

The Municipal Manager
Gert Sibande District Municipality
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Date: 08 June 2022
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Dear Mr Hlanyane

TUTUKA POWER STATION'S MONTHLY REPORT FOR THE MONTH OF APRIL 2022

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 April 2022

The report presents the monthly trends for each pollutant which is monitored. There were two PM exceedances recorded which fell outside the 48-hour grace period in units 3 and 4, these were due to the challenges with the dust handling plant. The rest of the information demonstrates compliance with the emission license conditions.

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Apr-2022
	Coal	Tons	1 200 000	352 011
	Fuel Oil	Tons	10 000	4806.65
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Apr-2022
	Energy	GWh	2527.2	651.6
	Ash	Tons	350 000	87 369
	RE Ash	kg/MWh	not specified	1.26

Generation Division

Tutuka Power Station
Standerton/Bethal Road, Standerton
Private Bag X2016, STANDERTON, 2430, SA
Tel +27 17 7495700 Fax +27 17 7495736 www.eskom.co.za
Eskom Holdings SOC Ltd Reg No 2002/015527/30

2. ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	20.430
Sulphur Content	%	0.6 TO >2.6	0.980
Ash Content	%	21 TO >33	24.820

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 ABATEMET TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Apr-2022
Unit 1	Electro Static Precipitators (ESP)	99.4%
Unit 2	Electro Static Precipitators (ESP)	
Unit 3	Electro Static Precipitators (ESP)	98.8%
Unit 4	Electro Static Precipitators (ESP)	98.8%
Unit 5	Electro Static Precipitators (ESP)	
Unit 6	Electro Static Precipitators (ESP)	99.1%

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

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	CO ₂	O ₂
Unit 1	100.0	99.2	99.2	98.6	98.6
Unit 2					
Unit 3	74.8	74.8	74.5	74.5	74.5
Unit 4	74.6	79.9	80.1	89.4	99.5
Unit 5					
Unit 6	99.7	99.3	99.3	98.8	98.8

Table 6.1: Monthly tonnages for the month of April-2022

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)	CO ₂ (tons)
Unit 1	51.1	725	246	77 752
Unit 2	0.0	0	0	0
Unit 3	216.6	1 950	753	211 246
Unit 4	372.5	3 511	1 208	298 864
Unit 5	0.0	0	0	0
Unit 6	177.7	1 942	478	173 410
SUM	818.0	8 128	2 685	761 272

Table 6.2: Operating days in compliance to PM AEL Limit - April 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	8	0	0	0	0	151.7
Unit 2	0	0	0	0	0	
Unit 3	11	4	0	0	4	263.9
Unit 4	18	9	0	0	9	259.6
Unit 5	0	0	0	0	0	
Unit 6	13	5	0	0	5	262.7
SUM	37	13	0	0	13	

Table 6.3: Operating days in compliance to SO_x AEL Limit - April 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO _x (mg/Nm ³)
Unit 1	8	0	0	0	0	2 202.9
Unit 2	0	0	0	0	0	
Unit 3	15	0	0	0	0	2 389.3
Unit 4	26	0	0	1	1	2 400.3
Unit 5	0	0	0	0	0	
Unit 6	14	0	0	4	4	3 134.8
SUM	49	0	0	1	1	

Table 6.4: Operating days in compliance to NO_x AEL Limit - April 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	8	0	0	0	0	750.8
Unit 2	0	0	0	0	0	
Unit 3	15	0	0	0	0	914.1
Unit 4	27	0	0	0	0	825.7
Unit 5	0	0	0	0	0	
Unit 6	18	0	0	0	0	718.1
SUM	50	0	0	0	0	

