 Eskom	Technical and Generic Report	Matimba Power Station
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Title: **Matimba Power Station May 2023
emissions report**

Document Identifier: **RP/247/035**

Plant Location: **Emission management**

Area of Applicability: **Matimba Power Station**


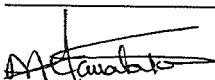
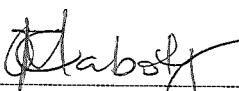
Functional Area
Applicability: **Environment**

Revision: **1**

Total Pages: **38**

Report Date: **May 2023**

Disclosure
Classification: **Controlled**

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Date: <u>2023-06-30</u>	Date: <u>30.06.2023</u>	Date: <u>2023/07/03</u>

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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 May 2023.



During the period under review, Matimba experienced 17 exceedances of the daily particulate matter emission limit ($50\text{mg}/\text{Nm}^3$), 3 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. The gaseous emissions monitors for all 6 units are providing unvalidated data due to the monitors not being calibrated biweekly as per CEMS requirements. The gaseous monitors were not calibrated since April 2023 due to unavailability of the calibration gas, which is ordered and expected to be delivered from India by 05 July 2023.

The station is planning to perform the calibrations, correlations, and quality assurance tests on the monitors by 16 July 2023.

The flue gas conditioning plant (SO₃ Plant) for unit 1,2,3,4 and 6 did not achieve the required 100% availability due to the defects and breakdown experienced on the plants throughout the month. The SO₃ plants defects were repaired, and plants returned to operation. Unit 5 off load for outage from 20 March 2023 to 01 June 2023.

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	951 951
	Fuel Oil	Tons/month	1 200	813,252
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate
	Energy	MW	4000	2324,816

The consumption rates for the month of May 2023 were within the permitted maximum limits

2.2 Abatement technology

Table 2: Abatement Equipment Control Technology Utilised

Associated Unit	Technology Type	Minimum utilisation (%)	Efficiency (%)
Unit 1	Electrostatic Precipitator	100%	99,84%
Unit 2	Electrostatic Precipitator	100%	99,89%
Unit 3	Electrostatic Precipitator	100%	99,93%
Unit 4	Electrostatic Precipitator	100%	99,88%
Unit 5	Electrostatic Precipitator	Unit off	Unit off
Unit 6	Electrostatic Precipitator	100%	99,91%
Associated Unit	Technology Type	Minimum utilisation (%)	Actual Utilisation (%)
Unit 1	SO ₃ Plant	100%	97%
Unit 2	SO ₃ Plant	100%	96%
Unit 3	SO ₃ Plant	100%	99%
Unit 4	SO ₃ Plant	100%	98%
Unit 5	SO ₃ Plant	Unit off	Unit off
Unit 6	SO ₃ Plant	100%	99%

Flue gas conditioning plant availability was below the required 100% for all six (05) units due to maintenance activities and unplanned breakdowns. Defects were addressed and plants returned to services. Unit 5 was on outage.

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2.3 Energy source characteristics

Table 3: Energy Source Material Characteristics.

	Characteristic	Stipulated Range (Unit)	Monthly Average Content
Coal burned	Sulphur Content	1.6%	1,33
	Ash Content	40%	34,90

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

2.4 Emissions reporting

2.4.1 Particulate Matter Emissions

Unit 1 Particulate Emissions

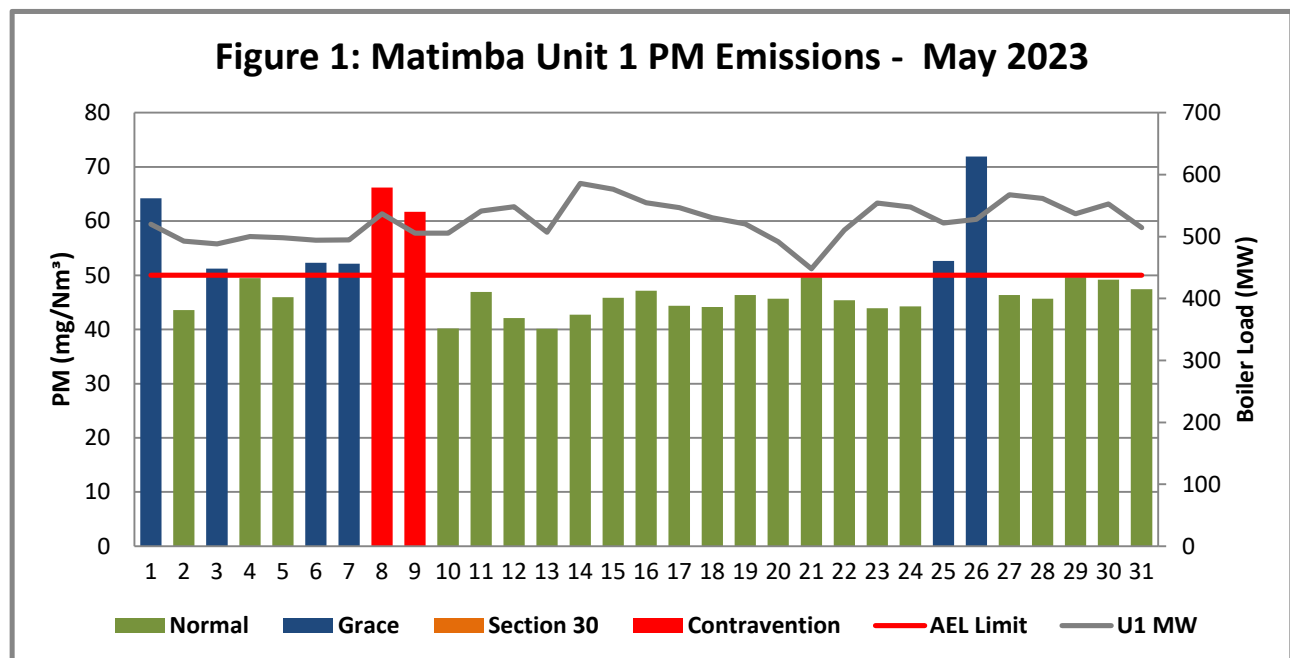


Figure 1: Particulate matter daily average emissions against emission limit for unit 1 for the month of May 2023

Interpretation:

Unit 1 exceeded the daily particulate emission limit of 50mg/Nm³ on 1, 3, 6, 7, 8, 9, 25 and 26 May 2023. The exceedances from the 8 to 9 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.

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Unit 2 Particulate Emissions

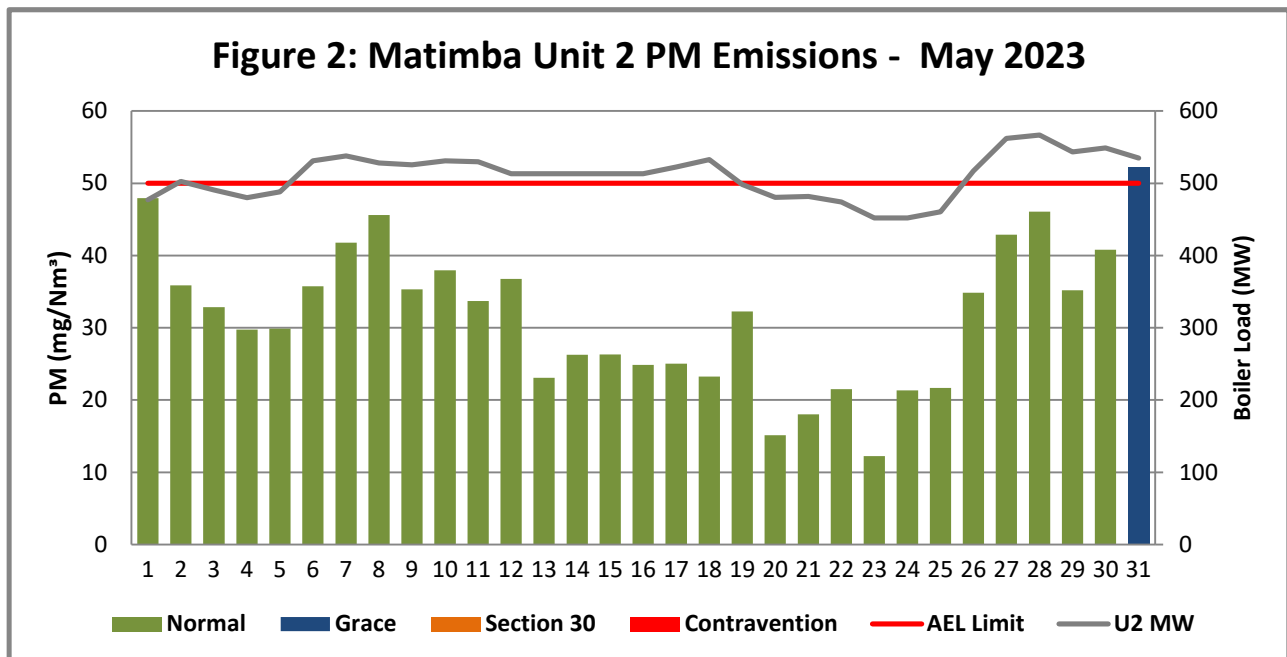


Figure 2: Particulate matter daily average emissions against emission limit for unit 2 for the month of May 2023

Interpretation:

Unit 2 exceeded the daily particulate emission limit of 50mg/Nm³ on 31 May 2023. The exceedance occurred within the 48-hour grace. 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 3 Particulate Emissions

