	<b>Technical and Generic Report</b>	<b>Matimba Power Station</b>
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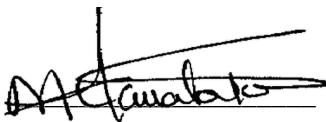
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## 1. Report Summary

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 August 2024. The information recorded in the report is obtained from Matimba Emission Reporting tool V02.2024VF.



During the period under review, Matimba experienced fifty-one (51) exceedances of the daily particulate matter emission limit (50mg/Nm<sup>3</sup>), twenty-one (21) 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 thirty (30) exceedances occurred within the 48-hour grace period.

There were no exceedances of the monthly SO<sub>x</sub> limit (3500mg/Nm<sup>3</sup>) and the daily NO<sub>x</sub> emission limit (750mg/Nm<sup>3</sup>).

Flue gas conditioning plant availability was above 80% for units except unit 2 and unit 3. Unit 2 SO<sub>3</sub> plant was constantly on hold for the month of August 2024 due to electrostatic precipitators temperature being too low. Unit 3 SO<sub>3</sub> plant was constantly on hold for the month of August 2024 due to electrostatic precipitators temperature being too low. Defects were addressed and plants returned to service.

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

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## 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	997 741
	Fuel Oil	Tons/month	1 200	3143.764
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate
	Energy	MW	4000	1241.868

The consumption rates for fuel oil for the month of August 2024 exceeded the permitted maximum limits due to unit 6 running with 2 mills and required more fuel oil for multiple combustion support, unit 2 light up trip on RH ID fan motor bearing temp spike.

### 2.2 Abatement technology

**Table 2:** Abatement Equipment Control Technology Utilised

Associated Unit	Technology Type	Minimum utilisation (%)	Efficiency (%)
Unit 1	Electrostatic Precipitator	100%	99.998%
Unit 2	Electrostatic Precipitator	100%	99.998%
Unit 3	Electrostatic Precipitator	100%	99.994%
Unit 4	Electrostatic Precipitator	100%	99.998%
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 <sub>3</sub> Plant	100%	97%
Unit 2	SO <sub>3</sub> Plant	100%	16%
Unit 3	SO <sub>3</sub> Plant	100%	63%
Unit 4	SO <sub>3</sub> Plant	100%	98%
Unit 5	SO <sub>3</sub> Plant	100%	96%
Unit 6	SO <sub>3</sub> Plant	100%	85%

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Flue gas conditioning plant availability was above 80% for units except unit 2 and unit 3.. Unit 2 SO<sub>3</sub> plant was constantly on hold for the month of August 2024 due to electrostatic precipitators temperature being too low. Unit 3 SO<sub>3</sub> plant was constantly on hold for the month of August 2024 due to electrostatic precipitators temperature being too low. Defects were addressed and plants returned to service.

**Table 3: Energy Source Material Characteristics.**

	Characteristic	Stipulated Range (Unit)	Monthly Average Content
Coal burned	Sulphur Content	1.6%	1.358%
	Ash Content	40%	34.816%

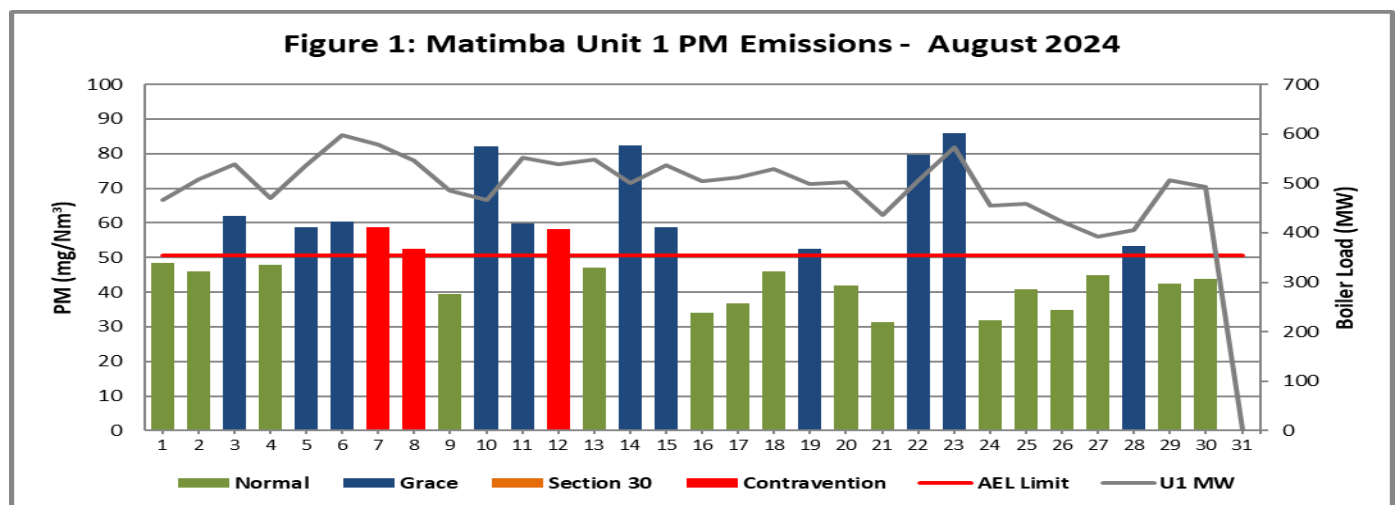
Energy source characteristics remained within the ranges stipulated in the license.

## 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 August 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 August 2024**

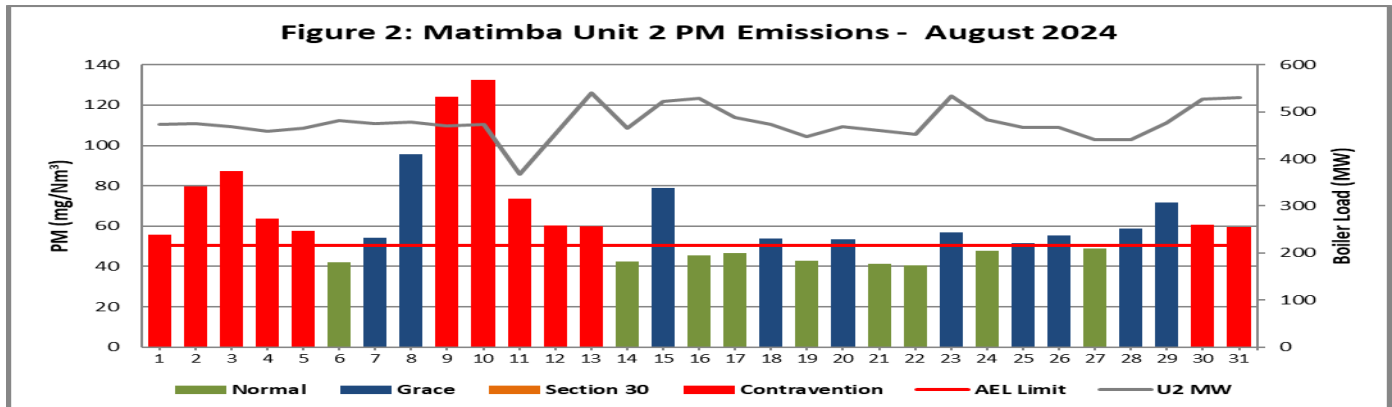
**Interpretation:** Unit 1 exceeded the daily particulate emission limit of 50mg/Nm<sup>3</sup> on 3, 5 to 8, 10 to 12, 14, 15, 19, 22, 23 and 28 August 2024. The exceedances from 7, 8 and 12 August 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric Emissions Licence. The exceedances were due to high hopper levels causing electrostatic precipitators fields to trip and have low efficiency.

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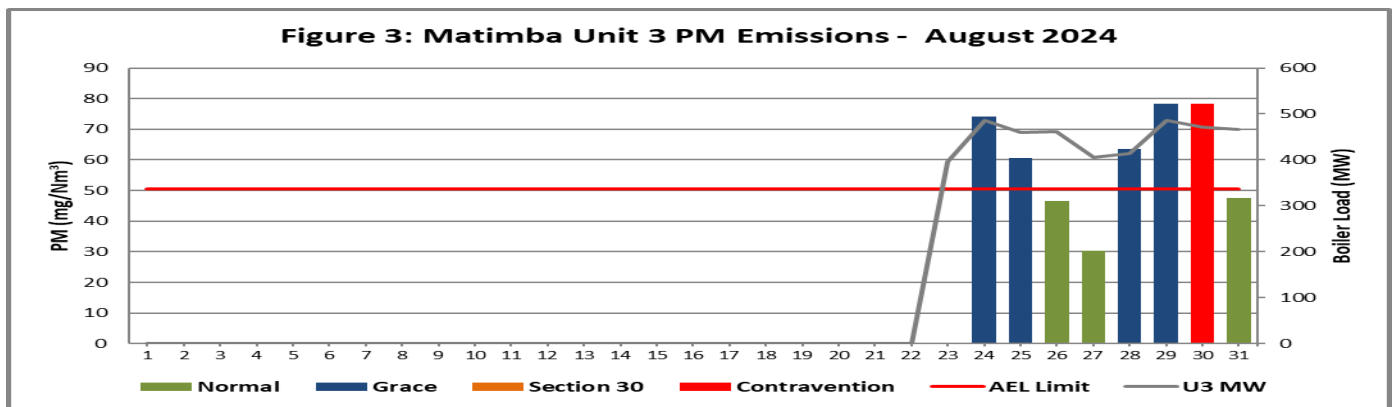
## Unit 2 Particulate Emissions



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

**Interpretation:** Unit 2 exceeded the daily particulate emission limit of 50mg/Nm<sup>3</sup> on 1 to 5, 7 to 13, 15, 18, 20, 23, 25, 26 and 28 to 31 August 2024. The exceedances from 1 to 5, 9 to 13, 30 and 31 August 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 caused by SO<sub>3</sub> plant being on hold due to electrostatic precipitators temperature being too low.

