Ms Tebogo Mogakabe
Manager: Municipal Environmental Services
Gert Sibande District Municipality
PO BOX 1748
ERMELO
2350

Date:
29 May 2025

Enquiries: Johan Swanepoel
Tel +27 17 799 2047

Dear Ms. Mogakabe

MAJUBA POWER STATION ANNUAL EMISSIONS REPORT FOR THE 2024/2025 FINANCIAL YEAR

This serves as the annual report which is required in terms of Section 7.6 of Majuba Power Station's Atmospheric Emission License (AEL License No. Dr PKI Seme/Eskom H SOC Ltd/ MPS/0014/2021/F04). The emissions data reported is for Majuba's (hereafter referred to as "the station") 2024/2025 Financial Year (FY), from 1 April 2024 to 31 March 2025 and includes verified emissions figures (in tons) of particulate matter (PM), SO_2 and NO_x (as NO_2). CO_2 and O_2 are excluded as per the agreement between Eskom and DFFE.

Table 1: Listed activities as per the station's AEL

Category of Listed Activity	Sub-category of the Listed Activity	Listed Activity Name	Description of the Listed Activity
Category 1	Sub-category 1.1	Solid Fuel Combustion Installations	Solid fuel combustion installations used primarily for steam raising or electricity generation
Category 1	Sub-category 1.4	Gas Combustion Installation	Gas combustion (including gas turbines burning natural gas) used primarily for steam raising or electricity generation

Category 2	Sub-category 2.4	Storage of Petroleum Products	Petroleum products storage tanks and product transfer facilities, except those used for liquefied petroleum gas
Category 5	Sub-category 5.1	Storage and handling of ore and coal	Storage and handling of ore and coal not situated on a premises of a mine or works as defined in the Mines Health and Safety Act 29/1996.

A. NEM: AQA SECTION 21 POLLUTANT EMISSION TREND FOR LISTED ACTIVITY

The emissions in the table below are for the 2024/2025 financial year.

Table 2: Summary of total emissions at Majuba Power Station 2024/2025 FY

Power Station	Coal-fired emissions (tons/annum)	Fuel-oil emissions (tons/annum)	Total (tons/annum)
Majuba Power Station	**PM:** 3692.41 **SO_2**: 281 982 **NOx:** 140 125	**PM: -** **SO_2:** **NOx: -**	**PM:** 3692.41 **SO_2**: 281 982 **NOx:** 140 125

Table 3: Pollutant Emission Trends for 2024/2025 FY

Month	PM (tons)	SO_2 (Tons)	NO_x (Tons)
April 2024	284.2	21 544	10127.0
May 2024	329.0	27707.0	12468.0
June 2024	309.2	28831.0	13858.0
July 2024	265.3	26010.0	13029.0
August 2024	236.0	26394.0	12421.0
September 2024	296.0	24025.0	12857.0
October 2024	303.3	19473.0	10769.0
November 2024	392.1	21286.0	11268.0
December 2024	420.2	23381.0	12419.0
January 2025	291.0	23260.0	11611.0
February 2025	258.1	18023.0	8654.0
March 2025	307.99	22048.0	10 644.0