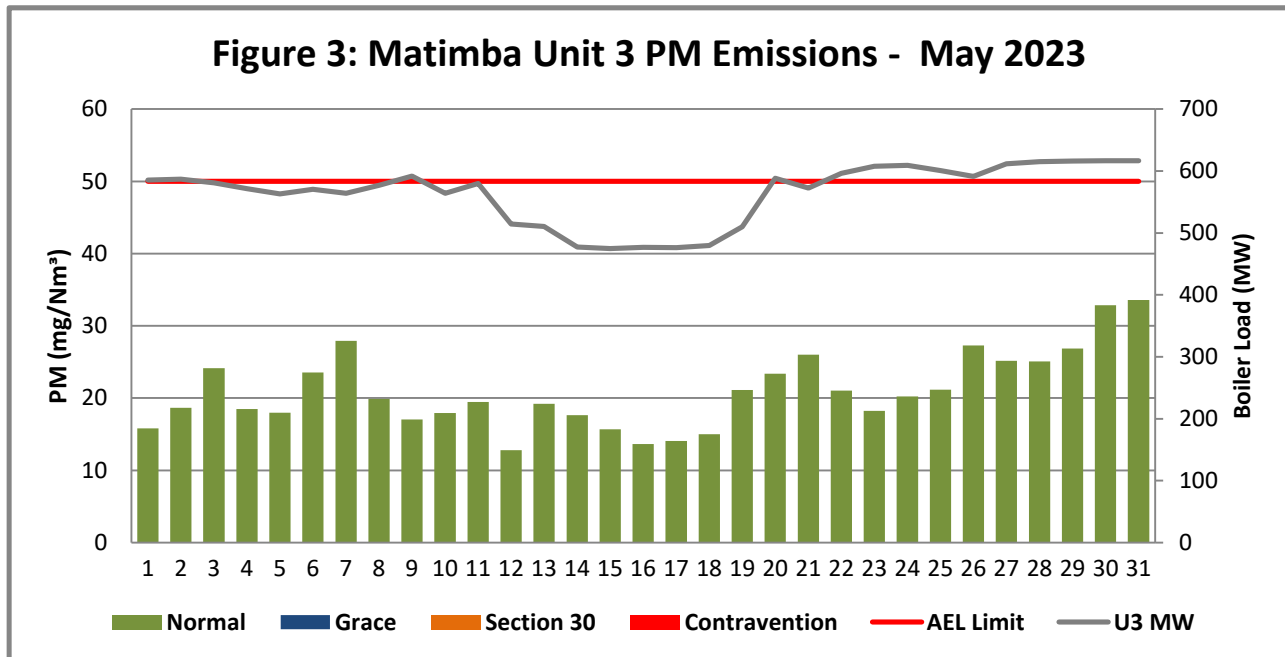


Figure 3: Particulate matter daily average emissions against emission limit for unit 3 for the month of May 2023

Interpretation:

All daily averages for Unit 3 are below Particulate matter emission daily limit of 50 mg/Nm³.

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Unit 4 Particulate Emissions

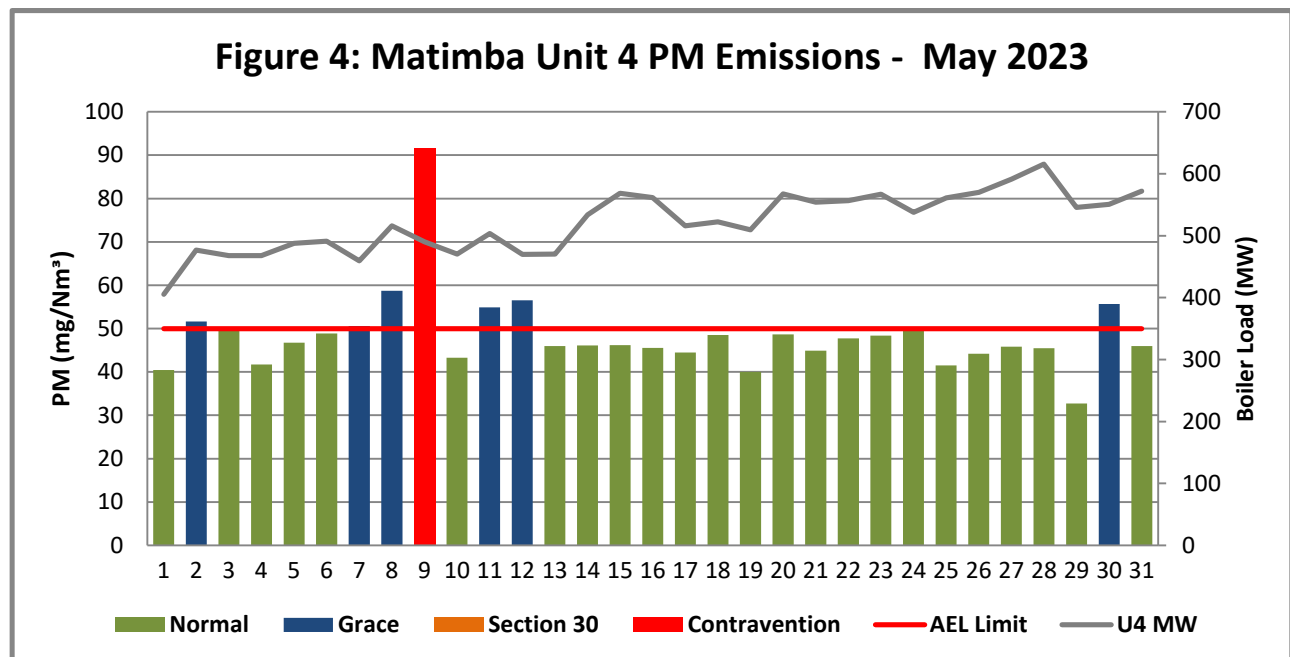


Figure 4: Particulate matter daily average emissions against emission limit for unit 4 for the month of May 2023

Interpretation:

Unit 4 Particulate matter exceeded the daily limit of 50 mg/Nm³ on 2 to 7,8,9,11,12, and 30 May 2023. Exceedance on 9 May 2023 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.

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Unit 5 Particulate Emissions

Unit 5 on outage.

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Unit 6 Particulate Emissions

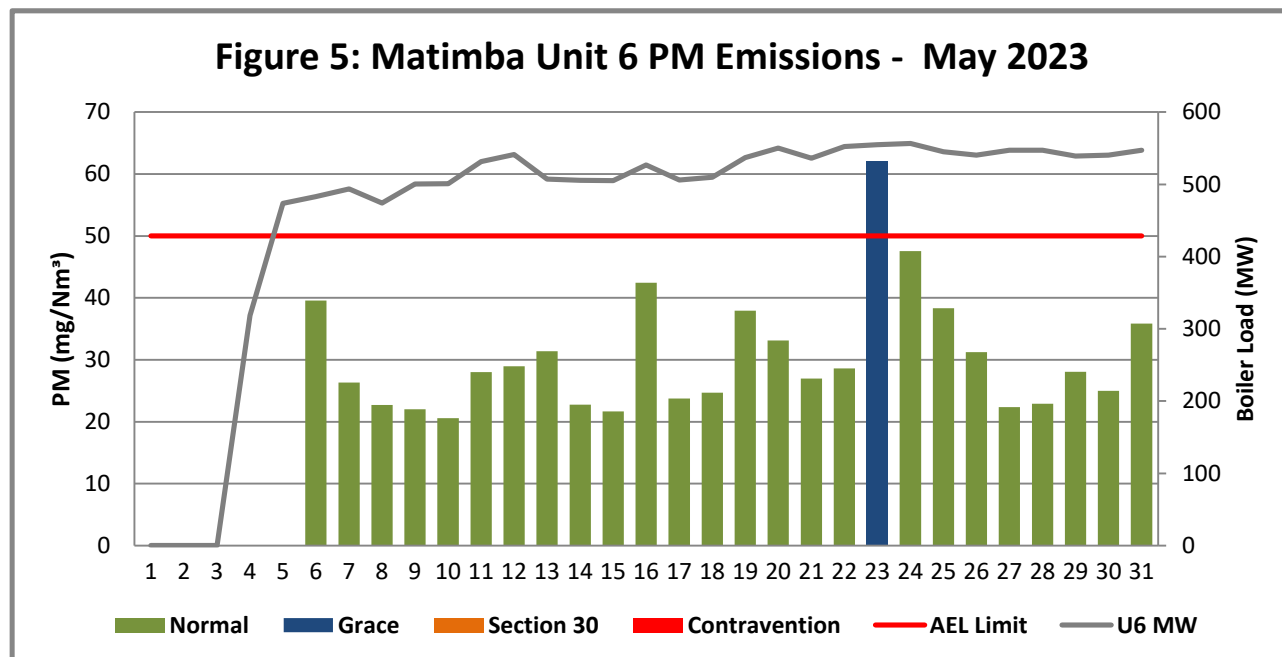


Figure 5: Particulate matter daily average emissions against emission limit for unit 6 for the month of May 2023

Interpretation:

Unit 6 Particulate matter exceeded the daily limit of 50 mg/Nm³ on 23 May 2023. 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 exceedances remained within the 48-hour grace period.

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2.4.2 Gaseous Emissions

Gaseous emissions analyzers for all 6 units are providing unreliable data due to the movement of the Oxygen analyzer ports that were previously installed incorrectly to a new correct position.

The station completed the project to relocate the Oxygen analyzer ports in November 2022 as part of the activities to implement the changes on gaseous emission analyzers to improve the reliability of the data.

The station is currently preparing to perform the quality assurance tests and calibrations on the monitors post the changes implemented.

Unit 1 SO₂ Emissions

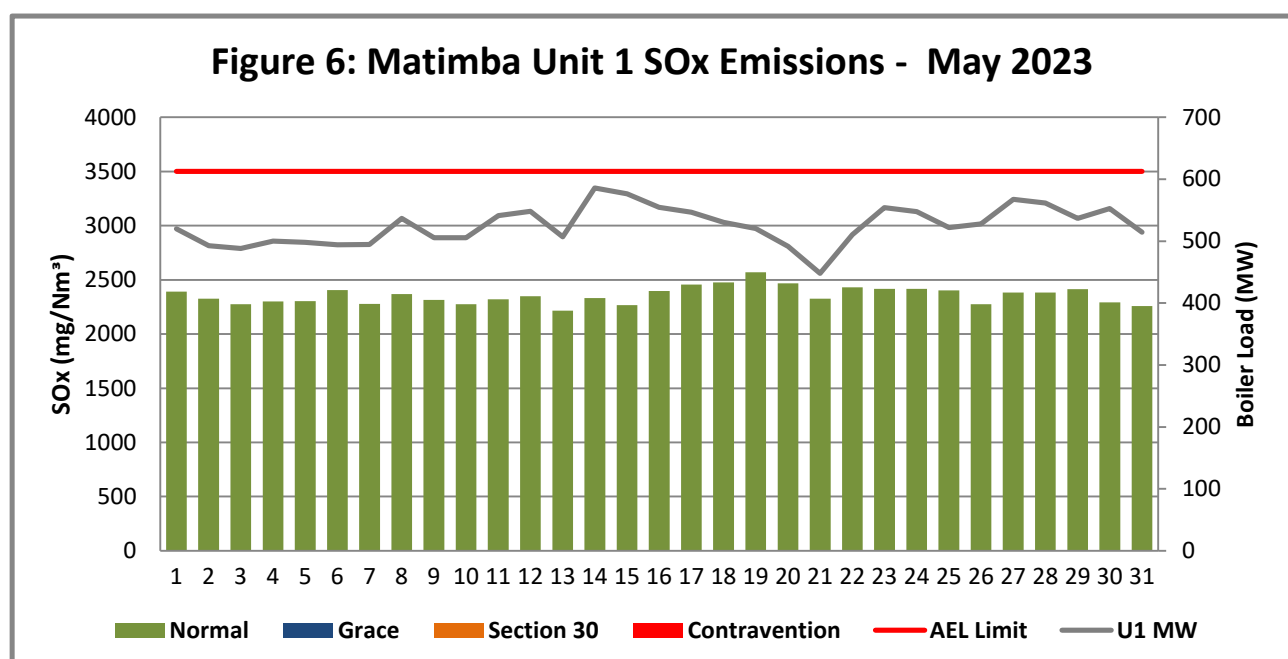


Figure 6: SO₂ daily average emissions against emission limit for unit 1 for the month of April 2023

Interpretation:

All daily averages below SO₂ emission monthly limit of 3500 mg/Nm³.

