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 Air Quality Officer
 Gert Sibande District Municipality
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Date:
 28 February 2023

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Dear Mr. Hlanyane

TUTUKA POWER STATION SUBMISSION MONTHLY EMISSIONS PERFORMANCE MONITORING REPORT AS STIPULATED ON CONDITION 7.5 OF TUTUKA POWER STATION ATMOSPHERIC EMISSION LICENCE NO: Lekwa/Eskom H SOC Ltd TPS/0013/2019/F03 Dated 25 APRIL 2019

In terms of Tutuka PS AEL, the station is required to submit the monthly emissions monitoring report on/before the 12th every month. The report shall indicate the emission performance for the previous month. This report contains the emission performance for the month of January 2023. Unit 2,3 and 6 were off in January 2023. The figures(i.e Figure 1,2,and 3) below indicate the emission limits and load Generated for PM,SOx and NOx for the units on load.

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Jan-2023
	Coal	Tons	1 200 000	286 697
	Fuel Oil	Tons	10 000	3049.1
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jan-2023
	Energy	GWh	2611.44	647.2
	Ash	Tons	350 000	72 735
	RE Ash	kg/MWh	not specified	1.27

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	22.840
Sulphur Content	%	0.6 TO >2.6	1.240
Ash Content	%	21 TO >33	25.370

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SOx	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 Jan-2023
Unit 1	<i>Electro Static Precipitators (ESP)</i>	99.1%
Unit 2	<i>Electro Static Precipitators (ESP)</i>	0
Unit 3	<i>Electro Static Precipitators (ESP)</i>	0
Unit 4	<i>Electro Static Precipitators (ESP)</i>	99.0%
Unit 5	<i>Electro Static Precipitators (ESP)</i>	97.9%
Unit 6	<i>Electro Static Precipitators (ESP)</i>	0

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	100.0	99.8	99.6	99.3
Unit 2	0	0	0	0
Unit 3	0	0	0	0
Unit 4	100.0	100.0	100.0	99.2
Unit 5	99.4	98.5	52.4	99.7
Unit 6	0	0	0	

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	229.5	1 749	889
Unit 2	0.0	0	0
Unit 3	0.0	0	0
Unit 4	179.9	1 312	648
Unit 5	412.0	2 858	698
Unit 6	0.0	0	0
SUM	821.3	5 920	2 235

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	19	1	0	0	1	240.4
Unit 2	0	0	0	0	0	
Unit 3	0	0	0	0	0	
Unit 4	11	2	0	0	2	270.2
Unit 5	19	2	0	5	7	275.6
Unit 6	0	0	0	0	0	
SUM	30	5	0	5	10	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	23	0	0	0	0	1 870.0
Unit 2	0	0	0	0	0	
Unit 3	0	0	0	0	0	
Unit 4	16	0	0	0	0	2 035.5
Unit 5	27	0	0	0	0	1 826.1
Unit 6	0	0	0	0	0	
SUM	39	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	23	0	0	0	0	929.8
Unit 2	0	0	0	0	0	
Unit 3	0	0	0	0	0	
Unit 4	16	0	0	0	0	960.9
Unit 5	27	0	0	0	0	456.7
Unit 6	0	0	0	0	0	
SUM	39	0	0	0	0	

Table 6.5: Legend Description

Condition	Colour	Description
Normal	Green	Emissions below Emission Limit Value (ELV)
Grace	Blue	48hrs above ELV for start-up, maintenance, upset and shut down condition in terms of AEL 7.3
Section 30	Orange	Emissions above ELV during a NEMA S30 incident
Contravention	Red	Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Tutuka Unit 1 PM Emissions - January 2023

