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Gert Sibande District Municipality
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ERMELO
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Date: 26 July 2022
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Dear Mr Hlanyane

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

The report presents monthly trends for each pollutant monitored from all the units, except unit 2 which has been out of service for the month of June 2022. There were PM exceedances recorded which fell outside the 48-hour grace period in units 1, 3, 4 and 6, these were due to challenges with the dust handling plant.

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Jun-2022
	Coal	Tons	1 200 000	380 126
	Fuel Oil	Tons	10 000	5044.74
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jun-2022
	Energy	GWh	2527.2	656.3
	Ash	Tons	350 000	101 190
	RE Ash	kg/MWh	not specified	2.30

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	20.800
Sulphur Content	%	0.6 TO >2.6	1.140
Ash Content	%	21 TO >33	26.620

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 Jun-2022
Unit 1	Electro Static Precipitators (ESP)	99.2%
Unit 2	Electro Static Precipitators (ESP)	
Unit 3	Electro Static Precipitators (ESP)	98.2%
Unit 4	Electro Static Precipitators (ESP)	93.7%
Unit 5	Electro Static Precipitators (ESP)	95.7%
Unit 6	Electro Static Precipitators (ESP)	99.4%

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

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	CO ₂	O ₂
Unit 1	97.6	97.2	97.2	97.2	97.2
Unit 2					
Unit 3	12.3	86.7	86.0	86.1	88.0
Unit 4	71.9	99.6	68.3	99.4	99.4
Unit 5	30.8	99.5	99.5	87.0	87.8
Unit 6	96.0	99.1	99.1	96.8	96.8

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)	CO ₂ (tons)
Unit 1	209.7	2 129	690	194 505
Unit 2	0.0	0	0	0
Unit 3	451.2	3 522	1 206	341 857
Unit 4	590.9	3 659	1 452	348 298
Unit 5	59.7	138	63	67 061
Unit 6	165.3	1 161	407	137 430
SUM	1 476.80	10 609	3 818	1 089 151

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	16	6	0	0	6	222.1
Unit 2	0	0	0	0	0	
Unit 3	3	23	0	0	23	314.0
Unit 4	13	18	0	0	18	341.6
Unit 5	0	4	0	0	4	894.4
Unit 6	6	6	0	0	6	339.8
SUM	38	57	0	0	57	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SO _x (mg/Nm ³)
Unit 1	22	0	0	0	0	2 327.6
Unit 2	0	0	0	0	0	
Unit 3	26	0	0	0	0	2 464.1
Unit 4	31	0	0	0	0	2 134.0
Unit 5	4	0	0	0	0	2 169.9
Unit 6	12	0	0	0	0	2 395.5
SUM	95	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - June 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
Unit 1	22	0	0	0	0	759.4
Unit 2	0	0	0	0	0	
Unit 3	26	0	0	0	0	844.8
Unit 4	31	0	0	0	0	839.4
Unit 5	4	0	0	0	0	946.8
Unit 6	12	0	0	0	0	866.3
SUM	95	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

