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Date: 10 February 2025

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## MAJUBA POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF JANUARY 2025

This serves as the monthly report required in terms of Majuba Power Station's Atmospheric Emission License (MPS/0014/2019/F03) under section 7 routine reporting and record keeping. The emissions are for the month of January 2025. Verified emissions of particulates are included. SO<sub>2</sub> and NO<sub>x</sub> (as NO<sub>2</sub>) emissions are included for all units. Greenhouse gasses are excluded as per the agreement reached between Eskom and the Department of Forestry, Fisheries and the Environmental in the first quarter of 2017/18 financial year's MINTEC and MINMEC management meeting.

### Raw Materials and Products

**Table 1. Quantity of Raw Materials and Products used/produced for the month of January 2025**

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption/ Rate in Month of January 2025
	Coal	Tons/month	1 800 000	1 026 815.5
	Fuel Oil	Tons/month	6 000	3 794.2
Production Rates	Product/ By-Product Name	Unit	Maximum Production Rate Permitted (Quantity)	Production Rate in Month of January 2025
	Energy	*GWh	*3 058	1673.9
	Ash	Tons/month	Not stated in the license	298 392.58

\*Majuba AEL stipulates a maximum production capacity of 4110 MW. This equates to a production rate of 3058 GWh per month when converted, as indicated above. This is to align to the monthly production rates reported.

### Abatement Technology

**Table 2. Abatement Equipment Control Technology for the month of January 2025**

Associated Unit	Technology Type	Actual Utilisation (%) for the month of July 2024	*Minimum Control Efficiency (%)
Unit 1	Fabric Filter Plant	100	99.84
Unit 2	Fabric Filter Plant	100	99.88
Unit 3	Fabric Filter Plant	100	99.83
Unit 4	Fabric Filter Plant	100	99.98
Unit 5	Fabric Filter Plant	100	99.90
Unit 6	Fabric Filter Plant	100	99.89

\*Calculated from the assumption of 90% fly ash to 10% bottom ash and percentage ash as measured in coal

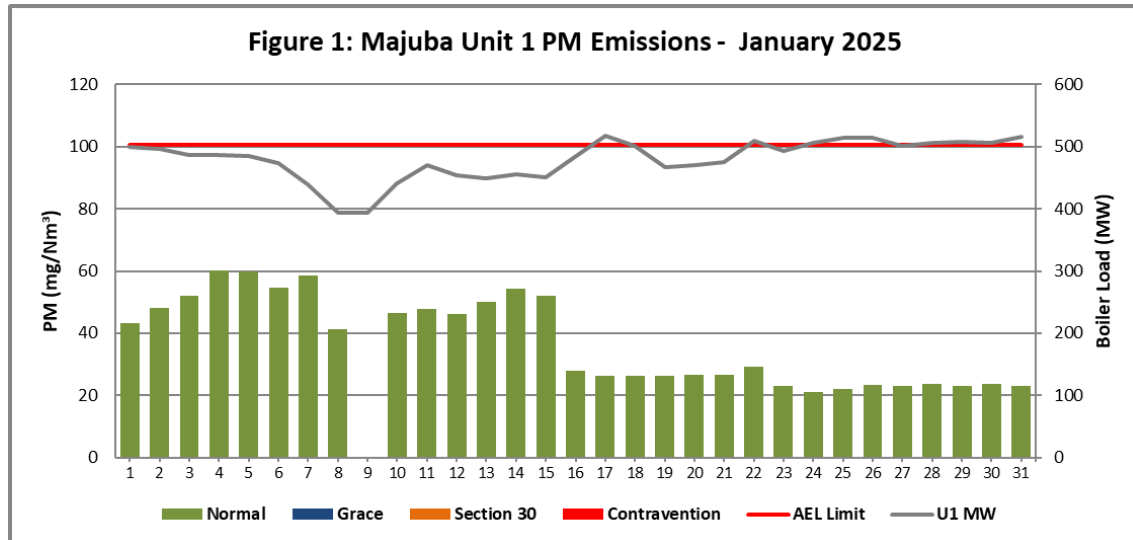
Generation Division  
Majuba Power Station  
Between Amersfoort and Volksrust  
Private Bag x9001 Volksrust 2470 SA  
Tel +27 17 799 2100 Fax +27 17 799 3615 [www.eskom.co.za](http://www.eskom.co.za)

### Energy Source Characteristics

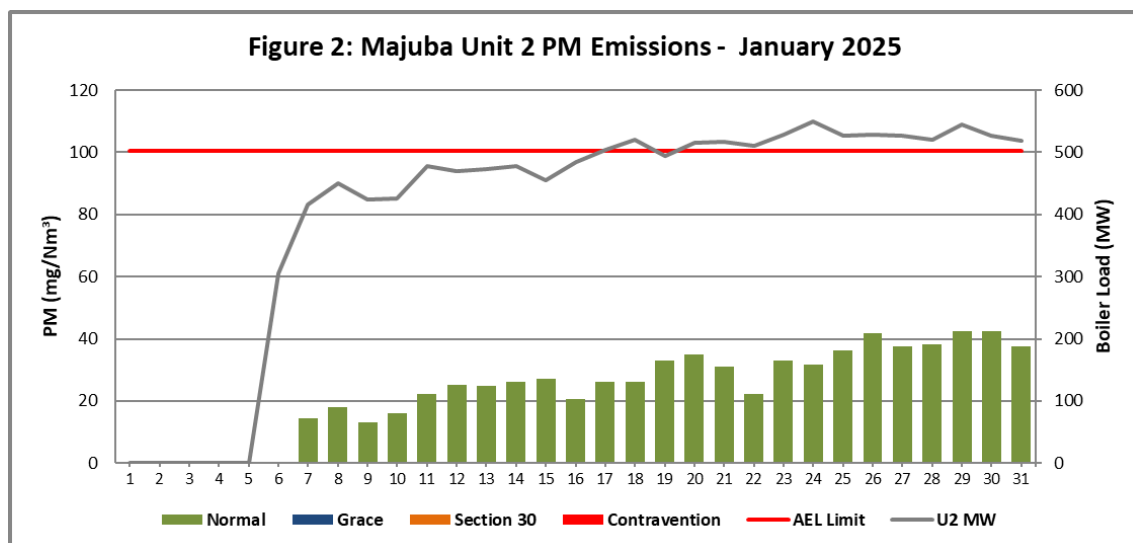
**Table 3. Energy Source Material Characteristics for the month of January 2025**