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

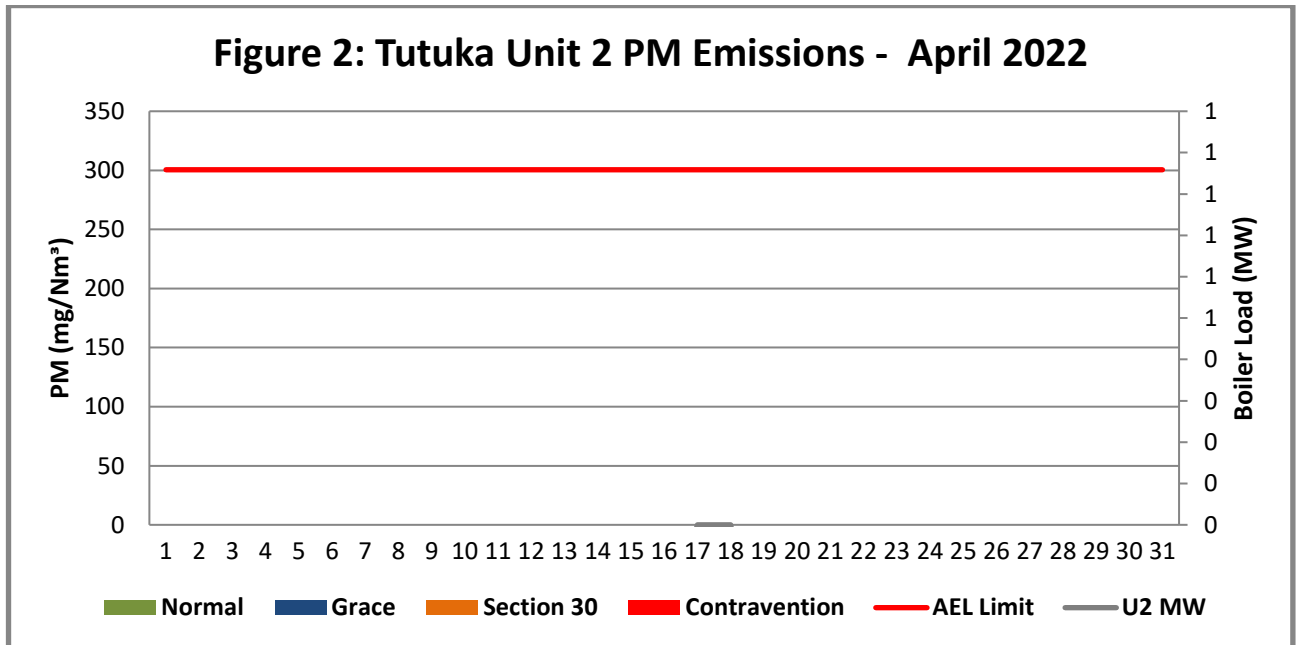
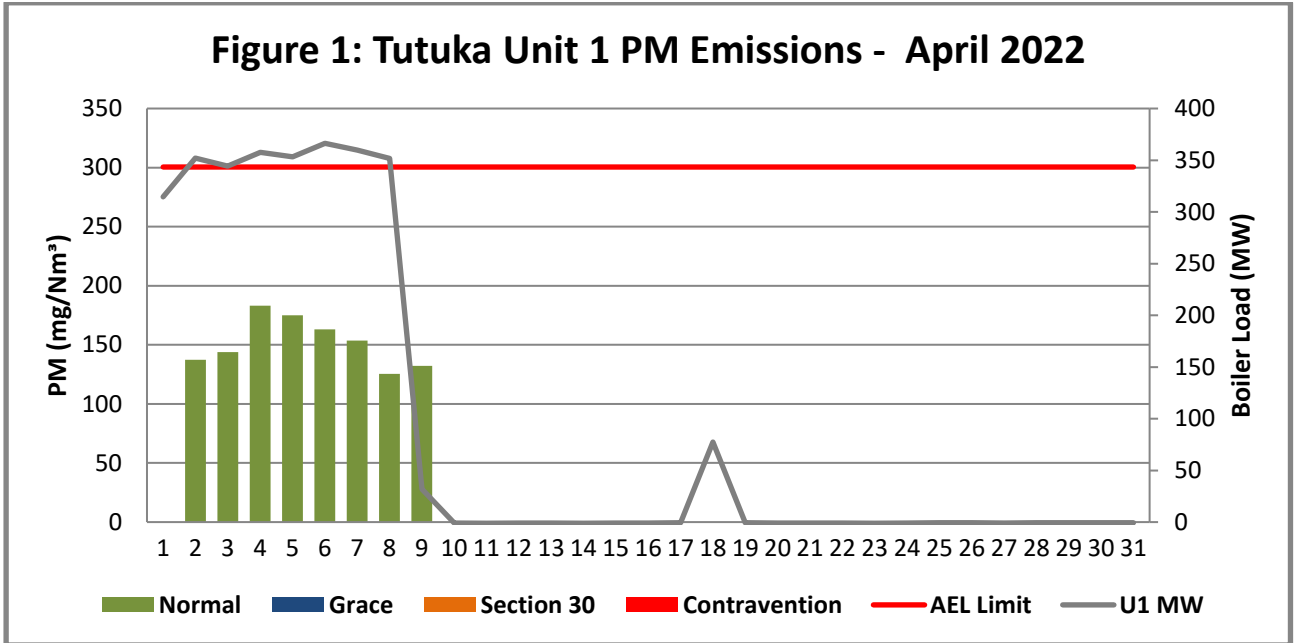