## Unit 3 Particulate Emissions



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

**Interpretation:** Unit 3 exceeded the daily particulate emission limit of 50mg/Nm<sup>3</sup> on 24, 25, 28 to 30 August 2024. The exceedance on 30 August 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 dust handling plants defects leading to high hopper levels within the flue gas cleaning system and reducing the efficiency of the abatement technology (electrostatic precipitator fields).

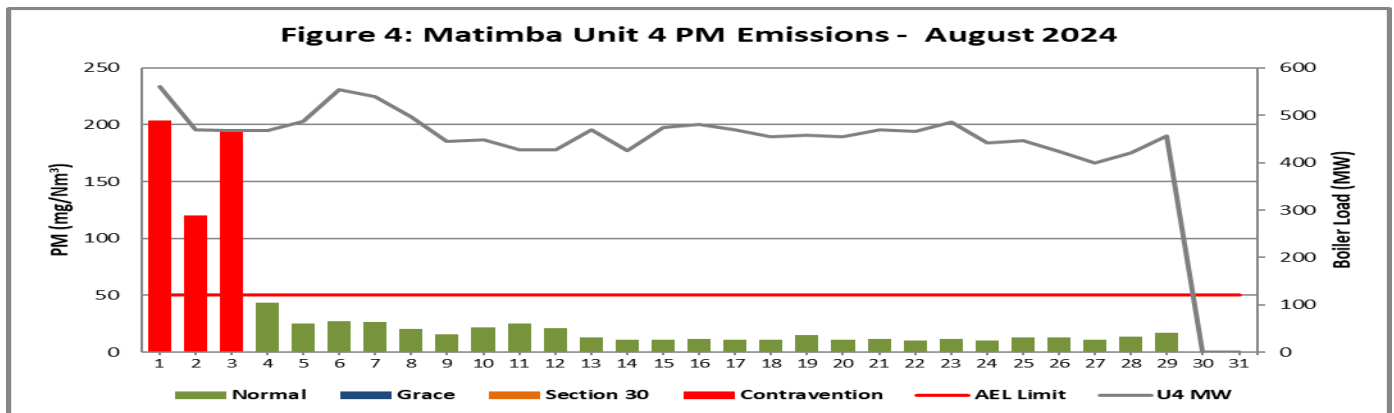
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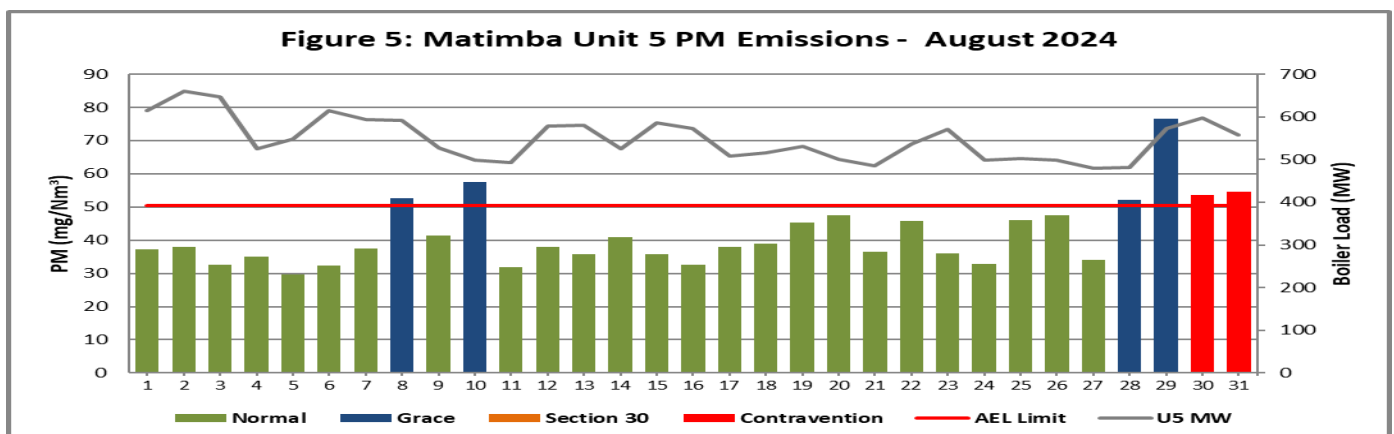
## Unit 4 Particulate Emissions



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

**Interpretation:** Unit 4 exceeded the daily particulate emission limit of 50mg/Nm<sup>3</sup> on 1 to 3 August 2024. The exceedances from 1 to 3 August 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 high hopper levels causing electrostatic precipitators fields to trip and have low efficiency.

## Unit 5 Particulate Emissions



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

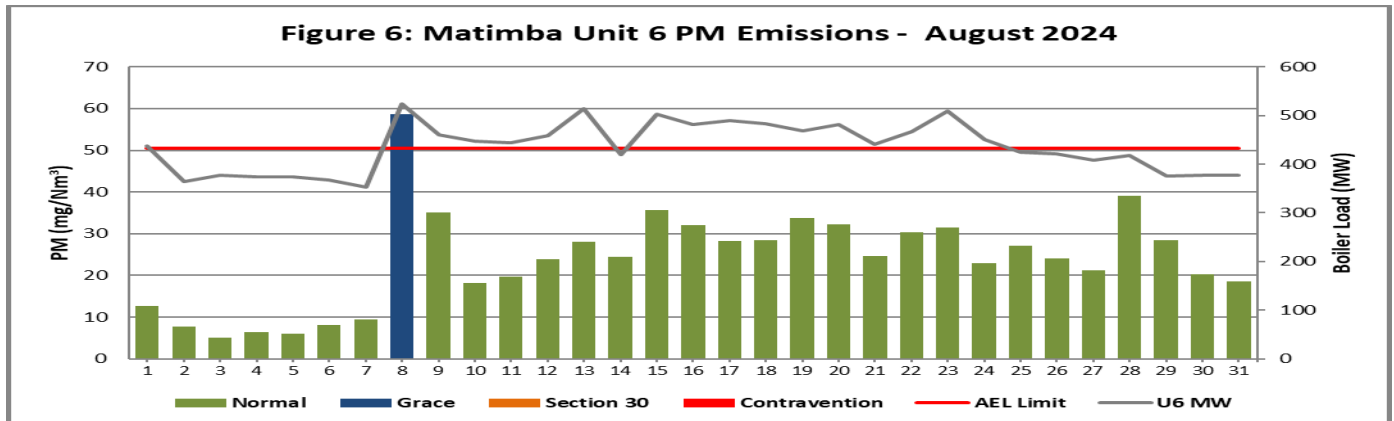
**Interpretation:** Unit 5 Particulate matter exceeded the daily limit of 50 mg/Nm<sup>3</sup> on 8,9 and 28 to 31 of August 2024. Exceedances from 30 and 31 August 2024 occurred outside of the 48-hour grace period and were recorded on the Eskom incident management process as non-compliance to the Atmospheric 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).

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## Unit 6 Particulate Emissions



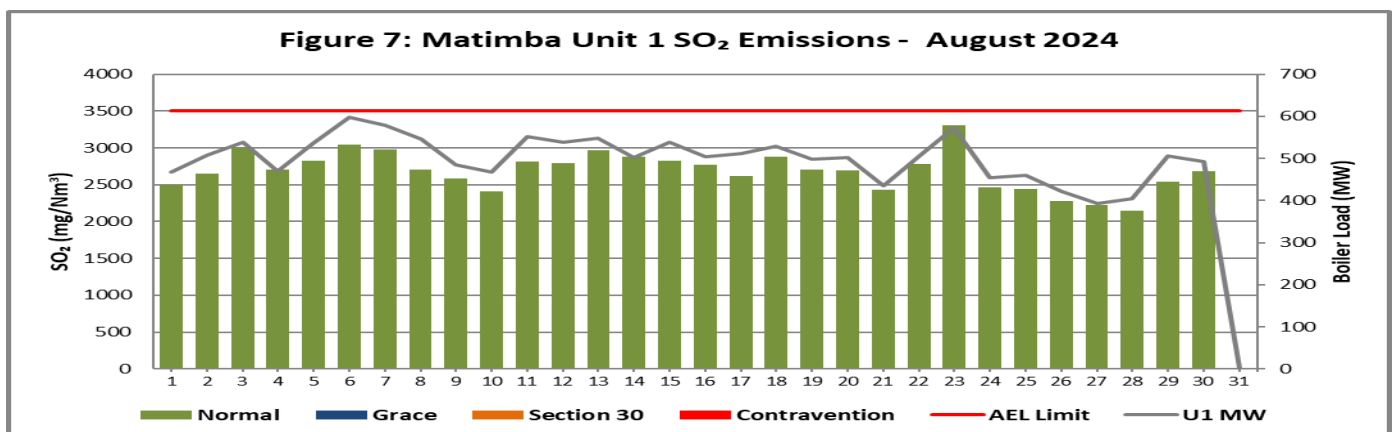
**Figure 6: Particulate matter daily average emissions against emission limit for unit 6 for the month of August 2024**

**Interpretation:** Unit 6 Particulate matter exceeded the daily limit of 50 mg/Nm<sup>3</sup> on 8 August 2024. The exceedance occurred within the 48-hour grace period. The exceedance was due to high hopper levels causing electrostatic precipitators fields to trip and have low efficiency.

