Eskom

The Municipal Manager
Gert Sibande District Municipality
PO Box 1748
ERMELO
2350

E-mail: records@gsibande.gov.za
Email: BulelwaS@gsibande.gov.za

Date: 12 March 2025

Enquiries: X. Jila

Tel +27 17 749 5100

Dear Ms Mthembu

TUTUKA POWER STATION MONTHLY REPORT FOR FEBRUARY 2025

This serves as the monthly report required in terms of Section 7.4 of Tutuka Power Station's Atmospheric Emission License (16/4/Lekwa/Eskom H SOC Ltd TPS/0013/2019/f03). The report includes verified emissions for Particulate Matters, Sulphur, and Nitrogen dioxides for the month of January 2025

The report presents monthly trends for each monitored pollutant. The Station had 4-units onload for the month of January 2025, units 2, 3, 4 and 5. Units 1 and 6 were offload. The Station did not exceed the PM limit beyond the 48-hour grace period allowed for start-ups, maintenance and shut down grace, in all the running units.

There were NOx limit exceedances recorded in units 3 and 5. Smokestack lifts have not been working due to electrical faults; hence gas monitors have not been accessible for maintenance and calibrations.

1. RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Feb-2025
	Coal	Tons	*1 200 000*	*433 660*
	Fuel Oil	Tons	*10 000*	*4590.85*
Production Rates	**Product / By-Product Name**	**Units**	**Max. Production Capacity Permitted**	**Indicative Production Rate Feb-2025**
	Energy	GWh	*2 359*	*777.4*
	Ash	Tons	*350 000*	*106 941*
	RE Ash	kg/MWh	*not specified*	*0.87*

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: [3 510 MW] x 24 hrs x days in Month/1000 to convert to GWh

2 ENERGY SOURCE CHARACTERISTICS

TUTUKA POWER STATION MONTHLY REPORT FOR FEBRUARY 2025

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	*16-24*	*21.830*
Sulphur Content	%	*0.6 TO 2.6*	*1.190*
Ash Content	%	*21 TO 33*	*24.660*

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO_2	NOx
Unit 1	*300*	*3400*	*1200*
Unit 2	*300*	*3400*	*1200*
Unit 3	*300*	*3400*	*1200*
Unit 4	*300*	*3400*	*1200*
Unit 5	*300*	*3400*	*1200*
Unit 6	*300*	*3400*	*1200*

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-2025
Unit 1	*Electrostatic Precipitators (ESP)*	*Unit Off*
Unit 2	*Electrostatic Precipitators (ESP)*	*99.2%*
Unit 3	*Electrostatic Precipitators (ESP)*	*98.9%*
Unit 4	*Electrostatic Precipitators (ESP)*	*99.4%*
Unit 5	*Electrostatic Precipitators (ESP)*	*99.4%*
Unit 6	*Electrostatic Precipitators (ESP)*	*Unit Off*

Note: The ESP does not have bypass mode operating, hence plant considered 100% Utilised.

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO_2	NO	O_2
Unit 1	*Off*	*Off*	*Off*	*Off*
Unit 2	*99.7*	*100.0*	*98.3*	*98.3*
Unit 3	*99.8*	*100.0*	*85.3*	*99.1*
Unit 4	*99.2*	*66.2*	*90.1*	*75.8*
Unit 5	*100.0*	*100.0*	*100.0*	*97.8*
Unit 6	*Off*	*Off*	*Off*	*Off*

Note: Unit 4 SO_2 and O_2 monitor reliability was poor, due to stack lifts not working hence no maintenance was conducted during the month of February. Maintenance activities have however resumed on the 5th of March 2025.

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of February-2025

Associated Unit/Stack	PM (tons)	SO_2 (tons)	NO_x (tons)
Unit 1	Off	Off	Off
Unit 2	148.2	1 290	739
Unit 3	95.1	590	189
Unit 4	185.8	1 518	1 058
Unit 5	227.3	3 708	2 204
Unit 6	Off	Off	Off
SUM	656.4	7 105	4 190

Table 6.2: Operating days in compliance to PM AEL Limit - February 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
Unit 1	Off	Off	Off	Off	Off	Off
Unit 2	24	1	0	0	1	221.7
Unit 3	6	5	0	0	5	303.3
Unit 4	22	0	0	0	0	145.2
Unit 5	19	0	0	0	0	176.1
Unit 6	Off	Off	Off	Off	Off	Off
SUM	**71**	**6**	**0**	**0**	**6**	

