

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

Date: 13 November 2023

Enquiries: X. Jila

Tel +27 17 749 5100

E-mail: records@gsibande.gov.za
 Email: dan.hlanyane@gsibande.gov.za

Dear Mr Hlanyane

TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023

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 October 2023

The report presents monthly trends for each monitored pollutant. Units 2 and 6 were offload for the month of October 2023. There was only one exceedance for Particulate Matter recorded in unit 5 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.

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Oct-2023
	Coal	Tons	1 200 000	467 869
	Fuel Oil	Tons	10 000	4750.23
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Indicative Production Rate Oct-2023
	Energy	GWh	2 611	772.0
	Ash	Tons	350 000	927.20
	RE Ash	kg/MWh	not specified	1.22

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 OCTOBER 2023

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	20.120
Sulphur Content	%	0.6 - 2.6	0.810
Ash Content	%	21 - 33	22.210

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 Oct-2023
Unit 1	Electro Static Precipitators (ESP)	99.2%
Unit 2	Electro Static Precipitators (ESP)	Unit Off
Unit 3	Electro Static Precipitators (ESP)	98.7%
Unit 4	Electro Static Precipitators (ESP)	99.3%
Unit 5	Electro Static Precipitators (ESP)	98.0%
Unit 6	Electro Static 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	100.0	99.8	99.8	99.5
Unit 2	Off	Off	Off	Off
Unit 3	99.5	0.00	0.00	0.00
Unit 4	100.0	52.4	85.2	93.0
Unit 5	100.0	100.0	50.0	50.0
Unit 6	Off	Off	Off	Off

Note: Gas monitors were not working properly for the month of October 2023 properly and surrogate values from the QAL2 reports were used to estimate the tonnages for units 3, 4 and 5.

TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of October-2023

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	229.6	1 950	859
Unit 2	Off	Off	Off
Unit 3	305.8	2 184	799
Unit 4	221.7	3 304	1 320
Unit 5	170.0	1 206	602
Unit 6	Off	Off	Off
SUM	927.2	8 644	3 580

Table 6.2: Operating days in compliance to PM AEL Limit - October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	23	0	0	0	0	210.9
Unit 2	Off	Off	Off	Off	Off	Off
Unit 3	25	0	0	0	0	226.9
Unit 4	28	0	0	0	0	119.2
Unit 5	10	1	0	0	1	247.2
Unit 6	Off	Off	Off	Off	Off	Off
SUM	86	1	0	0	1	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - October 2023