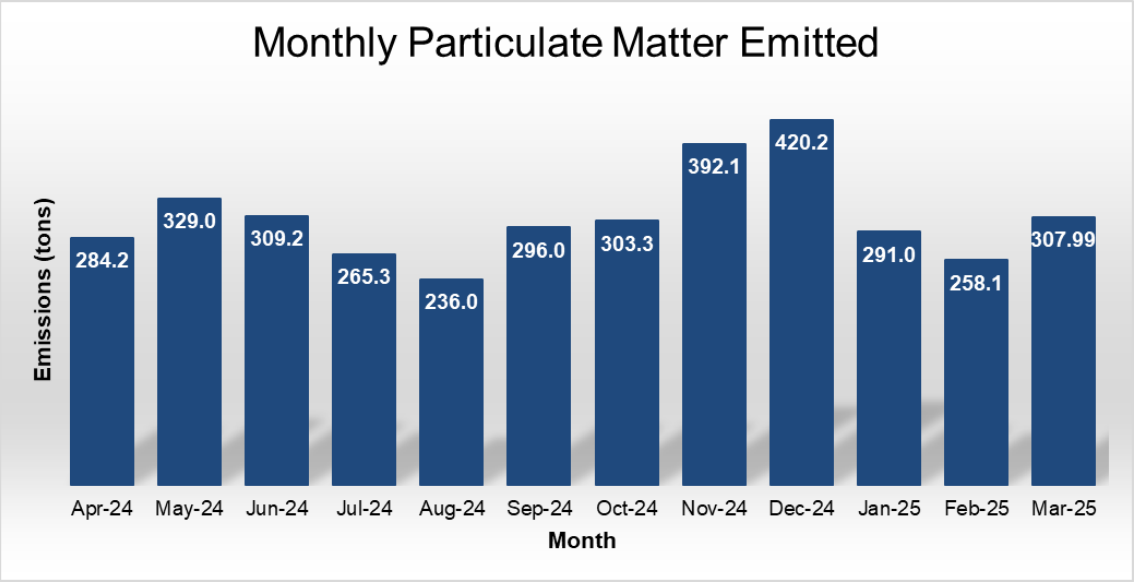


Figure 1: Monthly Particulate Emissions in tons for FY2024/2025

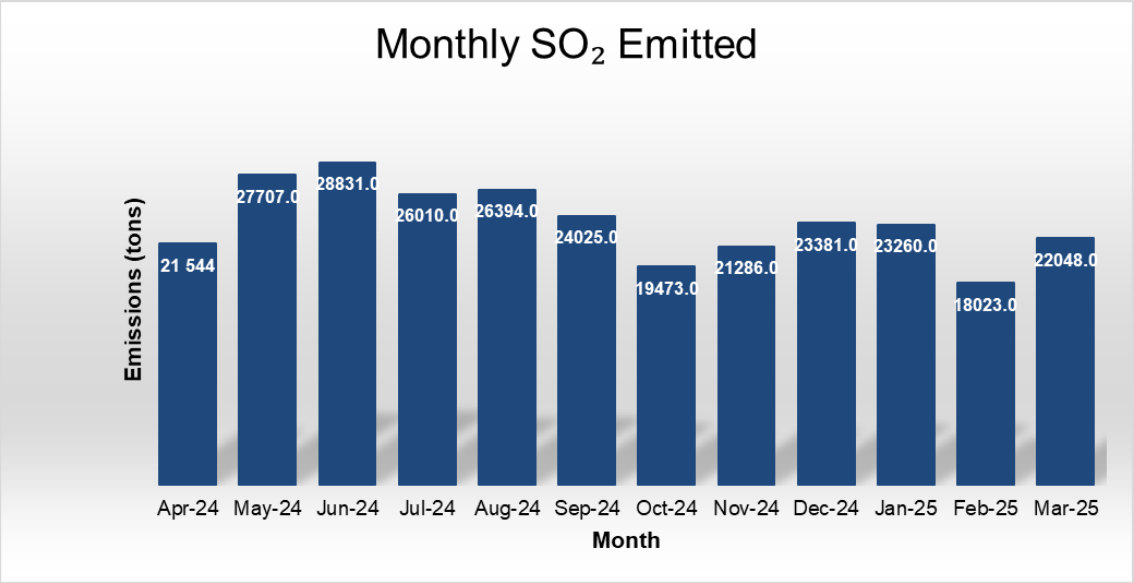


Figure 2: Monthly SO_2 Emissions in tons from Majuba FY2024/2025

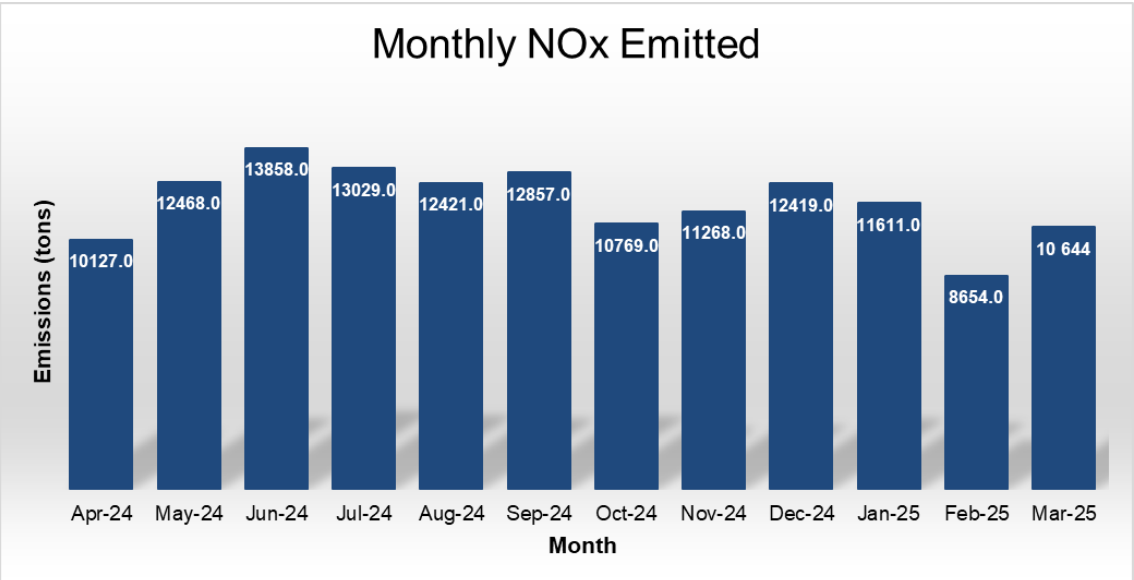


Figure 3: Monthly NOx Emissions in tons for FY2024/2025

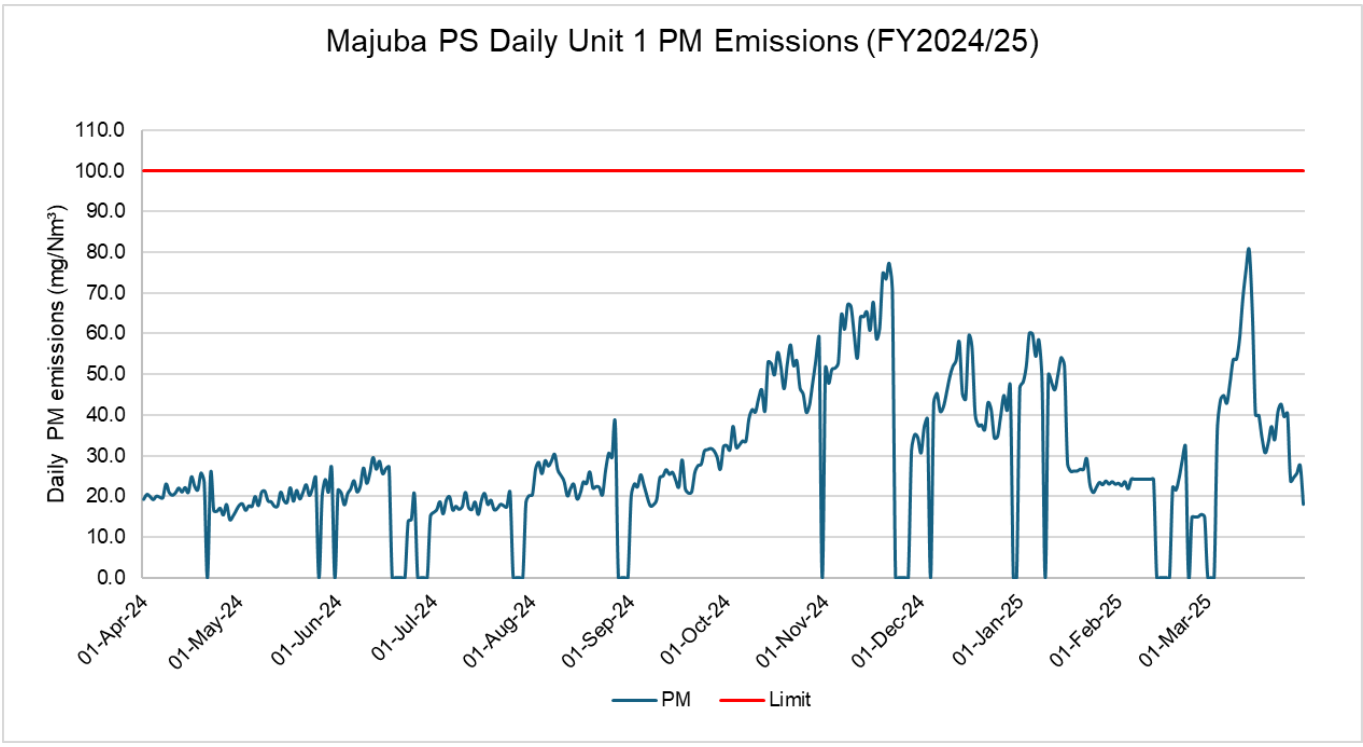


Figure 4: Unit 1 daily Particulate Matter emissions for FY2024/2025

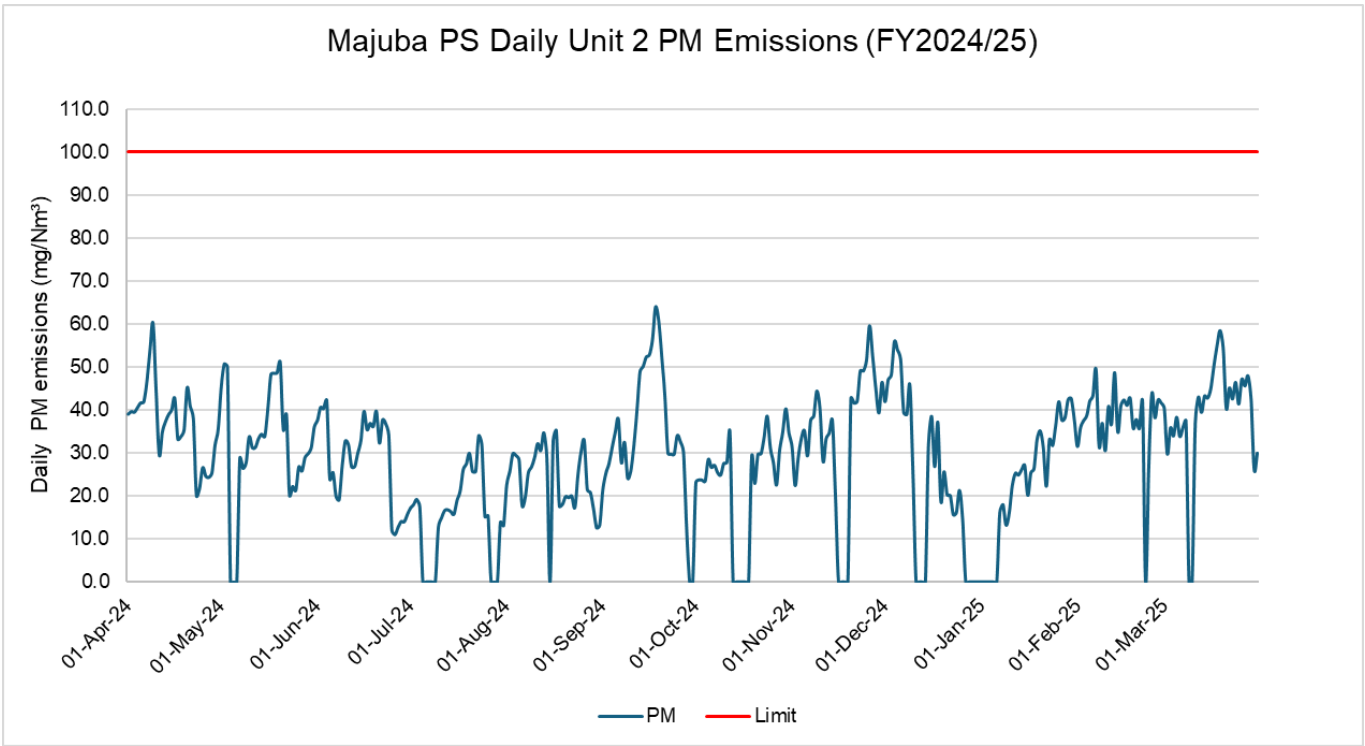


