

Mandlenkosi Mahlalela
Department of Economic Development,
Environment & Tourism
Private Bag X11219
Nelspruit
1200

Date
30 May 2025

Enquiries
Livhuwani Tshilate
017 615 2317

Ref 17/AEL/MP312/11/09

Dear Mandlankosi Mahlalela

KRIEL POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2024/25

This serves as the annual report required in terms of Section 7.6 of Kriel Power Station's Atmospheric Emission License 17/AEL/MP312/11/09 and the Minimum Emissions Standards (Section 17 and 18). The emissions are for the Eskom's 2024/25 financial year which is from 1 April 2024 to 31 March 2025. Verified emissions of particulates, SO₂, Verified emissions of Particulates Matter (PM), SO₂ and NO_x (as NO₂) are also included.

1. Pollutant emission trends

Particulate emissions are measured at all power station with opacity monitors, which are correlated to obtain emission concentrations. Gaseous emissions (N₂O, SO₂, NO_x) are calculated from mass balance for SO₂, from station-specific emission factor for NO_x and from a generic emission factor for N₂O.

Note: During April 2024 till July 2024 the station was using Monthly Limits and from August 2024 to March 2025 the station's AEL limits changed to daily limits.

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

Generation Division

Kriel Power Station
Ogies & Bethal Road
Private Bag X 5009 Kriel 2271 SA
Tel +27 17 615 2000 Fax +27 17 615 2326 www.eskom.co.za
Eskom Holdings SOC Limited Reg No 2002/015527/30

Table 1: Total emissions at Kriel Power Station 2024/2025

Power Station	Coal-fired emissions (tons/annum)	Fuel-oil emissions (tons/annum)	Total (tons/annum)
Kriel Power Station	N₂O: 54.948 PM: 23 357.94 SO₂: 73 427 NO_x: 61 598	N₂O: not calculated PM: not calculated SO₂: 840.42 NO_x: not calculated	N₂O: 54.948 PM: 23 357.94 SO₂: 74 267.42 NO_x: 61 598

Table 2: Pollutant Emission Trends in tons for 2024/2025

Month	PM (tons)	SO ₂ (tons)	NO _x (tons)	N ₂ O (tons)
April 2024	3405.00	7 533	5 907	5.201
May 2024	3688.63	7 452	6 125	5.467
June 2024	4396.29	9 024	7 049	6.326
July 2024	1787.94	6 664	5 553	4.990
August 2024	546.83	7 043	5 981	5.297
September 2024	511.79	5 433	5 016	4.423
October 2024	238.50	6 157	4 656	4.112
November 2024	589.40	4 837	4 392	4.005
December 2024	553.50	4 812	4 312	3.886
January 2025	898.14	4 568	3 827	3.392
February 2025	2178.67	4 368	4 147	3.677
March 2025	4563.25	5 536	4 633	4.172

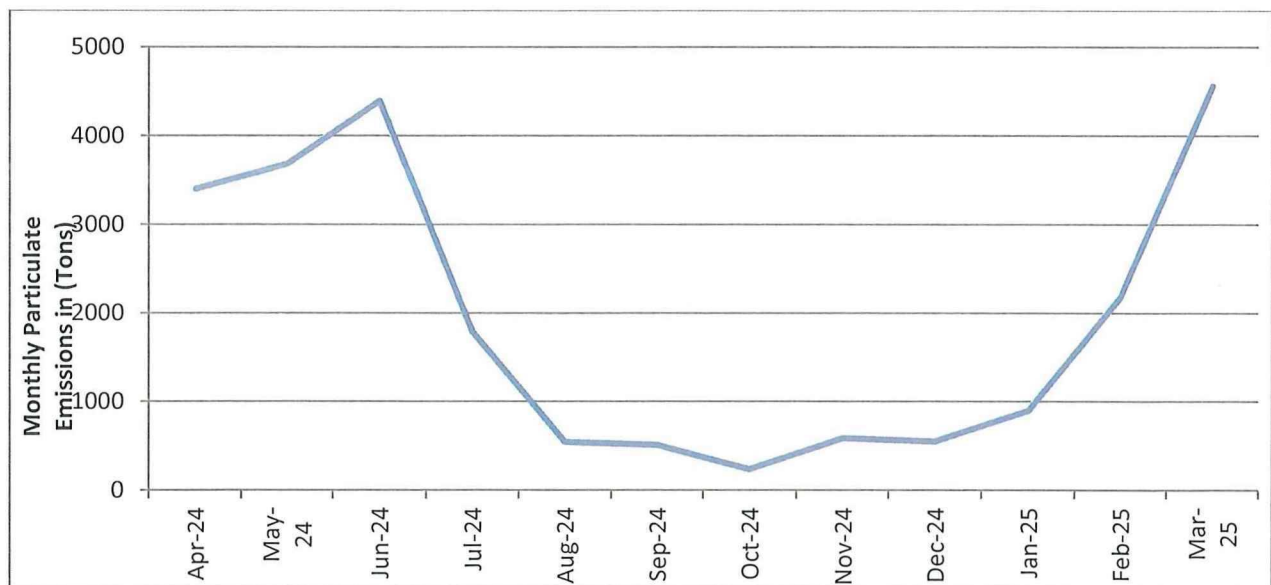


Figure 1. Monthly Particulate Emissions in tons from Kriel Power Station 2024/2025