Table 6.3: Operating days in compliance to SO_2 AEL Limit - February 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm³)
Unit 1	1	0	0	0	0	1 917.3
Unit 2	27	0	0	0	0	1 929.1
Unit 3	15	0	0	0	0	1 921.9
Unit 4	24	0	0	0	0	1 200.4
Unit 5	22	0	0	1	1	2 881.2
Unit 6	Off	Off	Off	Off	Off	Off
SUM	**89**	**0**	**0**	**1**	**1**	

Table 6.4: Operating days in compliance to NOx AEL Limit - February 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	1	0	0	0	0	848.9
Unit 2	27	0	0	0	0	1 060.9
Unit 3	15	0	0	0	0	628.9
Unit 4	24	0	0	0	0	831.2
Unit 5	0	0	0	23	23	1 683.8
Unit 6	Off	Off	Off	Off	Off	Off
SUM	**67**	**0**	**0**	**0**	**0**	

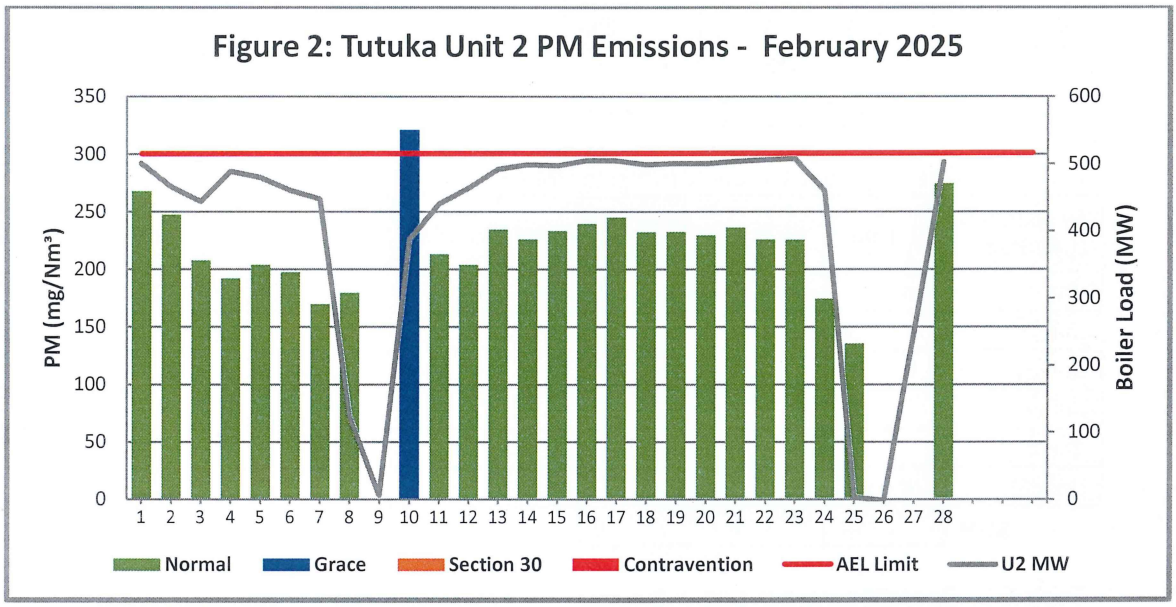
Note: NOx emissions are measured as NO in PPM. Final NOx value is expressed as total NO_2