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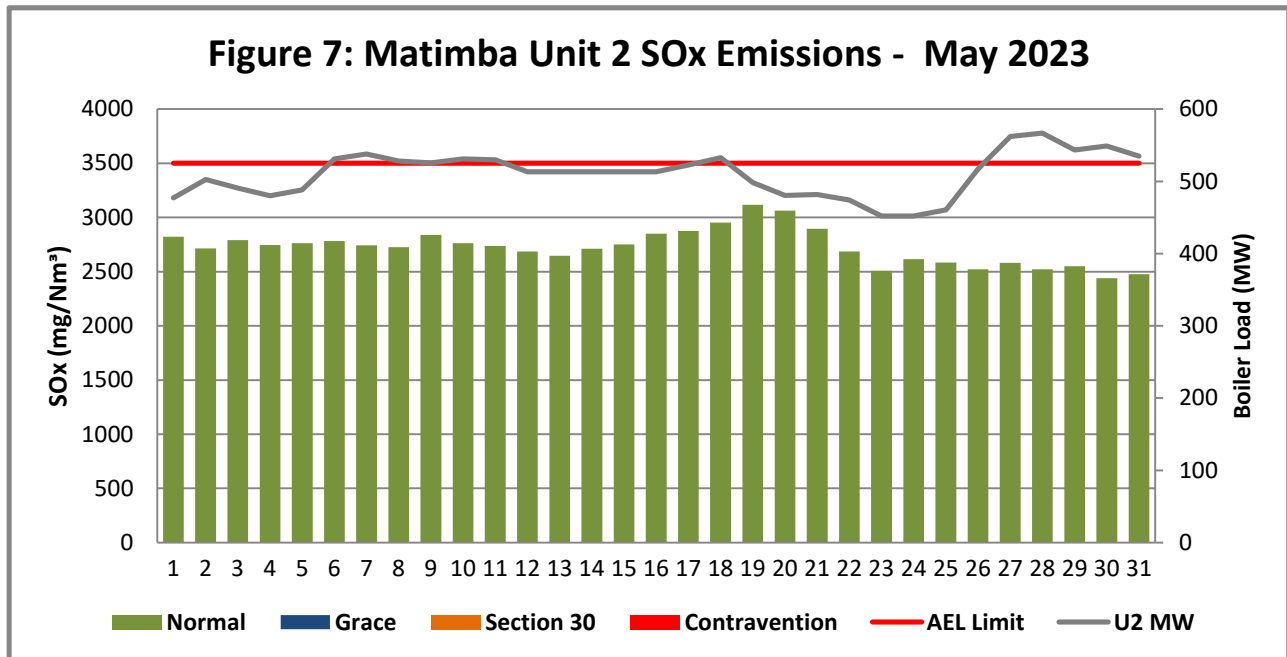
Unit 2 SO₂ Emissions

Figure 7: SO₂ daily average emissions against emission limit for unit 2 for the month of May 2023

Interpretation:

All daily averages below SO₂ emission monthly limit of 3500 mg/Nm³

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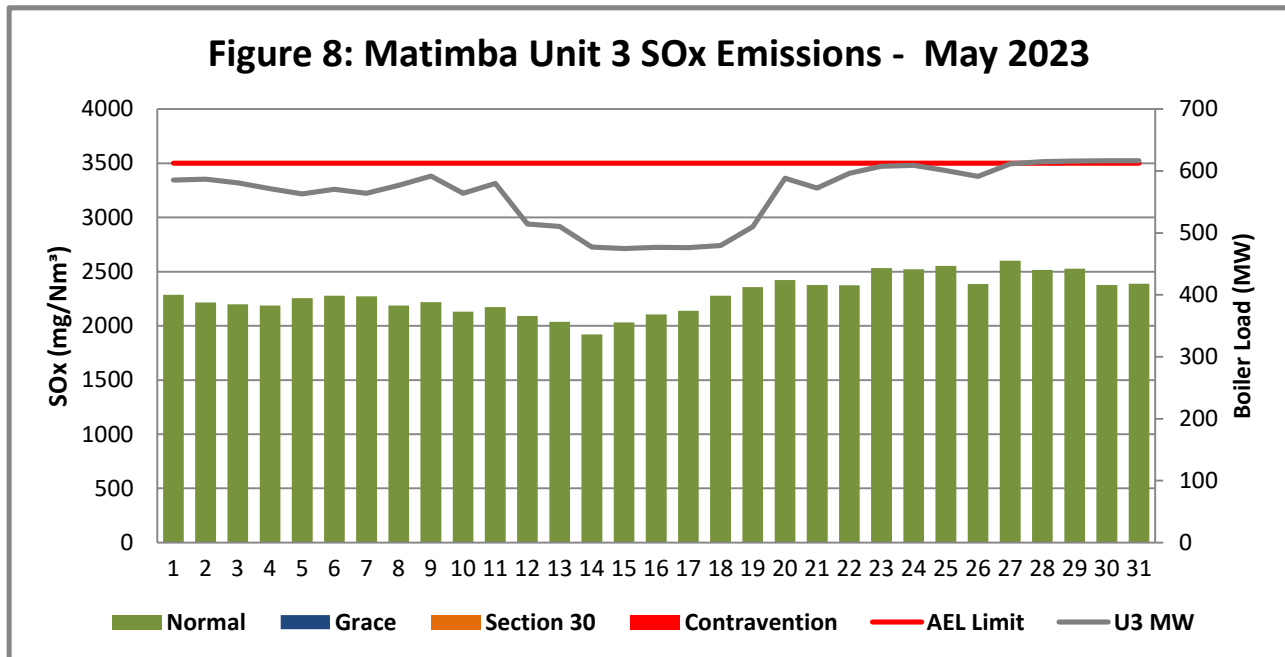
Unit 3 SO₂ Emissions

Figure 8: SO₂ daily average emissions against emission limit for unit 3 for the month of May 2023

Interpretation:

All daily averages below SO₂ emission monthly limit of 3500 mg/Nm³.

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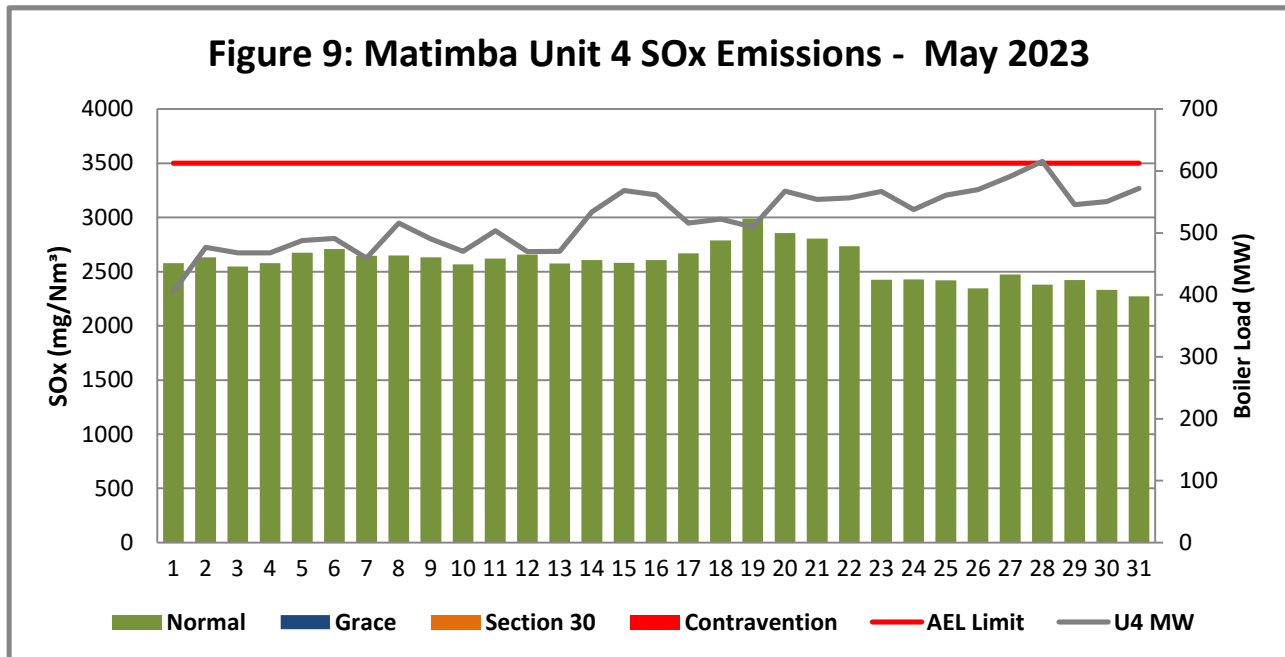
Unit 4 SO₂ Emissions

Figure 9: SO₂ daily average emissions against emission limit for unit 4 for the month of May 2023

Interpretation:

All daily averages below SO₂ emission monthly limit of 3500 mg/Nm³.