Characteristic	Stipulated Limit (Unit)	Monthly Average Content
Sulphur Content	0.94%	0.56
Ash Content	30%	29.06

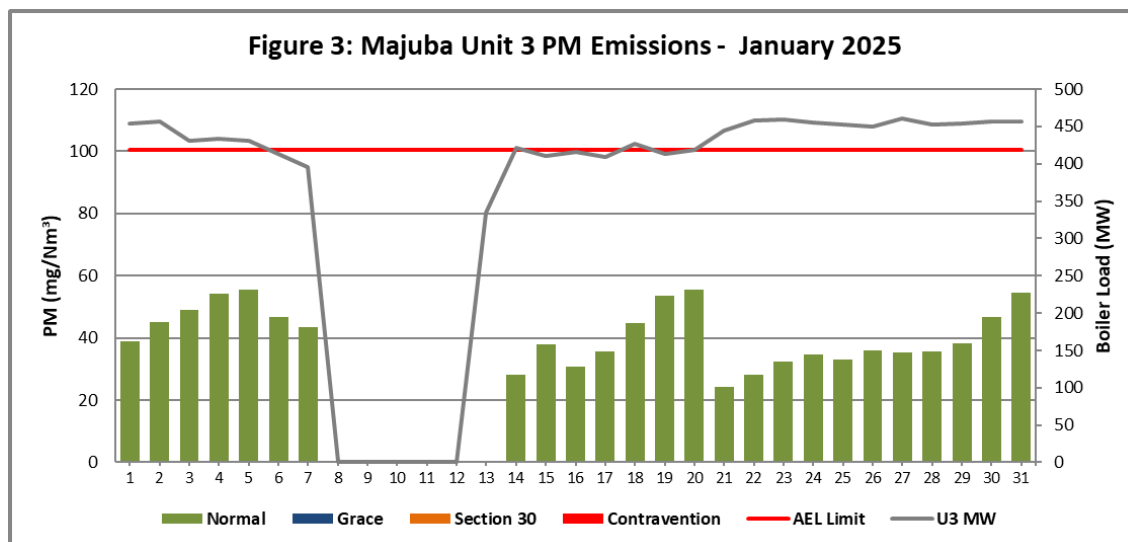
## Emissions Reporting



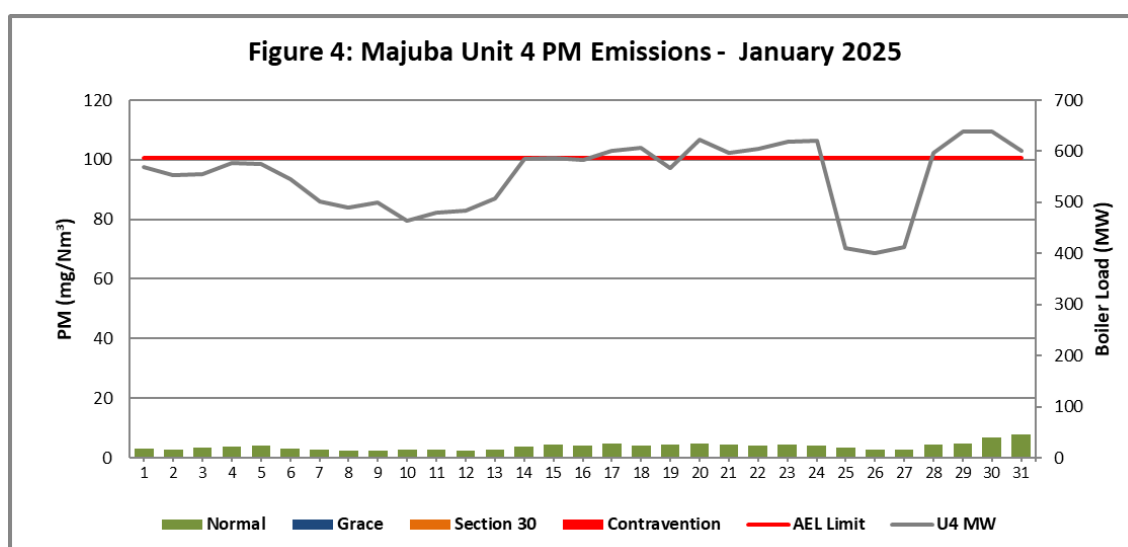
**Figure 1. Particulate Matter emissions (daily averages) for the month of January 2025 against emission limit for Unit 1.**



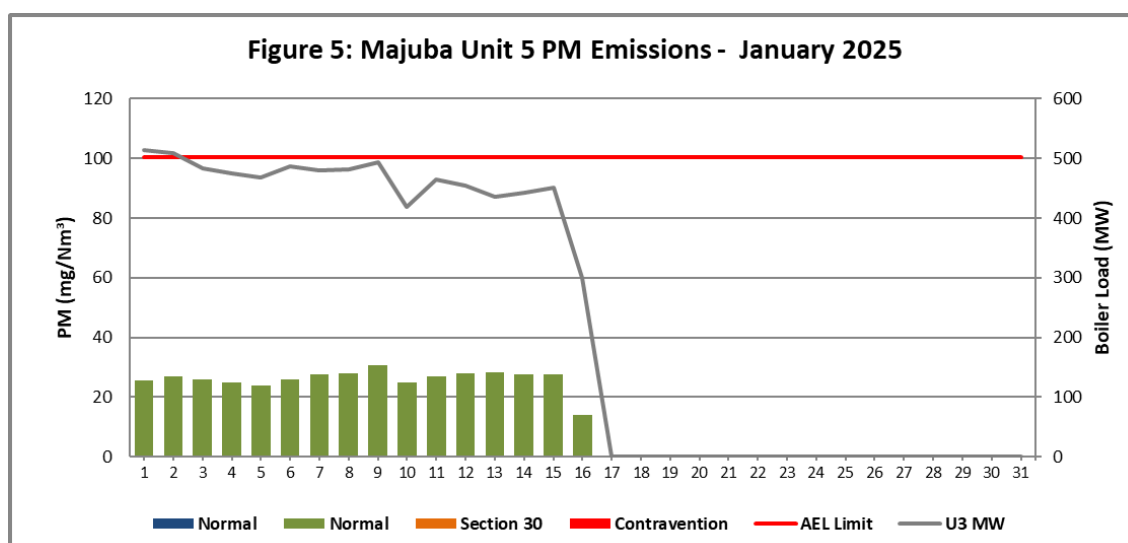
**Figure 2. Particulate Matter emissions (daily averages) for the month of January 2025 against emission limit for Unit 2.**