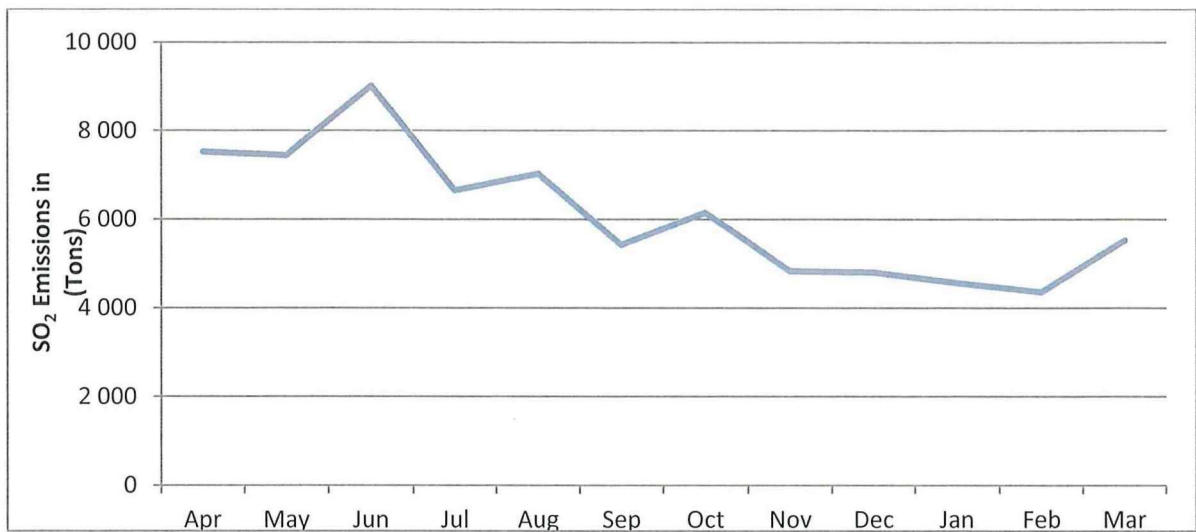


Figure 2. Monthly SO₂ emissions in tons from Kriel Power Station 2024/2025

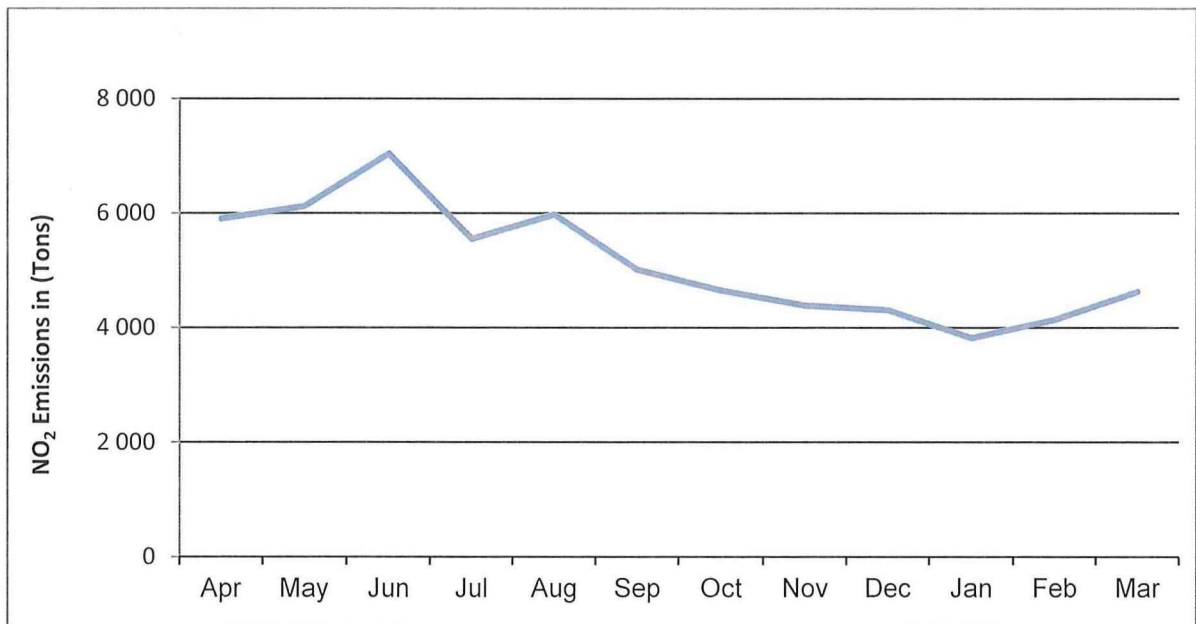


Figure 3. Monthly NO₂ emissions in tons from Kriel Power Station 2024/2025



Figure 4. Monthly N₂O emissions in tons from Kriel Power Station 2024/2025

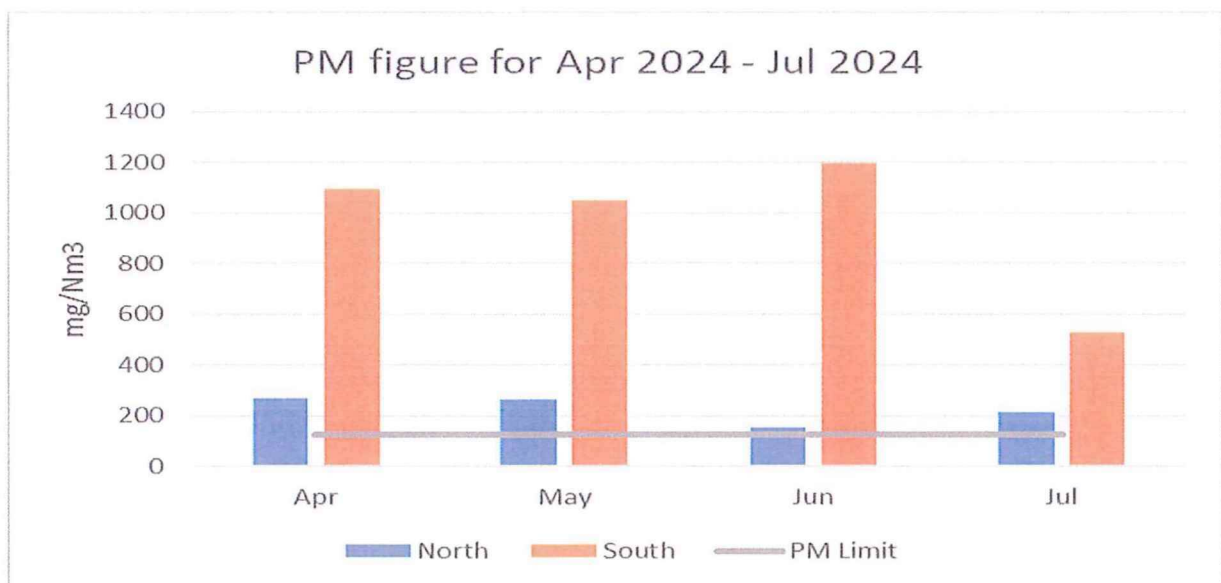


Figure 5: Kriel Power Station Monthly Particulate Emissions in mg/Nm³ for April 2024 to July 2024

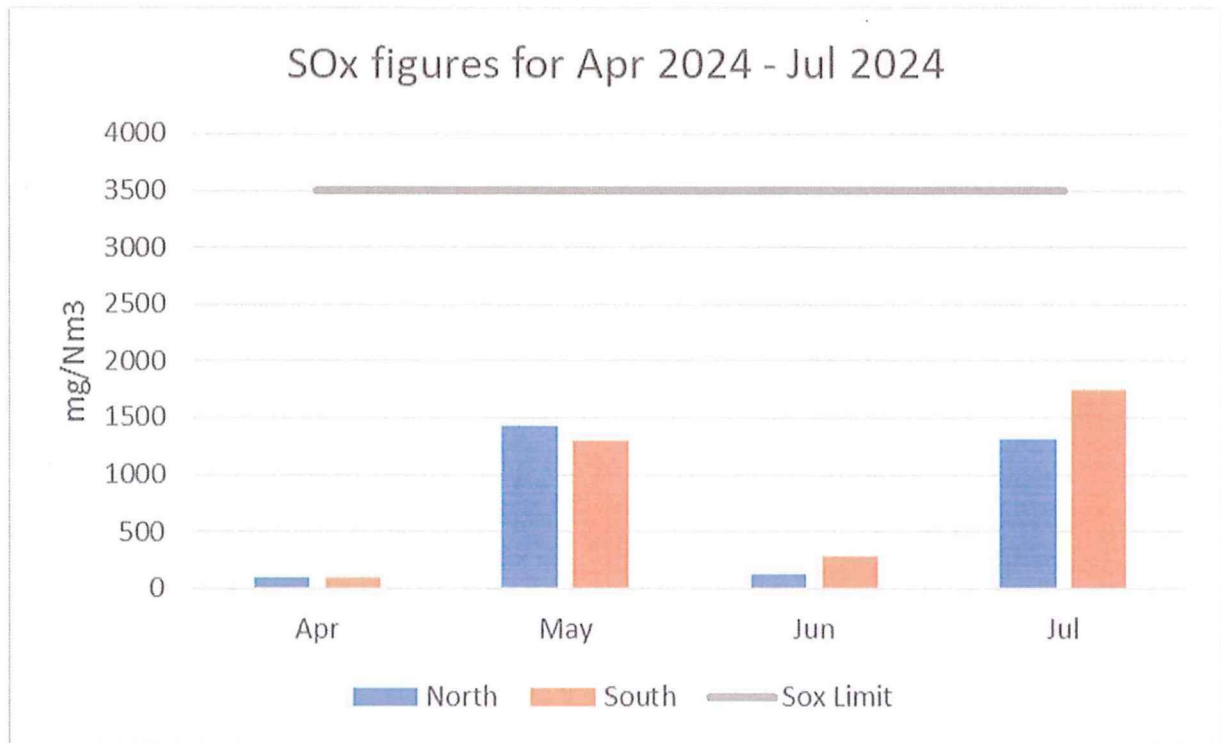


Figure 6: Kriel Power Station Monthly SO₂ Emissions in mg/Nm³ for April 2024 to July 2024

