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Date: 13 February 2024

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Dear Mr Hlanyane

TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

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 of Particulate Matters, Sulphur, and Nitrogen dioxides for the month of January 2024

The report presents monthly trends for each monitored pollutant. Units 5 and 6 were offload for the month of December 2024. There were no Particulate Matter exceedances recorded which fell within the 48-hour period allowed for start-ups, maintenance and shut down. The rest of the units operated within the limits for PMs and gases.

The Station recorded exceedances for Noxious gases between 20th and 22nd January 2024, the investigation is currently underway to determine the root cause and put corrective measures in place.

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Jan-2024
	Coal	Tons	1 200 000	255 819
	Fuel Oil	Tons	10 000	5699.61
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Indicative Production Rate Jan-2024
	Energy	GWh	2 611	454.0
	Ash	Tons	350 000	66 845
	RE Ash	kg/MWh	not specified	1.23

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

TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16 TO 24	21.260
Sulphur Content	%	0.6 TO 2.6	0.980
Ash Content	%	21 TO 33	26.130

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
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 Nov-2023
Unit 1	Electro Static Precipitators (ESP)	99.5%
Unit 2	Electro Static Precipitators (ESP)	99.8%
Unit 3	Electro Static Precipitators (ESP)	98.2%
Unit 4	Electro Static Precipitators (ESP)	99.5%
Unit 5	Electro Static Precipitators (ESP)	Unit Off
Unit 6	Electro Static Precipitators (ESP)	Unit Off

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

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
Unit 1	96.5	80.6	80.8	100.0
Unit 2	98.8	99.5	85.8	99.5
Unit 3	88.8	3.3	6.7	2.1
Unit 4	100.0	74.5	100.0	74.5
Unit 5	Off	Off	Off	Off
Unit 6	Off	Off	Off	Off

Note: Units 3 and 4 gas monitors were not working properly, surrogate values from QAL2 report were

TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of January-2024

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	130.0	1 337	599
Unit 2	310.0	2 862	1 337
Unit 3	81.4	680	245
Unit 4	35.8	556	201
Unit 5	Off	Off	Off
Unit 6	Off	Off	Off
SUM	557.2	5 434	2 382

Table 6.2: Operating days in compliance to PM AEL Limit - January 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	17	1	0	0	1	160.7
Unit 2	23	2	0	0	2	231.5
Unit 3	8	0	0	0	0	198.2
Unit 4	6	0	0	0	0	120.8
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	Off	Off	Off	Off	Off	Off
SUM	54	3	0	0	3	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - January 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	20	0	0	0	0	1 647.9
Unit 2	27	0	0	0	0	2 119.0
Unit 3	10	0	0	0	0	1 669.6
Unit 4	8	0	0	0	0	1 975.7
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	Off	Off	Off	Off	Off	Off
SUM	65	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - January 2024