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Unit 5 SO₂ Emissions

Unit 5 off load for outage

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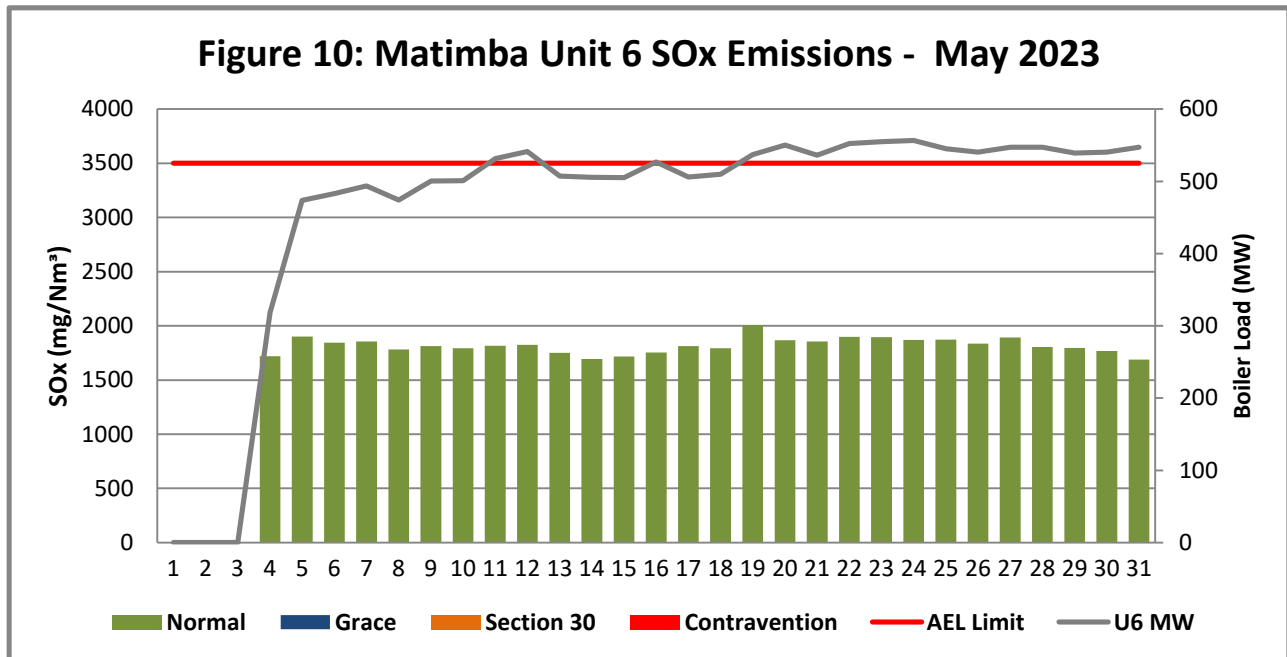
Unit 6 SO₂ Emissions

Figure 10: SO₂ daily average emissions against emission limit for unit 6 for the month of May 2023

Interpretation:

All daily averages remained below SO₂ emission monthly limit of 3500 mg/Nm³.

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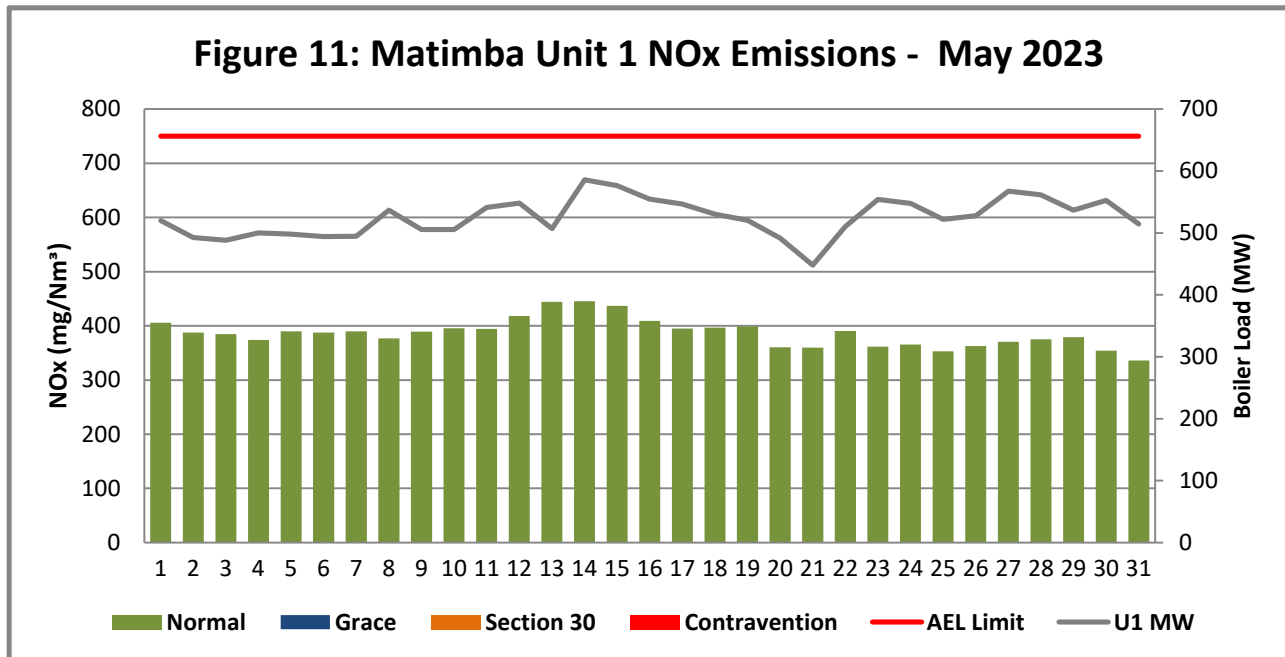
Unit 1 NO_x Emissions

Figure 11: NO_x daily average emissions against emission limit for unit 1 for the month of May 2023

Interpretation:

All daily averages below NO_x emission limit of 750 mg/Nm³.

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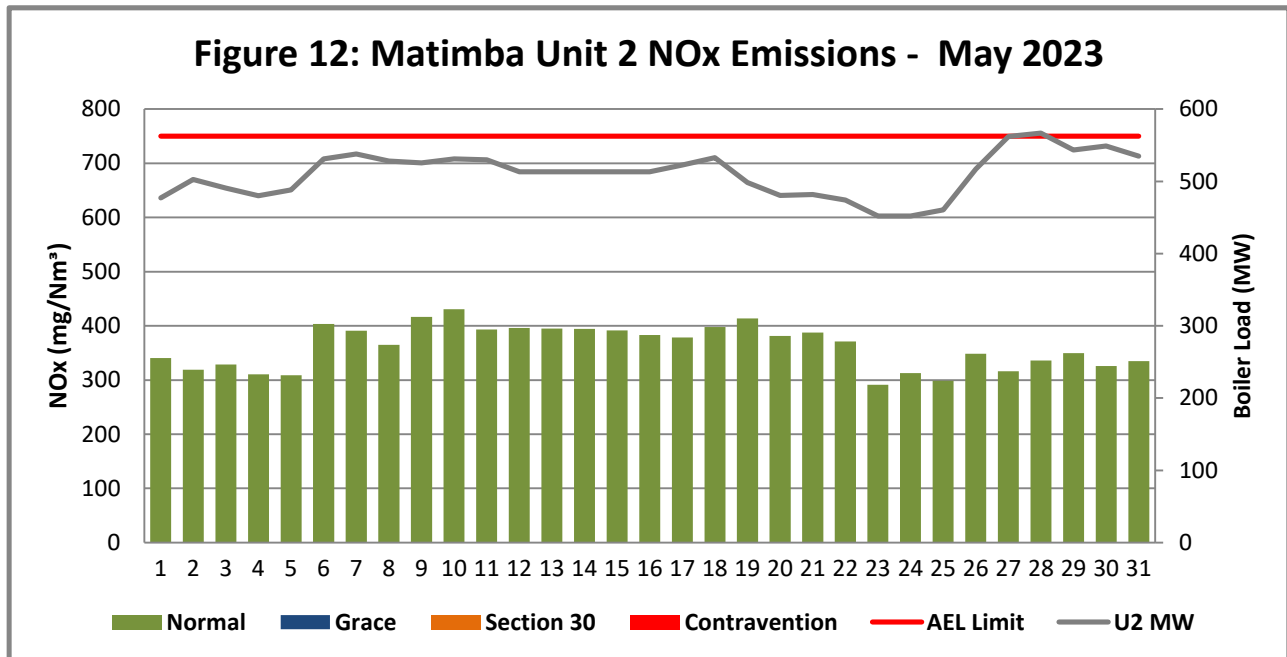
Unit 2 NO_x Emissions

Figure 12: NO_x daily average emissions against emission limit for unit 2 for the month of May 2023

Interpretation:

All daily averages below NO_x emission limit of 750 mg/Nm³.