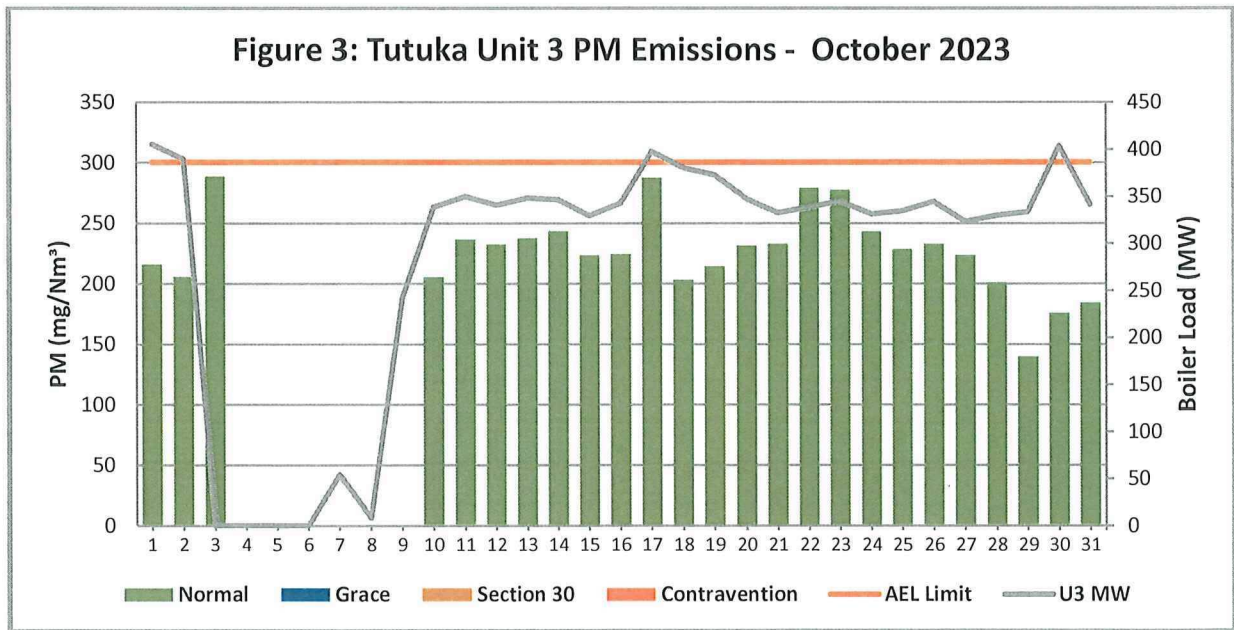
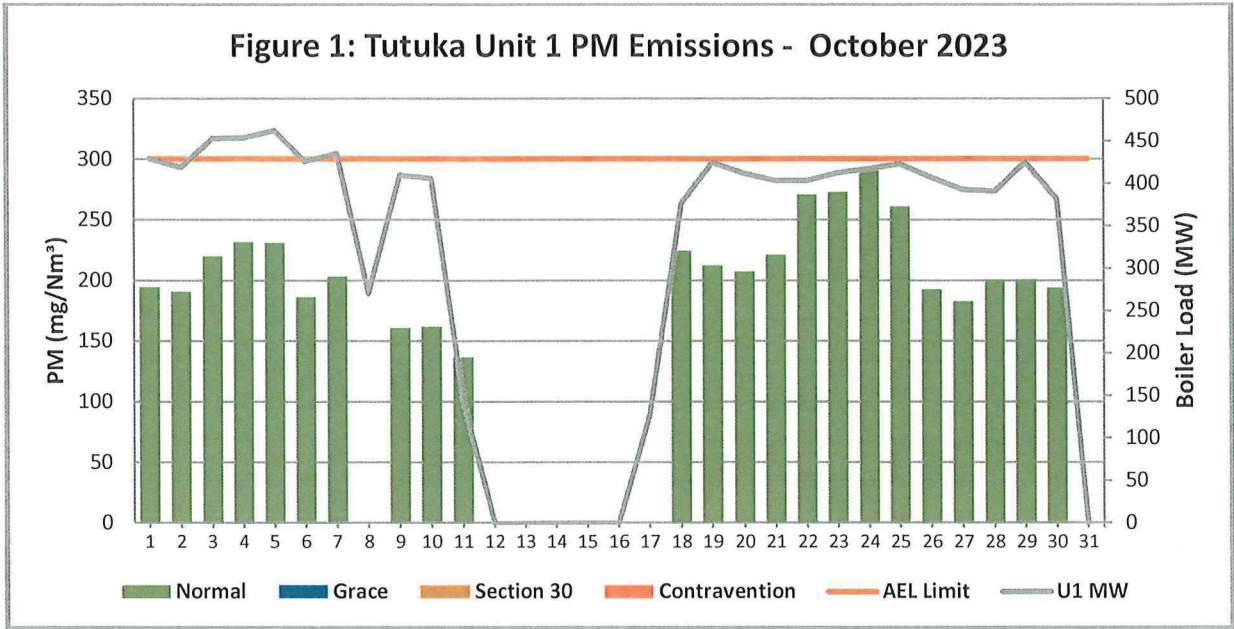
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	23	0	0	0	0	1 800.3
Unit 2	Off	Off	Off	Off	Off	Off
Unit 3	25	0	0	0	0	2 370.6
Unit 4	28	0	0	0	0	1 791.5
Unit 5	10	0	0	0	0	1 792.7
Unit 6	Off	Off	Off	Off	Off	Off
SUM	86	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - October 2023