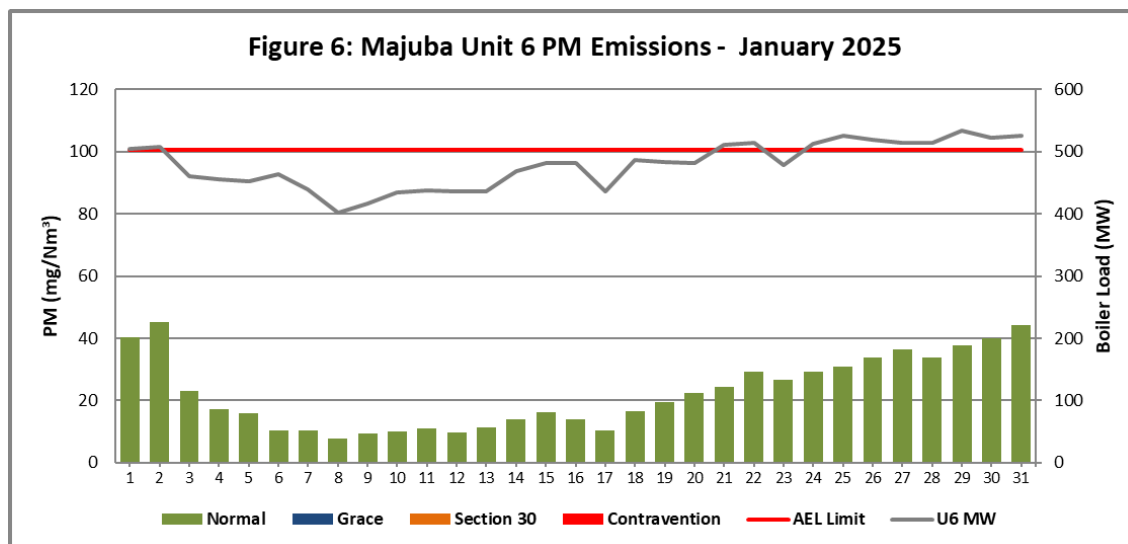
**Figure 3. Particulate Matter emissions (daily averages) for the month of January 2025 against emission limit for Unit 3.**



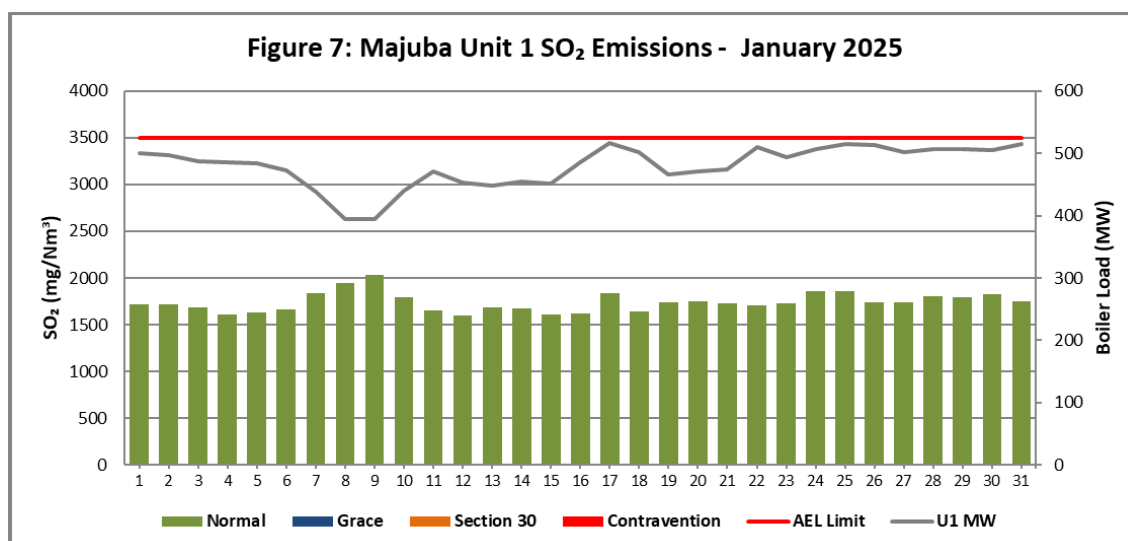
**Figure 4. Particulate Matter emissions (daily averages) for the month of January 2025 against emission limit for Unit 4.**



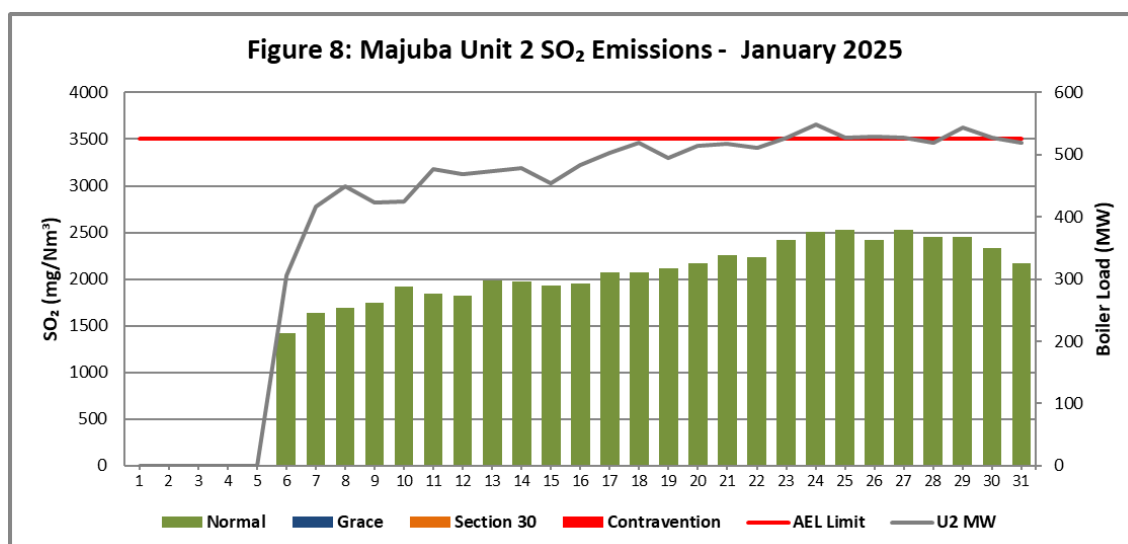
**Figure 5. Particulate Matter emissions (daily averages) for the month of January 2025 against emission limit for Unit 5.**



