Eskom	Technical and Generic Report	Matimba Power Station

Title:	**Matimba Power Station April 2024 emissions report**	Document Identifier:	**RP/247/046**
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		Functional Area Applicability:	**Environment**
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Date: 10.07.2024	Date: 15.07.2024	Date: 15/07/2024	Date: 2024/07/15

Content

Figures

1. Report Summary

Matimba Power Station was issued with an Atmospheric Emission License (H16/1/13-WDM05) in September 2022. The License requires the license holder to submit monthly reports to the Department. This report contains the required information as specified in the license for April 2024.The information recorded in the report is obtained from Matimba Emission Reporting tool V02.2024VF.

During the period under review, Matimba experienced sixty (60) exceedances of the daily particulate matter emission limit (50mg/Nm3), thirty-nine (39) of these exceedances occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence and twenty-one (21) exceedances occurred within the 48-hour grace period.

There was one exceedance for monthly SOx limit (3500mg/Nm3) on the 07th of April 2024 which is still under investigation. No exceedance for daily NOx emission limit (750mg/Nm3) occurred.

Flue gas conditioning plant availability was below the required 100% for all the units due to unplanned breakdowns and defects. Defects were addressed and plants returned to service. Unit 1, unit 2 and unit 4 SO3 plant was constantly on hold for the month of April 2024.

More information regarding above mentioned issues is provided in the relevant sections within the report.

2. Emission information

2.1 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	916653
	Fuel Oil	Tons/month	1 200	3725.287
Production Rates	**Product/ By-Product Name**	**Unit**	**Maximum Production Capacity Permitted (Quantity)**	**Production Rate**
	Energy	MW	4000	1081.063

The consumption rates for fuel oil for the month of April 2024 exceeded the permitted maximum limit due to multiple units light ups and mill support.

2.2 Abatement technology

Table 2: Abatement Equipment Control Technology Utilised

Associated Unit	Technology Type	Minimum utilisation (%)	Efficiency (%)
Unit 1	Electrostatic Precipitator	100%	99.999%
Unit 2	Electrostatic Precipitator	100%	99.998%
Unit 3	Electrostatic Precipitator	100%	99.999%
Unit 4	Electrostatic Precipitator	100%	99.995%
Unit 5	Electrostatic Precipitator	100%	99.999%
Unit 6	Electrostatic Precipitator	100%	99.998%
Associated Unit	**Technology Type**	**Minimum utilisation (%)**	**Actual Utilisation (%)**
Unit 1	SO_3 Plant	100%	73%
Unit 2	SO_3 Plant	100%	74%
Unit 3	SO_3 Plant	100%	98%
Unit 4	SO_3 Plant	100%	77%
Unit 5	SO_3 Plant	100%	81%
Unit 6	SO_3 Plant	100%	97%

Table 3: Energy Source Material Characteristics.

	Characteristic	Stipulated Range (Unit)	Monthly Average Content
Coal burned	**Sulphur Content**	1.6%	1.16%
	Ash Content	40%	35.70%

Energy source characteristics remained within the ranges stipulated in the license.

2.3 Emissions reporting

Particulate Matter Emissions

The emission monitors Correlation spot test were performed in August 2023 and the results were applied and used for gaseous emissions calculation for April 2024.The spot test results for PM emissions does not meet the minimum requirements outlined in the Eskom emission calculation Methodology and were not applied.

Unit 1 Particulate Emissions

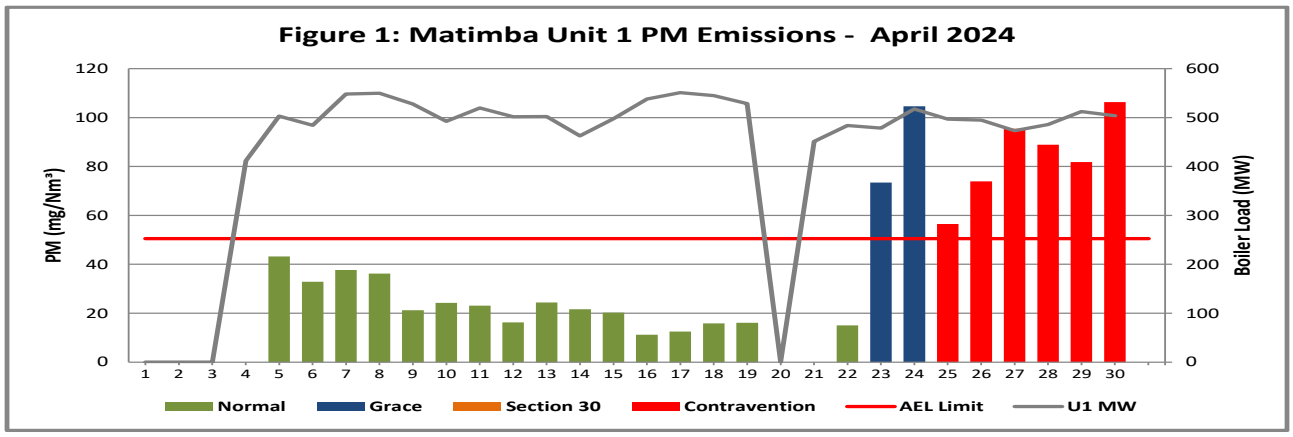

Figure 1: Particulate matter daily average emissions against emission limit for unit 1 for the month of April 2024

Interpretation:

Unit 1 exceeded the daily particulate emission limit of 50mg/Nm3 on 23 to 30 April 2024. The exceedances from 25 to 30 April 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence. The exceedances were due to unavailability of the ash conveyance system that led to ash accumulation on the dust handling plants leading to high hopper levels within the flue gas cleaning system and reducing the efficiency of the abatement technology (electrostatic precipitator fields).

Unit 2 Particulate Emissions

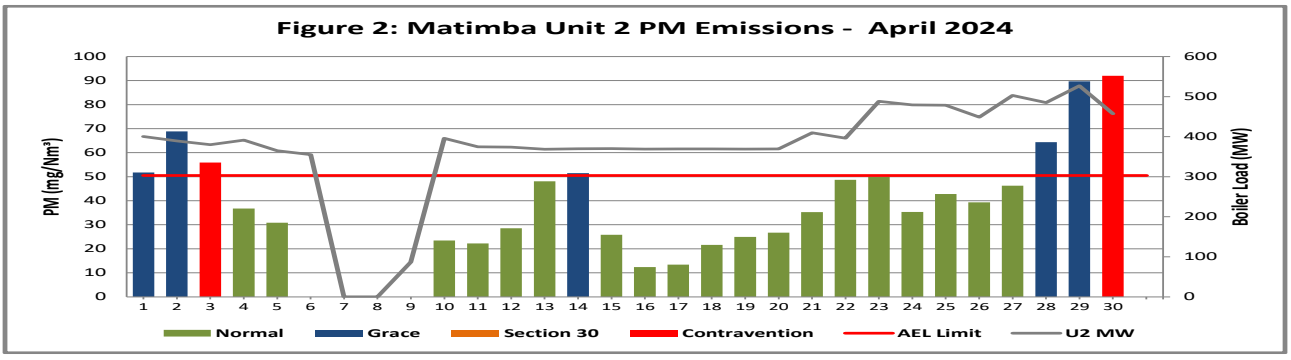

Figure 2: Particulate matter daily average emissions against emission limit for unit 2 for the month of April 2024

Interpretation:

Unit 2 exceeded the daily particulate emission limit of 50mg/Nm3 on 1 to 3,14 and 28 to 30 April 2024. The exceedances from 3 and 30 April 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence. The exceedances were due to unavailability of the ash conveyance system that led to ash accumulation on the dust handling plants leading to high hopper levels within the flue gas cleaning system and reducing the efficiency of the abatement technology (electrostatic precipitator fields).

