

The Municipal Manager
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Date: 13 September 2023

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Dear Mr Hlanyane

TUTUKA POWER STATION MONTHLY REPORT FOR AUGUST 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 August 2023

The report presents monthly trends for each monitored pollutant. Units 1, 5 and 6 were offload for the month of August 2023. There were no exceedances of the dust and gases operating limits recorded in August 2023.

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Aug-2023
	Coal	Tons	1 200 000	195 082
	Fuel Oil	Tons	10 000	4478.28
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Indicative Production Rate Aug-2023
	Energy	GWh	2 611.440	348.683
	Ash	Tons	350 000	49 122
	RE Ash	kg/MWh	not specified	0.997

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: [30748MW]/12 x 24 hrs x 31days in Month/1000 to convert to GWh



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2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	21.530
Sulphur Content	%	0.6 TO 2.6	0.950
Ash Content	%	21 TO 33	25.180

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 Aug-2023
Unit 1	Electro Static Precipitators (ESP)	Unit OFF
Unit 2	Electro Static Precipitators (ESP)	99.3%
Unit 3	Electro Static Precipitators (ESP)	98.9%
Unit 4	Electro Static Precipitators (ESP)	99.6%
Unit 5	Electro Static Precipitators (ESP)	Unit OFF
Unit 6	Electro Static Precipitators (ESP)	Unit OFF

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

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5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
Unit 1	OFF	OFF	OFF	OFF
Unit 2	100.0	0.0	0.0	0.0
Unit 3	99.6	0.0	0.0	0.0
Unit 4	98.5	0.0	0.0	0.0
Unit 5	OFF	OFF	OFF	OFF
Unit 6	OFF	OFF	OFF	OFF

Note: Gas monitors were not working properly for the month of August 2023 were not working properly and surrogate values from the QAL2 reports were used to estimate the tonnages.

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	OFF	OFF	OFF
Unit 2	37.3	320	137
Unit 3	249.0	2 906	976
Unit 4	57.9	1 679	718
Unit 5	OFF	OFF	OFF
Unit 6	OFF	OFF	OFF
SUM	344.1	4 905	1 831

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
Unit 2	3	0	0	0	0	228.7
Unit 3	19	0	0	0	0	219.6
Unit 4	14	0	0	0	0	67.0
Unit 5	Exempt	Exempt	Exempt	Exempt	Exempt	Exempt
Unit 6	OFF	OFF	OFF	OFF	OFF	OFF
SUM	36	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	OFF	OFF	OFF	OFF	OFF	OFF
Unit 2	5	0	0	0	0	1 782.7
Unit 3	20	0	0	0	0	2 583.4
Unit 4	14	0	0	0	0	1 932.8

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Unit 5	OFF	OFF	OFF	OFF	OFF	OFF
Unit 6	OFF	OFF	OFF	OFF	OFF	OFF
SUM	39	0	0	0	0	0