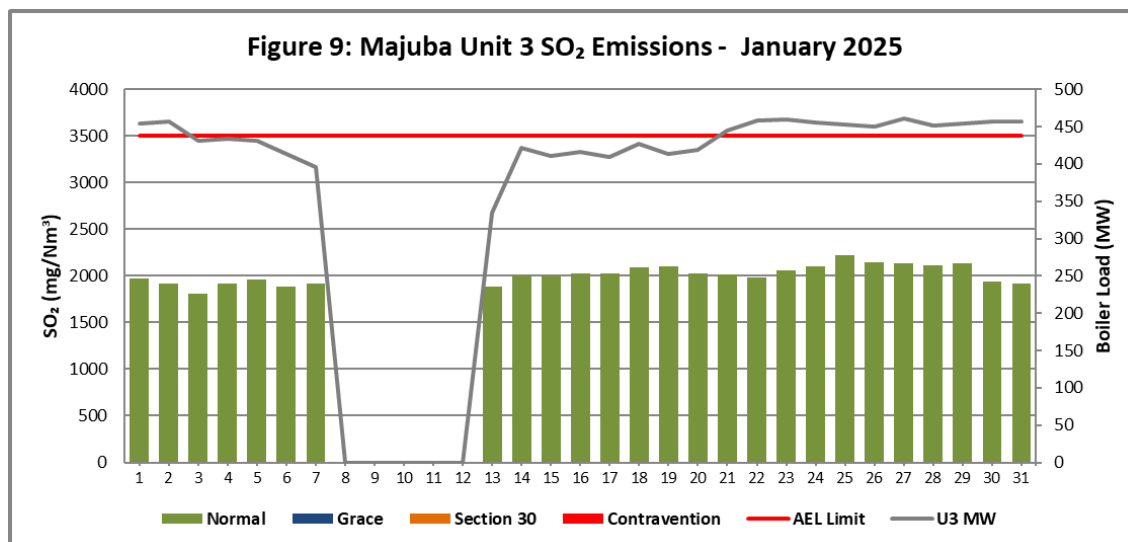
**Figure 6. Particulate Matter emissions (daily averages) for the month of January 2025 against emission limit for Unit 6.**



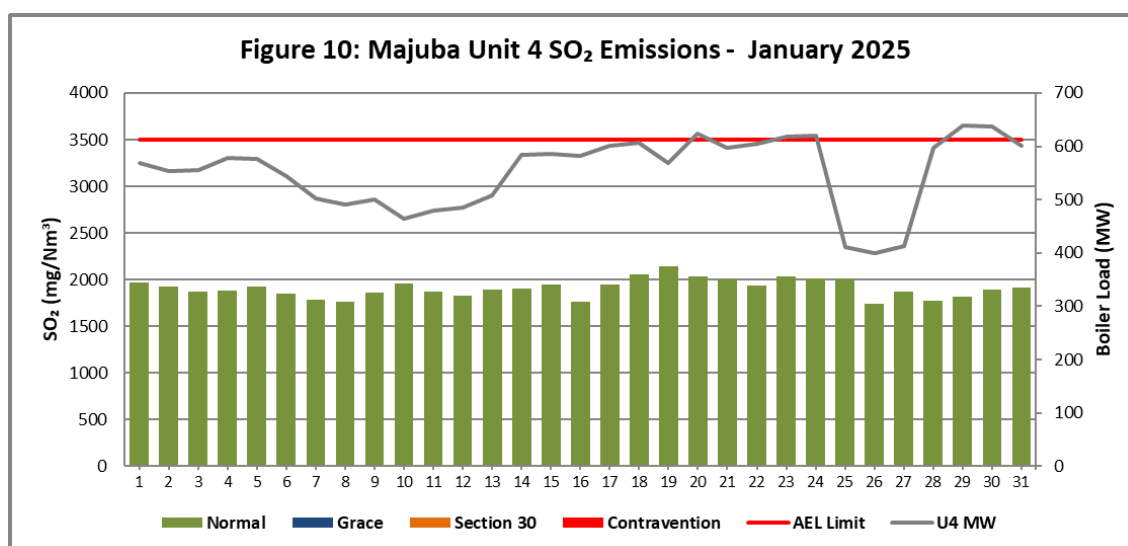
**Figure 7. SO₂ emissions (daily averages) for the month of January 2025 against emission limit for Unit 1.**



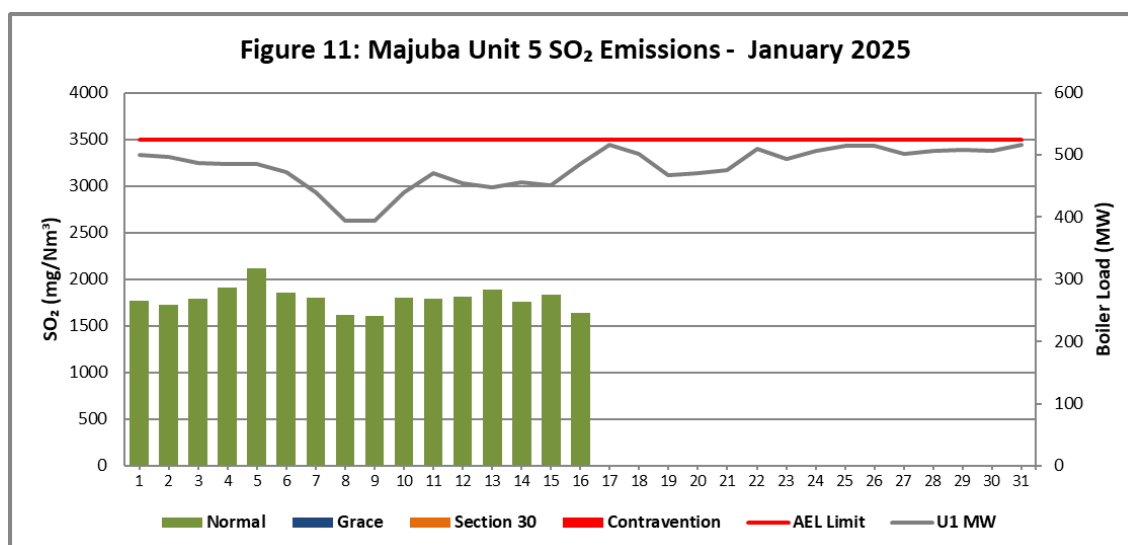
**Figure 8. SO₂ emissions (daily averages) for the month of January 2025 against emission limit for Unit 2.**