Figure 3: Tutuka Unit 3 PM Emissions - April 2022

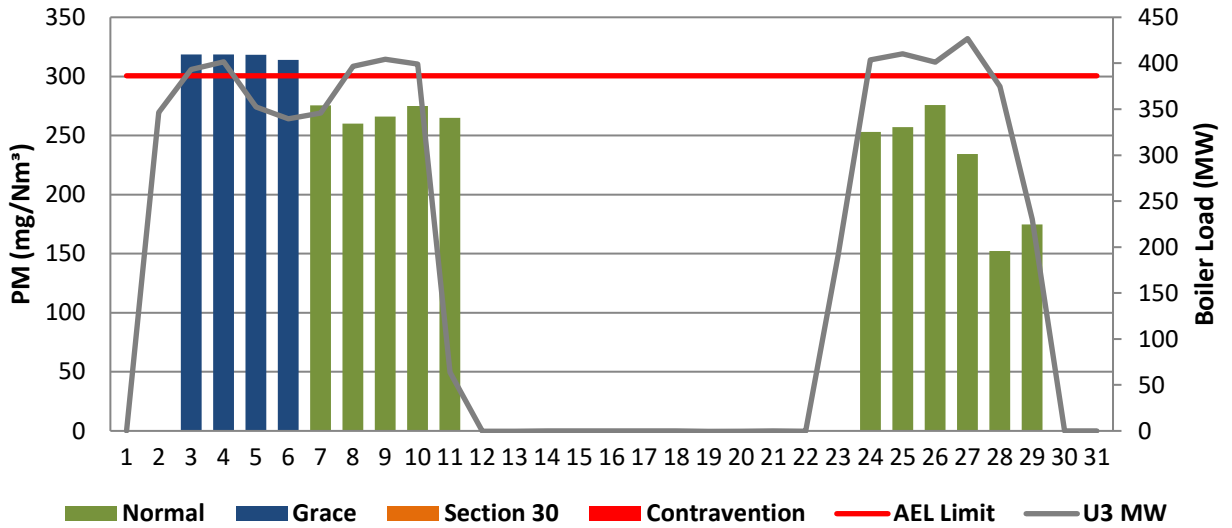


Figure 4: Tutuka Unit 4 PM Emissions - April 2022

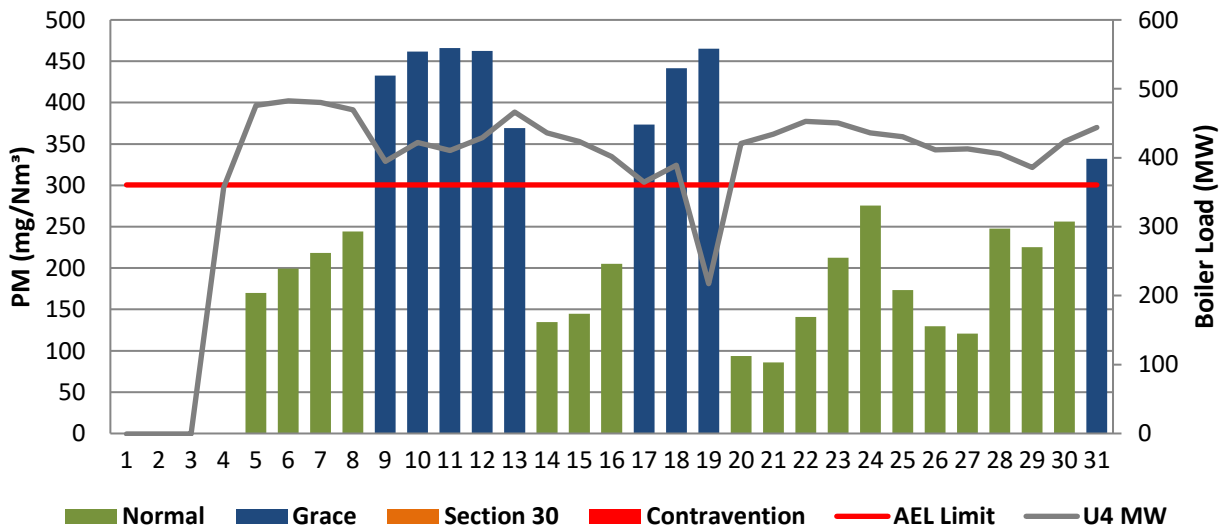


Figure 5: Tutuka Unit 5 PM Emissions - April 2022

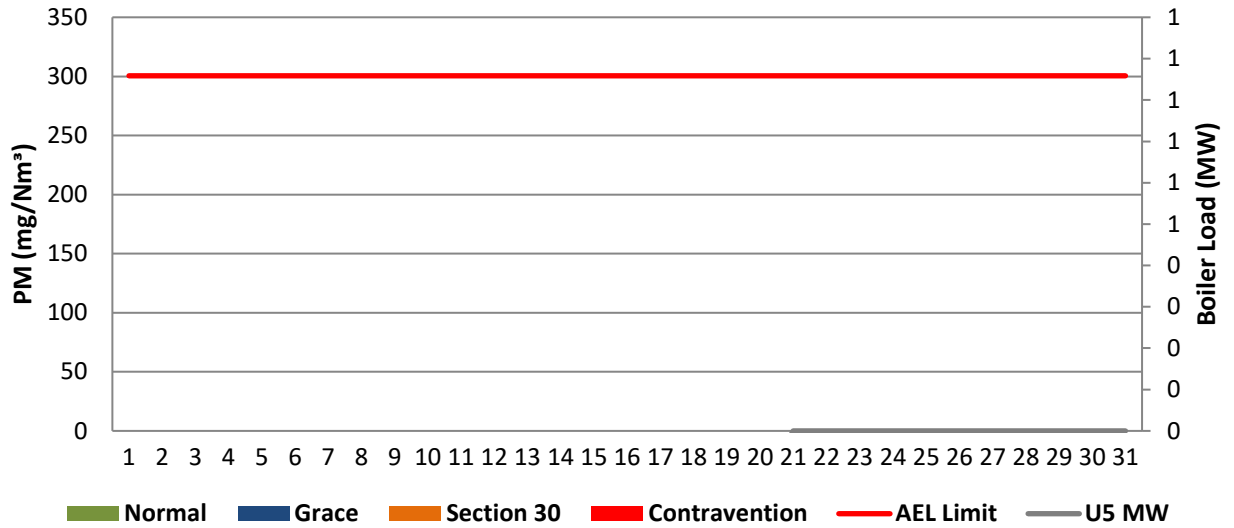


Figure 6: Tutuka Unit 6 PM Emissions - April 2022