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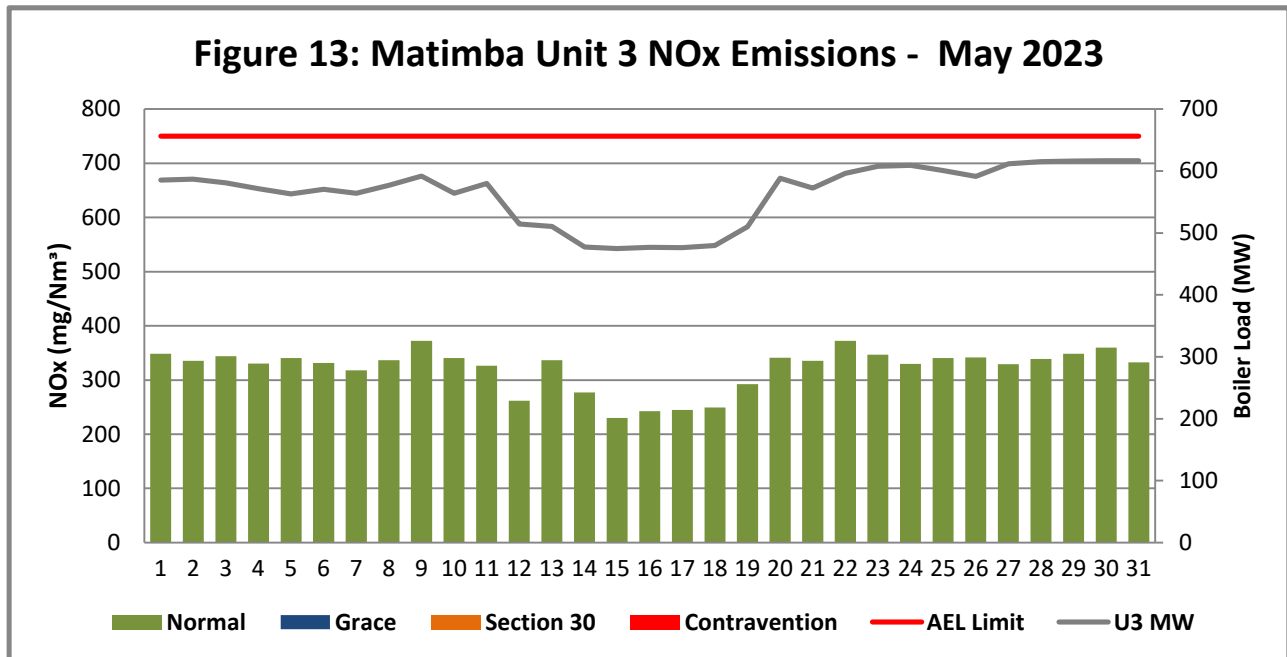
Unit 3 NO_x Emissions

Figure 13: NO_x daily average emissions against emission limit for unit 3 for the month of May 2023

Interpretation:

All daily averages below NO_x emission limit of 750 mg/Nm³.

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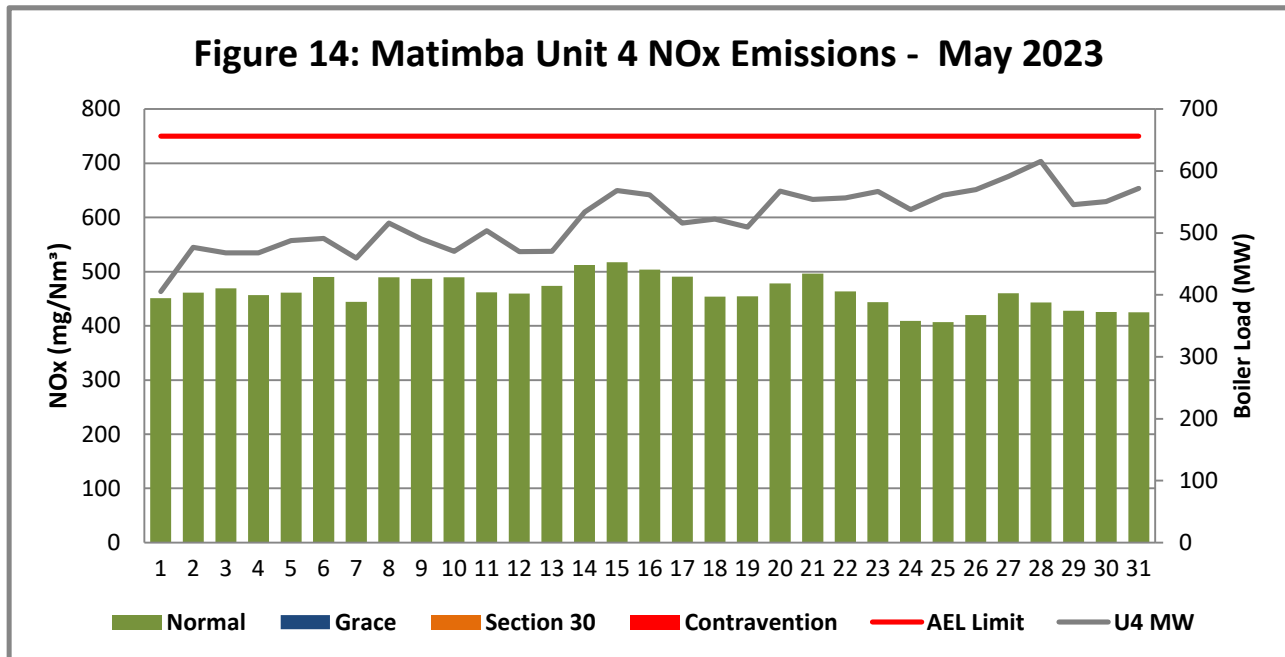
Unit 4 NO_x Emissions

Figure 14: NO_x daily average emissions against emission limit for unit 4 for the month of May 2023

Interpretation:

All daily averages below NO_x emission limit of 750 mg/Nm³.

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Unit 5 NO_x Emissions

Unit 5 off load for outage

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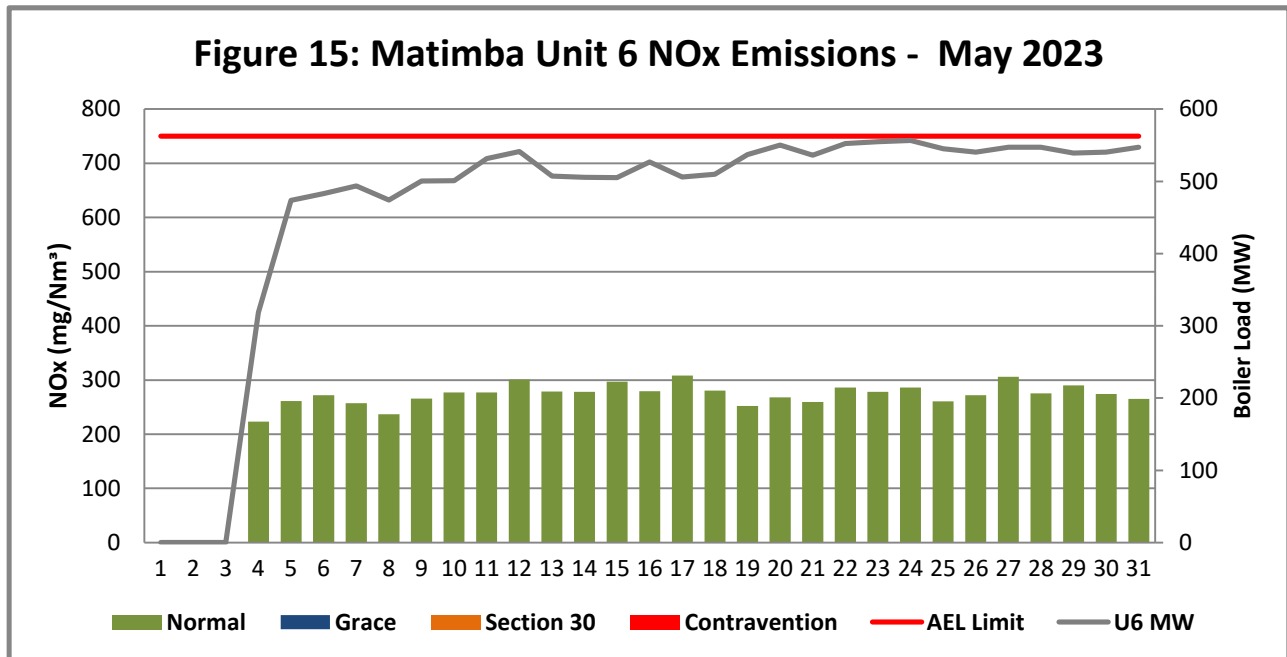
Unit 6 NO_x Emissions

Figure 15: NO_x daily average emissions against emission limit for unit 6 for the month of May 2023

Interpretation:

All daily averages below NO_x emission limit of 750 mg/Nm³.


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2.4.3 Total Volatile Organic Compounds

Table 4: Total volatile compound estimates

																										
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*																										
Date:	Friday, 16 June 2023																									
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">MONTHLY INPUT DATA FOR THE STATION</p> <p align="center">Please only insert relevant monthly data inputs into the blue cells below</p> <p align="center">Choose from a dropdown menu in the green cells</p> <p align="center">The total VOC emissions for the month are in the red cells</p> <p align="center">IMPORTANT: Do not change any other cells without consulting the AQ CoE</p>																										
MONTH:	May																									
<table border="1"> <thead> <tr> <th>GENERAL INFORMATION:</th> <th>Data</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Total number of fuel oil tanks:</td> <td>4</td> <td>NA</td> </tr> <tr> <td>Height of tank:</td> <td>13,34</td> <td>m</td> </tr> <tr> <td>Diameter of tank:</td> <td>9,53</td> <td>m</td> </tr> <tr> <td>Net fuel oil throughput for the month:</td> <td>813,252</td> <td></td> </tr> <tr> <td>Molecular weight of the fuel oil:</td> <td>166,00</td> <td>Lb/lb-mole</td> </tr> </tbody> </table>			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:	813,252		Molecular weight of the fuel oil:	166,00	Lb/lb-mole						
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<table border="1"> <thead> <tr> <th>METEROLOGICAL DATA FOR THE MONTH</th> <th>Data</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Daily average ambient temperature</td> <td>19,51</td> <td>°C</td> </tr> <tr> <td>Daily maximum ambient temperature</td> <td>28,42</td> <td>°C</td> </tr> <tr> <td>Daily minimum ambient temperature</td> <td>12,06</td> <td>°C</td> </tr> <tr> <td>Daily ambient temperature range</td> <td>15,04</td> <td>°C</td> </tr> <tr> <td>Daily total insolation factor</td> <td>3,91</td> <td>kWh/m²/day</td> </tr> <tr> <td>Tank paint colour</td> <td>Grey/medium</td> <td>NA</td> </tr> <tr> <td>Tank paint solar absorbance</td> <td>0,68</td> <td>NA</td> </tr> </tbody> </table>			METEROLOGICAL DATA FOR THE MONTH	Data	Unit	Daily average ambient temperature	19,51	°C	Daily maximum ambient temperature	28,42	°C	Daily minimum ambient temperature	12,06	°C	Daily ambient temperature range	15,04	°C	Daily total insolation factor	3,91	kWh/m²/day	Tank paint colour	Grey/medium	NA	Tank paint solar absorbance	0,68	NA
METEROLOGICAL DATA FOR THE MONTH	Data	Unit																								
Daily average ambient temperature	19,51	°C																								
Daily maximum ambient temperature	28,42	°C																								
Daily minimum ambient temperature	12,06	°C																								
Daily ambient temperature range	15,04	°C																								
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Tank paint colour	Grey/medium	NA																								
Tank paint solar absorbance	0,68	NA																								
<table border="1"> <thead> <tr> <th>FINAL OUTPUT:</th> <th>Result</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Breathing losses:</td> <td>0,54</td> <td>kg/month</td> </tr> <tr> <td>Working losses:</td> <td>0,02</td> <td>kg/month</td> </tr> <tr> <td>TOTAL LOSSES (Total TVOC Emissions for the month):</td> <td>0,56</td> <td>kg/month</td> </tr> </tbody> </table>			FINAL OUTPUT:	Result	Unit	Breathing losses:	0,54	kg/month	Working losses:	0,02	kg/month	TOTAL LOSSES (Total TVOC Emissions for the month):	0,56	kg/month												
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<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 Chew 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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2.4.4 Greenhouse gas (CO₂) emissions

CO₂ 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.