## Gaseous Emissions

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

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

Unit 1 SO<sub>2</sub> Emissions

**Figure 7: SO<sub>2</sub> daily average emissions against emission limit for unit 1 for the month of August 2024**

**Interpretation:** All daily averages below SO<sub>2</sub> emission monthly limit of 3500 mg/Nm<sup>3</sup>.

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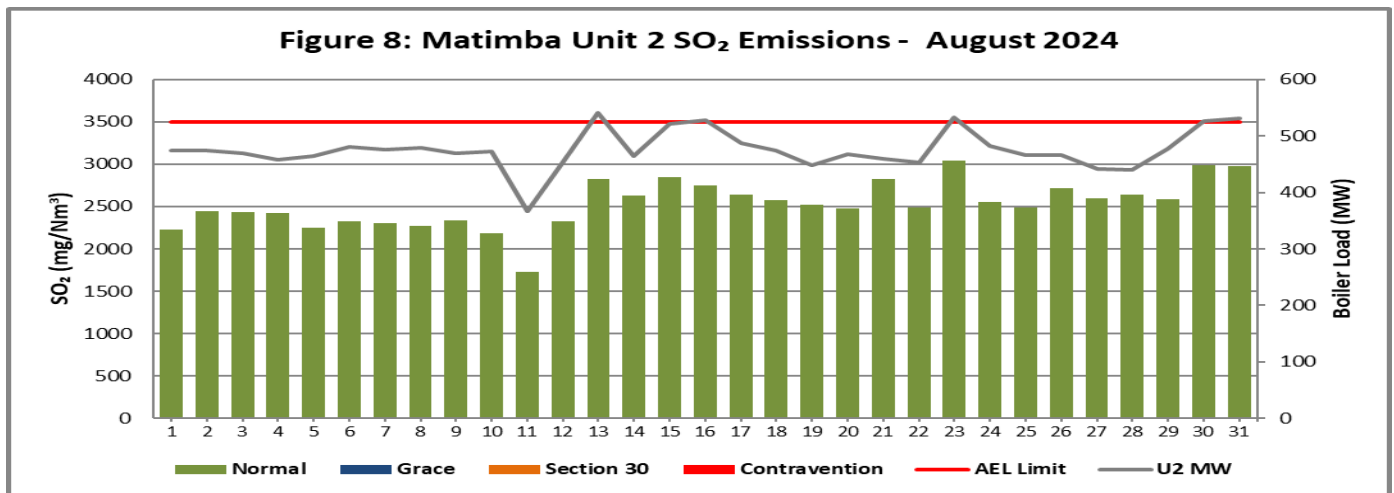
Unit 2 SO<sub>2</sub> Emissions

Figure 8: SO<sub>2</sub> daily average emissions against emission limit for unit 2 for the month of August 2024

**Interpretation:** All daily averages below SO<sub>2</sub> emission monthly limit of 3500 mg/Nm<sup>3</sup>.

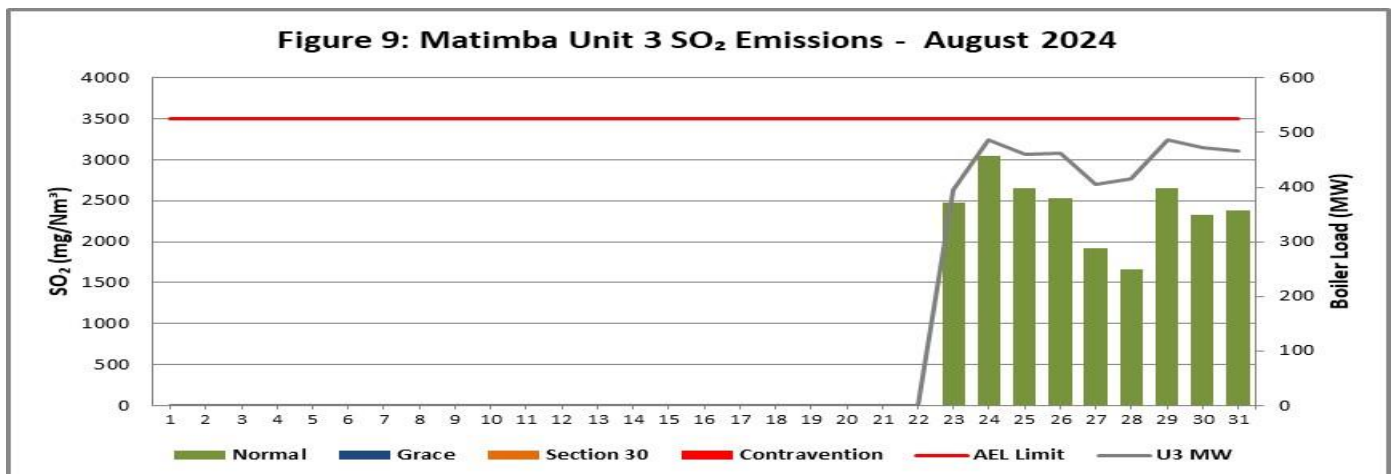
Unit 3 SO<sub>2</sub> Emissions

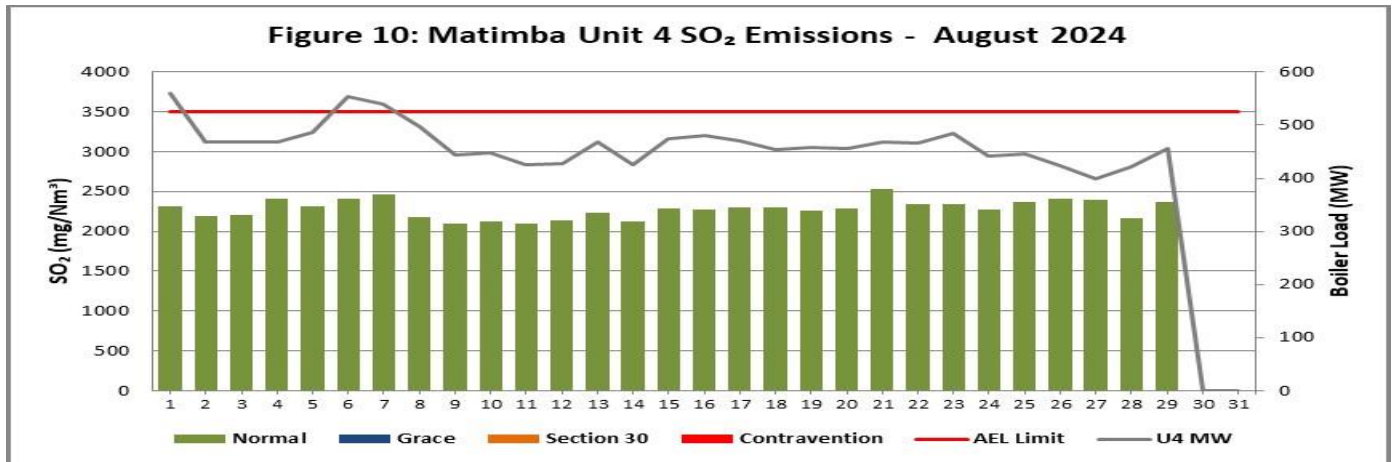
Figure 9: SO<sub>2</sub> daily average emissions against emission limit for unit 3 for the month of August 2024

**Interpretation:** All daily averages below SO<sub>2</sub> emission monthly limit of 3500 mg/Nm<sup>3</sup>.

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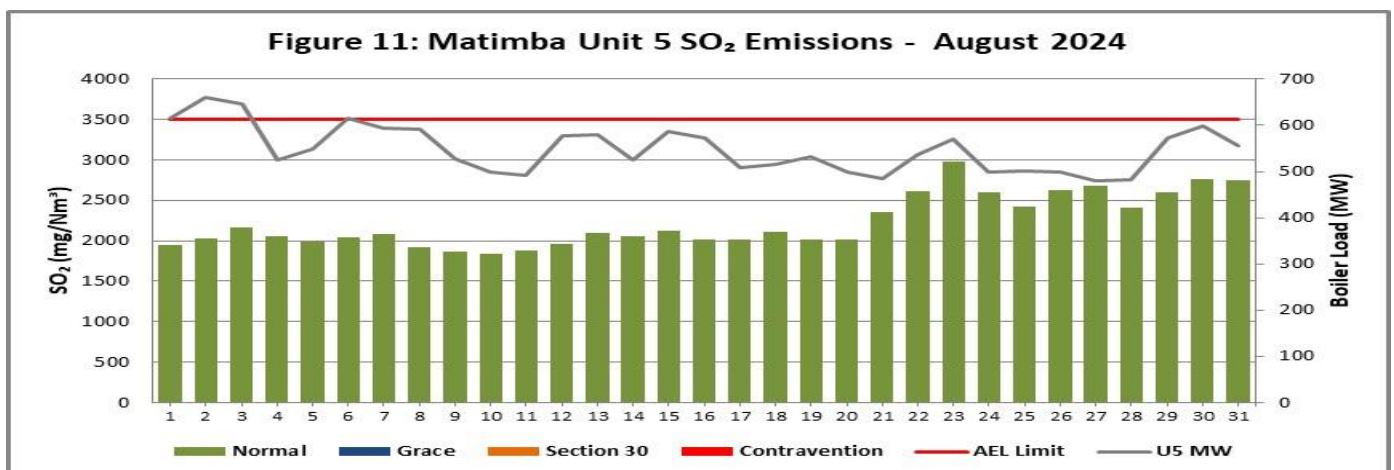
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Unit 4 SO<sub>2</sub> Emissions