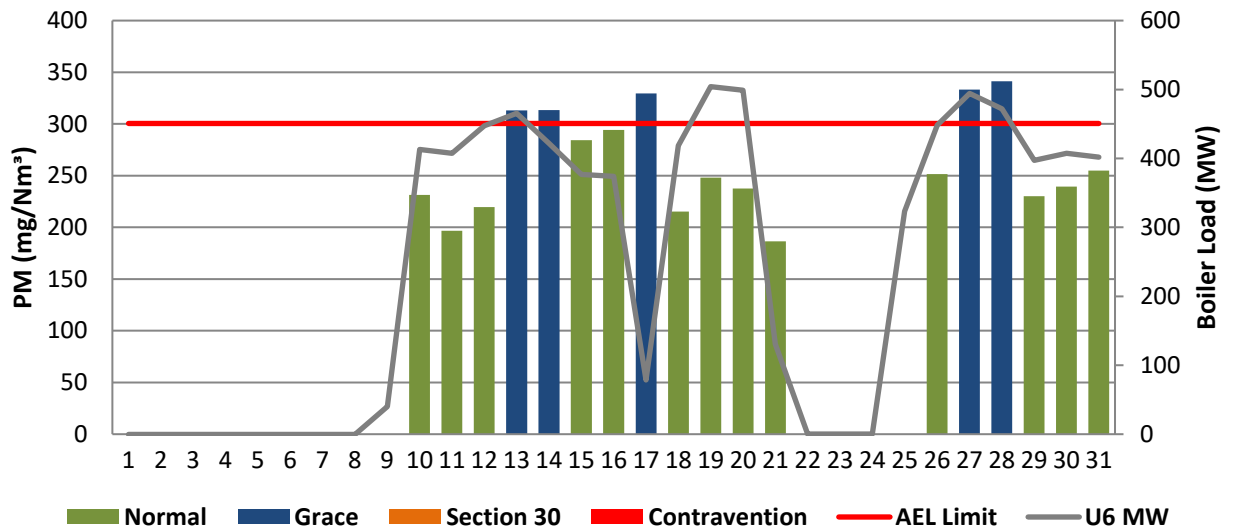


Figure 7: Tutuka Unit 1 SOx Emissions - April 2022

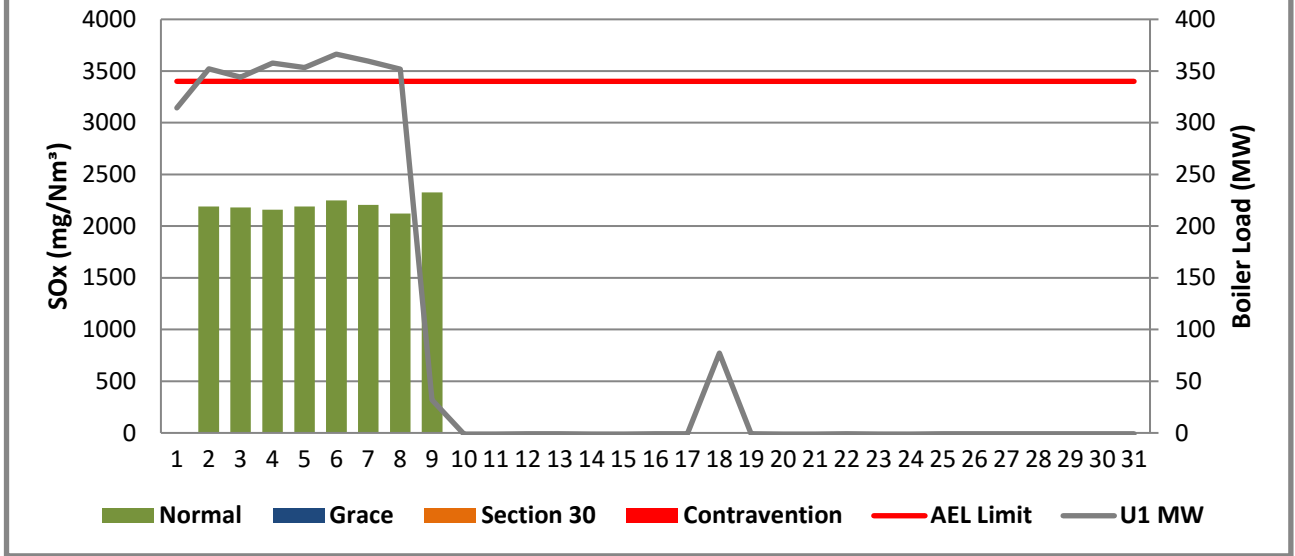


Figure 8: Tutuka Unit 2 SOx Emissions - April 2022

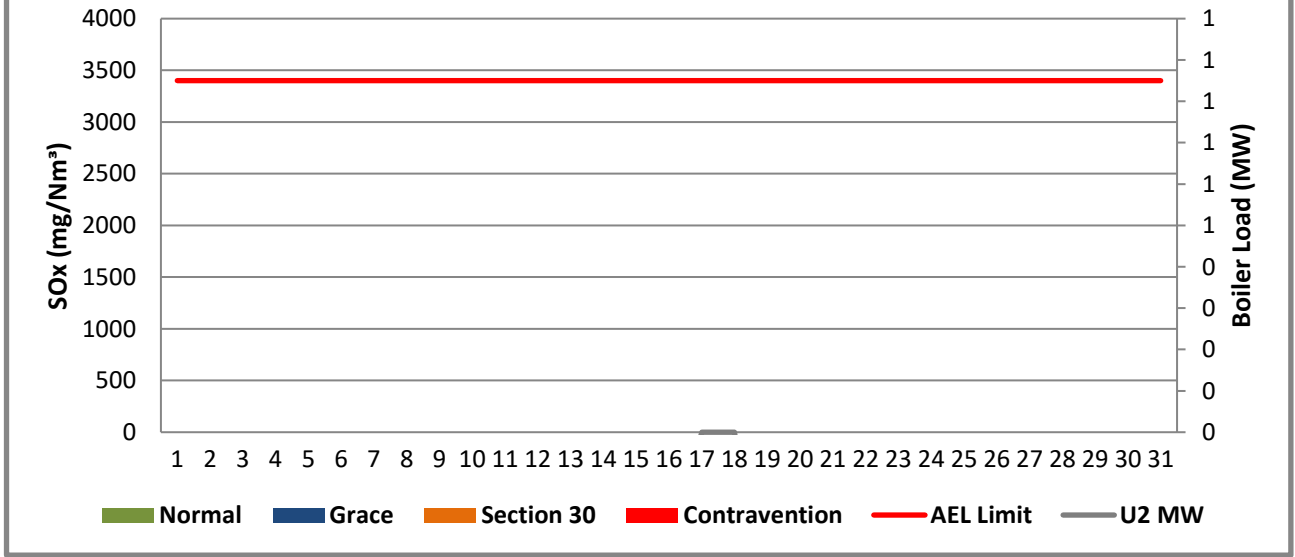


Figure 9: Tutuka Unit 3 SOx Emissions - April 2022

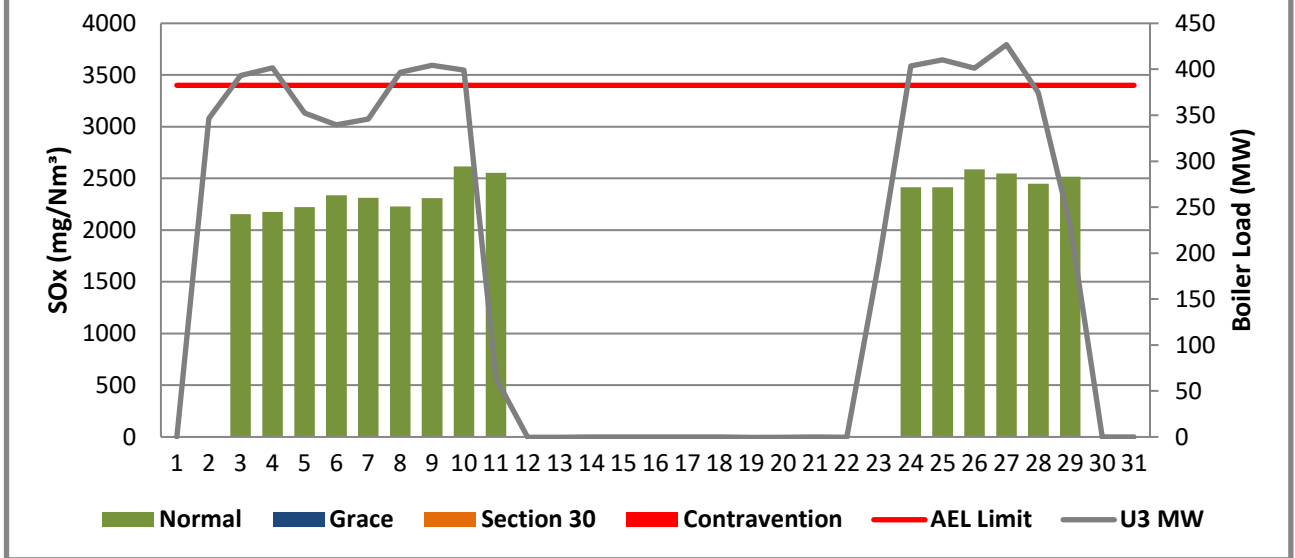


Figure 10: Tutuka Unit 4 SOx Emissions - April 2022