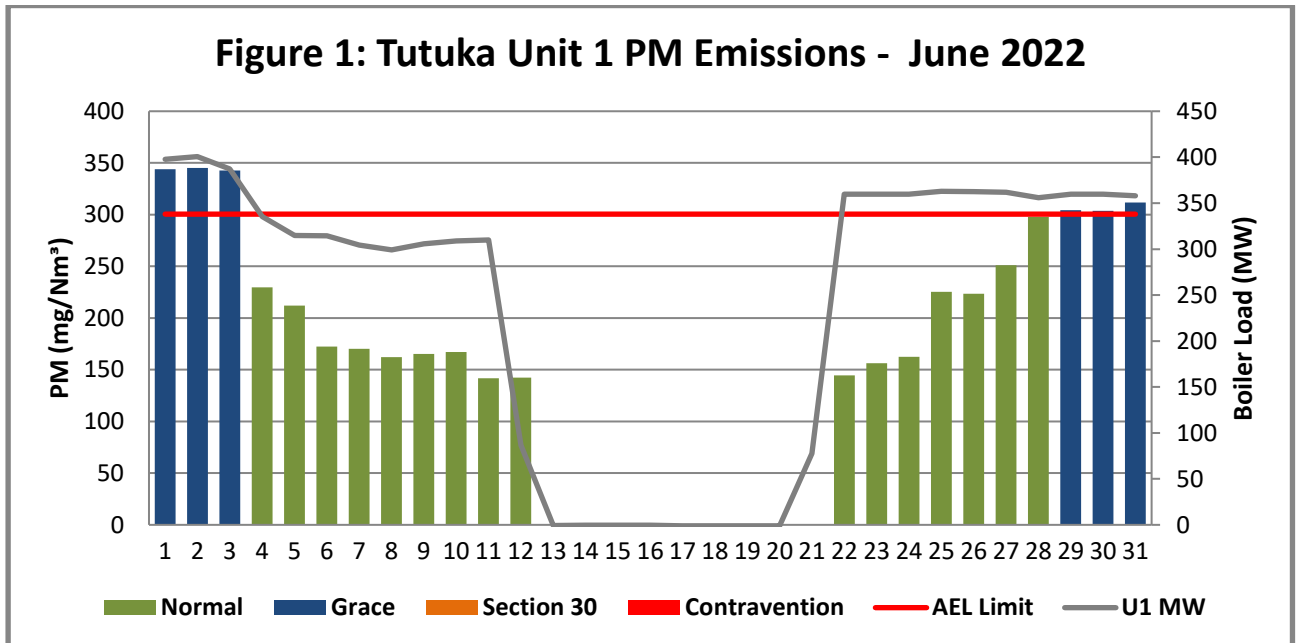


Figure 2: Tutuka Unit 2 PM Emissions - June 2022

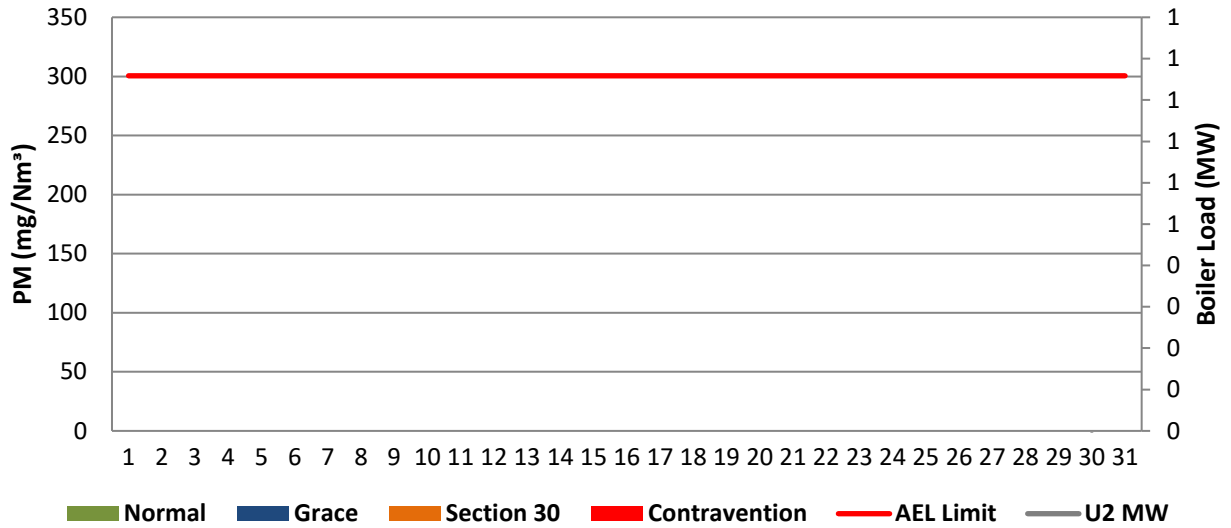


Figure 3: Tutuka Unit 3 PM Emissions - June 2022

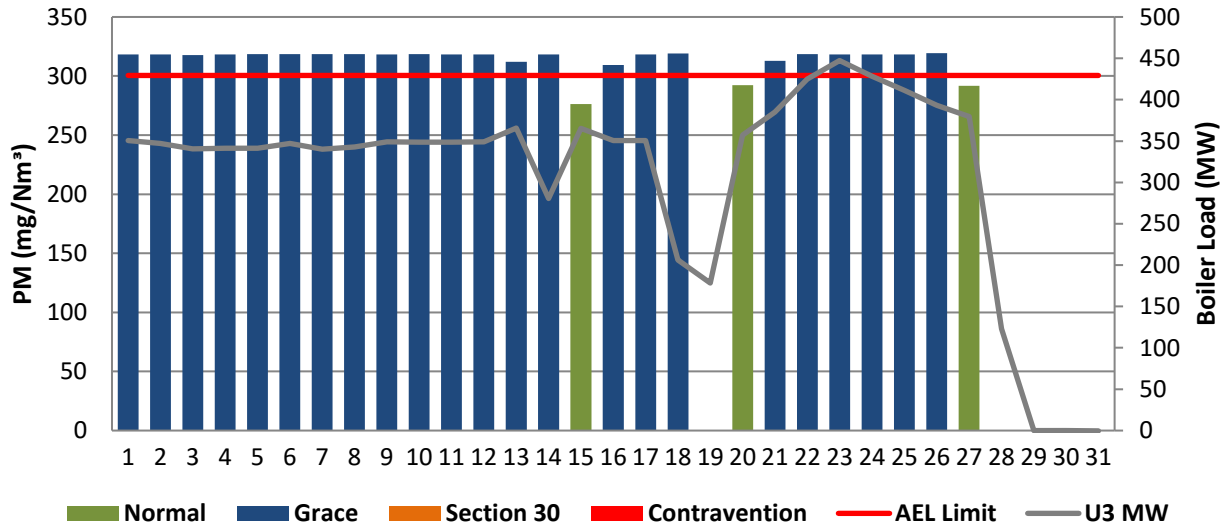


Figure 4: Tutuka Unit 4 PM Emissions - June 2022

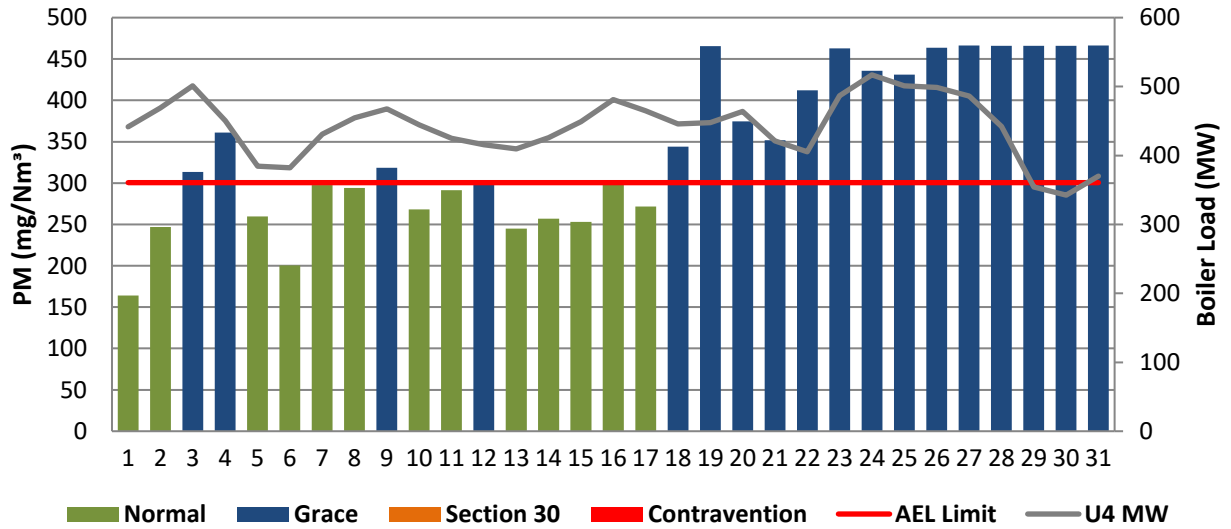