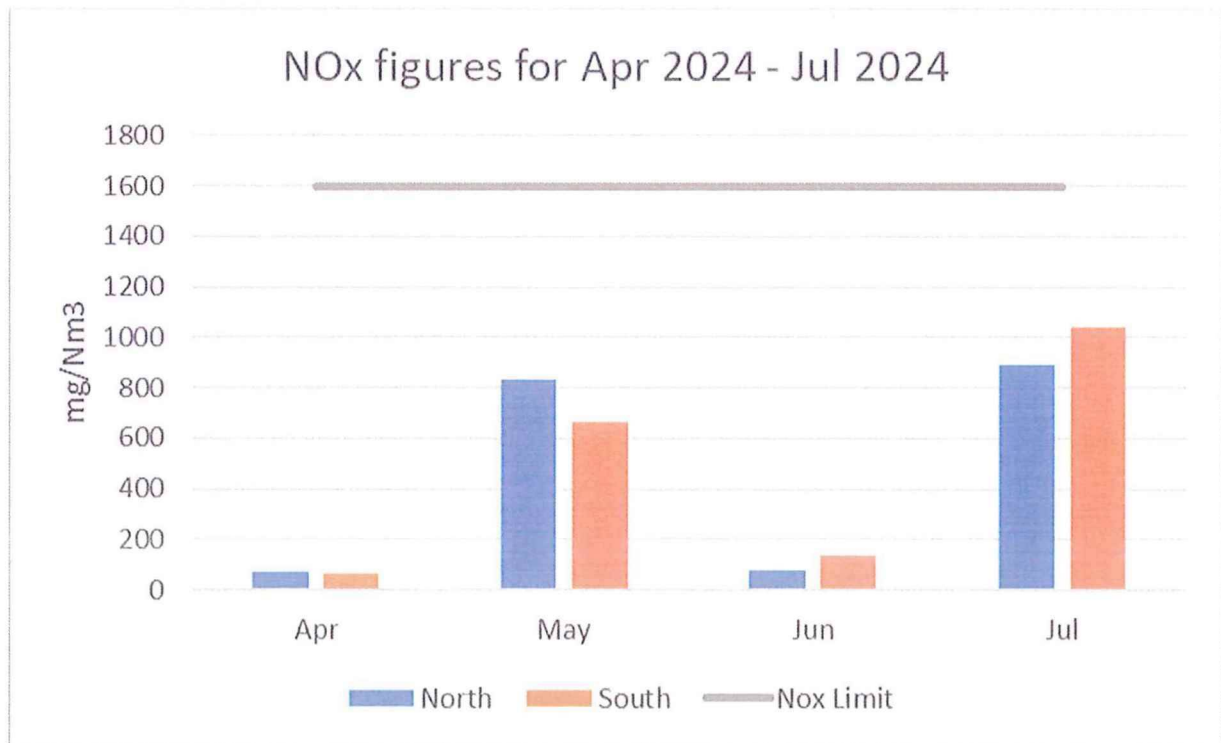
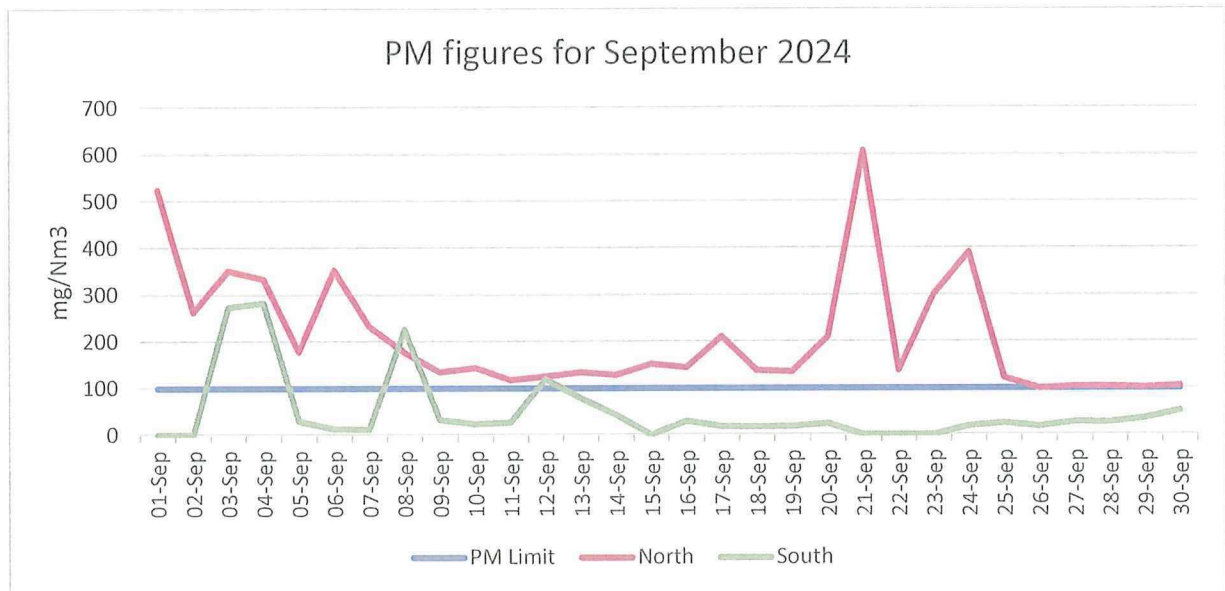
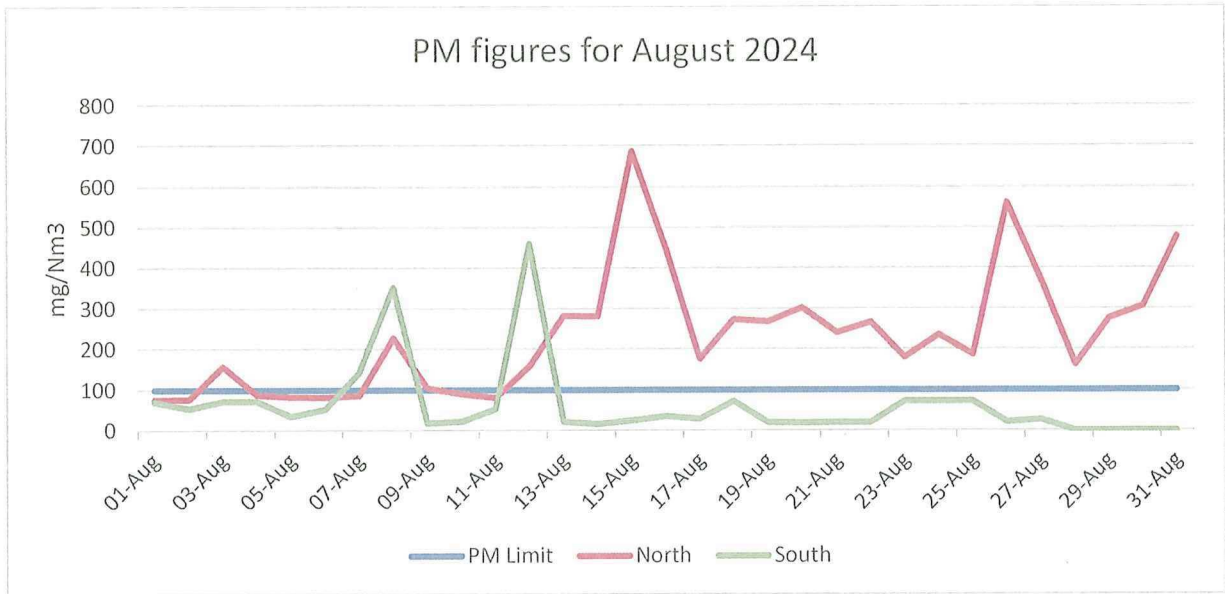
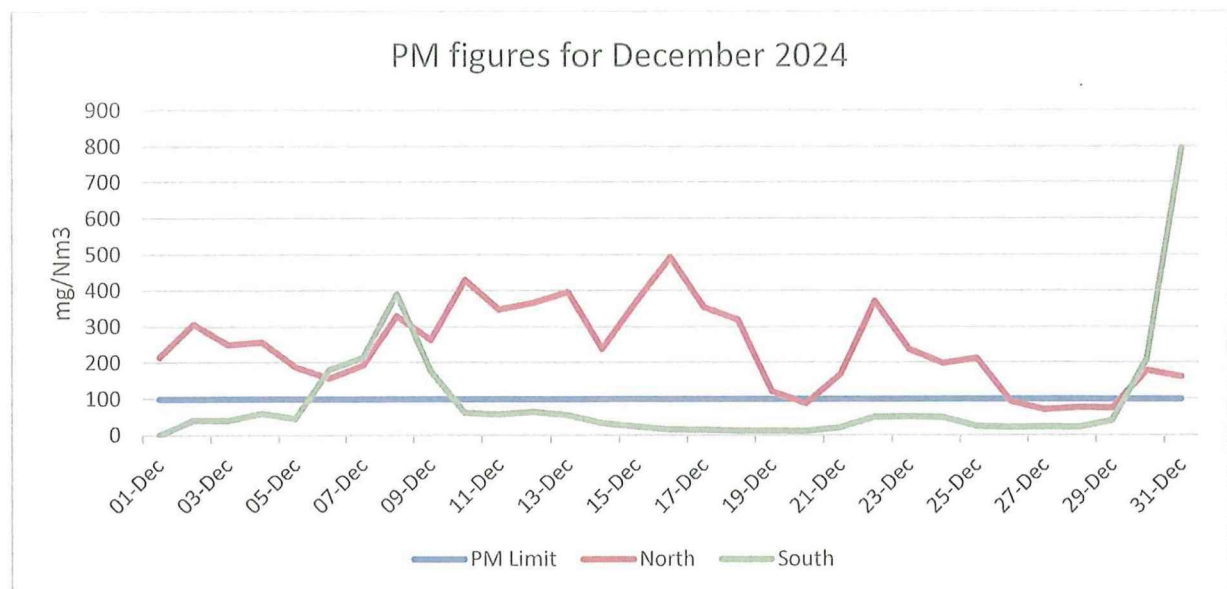
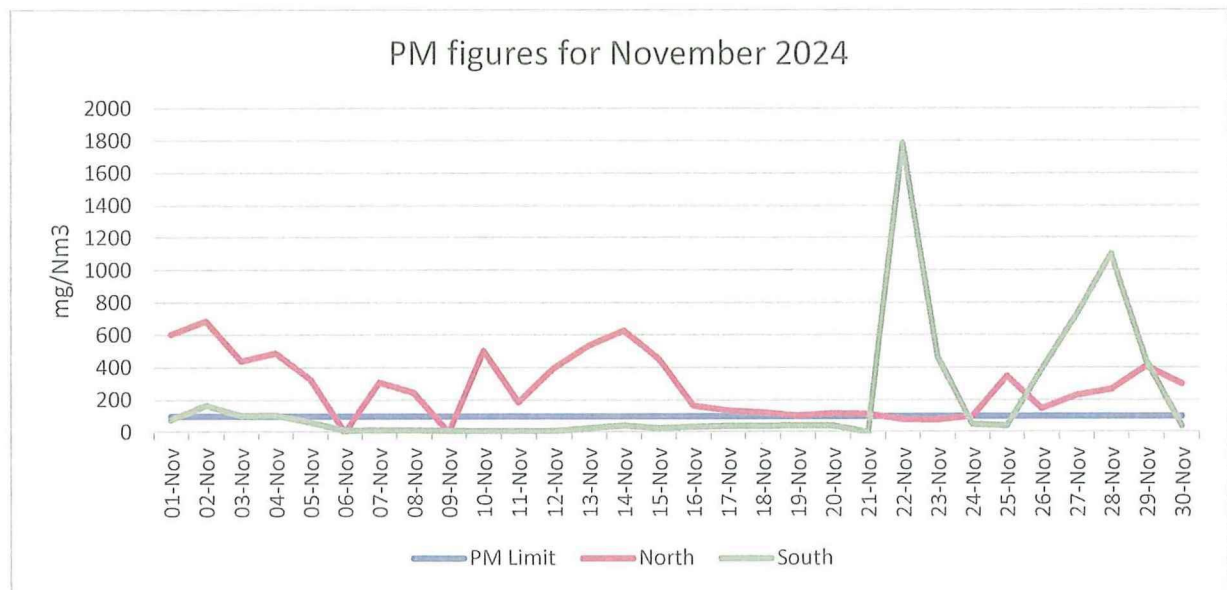
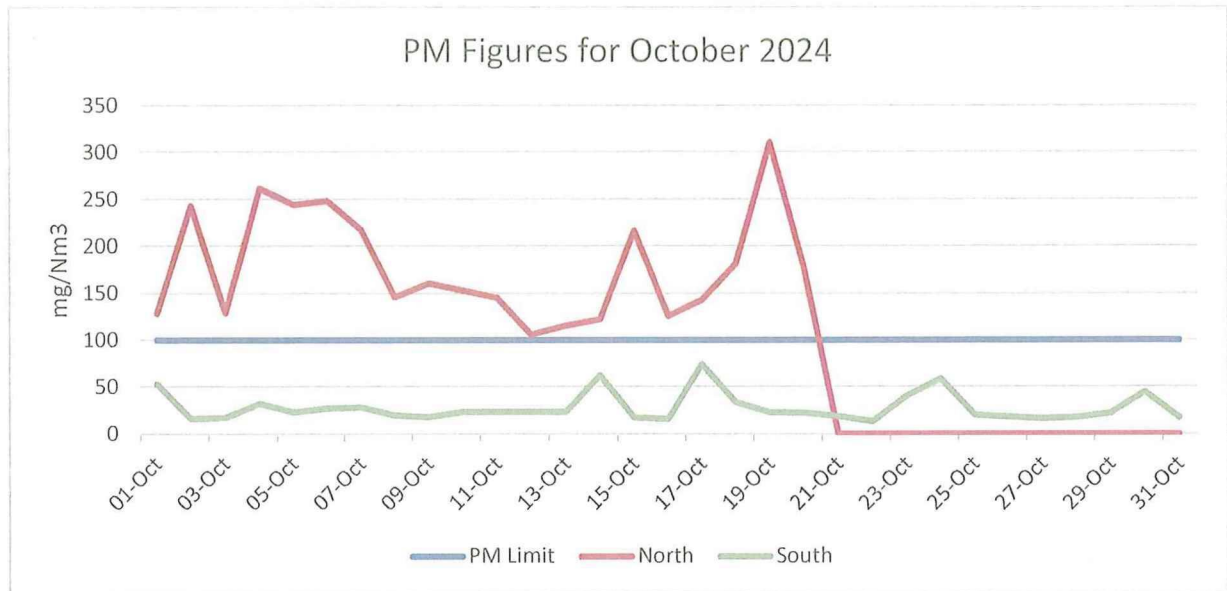