Unit 3 Particulate Emissions

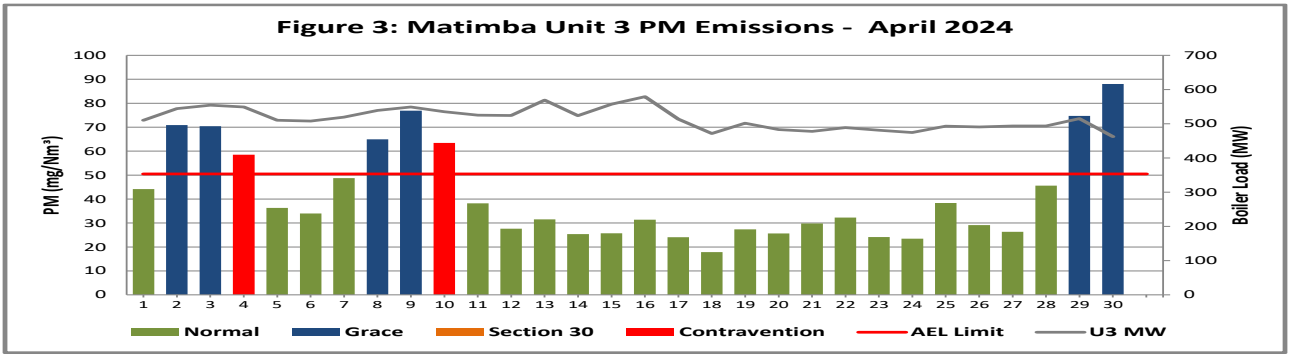

Figure 3: Particulate matter daily average emissions against emission limit for unit 3 for the month of April 2024

Interpretation:

Unit 3 exceeded the daily particulate emission limit of 50mg/Nm3 on 2 to 4, 8 to 10, 29 and 30 April 2024. The exceedances from 4 and 10 April 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence. The exceedances were due to unavailability of the ash conveyance system that led to ash accumulation on the dust handling plants leading to high hopper levels within the flue gas cleaning system and reducing the efficiency of the abatement technology (electrostatic precipitator fields).

Unit 4 Particulate Emissions

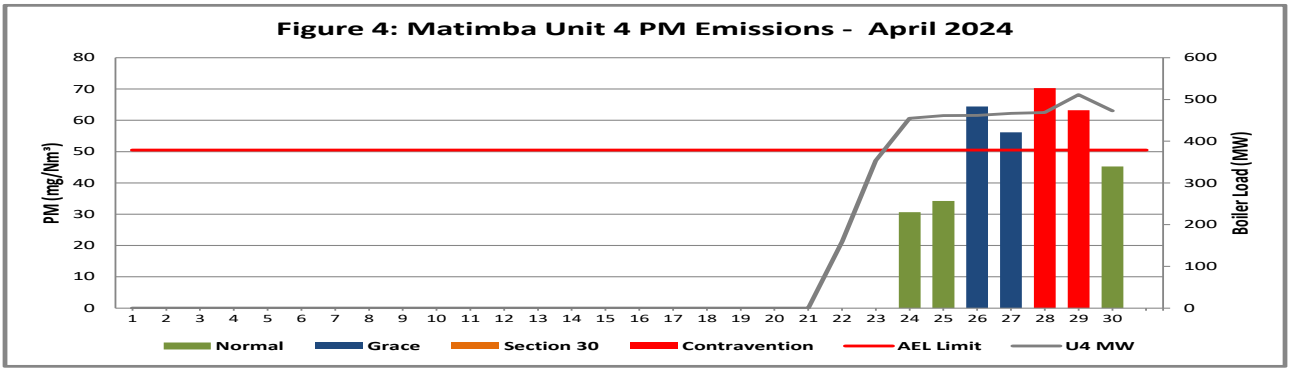

Figure 4: Particulate matter daily average emissions against emission limit for unit 4 for the month of April 2024

Interpretation:

Unit 3 exceeded the daily particulate emission limit of 50mg/Nm3 on 26 to 29 April 2024. The exceedances from 28 and 29 April 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence. The exceedances were due to unavailability of the ash conveyance system that led to ash accumulation on the dust handling plants leading to high hopper levels within the flue gas cleaning system and reducing the efficiency of the abatement technology (electrostatic precipitator fields).

Unit 5 Particulate Emissions

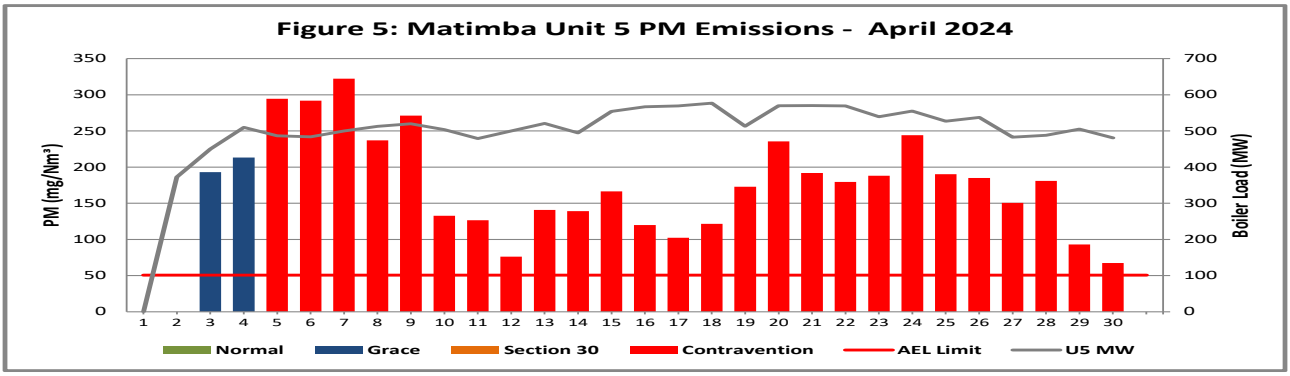

Figure 5: Particulate matter daily average emissions against emission limit for unit 5 for the month of April 2024

Interpretation:

Unit 5 Particulate matter exceeded the daily limit of 50 mg/Nm^3 on 3 to 30 April 2024. Exceedances from 5 to 30 April 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence. The exceedances were due to defects on the dust handling plants leading to high hopper levels within the flue gas cleaning system and reducing the efficiency of the abatement technology (electrostatic precipitator fields). The investigation into the causes of the exceedances were done and corrective measure put in place to correct the root causes.

Unit 6 Particulate Emissions

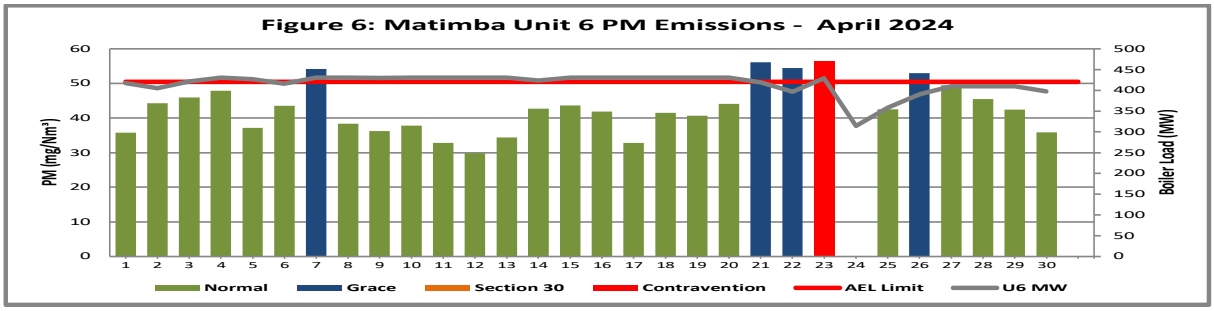

Figure 6: Particulate matter daily average emissions against emission limit for unit 6 for the month of April 2024

Interpretation:

Unit 6 Particulate matter exceeded the daily limit of 50 mg/Nm^3 on 7, 21 to 23 and 26 April 2024. The exceedances on 23 April 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence. The exceedances were due to defects on the dust handling plants leading to high hopper levels within the flue gas cleaning system and reducing the efficiency of the abatement technology (electrostatic precipitator fields). The investigation into the causes of the exceedances were done and corrective measure put in place to correct the root causes.

Gaseous Emissions

Gaseous emissions analyzers calibration for all 6 units were performed in April 2024 as per the Eskom emission standard requirements.

The quality assurance spot tests were performed on the monitors in August 2023 and the test results are used for the April 2024 emission calculation.

Unit 1 SO_2 Emissions

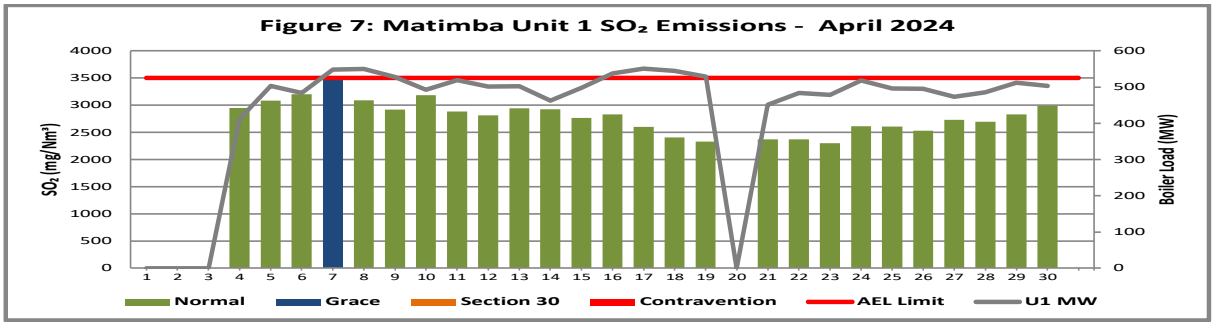

Figure 7: SO2 daily average emissions against emission limit for unit 1 for the month of April 2024

Interpretation:

The exceedance on 07 April 2024 occurred within the 48-hour grace period. The cause of the exceedances is still under investigation.