Figure 5: Tutuka Unit 5 PM Emissions - June 2022

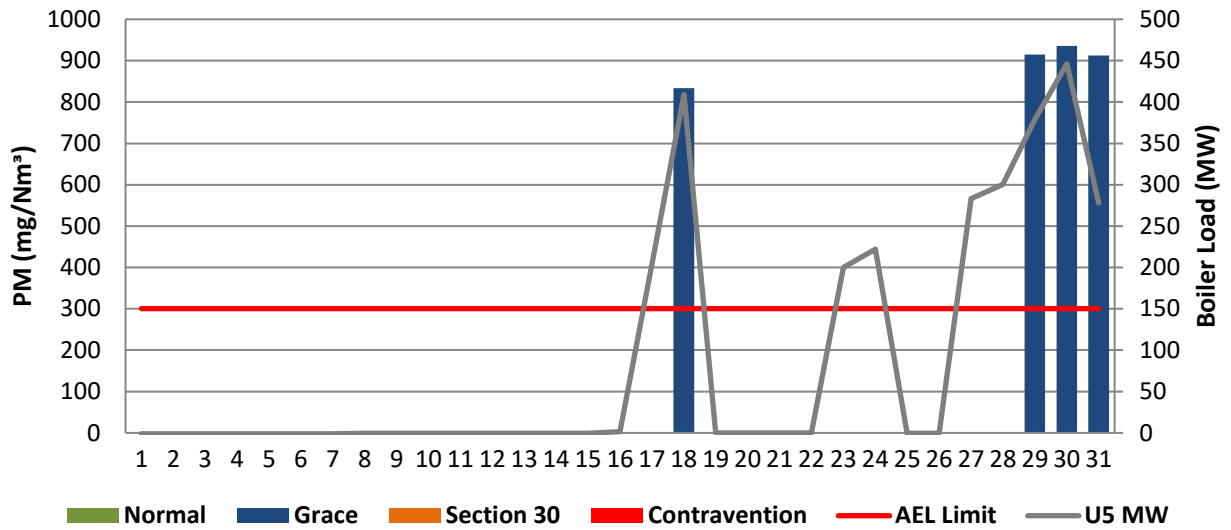


Figure 6: Tutuka Unit 6 PM Emissions - June 2022

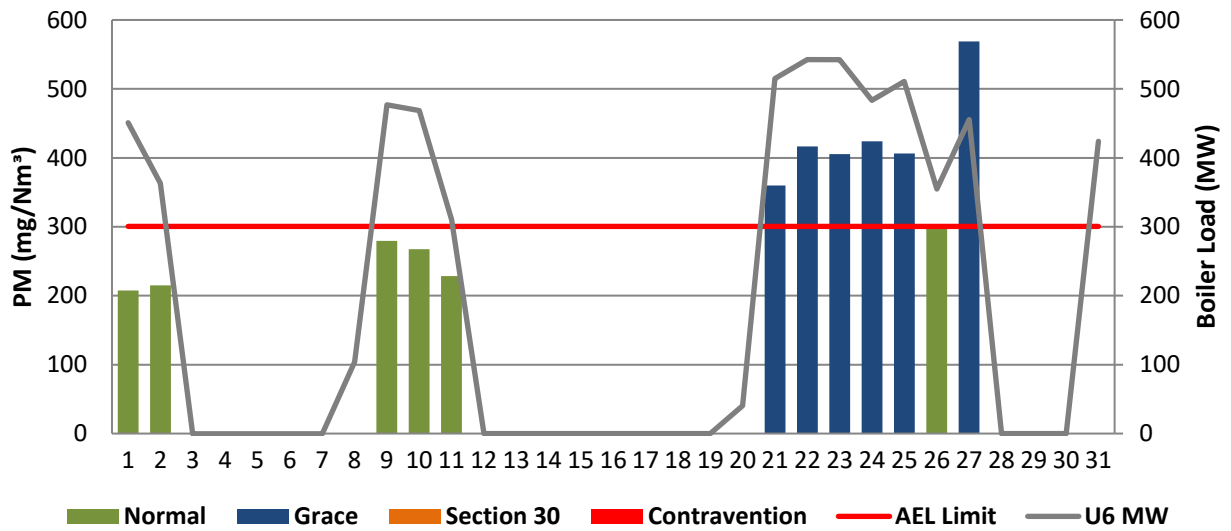


Figure 7: Tutuka Unit 1 SOx Emissions - June 2022

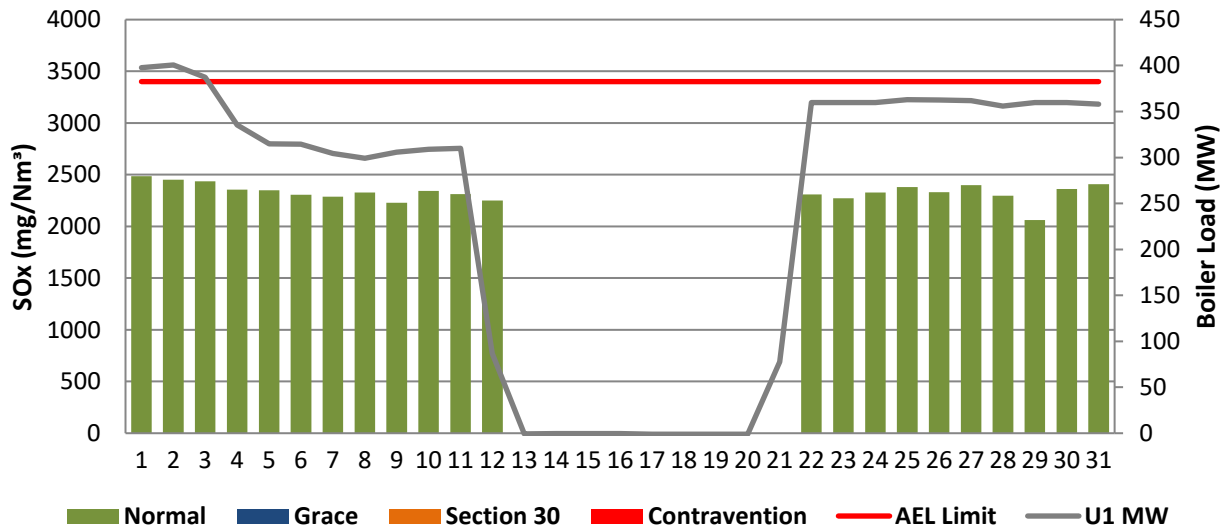


Figure 8: Tutuka Unit 2 SOx Emissions - June 2022

