Eskom

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22 December 2020

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Ref: (12/4/12L-W4/A3)

Dear Mrs Thivhafuni

MATIMBA POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF NOVEMBER 2020

This serves as the monthly report required in terms of Section 7.7.1 in Matimba Power Station's Atmospheric Emission License 12/4/12L-W4/A4.

Raw Materials and Products

Table 1: Quantity of Raw Materials and Products used/produced for the month.

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption Rate (Quantity)	Consumption Rate
	Coal	Tons/month	1 500 000	847 778
	Fuel Oil	Tons/month	1 200	385.88
Production Rates	**Product/ By-Product Name**	**Unit**	**Maximum Production Capacity Permitted (Quantity)**	**Production Rate**
	Energy	GWh	4 212.6	1 615.391

Abatement Technology

Table 2: Abatement Equipment Control Technology utilise.

Associated Unit	Technology Type	Actual Utilisation (%)
Unit 1	Electrostatic Precipitator	99,93%
Unit 2	Electrostatic Precipitator	99,95%
Unit 3	Electrostatic Precipitator	99,87%
Unit 4	Electrostatic Precipitator	Unit Off-line
Unit 5	Electrostatic Precipitator	99,94%
Unit 6	Electrostatic Precipitator	99,86%

Associated Unit	Technology Type	Actual Utilisation (%)
Unit 1	SO_3 Plant	90
Unit 2	SO_3 Plant	93
Unit 3	SO_3 Plant	87
Unit 4	SO_3 Plant	Unit Off-line
Unit 5	SO_3 Plant	93
Unit 6	SO_3 Plant	84

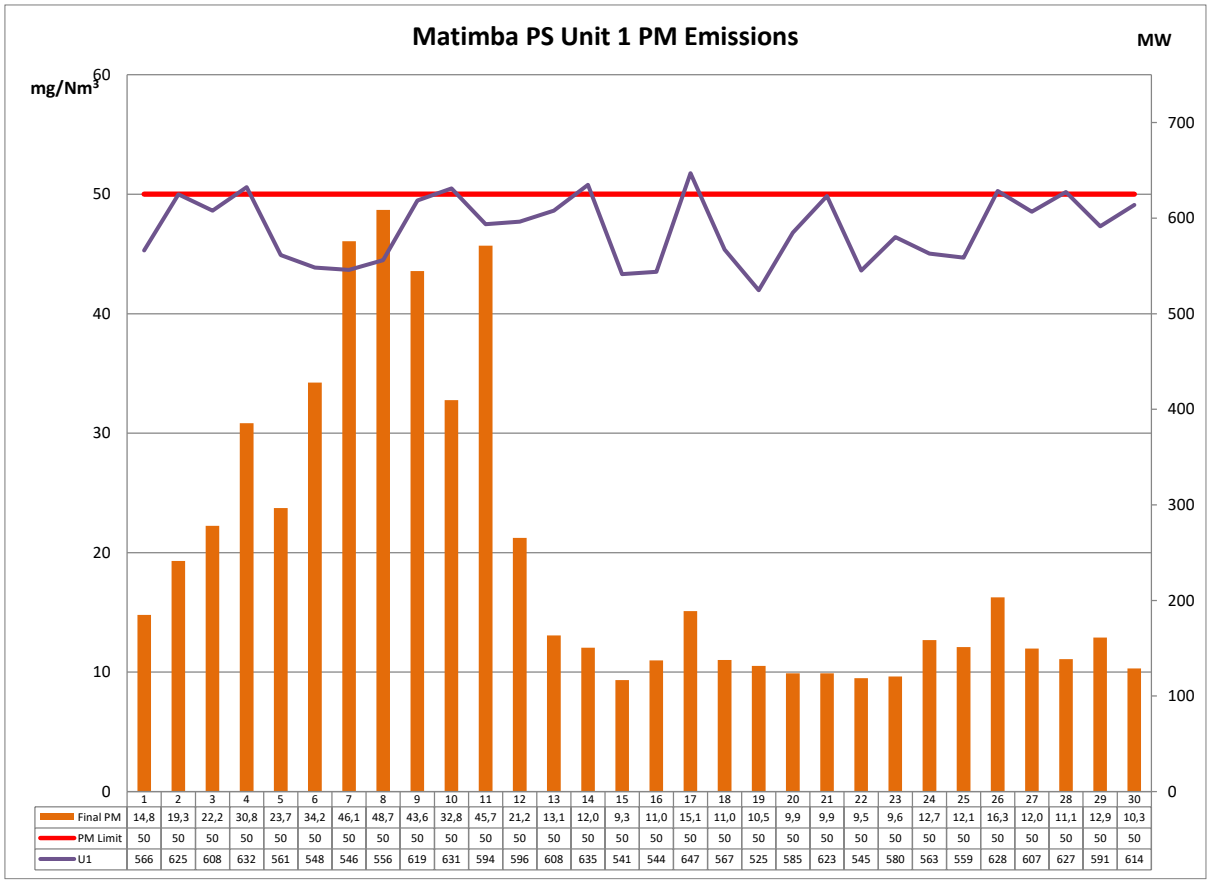
Energy Source Characteristics

Table 3: Energy Source Material Characteristics.

	Characteristic	Stipulated Range (Unit)	Monthly Average Content
Coal burned	**Sulphur Content**	0.8-1.6%	1.264%
	Ash Content	30-40%	33.762%

Emissions Reporting

Unit 1 particulate emissions

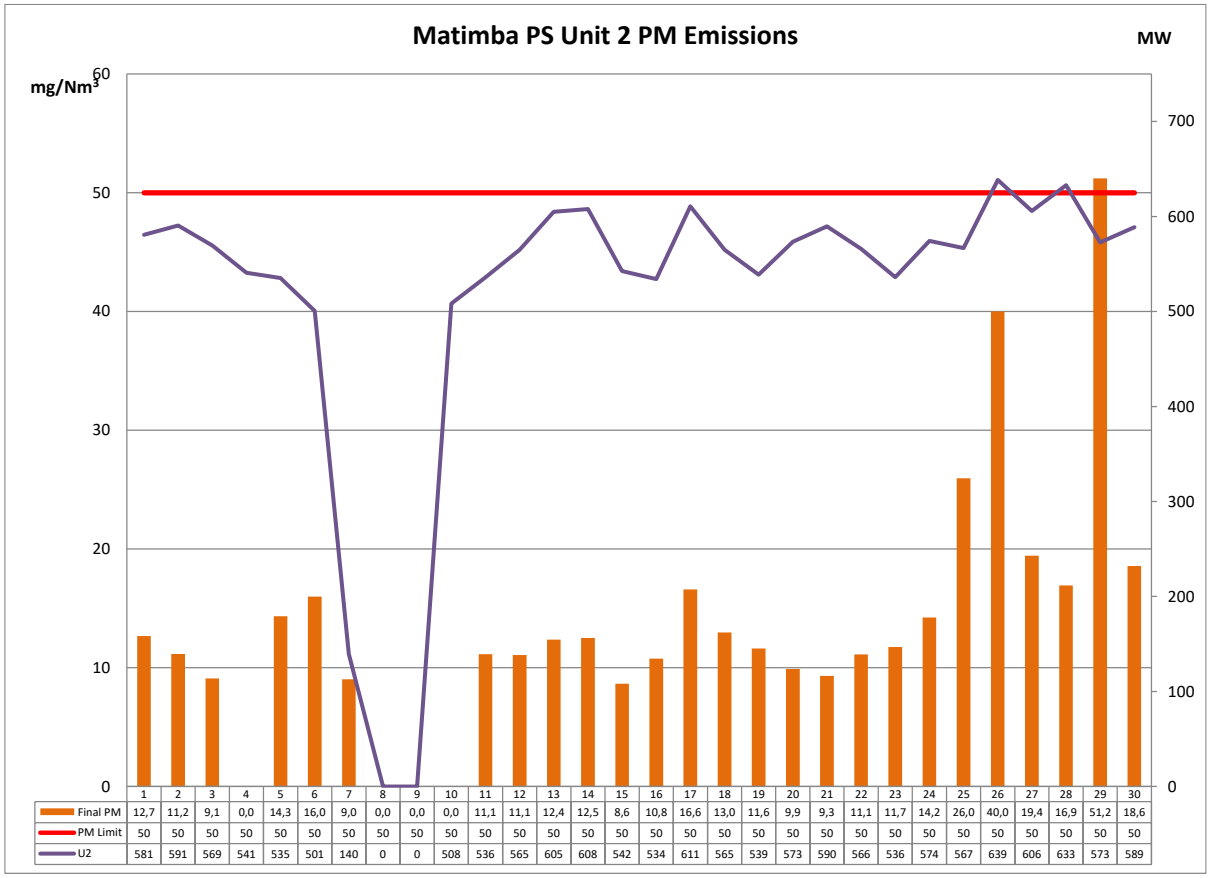


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final PM	14,8	19,3	22,2	30,8	23,7	34,2	46,1	48,7	43,6	32,8	45,7	21,2	13,1	12,0	9,3	11,0	15,1	11,0	10,5	9,9	9,9	9,5	9,6	12,7	12,1	16,3	12,0	11,1	12,9	10,3
PM Limit	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
U1	566	625	608	632	561	548	546	556	619	631	594	596	608	635	541	544	647	567	525	585	623	545	580	563	559	628	607	627	591	614

Graph 1: Particulate matter daily average emissions against emission limit for unit 1 for the month of November 2020

Interpretation:
All daily averages below particulate emission limit of 50 mg/Nm^3.

Unit 2 particulate emissions



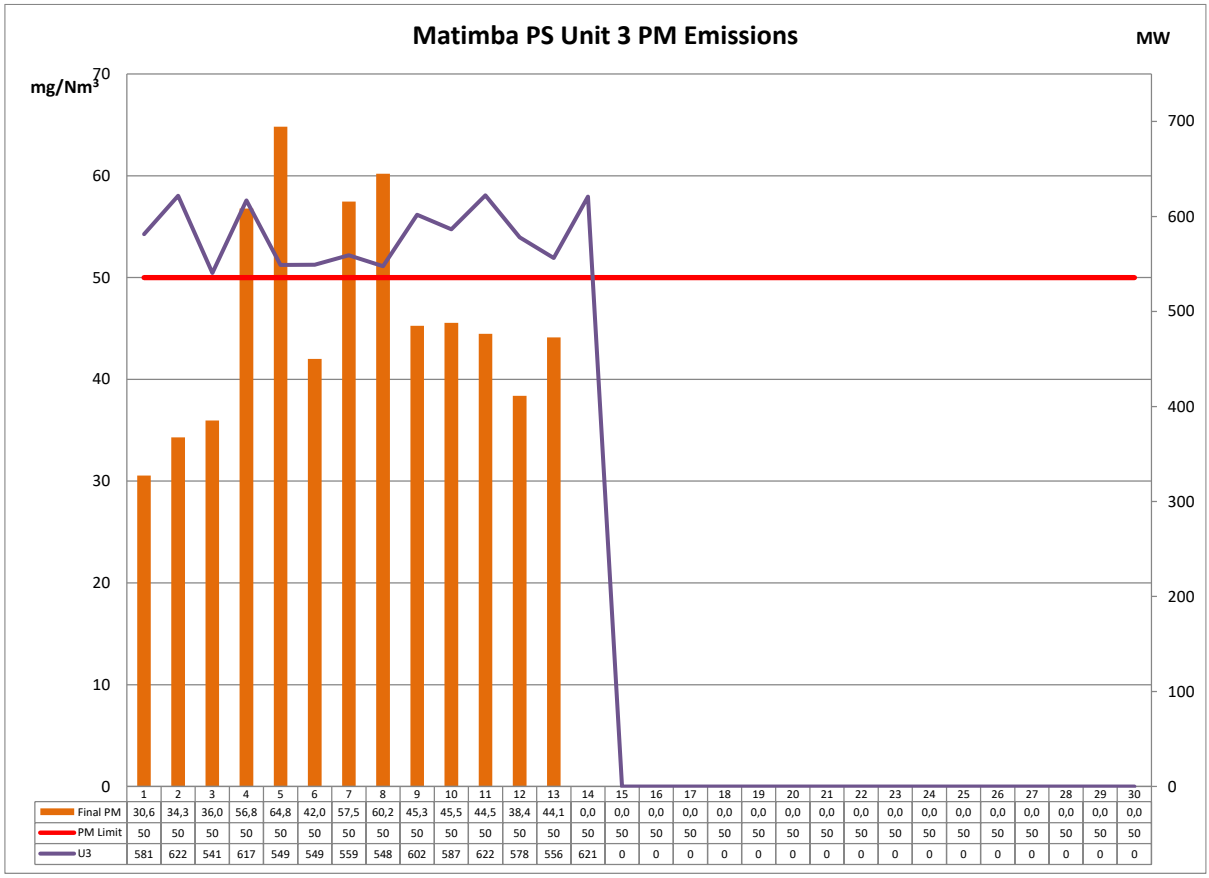
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final PM	12,7	11,2	9,1	0,0	14,3	16,0	9,0	0,0	0,0	0,0	11,1	11,1	12,4	12,5	8,6	10,8	16,6	13,0	11,6	9,9	9,3	11,1	11,7	14,2	26,0	40,0	19,4	16,9	51,2	18,6
PM Limit	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
U2	581	591	569	541	535	501	140	0	0	508	536	565	605	608	542	534	611	565	539	573	590	566	536	574	567	639	606	633	573	589

Graph 2: Particulate matter daily average emissions against emission limit for unit 2 for the month of November 2020

Interpretation:
Unit 2 exceeded the particulate emission limit of 50 mg/Nm^3 on the 29th of November 2020 due to unplanned breakdowns on the sulphur plant. The plant was repaired and the exceedance did not exceed the 48hour grace period.