Unit 2 SO_2 Emissions

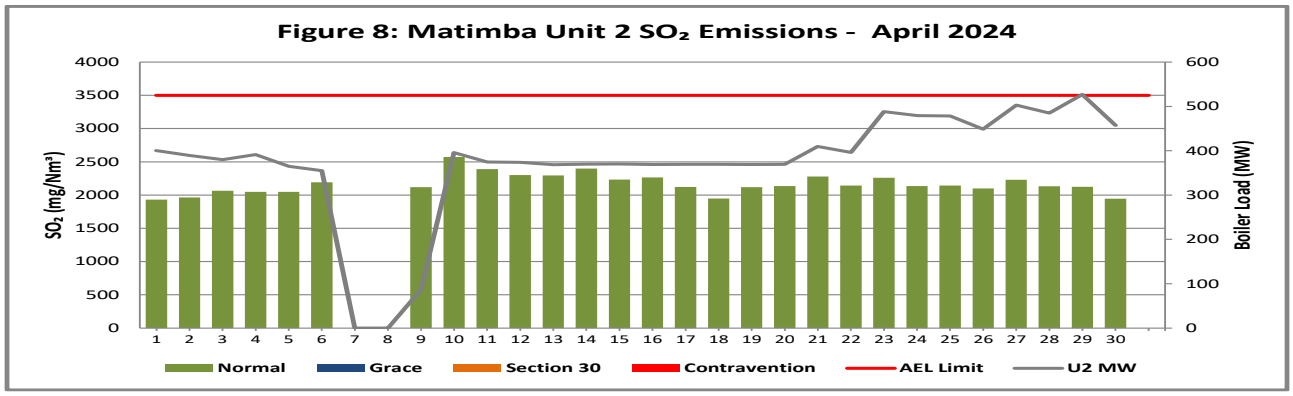

Figure 8: SO2 daily average emissions against emission limit for unit 2 for the month of April 2024

Interpretation:

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

Unit 3 SO_2 Emissions

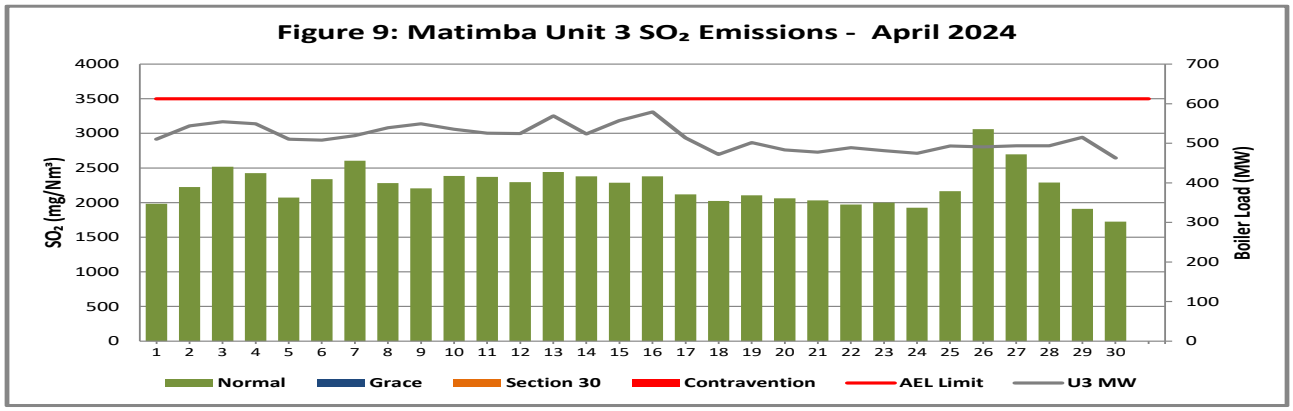

Figure 9: SO2 daily average emissions against emission limit for unit 3 for the month of April 2024

Interpretation:

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

Unit 4 SO_2 Emissions

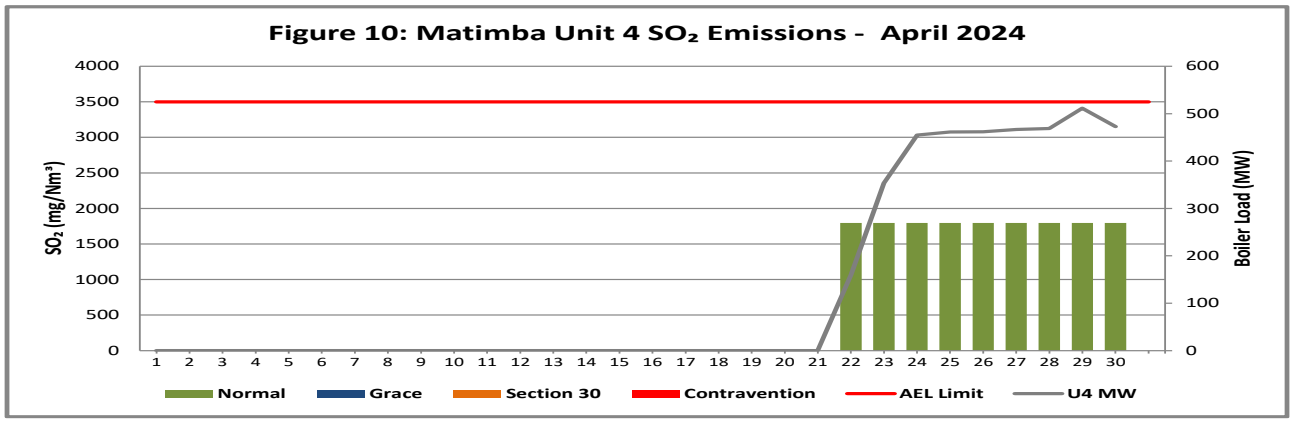

Figure 10: SO2 daily average emissions against emission limit for unit 3 for the month of April 2024

Interpretation:

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

Unit 5 SO_2 Emissions

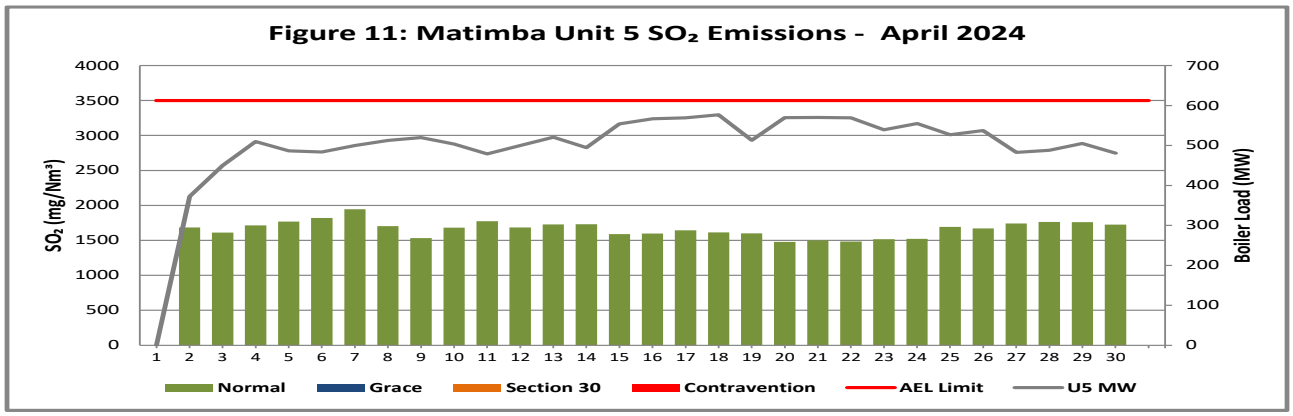

Figure 11: SO2 daily average emissions against emission limit for unit 5 for the month of April 2024

Interpretation:

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

Unit 6 SO_2 Emissions

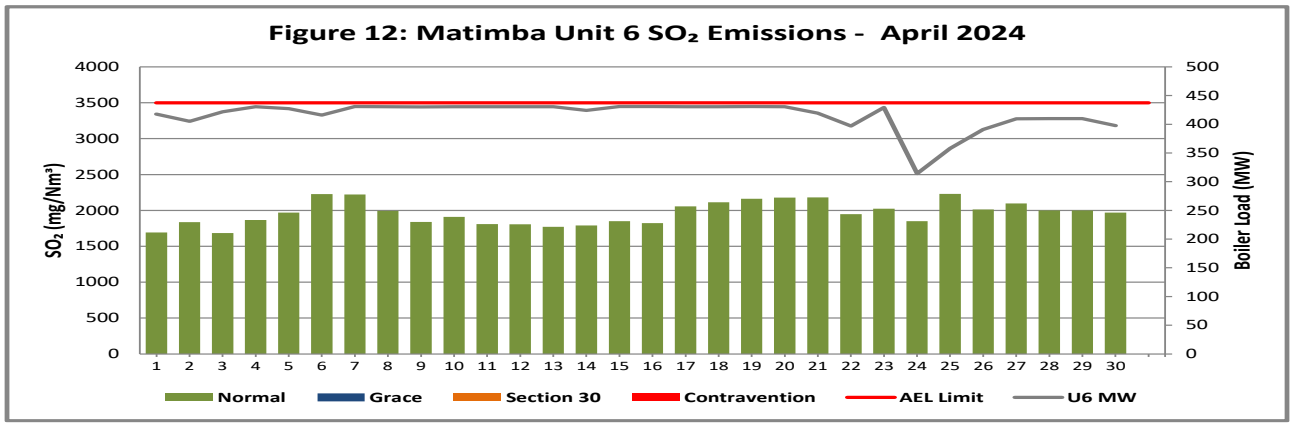

Figure 12: SO2 daily average emissions against emission limit for unit 6 for the month of April 2024

Interpretation:

All daily averages remained below SO_2 emission monthly limit of 3500 mg/Nm^3.

Unit 1 NO_x Emissions

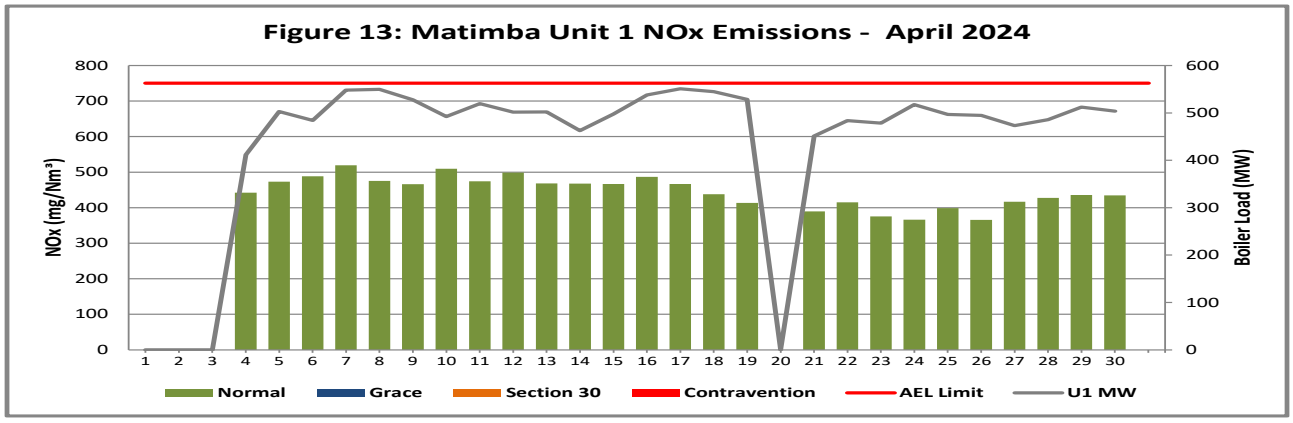

Figure 13: NOx daily average emissions against emission limit for unit 1 for the month of April 2024

Interpretation:

All daily averages below NOx emission limit of 750 mg/Nm^3.

Unit 2 NO_x Emissions

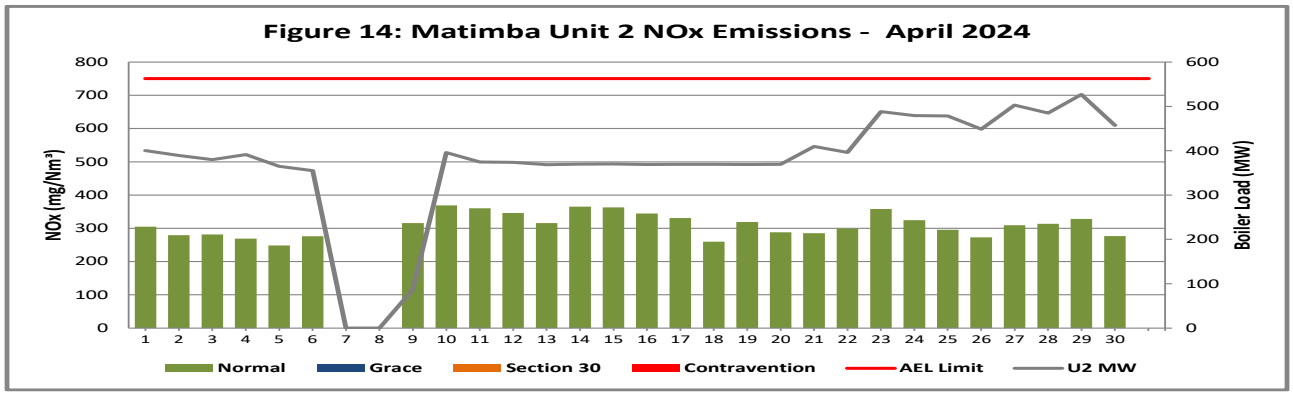

Figure 14: NOx daily average emissions against emission limit for unit 2 for the month of April 2024

Interpretation:

All daily averages below NOx emission limit of 750 mg/Nm^3.

Unit 3 NO_x Emissions

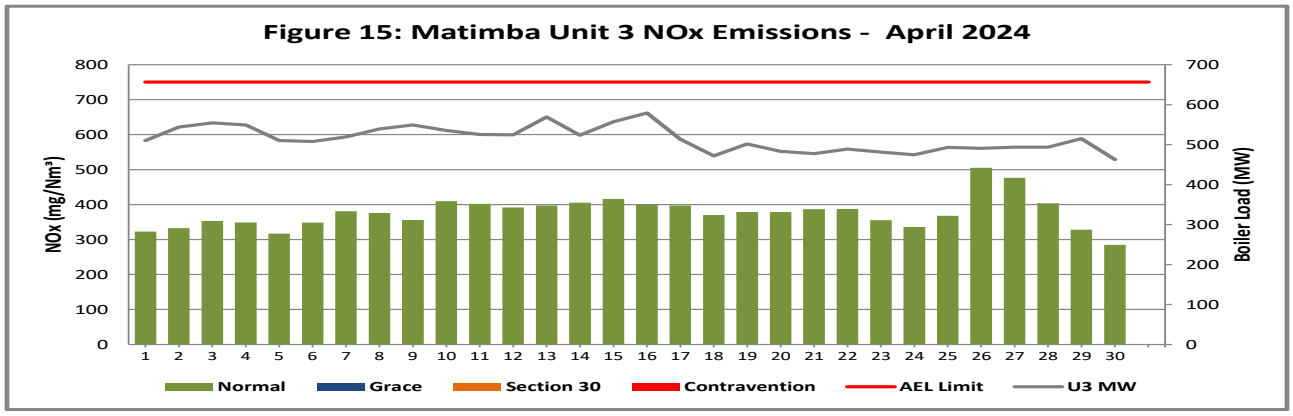

Figure 15: NOx daily average emissions against emission limit for unit 3 for the month of April 2024

Interpretation:

All daily averages below NOx emission limit of 750 mg/Nm^3.