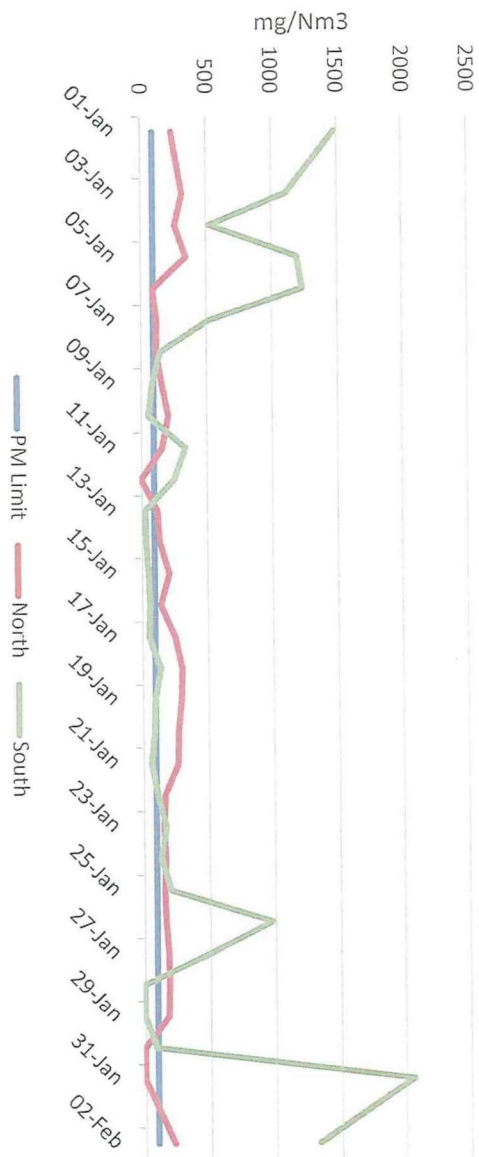
Figure 7: Kriel Power Station Monthly SO₂ Emissions in mg/Nm³ for April 2024 to July 2024