Note: Matimba has submitted an application for postponement of the Minimum Emission Standards to the Department. As per the communication to Eskom on the 26th of March 2020 limits before April 2020 will still apply until the postponement applications has been concluded. The limit before April 2020 is 100mg/Nm^3 and is for this reason not a reportable exceedance.

Unit 3 particulate emissions



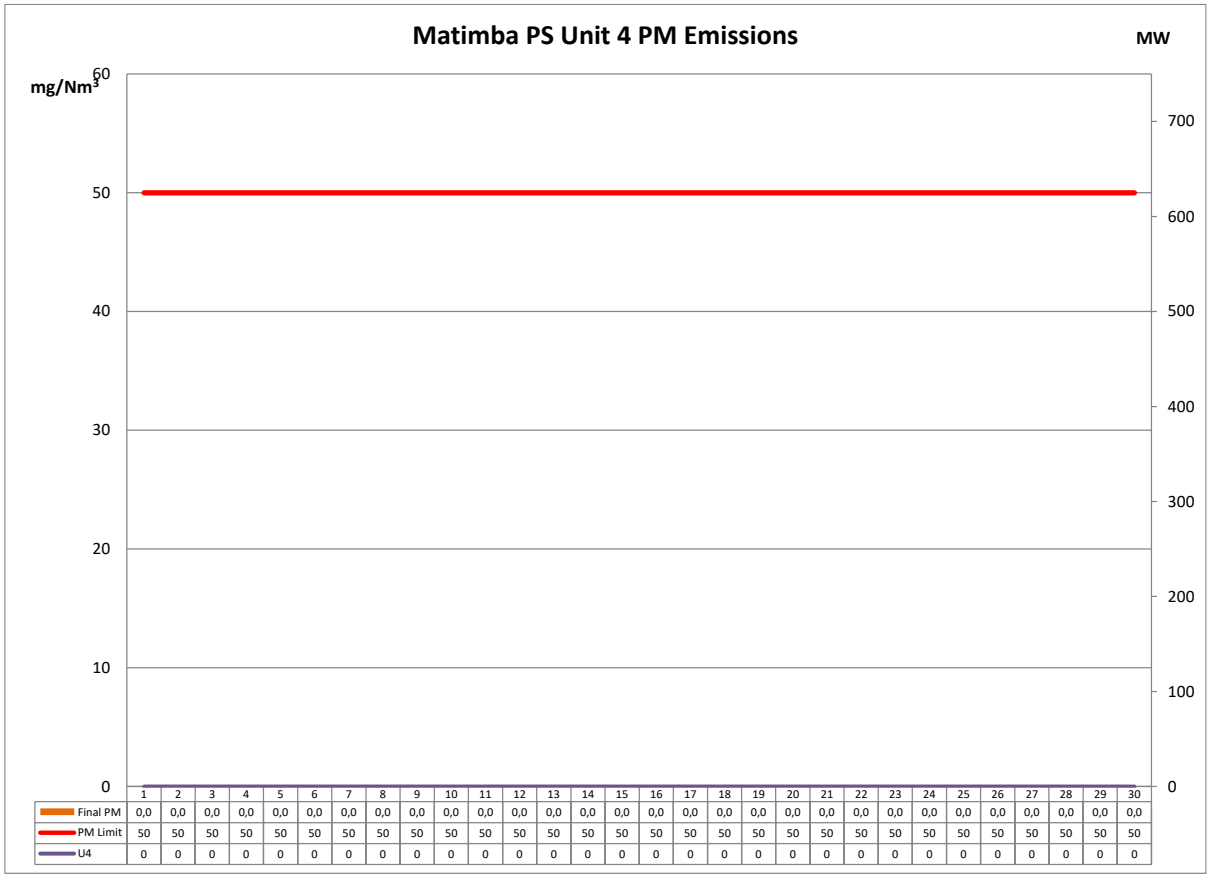
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final PM	30,6	34,3	36,0	56,8	64,8	42,0	57,5	60,2	45,3	45,5	44,5	38,4	44,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
PM Limit	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
U3	581	622	541	617	549	549	559	548	602	587	622	578	556	621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Graph 3: Particulate matter daily average emissions against emission limit for unit 3 for the month of November 2020

Interpretation:
Unit 3 exceeded the particulate emission limit of 50 mg/Nm^3 on the 4th, 5th, 7th and 8th of November 2020. The exceedances did not exceed the 48hour grace period.

Note: Matimba has submitted an application for postponement of the Minimum Emission Standards to the Department. As per the communication to Eskom on the 26th of March 2020 limits before April 2020 will still apply until the postponement applications has been concluded. The limit before April 2020 is 100mg/Nm^3 and is for this reason not a reportable exceedance.

Unit 4 particulate emissions

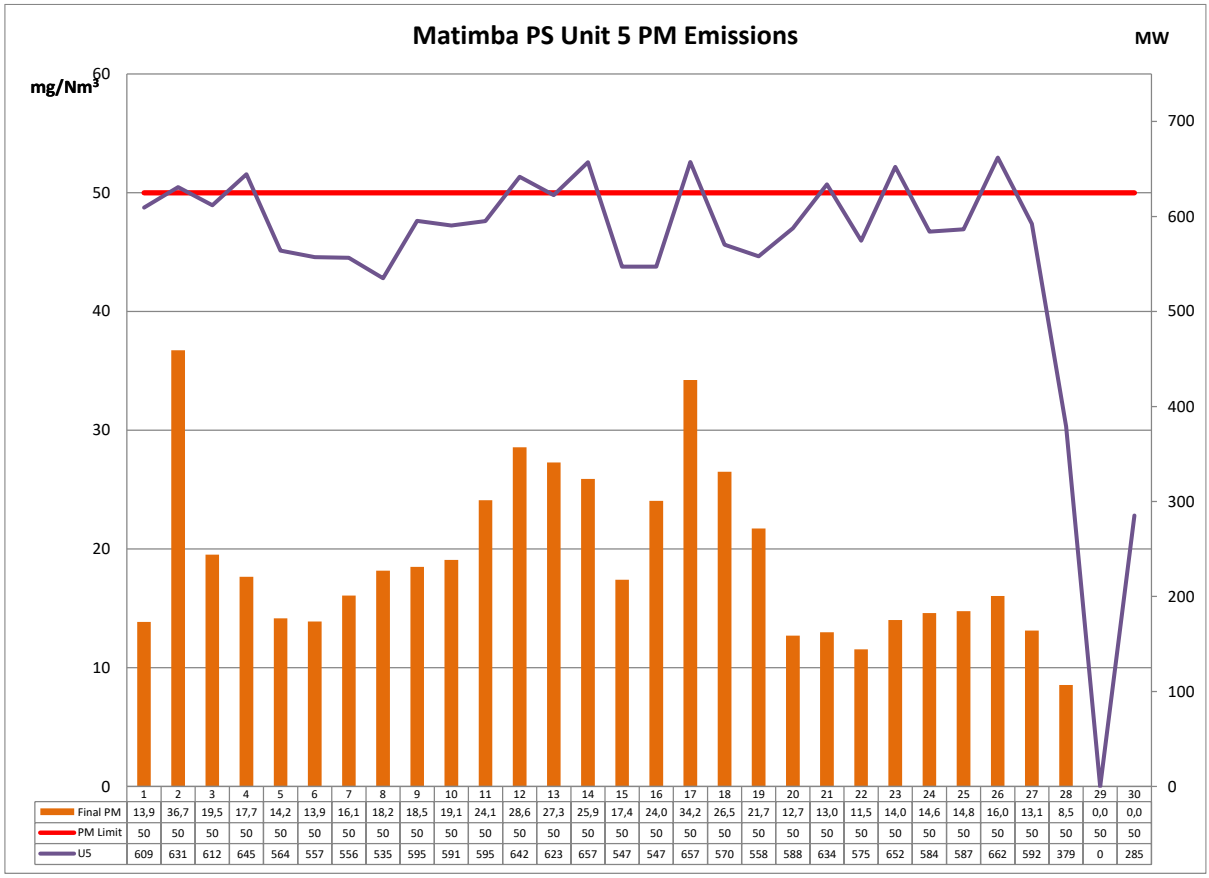


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final PM	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
PM Limit	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
U4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Graph 4: Particulate matter daily average emissions against emission limit for unit 4 for the month of November 2020

Interpretation:
Unit off load.

Unit 5 particulate emissions

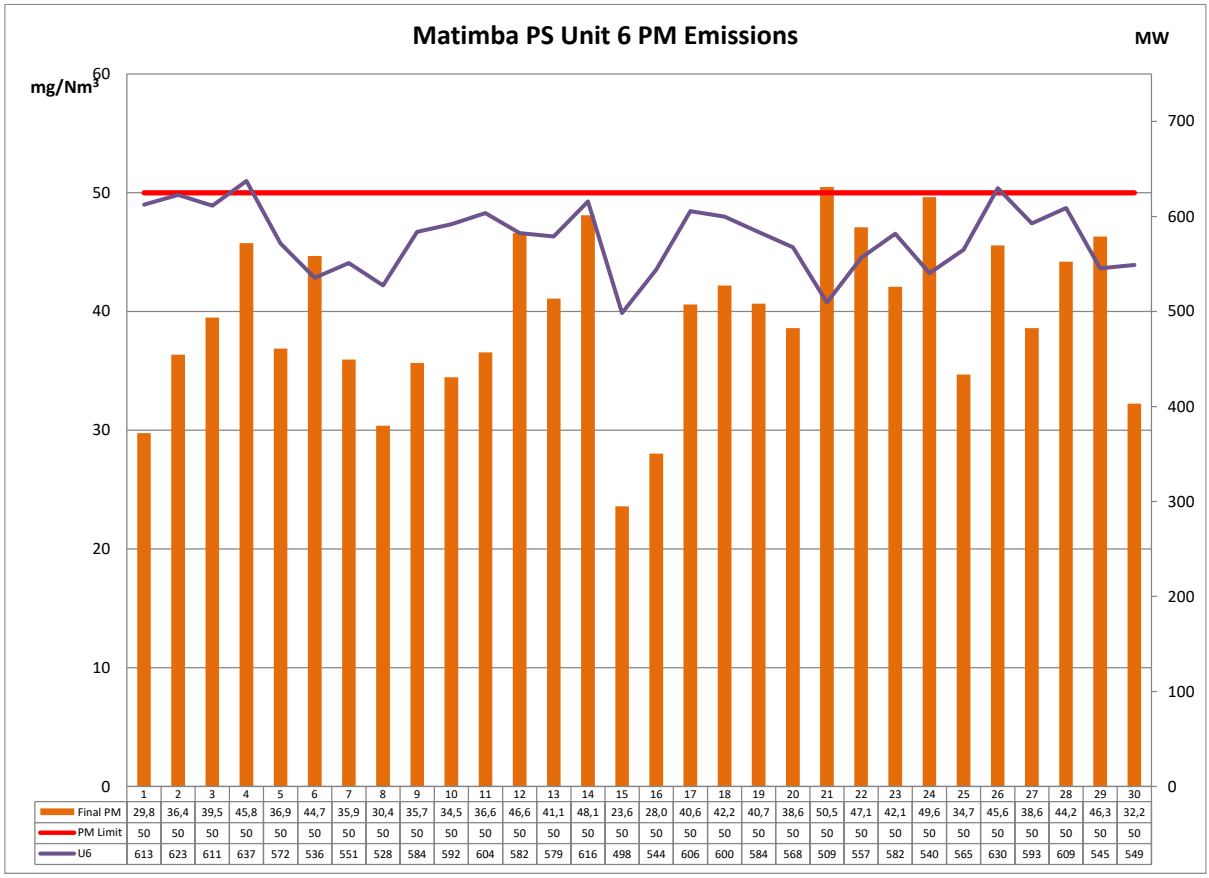


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final PM	13,9	36,7	19,5	17,7	14,2	13,9	16,1	18,2	18,5	19,1	24,1	28,6	27,3	25,9	17,4	24,0	34,2	26,5	21,7	12,7	13,0	11,5	14,0	14,6	14,8	16,0	13,1	8,5	0,0	0,0
PM Limit	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
U5	609	631	612	645	564	557	556	535	595	591	595	642	623	657	547	547	657	570	558	588	634	575	652	584	587	662	592	379	0	285

Graph 5: Particulate matter daily average emissions against emission limit for unit 5 for the month of November 2020

Interpretation:
All daily averages below particulate emission limit of 50 mg/Nm^3.