**Figure 10: SO<sub>2</sub> daily average emissions against emission limit for unit 3 for the month of August 2024**

**Interpretation:** All daily averages below SO<sub>2</sub> emission monthly limit of 3500 mg/Nm<sup>3</sup>.

Unit 5 SO<sub>2</sub> Emissions

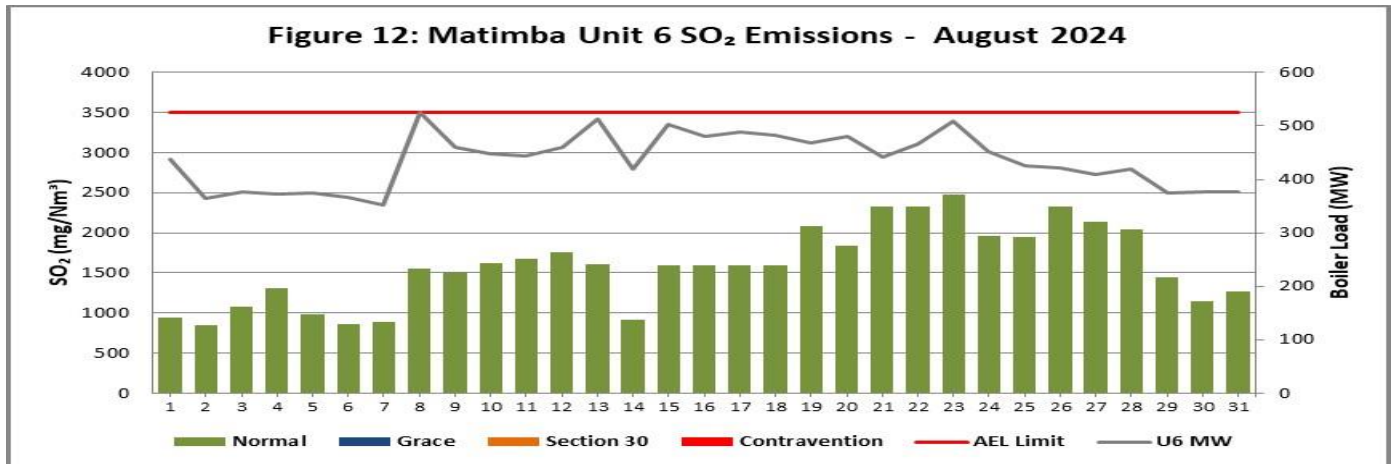
**Figure 11: SO<sub>2</sub> daily average emissions against emission limit for unit 5 for the month of August 2024**

**Interpretation:** All daily averages below SO<sub>2</sub> emission monthly limit of 3500 mg/Nm<sup>3</sup>.

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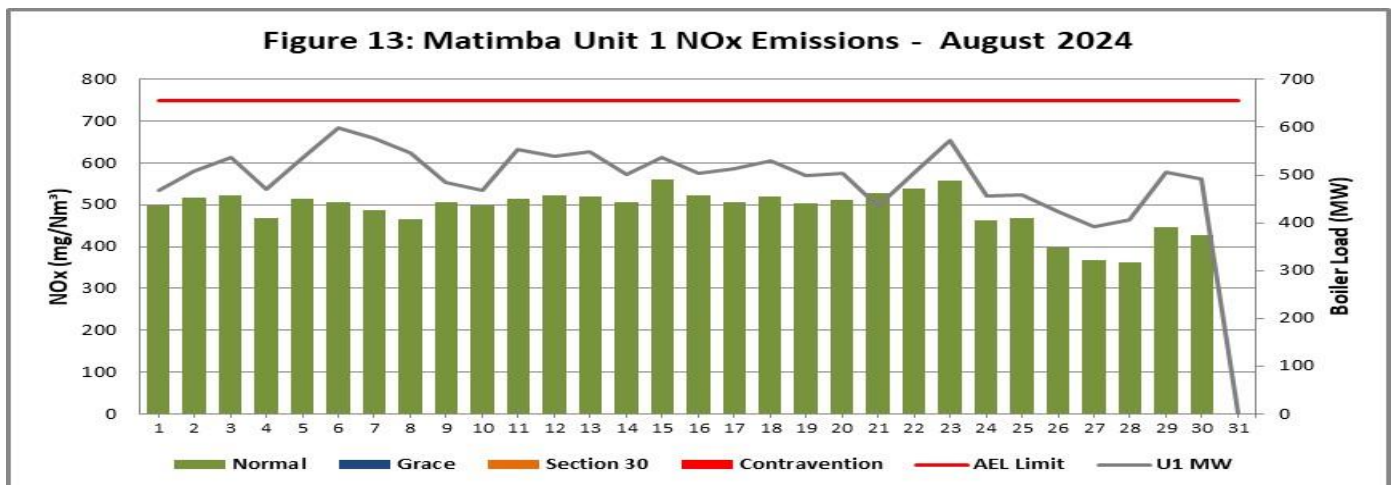
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Unit 6 SO<sub>2</sub> Emissions

**Figure 12: SO<sub>2</sub> daily average emissions against emission limit for unit 6 for the month of August 2024**

**Interpretation:** All daily averages remained below SO<sub>2</sub> emission monthly limit of 3500 mg/Nm<sup>3</sup>. The SO<sub>x</sub> monitor was identified to be drifting out of calibration and having communication faults throughout the month of August 2024. The monitor was repaired and calibrated on the 18 August 2024.

Unit 1 NO<sub>x</sub> Emissions

**Figure 13: NO<sub>x</sub> daily average emissions against emission limit for unit 1 for the month of August 2024**

**Interpretation:** All daily averages below NO<sub>x</sub> emission limit of 750 mg/Nm<sup>3</sup>.

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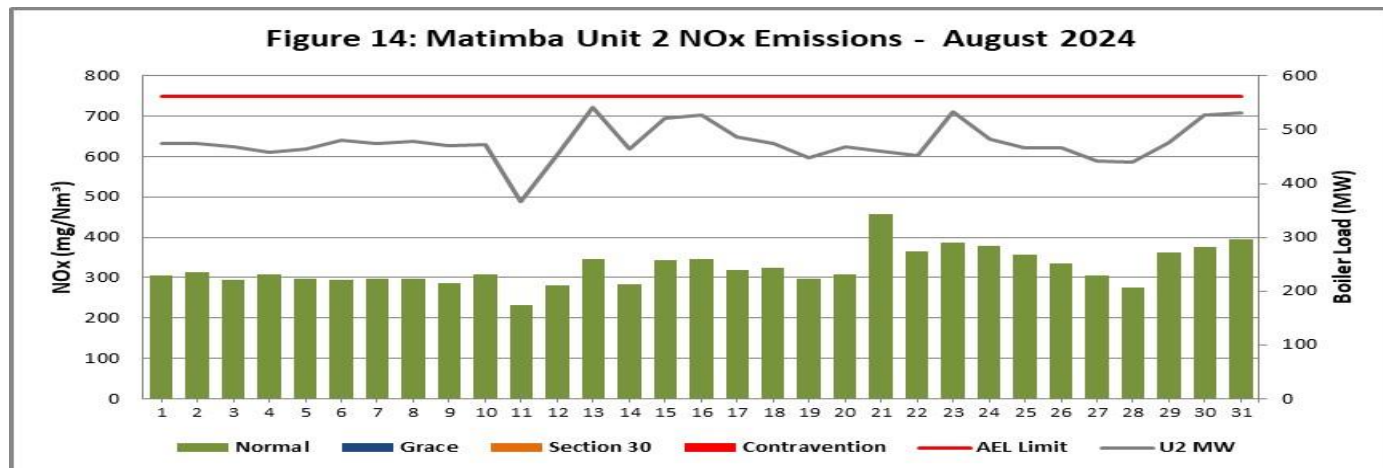
Unit 2 NO<sub>x</sub> Emissions

Figure 14: NO<sub>x</sub> daily average emissions against emission limit for unit 2 for the month of August 2024

**Interpretation:** All daily averages below NO<sub>x</sub> emission limit of 750 mg/Nm<sup>3</sup>.

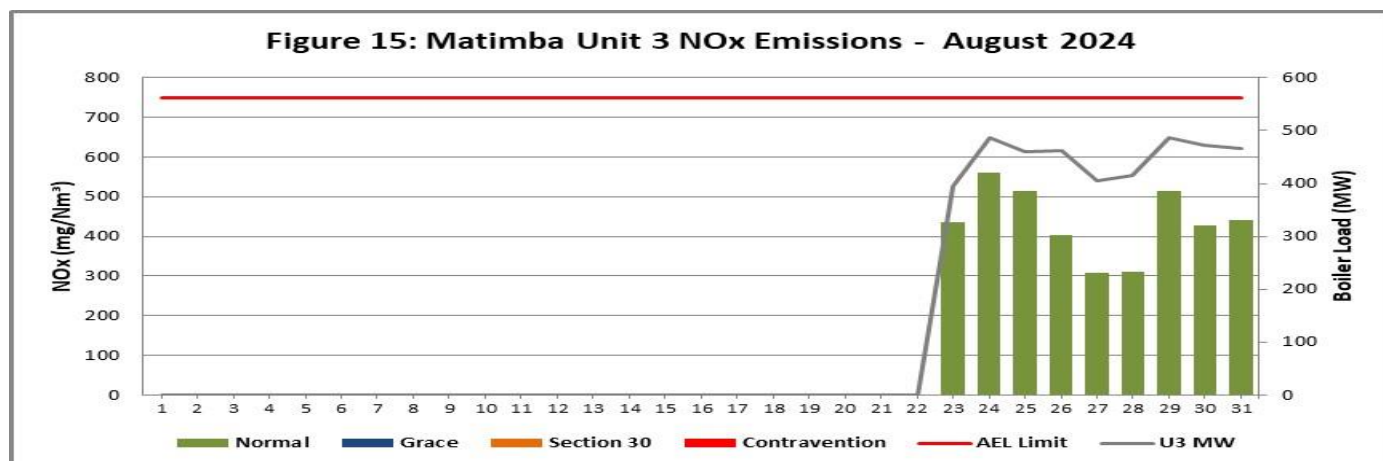
Unit 3 NO<sub>x</sub> Emissions

Figure 15: NO<sub>x</sub> daily average emissions against emission limit for unit 3 for the month of August 2024

