Ni	20 (Annual)	ng/m3	0.00	0.00	0.00
	SO2	80 (24 hr avg.)	µg/m3	15.42	6.47	10.31
	NO2	80 (24 hr avg.)	µg/m3	13.74	6.93	9.73
	O3	180 (1 hr avg.)	µg/m3	17.84	7.24	11.37
	CO	4.000 (1 hr.avg.)	mg/m3	0.00	0.00	0.00
	NH3	400 (24 hr.avg.)	µg/m3	33.71	13.62	24.11
	PM 10	100 (24 hr.avg.)	µg/m3	63.42	33.43	46.42
	PM 2.5	60 (24 hr.avg.)	µg/m3	35.36	17.23	25.83
	Benzene	05 (Annual)	µg/m3	0.00	0.00	0.00
	HC	-	mg/m3	0.96	0.48	0.70
	BaP	1.0	ng/m3	0.00	0.00	0.00
	Pb	1.0 (24 hr.avg.)	µg/m3	0.00	0.00	0.00
	As	6.0	ng/m3	0.00	0.00	0.00
	Ni	20 (Annual)	ng/m3	0.00	0.00	0.00

BDL:Below Detection Level, All the parameters are found to be within limit