Unit 6 particulate emissions



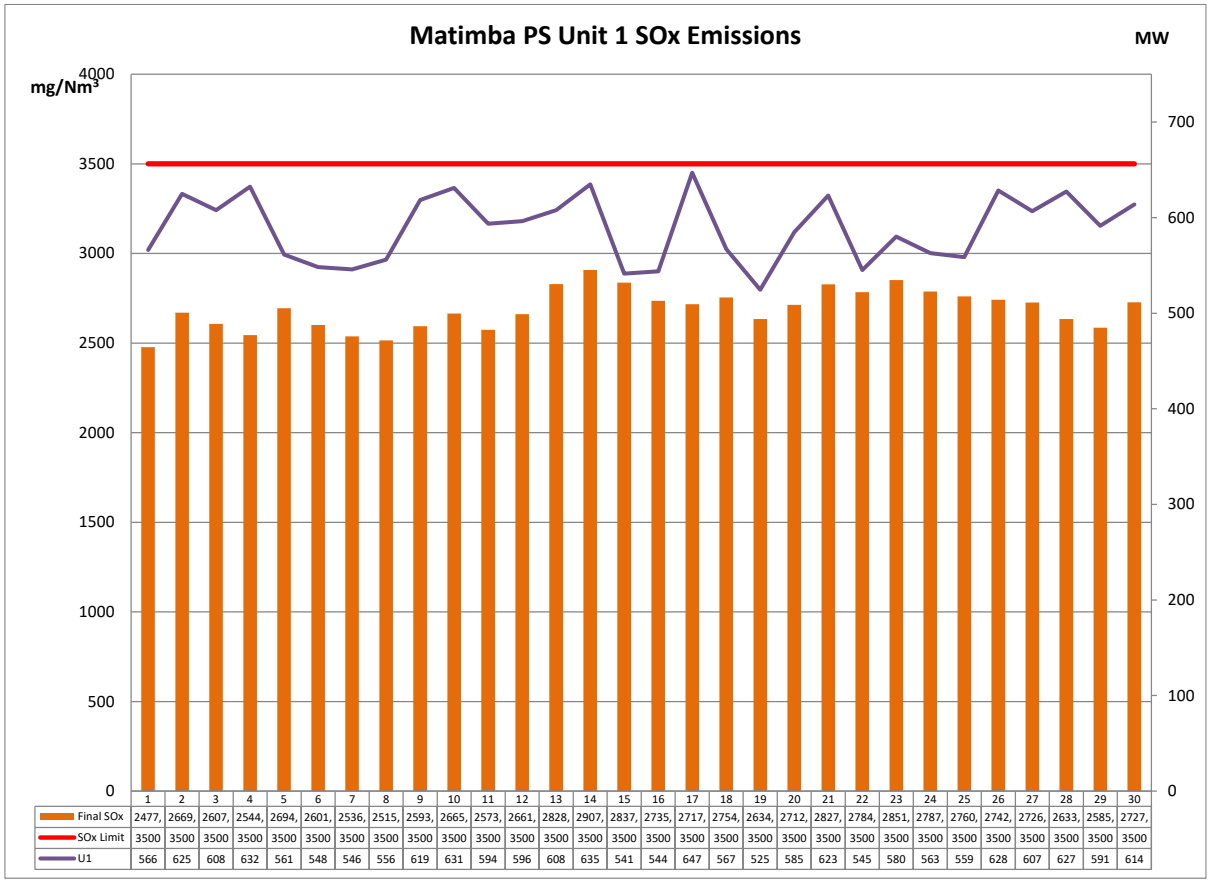
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final PM	29,8	36,4	39,5	45,8	36,9	44,7	35,9	30,4	35,7	34,5	36,6	46,6	41,1	48,1	23,6	28,0	40,6	42,2	40,7	38,6	50,5	47,1	42,1	49,6	34,7	45,6	38,6	44,2	46,3	32,2
PM Limit	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
U6	613	623	611	637	572	536	551	528	584	592	604	582	579	616	498	544	606	600	584	568	509	557	582	540	565	630	593	609	545	549

Graph 6: Particulate matter daily average emissions against emission limit for unit 6 for the month of November 2020

Interpretation:
Unit 6 exceeded the particulate emission limit of 50 mg/Nm^3 on the 21st of November 2020 due to unplanned breakdowns on the sulphur plant. The plant was repaired and the exceedance did not exceed the 48hour grace period.

Note: Matimba has submitted an application for postponement of the Minimum Emission Standards to the Department. As per the communication to Eskom on the 26th of March 2020 limits before April 2020 will still apply until the postponement applications has been concluded. The limit before April 2020 is 100mg/Nm^3 and is for this reason not a reportable exceedance.

Unit 1 SO_2 emissions

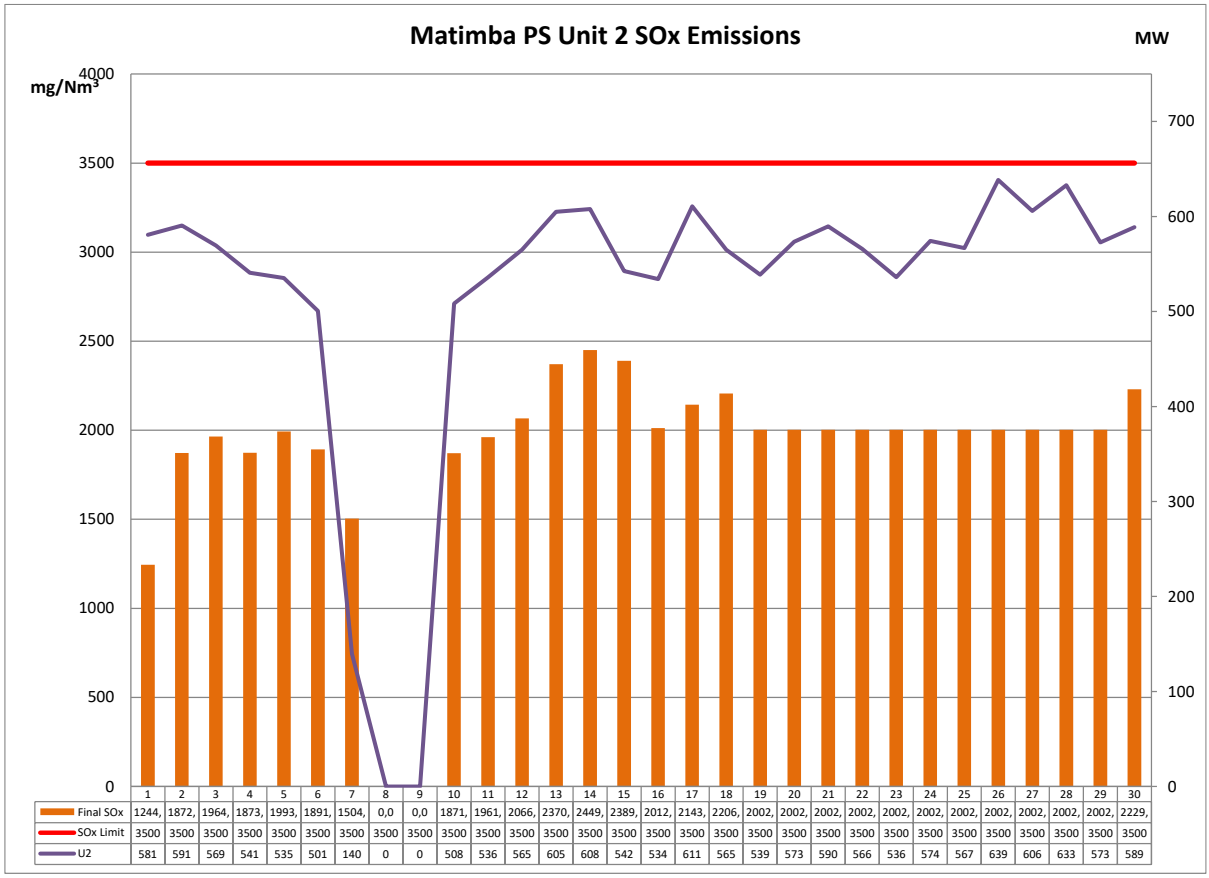


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final SOx	2477,	2669,	2607,	2544,	2694,	2601,	2536,	2515,	2593,	2665,	2573,	2661,	2828,	2907,	2837,	2735,	2717,	2754,	2634,	2712,	2827,	2784,	2851,	2787,	2760,	2742,	2726,	2633,	2585,	2727,
SOx Limit	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
U1	566	625	608	632	561	548	546	556	619	631	594	596	608	635	541	544	647	567	525	585	623	545	580	563	559	628	607	627	591	614

Graph 7: SO_2 daily average emissions against emission limit for unit 1 for the month of November 2020

Interpretation:
All daily averages below SO_2 emission limit of 3500 mg/Nm^3.

Unit 2 SO_2 emissions

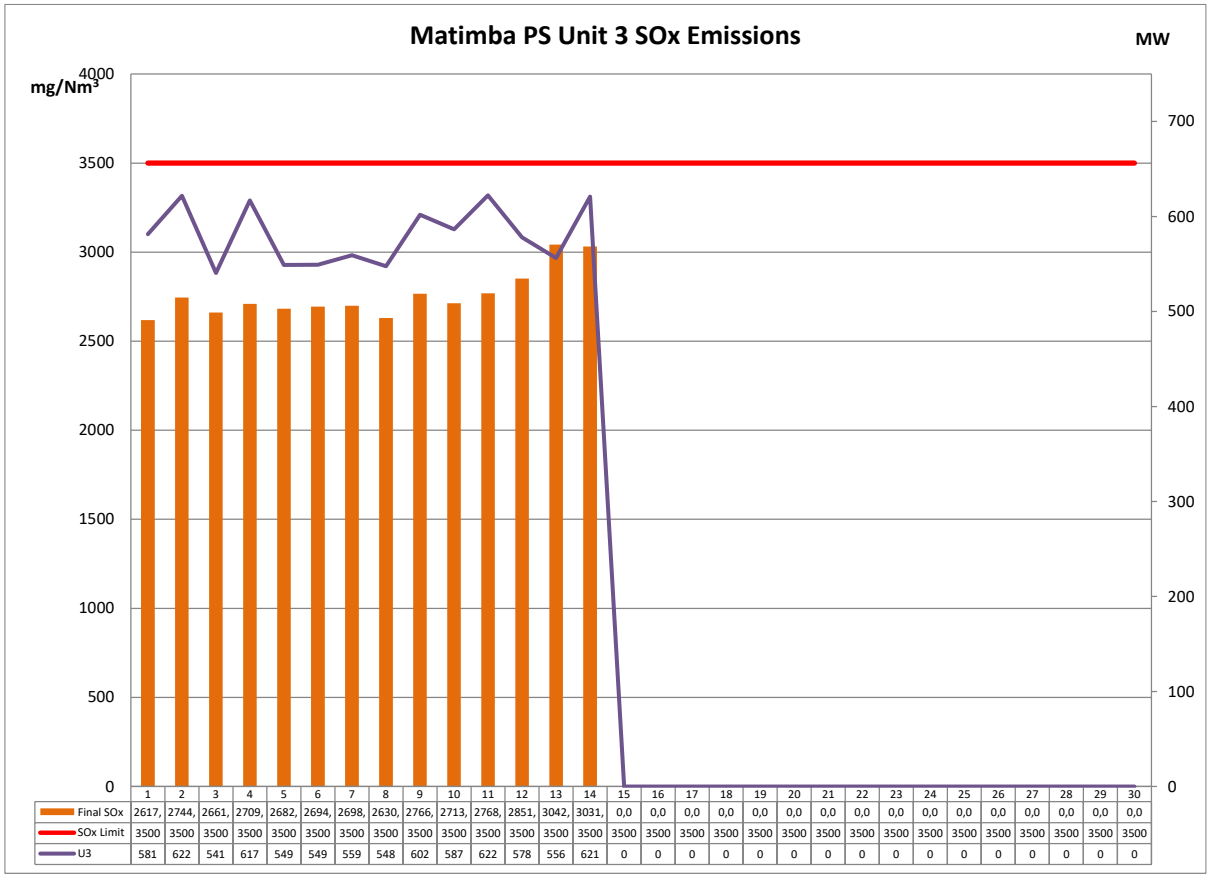


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final SOx	1244,	1872,	1964,	1873,	1993,	1891,	1504,	0,0	0,0	1871,	1961,	2066,	2370,	2449,	2389,	2012,	2143,	2206,	2002,	2002,	2002,	2002,	2002,	2002,	2002,	2002,	2002,	2002,	2002,	2229,
SOx Limit	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
U2	581	591	569	541	535	501	140	0	0	508	536	565	605	608	542	534	611	565	539	573	590	566	536	574	567	639	606	633	573	589

Graph 8: SO_2 daily average emissions against emission limit for unit 2 for the month of November 2020

Interpretation:
All daily averages below SO_2 emission limit of 3500 mg/Nm^3.