Daily Figures PM figures in mg/Nm³
Graphs August 2024 – March 2025



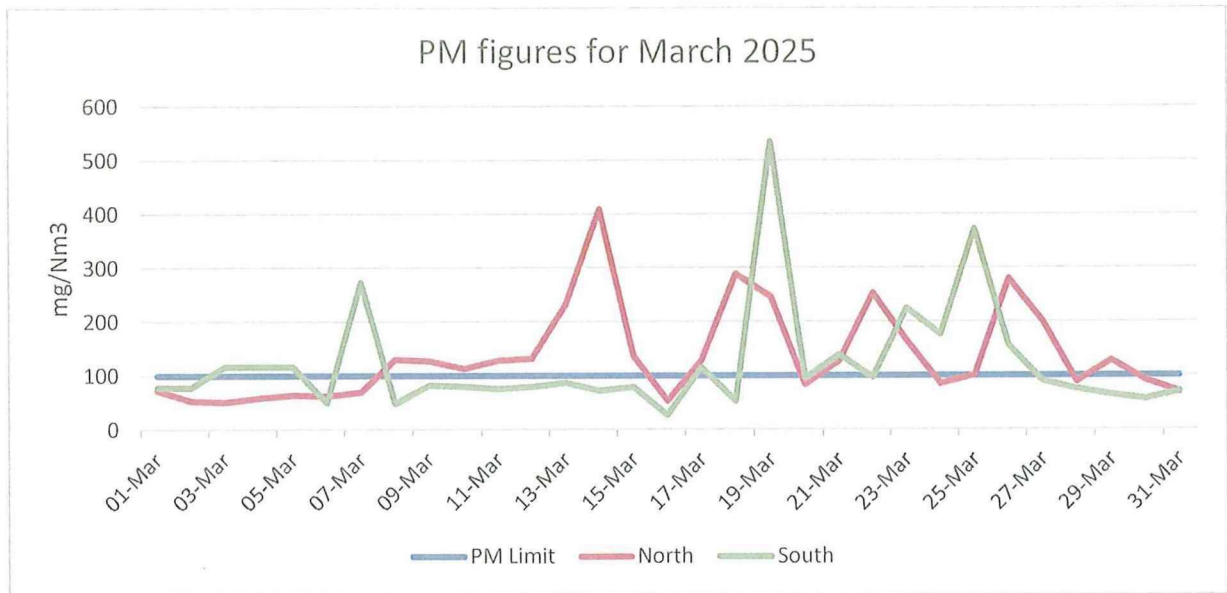


PM figures for January 2025

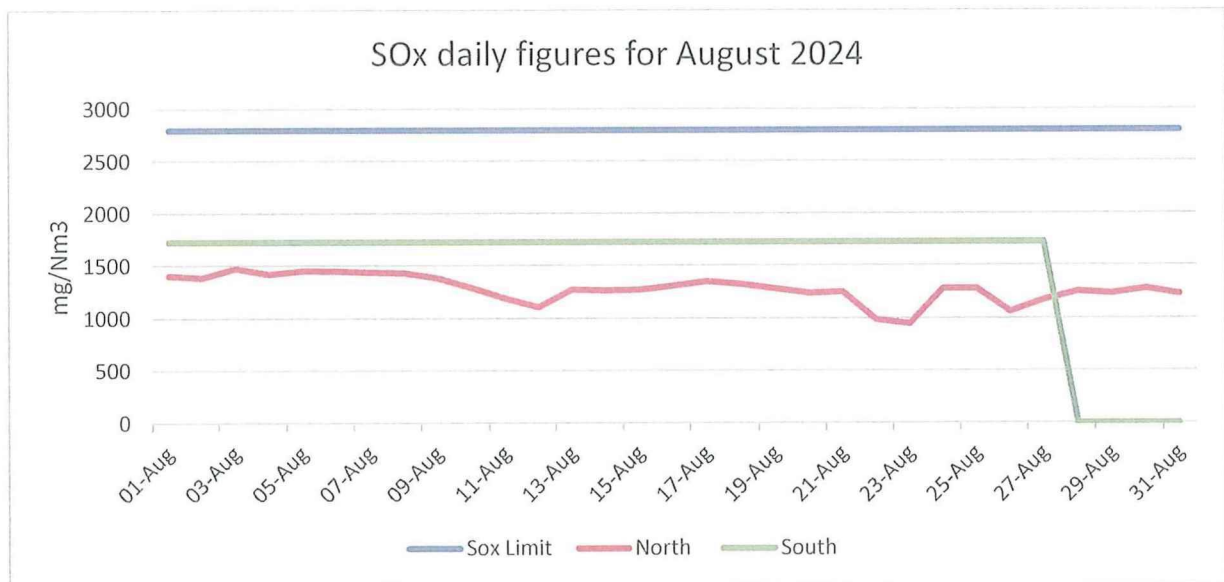


PM figures for February 2025

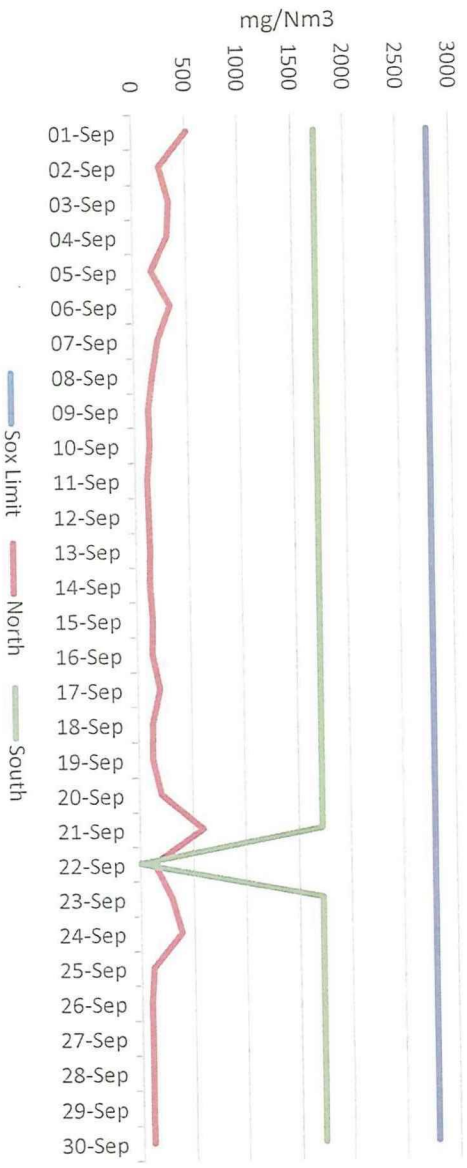




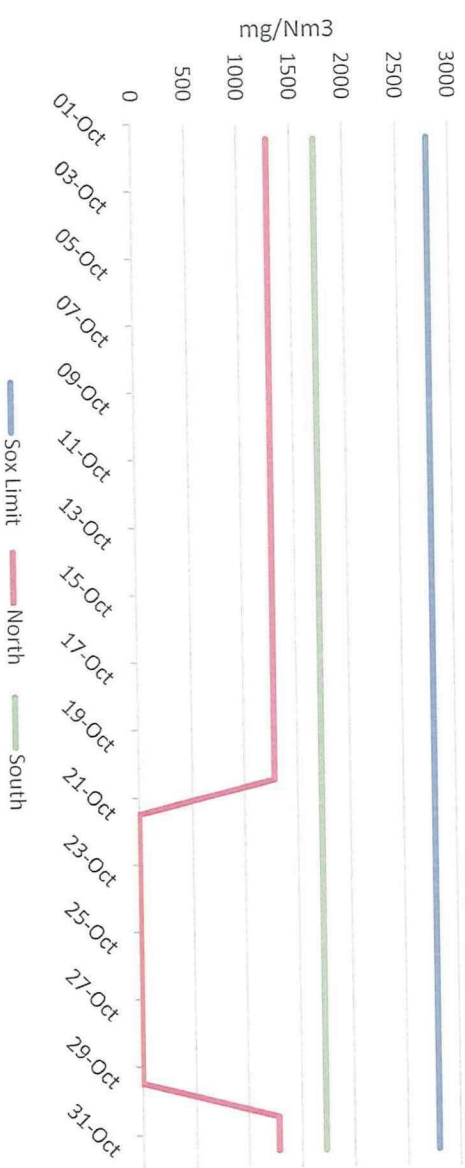
Daily Figures SOx figures in mg/Nm³
Graphs August 2024 – March 2025