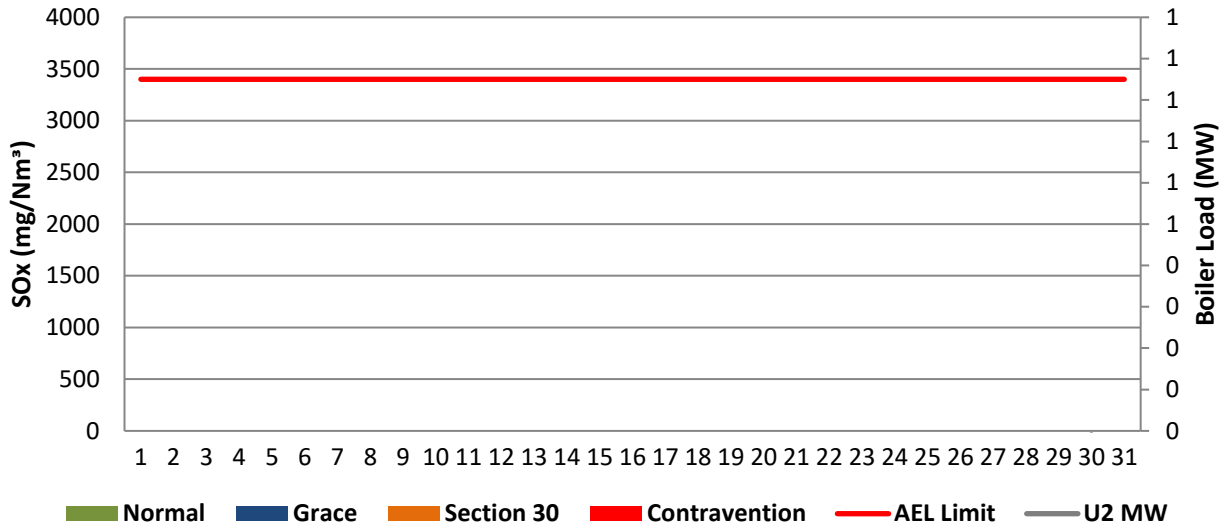


Figure 9: Tutuka Unit 3 SOx Emissions - June 2022

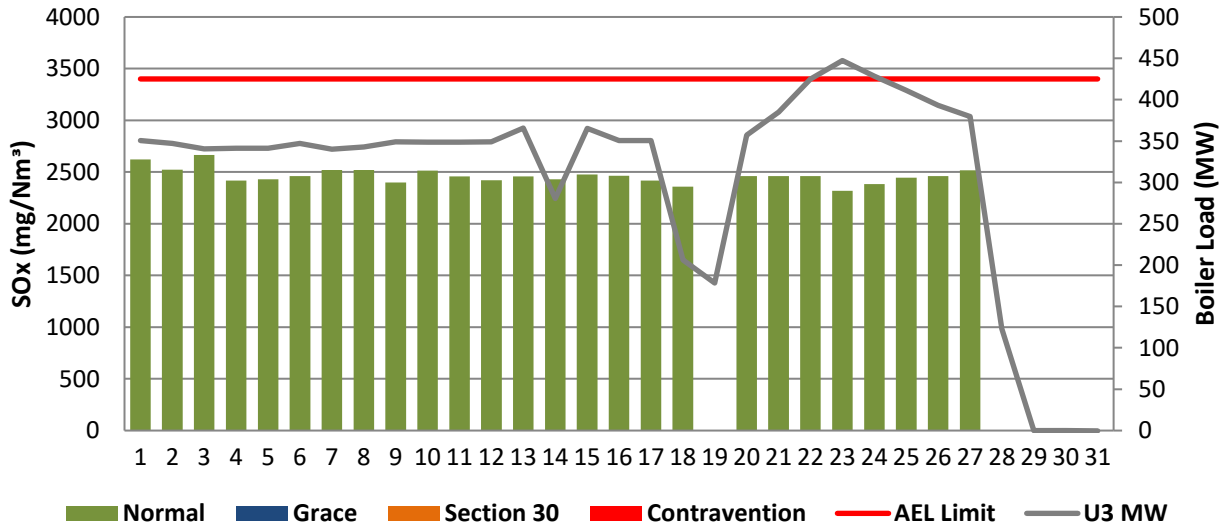


Figure 10: Tutuka Unit 4 SOx Emissions - June 2022

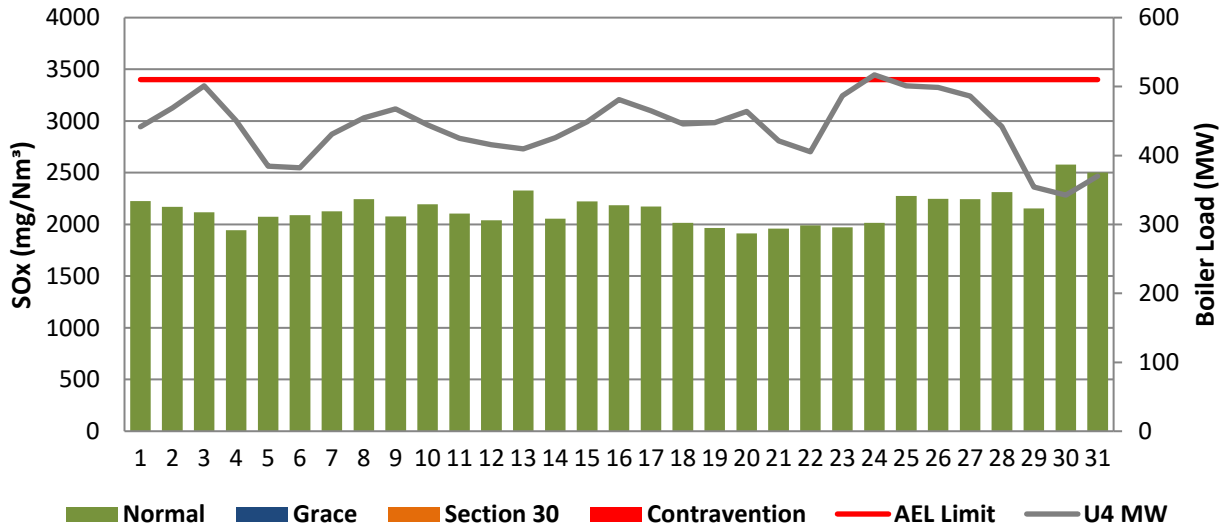


Figure 11: Tutuka Unit 5 SOx Emissions - June 2022

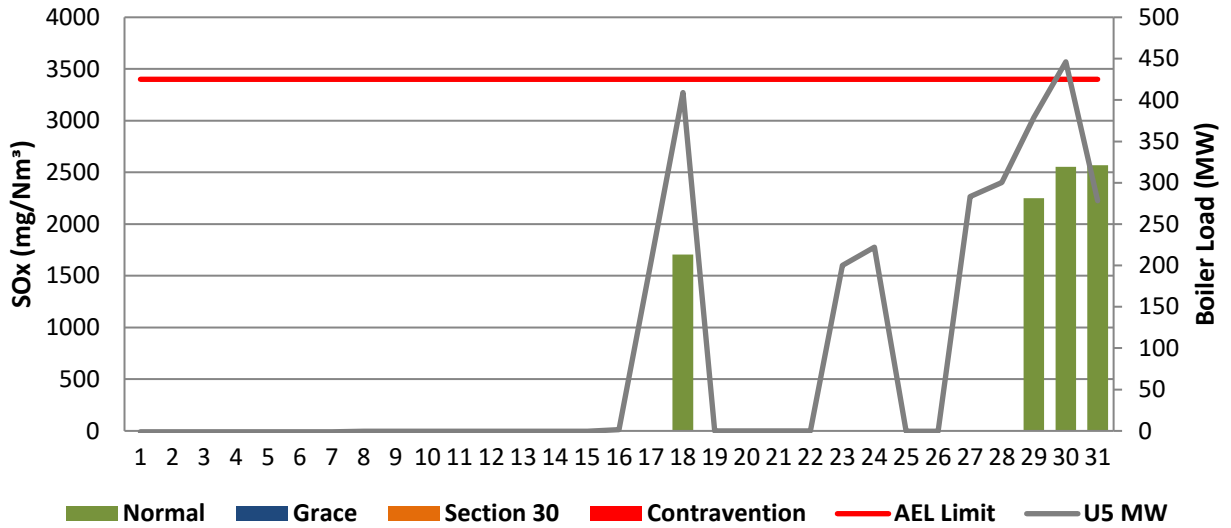