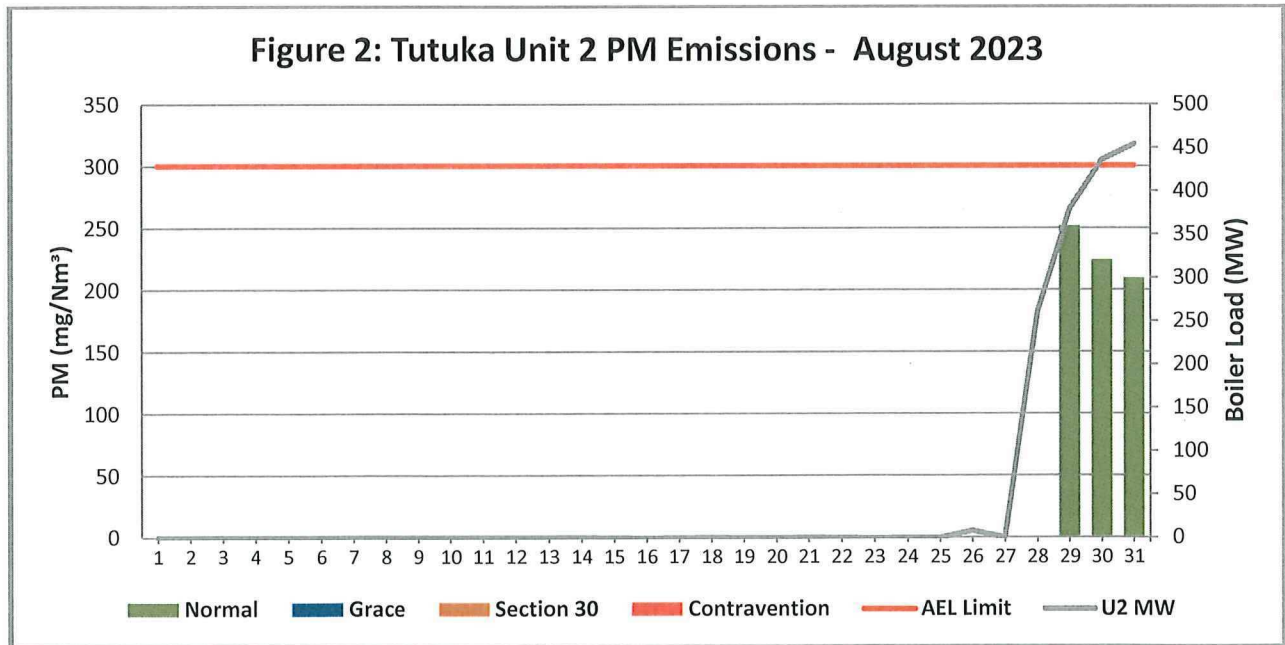
Table 6.4: Operating days in compliance to NOx AEL Limit - August 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
Unit 1	OFF	OFF	OFF	OFF	OFF	OFF
Unit 2	5	0	0	0	0	827.7
Unit 3	20	0	0	0	0	867.5
Unit 4	14	0	0	0	0	827.4
Unit 5	OFF	OFF	OFF	OFF	OFF	OFF
Unit 6	OFF	OFF	OFF	OFF	OFF	OFF
SUM	39	0	0	0	0	

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

Table 6.5: Legend Description

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



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Figure 3: Tutuka Unit 3 PM Emissions - August 2023