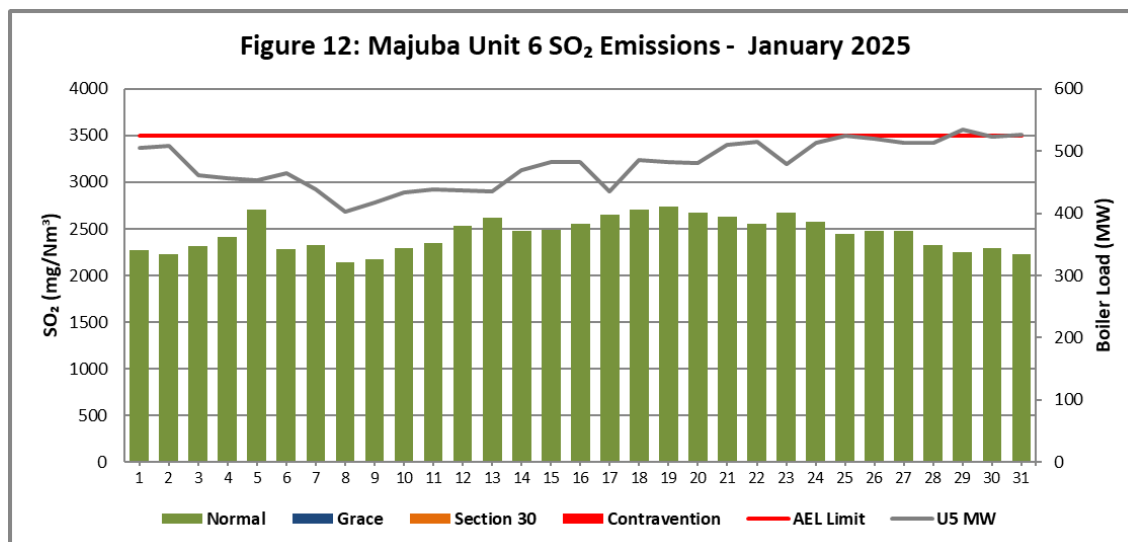
**Figure 9. SO<sub>2</sub> emissions (daily averages) for the month of January 2025 against emission limit for Unit 3.**



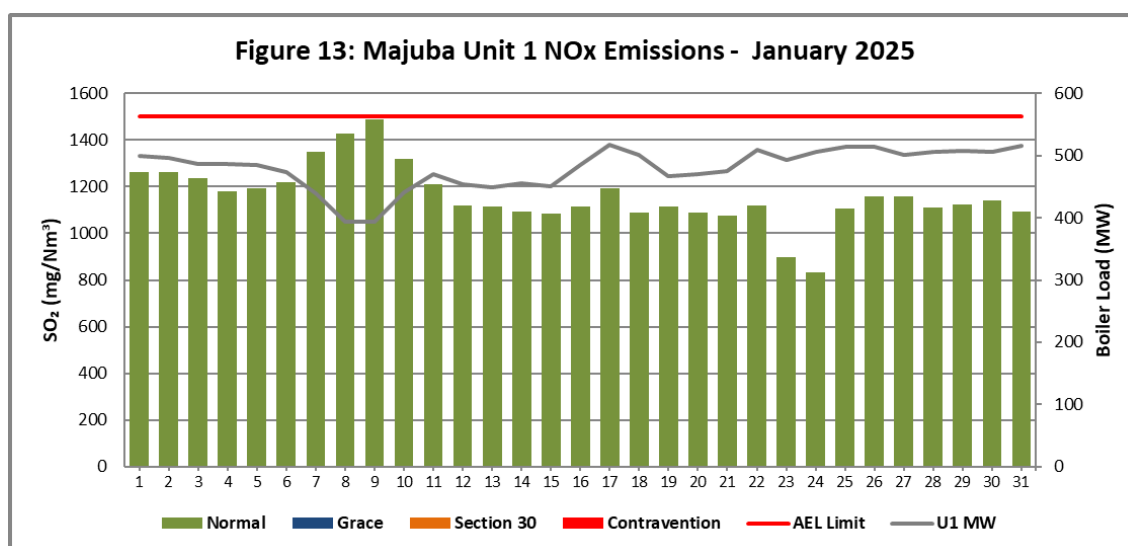
**Figure 10. SO<sub>2</sub> emissions (daily averages) for the month of January 2025 against emission limit for Unit 4.**



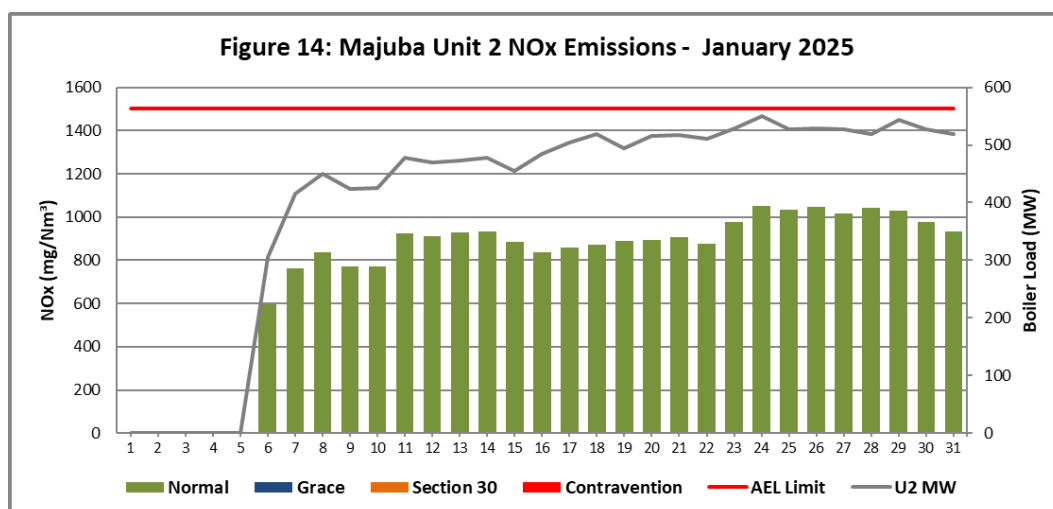
**Figure 11. SO<sub>2</sub> emissions (daily averages) for the month of January 2025 against emission limit for Unit 5.**