Figure 12: Tutuka Unit 6 SOx Emissions - June 2022

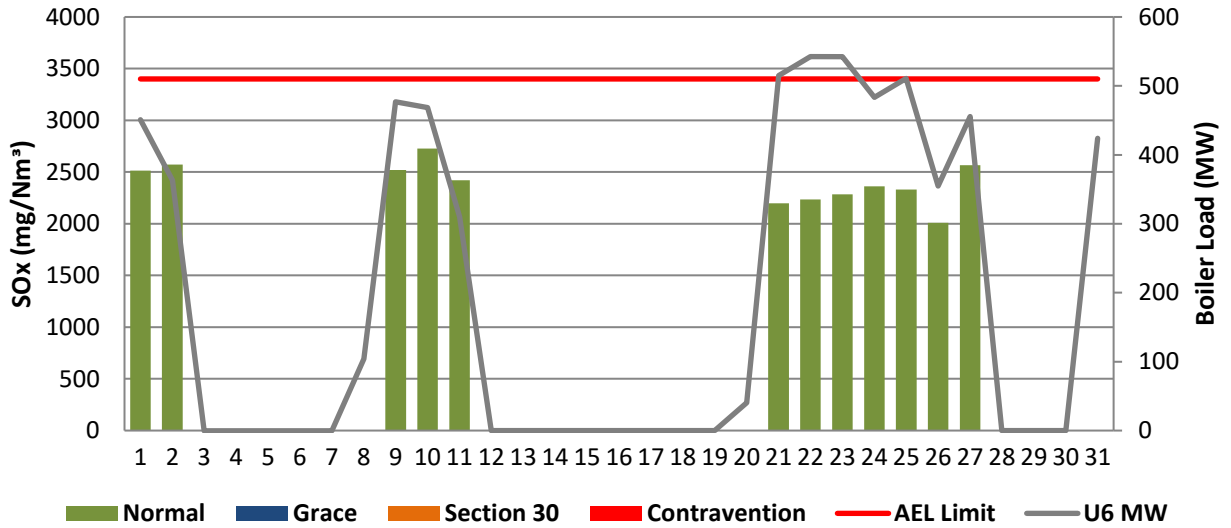


Figure 13: Tutuka Unit 1 NOx Emissions - June 2022

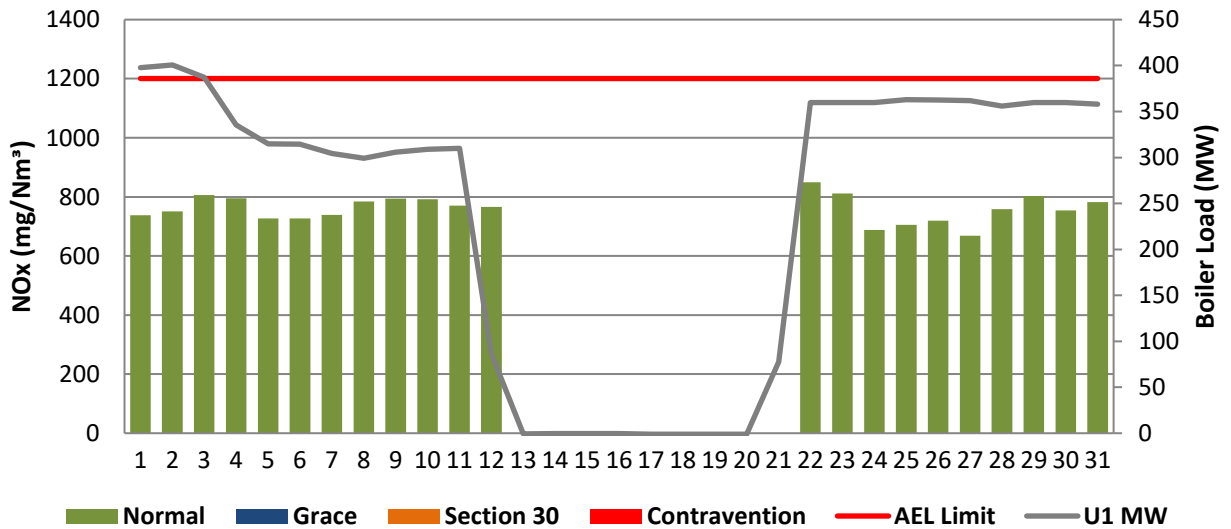


Figure 14: Tutuka Unit 2 NOx Emissions - June 2022

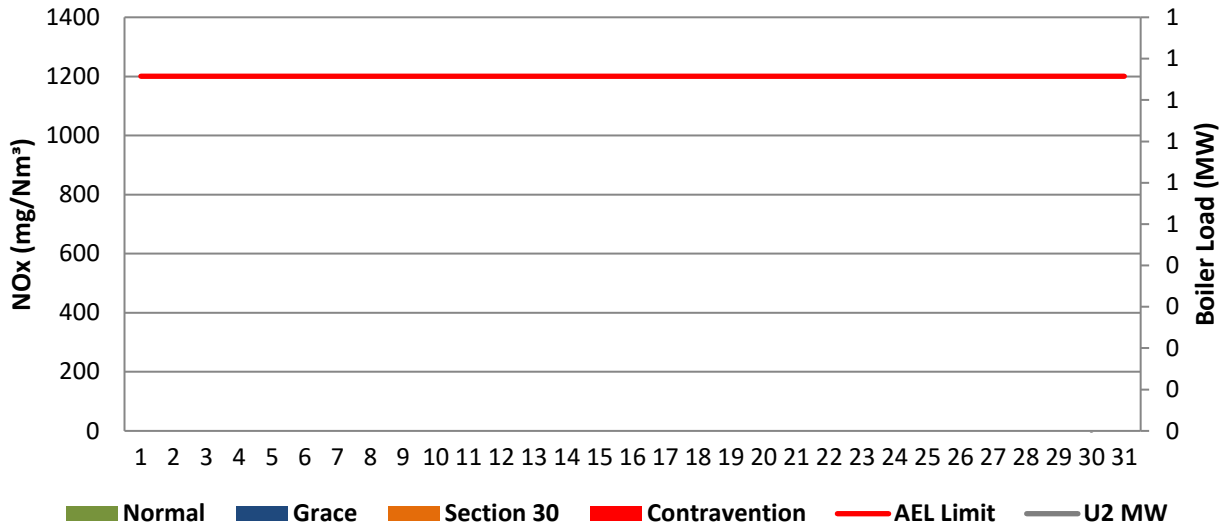


Figure 15: Tutuka Unit 3 NOx Emissions - June 2022

