



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Annexure-I

Stack Monitoring Data from Jun 2023 to Nov 2023

BCPL Lepetkata

SO₂Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	SO ₂ =50 mg/Nm ³	ND	ND	ND
Stack attached to Furnace-2		ND	ND	ND
Stack attached to Furnace-3		ND	ND	ND
Stack attached to Furnace-4		ND	ND	ND
Stack attached to Thermal Oxidiser		ND	ND	ND
GSU Regeneration Gas Heater Stack		ND	ND	ND
Stack attached to HRSG1		ND	ND	ND
Stack attached to HRSG2		ND	ND	ND
Stack attached to UB1		ND	ND	ND

Nox Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	NO _x =250 mg/Nm ³	19.8	20.8	20.3
Stack attached to Furnace-2		20.4	22.5	21.45
Stack attached to Furnace-3		21.6	21.6	21.6
Stack attached to Furnace-4		24	24	24
Stack attached to Thermal Oxidiser		21.8	23.5	22.65
GSU Regeneration Gas Heater Stack		20.1	20.1	20.1
Stack attached to HRSG1		28.6	31	29.8
Stack attached to HRSG2		22.9	25.2	24.05
Stack attached to UB1		28.6	30.6	29.6

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	CO=100	23.4	25	24.2



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Stack attached to Furnace-2	mg/Nm ³	25.9	27.8	26.85
Stack attached to Furnace-3		28.9	28.9	28.9
Stack attached to Furnace-4		30.4	30.4	30.4
Stack attached to Thermal Oxidiser		29.7	31.7	30.7
GSU Regeneration Gas Heater Stack		27.6	29.2	28.4
Stack attached to HRSG1		31.8	33.4	32.6
Stack attached to HRSG2		28.7	30.4	29.44
Stack attached to UB1		30.4	32.8	31.6

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	PM=5 mg/Nm ³	ND	ND	ND
Stack attached to Furnace-2		ND	ND	ND
Stack attached to Furnace-3		ND	ND	ND
Stack attached to Furnace-4		ND	ND	ND
Stack attached to Thermal Oxidiser		ND	ND	ND
GSU Regeneration Gas Heater Stack		ND	ND	ND
Stack attached to HRSG1		ND	ND	ND
Stack attached to HRSG2		ND	ND	ND
Stack attached to UB1		ND	ND	ND

Stack Monitoring Data from Jun 2023 to Nov 2023

BCPL GDU &CS, Duliajan

SO₂ Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	SO ₂ =50 mg/Nm ³	ND	ND	ND
Gas Turbine-1 Stack		ND	ND	ND
Gas Turbine-2 Stack		ND	ND	ND
Gas Engine Generator Stack		ND	ND	ND



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Nox Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	NO _x =250 mg/Nm ³	22.8	23.5	23.15
Gas Turbine-1 Stack		23.2	25.3	24.25
Gas Turbine-2 Stack		19.5	21.6	20.55
Gas Engine Generator Stack		20.1	23.8	21.95

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	CO=100 mg/Nm ³	26.2	28.7	27.45
Gas Turbine-1 Stack		32.4	36.1	34.25
Gas Turbine-2 Stack		32.4	35.4	33.9
Gas Engine Generator Stack		24.9	26.1	25.5

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	PM=5 mg/Nm ³	ND	ND	ND
Gas Turbine-1 Stack		ND	ND	ND
Gas Turbine-2 Stack		ND	ND	ND
Gas Engine Generator Stack		ND	ND	ND

Note: ND-Not Detectable

Stack Monitoring Data from Jun 2023 to Nov 2023

BCPL, Lakwa

SO₂ Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max	Average
Reboiler Stack1	SO ₂ =50 mg/Nm ³	ND	ND	ND
Gas Turbine-1 Stack		ND	ND	ND



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Regeneration Gas Heater Stack		ND	ND	ND
DG Set	SO ₂ - gm/kw-hr	0.018	0.021	0.039

NOx Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack1	NOx=250 mg/Nm ³	17.6	19.5	18.55
Gas Turbine-1 Stack		30.2	33.6	31.9
Regeneration Gas Heater Stack		20.5	23.9	22.2
DG Set	NOx+HC≤4.0 gm/kw-hr	0.0025	0.0029	0.0027

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack1	CO=100 mg/Nm ³	22.4	24.6	23.5
Gas Turbine-1 Stack		32.7	35.4	34.05
Regeneration Gas Heater Stack	CO=100 mg/Nm ³	25.9	28.7	27.3
DG Set	CO≤3.5 gm/kw-hr	0.067	0.07	0.0685

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max	Average
Reboiler Stack1	PM=5 mg/Nm ³	ND	ND	ND
Gas Turbine-1 Stack		ND	ND	ND
Regeneration Gas Heater Stack		ND	ND	ND
DG Set	PM≤0.2 gm/kw-hr	0.031	0.034	0.0325