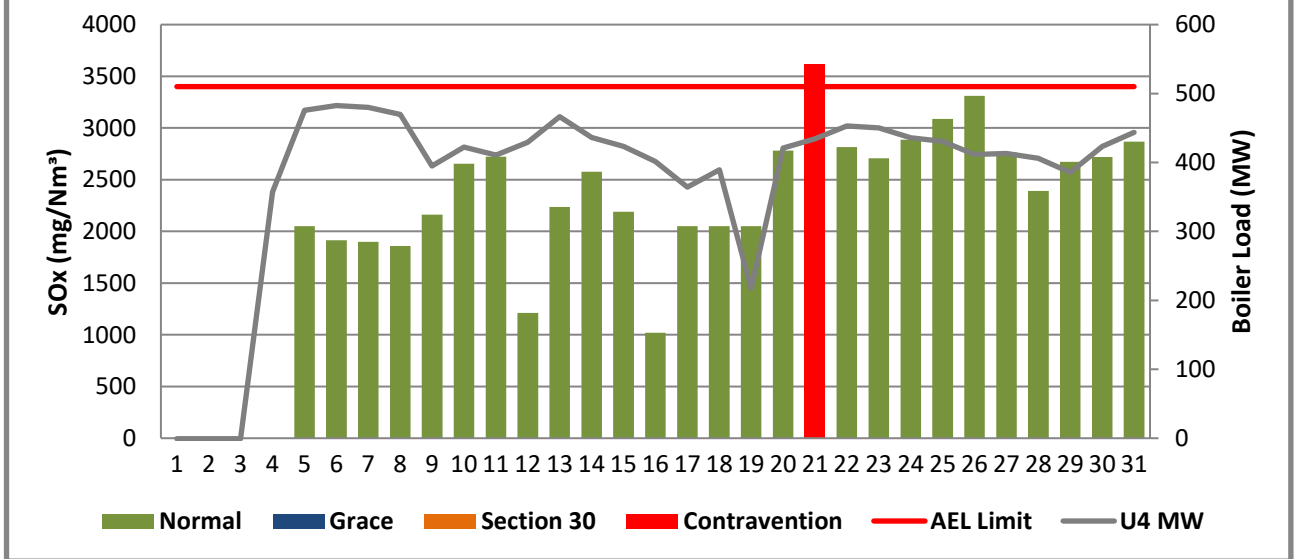


Figure 11: Tutuka Unit 5 SOx Emissions - April 2022

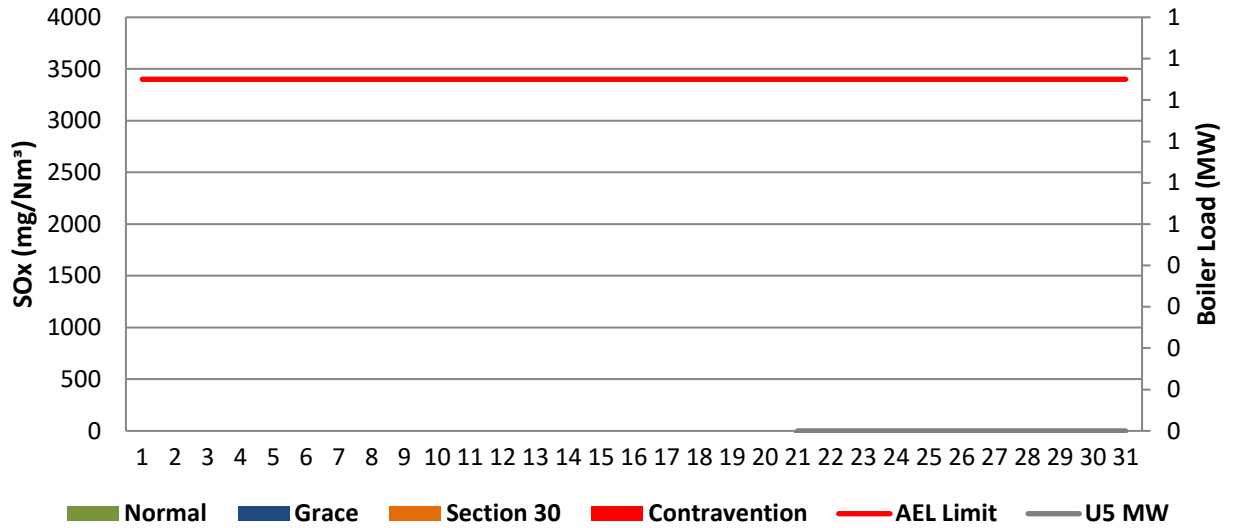


Figure 12: Tutuka Unit 6 SOx Emissions - April 2022

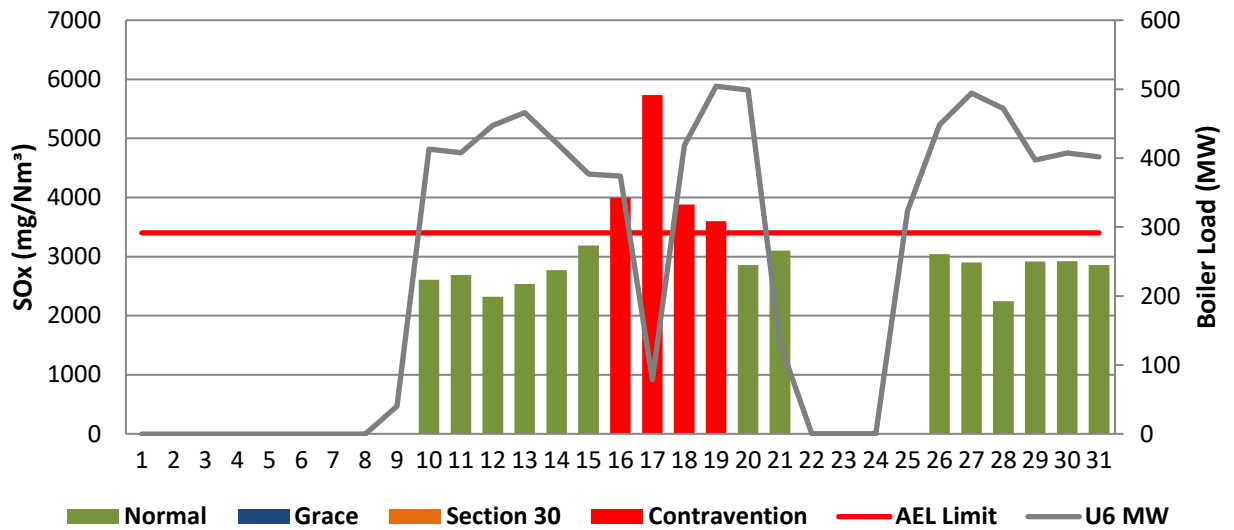


Figure 13: Tutuka Unit 1 NOx Emissions - April 2022

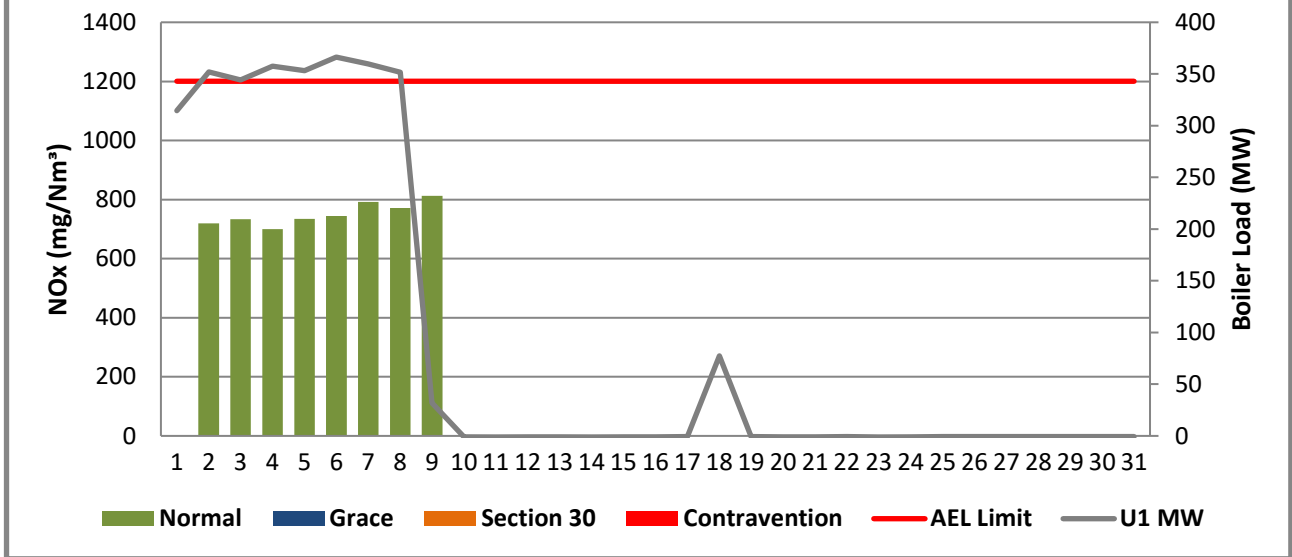