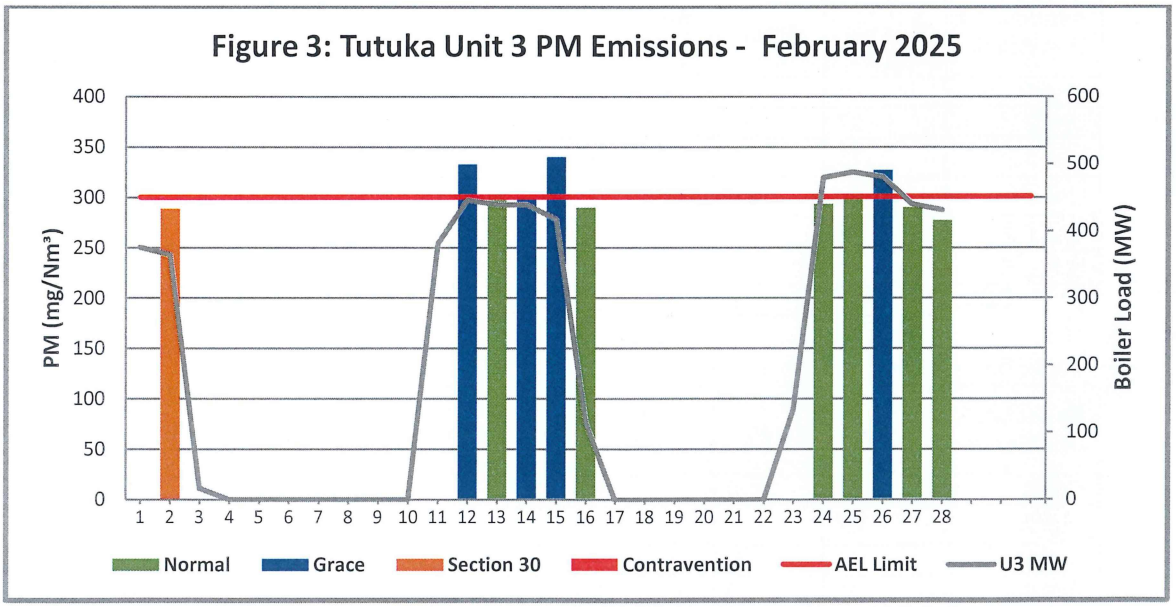
Table 6.5: Legend

Description

Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions

6.5.1 DUST (PM) EMISSIONS





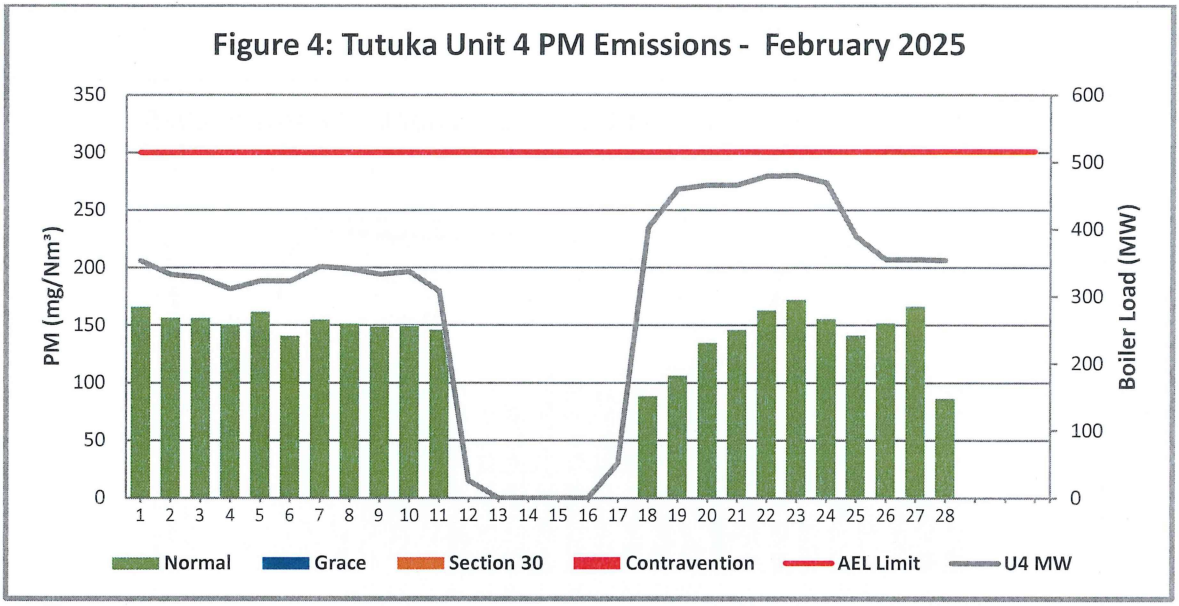


Figure 4: Tutuka Unit 4 PM Emissions - February 2025
PM (mg/Nm³)
Boiler Load (MW)
0
50
100
150
200
250
300
350
0
100
200
300
400
500
600
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Normal
Grace
Section 30
Contravention
AEL Limit
U4 MW