Note: ND-Not Detectable



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Stack Monitoring Data from Jun 2023 to Nov 2023

BCPL Railway Siding:

NOx Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	NOx=710 mg/Nm ³	31.2	35.6	33.4

CO Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	CO=150 mg/Nm ³	52.8	55.4	54.1

PM Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	PM=75 mg/Nm ³	41.8	45.9	43.85

NMHC as C Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	NMHC as C=100 mg/Nm ³	11.3	13.9	12.6

Effluent after Treatment (ETP Outlet) Monitoring Data from Jun 2023 to Nov 2023

BCPL Lepetkata

Sl. No.	Parameters	Standard as per PCB, Assam and IS 2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.28	7.36	7.32
2.	Temperature	400C	23.9	24.3	24.1
3.	Total Suspended Solids	100 mg/l	31.0	35.0	33.0
4.	Oil & Grease	10 mg/l	<1.0	<1.0	<1.0
5.	COD (as O ₂)	250 mg/l	96.2	110	103.1

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6.	BOD (@270 C for 3 days)	50 mg/l	24.0	27.0	25.5
7.	Sulphides (as S)	2 mg/l	<1.0	<1.0	<1.0
8.	Chloride (as Cl)	1000 mg/l	364	382	373.0
9.	Ammonical nitrogen (as N)	50mg/l	<0.1	<0.1	<0.1
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	15.1	16.3	15.7

Effluent after Treatment (ETP Outlet) Monitoring Data from Jun 2023 to Nov 2023

BCPL Lakwa

Sl. No.	Parameters	Standard as per PCB, Assam and IS 2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.01	7.12	7.065
2.	Temperature	400C	23.7	24.3	24.0
3.	Total Suspended Solids	100 mg/l	28.0	33.0	30.5
4.	Oil & Grease	10 mg/l	1.2	1.5	1.35
5.	COD (as O ₂)	250 mg/l	76.5	85.1	80.8
6.	BOD (at 270C for 3 days)	50 mg/l	20.0	24.0	22.0
7.	Sulphides (as S)	2 mg/l	<0.1	<0.1	<0.1
8.	Chlorides (as Cl)	1000 mg/l	418	432	425
9.	Ammonical nitrogen (as N)	50mg/l	7.65	8.79	8.22
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	11.5	12.8	12.15

Storm water Monitoring Data from Jun 2023 to Nov 2023

BCPL Lepetkata

Sl. No.	Parameters	Standard as per PCB, Assam and IS2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.66	7.73	7.695
2.	Temperature	400C	24.8	25.0	24.9
3.	Total Suspended Solids	100 mg/l	22.0	27.0	24.5
4.	Oil & Grease	10 mg/l	<1.0	<1.0	<1.0
5.	COD (as O ₂)	250 mg/l	34.9	40.1	37.5

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6.	BOD (@270C for 3 days)	50 mg/l	7.1	9.0	8.05
7.	Sulphides (as Cl)	2 mg/l	<0.1	<0.1	<0.1
8.	Chloride (as Cl)	1000 mg/l	31.6	36.4	34.0
9.	Ammonical Nitrogen (as N)	50mg/l	<0.1	<0.1	<0.1
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	8.0	8.7	8.35

Storm water Monitoring Data from Jun 2023 to Nov 2023

BCPL Lakwa

Sl. No.	Parameters	Standard as per PCB, Assam and IS2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	6.7	7.0	6.9
2.	Temperature	400C	22.8	23.6	23.2
3.	Total Suspended Solids	100 mg/l	17.0	20.0	18.5
4.	Oil & Grease	10 mg/l	<1.0	<1.0	<1.0
5.	COD (as O ₂)	250 mg/l	<10	<10	<10
6.	BOD (@270C for 3 days)	50 mg/l	<1.0	<1.0	<1.0
7.	Sulphides (as Cl)	2 mg/l	<0.1	<0.1	<0.1
8.	Chloride (as Cl)	1000 mg/l	63.2	70.1	66.7
9.	Ammonical Nitrogen (as N)	50mg/l	<0.1	<0.1	<0.1
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	2.8	3.0	2.9

Ambient Air Quality Analysis from Jun 2023 to Nov 2023

BCPL Lepetkata

Parameters	Locations Name			
	At Energy Gate	At RWTP Control Room	At Sub Station-8	BHEL Site near CISF camp
PM10 (Std.-100µg/m ³)				
Min.	52.4	53.8	53.2	54.2
Max.	66.1	68.2	67.8	68.2
Avg.	59.71	60.59	60.90	61.66