**Interpretation:** All daily averages below NO<sub>x</sub> emission limit of 750 mg/Nm<sup>3</sup>.

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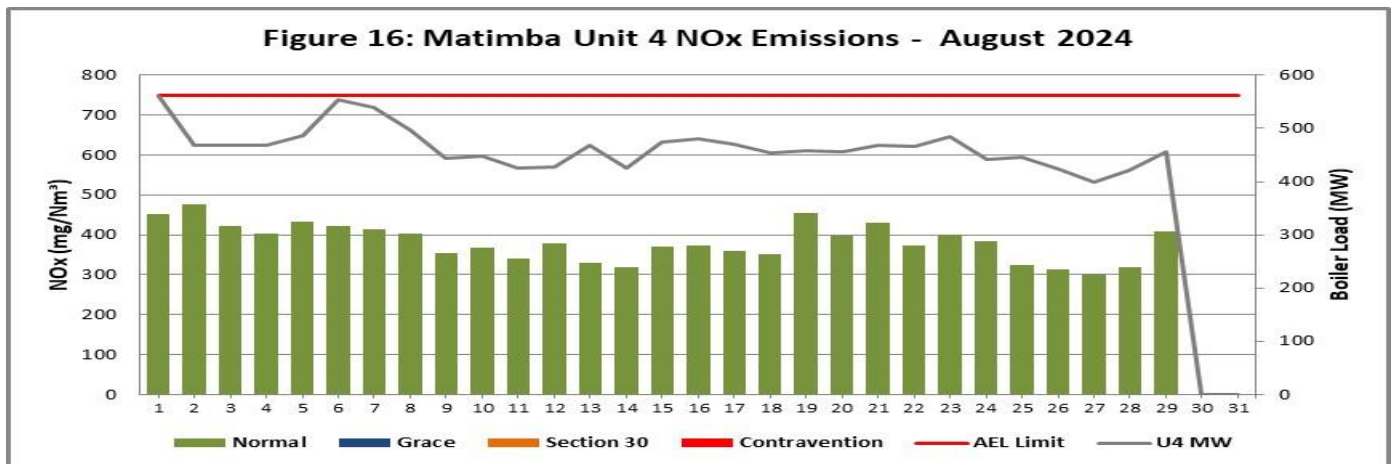
Unit 4 NO<sub>x</sub> Emissions

Figure 16: NO<sub>x</sub> daily average emissions against emission limit for unit 4 for the month of August 2024

**Interpretation:** All daily averages below NO<sub>x</sub> emission limit of 750 mg/Nm<sup>3</sup>.

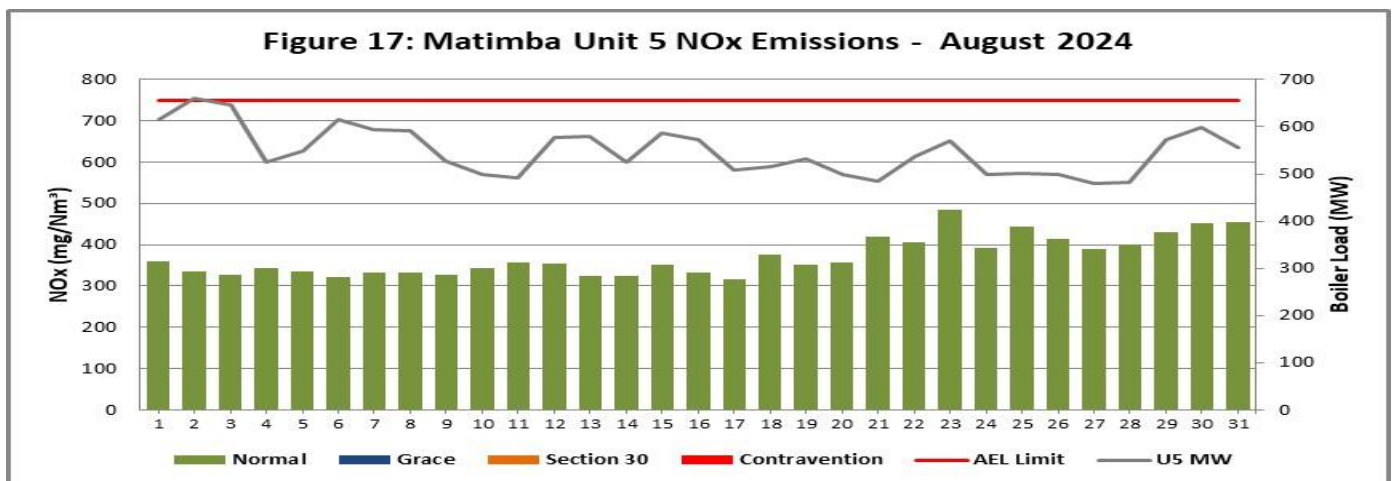
Unit 5 NO<sub>x</sub> Emissions

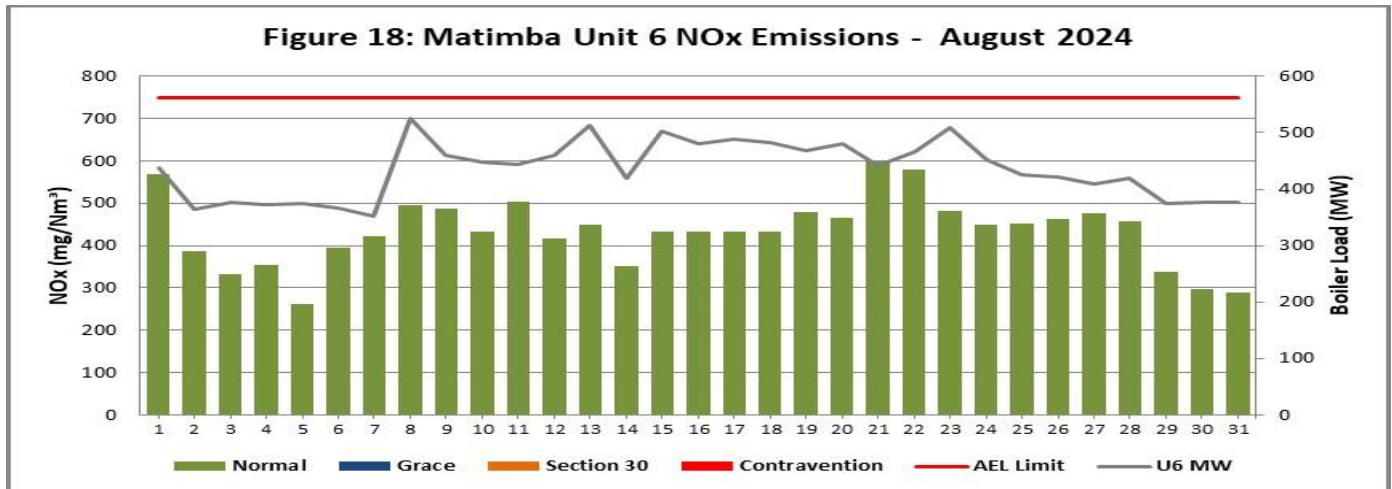
Figure 17: NO<sub>x</sub> daily average emissions against emission limit for unit 5 for the month of August 2024

**Interpretation:** All daily averages below NO<sub>x</sub> emission limit of 750 mg/Nm<sup>3</sup>.

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Unit 6 NO<sub>x</sub> Emissions

**Figure 18: NO<sub>x</sub> daily average emissions against emission limit for unit 6 for the month of August 2024**

**Interpretation:**

All daily averages below NO<sub>x</sub> emission limit of 750 mg/Nm<sup>3</sup>.

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## Total Volatile Organic Compounds

Table 4: Total volatile compound estimates

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	Monday, 30 September 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	
<p align="center"><b>MONTHLY INPUT DATA FOR THE STATION</b></p> <p align="center">Please only insert relevant monthly data inputs into the <u>blue cells</u> below</p> <p align="center">Choose from a dropdown menu in the <u>green cells</u></p> <p align="center">The total VOC emissions for the month are in the <u>red cells</u></p> <p align="center">IMPORTANT: Do not change <u>any</u> other cells without consulting the AQ CoE</p>		
MONTH:	August	
<b>GENERAL INFORMATION:</b>		
	<b>Data</b>	<b>Unit</b>
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:	3143.764	
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
<b>METEROLOGICAL DATA FOR THE MONTH</b>		
	<b>Data</b>	<b>Unit</b>
Daily average ambient temperature	20.46	°C
Daily maximum ambient temperature	28.86	°C
Daily minimum ambient temperature	12.76	°C
Daily ambient temperature range	16.09	°C
Daily total insolation factor	4.23	kWh/m²/day
Tank paint colour	Grey/medium	NA
Tank paint solar absorbance	0.68	NA
<b>FINAL OUTPUT:</b>		
	<b>Result</b>	<b>Unit</b>
Breathing losses:	0.56 kg/month	
Working losses:	0.09 kg/month	
<b>TOTAL LOSSES (Total TVOC Emissions for the month):</b>	<b>0.65 kg/month</b>	
<p>*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.</p>		

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## Greenhouse gas (CO<sub>2</sub>) emissions

CO<sub>2</sub> 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.