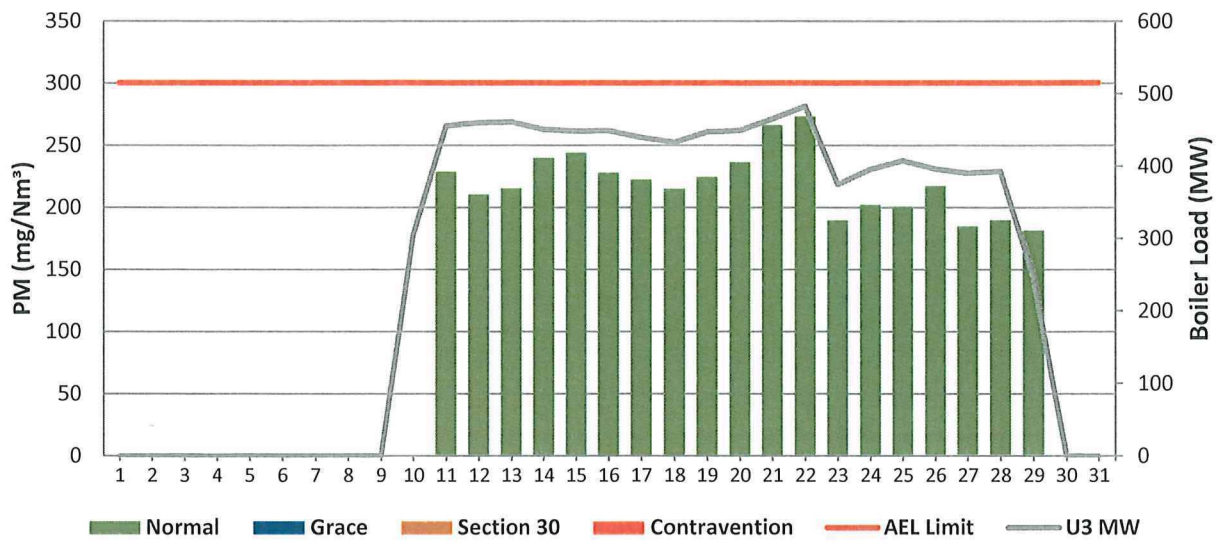
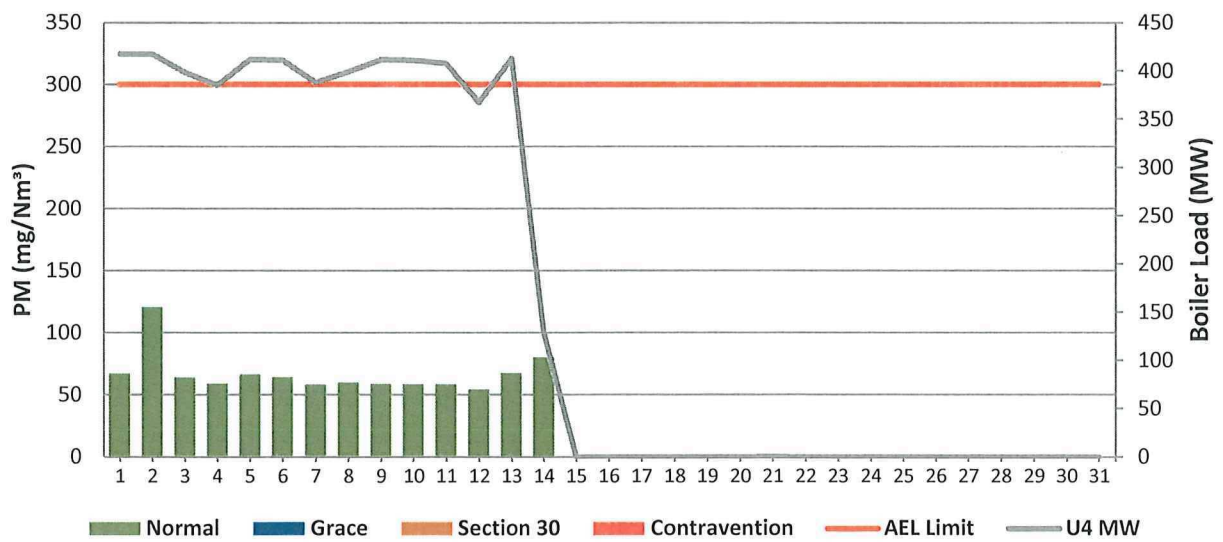


Figure 4: Tutuka Unit 4 PM Emissions - August 2023



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Figure 8: Tutuka Unit 2 SO₂ Emissions - August 2023