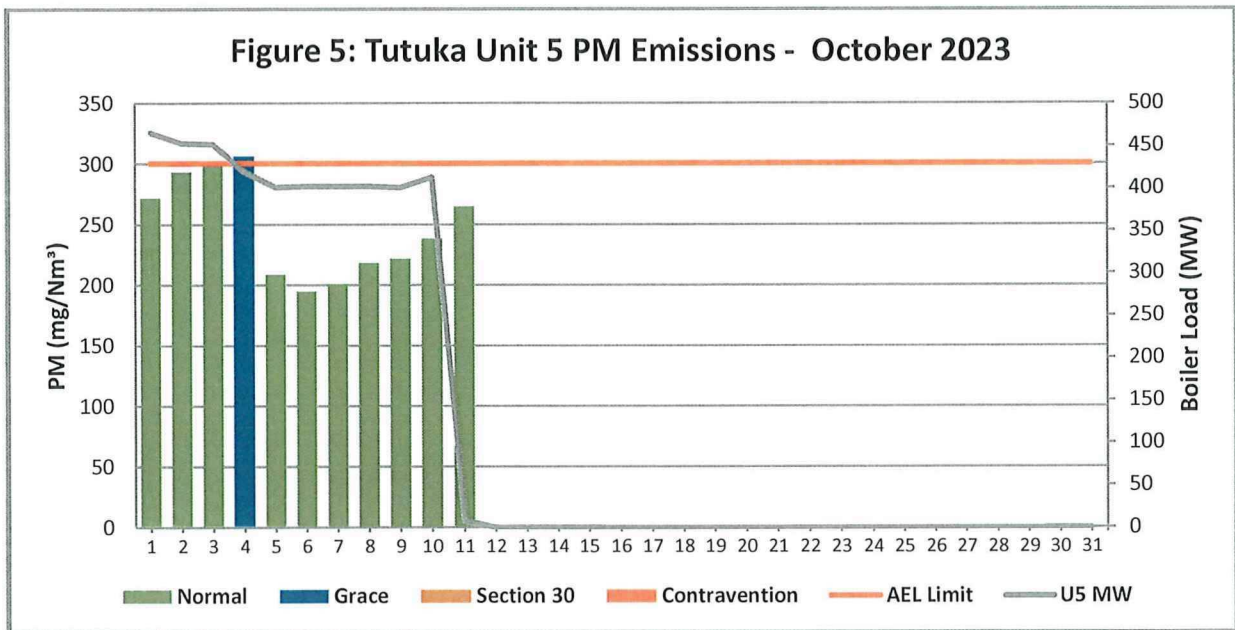
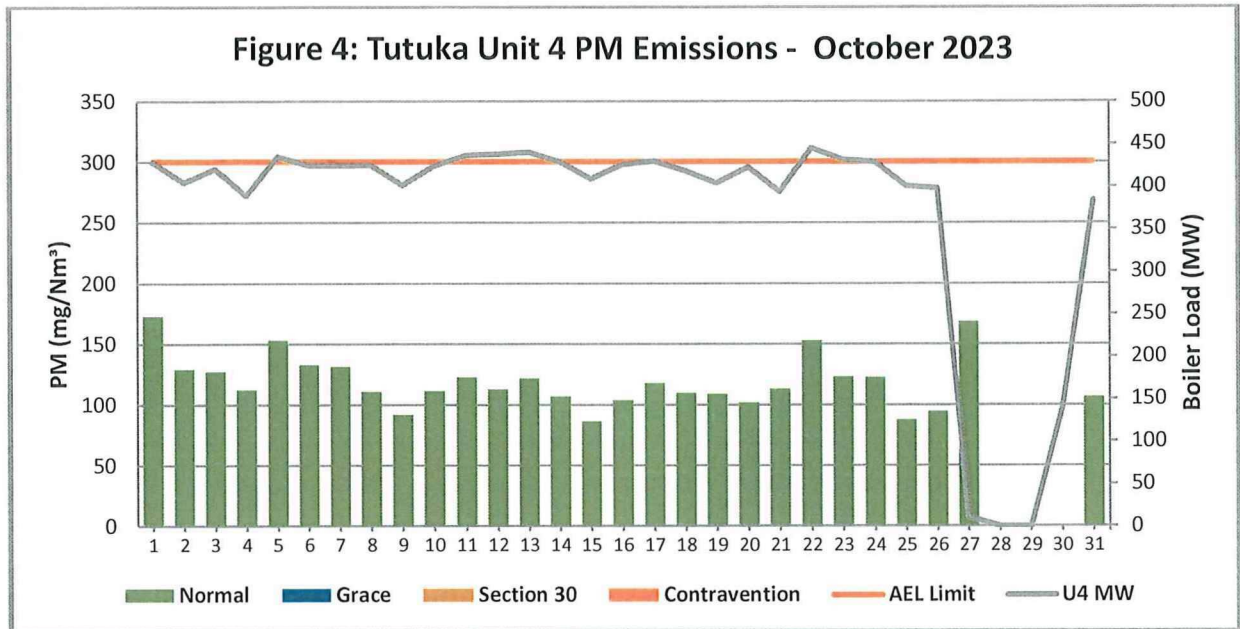
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	23	0	0	0	0	781.2
Unit 2	Off	Off	Off	Off	Off	Off
Unit 3	25	0	0	0	0	867.7
Unit 4	28	0	0	0	0	727.2
Unit 5	10	0	0	0	0	837.7
Unit 6	Off	Off	Off	Off	Off	Off
SUM	86	0	0	0	0	