Figure 5: Unit 2 daily Particulate Matter emissions for FY2024/2025

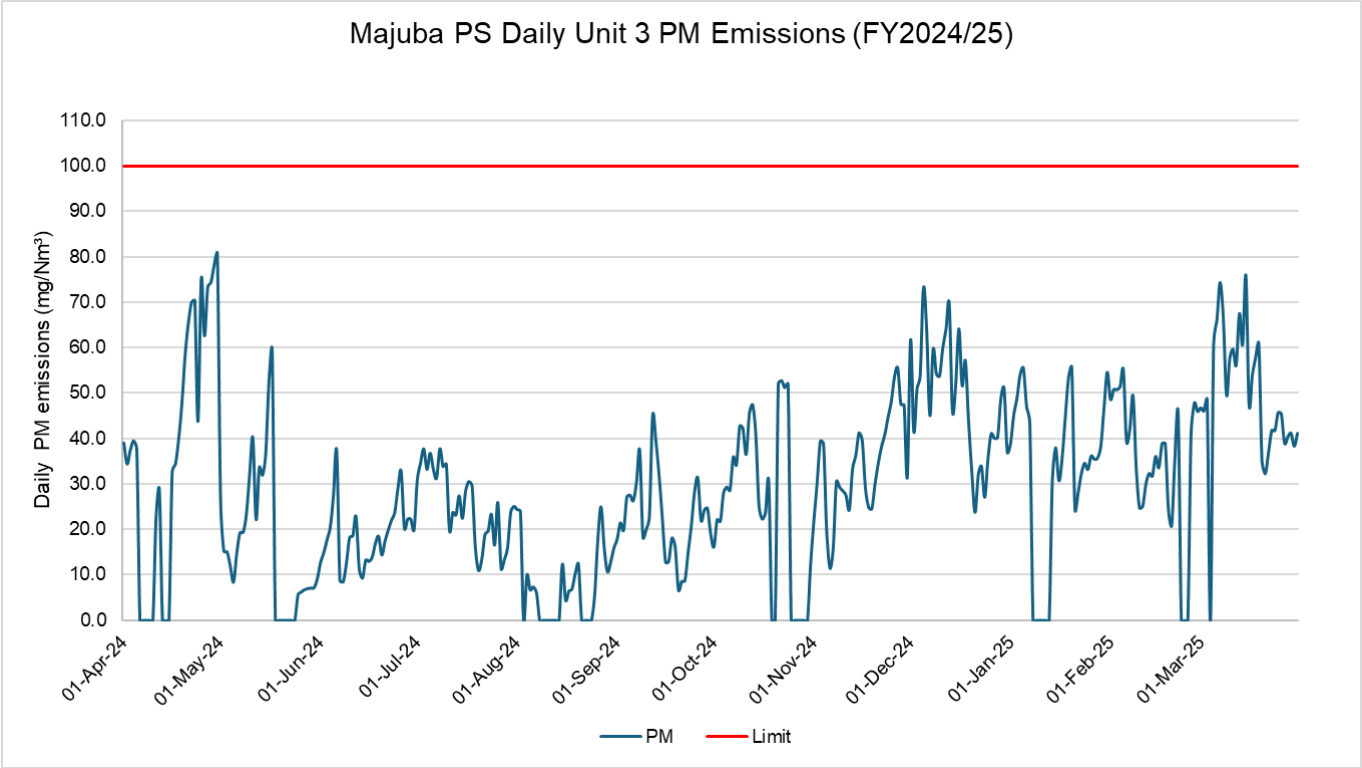


Figure 6: Unit 3 daily Particulate Matter emissions for FY2024/2025

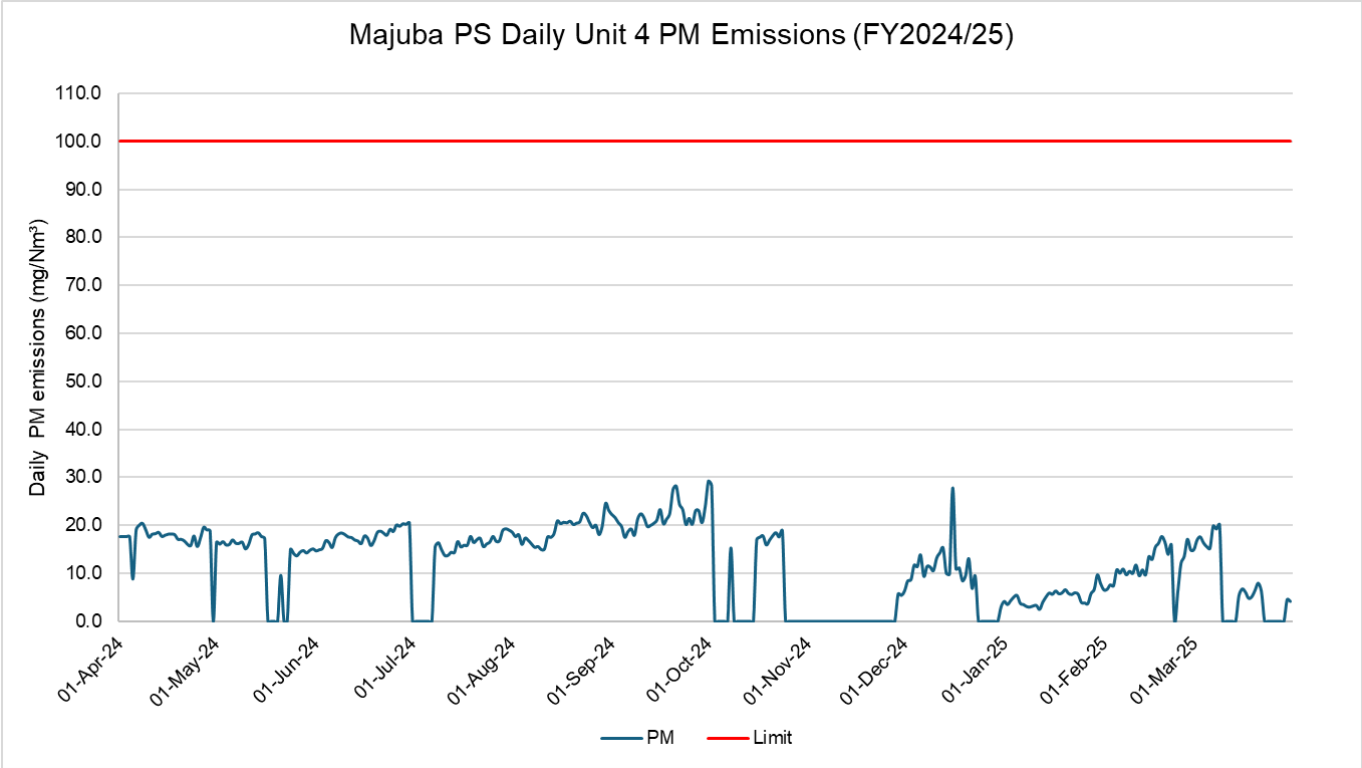


Figure 7: Unit 4 daily Particulate Matter emissions for FY2024/2025

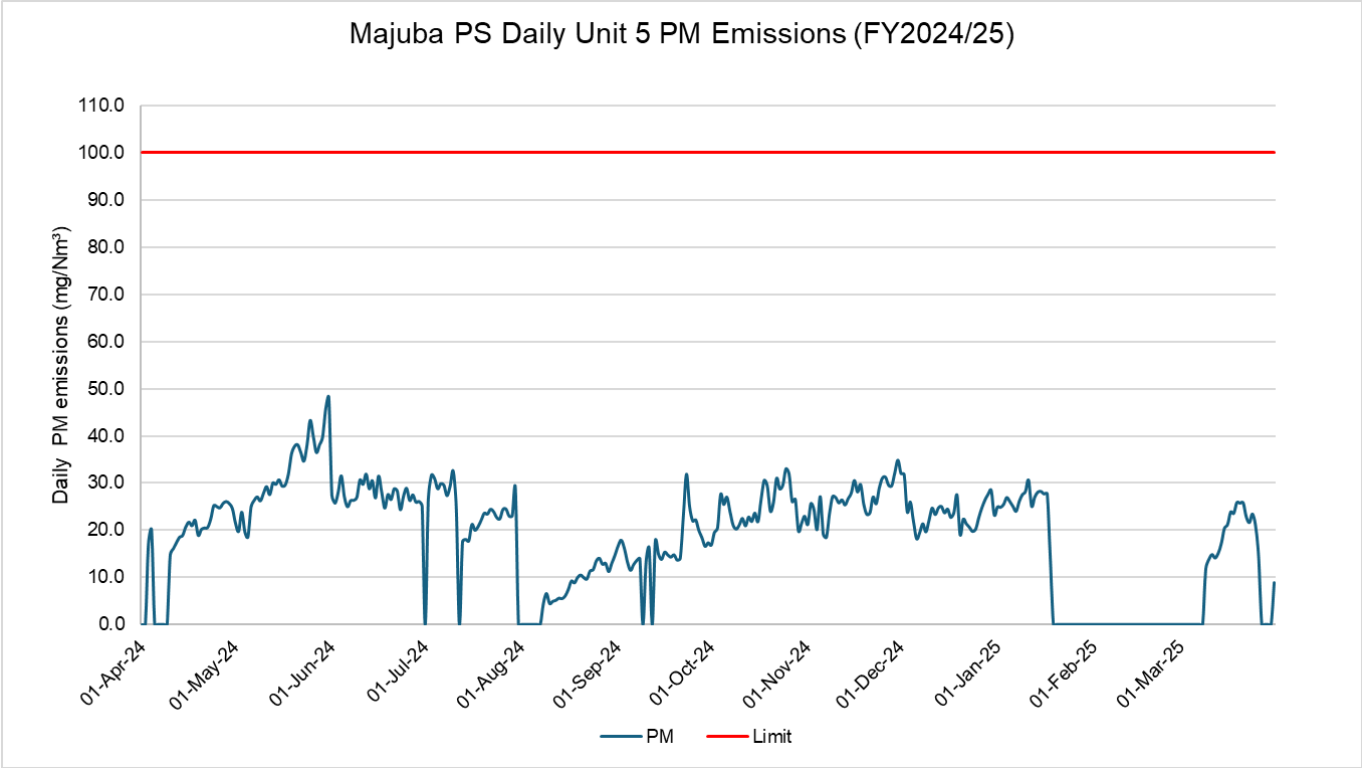


Figure 8: Unit 5 daily Particulate Matter emissions for FY2024/2025

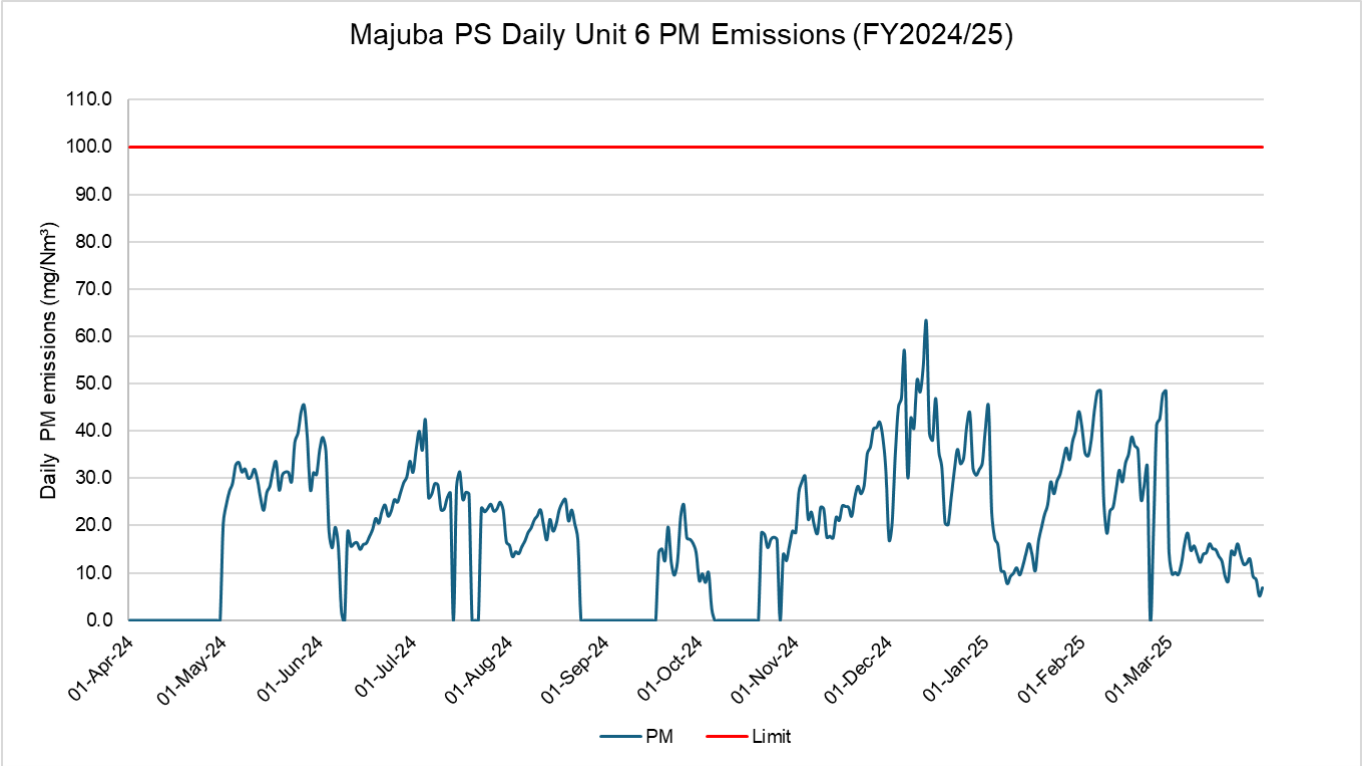