Figure 14: Tutuka Unit 2 NOx Emissions - April 2022

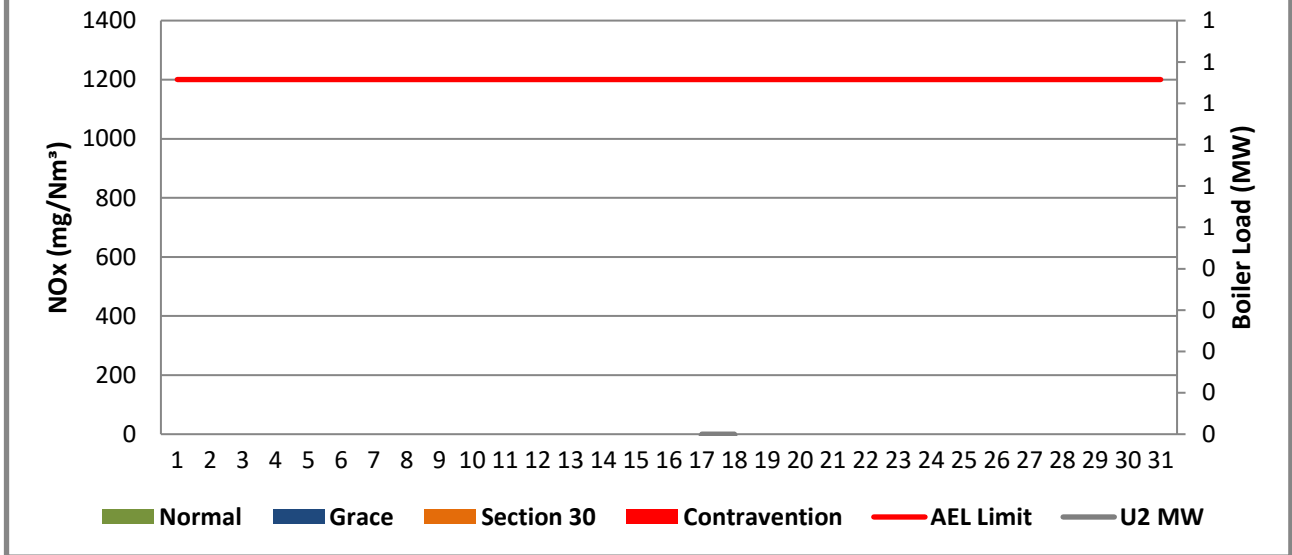


Figure 15: Tutuka Unit 3 NOx Emissions - April 2022

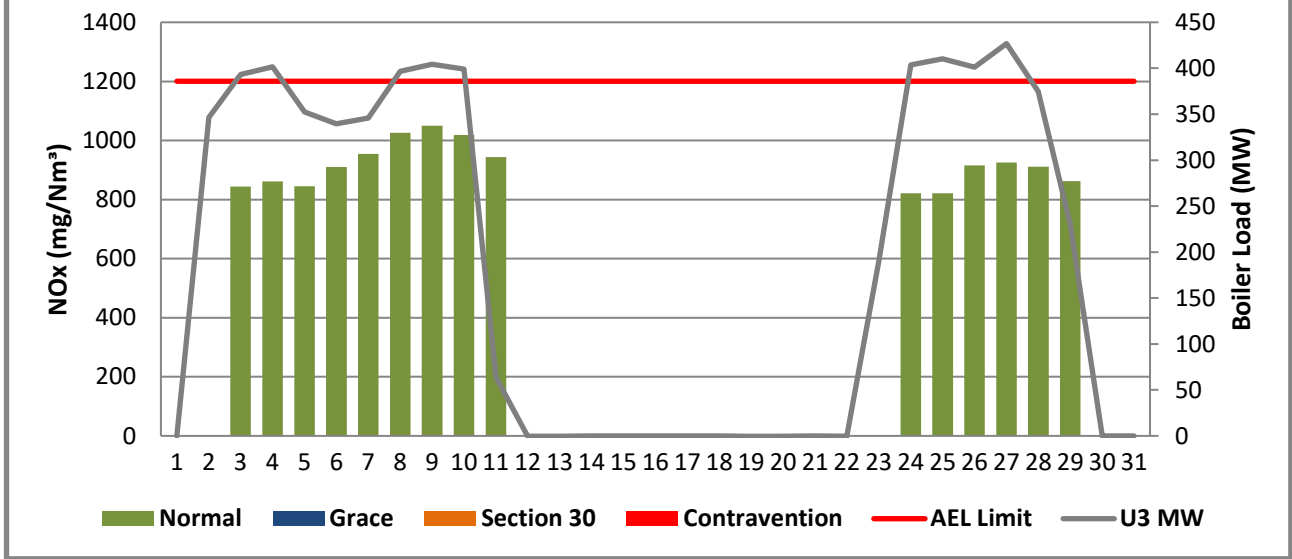


Figure 16: Tutuka Unit 4 NOx Emissions - April 2022

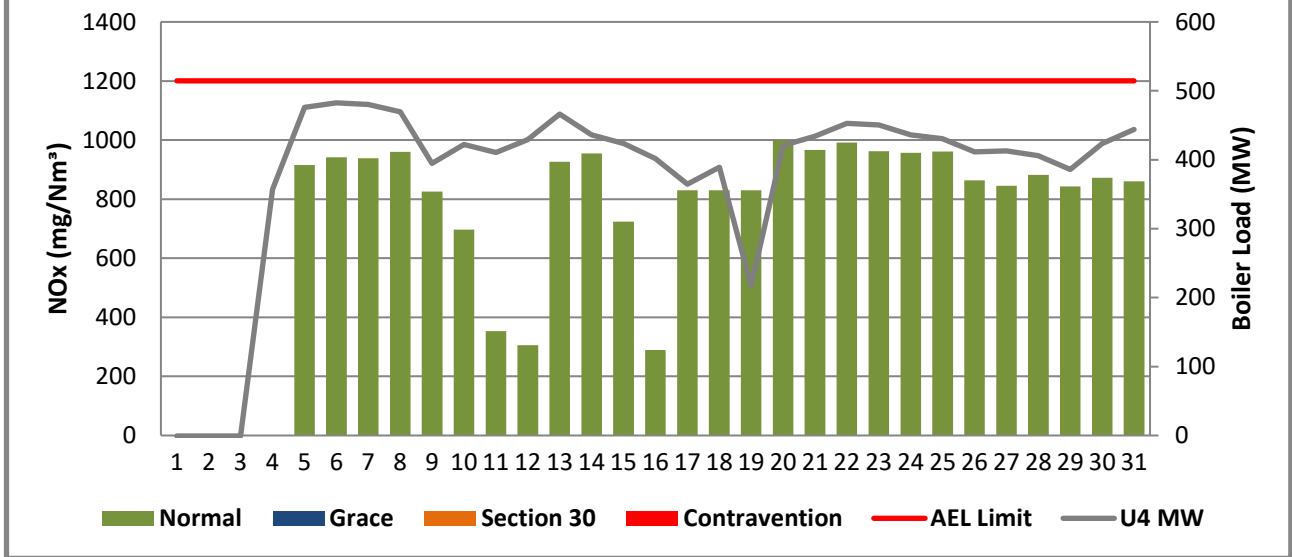


Figure 17: Tutuka Unit 5 NOx Emissions - April 2022

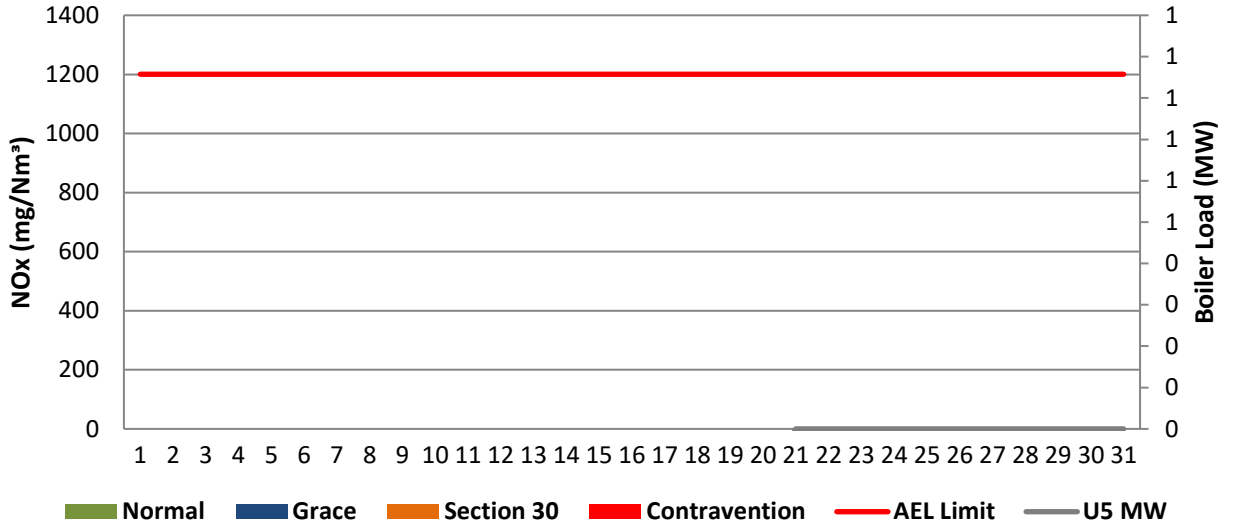