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 OCTOBER 2023



TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023



TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023

Figure 7: Tutuka Unit 1 SO₂ Emissions - October 2023

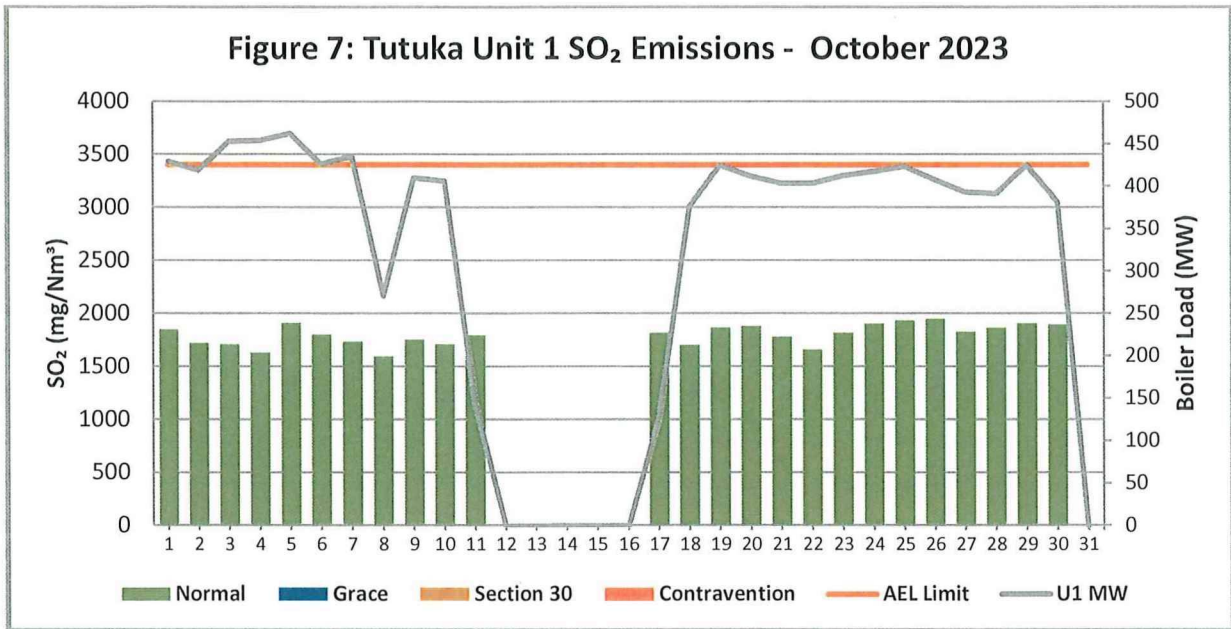