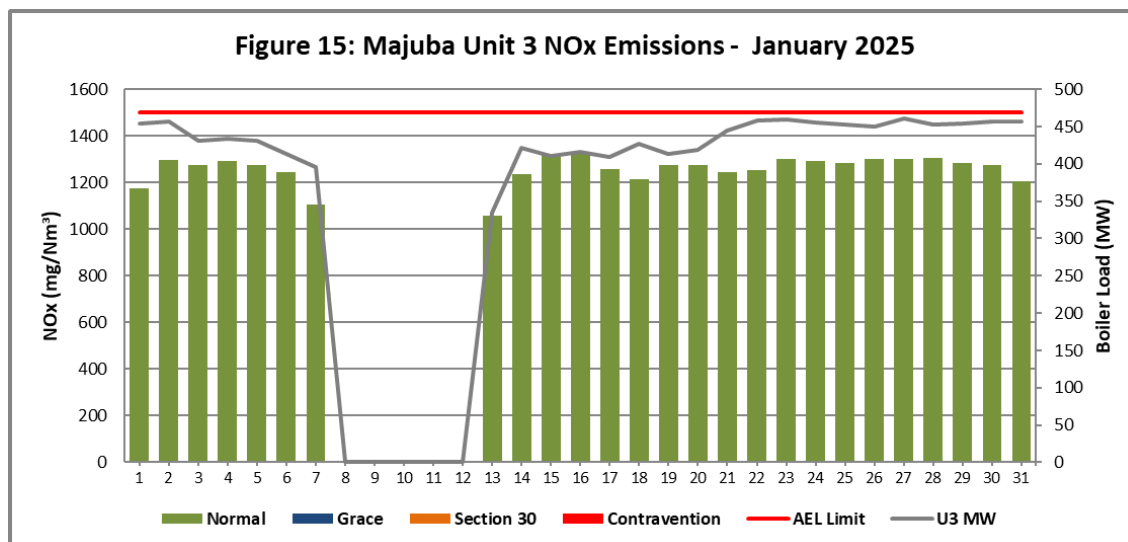
**Figure 12. SO<sub>2</sub> emissions (daily averages) for the month of January 2025 against emission limit for Unit 6.**



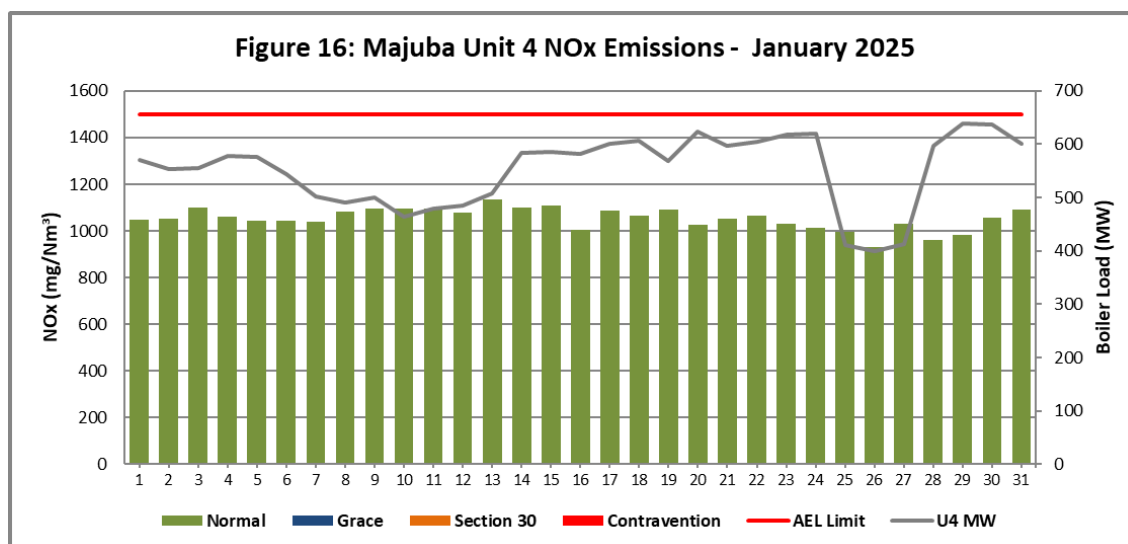
**Figure 13. NO<sub>x</sub> emissions (daily averages) for the month of January 2025 against emission limit for Unit 1.**



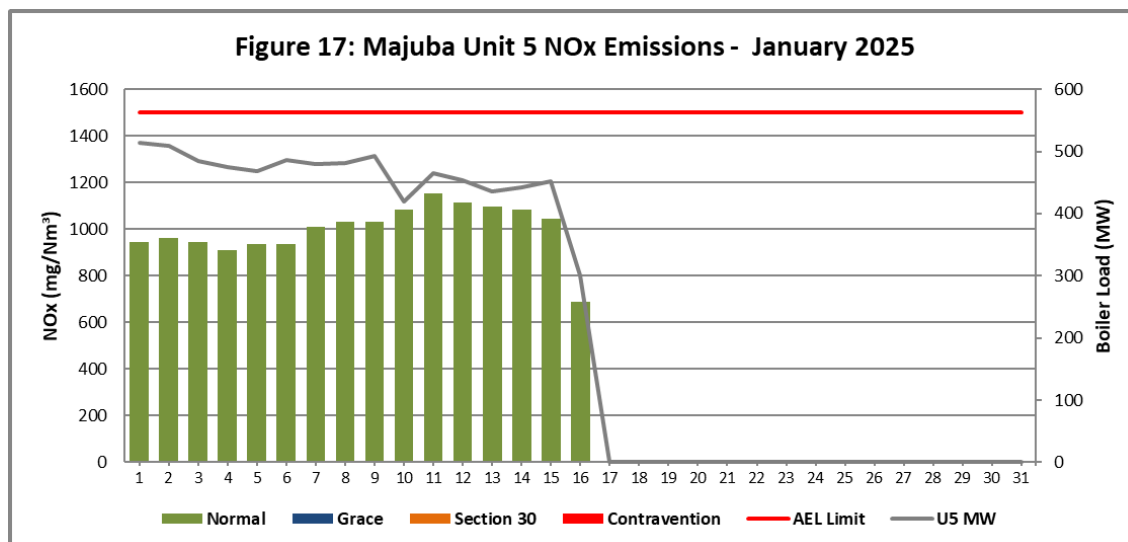
**Figure 14. NO<sub>x</sub> emissions (daily averages) for the month of January 2025 against emission limit for Unit 2.**