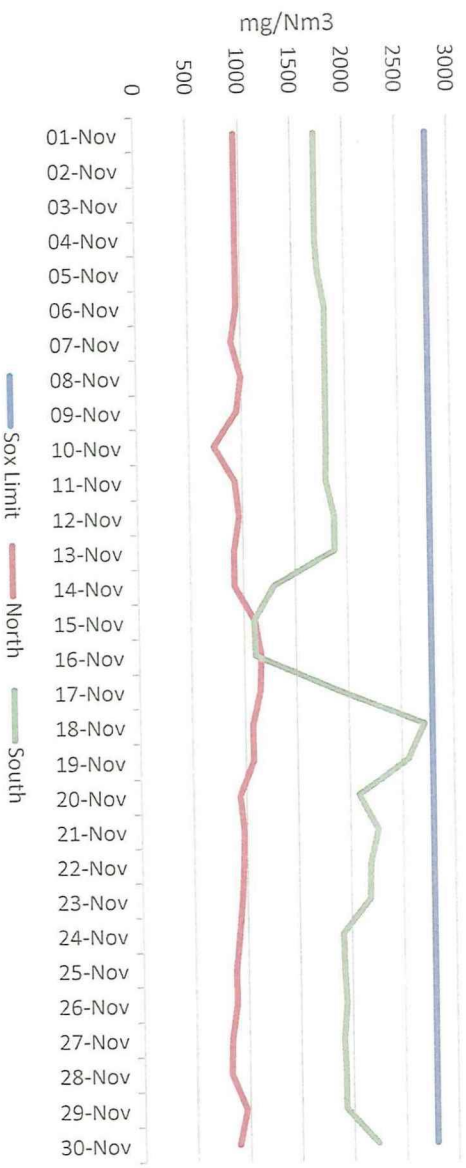
SOx daily figures for September 2024



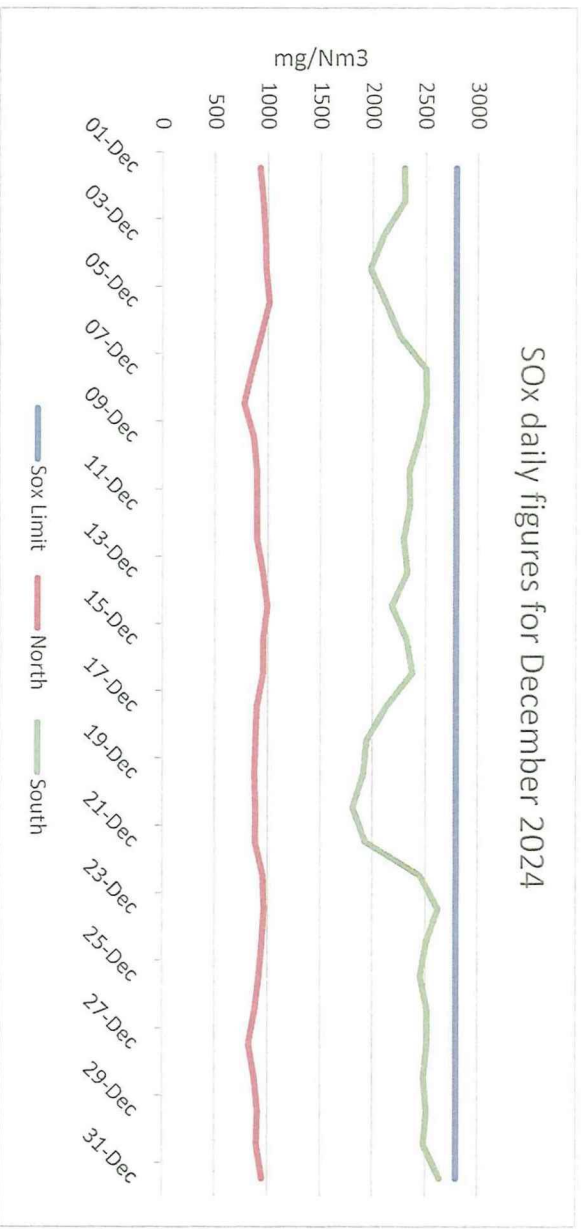
SOx daily figures for October 2024



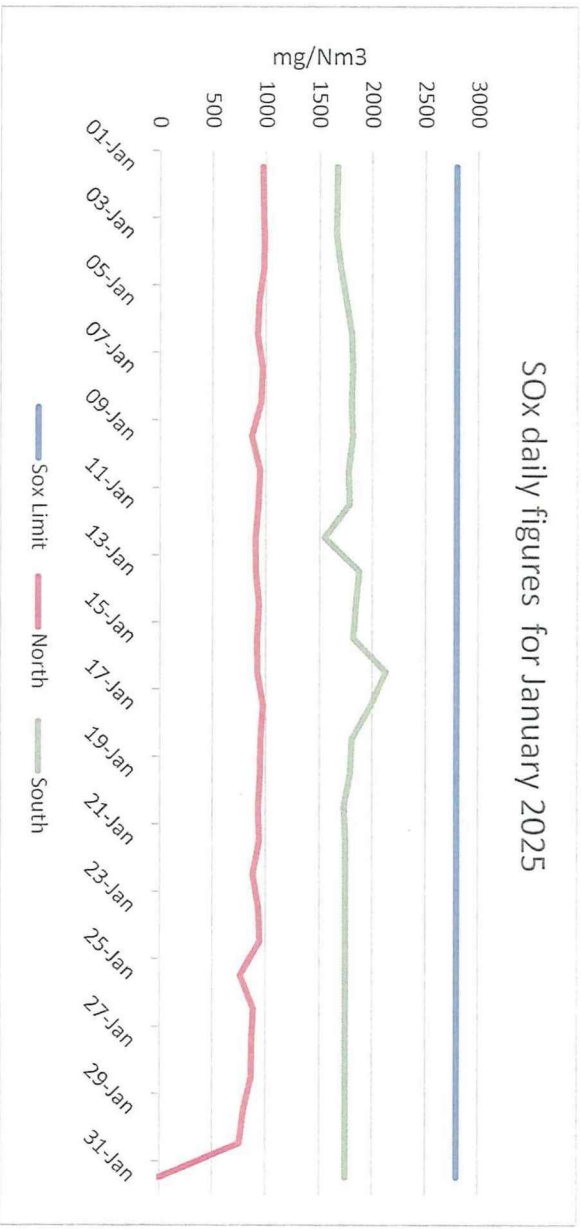
SOx daily figures for November 2024



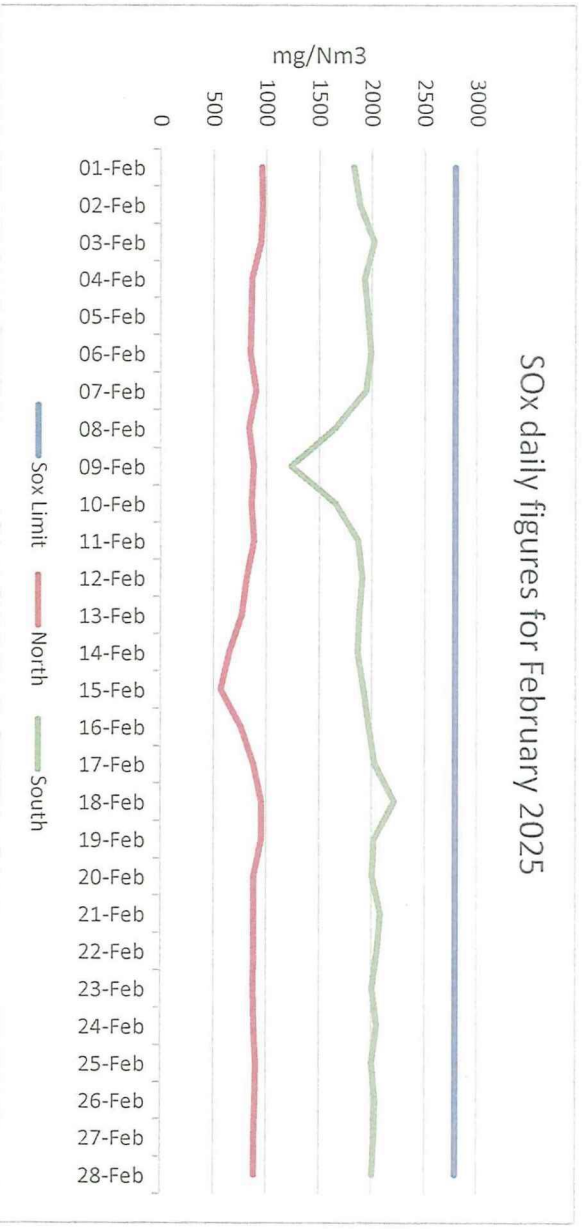
SOx daily figures for December 2024