Unit 4 NO_x Emissions

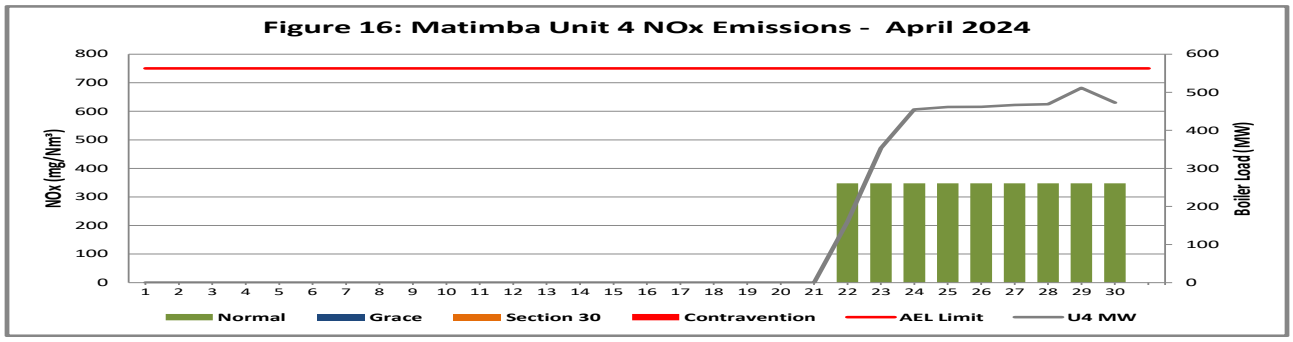

Figure 16: NOx daily average emissions against emission limit for unit 4 for the month of April 2024

Interpretation:

All daily averages below NOx emission limit of 750 mg/Nm^3.

Unit 5 NO_x Emissions

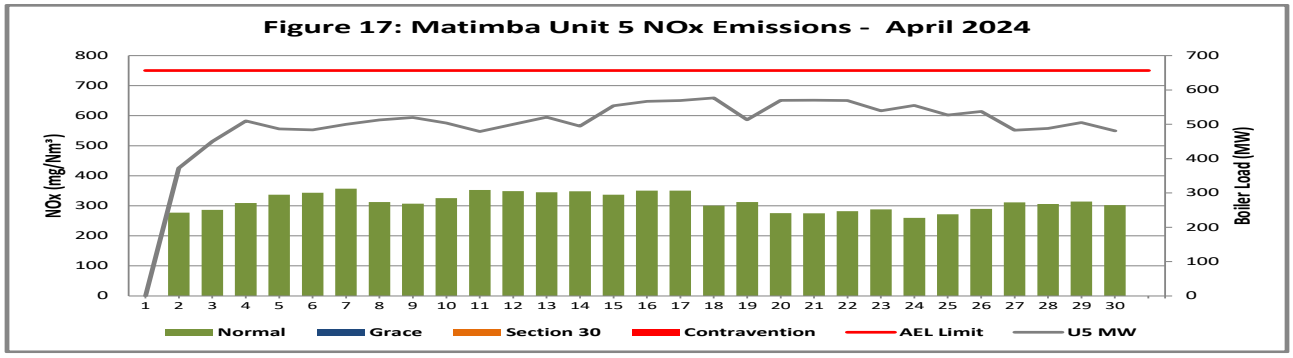

Figure 17: NOx daily average emissions against emission limit for unit 5 for the month of April 2024

Interpretation:

All daily averages below NOx emission limit of 750 mg/Nm^3.

Unit 6 NO_x Emissions

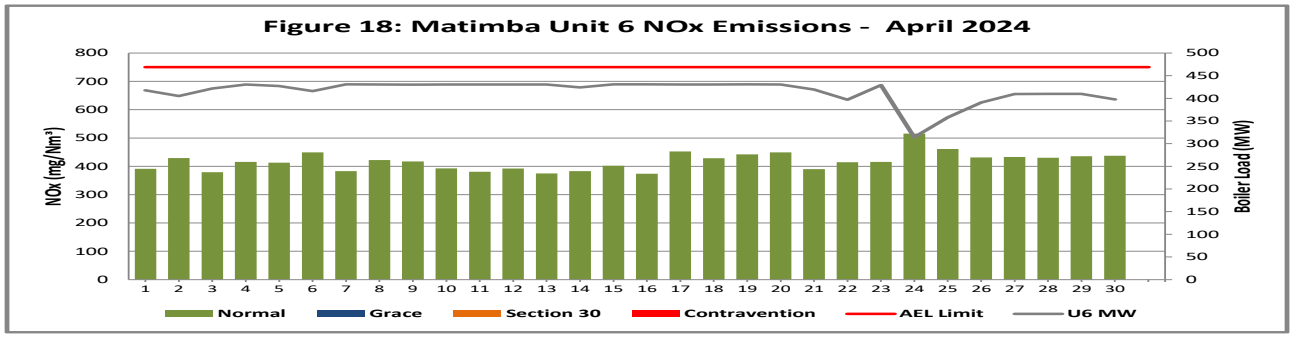

Figure 18: NOx daily average emissions against emission limit for unit 6 for the month of April 2024

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

Total Volatile Organic Compounds

Table 4: Total volatile compound estimates

CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*			
Date:	Tuesday, 07 May 2024		
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:	**April**		
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:		***3725.287***	
Molecular weight of the fuel oil:		166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH		**Data**	**Unit**
Daily average ambient temperature		20.60	°C
Daily maximum ambient temperature		27.37	°C
Daily minimum ambient temperature		13.11	°C
Daily ambient temperature range		10.46	°C
Daily total insolation factor		3.84	kWh/m²/day
Tank paint colour		***Grey/medium***	NA
Tank paint solar absorbtance		0.68	NA
FINAL OUTPUT:		**Result**	**Unit**
Breathing losses:		0.48	kg/month
Working losses:		0.11	kg/month
TOTAL LOSSES (Total TVOC Emissions for the month):		**0.59**	**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.			

Greenhouse gas (CO_2) emissions

CO_2 emissions are reported in terms of the Greenhouse gas reporting regulations (GN 43712, GNR. 994/2020) and are not included in the monthly AEL compliance report.

2.4 Daily power generated.

Table 5: Daily power generated per unit in MWh for the month of April 2024

Date	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
2024/04/01	Unit Off	8707.98	10931.5	Unit Off	Unit Off	8999.86
2024/04/02	Unit Off	8446.26	11704.3	Unit Off	7519.04	8694.04
2024/04/03	Unit Off	8234.84	11936.3	Unit Off	9695.54	9054.94
2024/04/04	3884.01	8477.74	11835.3	Unit Off	11047.2	9268.9
2024/04/05	10979.9	6727.6	10946	Unit Off	10533.8	9195.84
2024/04/06	10541	4440.43	10900.5	Unit Off	10468.8	8928.69
2024/04/07	11974.6	Unit Off	11180.4	Unit Off	10803.4	9267.59
2024/04/08	12021.1	Unit Off	11590.4	Unit Off	11079.6	9261.57
2024/04/09	11526.2	Unit Off	11838.7	Unit Off	11242.7	9258.86
2024/04/10	10733.8	8539.17	11528.3	Unit Off	10890.5	9250.63
2024/04/11	11330.4	8097.26	11306	Unit Off	10316.7	9278.02
2024/04/12	10926.2	8109.68	11266.7	Unit Off	10777.3	9289.11
2024/04/13	10999.4	7999.71	12280.6	Unit Off	11264.1	9289.18
2024/04/14	10081.9	8004.13	11293.1	Unit Off	10681.3	9136.04
2024/04/15	10803.7	8016.37	11983.9	Unit Off	11942.9	9288.52
2024/04/16	11742.8	8009.56	12488.9	Unit Off	12243.3	9293.02
2024/04/17	12053.8	8018.28	11043.5	Unit Off	12299.4	9283.62
2024/04/18	11879.4	8006.09	10083.6	Unit Off	12458.8	9281.88
2024/04/19	10080.5	7966.48	10705	Unit Off	11078.1	9282.45
2024/04/20	Unit Off	7975.56	10360.7	Unit Off	12315.7	9264.41
2024/04/21	7011.75	8882	10186.7	Unit Off	12327	9028.4
2024/04/22	10517.6	8542.5	10402.7	369.339	12284.4	8471.84
2024/04/23	10379.3	10625.9	10268.4	6983.87	11629.1	6824.19
2024/04/24	11323	10421.6	10123.3	9900.31	11987	3994.55
2024/04/25	10834.4	10418	10520.5	10051.8	11369.6	7605.32
2024/04/26	10772.2	9761.4	10528.2	10036.3	11599	8361.83
2024/04/27	10355.8	10979.2	10598.3	10181.1	10425.1	8793.99
2024/04/28	10617.9	10588.4	10575.8	10255.7	10515.7	8800.16
2024/04/29	11194.1	11510.7	11022.7	11160.8	10889.4	8796.25
2024/04/30	11046.1	9941.34	9903.43	5737.33	10357.7	8514.17