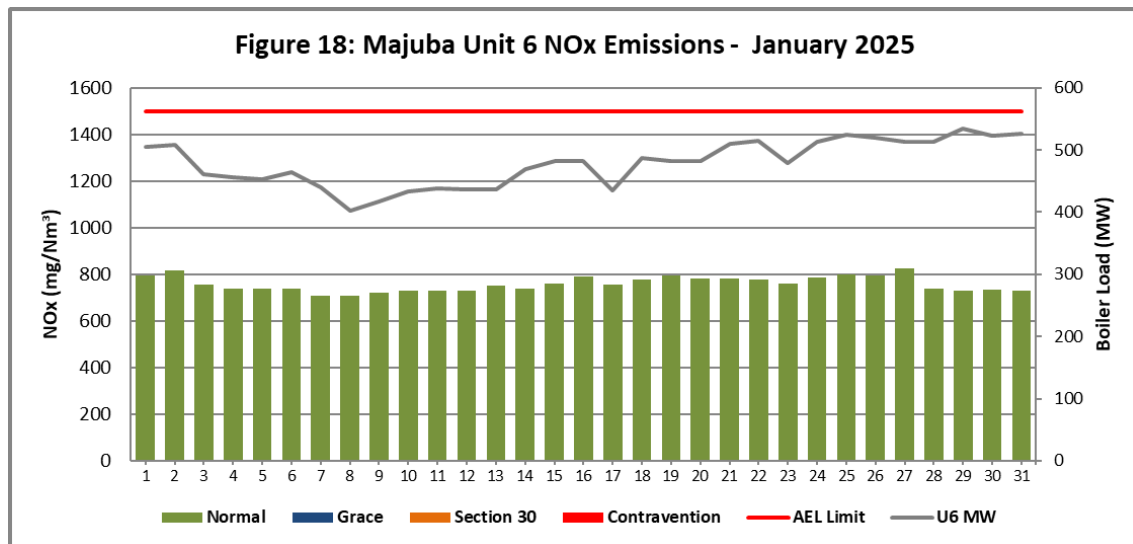
**Figure 15. NOx emissions (daily averages) for the month of January 2025 against emission limit for Unit 3.**



**Figure 16. NOx emissions (daily averages) for the month of January 2025 against emission limit for Unit 4**



**Figure 17. NOx emissions (daily averages) for the month of January 2025 against emission limit for Unit 5**



**Figure 18. NO<sub>x</sub> emissions (daily averages) for the month January 2025 against emission limit for Unit 6**

**Table 4: Monthly tonnages for the month of January 2025**

Unit	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	82.6	4 318	2 870
Unit 2	55.6	4 329	1 868
Unit 3	64.7	3 344	2 094
Unit 4	8.7	4 501	2 475
Unit 5	27.4	1 842	1 038
Unit 6	56.5	5 971	1 852

**Table 5: Average monthly concentrations (mg/Nm<sup>3</sup>) for the month of January 2025**

Unit	PM (Mg/Nm <sup>3</sup> )	SO <sub>2</sub> (Mg/Nm <sup>3</sup> )	NO <sub>x</sub> (Mg/Nm <sup>3</sup> )
1	37.4	1 740.4	1 160.6
2	28.9	2 101.8	906.5
3	40.9	2 010.7	1 256.4
4	3.8	1 908.9	1 053.5
5	26.1	1 794.1	998.1
6	22.6	2 448.4	758.5

**Table 6: Each unit and respective days operating in compliance to the AEL Emission Limits (SO<sub>2</sub>, NO<sub>x</sub>, and PM)**

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance
Unit 1	30	0	0	0	0
Unit 2	25	0	0	0	0
Unit 3	25	0	0	0	0
Unit 4	31	0	0	0	0
Unit 5	16	0	0	0	0
Unit 6	31	0	0	0	0



**Table 7: MONITOR RELIABILITY (%)**

Associated Unit/Stack	PM	SO <sub>2</sub>	NO	O <sub>2</sub>
Unit 1	98.3	85.3	91.1	100.0
Unit 2	98.6	99.9	99.9	0.0
Unit 3	99.9	99.9	99.9	99.9
Unit 4	77.1	100.0	100.0	98.3
Unit 5	97.4	100.0	100.0	97.3
Unit 6	98.7	100.0	96.4	99.7