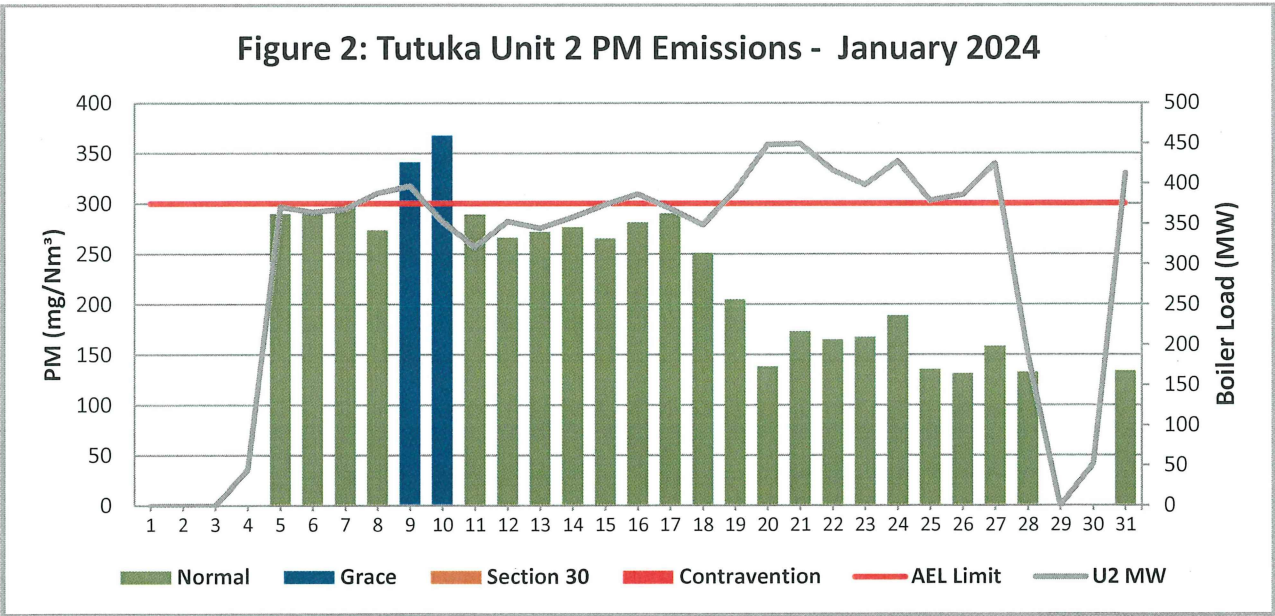
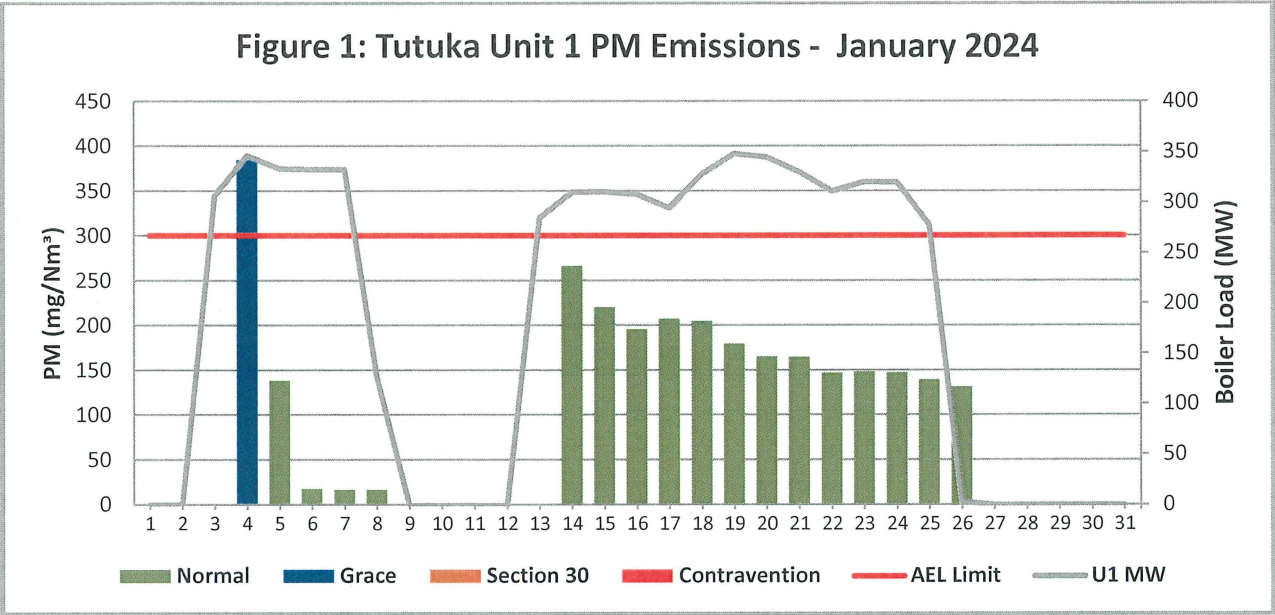
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	20	0	0	0	0	724.7
Unit 2	27	0	0	3	3	985.9
Unit 3	10	0	0	0	0	606.0
Unit 4	8	0	0	0	0	708.9
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	Off	Off	Off	Off	Off	Off
SUM	65	0	0	3	3	