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PM2.5 (Std.-60 µg/m3)				
Min.	18.6	19.2	20.1	19.6
Max.	31.2	29.1	31.2	29.1
Avg.	24.92	24.34	24.66	24.73
SO2 (Std.-80 µg/m3)				
Min.	10.2	10.8	10.6	10.3
Max.	17.8	17.5	19.6	17.6
Avg.	14.41	14.24	14.37	13.87
NO2 (Std.-80 µg/m3)				
Min.	12.8	14.3	13.8	12.7
Max.	23.6	24.5	23.5	21.5
Avg.	17.79	18.46	18.47	16.55
CO (Std.-2 mg/m3 one hourly basis)				
Min.	<0.05	<0.05	<0.05	<0.05
Max.	<0.05	<0.05	<0.05	<0.05
Avg.	<0.05	<0.05	<0.05	<0.05

Note: ND-Not Detected

Ambient Air Quality Analysis from Jun 2023 to Nov 2023

BCPL Lakwa

Parameters	At Lab Building	At Main Control Room
PM10 (Std.-100µg/m3)		
Min.	45.2	45.8
Max.	61.2	60.4
Avg.	52.72	53.62
PM2.5 (Std.-60 µg/m3)		
Min.	15.9	18.1
Max.	26.8	26.7
Avg.	21.16	22.18
SO2 (Std.-80 µg/m3)		
Min.	8.62	9.8
Max.	14.2	17.8
Avg.	11.87	12.87
NO2 (Std.-80 µg/m3)		
Min.	10.2	12.3
Max.	19.3	22.3
Avg.	14.43	16.24
CO (Std.-2 mg/m3 one hourly basis)		
Min.	<0.05	<0.05
Max.	<0.05	<0.05
Avg.	<0.05	<0.05



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Ambient Air Quality Analysis from Jun 2023 to Nov 2023

BCPL GDU & CS, Duliajan

Parameters	At Canteen Building
PM10 (Std.-100 μ g/m ³)	
Min.	47.6
Max.	61.4
Avg.	55.58
PM2.5 (Std.-60 μ g/m ³)	
Min.	17.8
Max.	27.1
Avg.	23.25
SO2 (Std.-80 μ g/m ³)	
Min.	10.6
Max.	15.9
Avg.	13.22
NO2 (Std.-80 μ g/m ³)	
Min.	13.9
Max.	23.5
Avg.	18.78
CO (Std.-2 mg/m ³ one hourly basis)	
Min.	<0.05
Max.	<0.05
Avg.	<0.05

Ambient Air Quality Analysis from Jun 2023 to Nov 2023

BCPL Railway Siding

Parameters	At Fire Water Pump House
PM10 (Std.-100 μ g/m ³)	
Min.	55.8
Max.	66.3
Avg.	60.88
PM2.5 (Std.-60 μ g/m ³)	
Min.	20.3
Max.	28.1
Avg.	23.81
SO2 (Std.-80 μ g/m ³)	
Min.	10.4
Max.	16.5
Avg.	13.41
NO2 (Std.-80 μ g/m ³)	



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Min.	16.5
Max.	22.7
Avg.	19.32
CO (Std.-2 mg/m ³ one hourly basis)	
Min.	<0.05
Max.	<0.05
Avg.	<0.05

Noise Monitoring Data from Jun 2023 to Nov 2023

BCPL - Lepetkata

Sl. No	Locations Name	Min.	Max.	Avg.
Day Time(Std.-75 db(A))				
1.	Near Energy Gate	61.8	69.6	65.49
2.	Near Substation-8	61.8	70.3	65.42
3.	Near RWTP Control Room	61.2	69.6	64.93
4.	Near BHEL Site	65.0	69.5	65.23
Night Time(Std.-70 db(A))				
1.	Near Energy Gate	55.8	64.7	59.53
2.	Near Substation-8	54.8	63.5	58.97
3.	Near RWTP Control Room	54.8	63.9	58.62
4.	Near BHEL Site	55.6	63.9	58.52

Noise Monitoring Data from Jun 2023 to Nov 2023

BCPL - Lakwa

Sl. No	Locations Name	Min.	Max.	Avg.
Day Time(Std.-75 db(A))				
1.	Near Main Control Room	59.6	70.4	65.11
2.	Near Lab.	61.4	69.5	64.98
Night Time(Std.-70 db(A))				
1.	Near Main Control Room	50.4	65.6	56.17
2.	Near Lab.	50.8	61.8	55.7

Noise Monitoring Data from Jun 2023 to Nov 2023

BCPL - Duliajan

Sl. No	Location Name	Min.	Max.	Avg.
1.	Near Canteen Building(Day Time)	60.9	67.4	64.35

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	(Std.-75 db(A))			
2.	Near Canteen Building(Night Time) (Std.-70 db(A))	50.6	56.3	53.33

Noise Monitoring Data from Jun 2023 to Nov 2023

BCPL – Railway Siding

Sl. No	Location Name	Min.	Max.	Avg.
1.	Near Fire Water Pump House (Day Time)) (Std.-75 db(A))	60.9	66.9	64.42
2.	Near Fire Water Pump House (Night Time) (Std.-70 db(A))	54.5	61.5	58.27

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