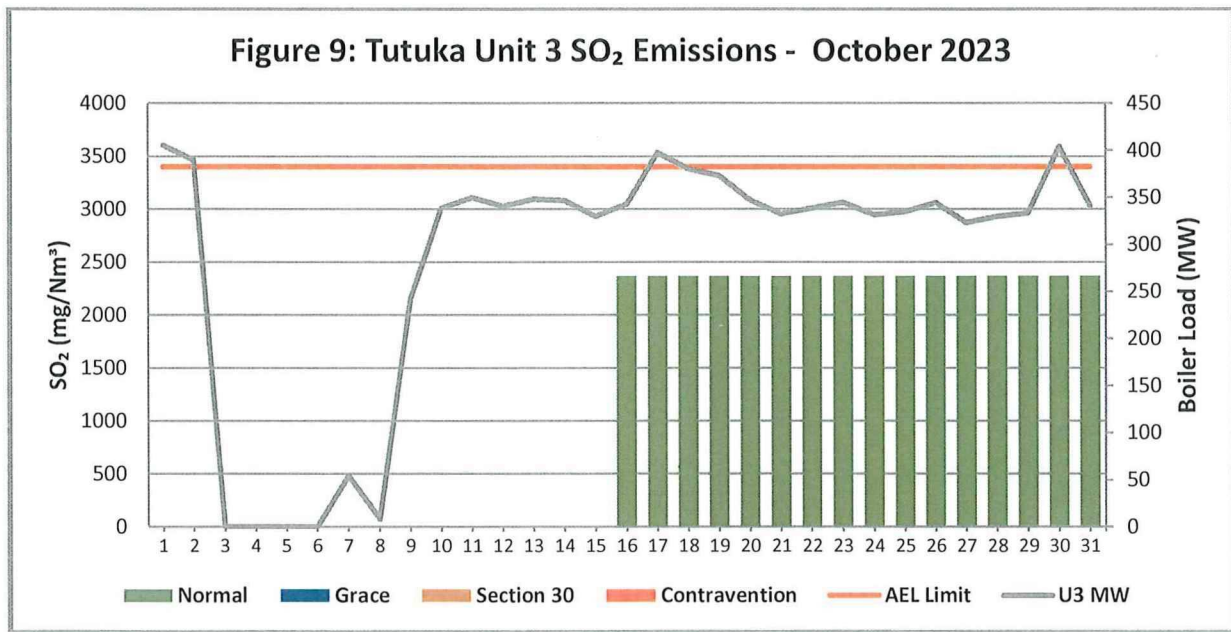
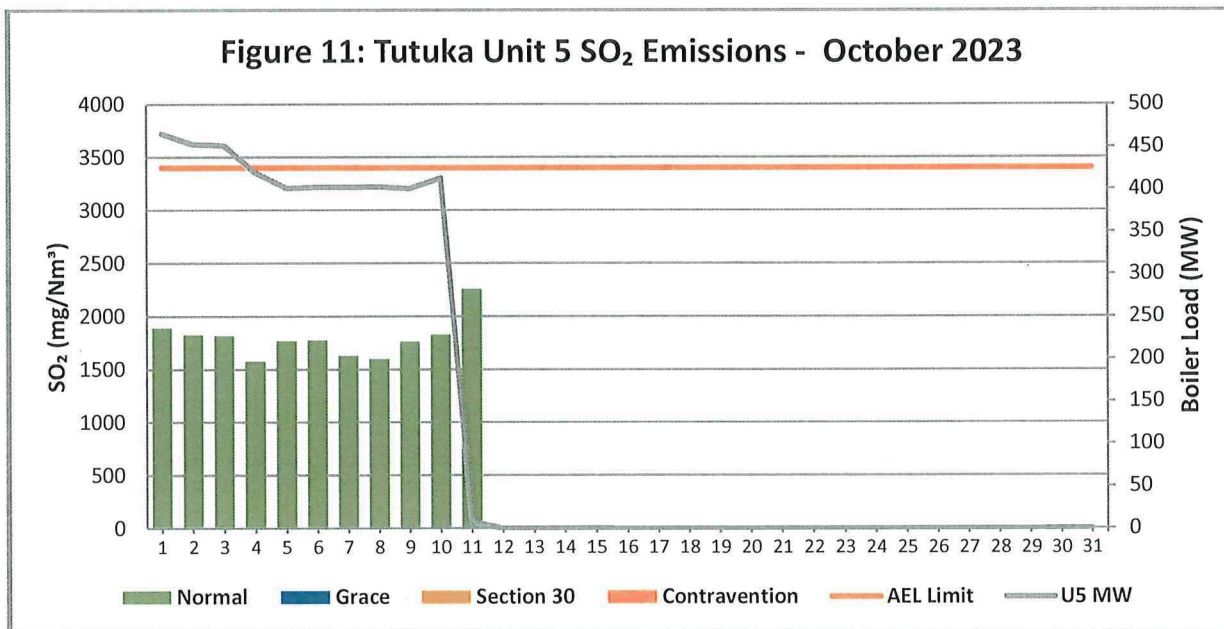
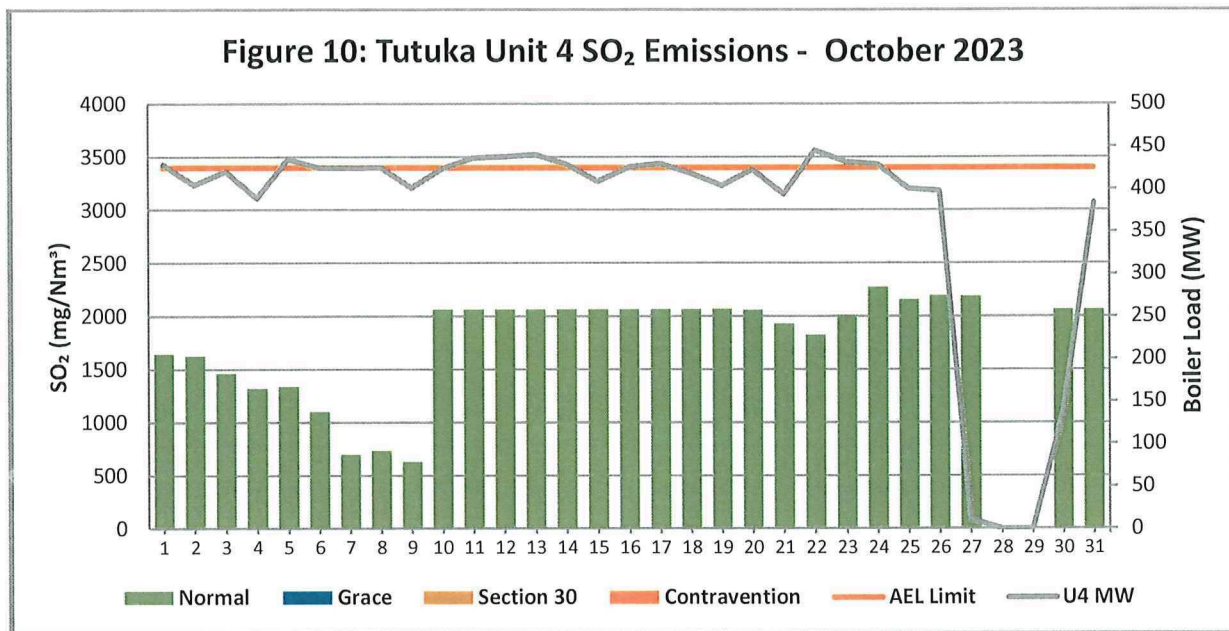