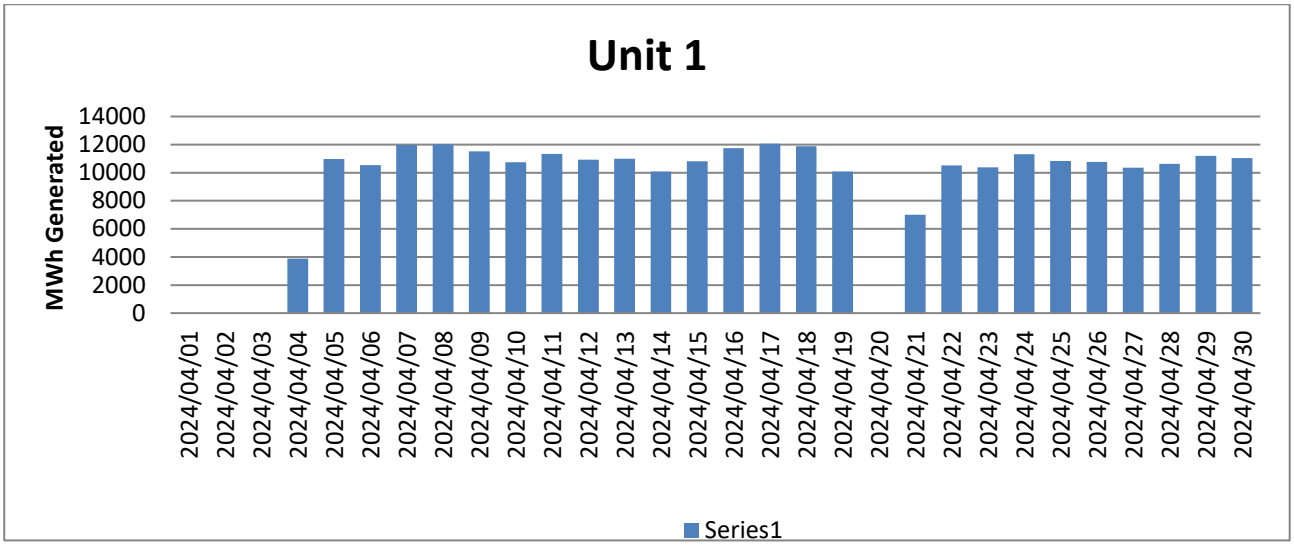

Figure 19: Unit 1 daily generated power in MWh for the month of April 2024

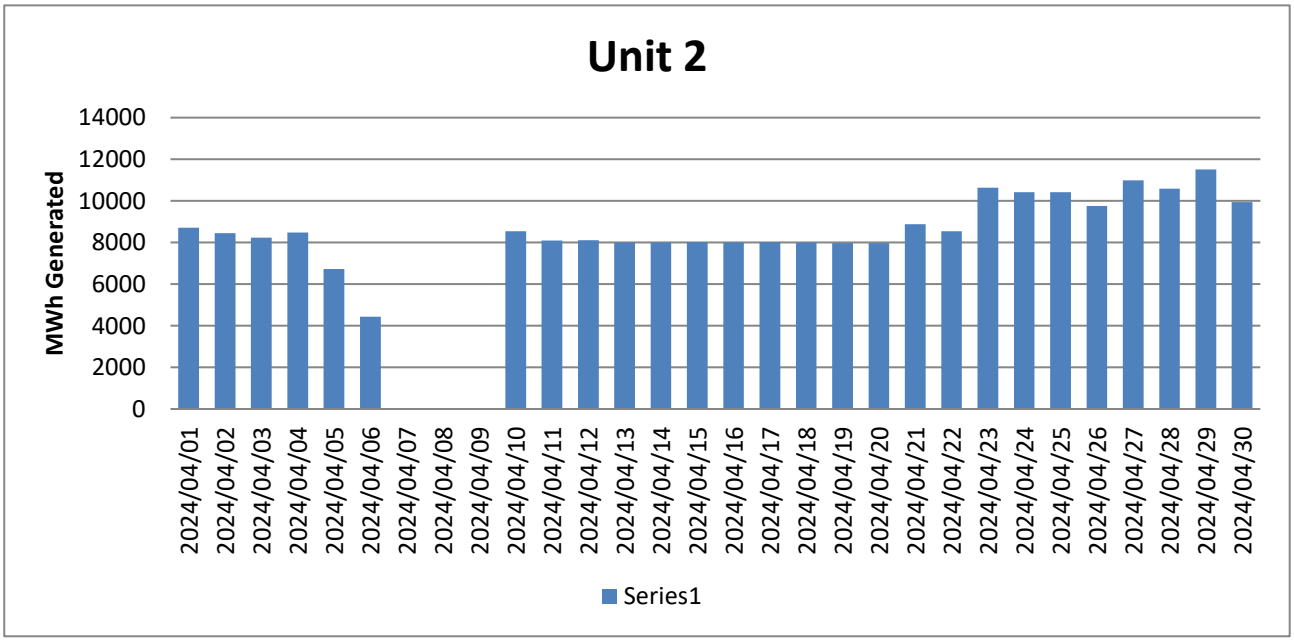

Figure 20: Unit 2 daily generated power in MWh for the month of April 2024

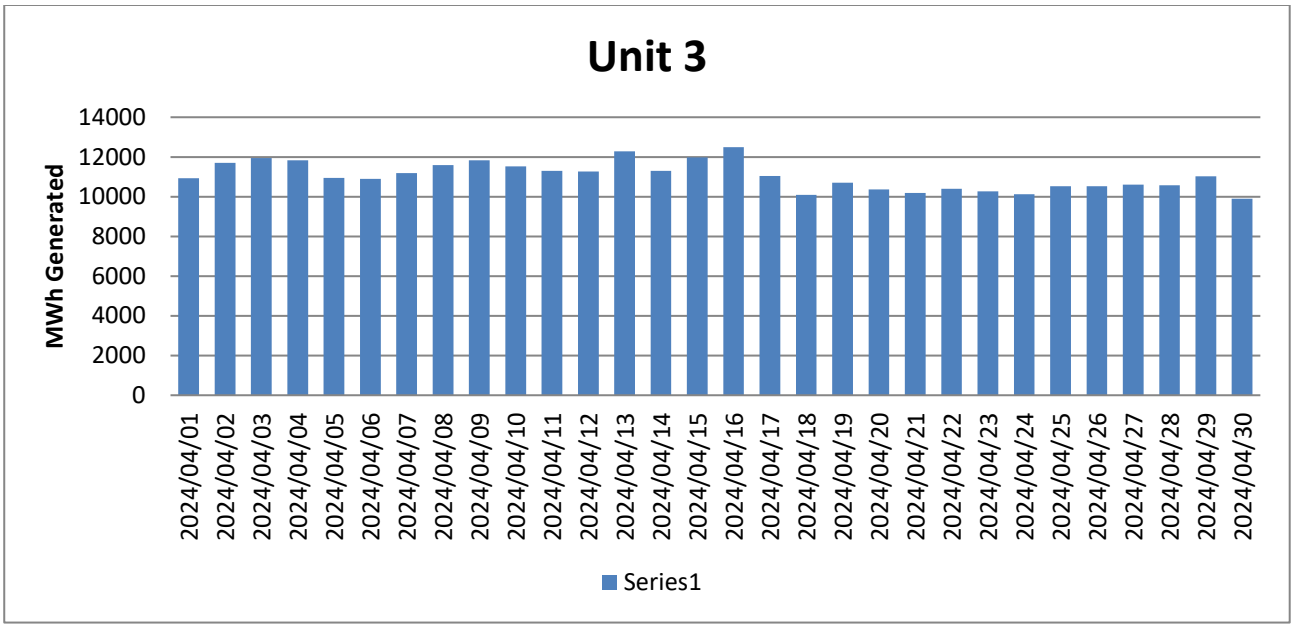

Figure 21: Unit 3 daily generated power in MWh for the month of April 2024

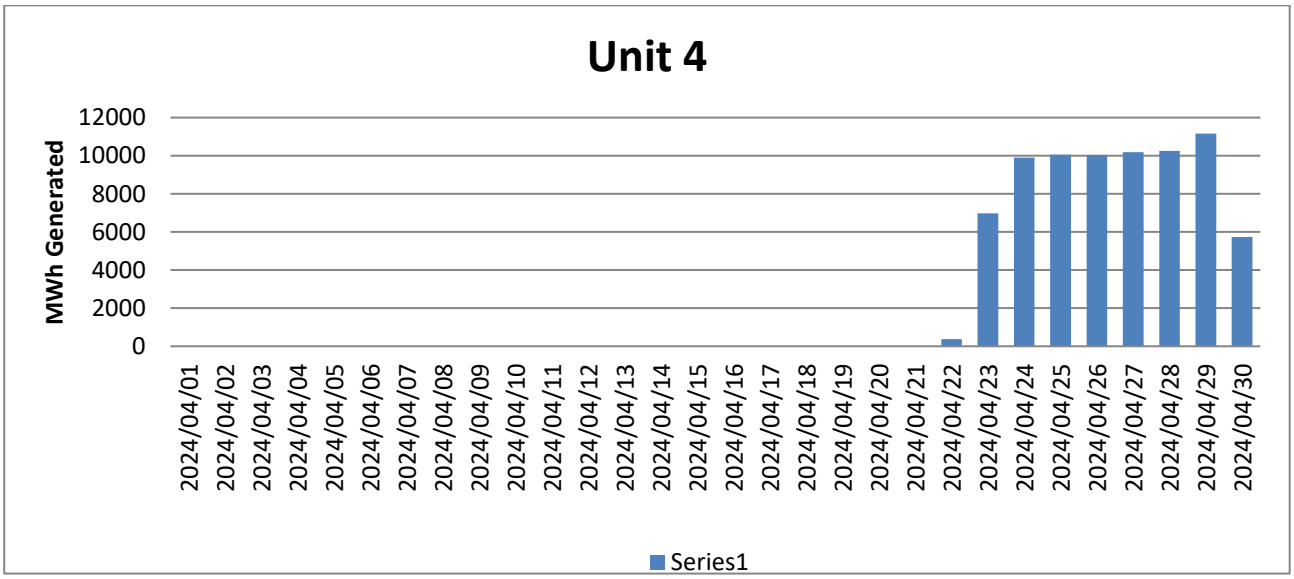