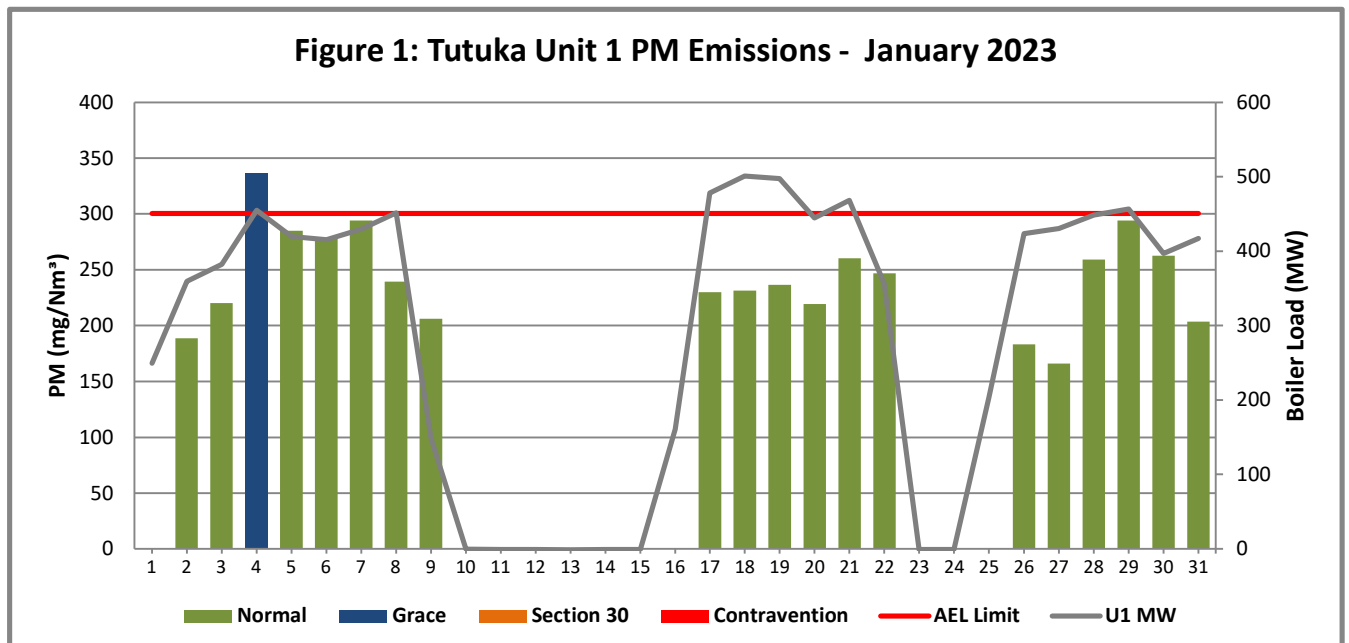


Figure 4: Tutuka Unit 4 PM Emissions - January 2023

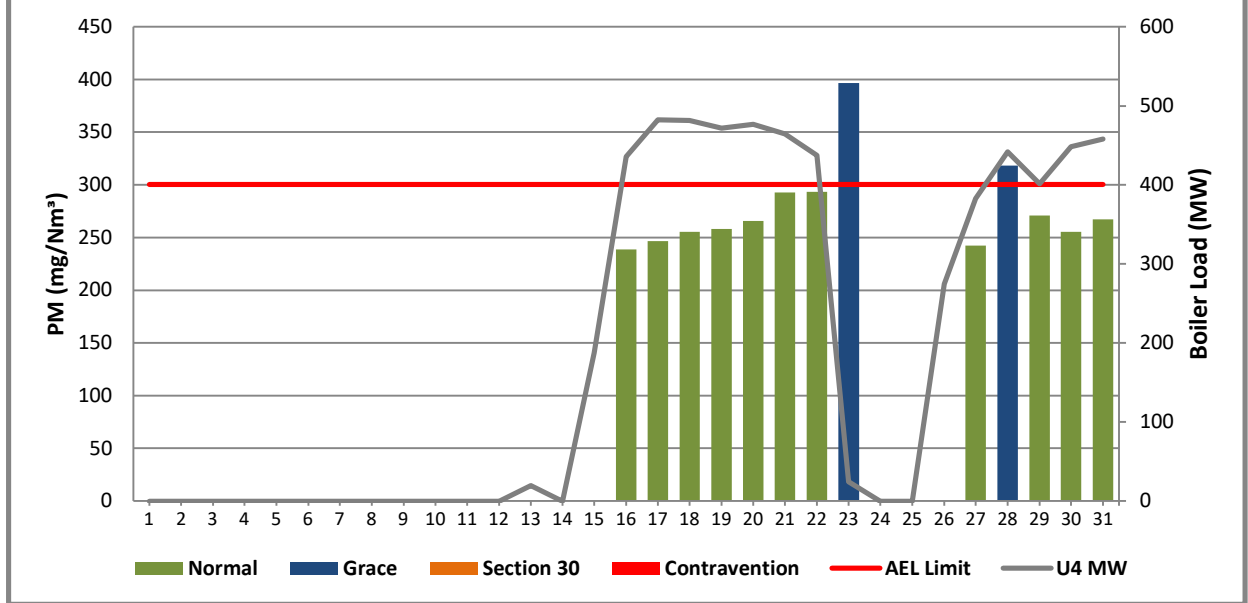


Figure 5: Tutuka Unit 5 PM Emissions - January 2023

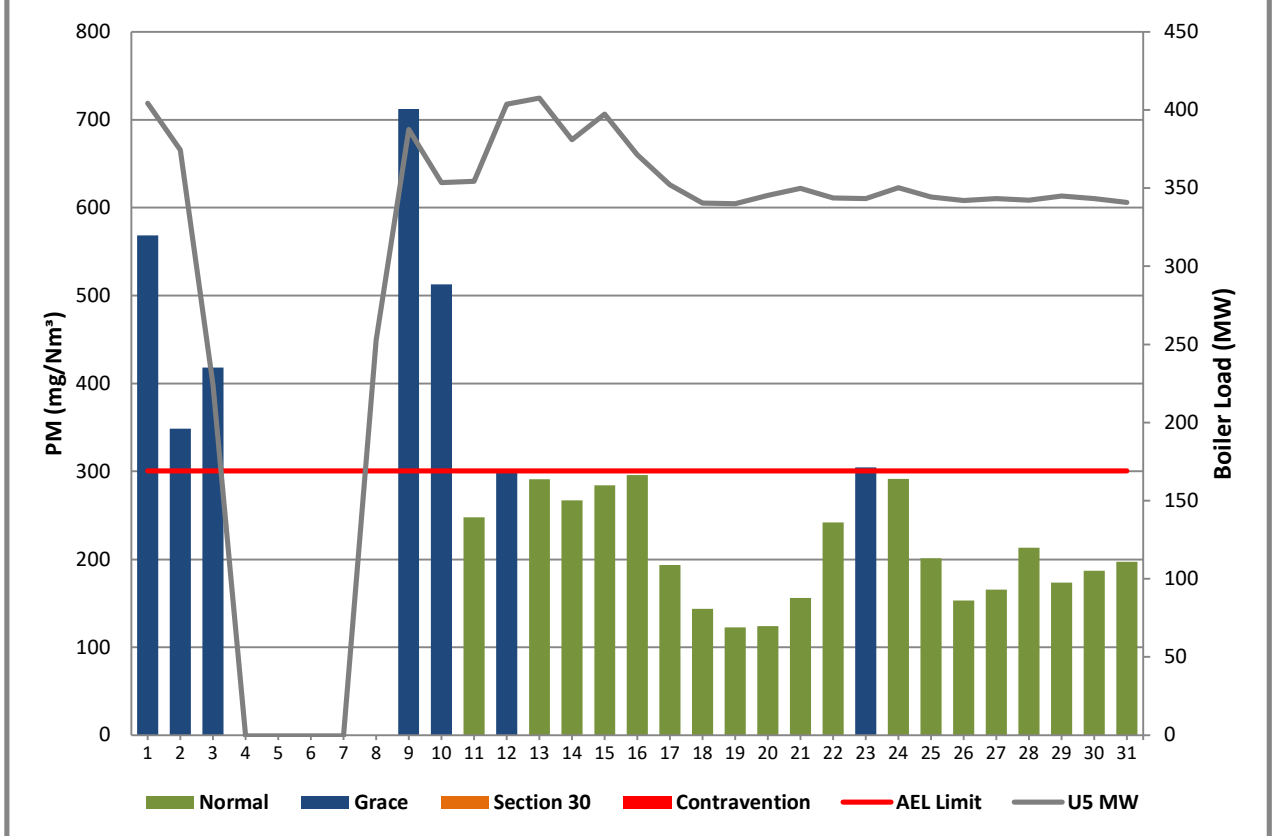


Figure 7: Tutuka Unit 1 SO₂ Emissions - January 2023