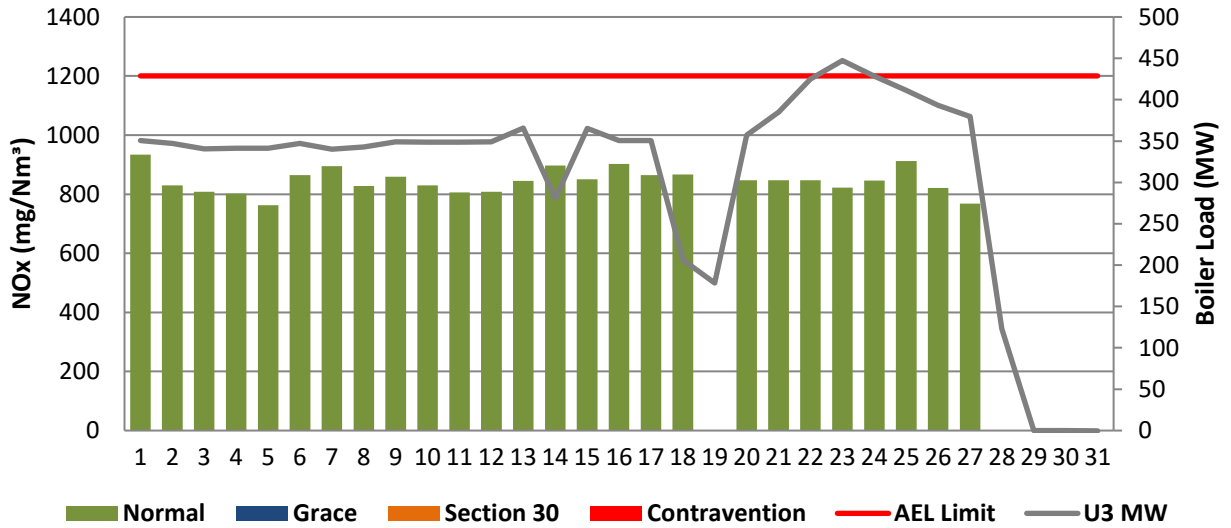


Figure 16: Tutuka Unit 4 NOx Emissions - June 2022

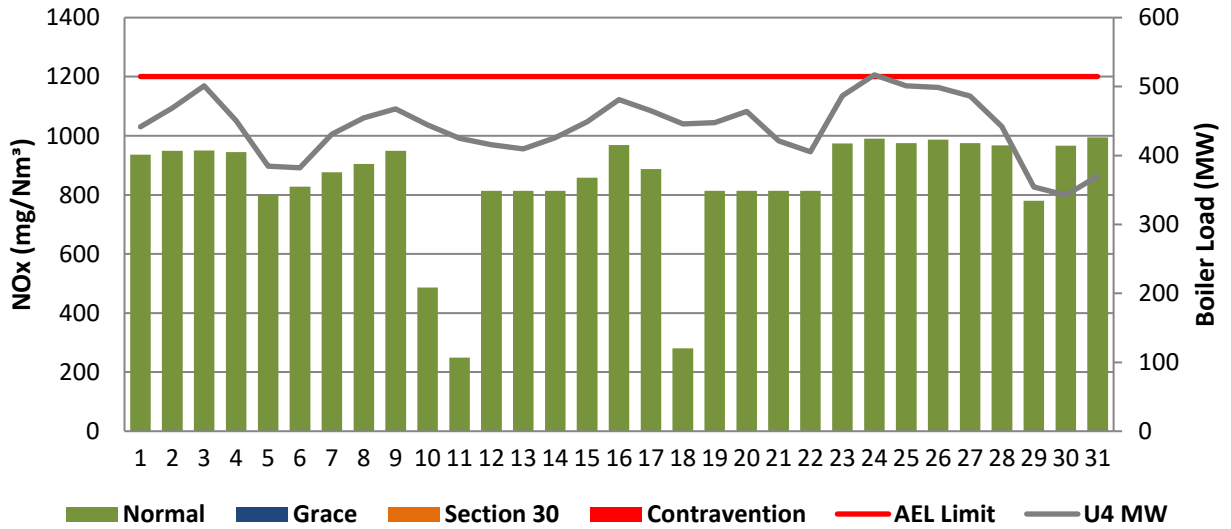
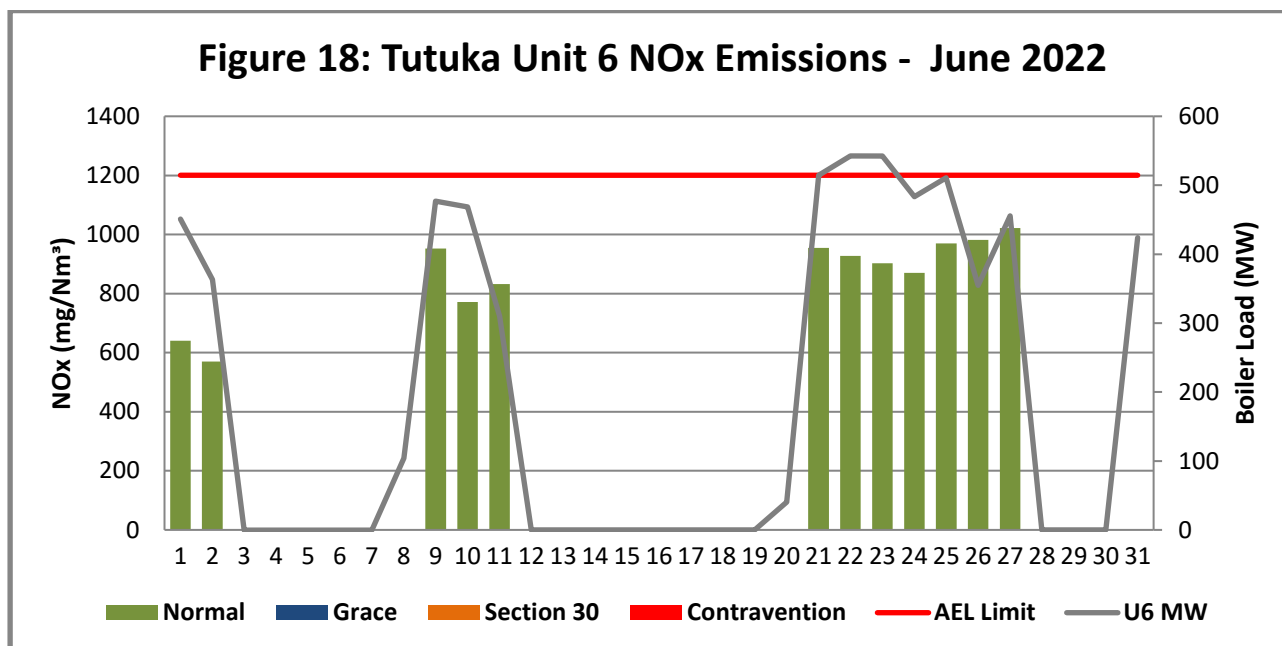


Figure 18: Tutuka Unit 6 NOx Emissions - June 2022



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 June 2022					

8. LIGHT UP INFORMATION

PM Start-up information for the month of June 2022

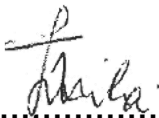
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Number of Hot Starts (Off-Load<30Hrs)	0	0	0	0	0	0
Number of Cold Starts (Off-Load>30hrs)	1	0	2	0	0	2

For more information or enquiries contact the Tutuka environmental team.

Yours Sincerely

Compiled by: Xoli Jila

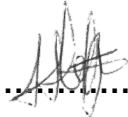
**SENIOR ADVISOR
ENVIRONMENTAL**

Signature: 

Date : 26 July 2022

Supported By: Mike Molepo

**SENIOR CHEMIST: BOILER
ENGINEERING**

Signature: 

Date : 26/07/2022

Approved by: Sello Mametja
GENERAL MANAGER: TUTUKA POWER STATION

Signature: 

Date: 2022/07/26