Figure 9: Unit 6 daily Particulate Matter emissions for FY2024/2025

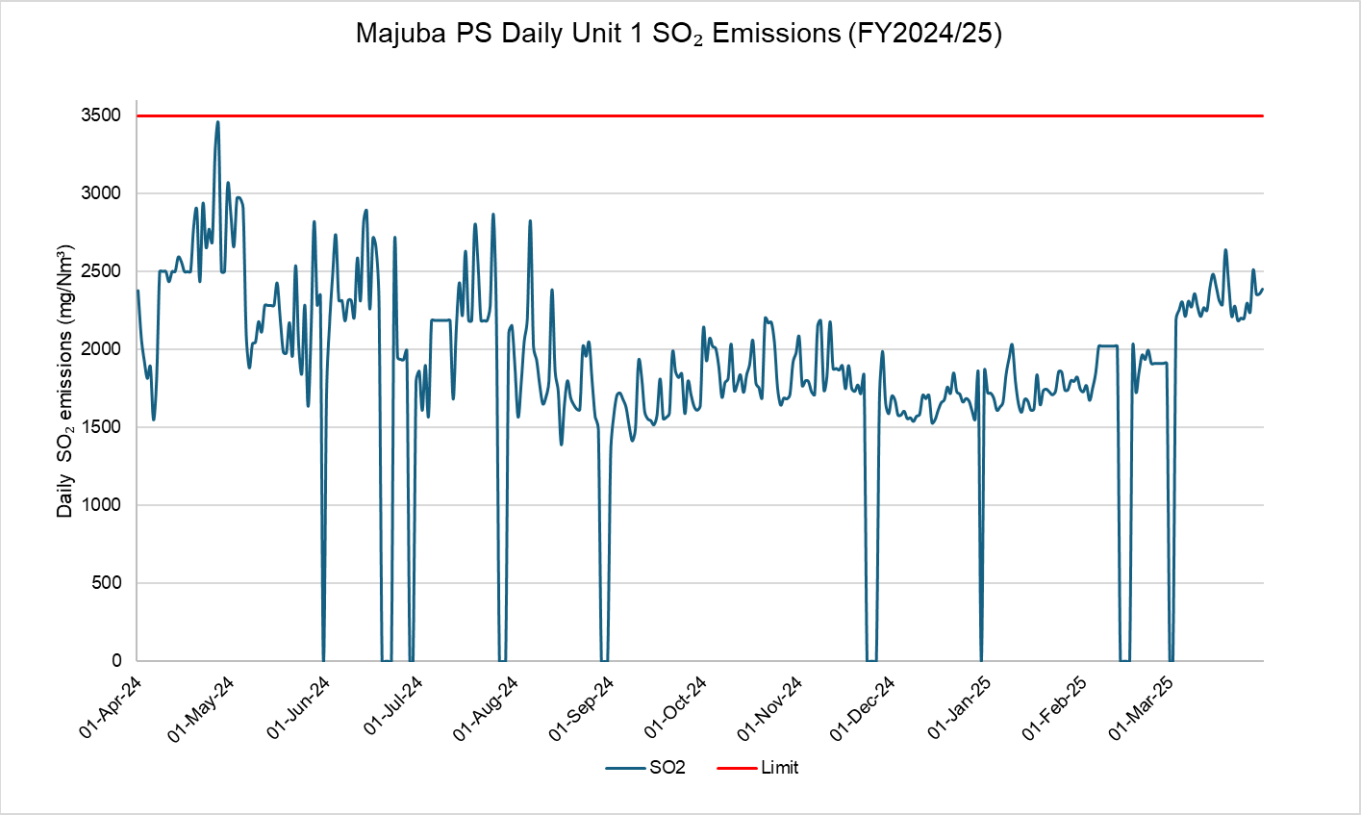


Figure 10: Unit 1 daily SO_2 emissions for FY2024/2025

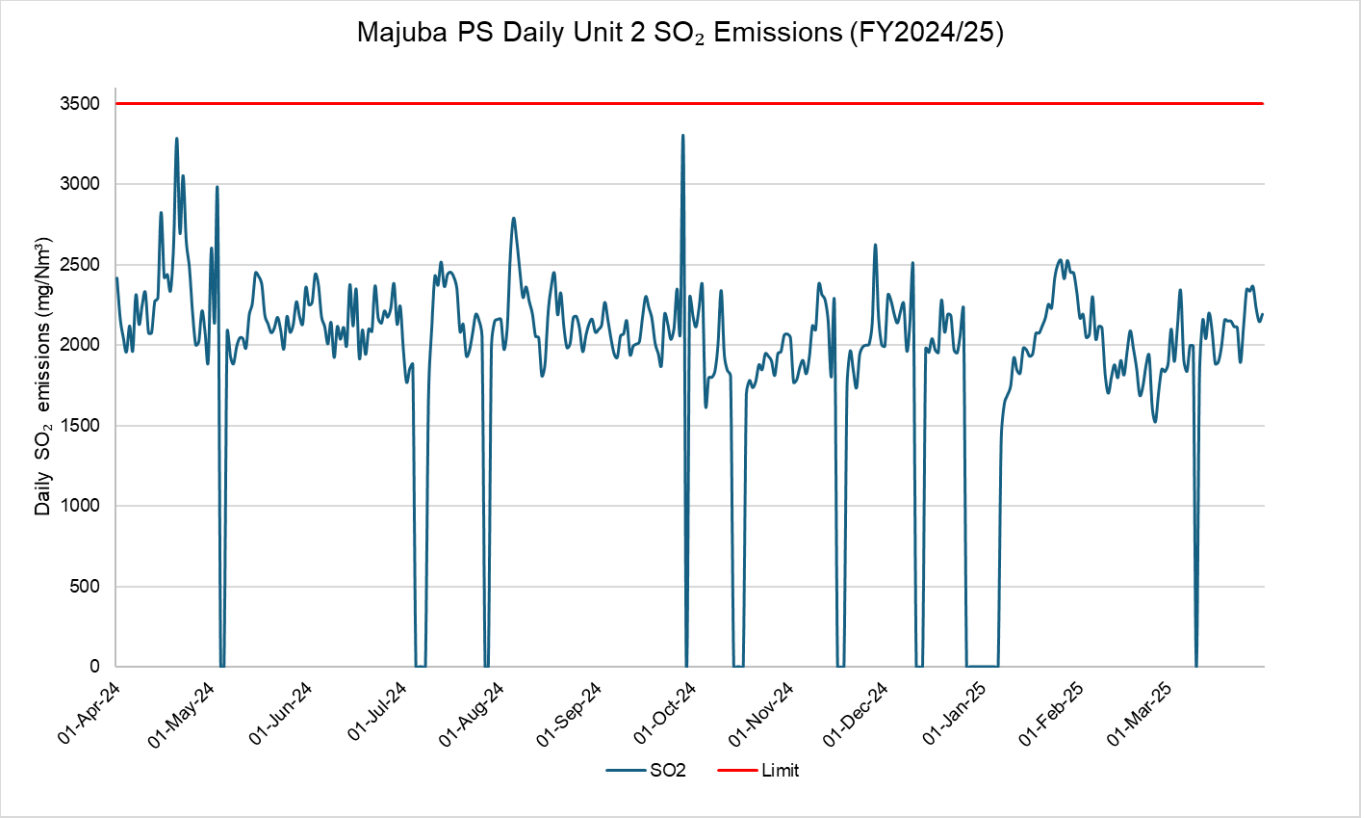


Figure 11: Unit 2 daily SO_2 emissions for FY2024/2025

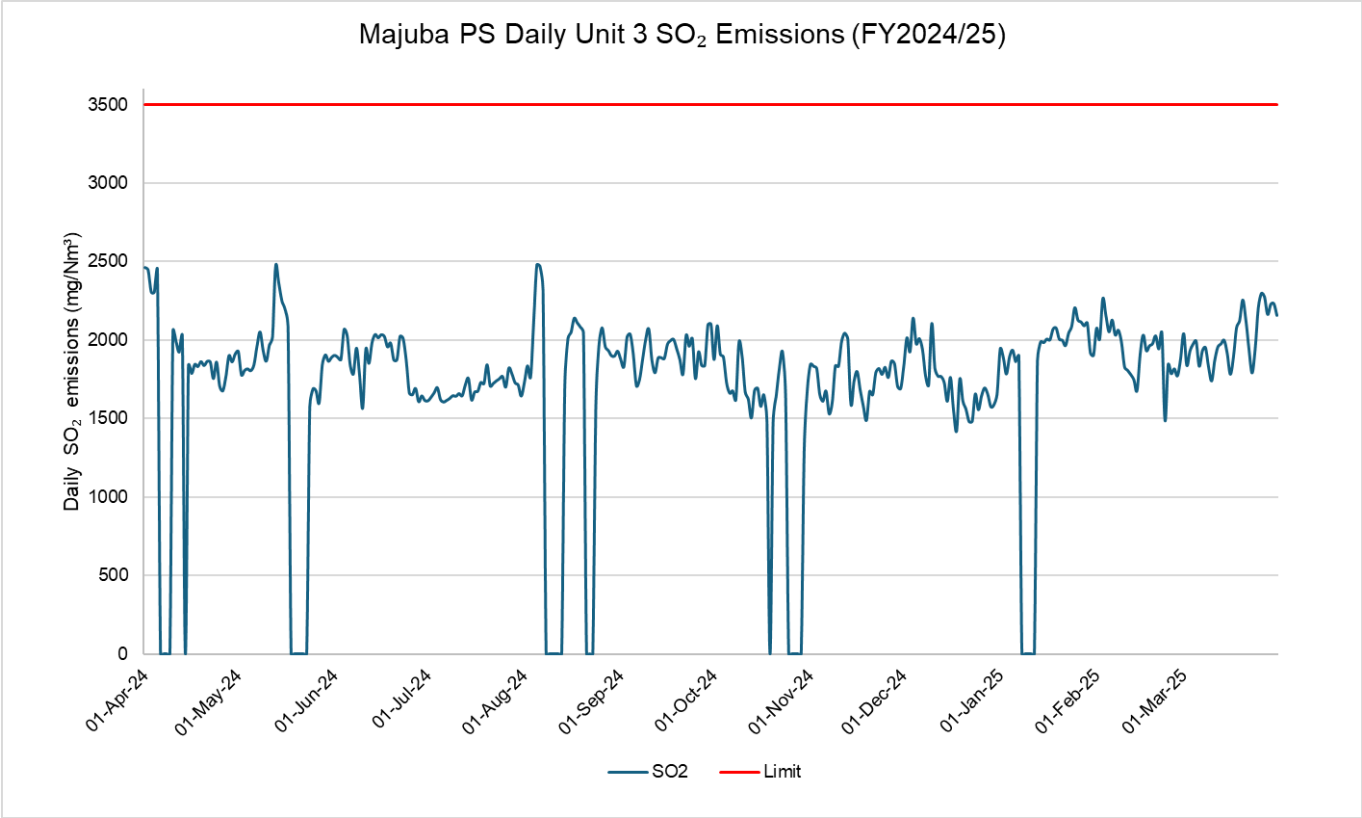


Figure 12: Unit 3 daily SO_2 emissions for FY2024/2025

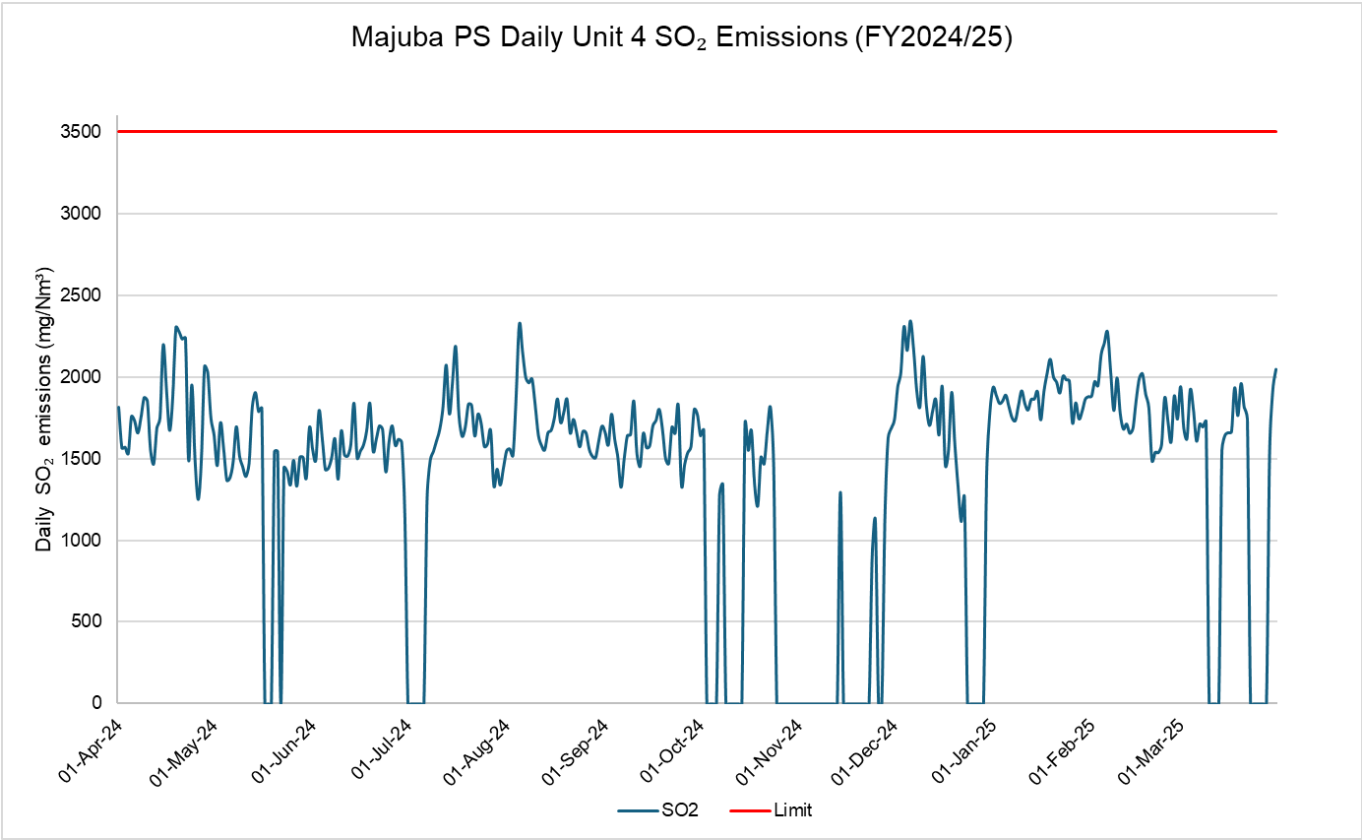


Figure 13: Unit 4 daily SO_2 emissions for FY2024/2025