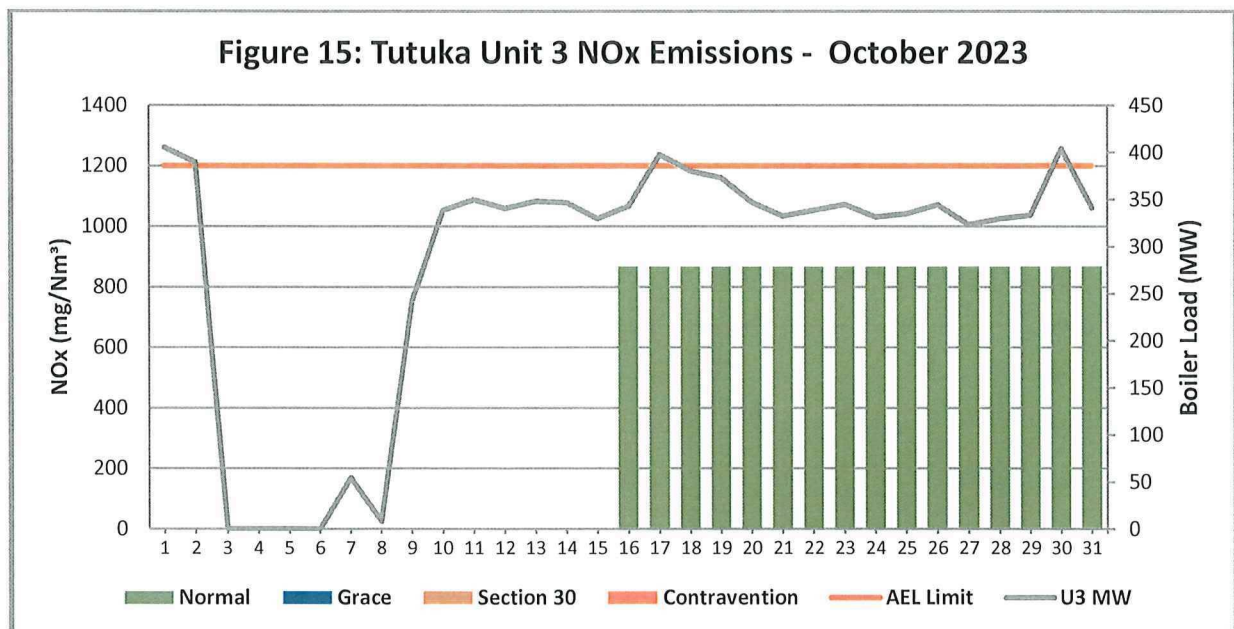
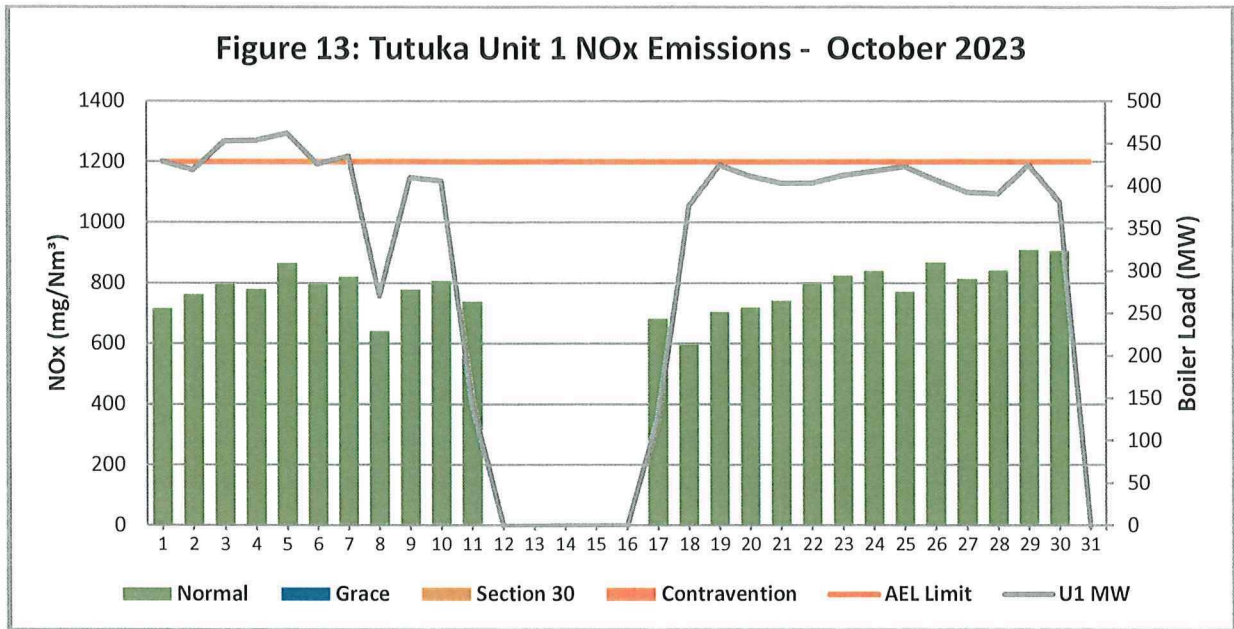
Figure 9: Tutuka Unit 3 SO₂ Emissions - October 2023