2.5 Daily power generated

Table 5: Daily power generated per unit in MWh for the month of May 2023

Date	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
2023/05/01	11088,5	10189,3	12770,8	8820,14	0	0
2023/05/02	10729,6	10728,5	12792,8	10323,1	0	0
2023/05/03	10623,7	10483,1	12666,7	10104,1	0	0
2023/05/04	10921,4	10191,7	12481,6	10128,2	0	1073,39
2023/05/05	10844,5	10382,2	12274	10565,6	0	7871,05
2023/05/06	10763,2	11293,8	12430,7	10649,4	0	10323
2023/05/07	10779,2	11450,8	12299,7	9960,99	0	10585,7
2023/05/08	11736	11205	12541,5	11174,1	0	10208,2
2023/05/09	11043,3	11178,8	12914,4	10601,5	0	10777,4
2023/05/10	11026,1	11309,6	12342,3	10196,7	0	10847,3
2023/05/11	11794,5	11294,6	12640,4	10924,4	0	11403,6
2023/05/12	12002,8	11227,5	11238,2	10196,7	0	11691,2
2023/05/13	11033,7	10665,7	11099,2	10202,2	0	10940,4
2023/05/14	12828,3	11413,3	10406,5	11547,8	0	10867,8
2023/05/15	12656,3	11893	10364	12384,9	0	10856,8
2023/05/16	12160,5	11997,5	10423,1	12176,3	0	11368,3
2023/05/17	11974,1	11705,1	10417,3	11197,4	0	10914,7
2023/05/18	11574,6	11345,2	10456,7	11322,3	0	10999,4
2023/05/19	11345,9	10594,4	11064,7	11022,7	0	11579,6
2023/05/20	10713	10222,7	12838,6	12359	0	11902,8
2023/05/21	8558,51	10229	12539,1	12045,2	0	11578,6
2023/05/22	11173,8	10060,2	12991,1	12066,5	0	11936
2023/05/23	12103,5	9599,46	13267,9	12357,6	0	12027
2023/05/24	12008,1	9591,68	13308,4	11661,6	0	12047,1
2023/05/25	11402,9	9754,77	13146,7	12175,2	0	11807,9
2023/05/26	11538,1	10947,5	12857,5	12330	0	11656,4
2023/05/27	12391,3	11949,1	13354,8	12876,5	0	11822,8
2023/05/28	12334,1	12085,3	13433,8	13401,5	0	11853,4
2023/05/29	11716,4	11510,6	13448	11796,3	0	11626,6
2023/05/30	12100,4	11676,4	13456	11987,9	0	11684,6
2023/05/31	11228,5	11338,7	13452,4	12365,2	0	11803

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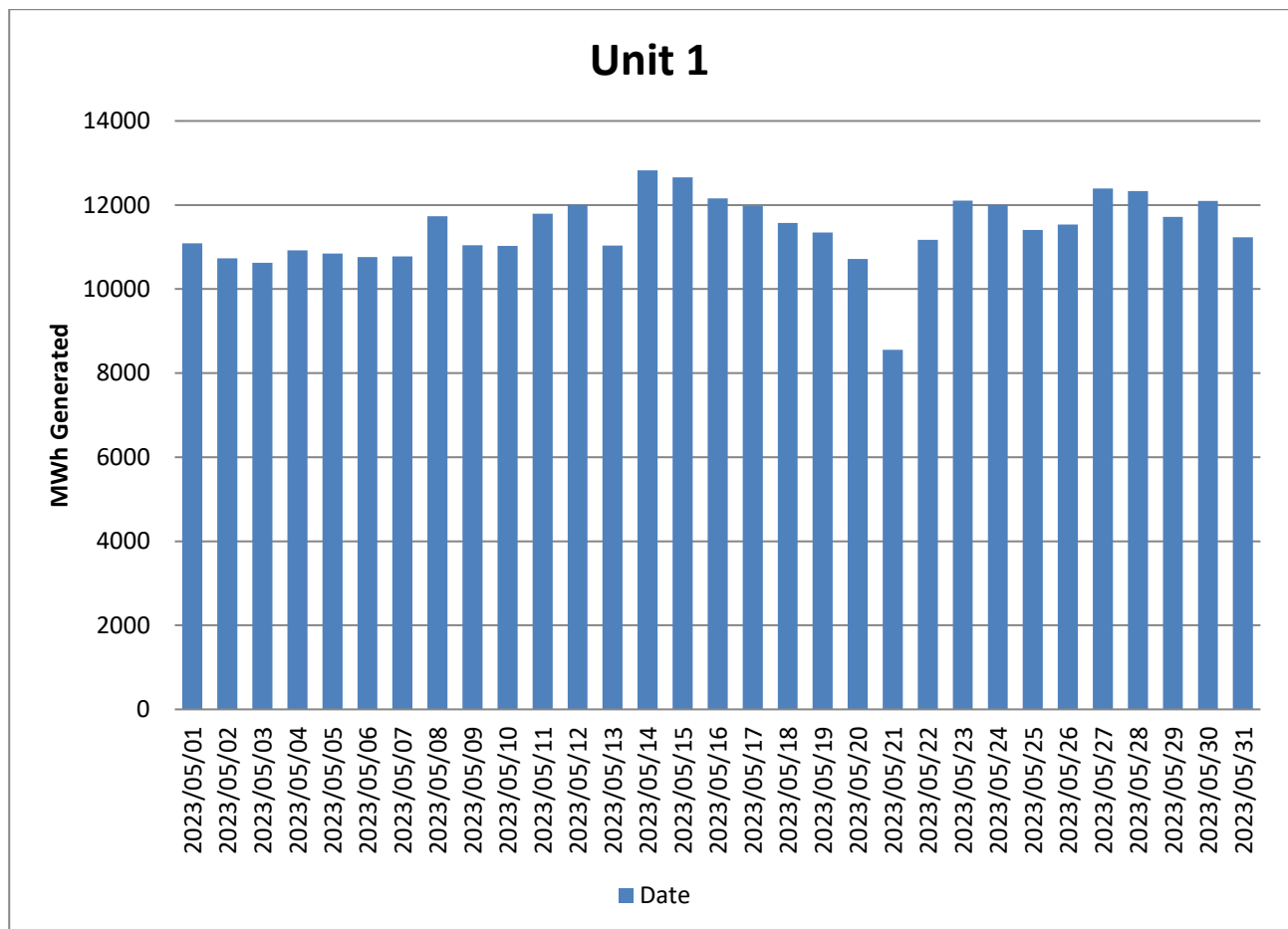


Figure 16: Unit 1 daily generated power in MWh for the month of May 2023

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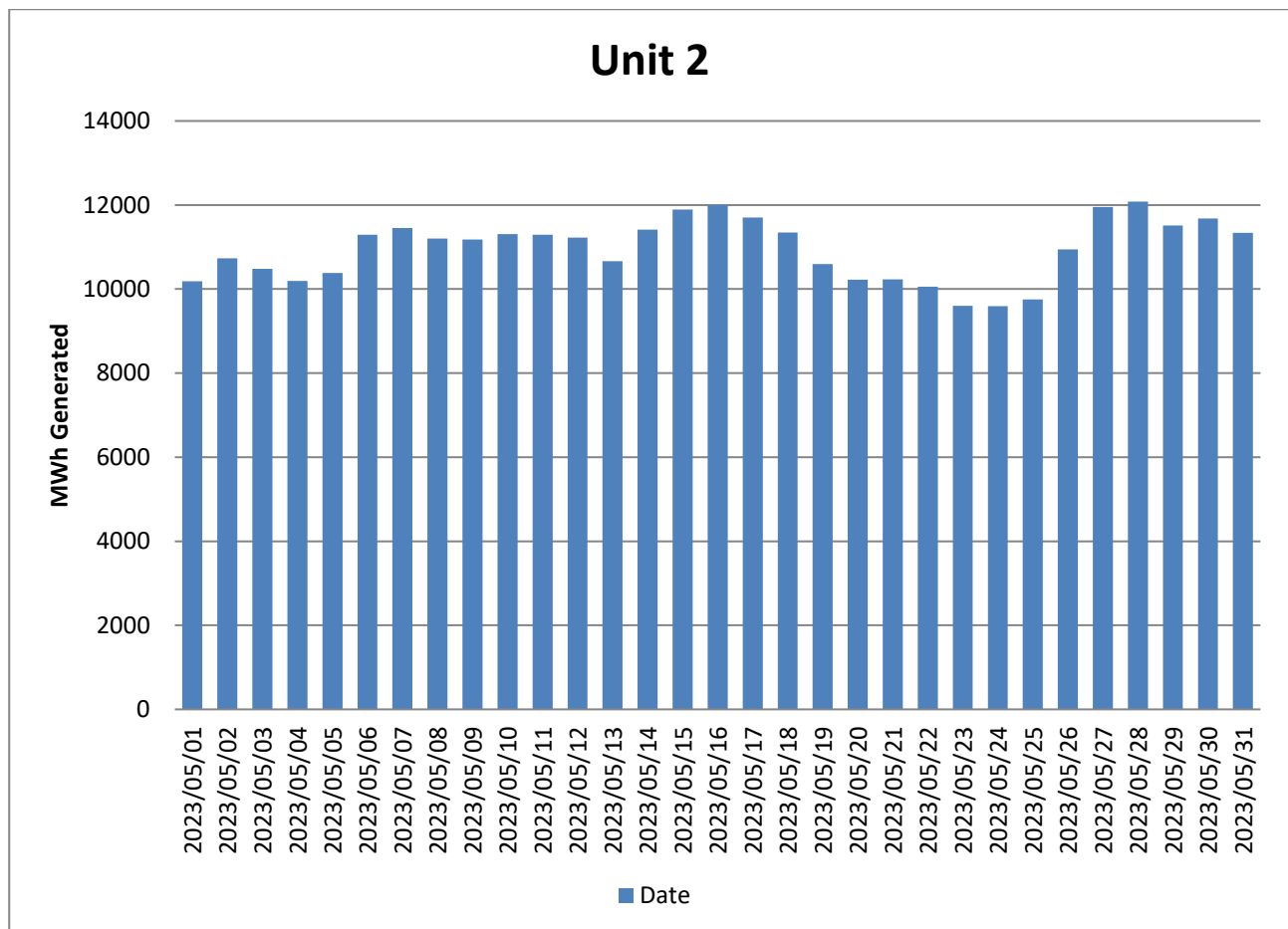