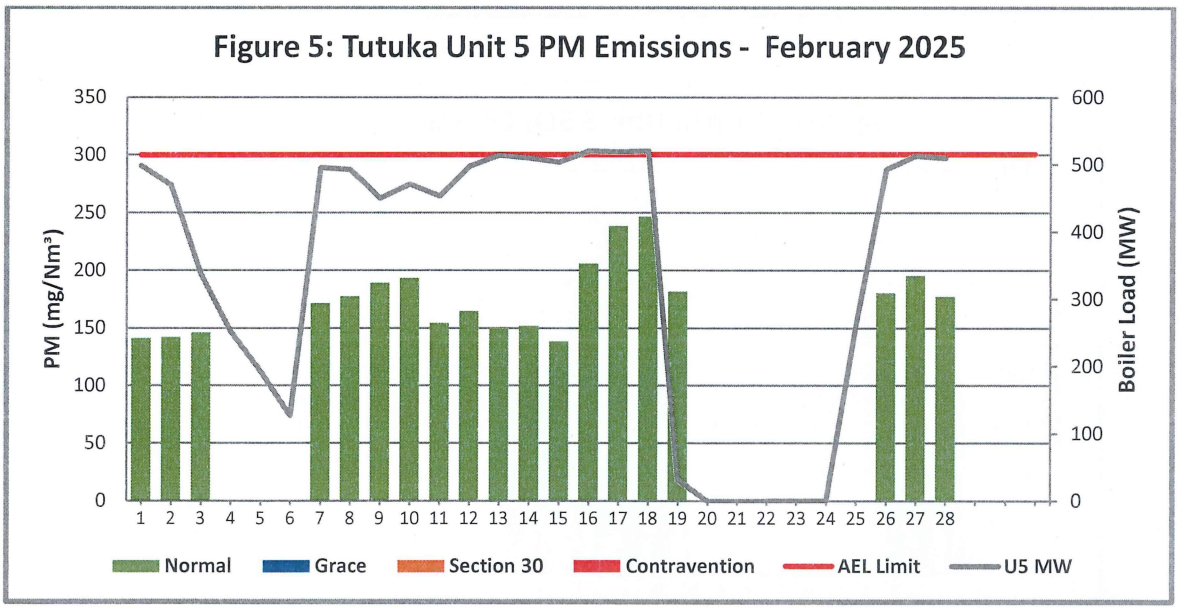
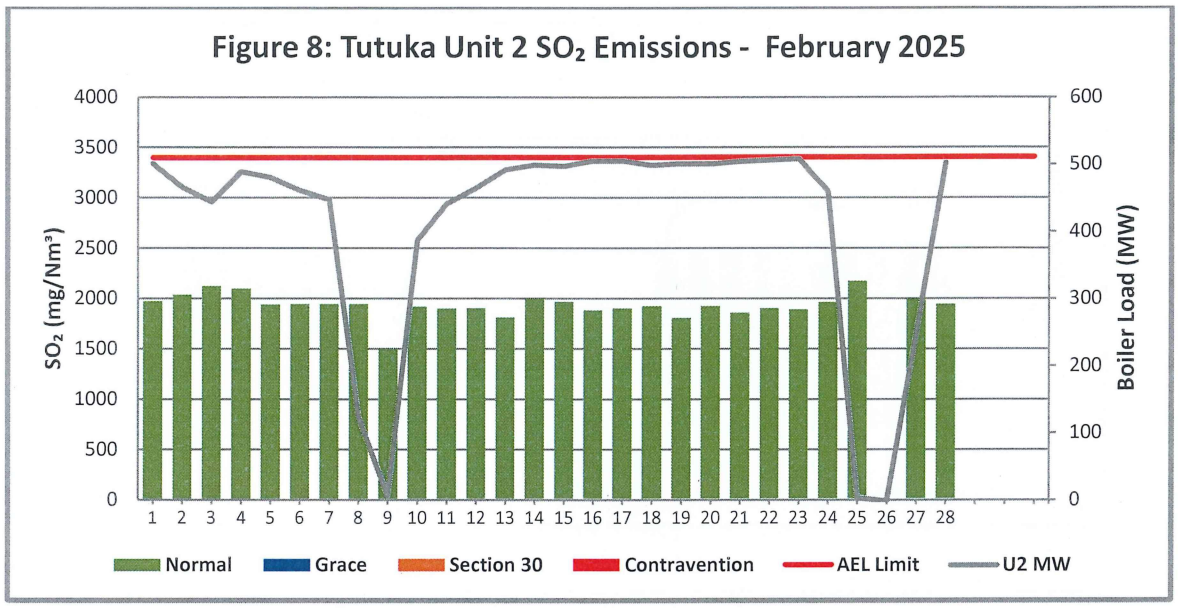
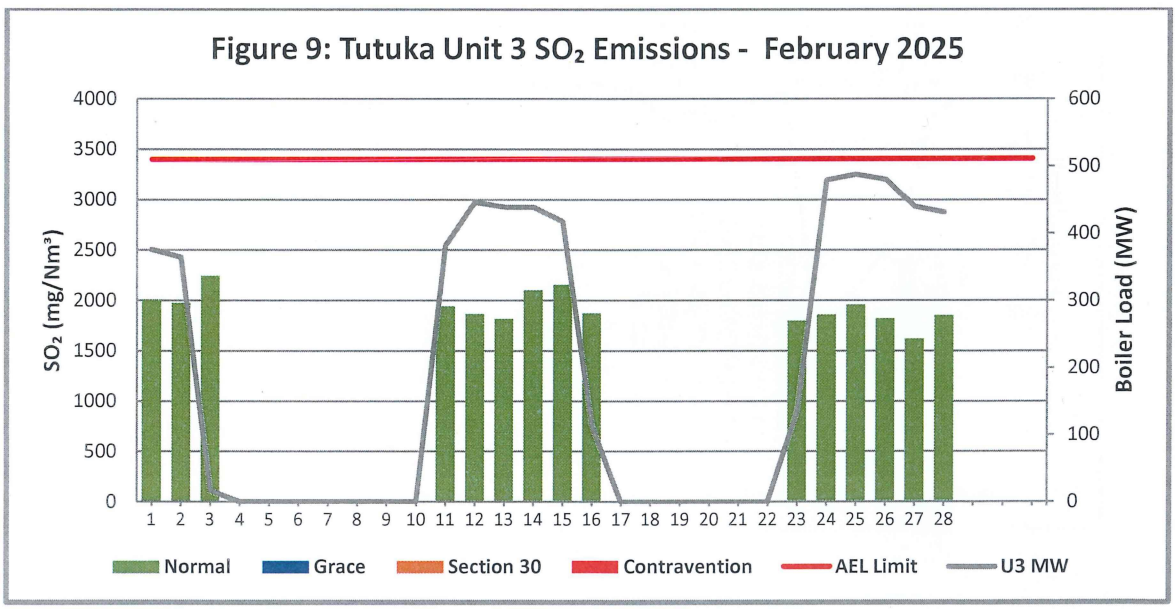