**Table 8: CO<sub>2</sub> and O<sub>2</sub> deviations of the Month of January 2025**

\*Blank spaces indicate that the unit was offline during that period

2025/02/06	CO <sub>2</sub> (Actual Dry %)						Final O <sub>2</sub> CEMS Data (%)						SUM CO <sub>2</sub> + O <sub>2</sub> CEMS Data (%)					
Date	U1	U2	U3	U4	U5	U6	U1	U2	U3	U4	U5	U6	U1	U2	U3	U4	U5	U6
2025/01/01	9.2		10.5	9.5	10.4	11.2	10.0		11.5	11.7	10.5	10.8	19.2		22.0	21.3	20.9	22.0
2025/01/02	9.5		10.5	9.5	10.1	11.1	10.0		11.2	11.8	11.0	10.7	19.5		21.7	21.3	21.1	21.8
2025/01/03	9.5		10.5	9.2	9.8	11.1	9.8		11.6	12.3	11.4	11.4	19.3		22.2	21.5	21.1	22.4
2025/01/04	9.8		10.5	9.6	9.8	11.2	9.3		11.3	11.5	11.3	11.5	19.1		21.8	21.1	21.1	22.7
2025/01/05	9.6		10.4	9.6	9.7	11.2	9.4		10.9	11.5	11.4	11.6	18.9		21.3	21.1	21.1	22.8
2025/01/06	9.6	7.0	9.6	9.3	9.7	11.1	9.6	10.3	11.1	11.9	11.3	10.8	19.3	17.3	20.8	21.2	21.0	21.9
2025/01/07	8.7	8.0	9.0	8.8	9.6	11.1	10.7	10.3	11.7	12.1	11.4	11.5	19.4	18.3	20.7	20.9	21.0	22.7
2025/01/08	7.9	8.5		8.6	9.8	11.1	11.2	10.3		12.8	11.1	11.7	19.1	18.8		21.4	20.9	22.8
2025/01/09	8.0	8.1		8.4	10.0	11.1	11.6	10.3		13.2	10.8	11.8	19.7	18.4		21.6	20.8	22.9
2025/01/10	8.7	8.0		8.4	9.4	11.2	10.5	10.3		13.2	11.7	11.7	19.2	18.3		21.6	21.1	22.9
2025/01/11	9.2	8.9		8.7	9.4	11.1	9.6	10.3		12.9	11.7	11.7	18.8	19.2		21.6	21.1	22.8
2025/01/12	9.3	8.8		8.6	9.4	10.2	10.3	10.3		13.0	11.8	11.6	19.6	19.1		21.5	21.2	21.8
2025/01/13	8.8	8.7	7.2	8.8	8.8	9.7	10.7	10.3	12.7	12.7	12.4	11.7	19.5	19.0	19.8	21.5	21.3	21.4
2025/01/14	8.9	8.8	7.6	9.7	9.4	9.5	10.4	10.3	12.0	11.6	11.5	11.2	19.3	19.1	19.6	21.4	20.9	20.7
2025/01/15	9.1	8.7	7.6	9.8	9.8	9.5	9.9	10.3	12.5	11.6	11.1	10.9	19.0	19.0	20.1	21.4	20.8	20.4
2025/01/16	9.0	8.6	7.5	9.7	7.2	9.3	9.7	10.3	12.3	10.6	12.5	11.1	18.7	18.9	19.8	20.3	19.7	20.4
2025/01/17	9.9	9.0	7.5	9.8		9.2	10.4	10.3	12.2	11.2		11.5	20.3	19.3	19.7	21.0		20.8
2025/01/18	10.1	9.3	7.5	10.0		9.4	9.8	10.3	11.7	11.0		11.0	19.9	19.6	19.3	21.1		20.4
2025/01/19	9.8	9.0	7.6	9.7		9.9	9.9	10.3	12.1	11.5		11.2	19.7	19.3	19.7	21.2		21.1
2025/01/20	8.9	9.1	7.6	10.2		10.4	9.8	10.3	12.1	10.6		11.1	18.7	19.4	19.7	20.8		21.4
2025/01/21	10.3	9.5	7.5	10.0		10.2	9.6	10.3	11.4	10.6		10.5	19.9	19.8	18.9	20.7		20.8
2025/01/22	9.4	9.5	7.5	10.1		10.2	9.4	10.3	10.9	10.7		10.4	18.8	19.8	18.4	20.8		20.7
2025/01/23	7.3	9.7	7.5	10.3		10.3	9.3	10.3	11.0	10.3		10.8	16.6	20.0	18.5	20.7		21.1
2025/01/24	7.8	9.9	7.5	10.4		10.4	9.3	10.3	11.0	10.2		10.4	17.1	20.2	18.6	20.7		20.8
2025/01/25	9.9	9.8	7.5	8.6		10.4	9.1	10.3	11.1	12.1		10.2	19.1	20.1	18.6	20.7		20.6
2025/01/26	9.9	9.9	7.5	8.6		10.3	9.3	10.3	11.1	11.3		10.2	19.2	20.2	18.6	19.9		20.6
2025/01/27	9.8	10.1	7.5	8.6		10.2	9.7	10.3	10.8	12.0		10.4	19.5	20.4	18.3	20.6		20.6
2025/01/28	9.8	10.0	8.4	9.9		10.3	9.1	10.3	10.7	9.7		10.2	18.9	20.3	19.1	19.6		20.5
2025/01/29	9.9	9.9	10.0	10.3		10.3	9.3	10.3	10.9	9.5		9.7	19.2	20.2	20.9	19.8		20.1
2025/01/30	10.4	9.9	10.0	10.4		10.4	9.5	10.3	10.9	10.4		10.1	19.9	20.2	20.9	20.8		20.5
2025/01/31	10.6	10.1	10.0	10.1		10.4	8.9	10.3	10.9	11.1		10.0	19.5	20.4	20.9	21.2		20.4

Calculation: CO<sub>2</sub>% + O<sub>2</sub>% = 19.5-21.5%

## Emergency Generation

**Table 9: Emergency Generation for the month of January 2025**

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Emergency Generation hours declared by national Control	0	0	0	0	0	0
Emergency Hours declared including hours after stand down	0	0	0	0	0	0
Hours over the Limit during Emergency Generation	0	0	0	0	0	0

### Comments on the performance and availability of each unit

#### UNIT 1

The unit base loaded for all the days during the month. Eight-one fabric filter bags were replaced during the month.

#### UNIT 2

The unit base loaded for most of the days during the month and off for five days. Twenty-six fabric filter bags were replaced during the month.

#### UNIT 3

The unit base loaded for most of the days during the month and off for five days. Fifty fabric filter bags were replaced during the month.

#### UNIT 4

The unit base loaded for all the days during the month. Eighteen fabric filter bags were replaced during the month.

#### UNIT 5

The unit base loaded for 16 days of the month and was shut down for an Outage. Fourteen fabric filter bags were replaced during the month.

#### UNIT 6

The unit base loaded for all the days during the month. Forty-seven fabric filter bags were replaced during the month.

## Complaints Register

**Table 10: Complaints for the month of January 2025**

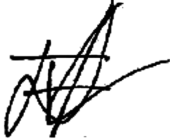
Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions associated with the incident	Dispersion modelling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date by which measure will be implemented
	No complaints were received during the month of January 2025.				

## General

The Unit 2 O<sub>2</sub> monitor is faulty. The Station is currently undertaking an urgent procurement process to send the faulty monitors to the OEM for refurbishment. The Station will provide an update on the progress in the next reporting period.

Yours sincerely

Report compiled by:



Faith Kagoda

**ENVIRONMENTAL MANAGER: (MAJUBA)**

Date 10/02/2025

Report verified by:



Lindani Madonsela

**BOILER ENGINEERING MANAGER: (MAJUBA)**

Date 11/02/2025

Report approved by:



Johan Swanepoel

**ENGINEERING MANAGER: (MAJUBA)**

11/02/2025  
Date