Unit 3 SO_2 emissions

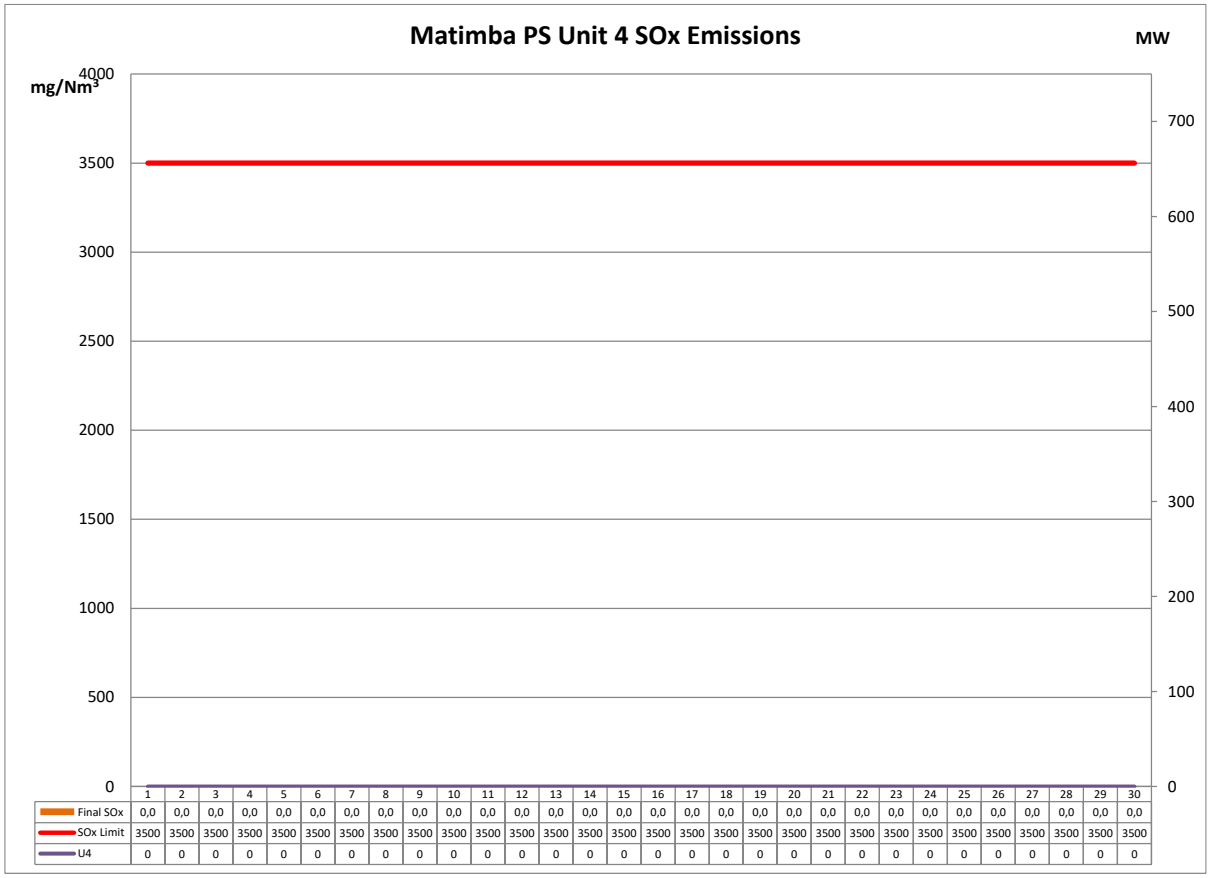


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final SOx	2617,	2744,	2661,	2709,	2682,	2694,	2698,	2630,	2766,	2713,	2768,	2851,	3042,	3031,	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
SOx Limit	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
U3	581	622	541	617	549	549	559	548	602	587	622	578	556	621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Graph 9: SO_2 daily average emissions against emission limit for unit 3 for the month of November 2020

Interpretation:
All daily averages below SO_2 emission limit of 3500 mg/Nm^3.

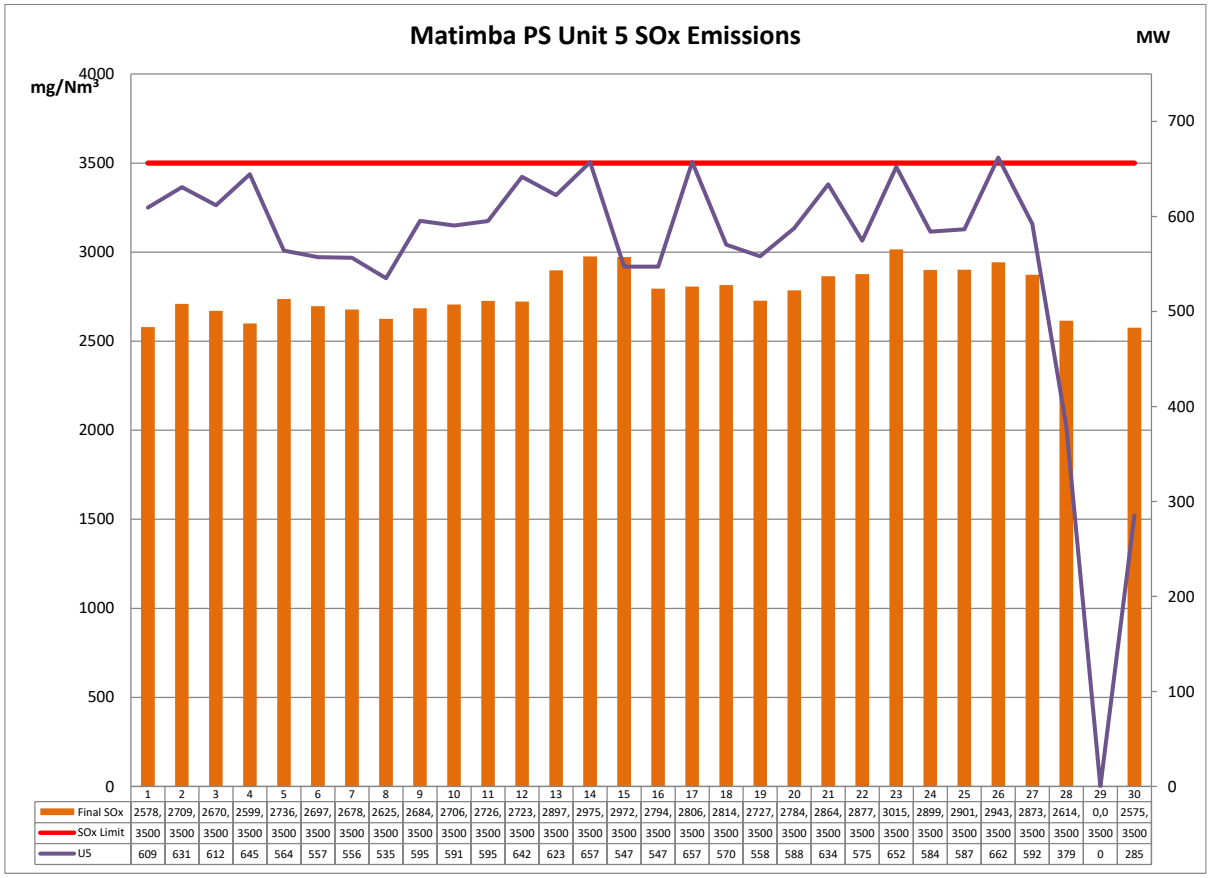
Unit 4 SO_2 emissions



Graph 10: SO_2 daily average emissions against emission limit for unit 4 for the month of November 2020

Interpretation:
All daily averages below SO_2 emission limit of 3500 mg/Nm^3.

Unit 5 SO_2 emissions

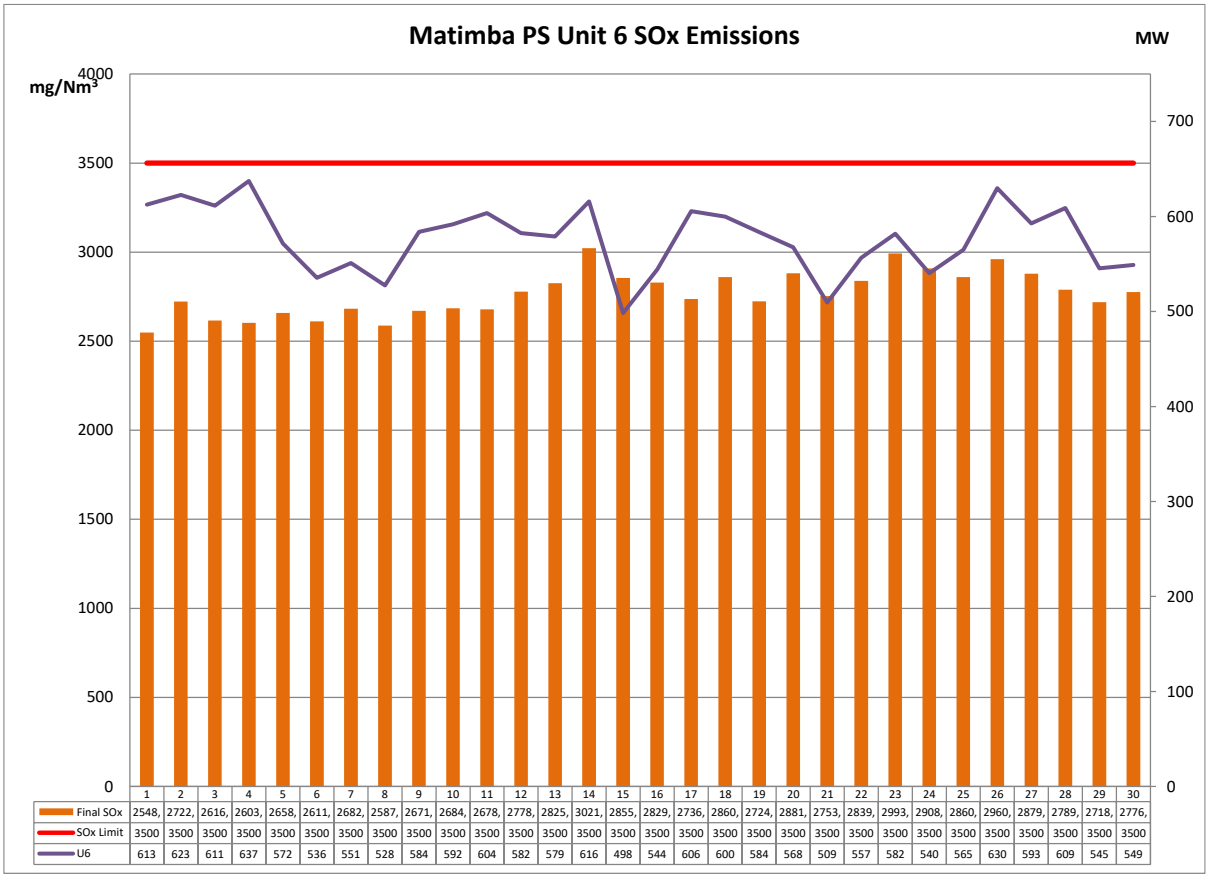


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final SOx	2578,	2709,	2670,	2599,	2736,	2697,	2678,	2625,	2684,	2706,	2726,	2723,	2897,	2975,	2972,	2794,	2806,	2814,	2727,	2784,	2864,	2877,	3015,	2899,	2901,	2943,	2873,	2614,	0,0	2575,
SOx Limit	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
U5	609	631	612	645	564	557	556	535	595	591	595	642	623	657	547	547	657	570	558	588	634	575	652	584	587	662	592	379	0	285

Graph 11: SO_2 daily average emissions against emission limit for unit 5 for the month of November 2020

Interpretation:
All daily averages below SO_2 emission limit of 3500 mg/Nm^3.

Unit 6 SO_2 emissions

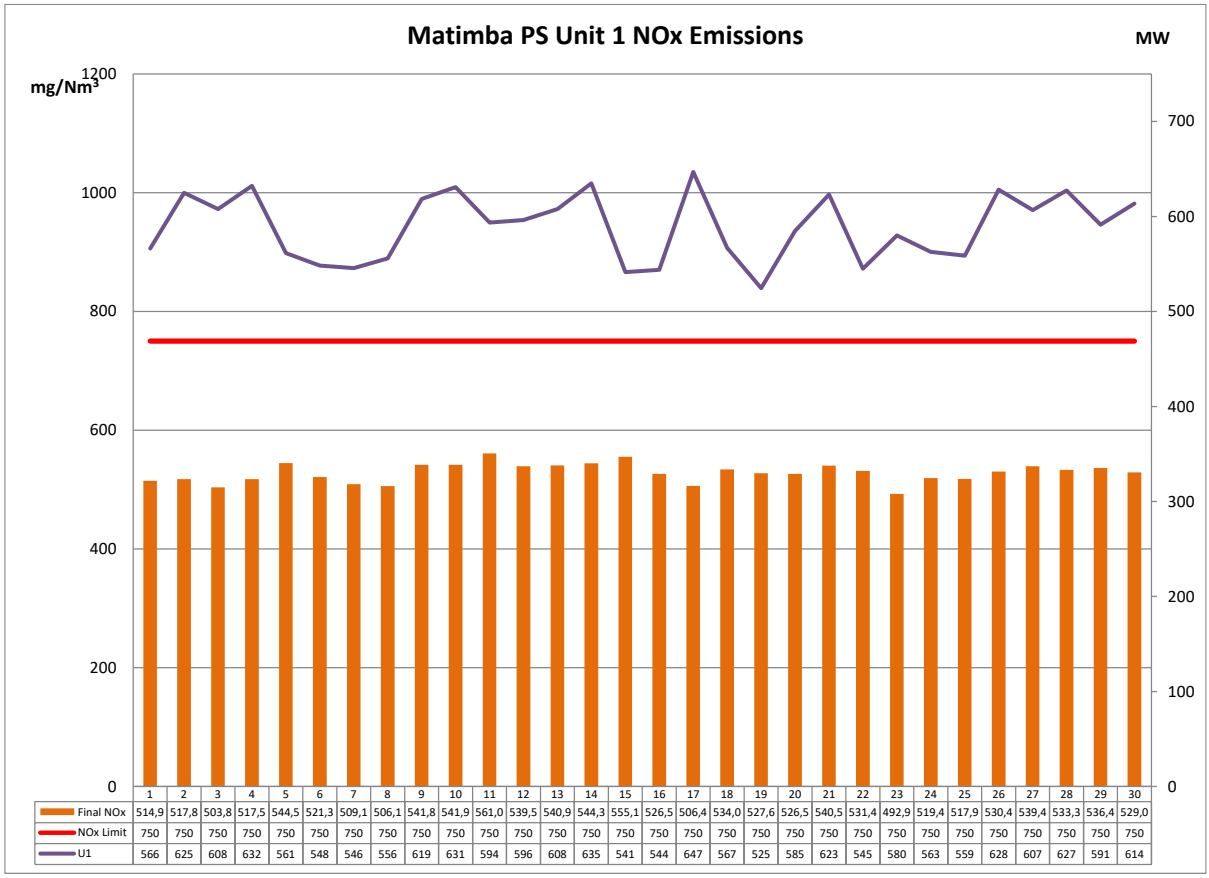


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final SOx	2548,	2722,	2616,	2603,	2658,	2611,	2682,	2587,	2671,	2684,	2678,	2778,	2825,	3021,	2855,	2829,	2736,	2860,	2724,	2881,	2753,	2839,	2993,	2908,	2860,	2960,	2879,	2789,	2718,	2776,
SOx Limit	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
U6	613	623	611	637	572	536	551	528	584	592	604	582	579	616	498	544	606	600	584	568	509	557	582	540	565	630	593	609	545	549

Graph 12: SO_2 daily average emissions against emission limit for unit 6 for the month of November 2020

Interpretation:
All daily averages below SO_2 emission limit of 3500 mg/Nm^3.