Figure 5: Tutuka Unit 5 PM Emissions - February 2025
PM (mg/Nm³)
Boiler Load (MW)
0
50
100
150
200
250
300
350
0
100
200
300
400
500
600
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW

6.5.2 SULPHUR DIOXIDE (SO2)





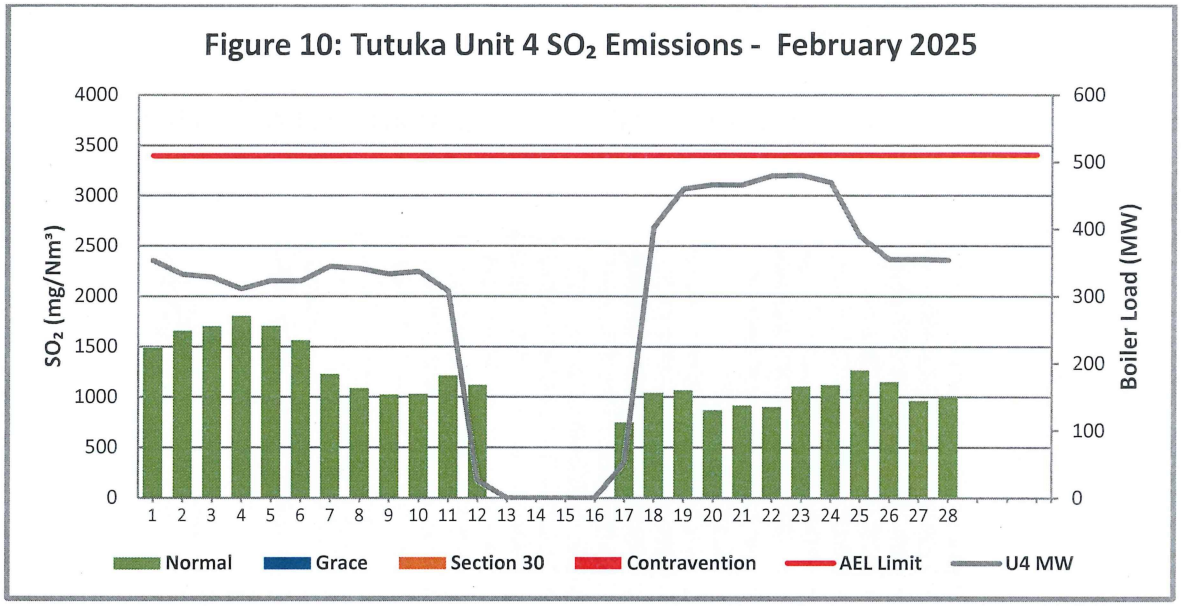