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂

TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

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



TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

Figure 3: Tutuka Unit 3 PM Emissions - January 2024

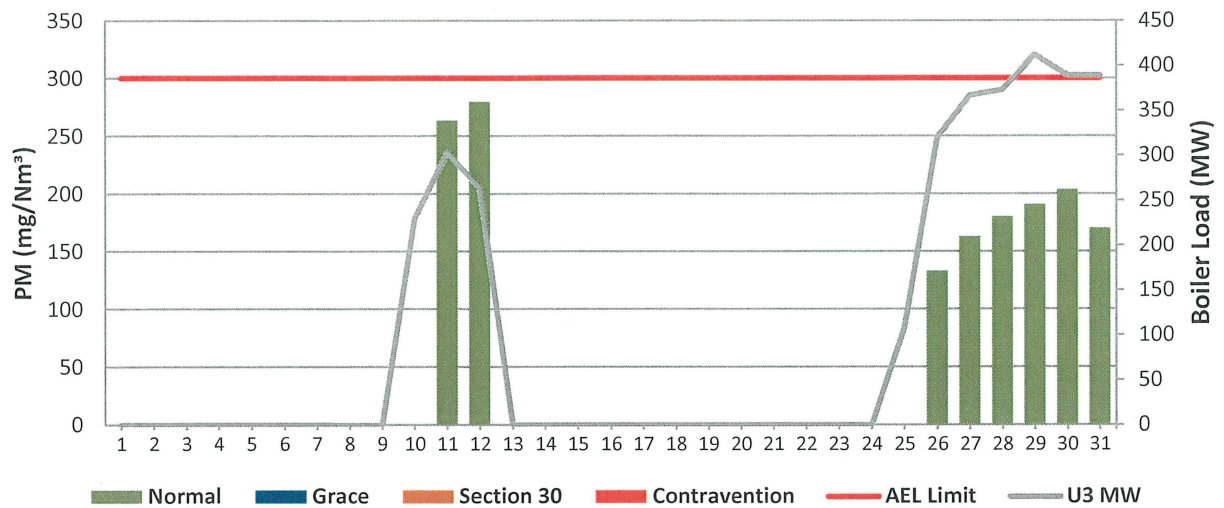


Figure 4: Tutuka Unit 4 PM Emissions - January 2024