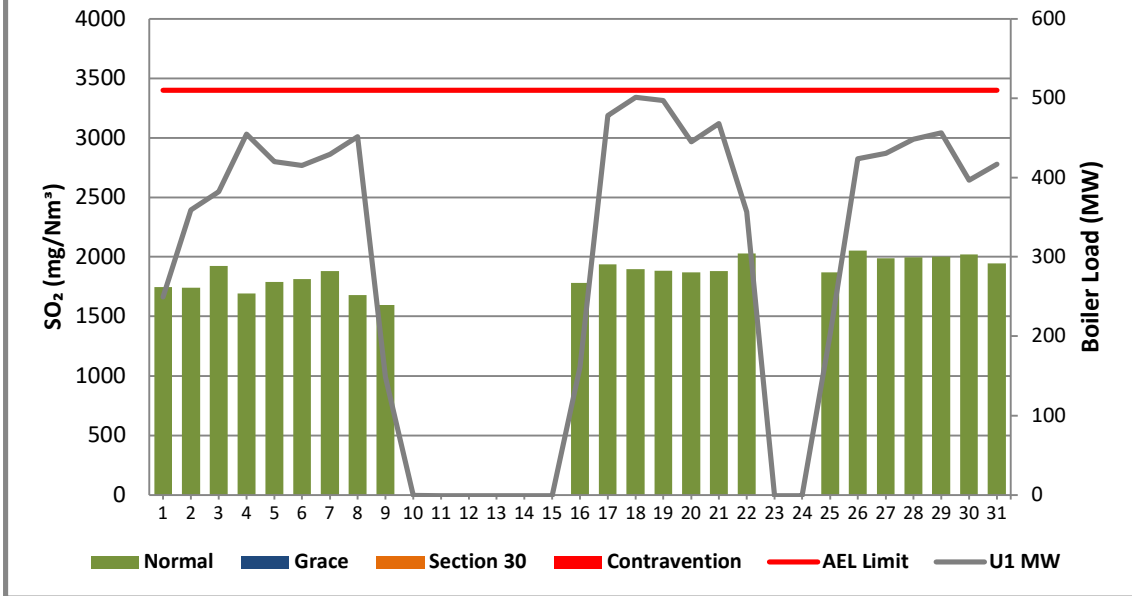


Figure 10: Tutuka Unit 4 SO₂ Emissions - January 2023

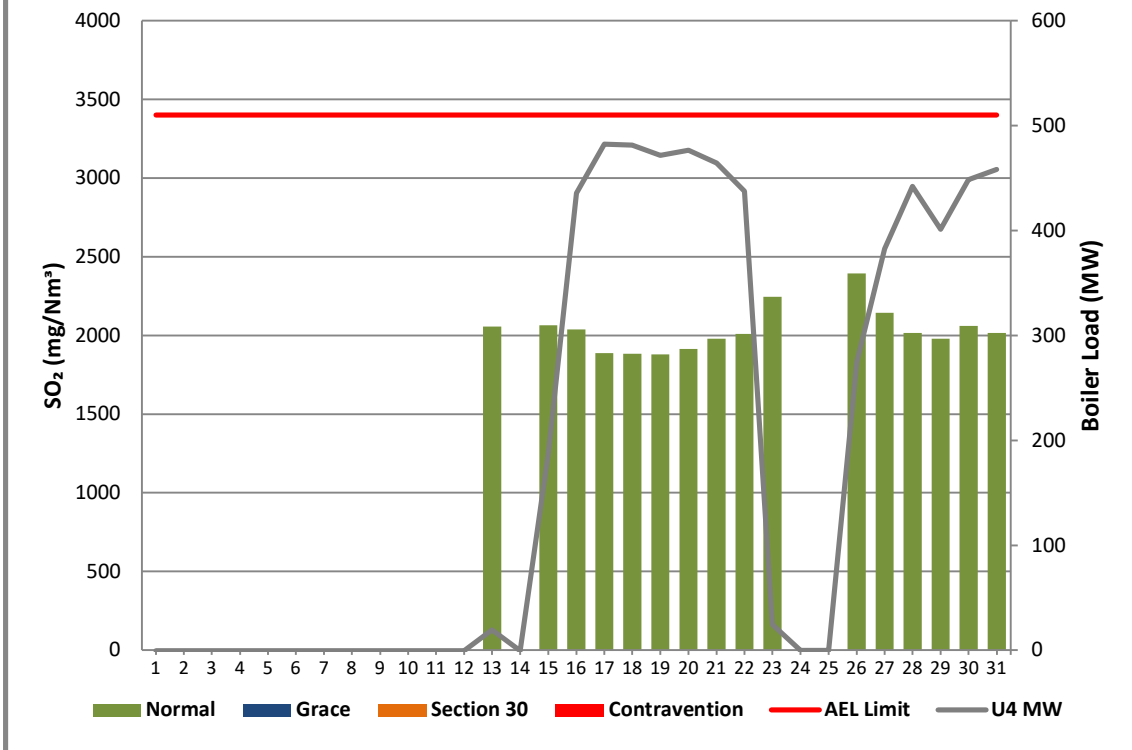


Figure 11: Tutuka Unit 5 SO₂ Emissions - January 2023

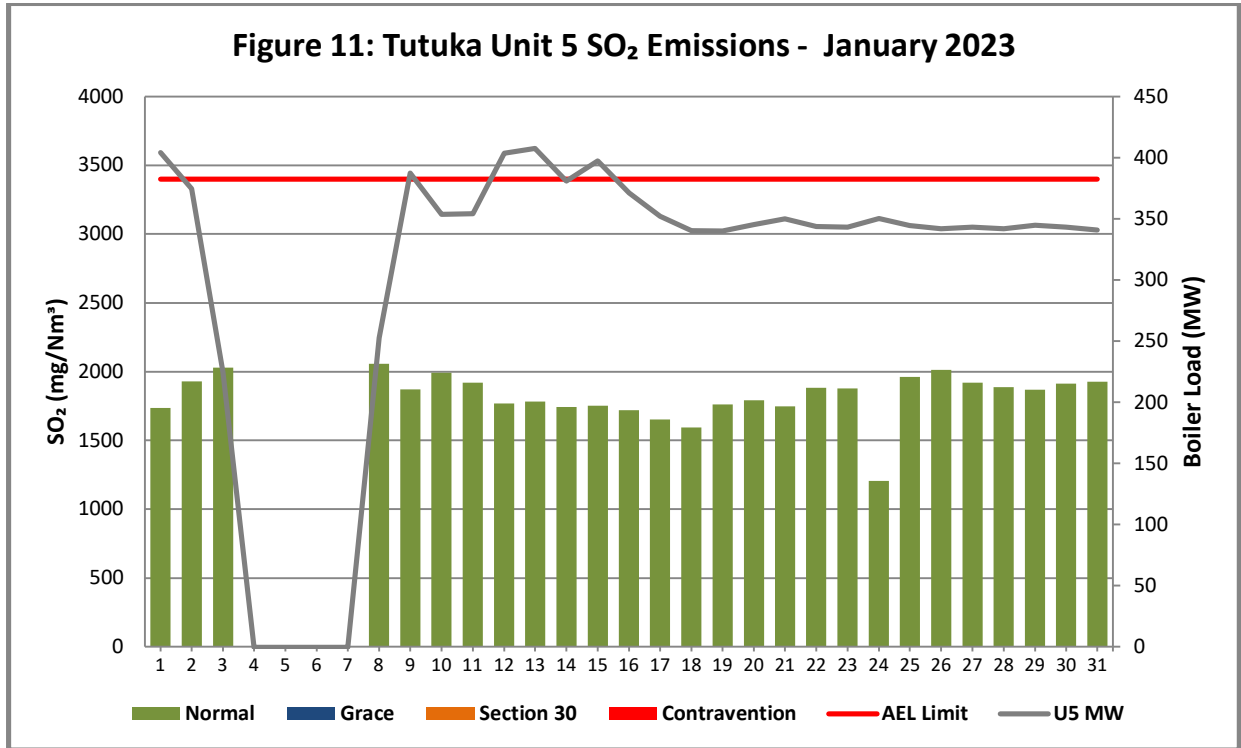