Figure 10: Tutuka Unit 4 SO2 Emissions - February 2025
SO2 (mg/Nm3)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Normal
Grace
Section 30
Contravention
AEL Limit
U4 MW

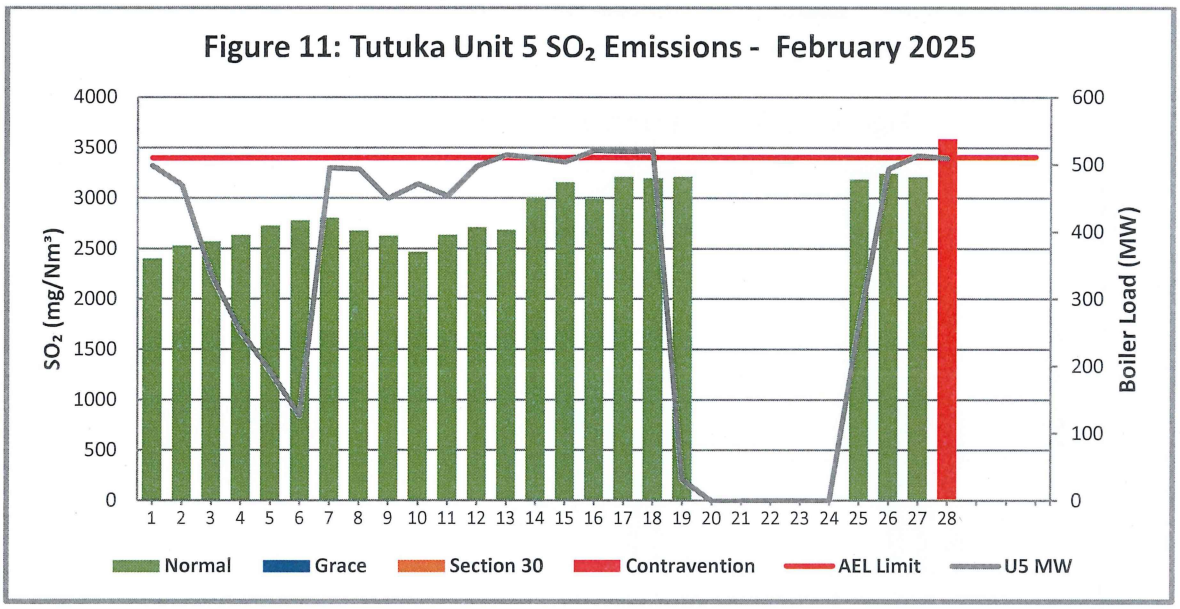
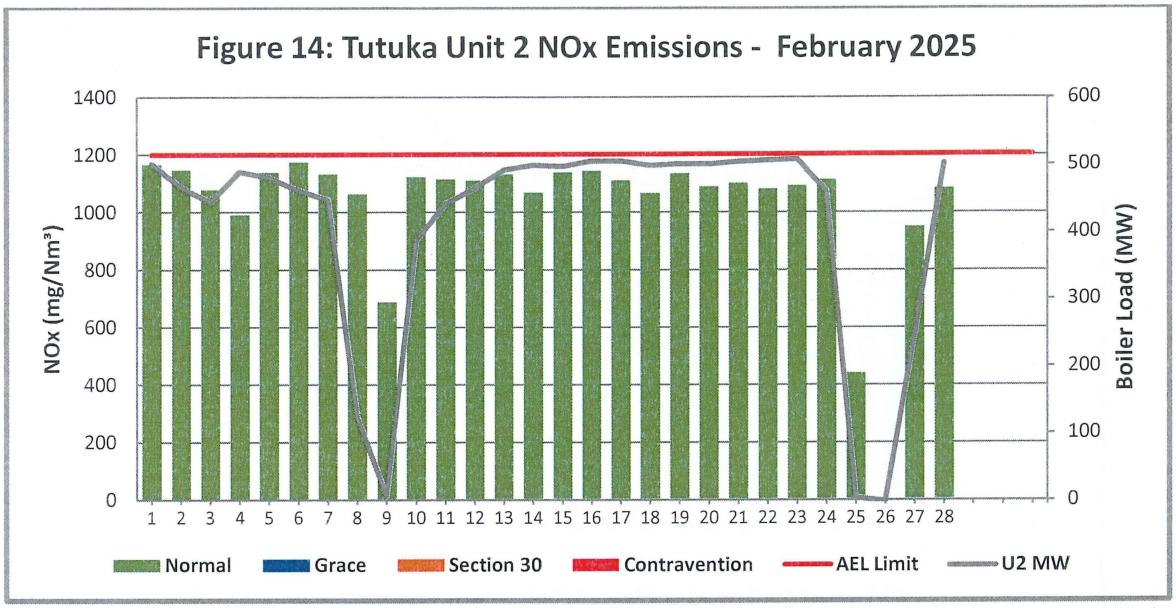