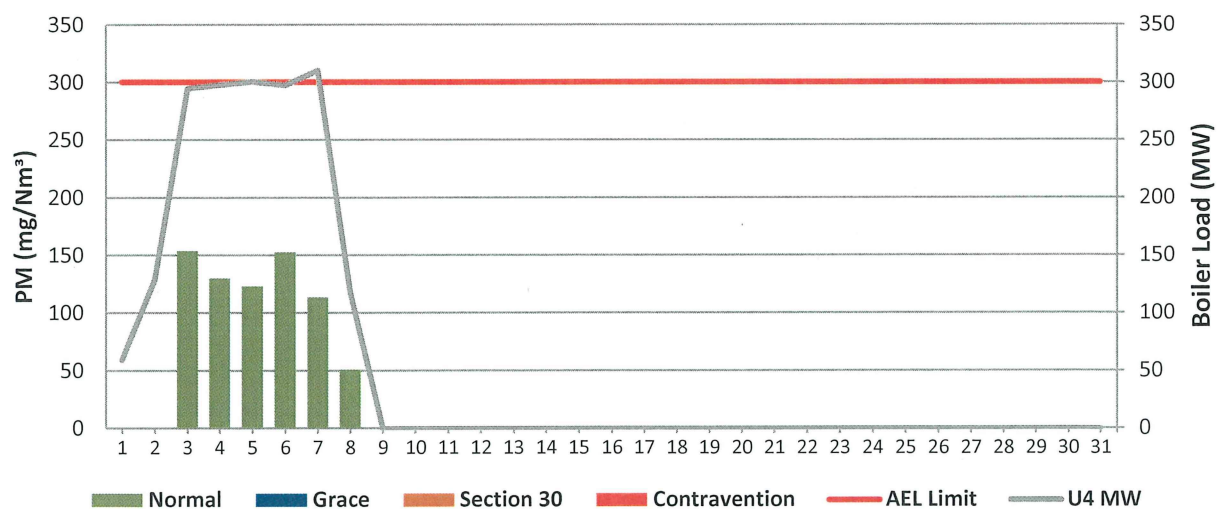


Figure 7: Tutuka Unit 1 SO₂ Emissions - January 2024

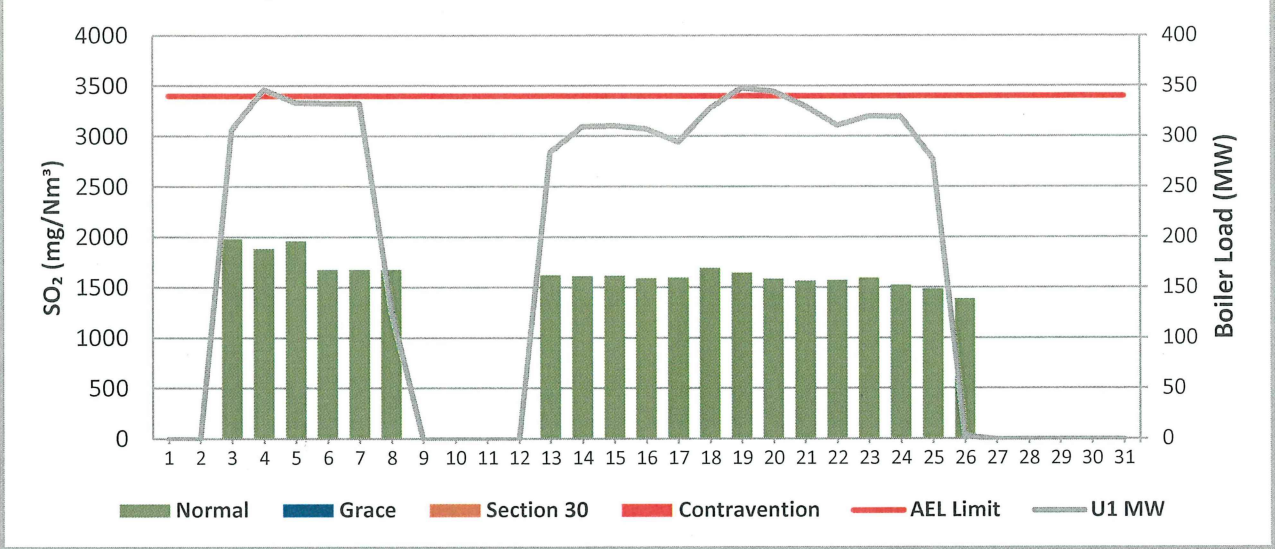


Figure 8: Tutuka Unit 2 SO₂ Emissions - January 2024