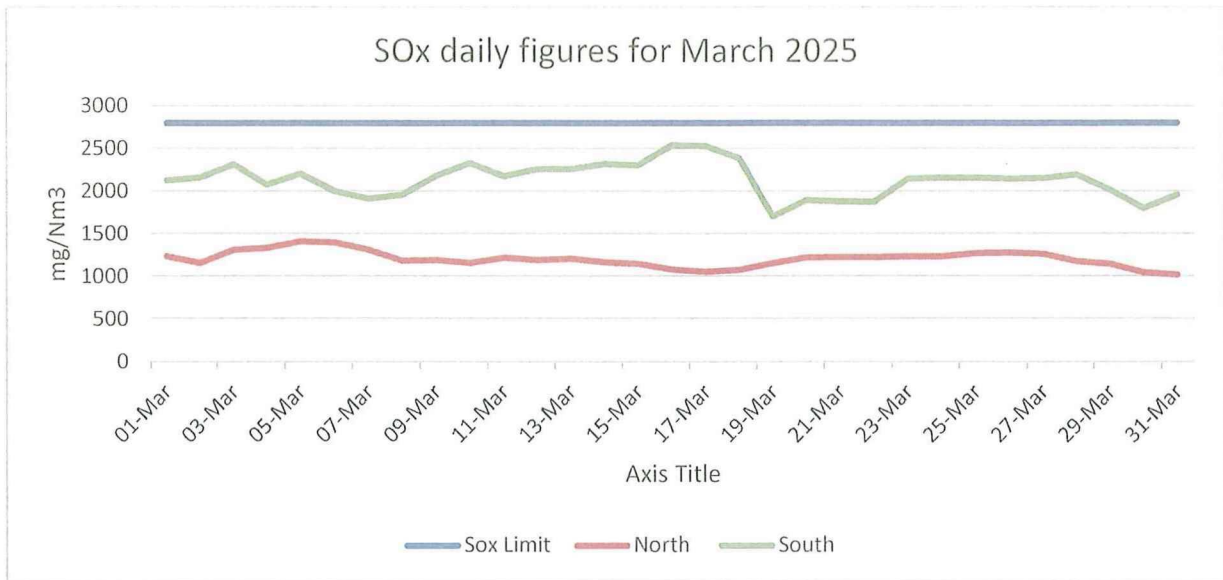


SOx daily figures for January 2025

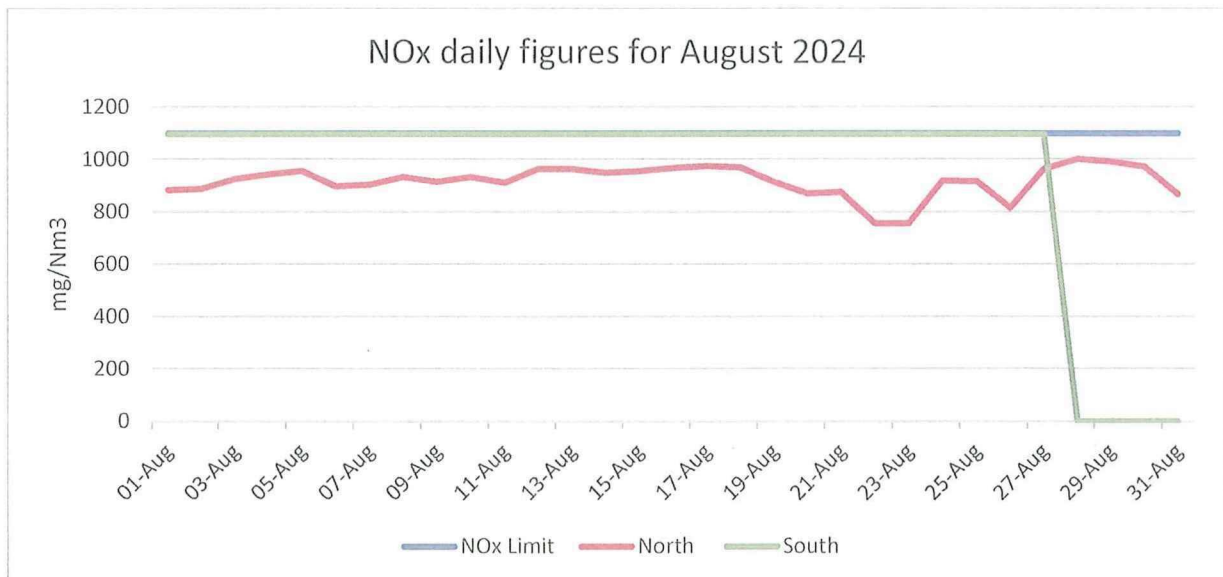


SOx daily figures for February 2025

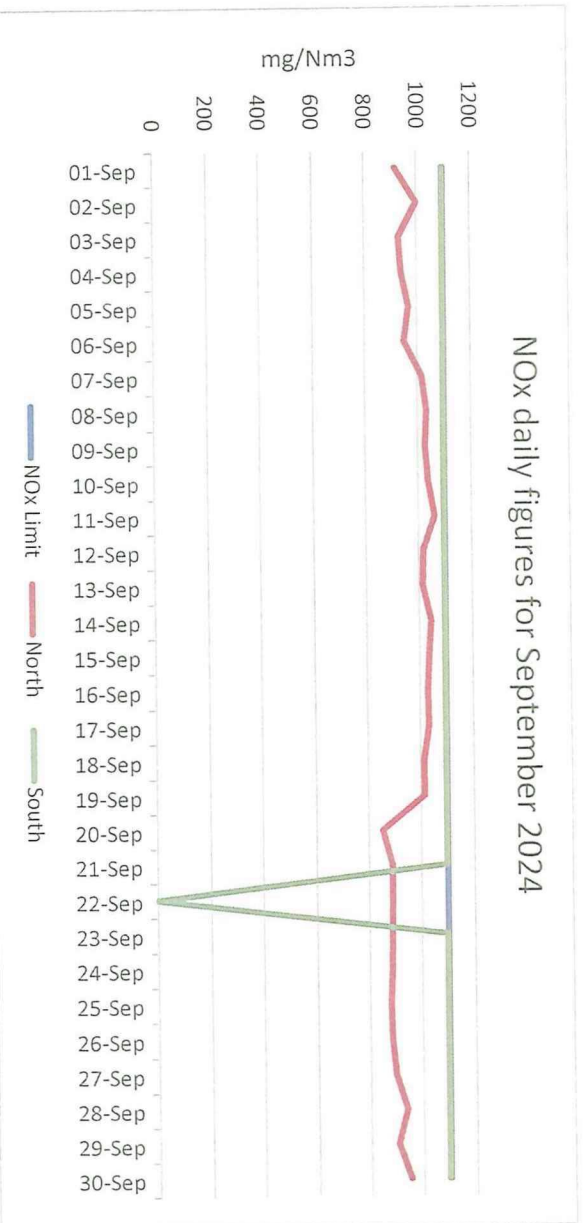




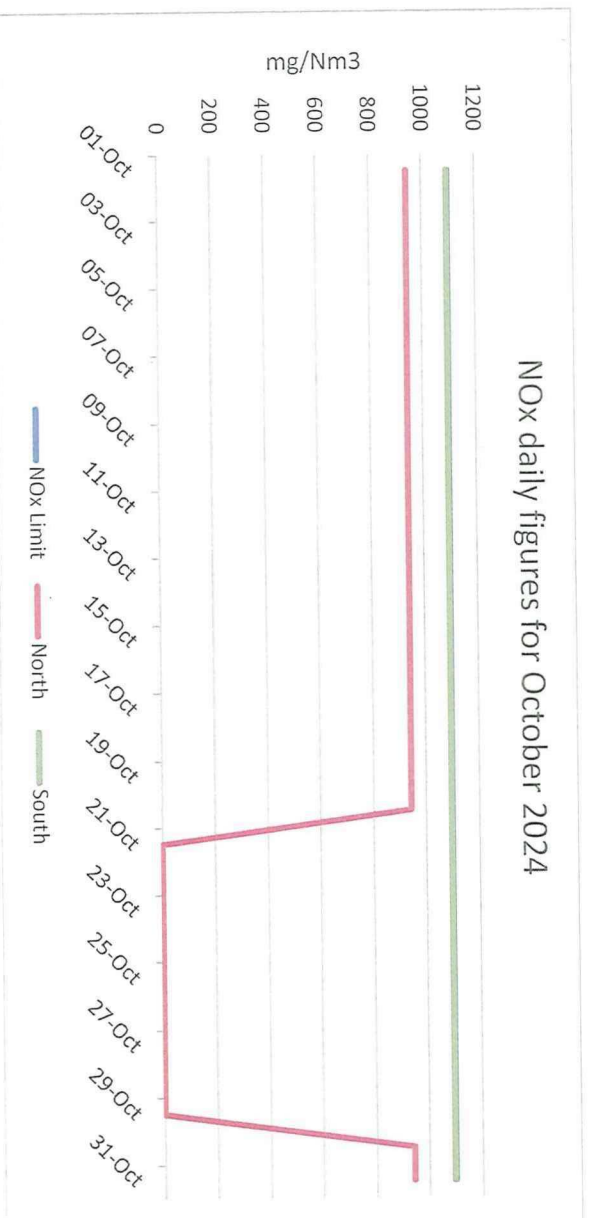
Daily Figures NO_x figures in mg/Nm³
Graphs August 2024 – March 2025