Unit 1 NO_x emissions

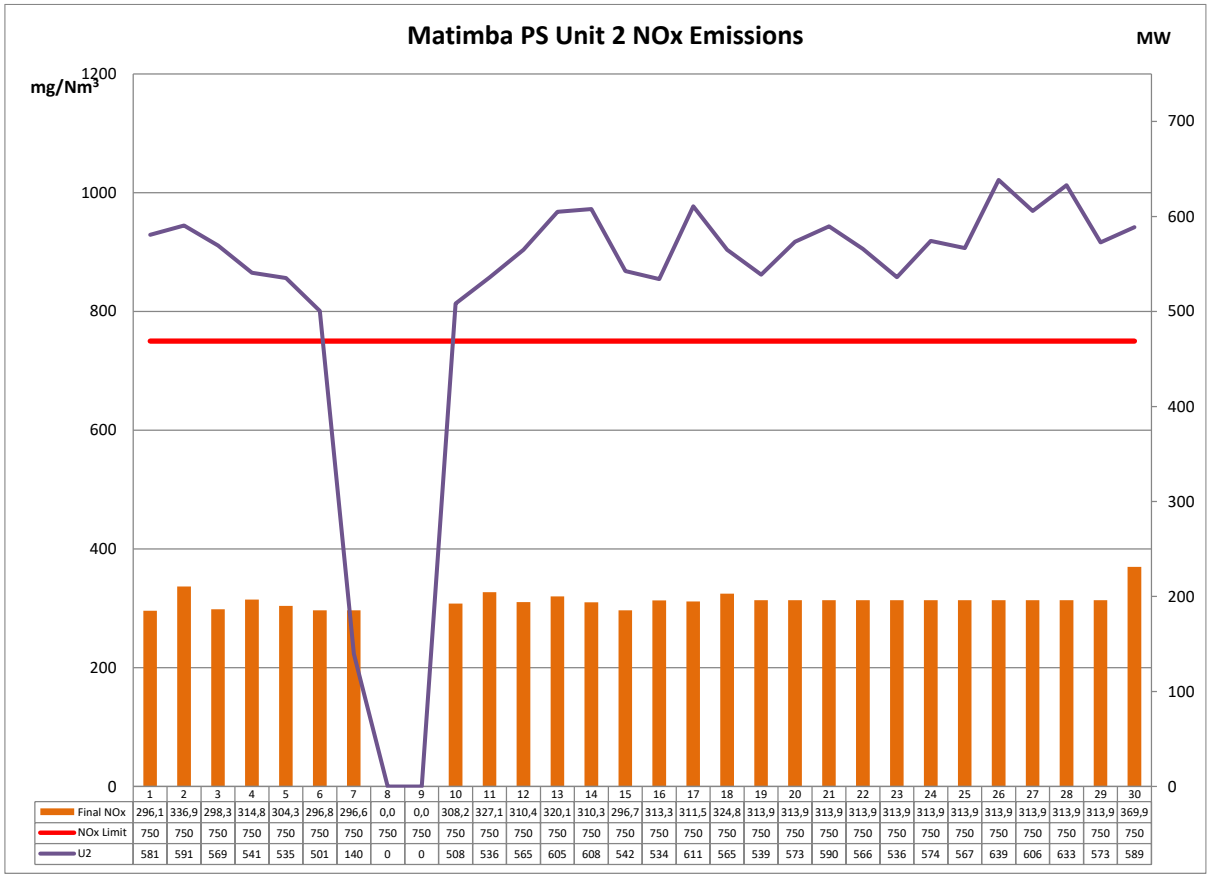


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final NOx	514,9	517,8	503,8	517,5	544,5	521,3	509,1	506,1	541,8	541,9	561,0	539,5	540,9	544,3	555,1	526,5	506,4	534,0	527,6	526,5	540,5	531,4	492,9	519,4	517,9	530,4	539,4	533,3	536,4	529,0
NOx Limit	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
U1	566	625	608	632	561	548	546	556	619	631	594	596	608	635	541	544	647	567	525	585	623	545	580	563	559	628	607	627	591	614

Graph 13: NO_x daily average emissions against emission limit for unit 1 for the month of November 2020

Interpretation:
All daily averages below NO_x emission limit of 750 mg/Nm^3.

Unit 2 NO_x emissions

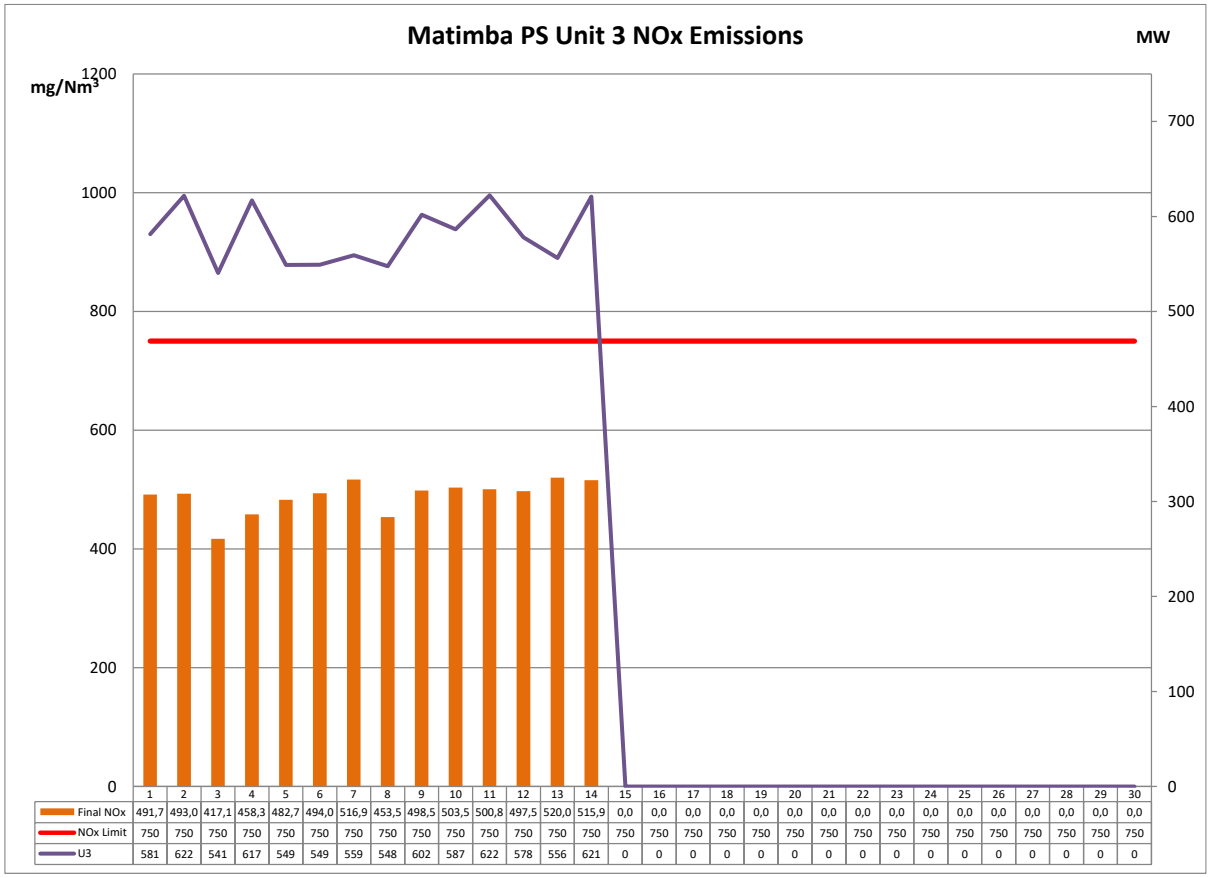


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final NOx	296,1	336,9	298,3	314,8	304,3	296,8	296,6	0,0	0,0	308,2	327,1	310,4	320,1	310,3	296,7	313,3	311,5	324,8	313,9	313,9	313,9	313,9	313,9	313,9	313,9	313,9	313,9	313,9	313,9	369,9
NOx Limit	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
U2	581	591	569	541	535	501	140	0	0	508	536	565	605	608	542	534	611	565	539	573	590	566	536	574	567	639	606	633	573	589

Graph 14: NO_x daily average emissions against emission limit for unit 2 for the month of November 2020

Interpretation:
All daily averages below NO_x emission limit of 750 mg/Nm^3

Unit 3 NO_x emissions

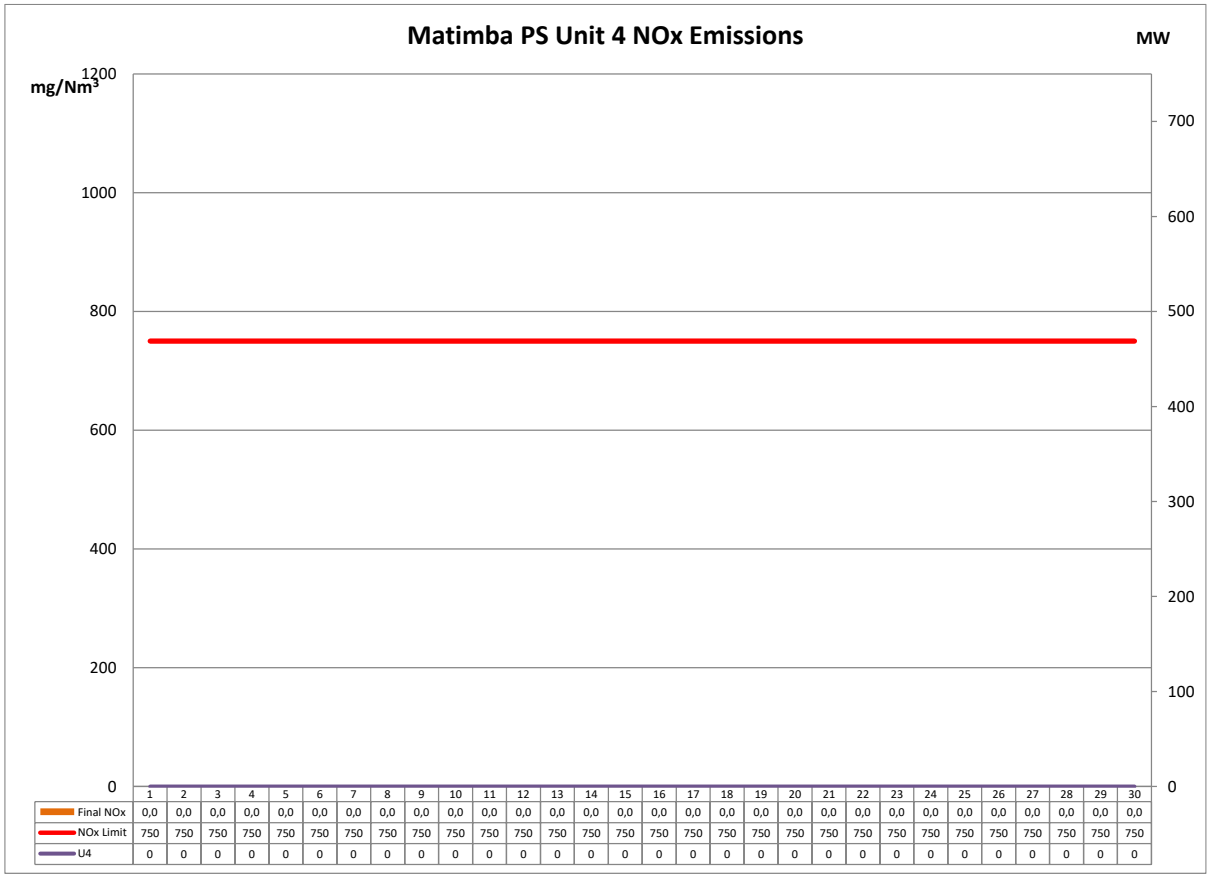


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final NOx	491,7	493,0	417,1	458,3	482,7	494,0	516,9	453,5	498,5	503,5	500,8	497,5	520,0	515,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
NOx Limit	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
U3	581	622	541	617	549	549	559	548	602	587	622	578	556	621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Graph 15: NO_x daily average emissions against emission limit for unit 3 for the month of November 2020