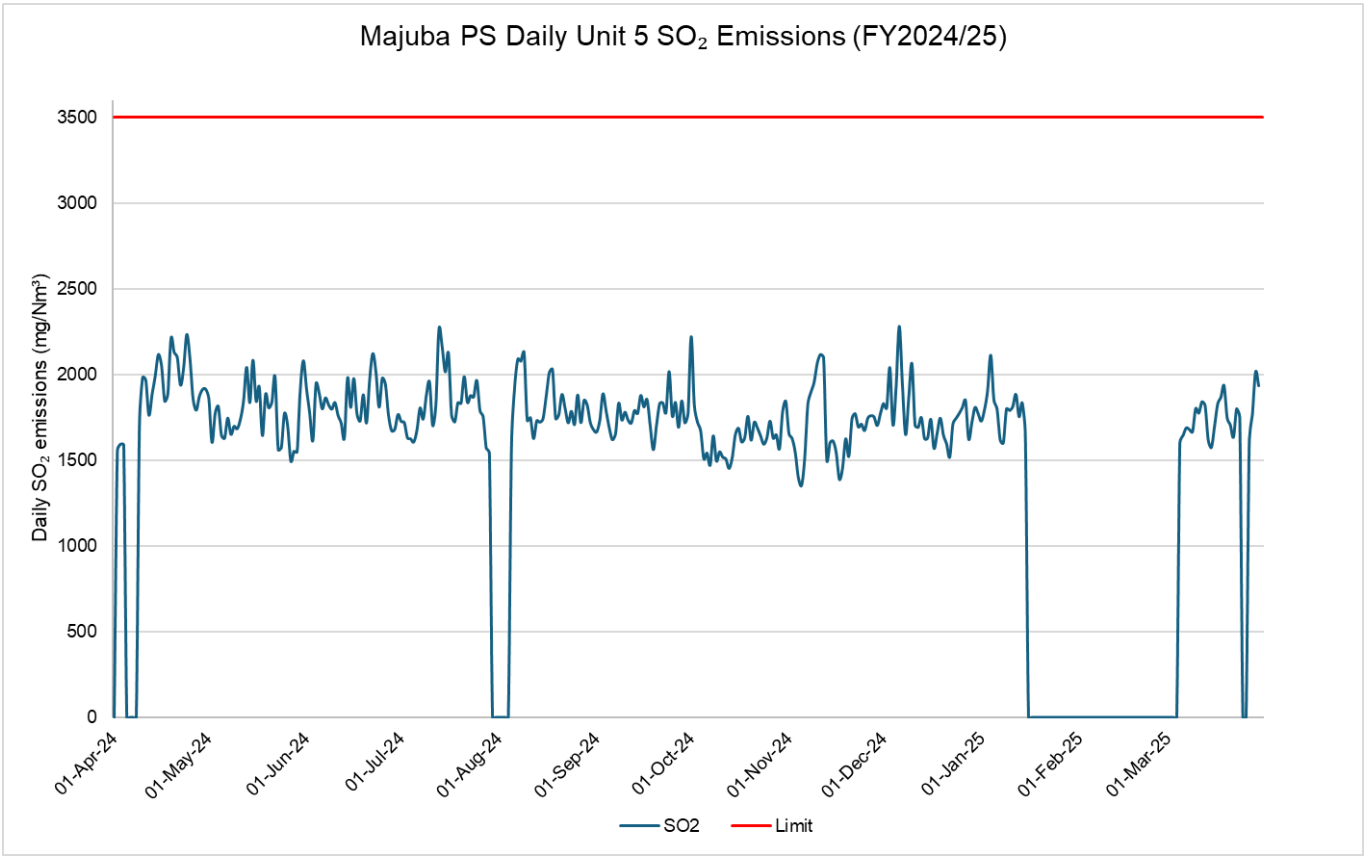


Figure 14: Unit 5 daily SO2 emissions for FY2024/2025

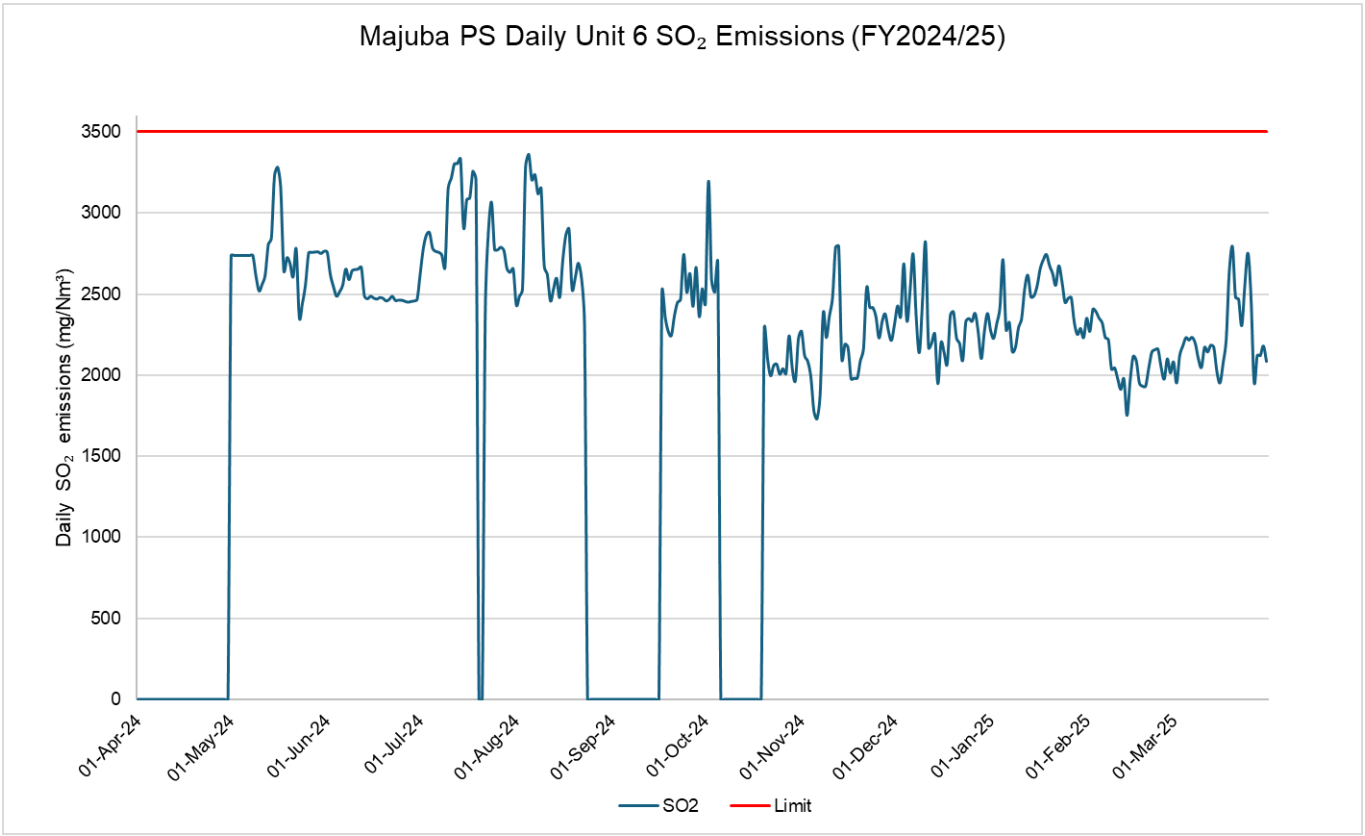


Figure 15: Unit 6 daily SO_2 emissions for FY2024/2025

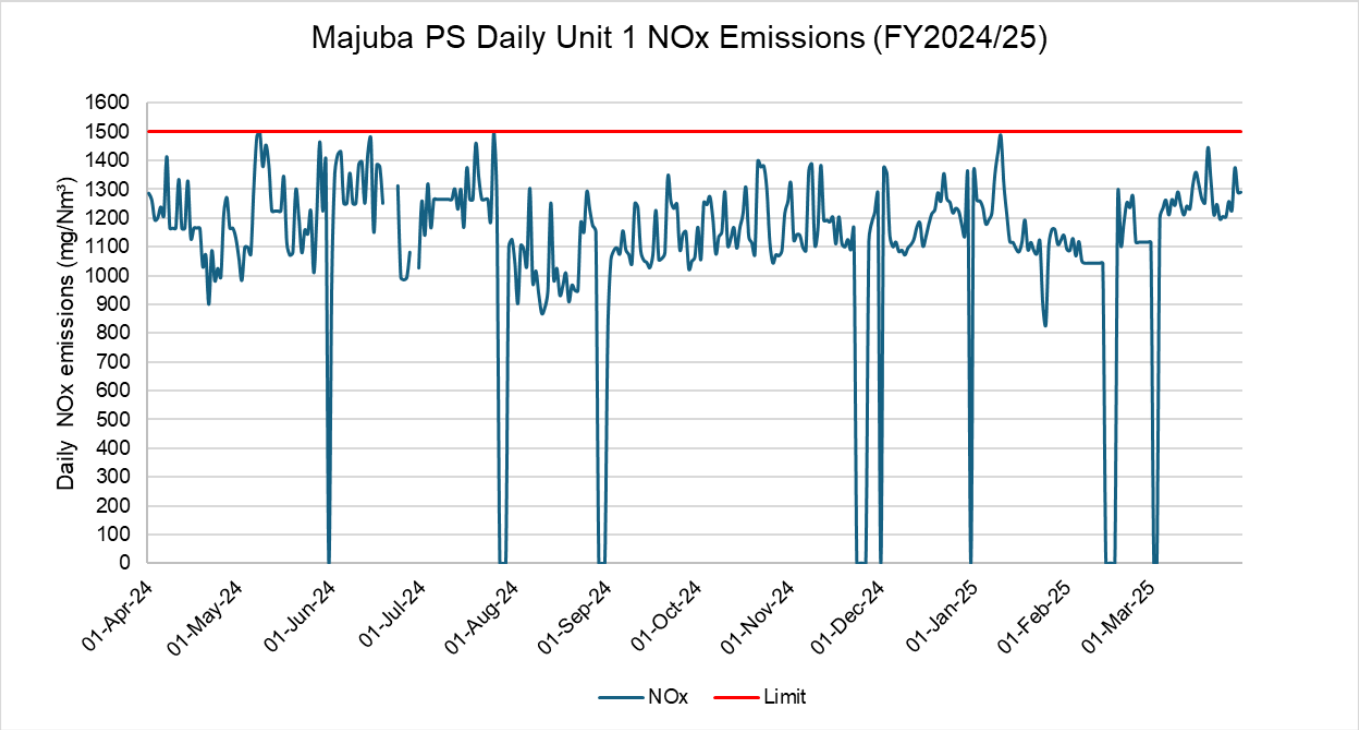


Figure 16: Unit 1 daily NOx emissions for FY2024/2025

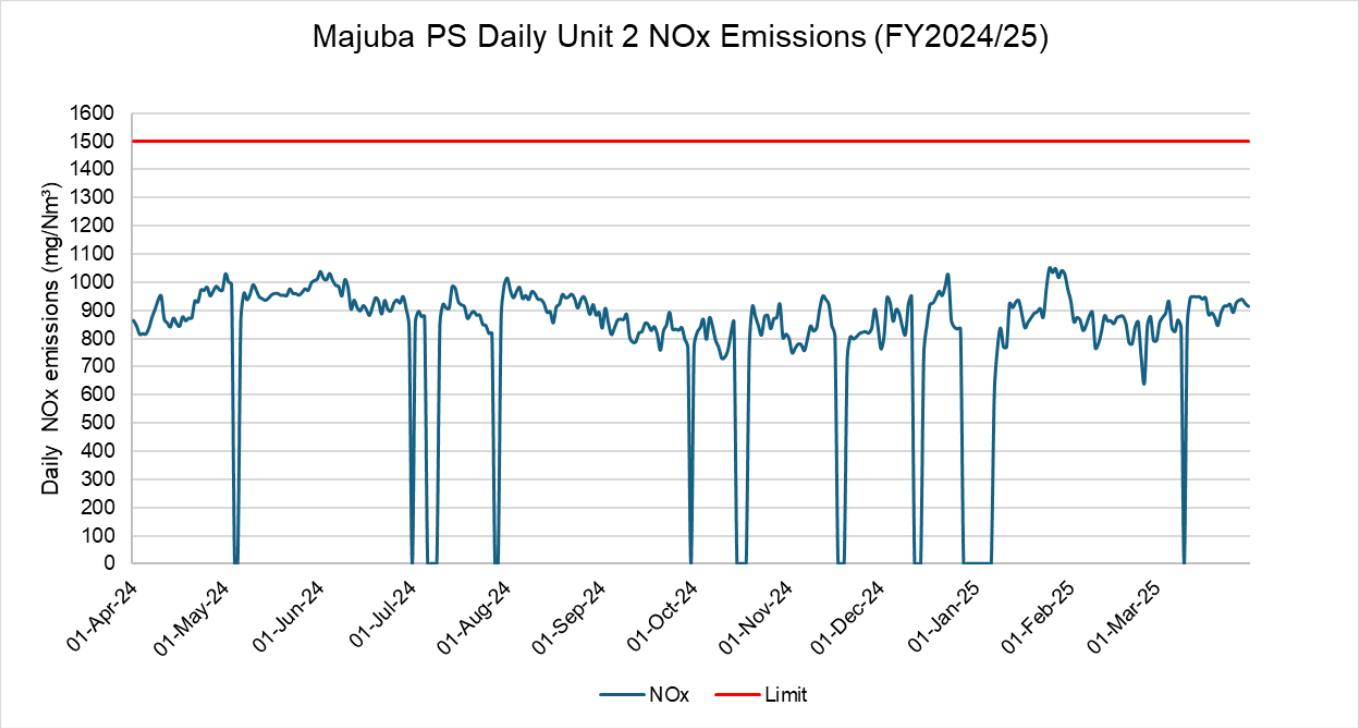


Figure 18: Unit 2 daily NOx emissions for FY2024/2025

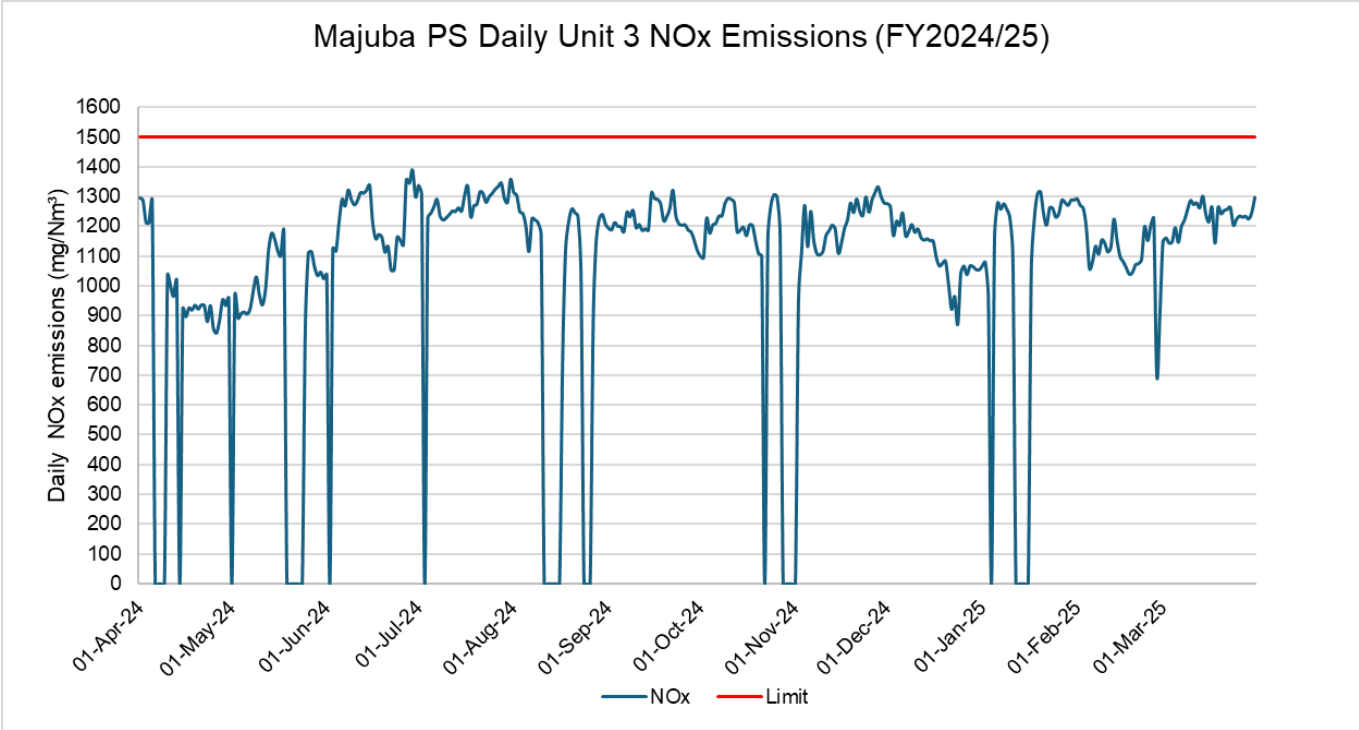