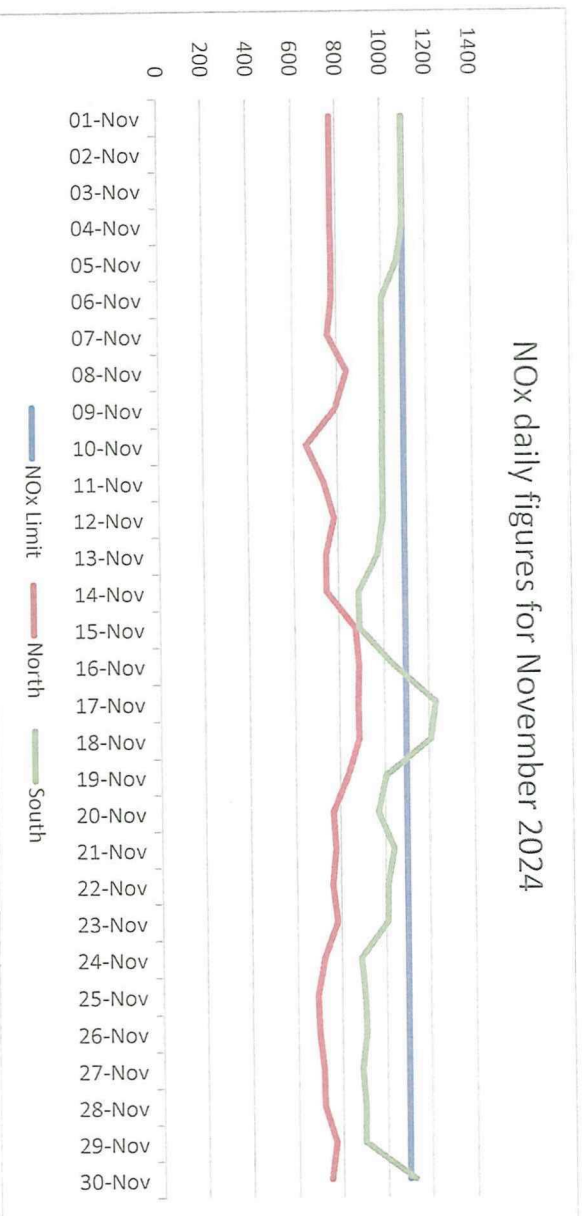
NOx daily figures for September 2024

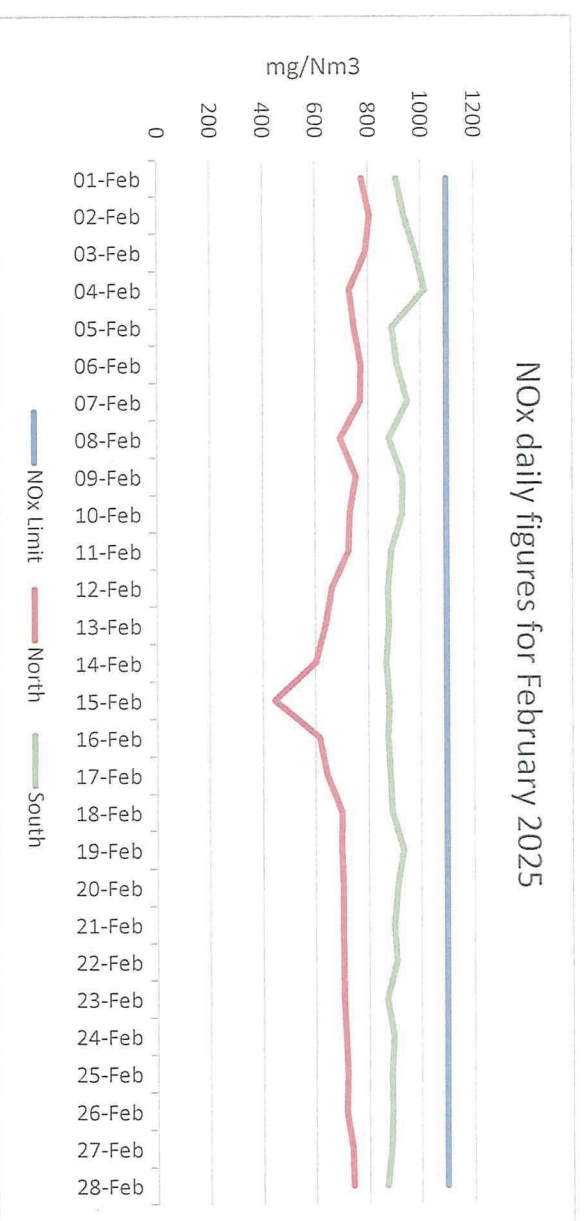
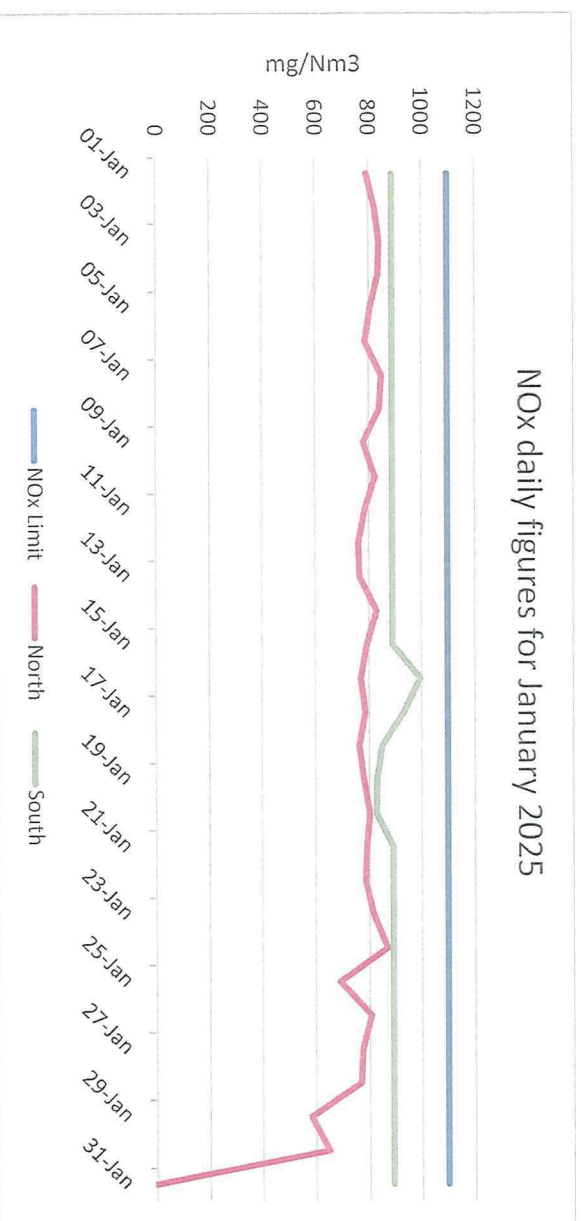
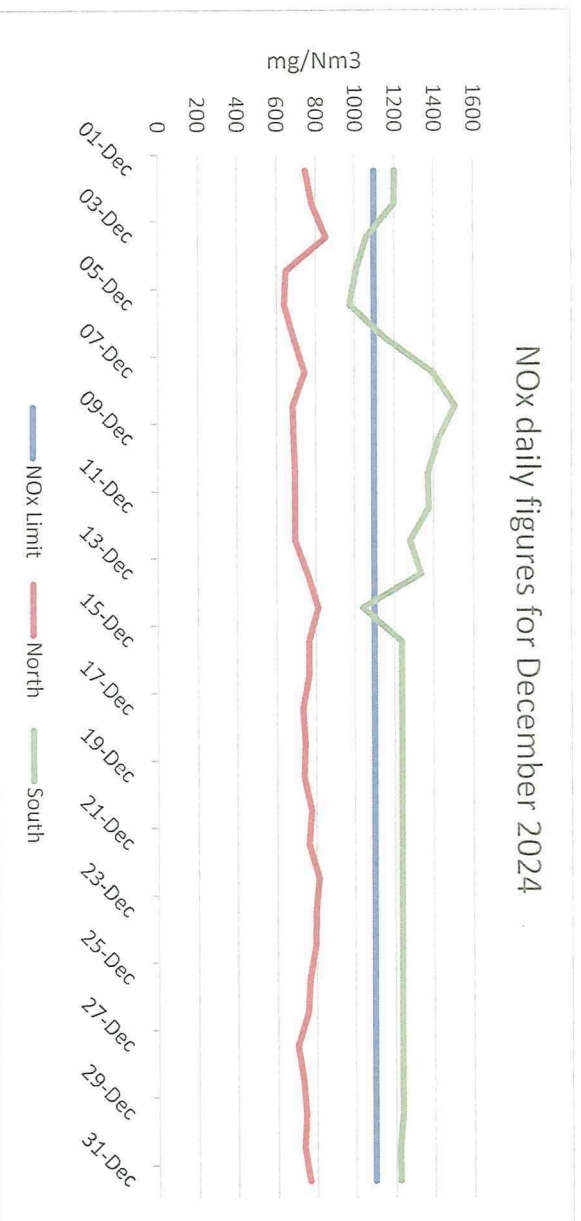


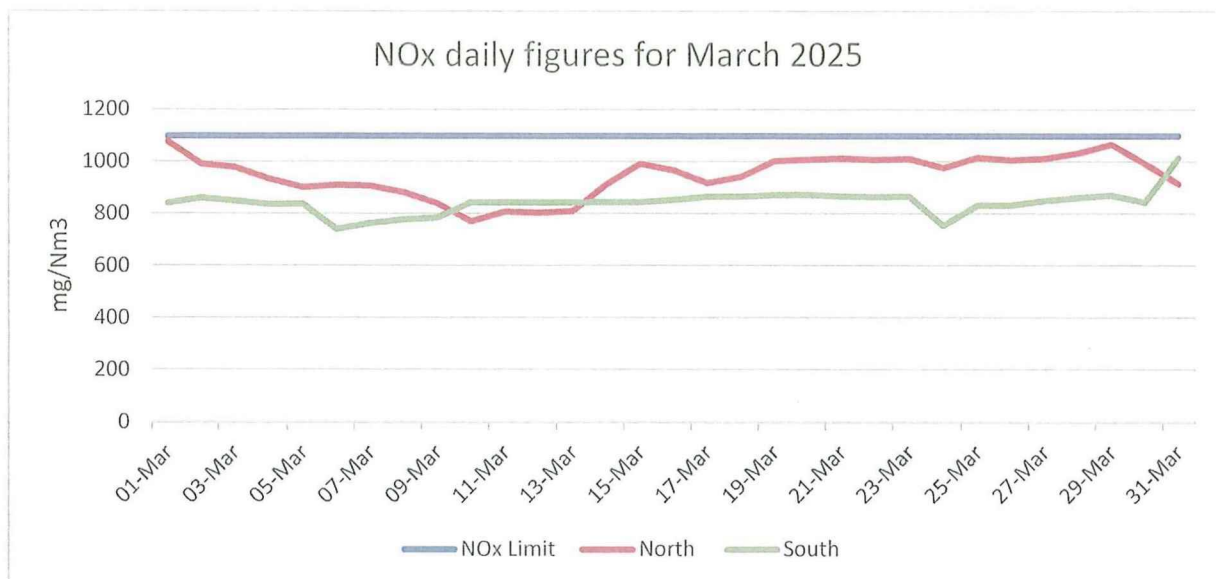
NOx daily figures for October 2024



NOx daily figures for November 2024







2. Explanation of instances where MES were exceeded

All average exceedances are reported and outlined in the monthly emission reports sent to your offices. A summary of the NEMA Section 30 incidents reported to the DFFE has been included below.

Month	Description of Section 30 incidents – including the reference number	Root Cause (s)	Status Incident with DFFE (open or closed)	Remarks
April 2024				
May 2024				
June 2024				
July 2024				
August 2024				
September 2024				
October 2024				
November 2024				
December 2024				
January 2025	North Stack Section 30 Incident	Swapped fibre optic wires causing a communication loss alarm failed to clear thus High dust emissions due to unavailability and failure of the Unit 4 SO ₃ plant.	Open	Still Open, no response received yet
February 2025				
March 2025				

3. Emission monitoring information

Table 3 Overview of dates of last conducted CEMS verification tests for PM, SO₂ and NO_x (Please see attached Correlations Reports)

Activity	Test Completion Date	Validity
Parallel test for gas monitors	North Stack 01/02/2024	2 years
	South Stack 13/03/2025	
Correlation Tests for Dust Curves	North Stack 01/02/2024	2 years
	South Stack 13/03/2025	

4. Compliance Audit Report(s):

The Air Quality Compliance Reporting Review and ISO 14001 Surveillance Audit were undertaken as part of compliance in the 2024/25 financial year (see the attached Audit Reports)

5. Major upgrades project

Cooling Towers: A replacement of cooling towers fills projects for the following cooling towers 1,2 and 4 were completed in 2023 and cooling tower 3 was completed in 2024

High Frequency Transformers Installation on Units 1, 2, 3 and 5 is complete Execution on Unit 6 is underway Execution on the last unit is planned for August 2025

ESP Upgrade: Installation on Units 1, 2 and 5 is complete The contract for units 3, 4 and 6 has been awarded Execution on Unit 6 is underway Execution for the remaining two units is planned for June 2025 and September 2025

6. Fugitive dust management

All average exceedances are reported and outlined in the monthly fugitive dust emission reports and dust management plans sent to your offices DFO reports are not available for July 2024 to November 2024 due to non-availability of a contract Contract was then awarded in December 2024 therefore Fugitive Dust monitoring commenced in December 2024

7. Participation in priority area programmes

Kriel Power Station participates in the Nkangala District Municipality Implementation Task Team (ITT) for implementation of the Highveld Priority Area Quality Management Plan

8. Air Quality offset programmes

Air quality offsets are implemented as per the Eskom Air Quality Offset Plans Kriel Power Station budget was secured currently awaiting procurement process projected contract placement is July 2025

9. General

Kriel Power Station submitted its annual report on the NAEIS system before the 30th of March 2025

The rest of the information demonstrating compliance with the emission license conditions are supplied in the monthly emission reports sent to your office

Hoping the above will meet your satisfaction

Yours sincerely

A handwritten signature in black ink, appearing to be 'MR' followed by a stylized, cursive name.

Morongwe Raphasha
KRIEL POWER STATION: GENERAL MANAGER