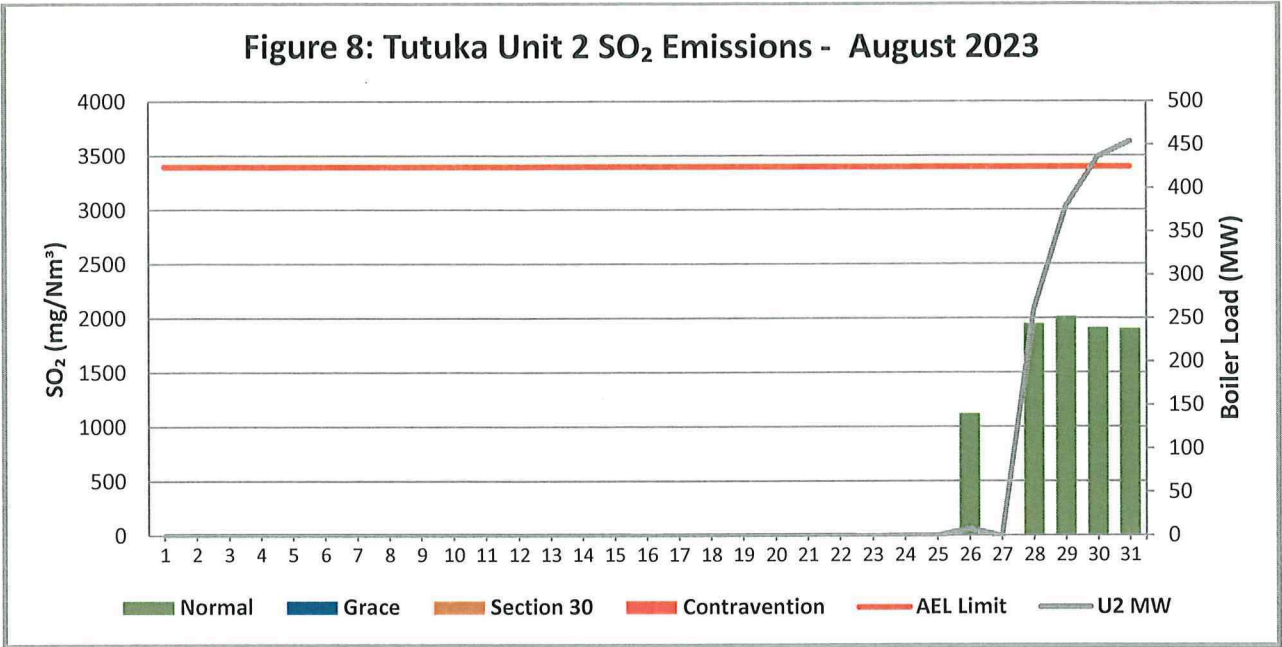
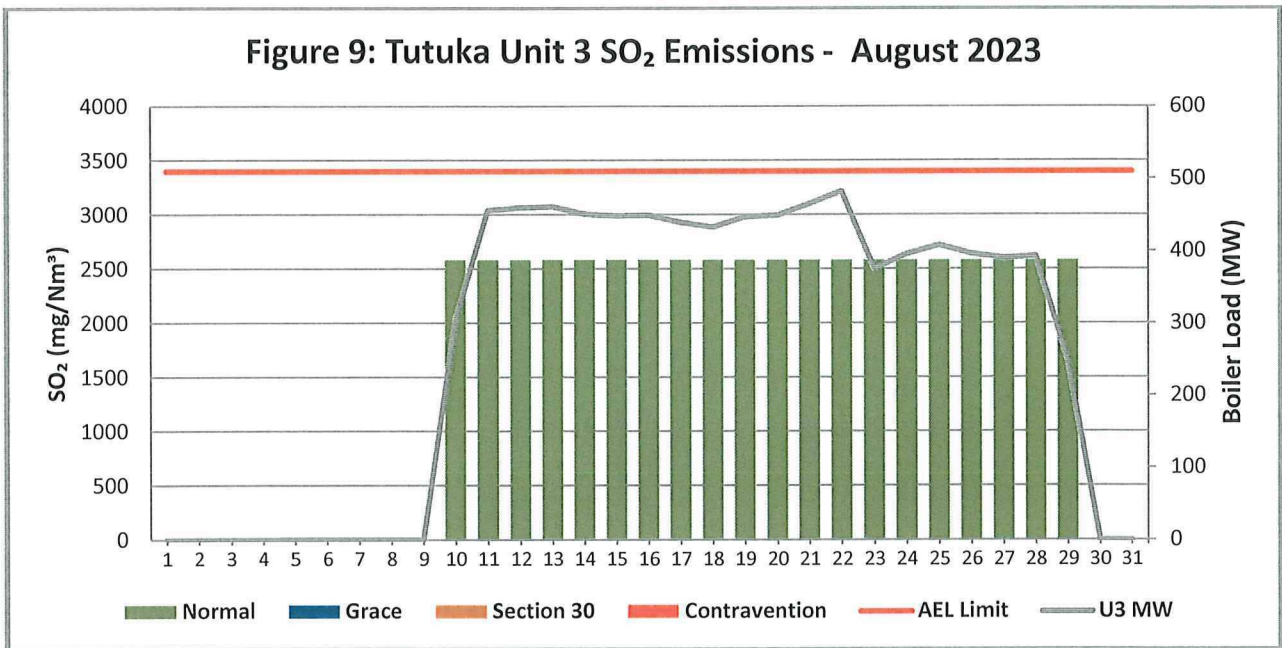