Interpretation:
All daily averages below NO_x emission limit of 750 mg/Nm^3

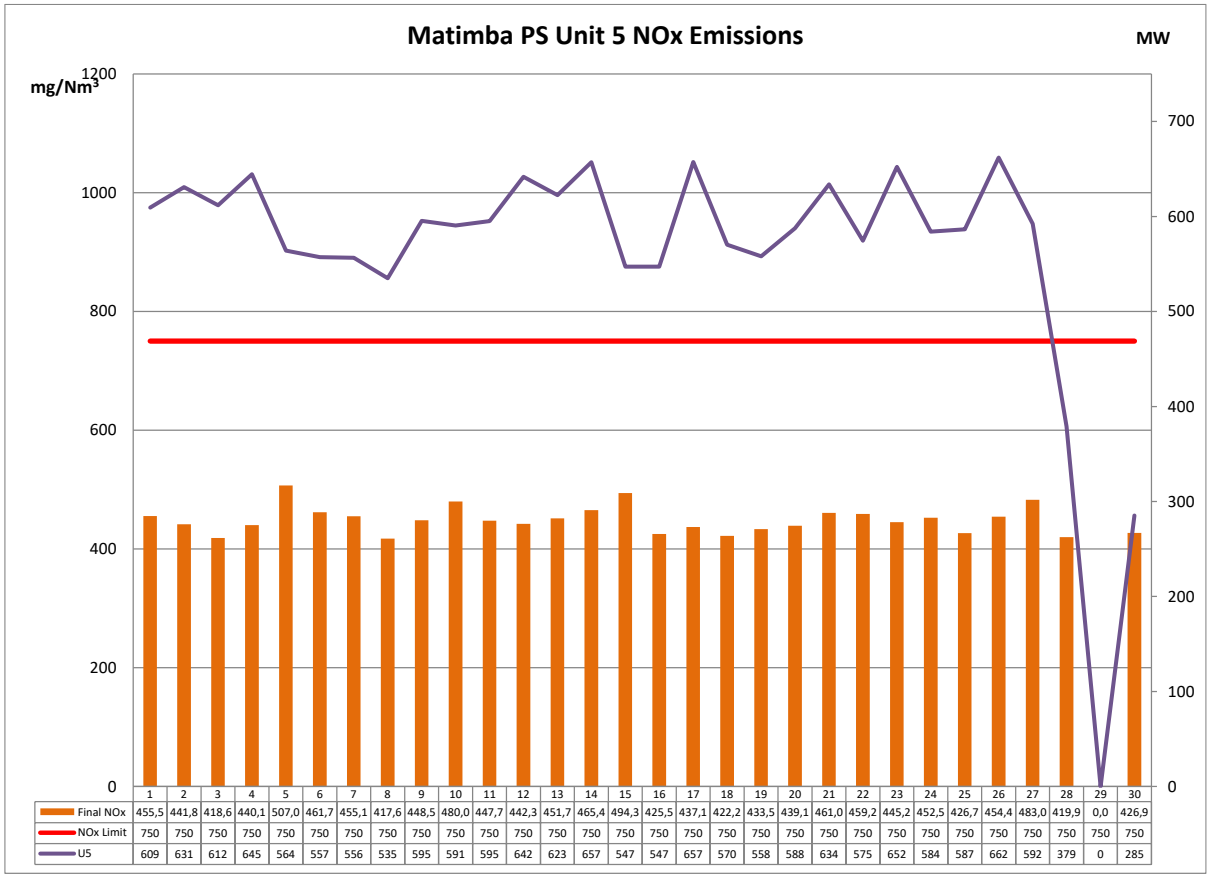
Unit 4 NO_x emissions



Graph 16: NO_x daily average emissions against emission limit for unit 4 for the month of November 2020

Interpretation:
All daily averages below NO_x emission limit of 750 mg/Nm^3

Unit 5 NO_x emissions

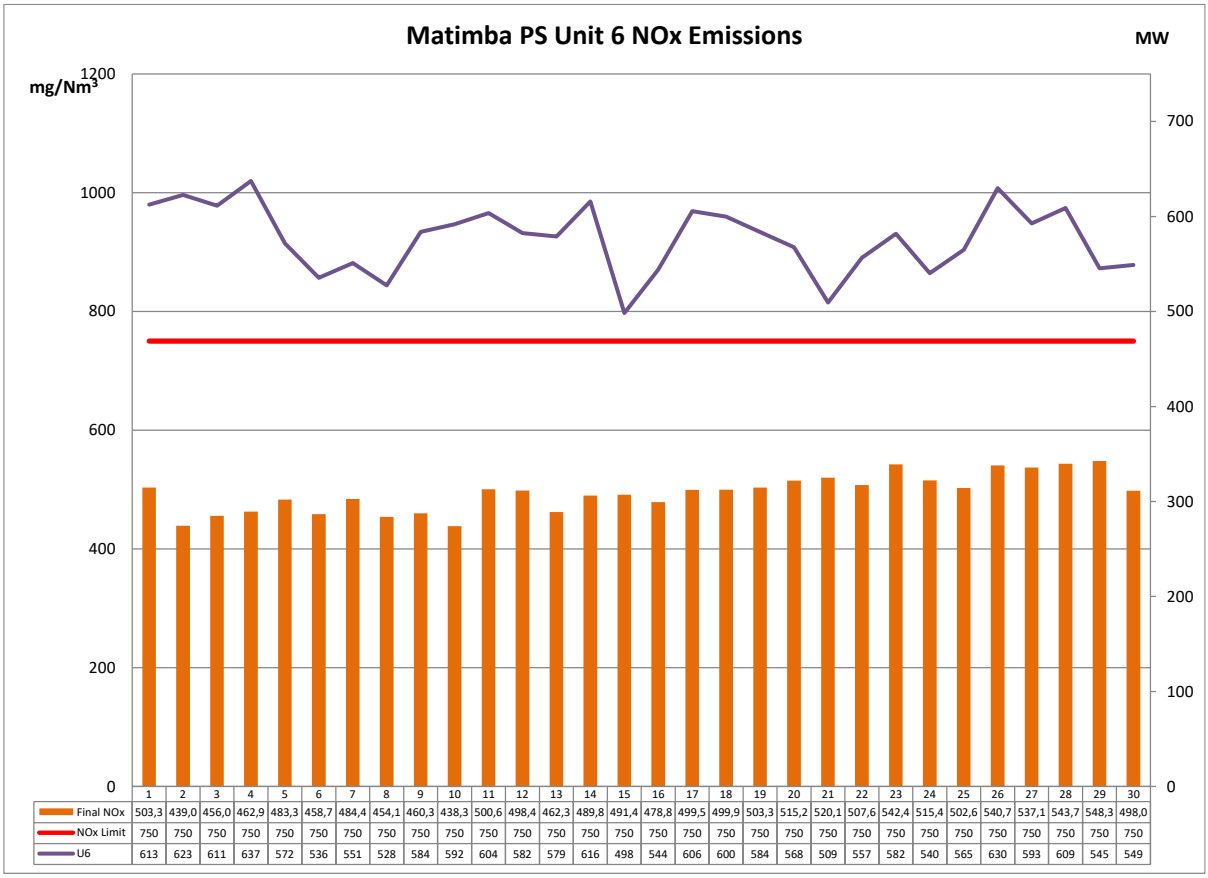


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final NOx	455,5	441,8	418,6	440,1	507,0	461,7	455,1	417,6	448,5	480,0	447,7	442,3	451,7	465,4	494,3	425,5	437,1	422,2	433,5	439,1	461,0	459,2	445,2	452,5	426,7	454,4	483,0	419,9	0,0	426,9
NOx Limit	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
U5	609	631	612	645	564	557	556	535	595	591	595	642	623	657	547	547	657	570	558	588	634	575	652	584	587	662	592	379	0	285

Graph 17: NO_x daily average emissions against emission limit for unit 5 for the month of November 2020

Interpretation:
All daily averages below NO_x emission limit of 750 mg/Nm^3.

Unit 6 NO_x emissions



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Final NOx	503,3	439,0	456,0	462,9	483,3	458,7	484,4	454,1	460,3	438,3	500,6	498,4	462,3	489,8	491,4	478,8	499,5	499,9	503,3	515,2	520,1	507,6	542,4	515,4	502,6	540,7	537,1	543,7	548,3	498,0
NOx Limit	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
U6	613	623	611	637	572	536	551	528	584	592	604	582	579	616	498	544	606	600	584	568	509	557	582	540	565	630	593	609	545	549

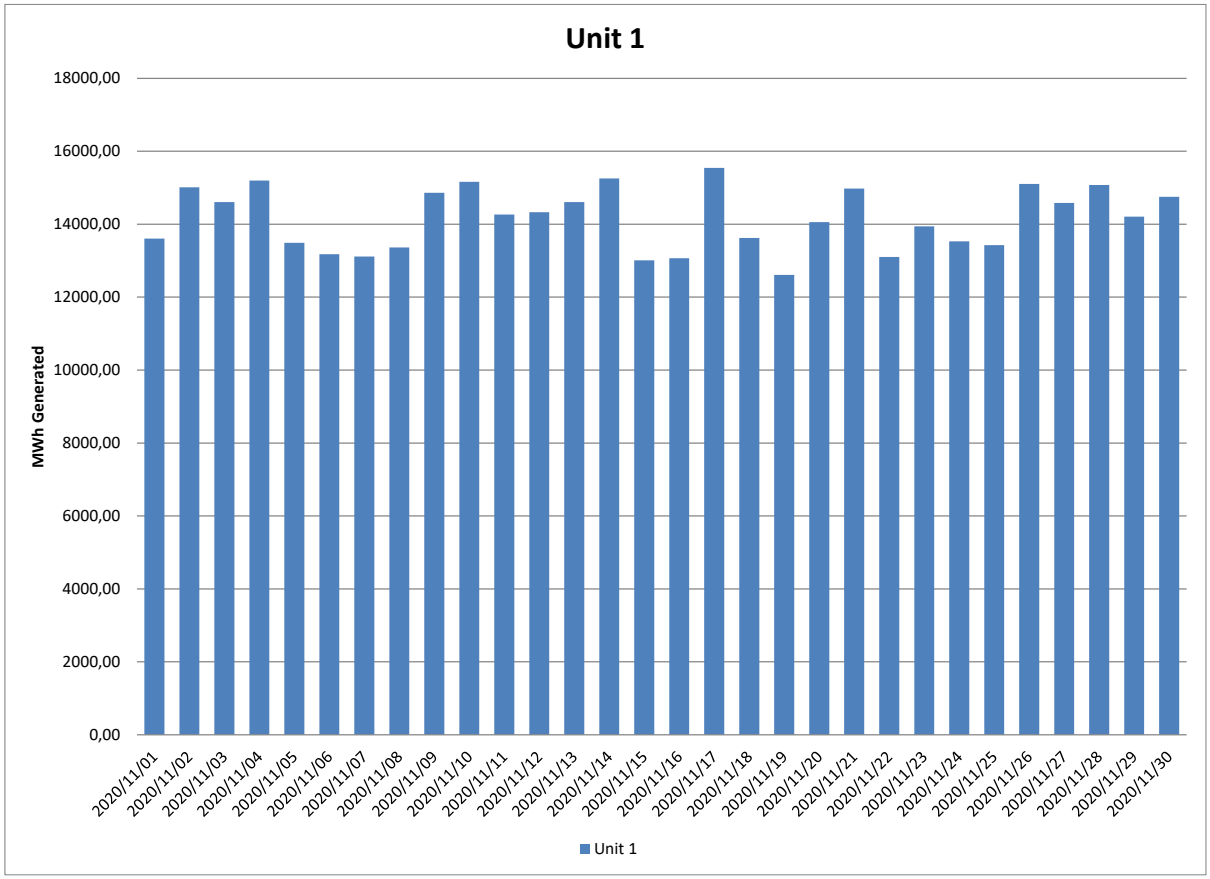
Graph 18: NO_x daily average emissions against emission limit for unit 6 for the month of November 2020

Interpretation:
All daily averages below NO_x emission limit of 750 mg/Nm^3.