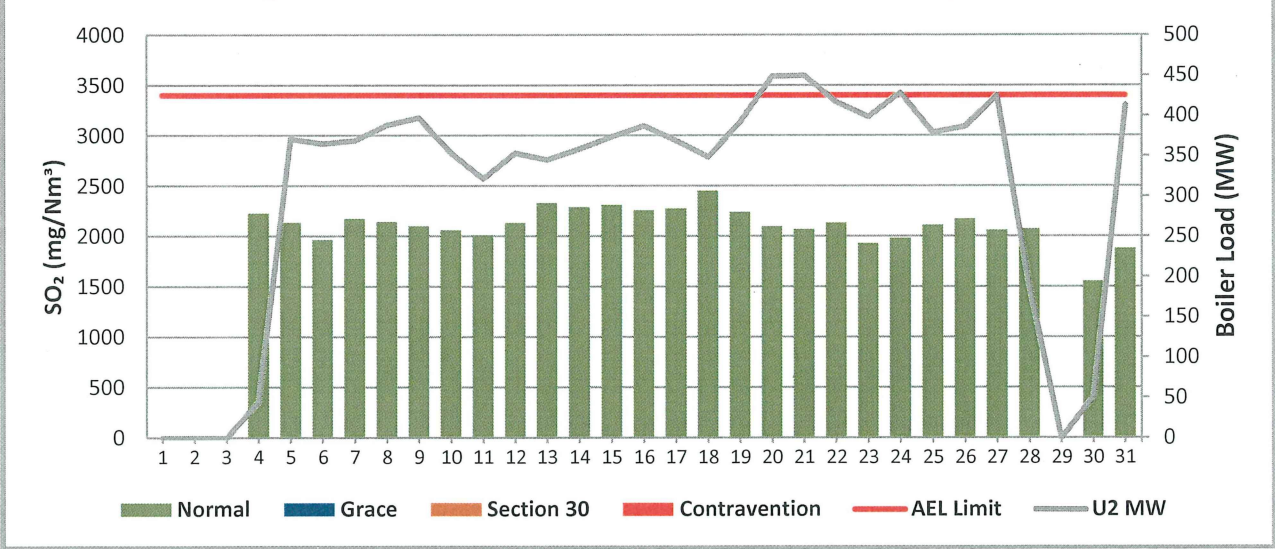


Figure 9: Tutuka Unit 3 SO₂ Emissions - January 2024

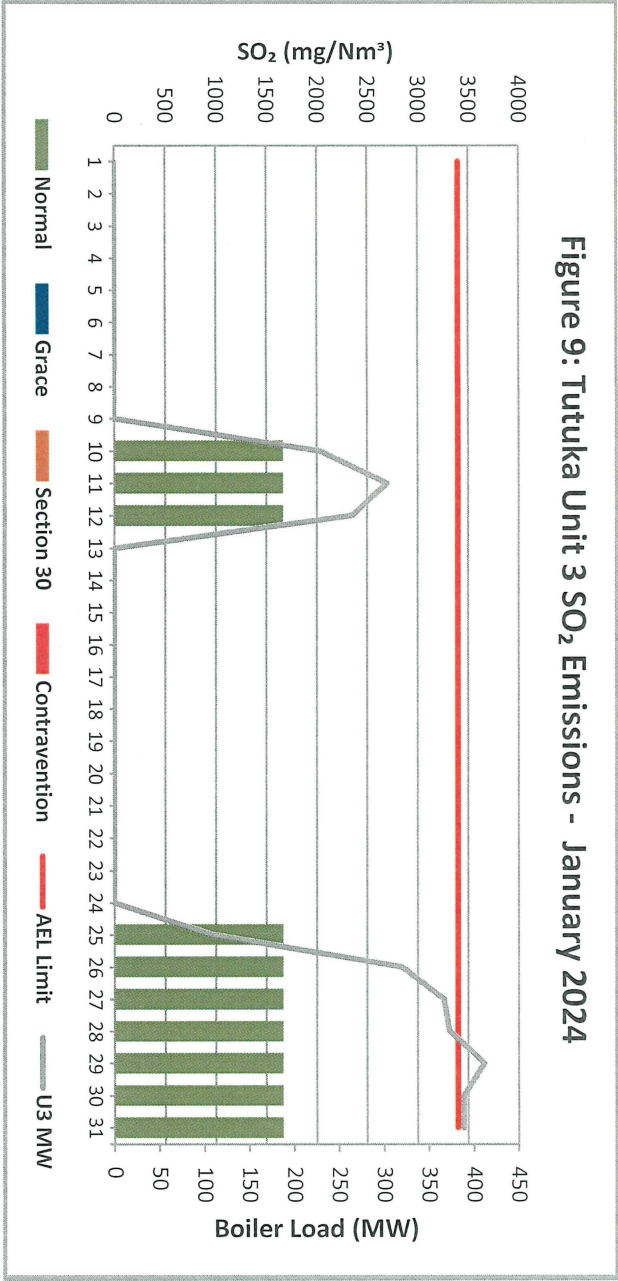
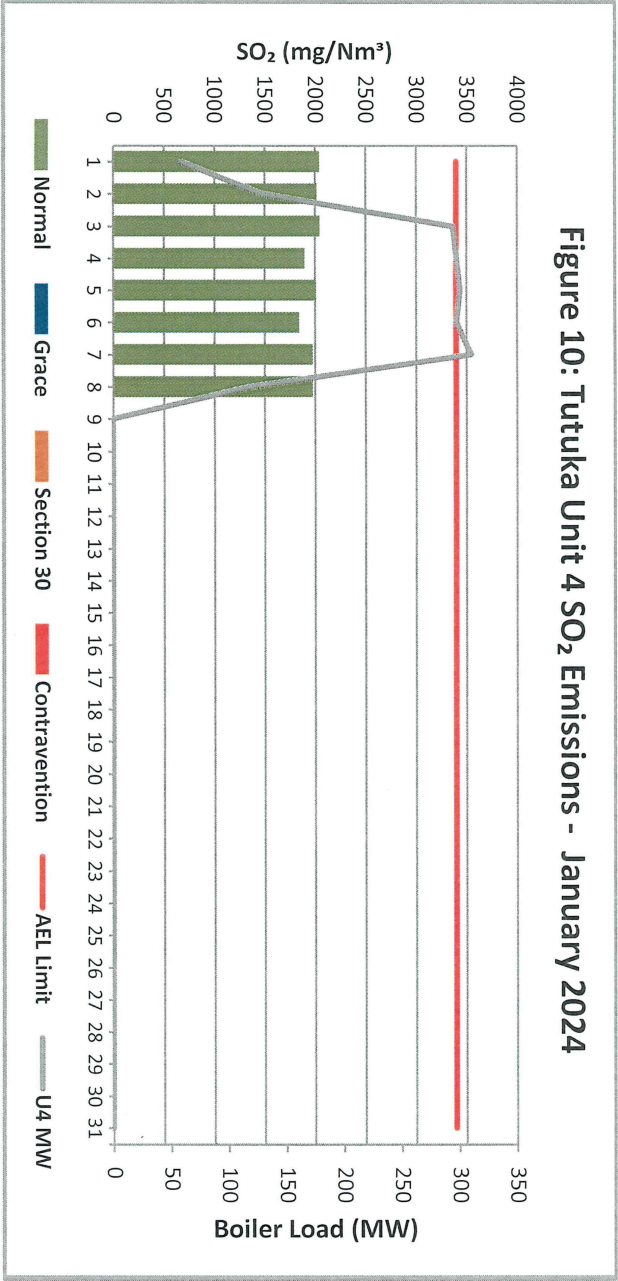