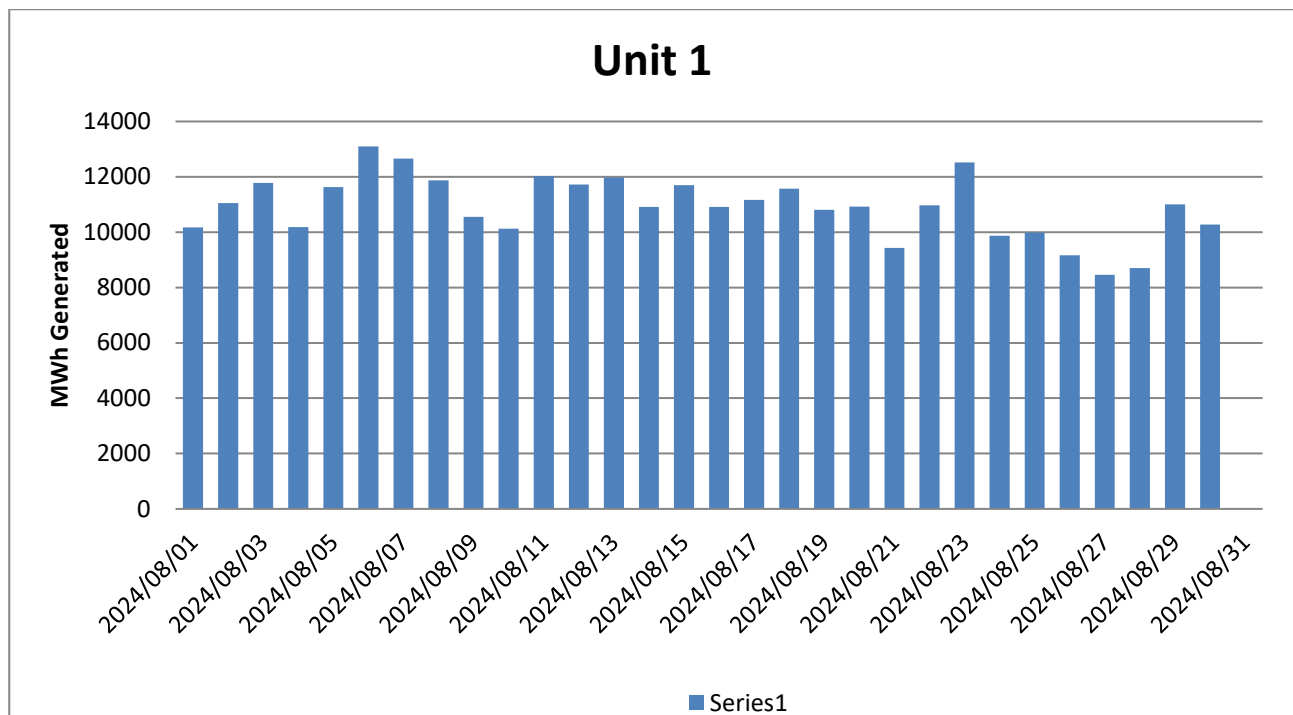
**Table 5:** Daily power generated per unit in MWh for the month of August 2024

Date	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
2024/08/01	10171.7	10359.9	Unit off	12168.1	13285.1	9450.65
2024/08/02	11052.6	10381.7	Unit off	10195.2	14374.2	7831
2024/08/03	11782.2	10259.3	Unit off	10153.9	14136.7	8113.72
2024/08/04	10177.8	9990.01	Unit off	10154.5	11416	8013.04
2024/08/05	11627.2	10137.9	Unit off	10535	11833.6	8020.43
2024/08/06	13098.4	10550.7	Unit off	12052.4	13374.6	7882.52
2024/08/07	12653.9	10420.9	Unit off	11763.6	12907.1	3762.9
2024/08/08	11873.8	10492.1	Unit off	10775.8	12885.6	11341.4
2024/08/09	10557.2	10285.3	Unit off	9652.69	11435.2	9887.89
2024/08/10	10128.8	10336	Unit off	9751.57	10861.1	9676.51
2024/08/11	12023.6	4713.06	Unit off	9264.47	10621	9498.69
2024/08/12	11720.9	9880.65	Unit off	9276.98	12512.1	9843.33
2024/08/13	11972.2	11864.7	Unit off	10205	12652.2	11138.5
2024/08/14	10908.3	10122.7	Unit off	9250.59	11340.9	9000.76
2024/08/15	11702	11420.8	Unit off	10364.4	12731.9	10839.7
2024/08/16	10913.3	11557.3	Unit off	10497.4	12412.9	10378.5
2024/08/17	11171.2	10664.2	Unit off	10244.1	10987.8	10562.1
2024/08/18	11577	10385.5	Unit off	9898.05	11204.6	10432.3
2024/08/19	10812.9	9777.75	Unit off	9947.55	11500.7	10113
2024/08/20	10926.6	10237.8	Unit off	9904.31	10823.6	10390
2024/08/21	9428.46	10067.1	Unit off	10216.9	10499.5	9487.8
2024/08/22	10964.5	9889.53	Unit off	10119.4	11587.6	10054.4
2024/08/23	12520	11660.7	3414.87	10566.1	12429.4	11030.3
2024/08/24	9865.9	10532.2	10457.3	9579.73	10817.1	9735.67
2024/08/25	9987.26	10182.6	9873.43	9701.18	10872.1	9188.24
2024/08/26	9161.18	10152.8	9905.71	9230.41	10803	9022.58
2024/08/27	8456.93	9598.85	8610.75	8642.47	10389.7	8768.82
2024/08/28	8700	9584.85	8794.2	9075.88	10421.7	8992.01
2024/08/29	11003.6	10413.4	10427.3	6603.2	12427.9	8035.88
2024/08/30	10272.7	11509.2	10192.5	Unit off	12947.1	8126.52
2024/08/31	Unit off	11657	10117	Unit off	12154.9	8154.92

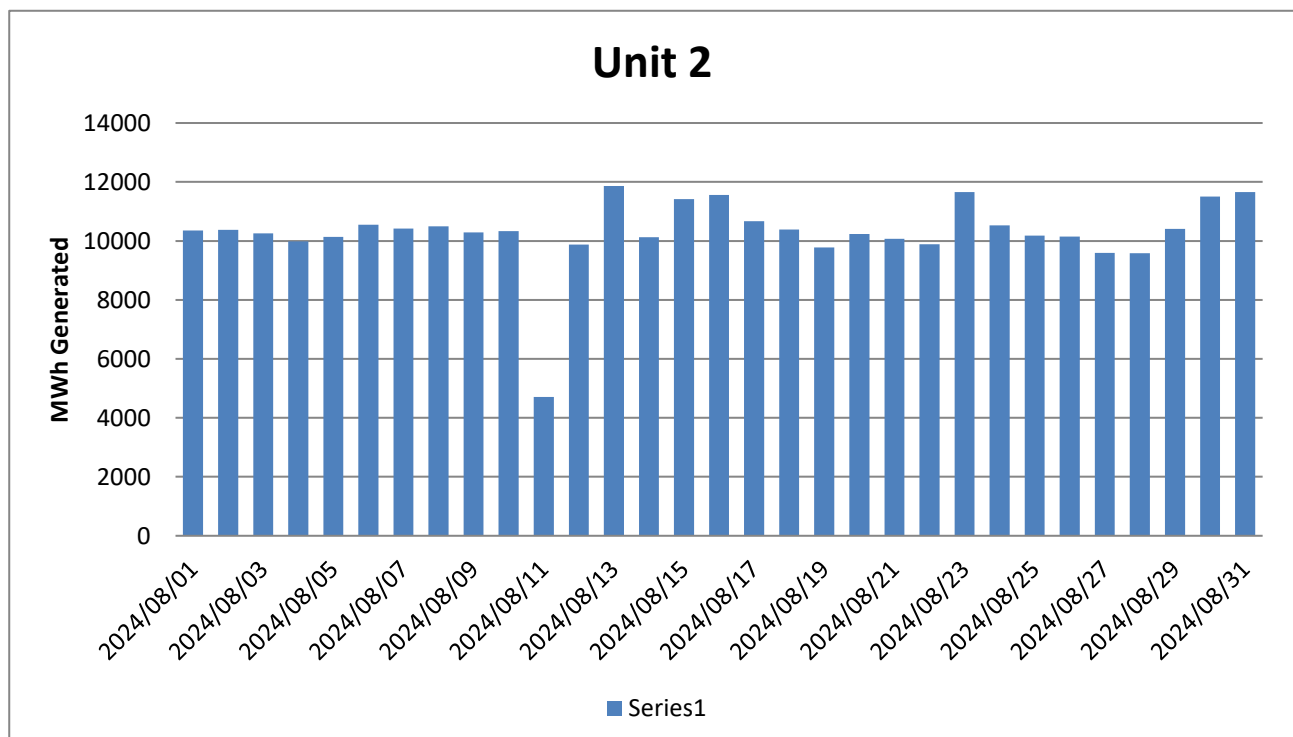
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**Figure 19: Unit 1 daily generated power in MWh for the month of August 2024**