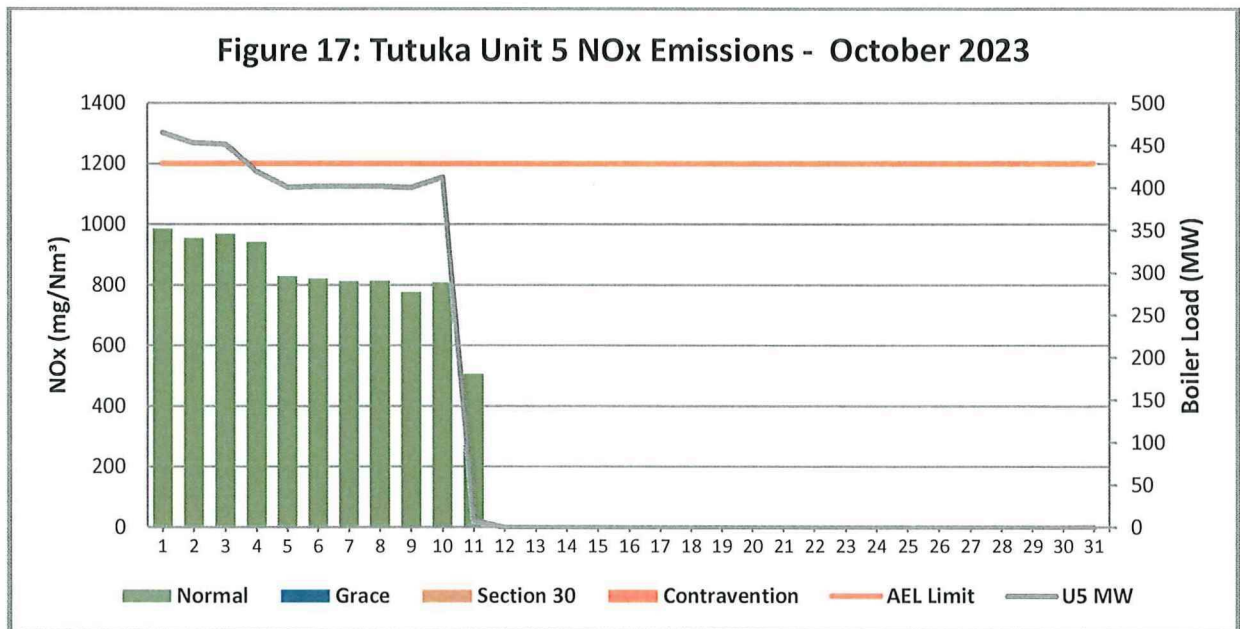
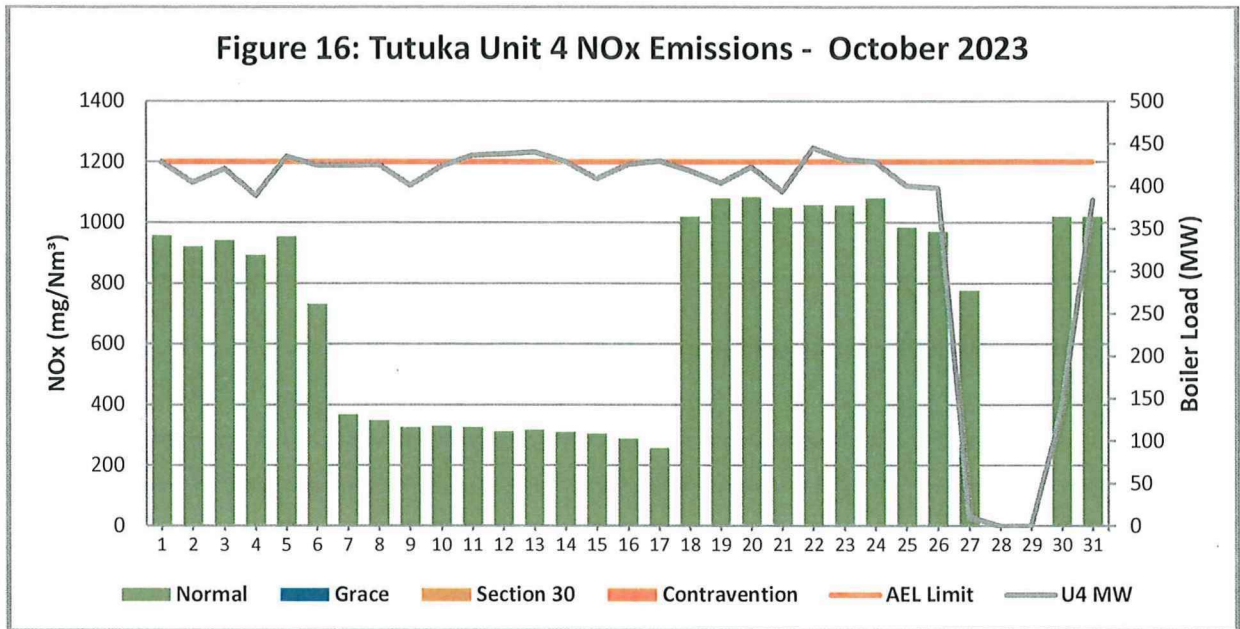
TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023



TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023



TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023



TUTUKA POWER STATION MONTHLY REPORT FOR OCTOBER 2023

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 October 2023.					

Yours Sincerely

Compiled by:



Xoli Jila

EMISSIONS CONTROL OFFICER


Supported by:



Mike Molepo

Snr CHEMIST: BOILER ENGINEERING

Approved by:



Bruce Moyo

GENERAL MANAGER