Figure 19: Unit 3 daily NOx emissions for FY2024/2025

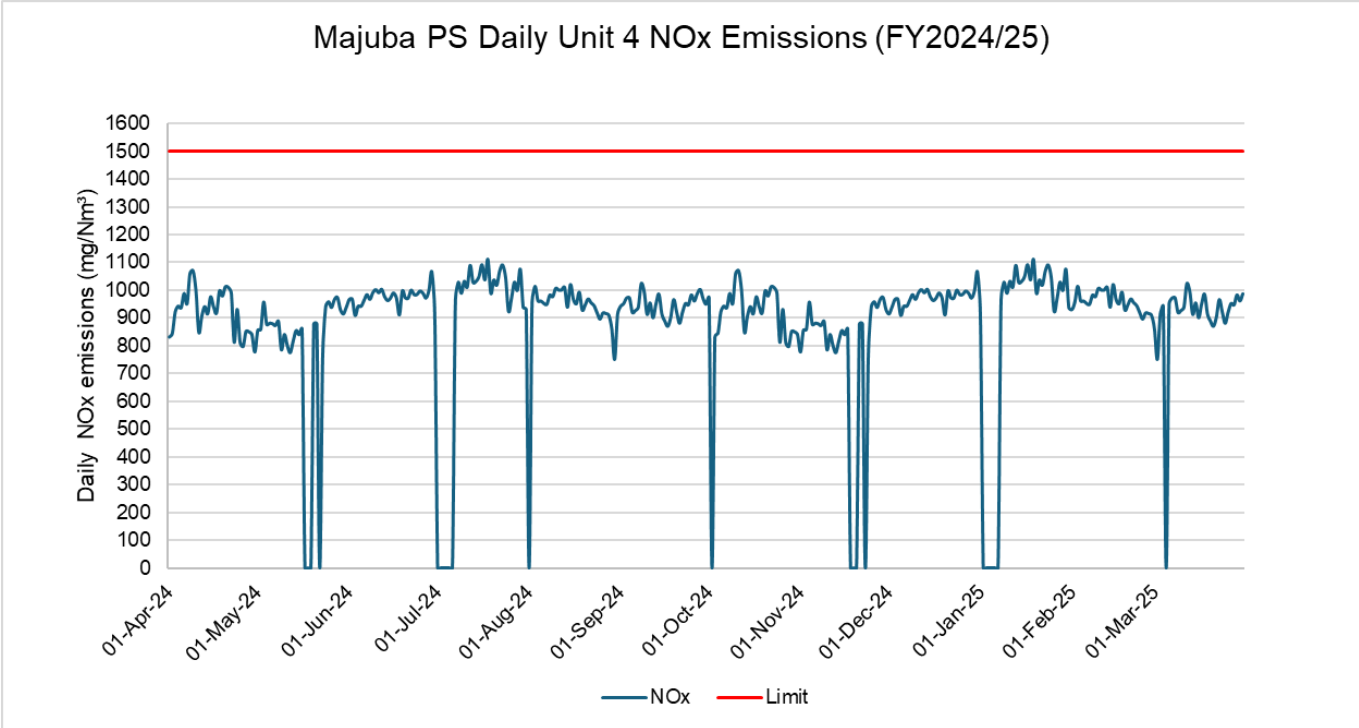


Figure 20: Unit 4 daily NOx emissions for FY2024/2025

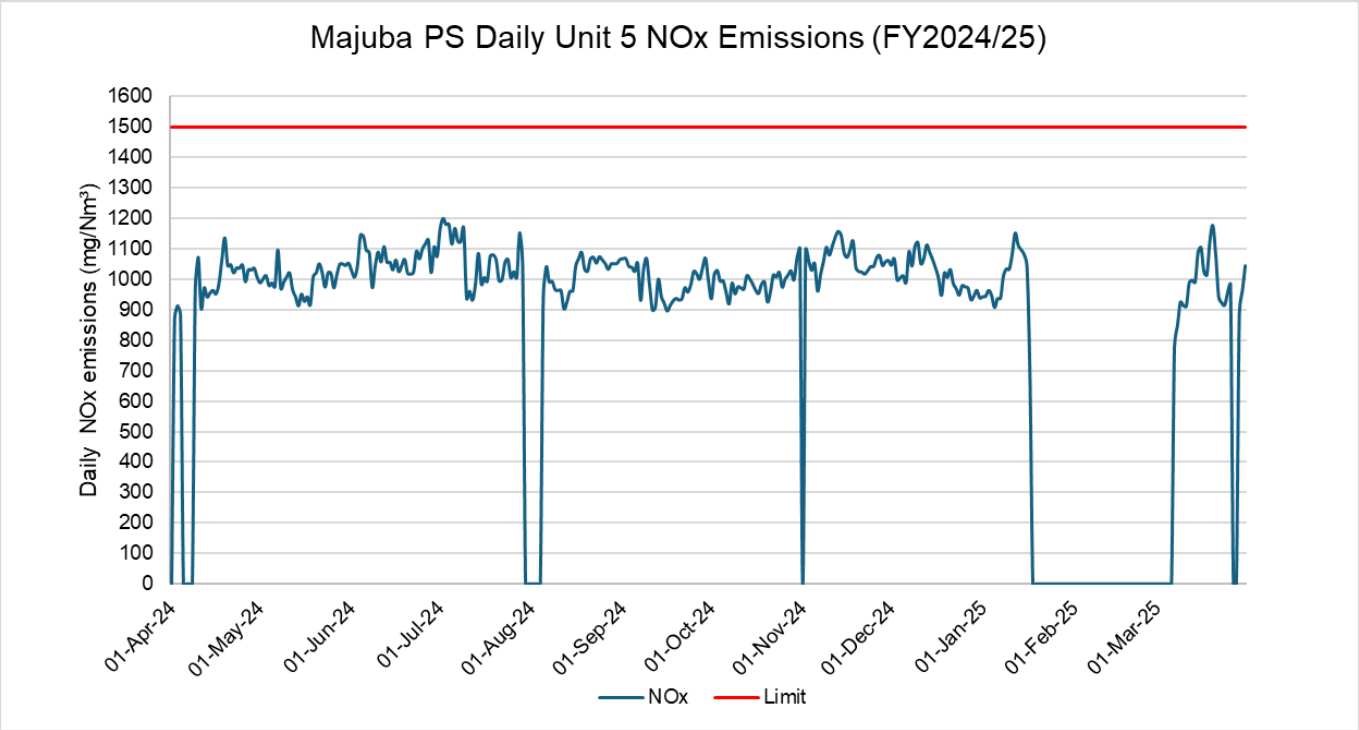


Figure 21: Unit 5 daily NOx emissions FY2024/2025

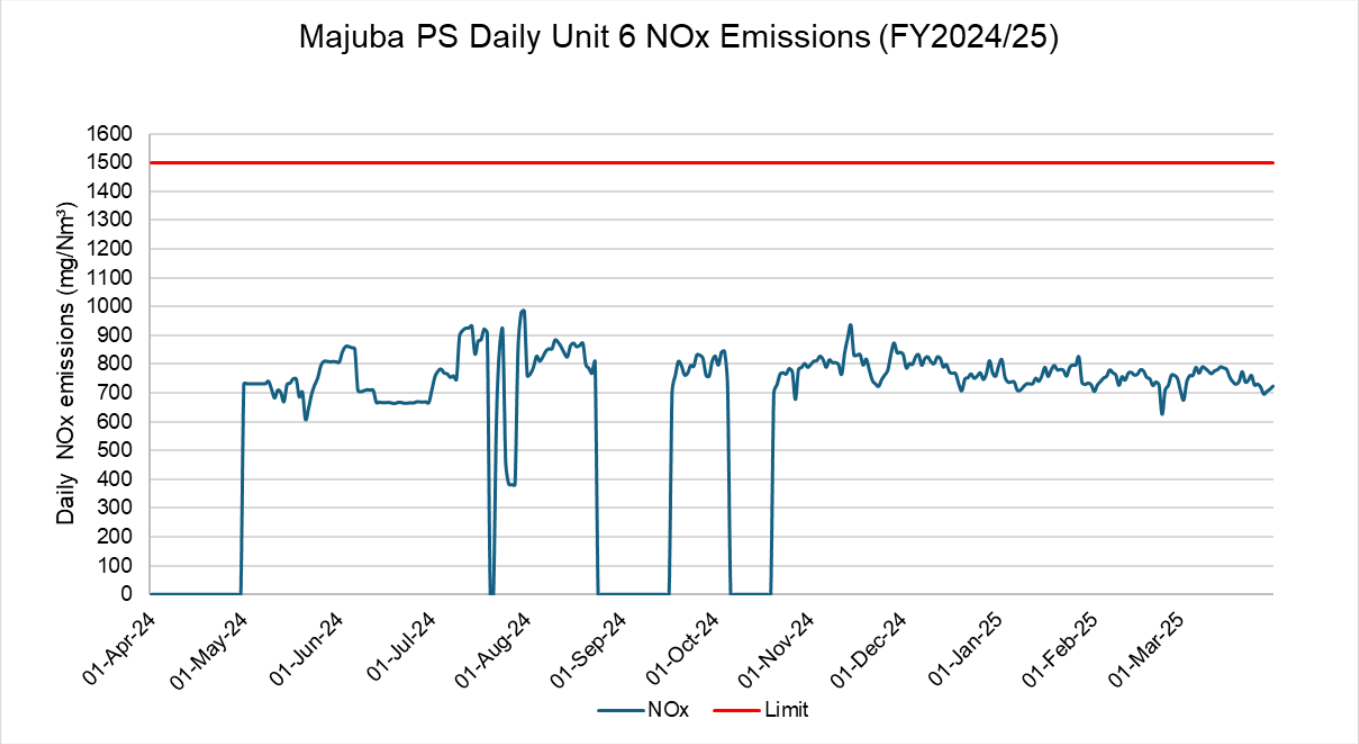


Figure 21: Unit 6 daily NOx emissions for FY2024/2025

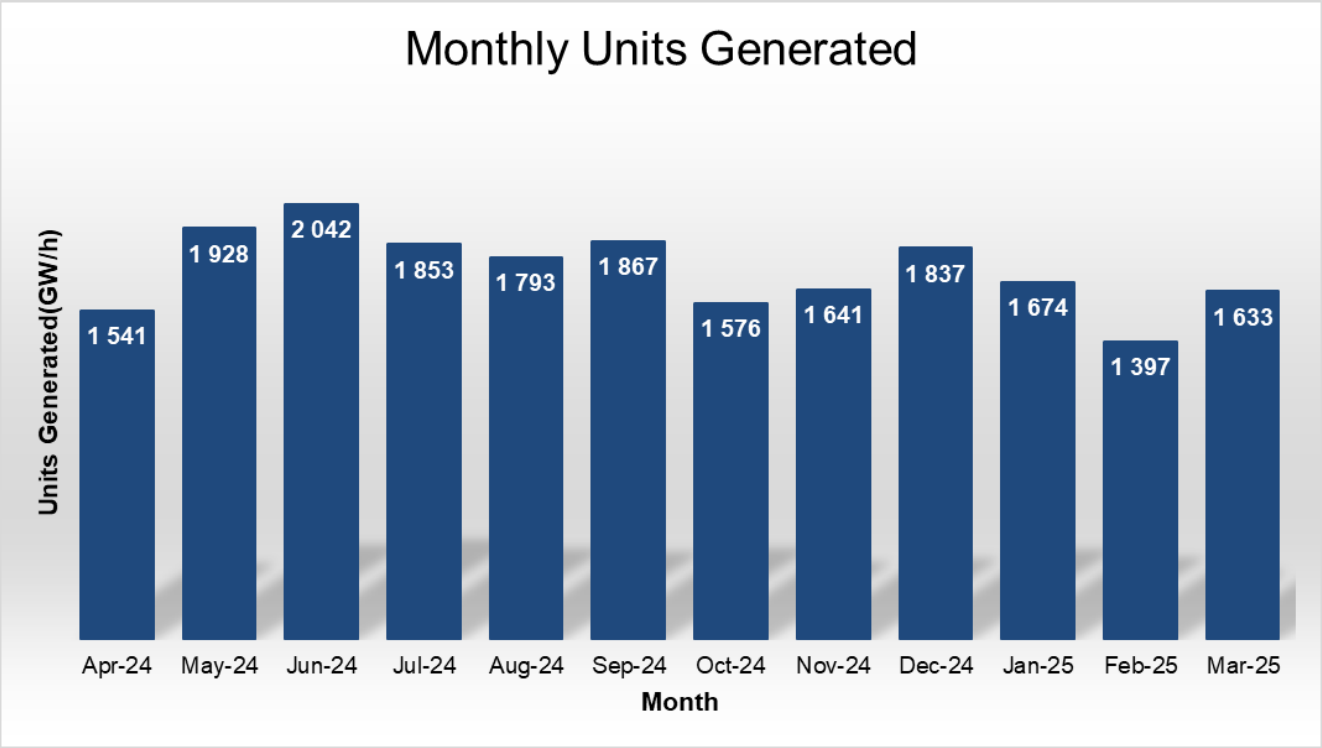


Figure 22: Monthly GWh Generated for FY2024/2025

Monitor Reliability

Table 4 indicates monitor reliability throughout the 2024/25 monitoring period. These values indicate compliance to the requirement of a minimum of 80% valid hourly average values during the reporting period, as stipulated within the National Environmental Management: Air Quality Act, 39 of 2004 - GN 893 - Listed activities and associated Minimum Emission Standards identified in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 Of 2004).