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

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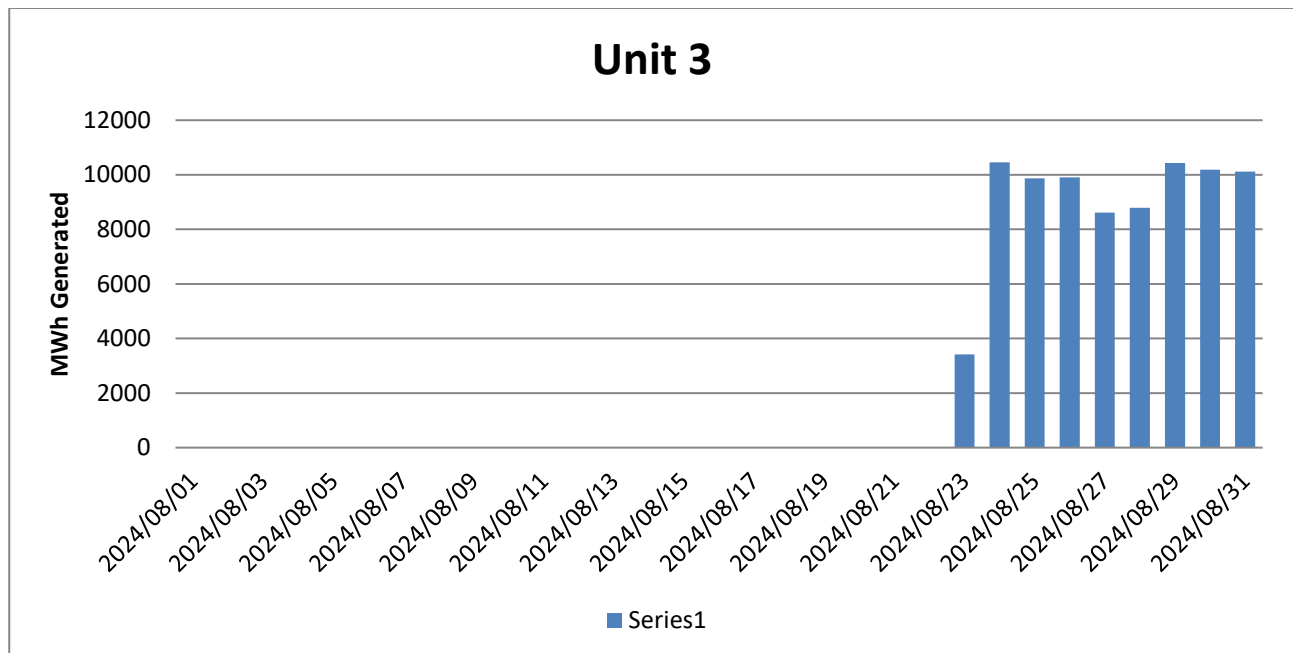


Figure 21: Unit 3 daily generated power in MWh for the month of August 2024

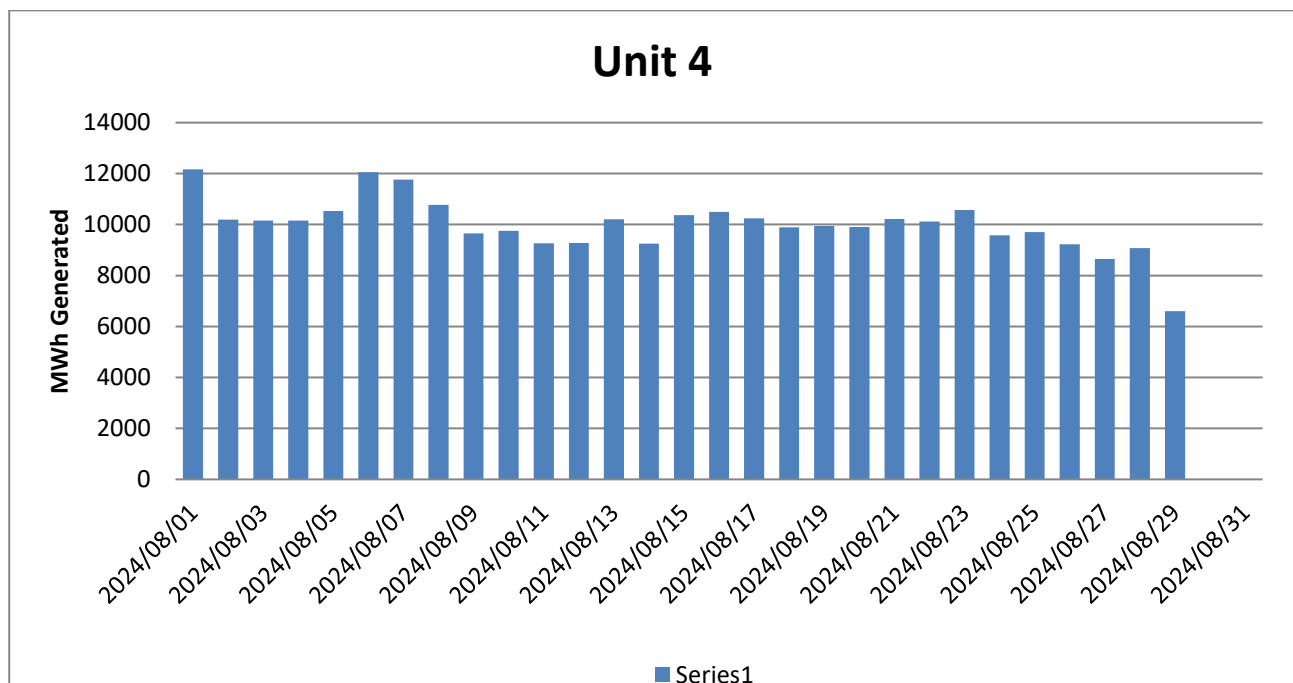
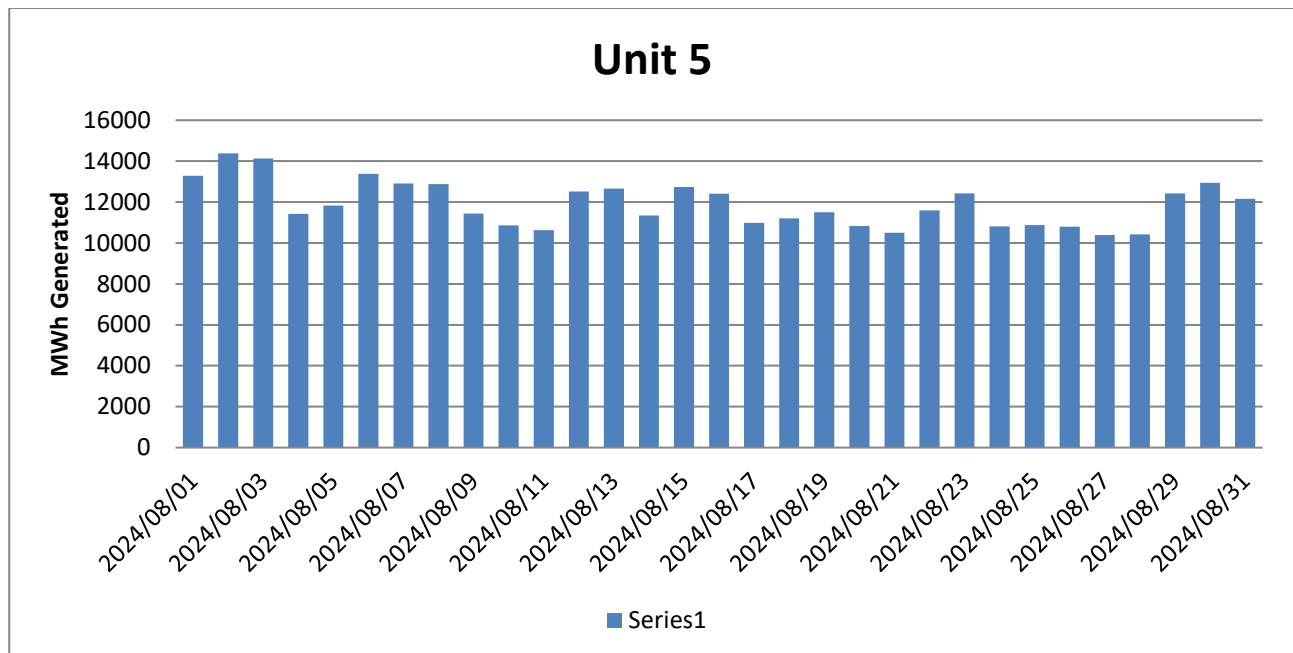