Figure 13: Tutuka Unit 1 NO_x Emissions - January 2023

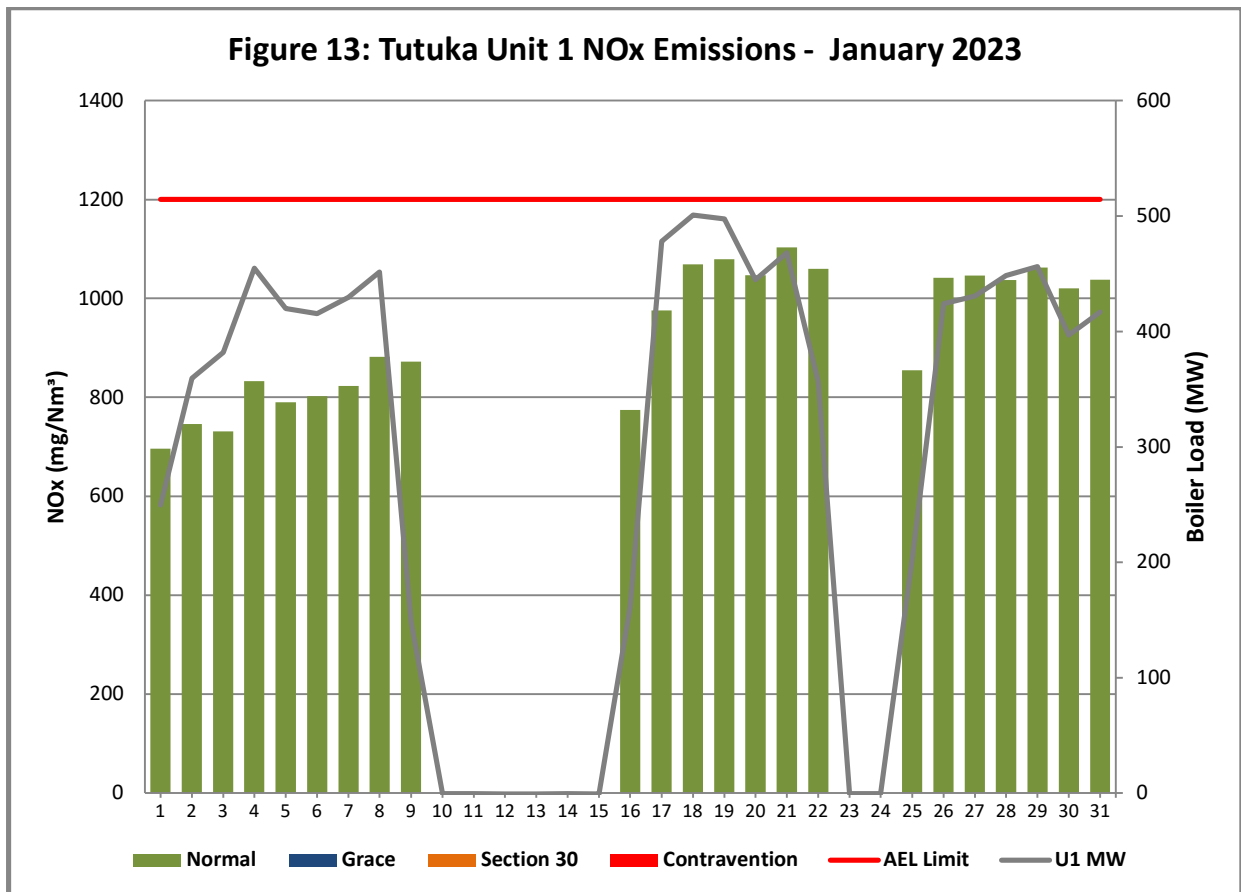


Figure 16: Tutuka Unit 4 NOx Emissions - January 2023

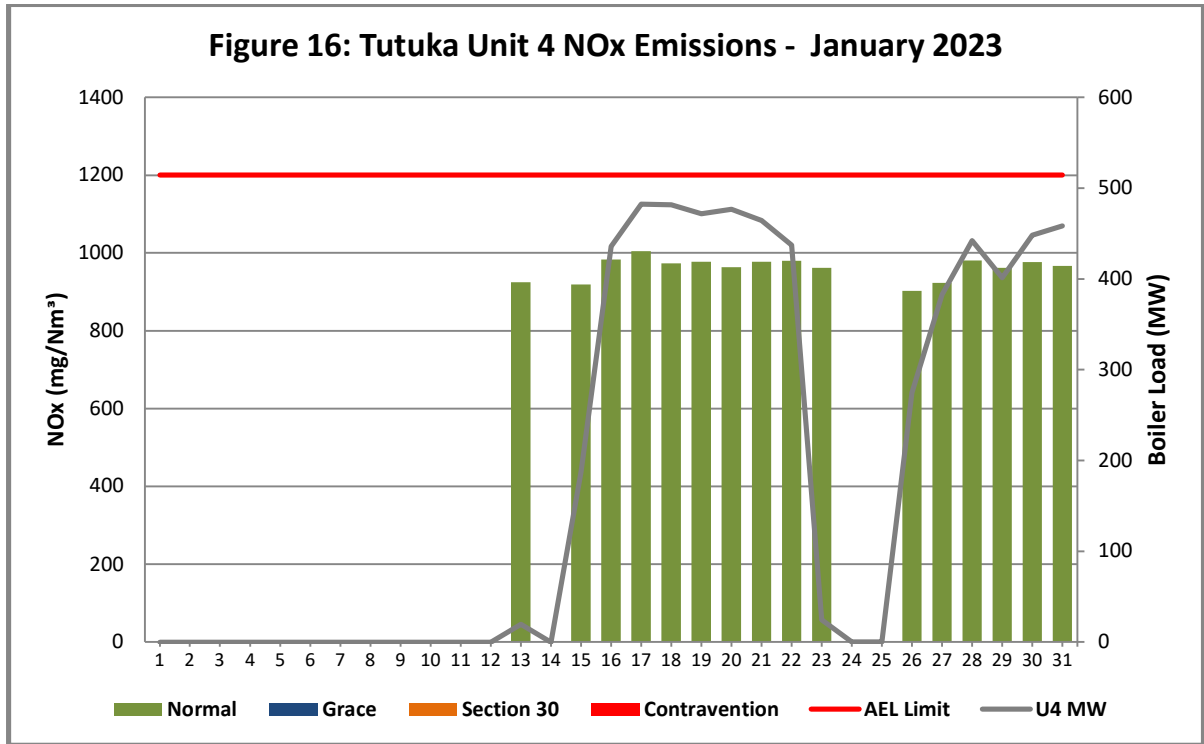
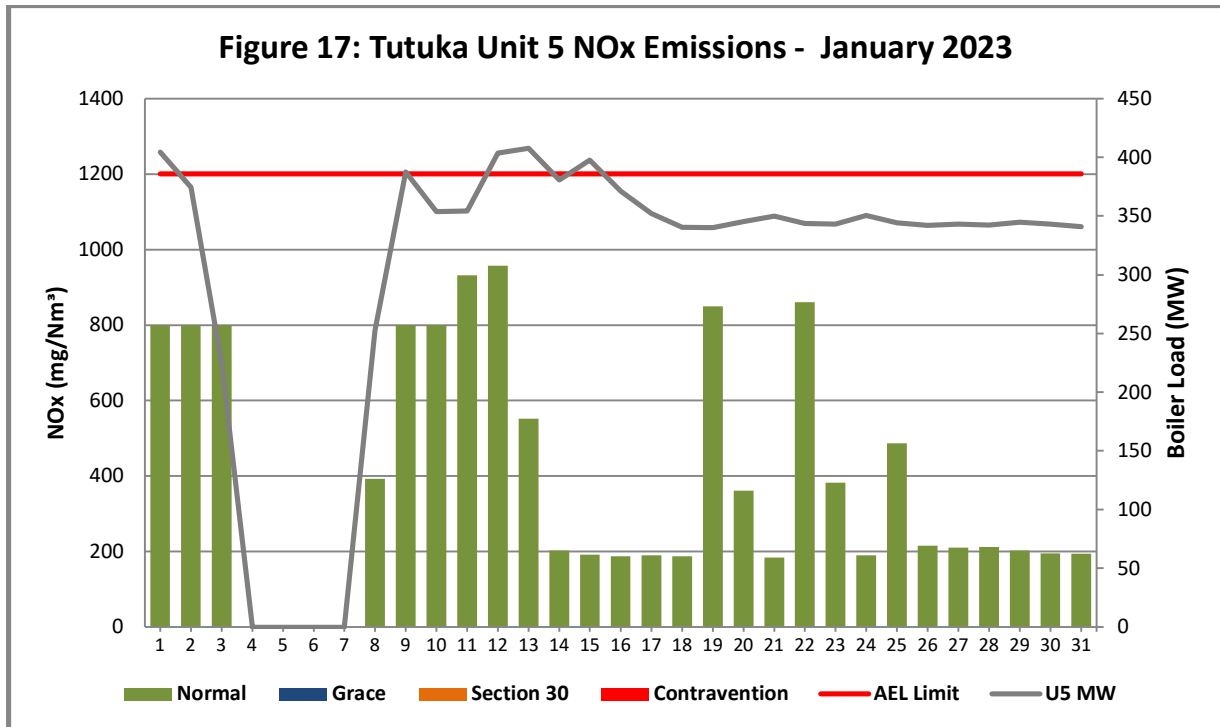


Figure 17: Tutuka Unit 5 NOx Emissions - January 2023



7. Number and Types of unit's start-ups

Number & Type of Starts	U1	U2	U3	U4	U5	U6
Number Of Hot Starts (Off-Load < 30 Hrs)	2	0	0	3	0	0
Number Of Cold Starts (Off-Load > 30 hrs)	0	0	0	1	0	0

Table 5: Number and type of Unit start-ups for each unit respectively for the month of January 2023

8. Complaints



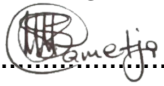
No public complaints received for the month of January 2023

Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date by which measure will be implemented
None		N/A	N/A	N/A	N/A

Table 6: Complaints for the month of January 2023

9. General

Non-compliances incidents were incurred on unit 1, 4 and 5 and are due to Dust Handling Plant issues. No NOx and SOx exceedances incurred in the month of January.

Compiled by: Monica Mokgawa ENVIRONMENTAL MANAGER: TUTUKA POWER STATION Signature: 	Verified By: Mike Molepo SENIOR CHEMIST CHEMISTRY: TUTUKA POWER STATION Signature: 
Approved by: Sello Mametja GENERAL MANAGER: TUTUKA POWER STATION Signature: 	
Date: 2023/03/02	