Figure 22: Unit 4 daily generated power in MWh for the month of April 2024

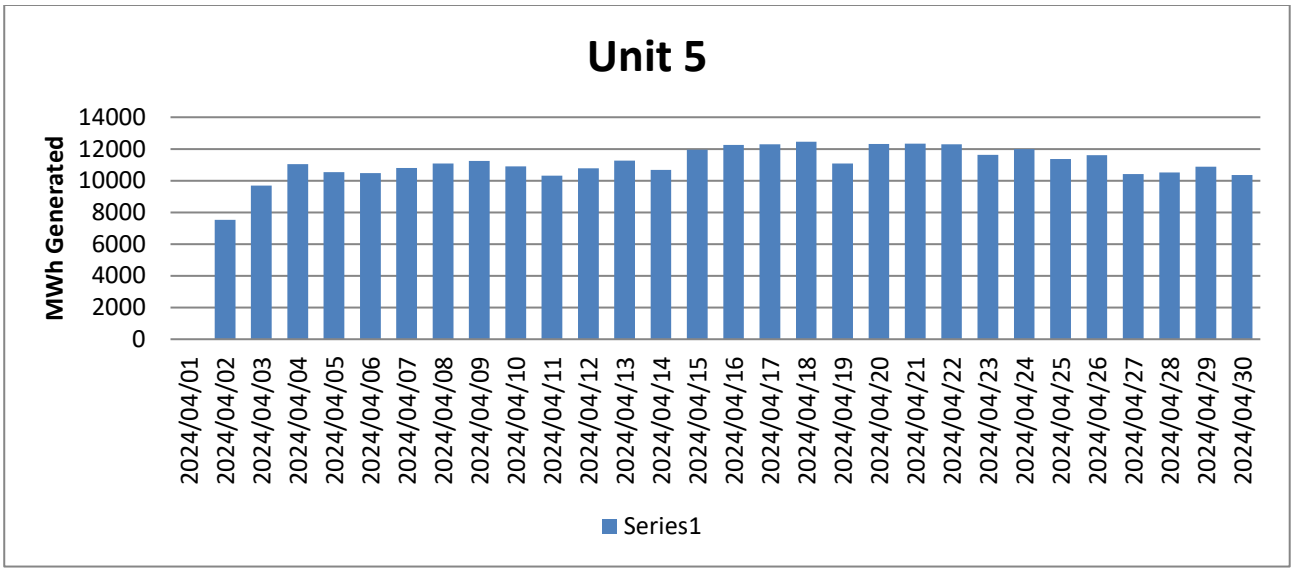

Figure 23: Unit 5 daily generated power in MWh for the month of April 2024

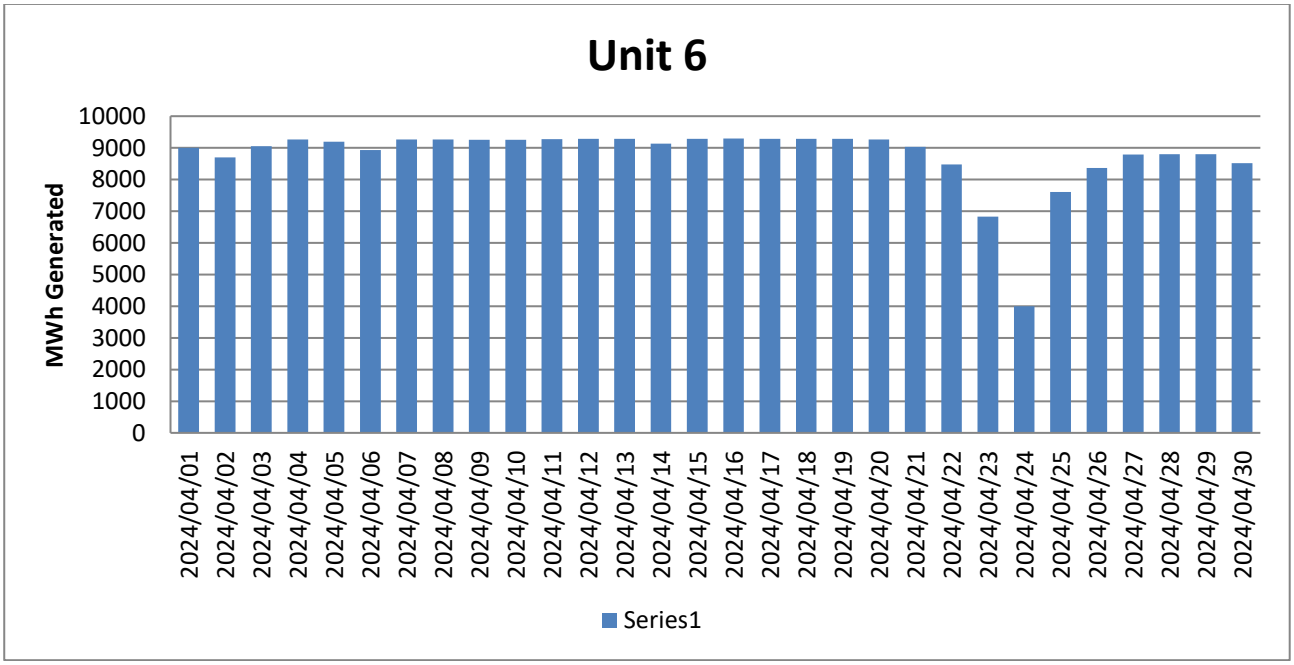

Figure 24: Unit 6 daily generated power in MWh for the month of April 2024

2.5 Pollutant Tonnages

The emitted pollutant tonnages for April 2024 are provided in table 6.