Figure 10: Tutuka Unit 4 SO₂ Emissions - January 2024



TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

Figure 13: Tutuka Unit 1 NOx Emissions - January 2024

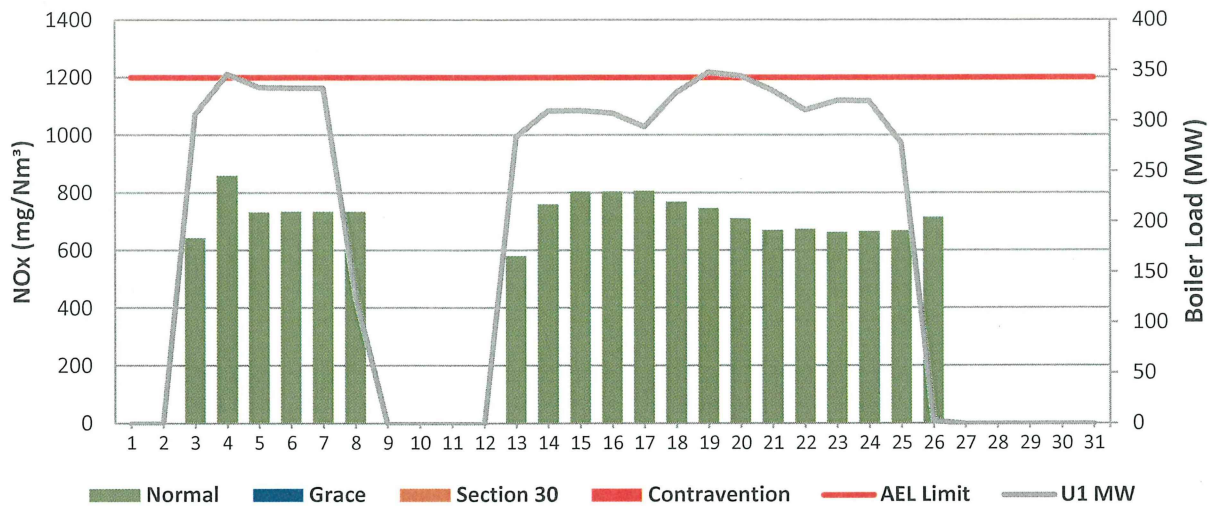
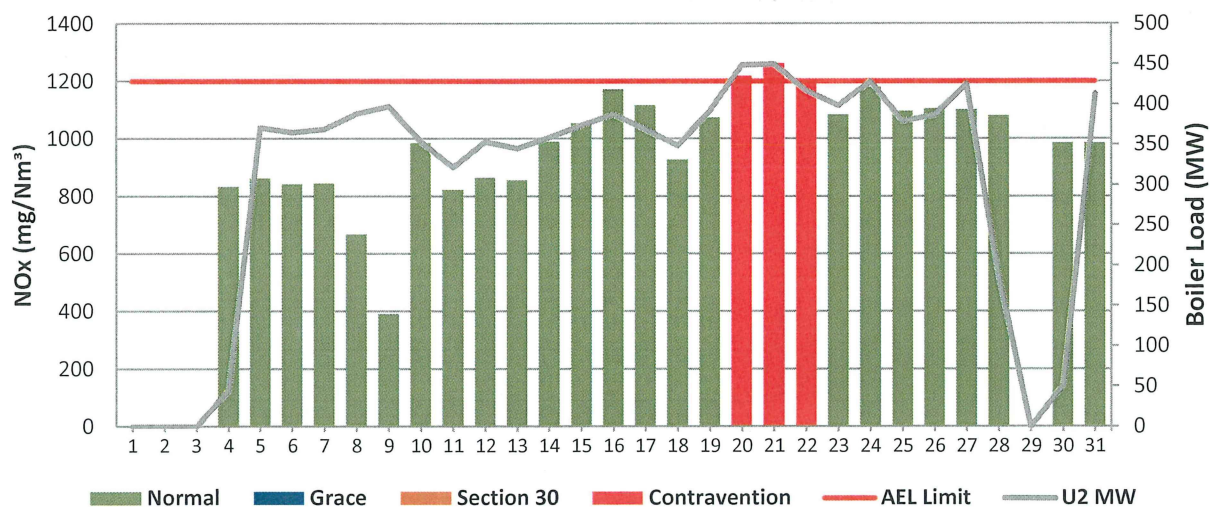