Table 4: Monitor Reliability per/month

Monthly AVG	PM	SO_2	NOx	CO2
April 2024	96.53	100.00	99.99	99.70
May 2024	94.61	94.18	94.18	99.97
June 2024	98.90	99.95	99.91	99.28
July 2024	98.64	99.74	99.79	91.55
August 2024	89.42	99.57	99.63	99.87
September 2024	99.78	99.99	99.99	99.87
October 2024	98.64	99.74	99.79	91.55
November 2024	98.64	97.22	97.04	99.83
December 2024	98.67	99.87	99.93	99.08
January 2025	95.00	97.53	97.89	96.80
February 2025	97.76	94.72	94.72	88.64
March 2025	82.40	82.56	99.16	83.22
Annual Averages	**95.75**	**97.09**	**98.50**	**95.78**

National Atmospheric Emissions Inventory System

Majuba Power Station has reported, in terms of pollutants and greenhouse emissions for the 2023 calendar year, following the SAAELIP manual reporting process as per GN 50284. NAIES reporting for 2024 calendar year is currently underway and will be concluded before the due date in June.

Status of stratification, parallel and correlation tests

The results of the most recent stratification, parallel and correlation tests will be attached as annexures to this report. All correlation and parallel tests have been conducted. The new curves have been implemented and backfitting has been completed. Subsequently, the Station will be res-submitting the monthly reports to the licensing authority.

Table 5: Parallel and Correlation Test Dates and Validity

Unit	Current Correlation test completion date	Correlation Curve expiry date	Planned correlation test date	Current validity
1	12 December 2023	12 December 2025	12 September 2025	Valid
2	11 December 2023	11 December 2025	11 September 2025	Valid
3	29 February 2024	29 February 2026	29 November 2025	Valid
4	24 October 2024	24 October 2026	24 July 2026	Valid
5	28 January 2024	28 January 2026	28 October 2025	Valid
6	15 November 2023	15 November 2025	15 August 2025	Valid
Gaseous Parallel Test				
1	12 June 2023	12 June 2025	12 March 2025	Valid
2	11 December 2023	11 December 2025	11 September 2025	Valid
3	20 September 2024	28 September 2026	20 June 2026	Valid
4	29 June 2023	29 June 2025	29 February 2025	Valid
5	30 May 2023	30 May 2025	30 February 2025	Valid
6	15 November 2023	15 November 2025	15 August 2025	Valid

Sampling Methods used: Parallel Tests

The following sampling methods were used in accordance with Annexure 2 of the NEM: AQA Listed Activities (GN 893 of 2013):

Table 6: Sampling methods used in parallel tests.

Compound	Method	Comment
Combustion gases	Using the Horiba PG 250 Portable gas analyzer (SRM)	
O_2		Zirconium cell measuring principle

Compound	Method	Comment
CO_2	Based on USEPA Method 3A - Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)	NDIR measuring principle
CO	Based on USEPA Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources	NDIR measuring principle
SO_2	Based on USEPA Method 6C - Determination of Sulphur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)	NDIR measuring principle
NOx	Based on USEPA Method 7E - Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)	Chemiluminescence measuring principle
Moisture (H_2O)	Base on USEPA Method 4- Determination of moisture content in stack gases	-
Report format	BS EN 15259:2007 - Air quality. Measurement of stationary source emissions. Measurement strategy, measurement planning, reporting and design of measurement sites	-
Variability test	Based on BS EN 14181: 2014	CEMS Review Template V16.2018
Calibration functions		

Sampling Methods used: Correlation tests

The following sampling methods were used in accordance with Annexure 2 of the NEM: AQA Listed Activities (GN 893 of 2013):

Table 7: Sampling methods used in correlation tests

Compound	Method	Comment
Particulate Matter	Based on ISO 9096: 2003 Stationary source emissions - Manual Determination of mass concentration of particulate matter.	-
Low mass concentrations	Based on BS EN 13284-1:2002 Stationary source emissions — Determination of low range mass concentration of dust — Part 1: Manual gravimetric method	Based on ISO 9096 with additional requirements on the filter preparation and procedures before and after the tests.
Velocity	Based on USEPA Method 2 - Velocity - Pitot tube	Std-type Pitot.
Correlation function	VDI 2066, Part 4	In particular giving the 75% Tolerance and 95% Confidence bands.

B. EXTERNAL COMPLIANCE AUDIT REPORT(S):

The external environmental legal compliance audit was conducted in November 2024. The following non-compliances related to air quality were raised:

- The Atmospheric Emissions Licence (AEL) for Majuba dated 25 April 2019 has expired. It is therefore submitted that until the AEL is duly renewed, Eskom is in non-compliance with the provisions of NEMAQA: Section 21 read with Listed Activities Regulations GNR 893/2013.

- Eskom undertakes monthly dust monitoring. Although there were no exceedances in respect of the 2024 reports, it was noted that there were exceedances recorded for October and November 2023.

The non-compliances are being tracked through an internal system for audit actions (SAP QIM).

C. MAJOR UPGRADES PROJECTS:

No major upgrades were conducted at Majuba during the 2024/2025 financial year. However, a total filter bag replacement was undertaken on Unit 1&2.

Table 8: Fabric Filter Bag Replacement Start and End Dates

Unit	Start Date	End Date
1	July 2024	August 2024
2	September 2024	October 2024

The Low NO_x Burner Replacement Project has been deferred to FY 2026.

D. GREENHOUSE GAS EMISSIONS ANNUAL REPORT IN LINE WITH THE NATIONAL GREENHOUSE GAS EMISSION REPORTING REGULATIONS NO. 40762 GOVERNMENT GAZETTE 03 APRIL 2017

Greenhouse gases are reported as per the agreement between DEFF and Eskom.

E. ACTIONS TAKEN TO ADDRESS COMPLAINTS RECEIVED

No air quality related complaints were received for this reporting period.

F. ANNUAL REPORT ON IMPLEMENTATION OF HIGHVELD PRIORITY AIR QUALITY MANAGEMENT PLAN AND OFFSET PROGRAM / PROJECTS

The Highveld Priority Air Quality Management Plan was submitted in 2017 as the first generation AQMP, its progress is being tracked by head office. The second generation AQMP was published in March 2025. The Fugitive Emission Management Plan was revised in March 2025 and the updated version was submitted to the authorities. A progress report on the Offset Project was submitted to the Licensing Authority on the 20th of March 2025 detailing progress made on the offset project.

G. COMPLIANCE STATUS TO STATUTORY OBLIGATION INCLUDING ANY OTHER ISSUED AUTHORISATIONS

The current compliance to the statutory obligations as per Section 4.5 of the AEL is shown in tables 09 and 10 below:

Table 9: Compliance to Statutory Obligations

Act	Act Number	Act Year	Chapters (where applicable)	Compliance Status	Comment
National Environmental Management: Air Quality Act	39	2004	5	Mostly Compliant	National Environmental Management Act 39 of 2004; National Dust Control Regulations- Details of dust exceedances are described in Table 10 below. The Station is operating with an expired AEL.
National Health Act	61	2003	10 & 11	Compliant	
National Environmental Management Act	107	1998		Compliant	
National Water Act	36	1998		Compliant	
National Environmental Management: Waste Act	59	2008		Compliant	
Gert Sibande District Municipality: Air Quality Management By-law	n/a	2014		Compliant	
Gert Sibande District Municipality: Municipal Health By-law	n/a	2014		Compliant	
Gert Sibande District Municipality: Noise Control By-law	n/a	2014		Compliant	
Gert Sibande District Municipality: Waste By-laws	n/a	2016		Compliant	

Table 10: Compliance to other Issued Authorisations

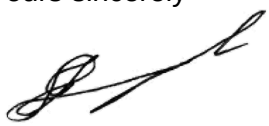
Issuing Authority	Licence Number	Date Issued	Comment	Total number of compliant conditions
Gert Sibande DM	Dr PKI Seme/Eskom HSOC Ltd/MPS/ 0014/2021/F04	25-Apr-19	• Majuba Power Station experienced exceedances of allowed dust fallout limits for industrial areas in terms of the NEM: AQA National Dust Control Regulations (No 827 of 2013) consecutively three times at Site EM20a, EM03a, EM05a, EM10a and EM11 this financial year. The Fugitive Emission Management Plan was revised as per the requirement of the National Dust Control Regulations; and	**46 of 46**

			submitted to the authorities. Monthly fugitive dust emissions reports are submitted monthly to the Licensing Authority. • An AEL renewal application was submitted to the licensing authority in 2024. The new AEL has not been received.	
Department of Water and Sanitation	08/ C11J/ BGCI/ 9097	26-Jun-19	Majuba received its Integrated Water Use Licence in June 2019. An external audit was conducted in December 2024 and the overall compliance score was 95%, a total of 9 non-compliances were identified.	**167 of 176**
Department of Environment, Forestry and Fisheries	12/9/11/ L181015175955/6	13-Sep-19	Majuba General Waste Site Decommissioning Licence was audited in November 2024 and the overall compliance score was 88%.	**50 of 57**

Additional information demonstrating compliance to the station's atmospheric emissions license conditions is supplied in the monthly emission reports sent to Gert Sibande District Municipality.

Hoping the above will meet your satisfaction.

Yours sincerely



Johan Swanepoel
ENGINEERING MANAGER: MAJUBA POWER STATION