Figure 17: Unit 2 daily generated power in MWh for the month of May 2023

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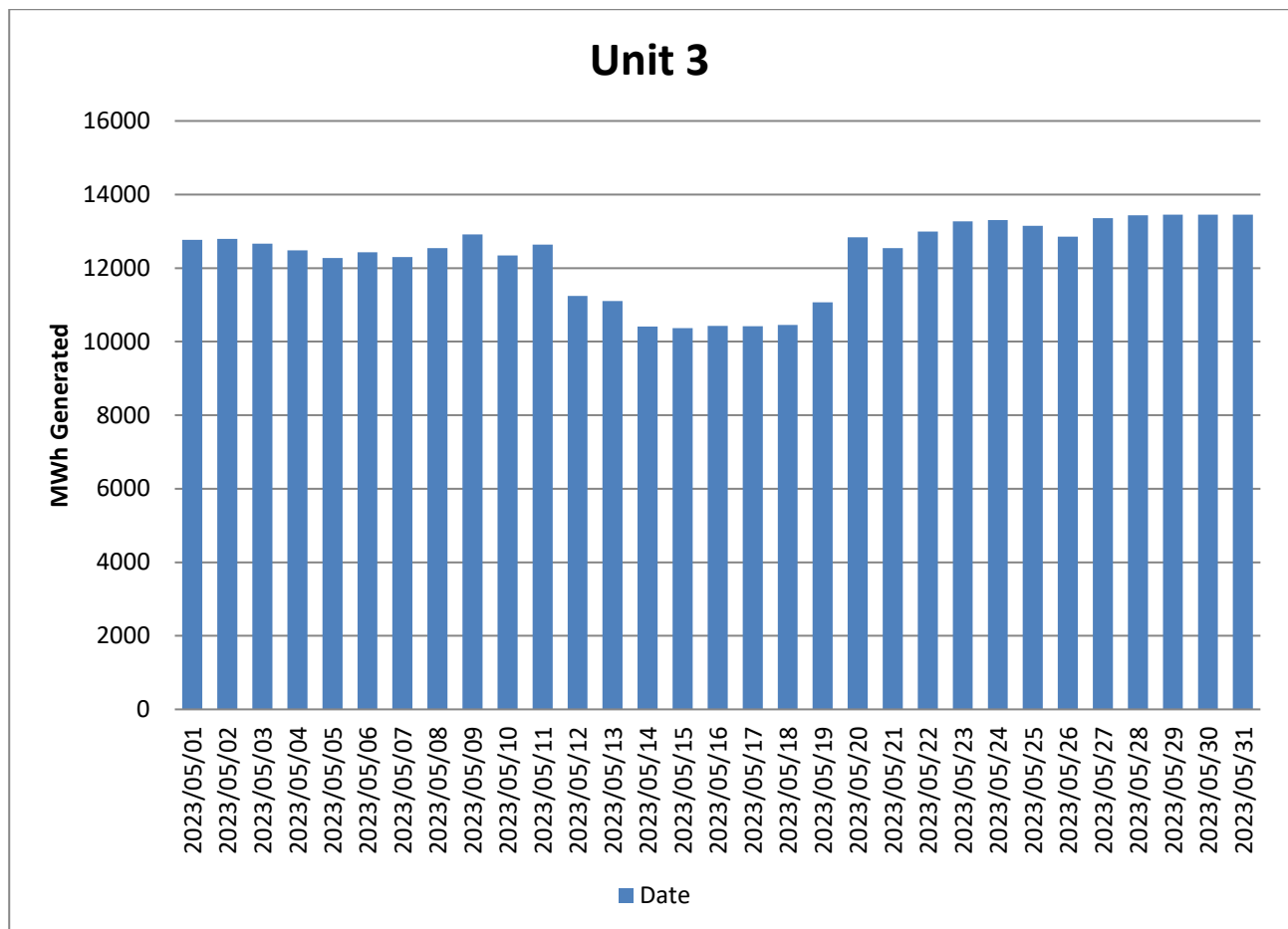


Figure 18: Unit 3 daily generated power in MWh for the month of May 2023

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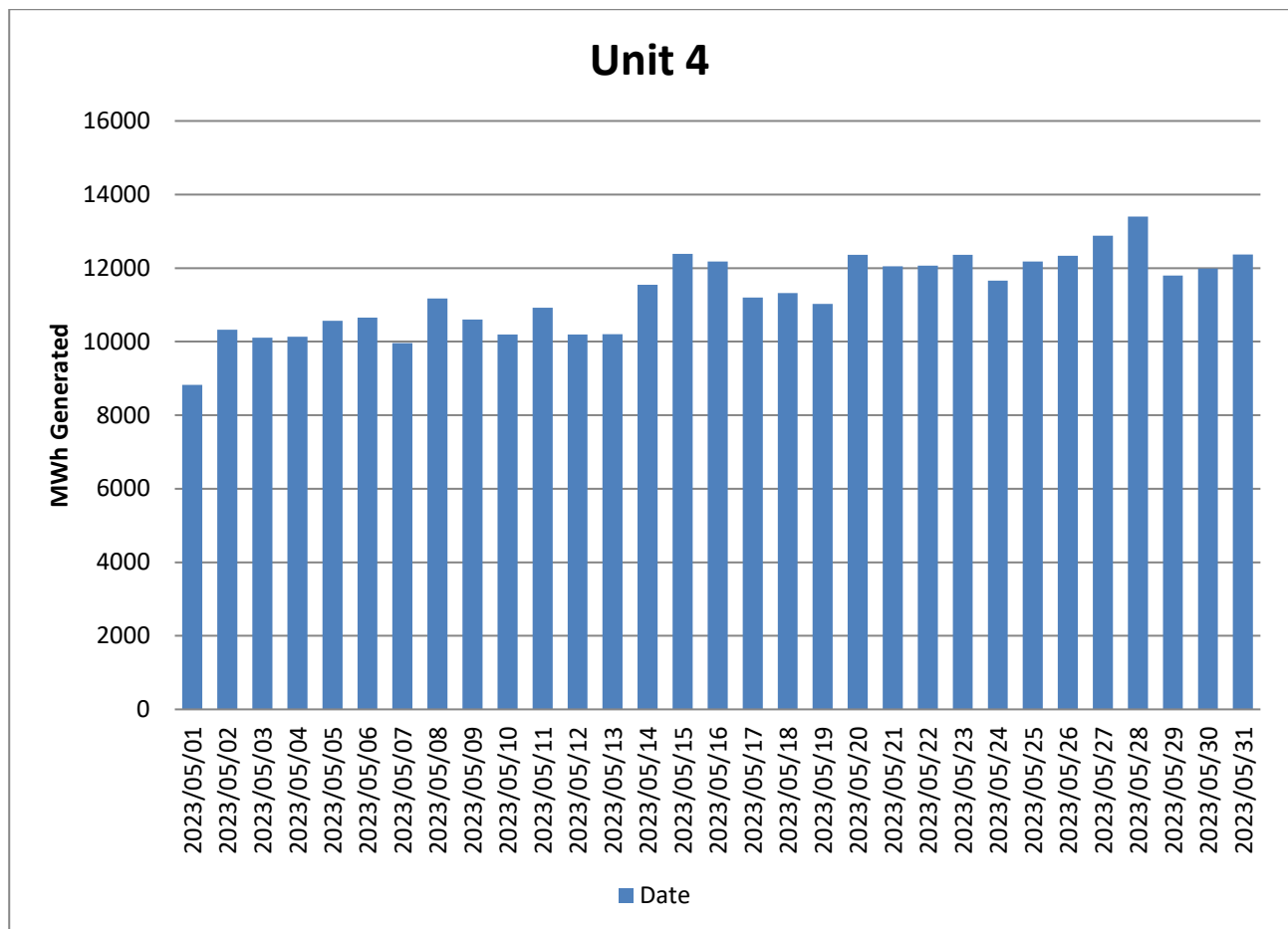