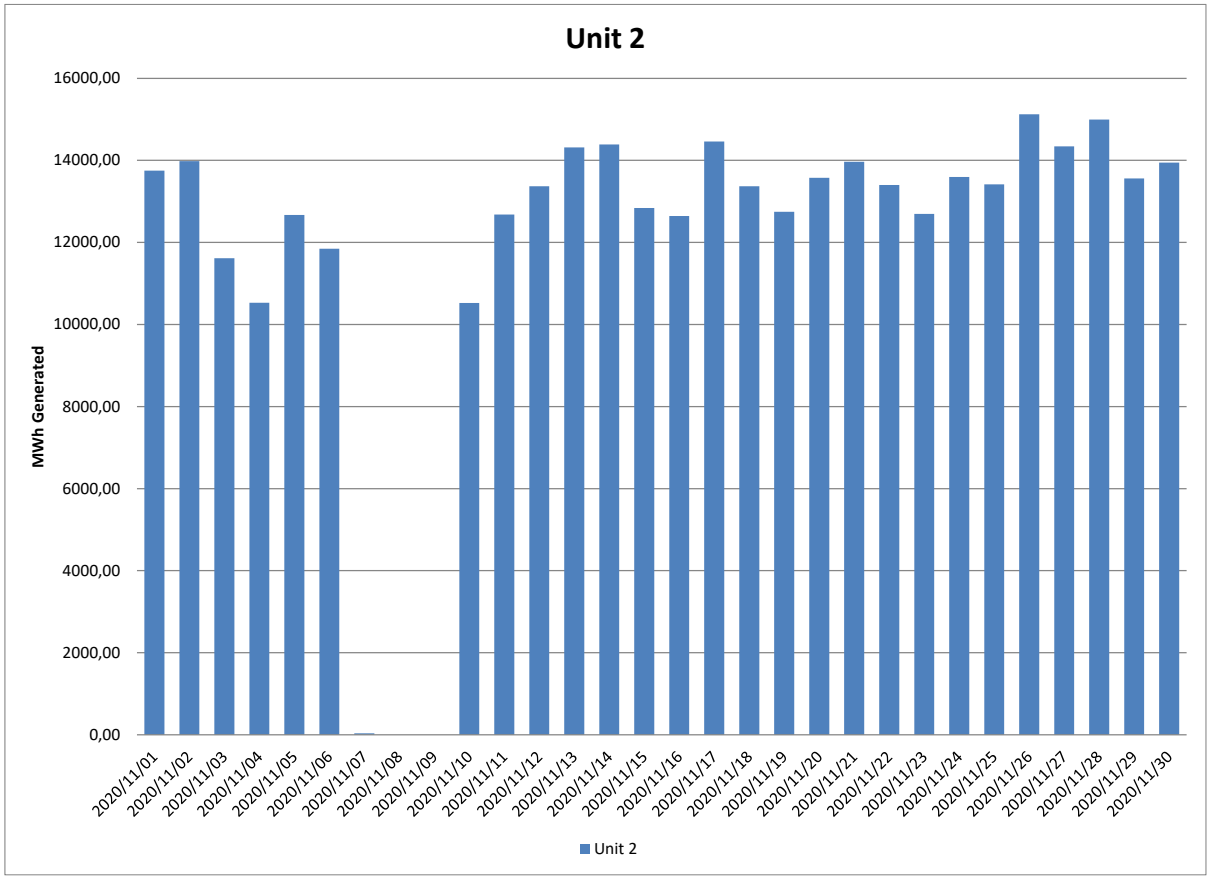
Table 4: Daily power generated per unit in MWh for the month of November 2020

Date	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
2020/11/01	13606,40	13752,40	13886,53	0,00	14496,40	14599,73
2020/11/02	15011,93	13982,20	14846,40	0,00	15008,30	14852,07
2020/11/03	14605,00	11612,67	12909,00	0,00	14555,00	14596,93
2020/11/04	15194,00	10529,80	14744,20	0,00	15334,00	15219,67
2020/11/05	13492,07	12671,53	13111,67	0,00	13424,80	13631,87
2020/11/06	13175,33	11848,00	13115,47	0,00	13260,20	12796,80
2020/11/07	13116,00	33,93	13356,93	0,00	13241,30	13162,40
2020/11/08	13360,40	0,00	13080,07	0,00	12729,70	12579,00
2020/11/09	14863,87	0,00	14371,00	0,00	14166,10	13927,47
2020/11/10	15163,00	10523,40	14009,07	0,00	14054,30	14152,53
2020/11/11	14264,40	12679,67	14860,40	0,00	14160,90	14463,67
2020/11/12	14329,80	13369,40	13802,40	0,00	15269,70	13892,93
2020/11/13	14606,53	14317,73	6734,13	0,00	14809,90	13815,93
2020/11/14	15254,07	14389,07	13900,27	0,00	15632,10	14713,87
2020/11/15	13011,07	12837,07	0,00	0,00	13023,60	11889,87
2020/11/16	13067,47	12642,33	0,00	0,00	13024,30	12990,87
2020/11/17	15542,60	14458,87	0,00	0,00	15637,40	14466,60
2020/11/18	13623,73	13368,40	0,00	92,60	13571,20	14333,27
2020/11/19	12610,53	12749,13	0,00	81,13	13276,40	13939,80
2020/11/20	14055,93	13572,87	0,00	0,00	13979,80	13562,47
2020/11/21	14977,60	13966,20	0,00	0,00	15080,50	12165,53
2020/11/22	13102,07	13399,87	0,00	0,00	13673,40	13284,67
2020/11/23	13941,00	12696,47	0,00	0,00	15517,60	13904,80
2020/11/24	13528,40	13595,73	0,00	0,00	13894,30	12904,20
2020/11/25	13428,13	13417,53	0,00	0,00	13955,70	13483,87
2020/11/26	15102,80	15121,33	0,00	0,00	15748,00	15049,93
2020/11/27	14580,80	14340,93	0,00	0,00	14089,10	14168,40
2020/11/28	15075,93	14992,80	0,00	0,00	470,60	14540,47
2020/11/29	14208,93	13561,80	0,00	0,00	0,00	13021,27
2020/11/30	14749,40	13943,33	0,00	0,00	896,00	13104,00

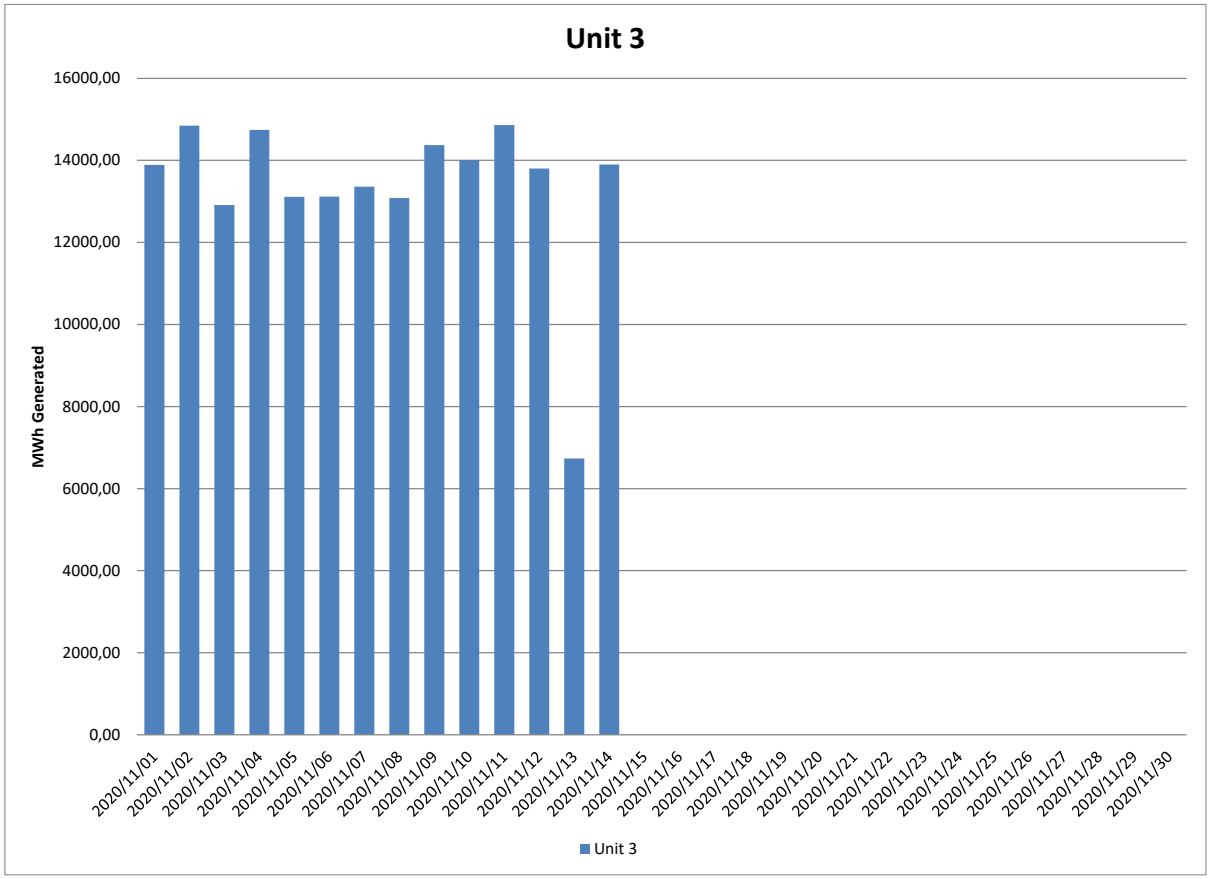
Graph 19: Unit 1 daily generated power in MWh for the month of November 2020



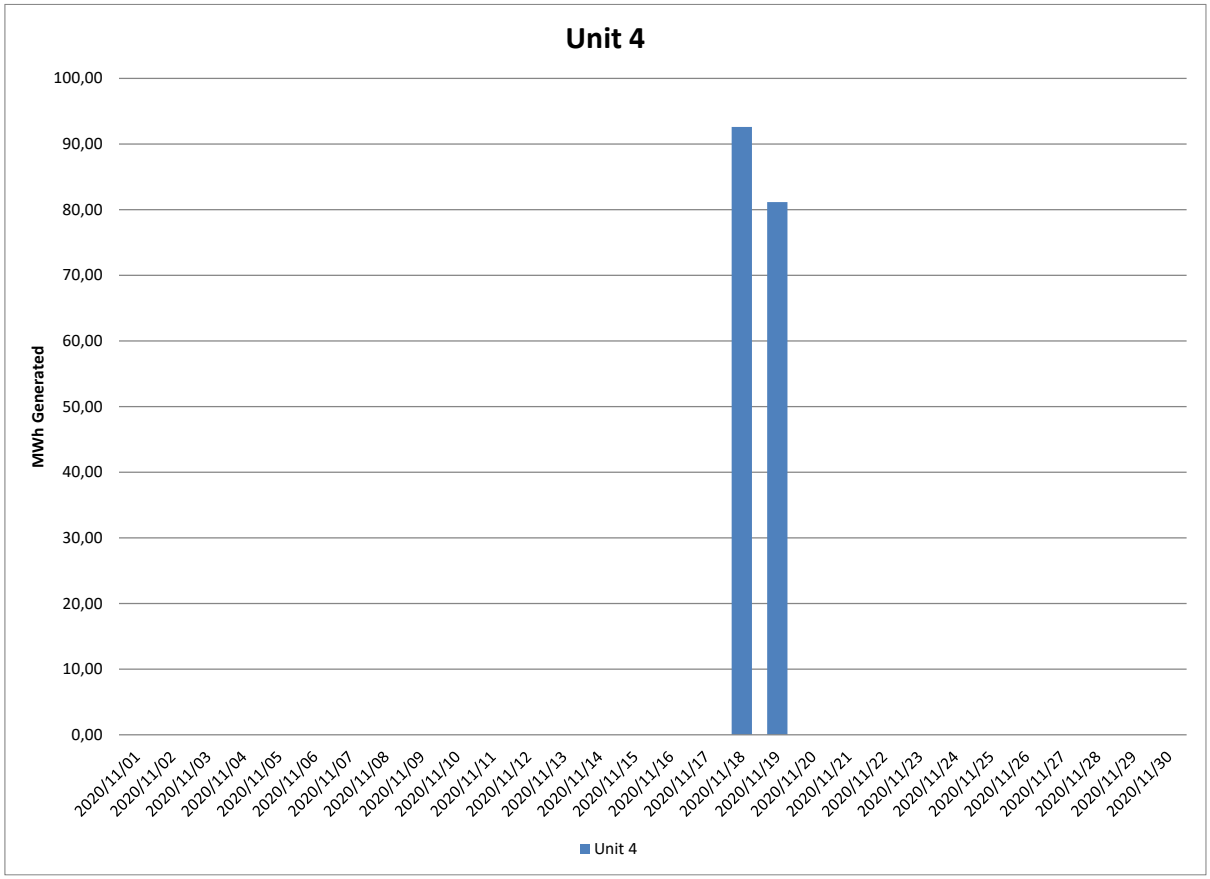
Graph 20: Unit 2 daily generated power in MWh for the month of November 2020