Table 6: Pollutant tonnages for the month of April 2024

Associated Unit/Stack	PM (tons)	SO_2 (tons)	NO_x (tons)
Unit 1	79.2	5 327.5	853.6
Unit 2	64.4	3 339.5	479.4
Unit 3	97.2	5 115.1	858.3
Unit 4	18.7	789.8	153.1
Unit 5	357.3	3 399.6	639.9
Unit 6	57.4	2 719.0	575.7
SUM	674.3	20 690.5	3 560.0

2.6 Operating days in compliance to PM AEL Limit

Table 7: Operating days in compliance with PM AEL limit of April 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm^3)
Unit 1	16	2	0	6	8	43.8
Unit 2	19	5	0	2	7	41.8
Unit 3	22	6	0	2	8	41.8
Unit 4	3	2	0	2	4	52.0
Unit 5	0	2	0	26	28	179.5
Unit 6	24	4	0	1	5	42.8
SUM	**84**	**21**	**0**	**39**	**60**	

2.7 Operating days in compliance to SOx AEL Limit

Table 8: Operating days in compliance with SOx AEL limit of April 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm^3)
Unit 1	25	1	0	0	1	2 787.9
Unit 2	28	0	0	0	0	2 165.6
Unit 3	30	0	0	0	0	2 242.9
Unit 4	9	0	0	0	0	1 795.5
Unit 5	29	0	0	0	0	1 664.4
Unit 6	30	0	0	0	0	1 964.0
SUM	**151**	**1**	**0**	**0**	**1**	

2.8 Operating days in compliance to NOx AEL Limit

Table 9: Operating days in compliance with NOx AEL limit of April 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	26	0	0	0	0	445.4
Unit 2	28	0	0	0	0	310.7
Unit 3	30	0	0	0	0	377.1
Unit 4	9	0	0	0	0	347.9
Unit 5	29	0	0	0	0	313.0
Unit 6	30	0	0	0	0	417.9
SUM	**152**	**0**	**0**	**0**	**0**	

2.9 Reference values

Table 10: Reference values for data provided, April 2024

Compound / Parameter	Units of Measure	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Oxygen	%	6.35	7.44	6.57	8.65	7.06	11.01
Moisture	%	4.13	3.75	3.94	2.98	4.04	2.02
Velocity	m/s	26.2	21.0	26.7	21.1	23.5	25.4
Temperature	^{o}C	132.3	123.7	128.6	108.4	120.1	161.5
Pressure	mBar	918.3	924.0	917.1	964.3	983.3	914.4

2.10 Continuous Emission Monitors

2.10.1 Reliability

Continuous emission monitors were available for more than 80% of the reporting period except for unit 4 gas monitors due unit start up. The emitted pollutant tonnages for April 2024 are provided in table 6.

Table 11: Average percentage (%) availability of monitors for the month of April 2024.

Associated Unit/Stack	PM	SO_2	NO
Unit 1	*100.0*	*99.8*	*99.8*
Unit 2	*99.7*	*99.9*	*99.9*
Unit 3	*100.0*	*99.7*	*99.7*
Unit 4	*100.0*	*6.4*	*6.4*
Unit 5	*87.7*	*100.0*	*100.0*
Unit 6	*100.0*	*97.9*	*97.9*

2.10.2 Changes, downtime, and repairs

Unit 1

- No adjustments done on the CEMs.
- No downtime or repairs done on the particulate monitors

Unit 2

- No adjustments done on the CEMs.
- No downtime or repairs done on the particulate monitors

Unit 3

- No adjustments done on the CEMs.
- No downtime or repairs done on the particulate monitors

Unit 4

- Returned to service from outage.

Unit 5

- No adjustments done on the CEMs.
- No downtime or repairs done on the particulate monitors

Unit 6

- No adjustments done on the CEMs.
- No downtime or repairs done on the particulate monitors

2.10.3 Sampling dates and times

Table 12: Dates of last full conducted CEMS verification tests for PM for unit 4 and 6 only

Name of service provider:		Stacklabs Environmental Services CC		
Address of service provider:		10 Chisel Street Boltonia Krugersdorp 1739		
Stack/ Unit	**PM**	**SO_2**	**NOx**	**CO_2**
1	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13
2	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13
3	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13
4	2021/07/13 14h31	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13
5	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13
6	2020/09/09 06h41	New sampling tests in table 13	New sampling tests in table 13	New sampling tests in table 13

Note: The CEMS verification tests for PM, SO_2 and NOx were performed in October 2022 and failed. The spot tests were done in August 2023.

Table 13: Dates of last conducted CEMS Spot verification tests for PM, SO_2 and NOx (without unit 4 and 6 PMs)

Name of service provider:		Levego Environmental services		
Address of service provider:		Building R6 Pineland site Ardeer Road Modderfontein 1645		
Stack/ Unit	**PM**	**SO_2**	**NOx**	**CO_2**
1	2023/08/01 19h33	2023/08/01 19:33	2023/08/01 19:33	2023/08/01 19:33
2	2023/07/29 21:17	2023/07/29 21:17	2023/07/29 21:17	2023/07/29 21:17
3	2023/08/06 03:00	2023/08/06 03:00	2023/08/06 03:00	2023/08/06 03:00
4	Dates in table 12 above	2023/08/04 19:39	2023/08/04 19:39	2023/08/04 19:39
5	2023/08/05 07:30	2023/08/05 07:30	2023/08/05 07:30	2023/08/05 07:30
6	Dates in table 12 above	2023/08/05 15:52	2023/08/05 15:52	2023/08/05 15:52

Note: The CEMS Spot verification tests for PM, SO_2 and NOx were performed in August 2023. PM spot verification test results for units 4 and 6 failed and old curves are still in use.

2.11 Units Start-up information

Table 14: Start-up information

Unit	1	
Fires in	2024/04/04	08h12
Synchronization with Grid	2024/04/04	12h43
Emissions below limit	2024/04/04	19h00
Fires in, to synchronization	4.31	HOURS
Synchronization to < Emission limit	6.17	HOURS

Unit	1	
Fires in	2024/04/21	01h47
Synchronization with Grid	2024/04/21	06h21
Emissions below limit	2024/04/21	09h00
Fires in, to synchronization	4.34	HOURS
Synchronization to < Emission limit	2.39	HOURS

Unit	2	
Fires in	2024/04/09	07h01
Synchronization with Grid	2024/04/09	21h50
Emissions below limit	2024/04/10	06h03
Fires in, to synchronization	14.49	HOURS
Synchronization to < Emission limit	8.13	HOURS

Unit	4	
Fires in	2024/04/23	02h21
Synchronization with Grid	2024/04/23	03h58
Emissions below limit	2024/04/23	03h59
Fires in, to synchronization	1.37	HOURS
Synchronization to < Emission limit	0.01	HOURS

Unit	4	
Fires in	2024/04/30	11h36
Synchronization with Grid	2024/04/30	16h55
Emissions below limit	2024/04/30	18h00
Fires in, to synchronization	5.19	HOURS
Synchronization to < Emission limit	1.05	HOURS

Unit	5	
Fires in	2024/04/01	04h56
Synchronization with Grid	2024/04/02	01h04
Emissions below limit	2024/04/12	09h45
Fires in, to synchronization	20.08	HOURS
Synchronization to < Emission limit	248.41	HOURS

Unit	6	
Fires in	2024/04/23	22h06
Synchronization with Grid	2024/04/24	08h24
Emissions below limit	2024/04/25	06h01
Fires in, to synchronization	10.18	HOURS
Synchronization to < Emission limit	21.37	HOURS

2.12 Emergency generation

Table 15: Emergency generation

	Unit 1	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**	**Unit 6**
Emergency Generation hours declared by national Control	744	744	744	744	744	744
Emergency Hours declared including hours after standing down	608.6	657.6	720.0	201.8	696.0	713.1
Days over the Limit during Emergency Generation	8	7	8	4	28	5

During the period under review all Units were on emergency generation in force from 01 April 2024 until 30 April 2024.

2.13 Complaints register.

Table 16: Complaints

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

2.14 Air quality improvements and social responsibility conducted.

Air quality improvements

None

Social responsibility conducted.

None

2.15 Ambient air quality monitoring

Marapong ambient air quality monitoring station was relocated from the previous location to Ditheku primary school and commissioned to service on 20 March 2024. The May 2024 ambient air quality monitoring report is sent with the report as addendum.

2.16 Electrostatic precipitator and Sulphur plant status

Unit 1

- 9 fields out of service, will be repaired during next opportunity.
- No abnormalities on the SO3 plant. Preventive maintenance done during the month.

Unit 2

- Unit returned to service.

Unit 3

- 1 field out of service, will be repaired during next opportunity.
- No abnormalities on the SO3 plant. Preventative maintenance done during the month.

Unit 4

- Unit returned to service.

Unit 5

- 4 fields out of service, will be repaired during next opportunity.
- No abnormalities on the SO3 plant. Preventative maintenance done during the month.

Unit 6

- 8 fields out of service, will be repaired during next opportunity.
- No abnormalities on the SO3 plant. Preventative maintenance done during the month.

SO3 common plant

- No abnormalities on the sulphur storage plant.

2.17 General

Name and reference number of the monitoring methods 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. S23º 40' 2.8" E027º 36' 34.8" 175m from ground level and 75m from the top.
    b. Gas:
        i. S23º 40' 2.8" E027º 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. S23º 40' 14.8" E027º 36' 47.5" 175m from ground level and 75m from the top.
    b. Gas:
        i. S23º 40' 14.8" E027º 36' 47.5" 100m from ground level and 150m from the top.
    c. Stack height
        i. 250 meter consist of 3 flues

3. Attachments

Ambient air quality monitoring report

4. Report Conclusion

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

GENERAL MANAGER: MATIMBA POWER STATION