Figure 9: Tutuka Unit 3 SO₂ Emissions - August 2023



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Figure 10: Tutuka Unit 4 SO₂ Emissions - August 2023

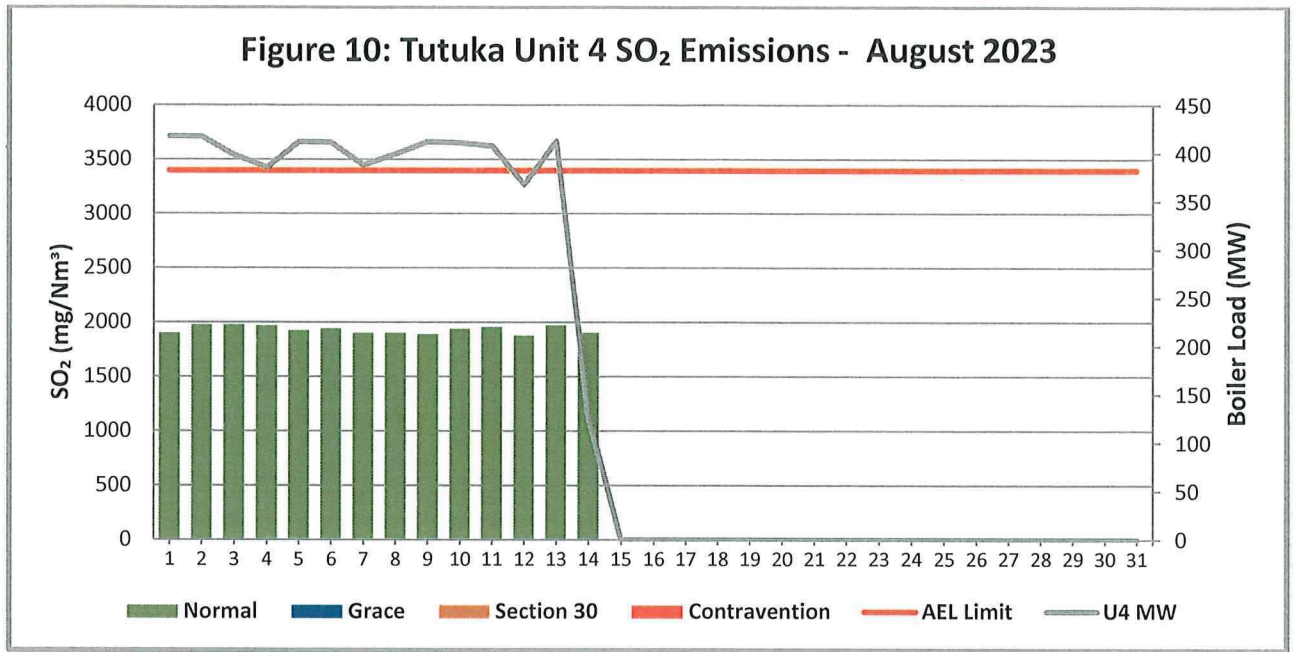
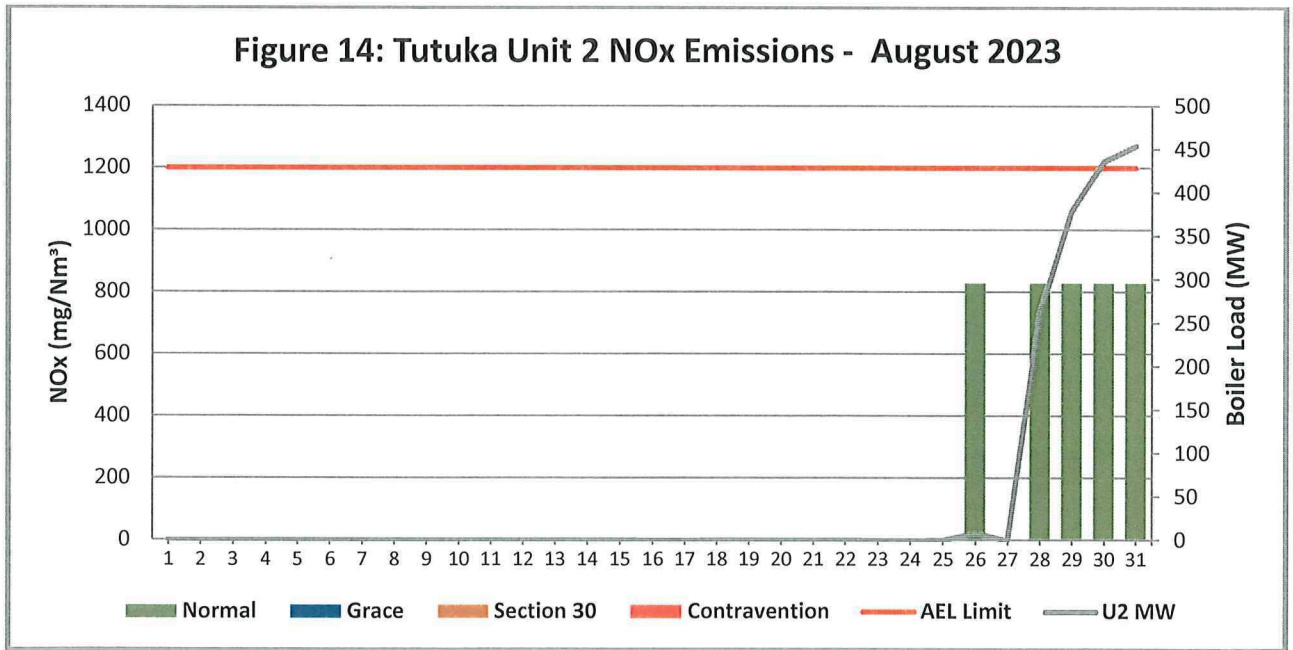
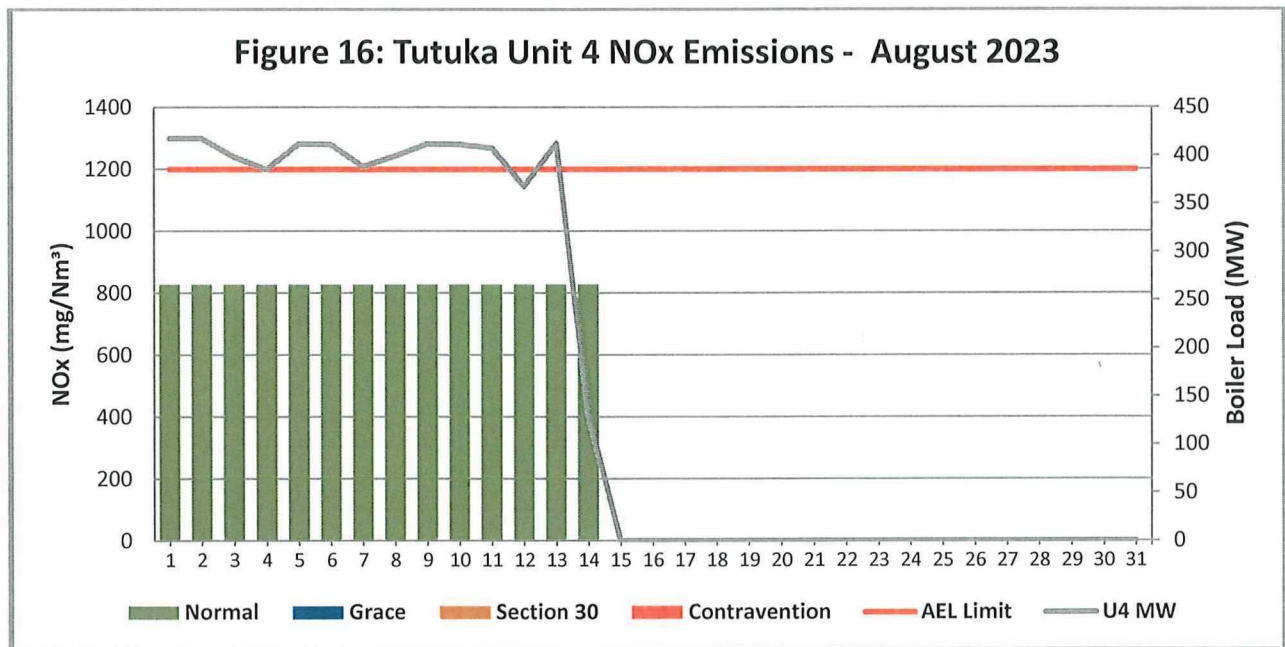