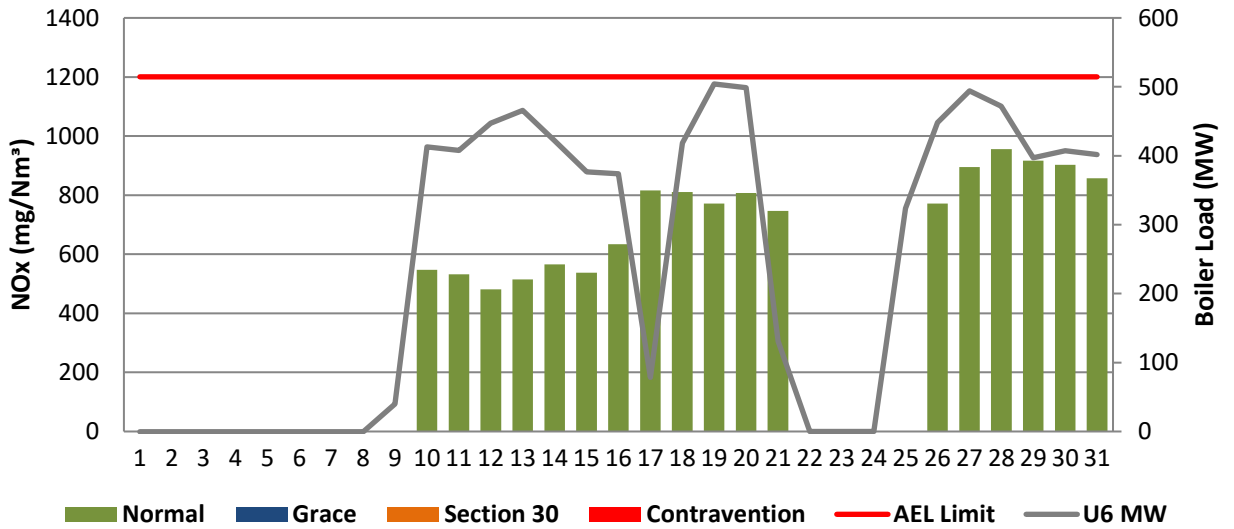


Figure 18: Tutuka Unit 6 NOx Emissions - April 2022

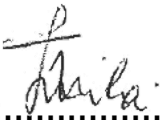
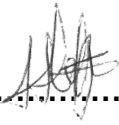



7. COMPLAINTS REGISTER

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 April 2022					

For more information or enquiries contact the Tutuka environmental team.

Yours Sincerely

<p>Compiled by: Xoli Jila SENIOR ADVISOR ENVIRONMENTAL</p> <p>Signature: </p> <p>Date : 08 June 2022</p>	<p>Supported By: Mike Molepo SENIOR CHEMIST :BOILER ENGINEERING</p> <p>Signature: </p> <p>Date : 08/06/2022</p>
<p>Approved by: Sello Mametja GENERAL MANAGER: TUTUKA POWER STATION</p> <p>Signature: </p> <p>Date: 2022/06/08</p>	