Figure 22: Unit 4 daily generated power in MWh for the month of August 2024

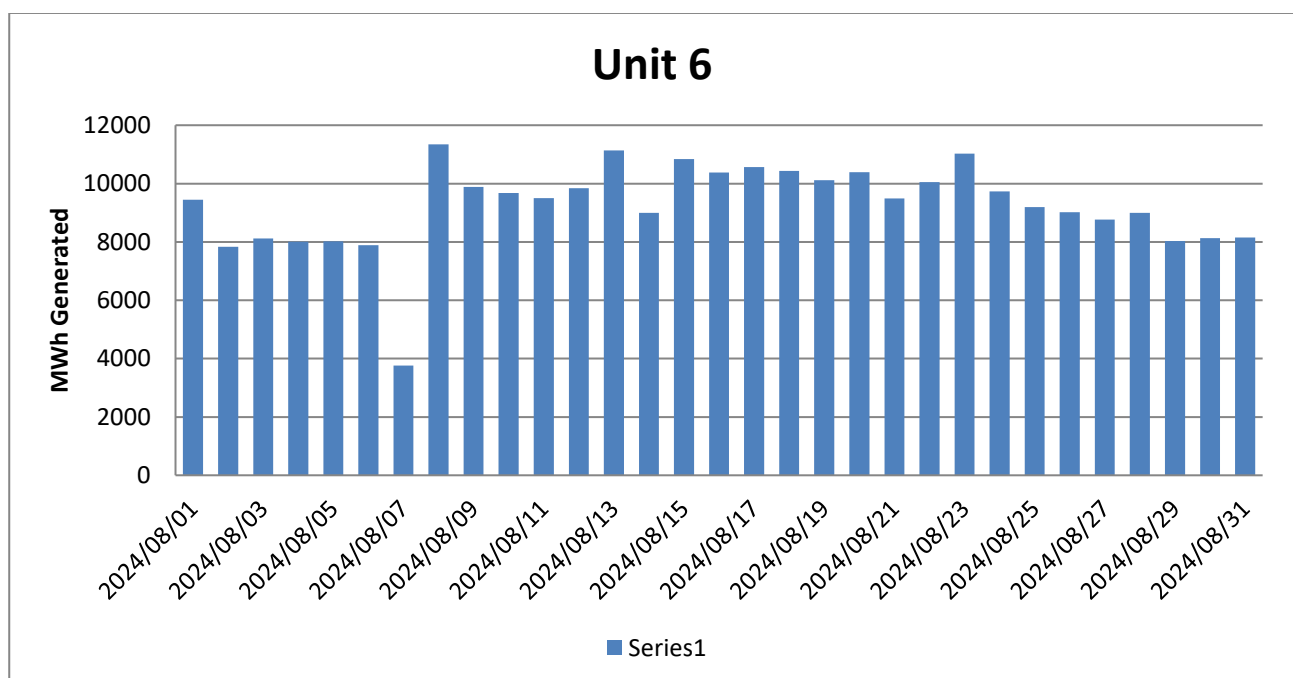
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**Figure 23: Unit 5 daily generated power in MWh for the month of August 2024**



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

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## 2.5 Pollutant Tonnages

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

**Table 6:** Pollutant tonnages for the month of August 2024

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	93.2	4 820.4	879.4
Unit 2	109.1	4 594.7	591.1
Unit 3	25.7	1 149.1	207.6
Unit 4	58.0	3 900.6	654.3
Unit 5	109.3	5 816.9	968.8
Unit 6	30.6	2 089.7	552.7
<b>SUM</b>	<b>425.9</b>	<b>22 371.4</b>	<b>3 853.8</b>

## 2.6 Operating days in compliance to PM AEL Limit

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
Unit 1	16	11	0	3	14	52.1
Unit 2	9	10	0	12	22	62.7
Unit 3	3	4	0	1	5	59.9
Unit 4	26	0	0	3	3	32.8
Unit 5	25	4	0	2	6	41.7
Unit 6	30	1	0	0	1	23.9
<b>SUM</b>	<b>109</b>	<b>30</b>	<b>0</b>	<b>21</b>	<b>51</b>	

## 2.7 Operating days in compliance to SO<sub>x</sub> AEL Limit

**Table 8:** Operating days in compliance with SO<sub>x</sub> AEL limit of August 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
Unit 1	30	0	0	0	0	2 688.0
Unit 2	31	0	0	0	0	2 529.8
Unit 3	9	0	0	0	0	2 407.5
Unit 4	29	0	0	0	0	2 283.3
Unit 5	31	0	0	0	0	2 228.1
Unit 6	31	0	0	0	0	1 589.0
<b>SUM</b>	<b>161</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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## 2.8 Operating days in compliance to NOx AEL Limit

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	30	0	0	0	0	490.9
Unit 2	31	0	0	0	0	324.9
Unit 3	9	0	0	0	0	435.1
Unit 4	29	0	0	0	0	381.9
Unit 5	31	0	0	0	0	370.8
Unit 6	31	0	0	0	0	432.9
<b>SUM</b>	<b>161</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

## 2.9 Reference values

**Table 10: Reference values for data provided, August 2024**

Compound / Parameter	Units of Measure	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Oxygen	%	8.65	8.52	9.86	8.19	6.63	10.26
Moisture	%	3.46	3.53	3.52	3.20	3.77	2.27
Velocity	m/s	24.3	22.8	25.5	22.8	29.2	20.5
Temperature	°C	133.9	117.1	124.5	119.2	120.4	145.4
Pressure	mBar	918.8	924.0	917.3	917.6	920.2	914.2

## 2.10 Continuous Emission Monitors

### 2.10.1 Reliability

Continuous emission monitors were available for more than 90% of the reporting period except for Unit 6. The emitted pollutant tonnages for August 2024 are provided in Table 6.

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

Associated Unit/Stack	PM	SO <sub>2</sub>	NO
Unit 1	99.0	99.9	99.9
Unit 2	99.5	100.0	99.0
Unit 3	100.0	100.0	100.0
Unit 4	99.7	100.0	100.0
Unit 5	100.0	100.0	100.0
Unit 6	100.0	56.6	65.5

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## **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**

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

### **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.

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**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

<b>Name of service provider:</b>		Stacklabs Environmental Services CC		
<b>Address of service provider:</b>		10 Chisel Street Boltonia Krugersdorp 1739		
<b>Stack/ Unit</b>	<b>PM</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO<sub>2</sub></b>
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<sub>2</sub> and NO<sub>x</sub> 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<sub>2</sub> and NO<sub>x</sub> (without unit 4 and 6 PMs)

<b>Name of service provider:</b>		Levego Environmental services		
<b>Address of service provider:</b>		Building R6 Pineland site Ardeer Road Modderfontein 1645		
<b>Stack/ Unit</b>	<b>PM</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO<sub>2</sub></b>
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

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Note: The CEMS Spot verification tests for PM, SO<sub>2</sub> and NO<sub>x</sub> 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

<b>Unit</b>	1	
<b>Fires in</b>	2024/09/07	13h10
<b>Synchronization with Grid</b>	2024/09/07	19h03
<b>Emissions below limit</b>	2024/09/07	21h46
<b>Fires in, to synchronization</b>	5.53	HOURS
<b>Synchronization to &lt; Emission limit</b>	2.43	HOURS

<b>Unit</b>	2	
<b>Fires in</b>	2024/08/11	05h47
<b>Synchronization with Grid</b>	2024/08/11	11h53
<b>Emissions below limit</b>	2024/08/12	05h01
<b>Fires in, to synchronization</b>	6.6	HOURS
<b>Synchronization to &lt; Emission limit</b>	17.8	HOURS

<b>Unit</b>	3	
<b>Fires in</b>	2024/08/22	23h21
<b>Synchronization with Grid</b>	2024/08/23	13h01
<b>Emissions below limit</b>	2024/08/23	17h00
<b>Fires in, to synchronization</b>	13.40	HOURS
<b>Synchronization to &lt; Emission limit</b>	3.59	HOURS

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<b>Unit</b>	4	
<b>Fires in</b>	2024/09/06	04h16
<b>Synchronization with Grid</b>	2024/09/06	11h58
<b>Emissions below limit</b>	2024/09/09	15h00
<b>Fires in, to synchronization</b>	7.42	HOURS
<b>Synchronization to &lt; Emission limit</b>	75.2	HOURS

<b>Unit</b>	6	
<b>Fires in</b>	2024/08/07	01h54
<b>Synchronization with Grid</b>	2024/08/07	12h33
<b>Emissions below limit</b>	2024/08/07	12h34
<b>Fires in, to synchronization</b>	10.39	HOURS
<b>Synchronization to &lt; Emission limit</b>	0.1	HOURS

## 2.12 Emergency generation

**Table 15:** Emergency generation

	<b>Unit 1</b>	<b>Unit 2</b>	<b>Unit 3</b>	<b>Unit 4</b>	<b>Unit 5</b>	<b>Unit 6</b>
<b>Emergency Generation hours declared by national Control</b>	744	744	744	744	744	744
<b>Emergency Hours declared including hours after standing down</b>	719.62	737.17	213.85	689.18	744.00	744.00
<b>Days over the Limit during Emergency Generation</b>	14	22	5	3	6	1

During the period under review all Units were on emergency generation in force from 01 August 2024 until 31 August 2024.

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## 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

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## 2.15 Ambient air quality monitoring

Ambient air quality monitoring report was not available at the time of publishing this report.

## 2.16 Electrostatic precipitator and Sulphur plant status

### Unit 1

- 9 fields defective.
- No abnormalities on the SO3 plant.

### Unit 2

- 2 fields defective.
- No abnormalities on the SO3 plant.

### Unit 3

- Unit off. Returned to service on 23 August 2024.

### Unit 4

- 3 fields defective.
- No abnormalities on the SO3 plant.

### Unit 5

- 2 fields defective.
- No abnormalities on the SO3 plant.

### Unit 6

- 3 fields defective.
- No abnormalities on the SO3 plant.

### SO3 common plant

- No abnormalities on the sulphur storage plant.

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## 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. S23° 40' 2.8" E027° 36' 34.8" 175m from ground level and 75m from the top.
  - b. Gas:
    - i. S23° 40' 2.8" E027° 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° 40' 14.8" E027° 36' 47.5" 175m from ground level and 75m from the top.
  - b. Gas:
    - i. S23° 40' 14.8" E027° 36' 47.5" 100m from ground level and 150m from the top.
  - c. Stack height
    - i. 250 meter consist of 3 flues

## 3. Attachments

None

## 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

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