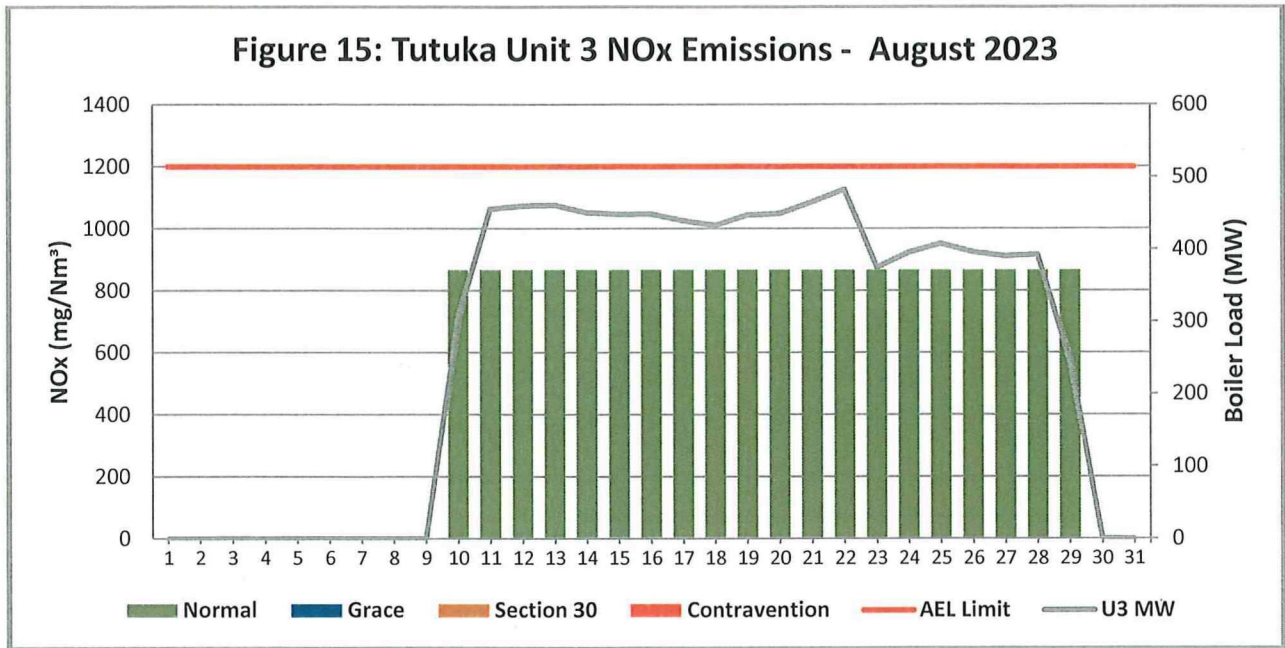


Figure 14: Tutuka Unit 2 NO_x Emissions - August 2023



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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 August 2023.					

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For more information or enquiries contact the Tutuka environmental team

Yours Sincerely

Compiled by



Xoli Jila

EMISSIONS CONTROL OFFICER

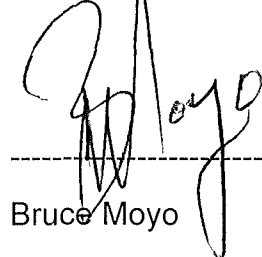
Supported by



Mike Molepo

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Approved by



Bruce Moyo

GENERAL MANAGER