Figure 11: Tutuka Unit 5 SO2 Emissions - February 2025
SO2 (mg/Nm3)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW

6.5.3 NITROGEN OXIDES (NOx)



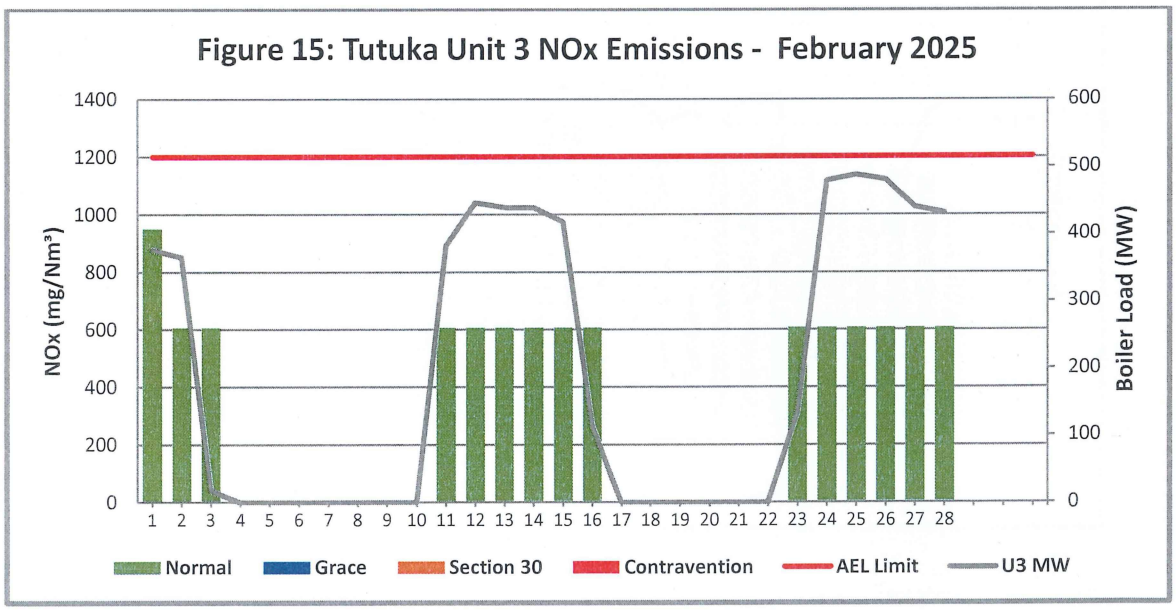


Figure 16: Tutuka Unit 4 NOx Emissions - February 2025

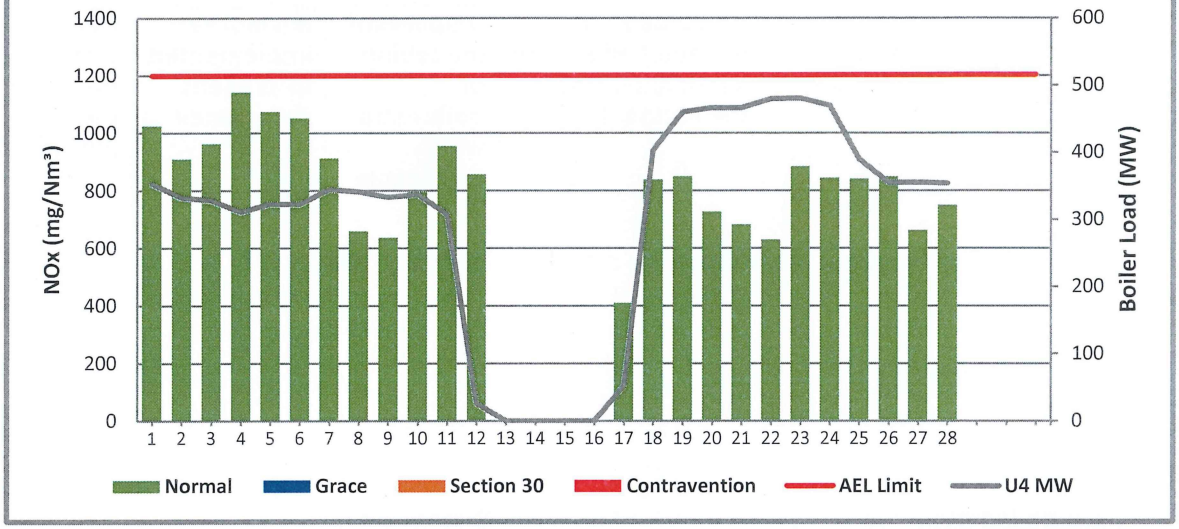
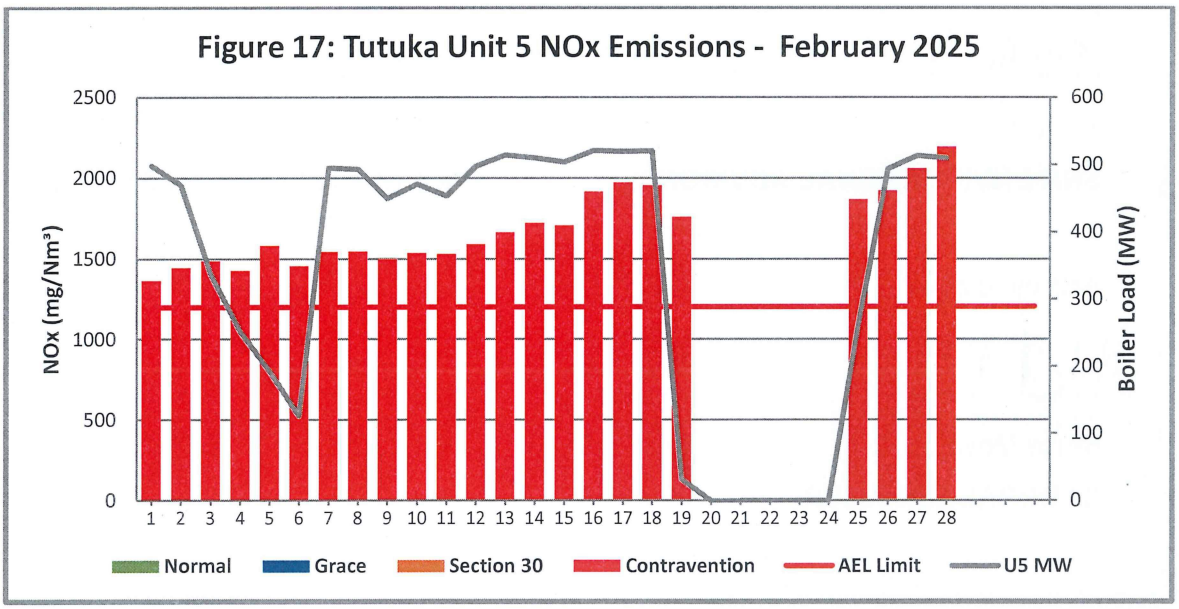


Figure 17: Tutuka Unit 5 NOx Emissions - February 2025



7. COMPLAINTS REGISTER

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

Yours Sincerely

Compiled by:

Xoli Jila

SNR ENVIRONMENAL ADVISOR

Supported by:

Mike Molepo

SNR CHEMIST: BOILER ENGINEERING

Approved by:

Bruce Moyo

GENERAL MANAGER