Figure 19: Unit 4 daily generated power in MWh for the month of May 2023

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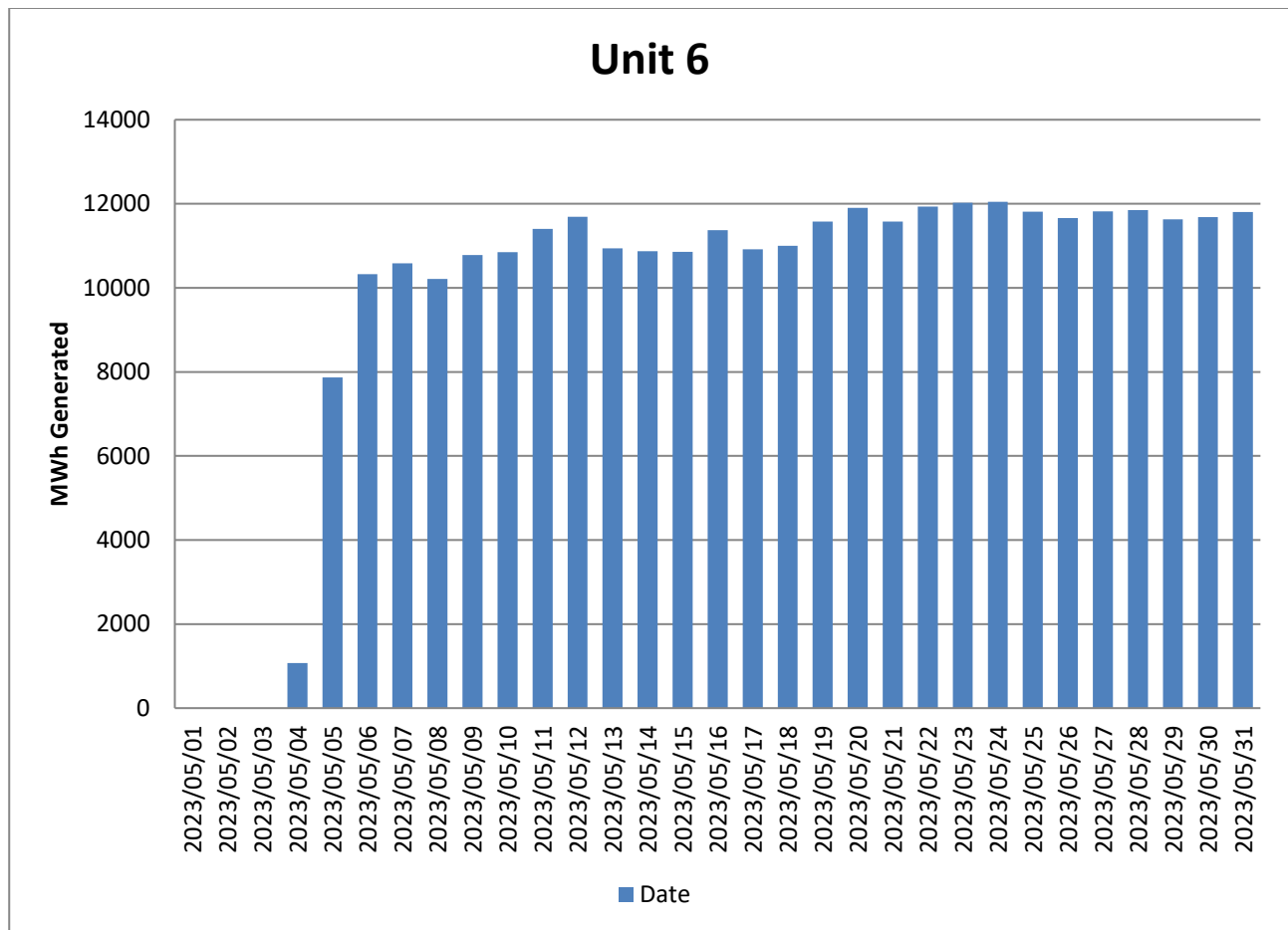


Figure 20: Unit 6 daily generated power in MWh for the month of May 2023

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2.6 Pollutant Tonnages

The emitted pollutant tonnages for May 2023 are provided in table 6. Gaseous emissions analysers for all 6 units are providing unreliable data due to the movement of the Oxygen analyser port to a new position. Matimba is currently in the process of implementing recommended changes on gaseous emission analysers to improve the reliability of the data.

Table 6: Pollutant tonnages for the month of May 2023

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)	CO ₂ (tons)
Unit 1	96,5	5 028,8	825,5	406 676
Unit 2	62,5	7 037,0	935,3	462 854
Unit 3	45,2	6 307,9	889,9	452 682
Unit 4	71,7	5 576,6	997,3	336 017
Unit 5	0	0	0	0
Unit 6	47,4	3 857,2	583,5	368 401
SUM	323,3	27 807,4	4 231,5	2 026 631

2.7 Operating days in compliance to PM AEL Limit

Table 7: Operating days in compliance with PM AEL limit of May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
Unit 1	23	6	0	2	8	49,0
Unit 2	30	1	0	0	1	31,8
Unit 3	31	0	0	0	0	21,0
Unit 4	24	6	0	1	7	48,4
Unit 5	0	0	0	0	0	0
Unit 6	25	1	0	0	1	30,6
SUM	108	13	0	3	16	

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2.8 Operating days in compliance to SOx AEL Limit

Table 8: Operating days in compliance with SOx AEL limit of May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm³)
Unit 1	31	0	0	0	0	2 357,7
Unit 2	31	0	0	0	0	2 724,4
Unit 3	31	0	0	0	0	2 288,4
Unit 4	31	0	0	0	0	2 587,1
Unit 5	0	0	0	0	0	0
Unit 6	28	0	0	0	0	1 818,6
SUM	124	0	0	0	0	

2.9 Operating days in compliance to NOx AEL Limit

Table 9: Operating days in compliance with NOx AEL limit of May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	31	0	0	0	0	386,8
Unit 2	31	0	0	0	0	361,7
Unit 3	31	0	0	0	0	321,8
Unit 4	31	0	0	0	0	462,1
Unit 5	0	0	0	0	0	0
Unit 6	28	0	0	0	0	273,8
SUM	124	0	0	0	0	

2.10 Reference values

Table 10: Reference values for data provided, May 2023

Compound / Parameter	Units of Measure	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Oxygen	%	7,10	8,69	3,78	6,55	0	6,07
Moisture	%	4,54	4,01	5,87	3,08	0	1,84
Velocity	m/s	25,2	33,0	26,3	24,0	0	28,3
Temperature	°C	139,4	123,2	127,2	130,0	0	166,3
Pressure	mBar	930,7	936,0	918,6	927,4	0	916,8

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2.11 Continuous Emission Monitors

2.11.1 Reliability

Continuous emission monitors were available for more than 80% of the reporting period. The emitted pollutant tonnages for May 2023 are provided in table 6. Gaseous emissions analysers for all 6 units are providing unreliable data due to the movement of the Oxygen analyser port to a new position. Matimba is currently in the process of implementing recommended changes on gaseous emission analysers to improve the reliability of the data.

Table 11: Average percentage (%) availability of monitors for the month of May 2023.

Associated Unit/Stack	PM	SO ₂	NO
Unit 1	100,0	99,9	99,9
Unit 2	100,0	99,9	95,0
Unit 3	100,0	100,0	100,0
Unit 4	100,0	100,0	100,0
Unit 5	0	0	0
Unit 6	99,8	99,9	99,9

2.11.2 Changes, downtime, and repairs

Unit 1

- No adjustments done on the CEMs. Calibration of gaseous analysers is not done from April 2023 due to unavailability of the calibration gas.
- No downtime or repairs done on the particulate monitors

Unit 2

- No adjustments done on the CEMs. Calibration of gaseous analysers is not done from April 2023 due to unavailability of the calibration gas.
- No downtime or repairs done on the particulate monitors

Unit 3

- No adjustments done on the CEMs. Calibration of gaseous analysers is not done from April 2023 due to unavailability of the calibration gas.
- No downtime or repairs done on the particulate monitors

Unit 4

- No adjustments done on the CEMs. Calibration of gaseous analysers is not done from April 2023 due to unavailability of the calibration gas.
- No downtime or repairs done on the particulate monitors

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Unit 5

- No adjustments done on the CEMs.
- Calibration of gaseous analysers is not done from April 2023 due to unavailability of the calibration gas.

No downtime or repairs done on the particulate monitors

Unit 6

- No adjustments done on the CEMs. Calibration of gaseous analysers is not done from April 2023 due to unavailability of the calibration gas.
- No downtime or repairs done on the particulate monitors

2.11.3 Sampling dates and times**Table 12:** Dates of last conducted CEMS verification tests for PM, SO₂ and NO_x

Name of service provider:		Stacklabs Environmental Services CC		
Address of service provider:		10 Chisel Street Boltonia Krugersdorp 1739		
Stack/ Unit	PM	SO₂	NO_x	CO₂
1	2020/09/30 06h04	2020/09/09 13h00	2020/09/09 13h00	2020/09/09 13h00
2	2021/01/26 04h52	2021/01/27 13h00	2021/01/27 13h00	2021/01/27 13h00
3	2021/08/10 12h05	2020/09/24 07h00	2020/09/24 07h00	2020/09/24 07h00
4	2021/07/13 14h31	2020/09/16 02h00	2020/09/16 02h00	2020/09/16 02h00
5	2020/10/06 05h39	2020/10/08 02h30	2020/10/08 02h30	2020/10/08 02h30
6	2020/09/09 06h41	2020/09/09 13h00	2020/09/09 13h00	2020/09/09 13h00

Note: The CEMS verification tests for PM, SO₂ and NO_x were performed in October 2022 and failed. The tests are planned to be repeated on 16 July 2023.

2.12 Units Start-up information**Table 13:** Start-up information

Unit	1	
Fires in	2023/05/21	05h44
Synchronization with Grid	2023/05/21	08h31
Emissions below limit	2023/05/21	08h31
Fires in, to synchronization	2,47	HOURS

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Synchronization to < Emission limit	0	HOURS
---	---	-------

Unit	6	
Fires in	2023/05/04	13h56
Synchronization with Grid	2023/05/04	19h07
Emissions below limit	2023/05/04	21h01
Fires in, to synchronization	5,11	HOURS
Synchronization to < Emission limit	1,54	HOURS

Unit	6	
Fires in	2023/05/05	06h35
Synchronization with Grid	2023/05/05	11h24
Emissions below limit	2023/05/05	11h24
Fires in, to synchronization	4,9	HOURS
Synchronization to < Emission limit	0	HOURS

2.13 Emergency generation

Table 14: 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	Unit Off	744
Emergency Hours declared including hours after stand down						

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Days over the Limit during Emergency Generation	8	2	0	7	Unit Off	1
--	---	---	---	---	----------	---

During the period under review all Units were on emergency generation in force from 01 May 2023 until 31 May 2023.

2.14 Complaints register

Table 15: 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
N/A					

2.15 Air quality improvements and social responsibility conducted

2.15.1 Air quality improvements

None

2.15.2 Social responsibility conducted

None

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2.16 Ambient air quality monitoring

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

2.17 Electrostatic precipitator and Sulphur plant status

Unit 1

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

Unit 2

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

Unit 3

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

Unit 4

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

Unit 5

- On outage.

Unit 6

- 7 fields out of service, will be inspected next opportunity.
- Hole in burner casing and sulphur leak causing low availability. Preventative maintenance done during the month.

SO3 common plant

- No abnormalities on the sulphur storage plant.

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2.18 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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