Figure 14: Tutuka Unit 2 NOx Emissions - January 2024



TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

Figure 15: Tutuka Unit 3 NOx Emissions - January 2024

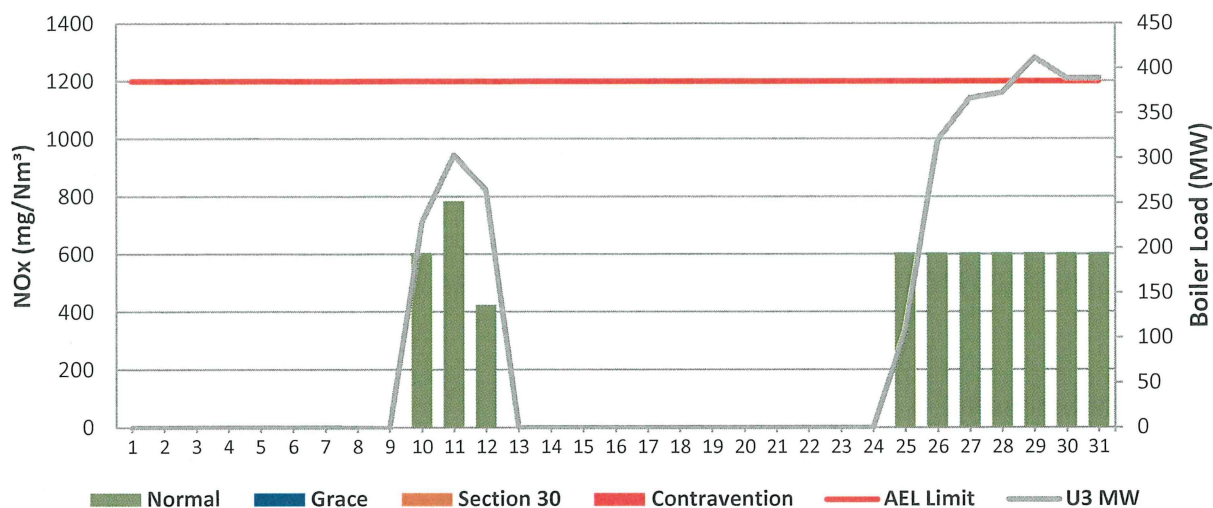
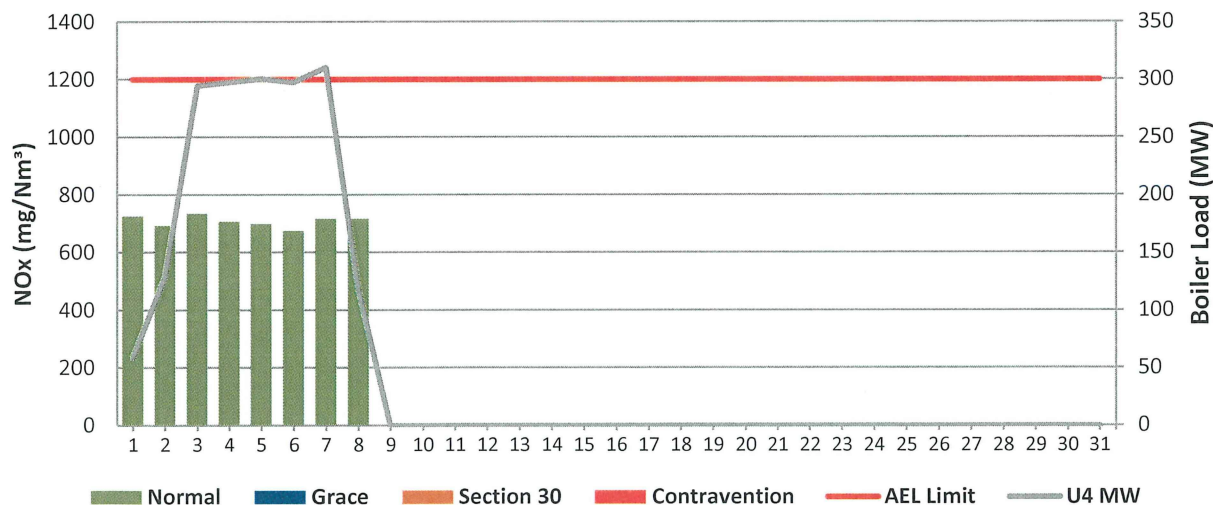


Figure 16: Tutuka Unit 4 NOx Emissions - January 2024



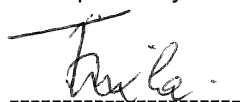
TUTUKA POWER STATION MONTHLY REPORT FOR JANUARY 2024

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 January 2024.					

Yours Sincerely

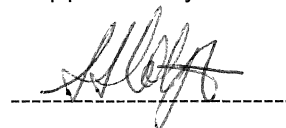
Compiled by:



Xoli Jila

EMISSIONS CONTROL OFFICER

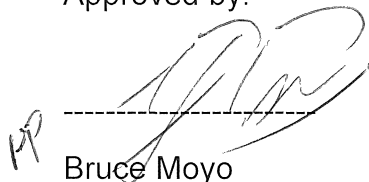
Supported by:



Mike Molepo

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Approved by:



Bruce Moyo

GENERAL MANAGER