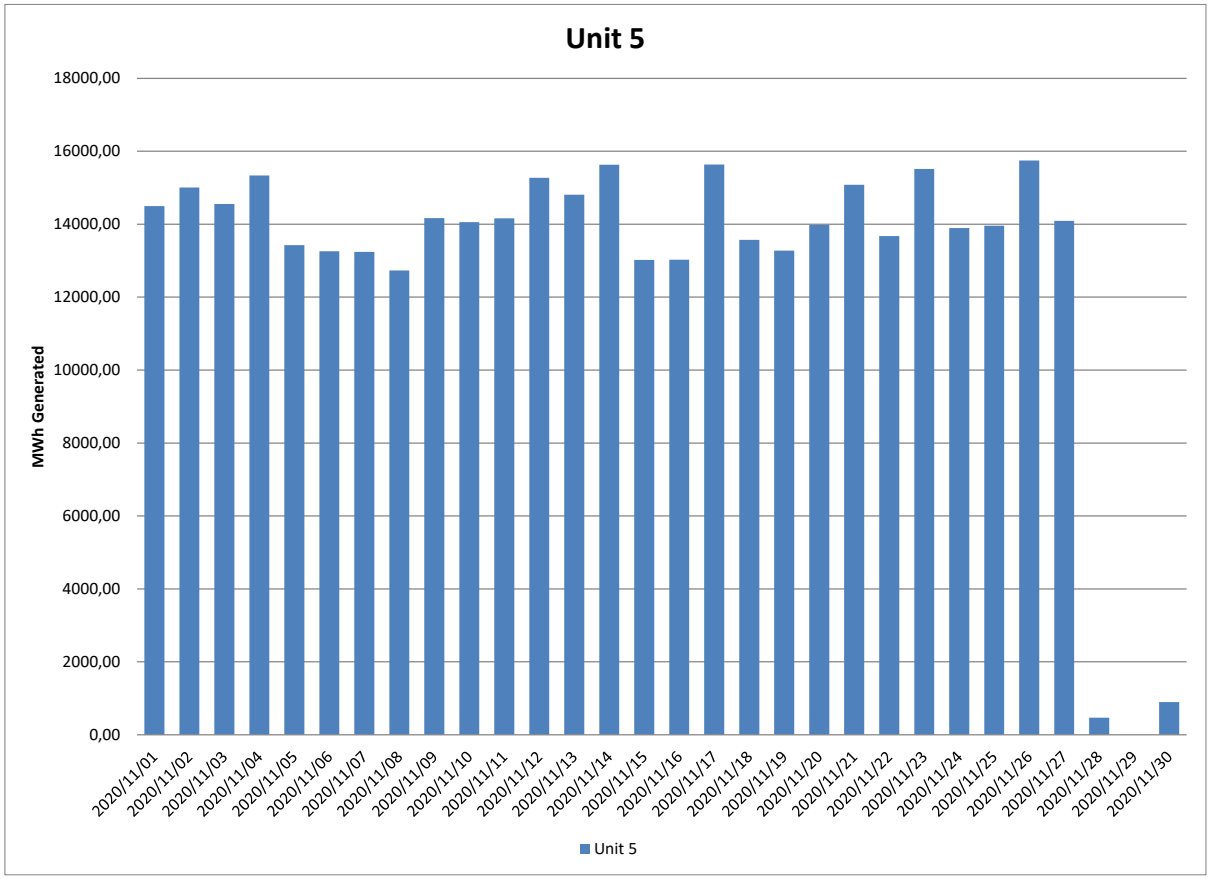
Graph 21: Unit 3 daily generated power in MWh for the month of November 2020



Graph 22: Unit 4 daily generated power in MWh for the month of November 2020



Graph 23: Unit 5 daily generated power in MWh for the month of November 2020



Graph 24: Unit 6 daily generated power in MWh for the month of November 2020

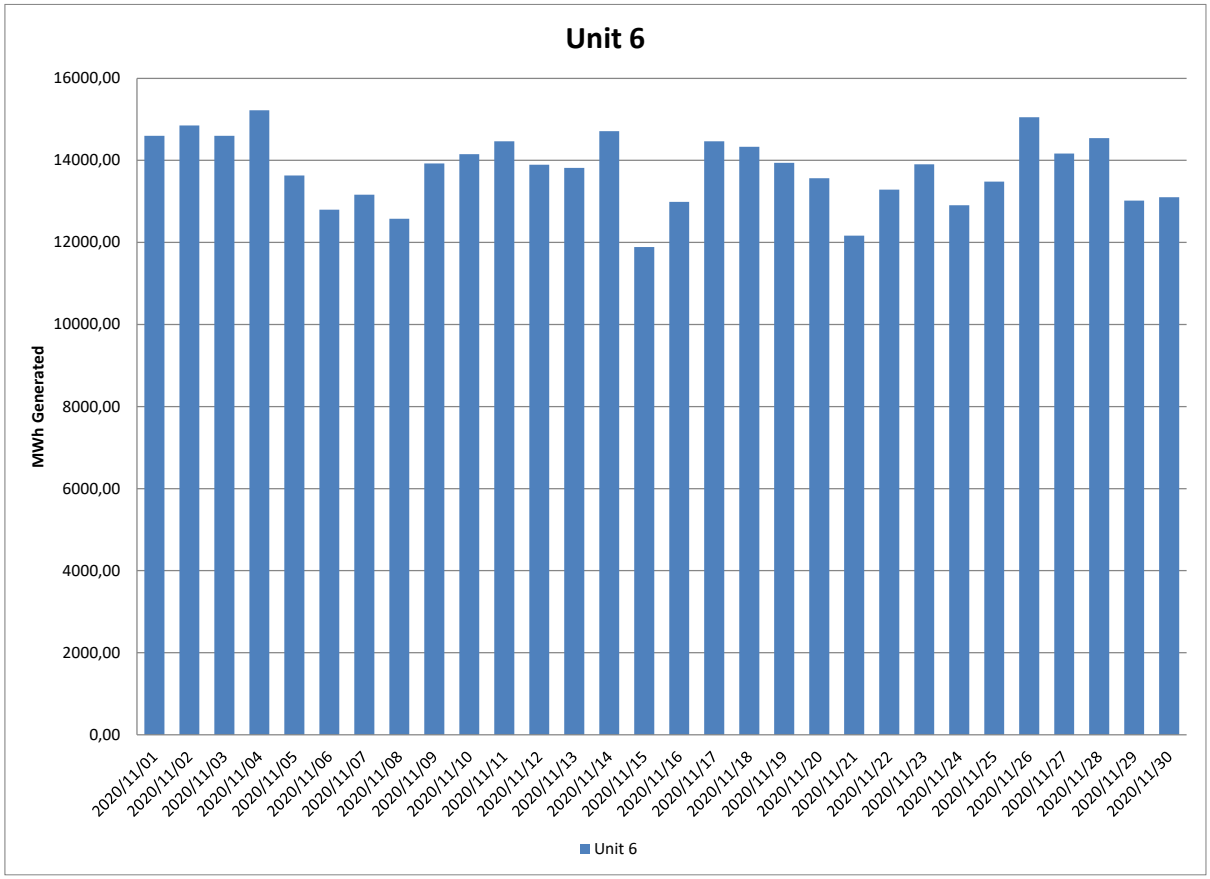


Table 5: Pollutant tonnages for the month of November 2020

Unit	PM (tons)	SO_2 (tons)	NO_2 (tons)	CO (tons)	CO_2 (tons)
1	45,980	5 876,467	1 153,742	22,923	408 946,386
2	24,962	4 651,326	722,984	2,999	380 506,967
3	37,611	2 742,301	486,875	11,668	178 431,783
4	0,000	0,000	0,000	0,000	0,000
5	36,463	5 260,052	848,770	71,869	330 295,441
6	80,947	6 027,553	1 076,200	39,550	381 879,776
SUM	225,963	24 557,699	4 288,570	149,008	1 680 060,352

Table 6: Reference values for data provided.

Compound / Parameter	Units of Measure	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Oxygen	%	7,96	5,50	7,18		8,40	7,91
Moisture	%	4,99	4,26	5,94		5,48	4,29
Velocity	m/s	28,7	27,3	27,8		27,4	28,5
Temperature	^{o}C	143,0	127,5	134,6		129,9	121,0
Pressure	mBar	930,5	933,8	921,6		927,3	890,2

Start-up information.

Table 7: Start-up information

Unit	2	
Fires in	20h41	2020-11-03
Synchronization with Grid	04h14	2020-11-04
Emissions below limit	20h41	2020-11-03
Fires in to synchronization	7	HOURS
Synchronization to < Emission limit	0	HOURS

Unit	2	
Fires in	10h06	2020-11-09
Synchronization with Grid	03h00	2020-11-10
Emissions below limit	13h00	2020-11-10
Fires in to synchronization	18.13	HOURS
Synchronization to < Emission limit	10	HOURS

Unit	3	
Fires in	21h37	2020-11-13
Synchronization with Grid	23h33	2020-11-13
Emissions below limit	01H00	2020-11-14
Fires in to synchronization	1.93	Hours
Synchronization to < Emission limit	1.45	Hours

Unit	5	
Fires in	04h55	2020-11-30
Synchronization with Grid	20h50	2020-11-30
Emissions below limit	20h59	2020-11-30
Fires in to synchronization	15.9167	Hours
Synchronization to < Emission limit	0.15	Hours

Emergency Generation

Table 8: Emergency Generation.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Emergency Generation hours declared by national Control	141	117	43	0	128	141
Emergency Hours declared including hours after stand down	162	134	51	0	146	162
Days over the Limit during Emergency Generation	0	0	0	0	0	0

Complaints Register

Table 9: Complaints.

Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date by which measure will be implemented
None					

Table 10: Total volatile compound estimates.

Eskom

CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*

Date:	Wednesday, 23 December 2020
Station:	Matimba Power Station
Province:	Limpopo Province
Tank no.	1-4
Description:	Outdoor fuel oil storage tank
Tank Type:	Vertical fixed roof (vented to atmosphere)
Material stored:	Fuel Oil 150

MONTHLY INPUT DATA FOR THE STATION

Please only insert relevant monthly data inputs into the *blue cells* below

Choose from a dropdown menu in the *green cells*

The total VOC emissions for the month are in the *red cells*

IMPORTANT: Do not change ***any*** other cells without consulting the AQ CoE

MONTH:	**November**	
GENERAL INFORMATION:	**Data**	**Unit**
Total number of fuel oil tanks:	4	NA
Height of tank:	13,34	m
Diameter of tank:	9,53	m
Net fuel oil throughput for the month:	***385,880***	tons/month
Molecular weight of the fuel oil:	166,00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH	**Data**	**Unit**
Daily average ambient temperature	26,22	°C
Daily maximum ambient temperature	32,63	°C
Daily minimum ambient temperature	20,19	°C
Daily ambient temperature range	12,44	°C
Daily total insolation factor	6,14	kWh/m²/day
Tank paint colour	***Grey/medium***	NA
Tank paint solar absorbtance	0,68	NA
FINAL OUTPUT:	**Result**	**Unit**
Breathing losses:	0,59	kg/month
Working losses:	0,01	kg/month
TOTAL LOSSES (Total TVOC Emissions for the month):	**0,60**	**kg/month**

*Calculations performed on this spreadsheet are taken from the USEPA AP-42- Section 7.1 Organic Liquid Storage Tanks - January 1996. This spreadsheet is derived from materials provided by Jimmy Peress, PE, Tritech Consulting Engineers, 85-93 Chevy Chase Street, Jamaica, NY 11432 USA, Tel - 718-454-3920, Fax - 718-454-6330, e-mail - PeressJ@nyc.rr.com.

Table 11: Average % availability of monitors for the month of November 2020.

Associated Unit/Stack	PM	SO_2	NO	CO_2
Unit 1	*100,0*	*100,0*	*100,0*	*100,0*
Unit 2	*96,2*	*50,0*	*49,6*	*50,0*
Unit 3	*100,0*	*99,8*	*99,8*	*99,8*
Unit 4				
Unit 5	*99,3*	*99,1*	*99,1*	*97,0*
Unit 6	*100,0*	*100,0*	*100,0*	*100,0*

Ambient Air quality Monitoring

One exceedance of the $PM_{2.5}$ daily limit was noted. No other parameters exceeded the set limits during the monitoring period.

Ambient CO and NO2 concentrations at Marapong monitoring site show influence of emissions from low level sources in the area while ambient SO2, PM10 and PM2.5 concentrations show influence of emissions from low level sources, tall stack emitters and other industrial activities.

The average data recovery for the period was 89.5% and the station availability was 96.1%.

Detailed results can be found in Attachment 1, “Marapong air quality monthly report for November 2020”.

General

Name and reference number of the monitoring method used:

1. Particulate and gas monitoring according to standards
    a. BS EN 14181:2004 - Quality Assurance of Automated Measuring Systems
    b. ESKOM internal standard 240-56242363 Emissions Monitoring and Reporting Standard

Sampling locations:

1. Stack one
    a. Particulates:
        i. S23^0 40' 2.8" E027^0 36' 34.8" 175m from ground level and 75m from the top.
    b. Gas:
        i. S23^0 40' 2.8" E027^0 36' 34.8" 100m from ground level and 150m from the top.
    c. Stack height
        i. 250 meter consist of 3 flues
2. Stack two
    a. Particulates:
        i. S23^0 40' 14.8" E027^0 36' 47.5" 175m from ground level and 75m from the top.
    b. Gas:
        i. S23^0 40' 14.8" E027^0 36' 47.5" 100m from ground level and 150m from the top.
    c. Stack height
        i. 250 meter consist of 3 flues

Unit 1

1. 0 out of 32 precipitator fields is out of service.
2. No abnormalities on the SO_3 plant. Preventative maintenance done during the month.

Unit 2

1. Unit returned to service, all fields repaired.
2. SO3 plant still off due to spare unavailability.

Unit 3

1. 2 out of 32 precipitator fields is out of service. Repairs will be done during the next opportunity outage.
2. No abnormalities on the SO3 plant. Preventative maintenance done during the month.

Unit 4

1. All precipitator fields in service.
2. No abnormalities on the SO3 plant. Preventative maintenance done during the month.

Unit 5

1. All precipitator fields in service.
2. No abnormalities on the SO_3 plant. Preventative maintenance done during the month.

Unit 6

1. 3 out of 32 precipitator fields is out of service. Repairs will be done during the next opportunity outage.
2. No abnormalities on the SO_3 plant. Preventative maintenance done during the month.

SO3 common plant

1. No abnormalities on the sulphur storage plant.

CEMs

1. New QAL 2 factors implemented from QAL2 test. Calibration is done every second week.

Particulate monitors

2. New correlation curves implemented. No downtime or repairs done on the particulate monitors.

Air quality improvements

1. None

Social responsibility conducted

No campaigns conducted in November 2020

Sampling dates and times

1. Continuous

Attachments

Monthly ambient air quality report

The rest of the information demonstrating compliance with the emission license conditions is supplied in the annual emission report sent to your office.

Hoping the above will meet your satisfaction.

I hereby declare that the information in this report is correct.

Yours sincerely

Obakeng Mabotja

GENERAL MANAGER: MATIMBA POWER STATION