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Date:  
 12 July 2023

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Dear Mr Hlanyane

### TUTUKA POWER STATION MONTHLY REPORT FOR JUNE 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 June 2023

The report presents monthly trends for each monitored pollutant. Units 1, 2 and 6 were offload for the month of June 2023. There were only 2 PM exceedances which fell within the 48 hour period, incurred in units 4 and 5 during start-up and shut down

#### 1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Jun-2023
	Coal	Tons	1 200 000	397 015
	Fuel Oil	Tons	10 000	7323.73
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Indicative Production Rate Jun-2023
	Energy	GWh	2 527	676.8
	Ash	Tons	350 000	109 775
	RE Ash	kg/MWh	not specified	1.32



## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	20.560
Sulphur Content	%	0.6 TO >2.6	1.050
Ash Content	%	21 TO >33	27.650

## 3 EMISSION LIMITS (mg/Nm<sup>3</sup>)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO <sub>x</sub>
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 Jun-2023
Unit 1	Electro Static Precipitators (ESP)	Unit OFF
Unit 2	Electro Static Precipitators (ESP)	Unit OFF
Unit 3	Electro Static Precipitators (ESP)	99.2%
Unit 4	Electro Static Precipitators (ESP)	99.1%
Unit 5	Electro Static Precipitators (ESP)	98.9%
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 <sub>2</sub>	NO	O <sub>2</sub>
Unit 1	OFF	OFF	OFF	OFF
Unit 2	OFF	OFF	OFF	OFF
Unit 3	99.6	0.0	0.0	0.0
Unit 4	100.0	0.0	85.3	51.3
Unit 5	100.0	0.0	36.8	99.2
Unit 6	OFF	OFF	OFF	OFF

Note:

1. There were challenges with the maintenance contract for gas monitors, hence maintenance of monitors was not conducted during month of June 2023. This affected the monitor reliability for Sulphur Dioxide, Oxygen and Noxious gases in units 3, 4 and 5.

## 6 EMISSION PERFORMANCE

Table 6 1. Monthly tonnages for the month of June-2023

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	OFF	OFF	OFF
Unit 2	OFF	OFF	OFF
Unit 3	356 9	4 186	1 531
Unit 4	339 0	3 296	801
Unit 5	187 3	1 464	596
Unit 6	OFF	OFF	OFF
<b>SUM</b>	<b>883 2</b>	<b>8 946</b>	<b>2 928</b>

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

Associate d Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
Unit 1	OFF	OFF	OFF	OFF	OFF	OFF
Unit 2	OFF	OFF	OFF	OFF	OFF	OFF
Unit 3	29	0	0	0	0	200 1
Unit 4	24	1	0	0	1	249 9
Unit 5	13	1	0	0	1	227 2
Unit 6	OFF	OFF	OFF	OFF	OFF	OFF
<b>SUM</b>	<b>66</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	

Table 6 3 Operating days in compliance to SO<sub>2</sub> AEL Limit - June 2023

Associate d Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
Unit 1	OFF	OFF	OFF	OFF	OFF	OFF
Unit 2	OFF	OFF	OFF	OFF	OFF	OFF
Unit 3	30	0	0	0	0	2 371 3
Unit 4	26	0	0	0	0	2 359 1
Unit 5	17	0	0	0	0	1 903 7
Unit 6	OFF	OFF	OFF	OFF	OFF	OFF
<b>SUM</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6 4: Operating days in compliance to NO<sub>x</sub> AEL Limit - June 2023

Associated Unit/Stack	Normal	Grac e	Section 30	Contraventio n	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
Unit 1	OFF	OFF	OFF	OFF	OFF	OFF
Unit 2	OFF	OFF	OFF	OFF	OFF	OFF
Unit 3	30	0	0	0	0	867 5
Unit 4	26	0	0	0	0	559 3
Unit 5	17	0	0	0	0	786 6
Unit 6	OFF	OFF	OFF	OFF	OFF	OFF
<b>SUM</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Note: NO<sub>x</sub> emissions is measured as NO in PPM. Final NO<sub>x</sub> value is expressed as total NO<sub>2</sub>



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

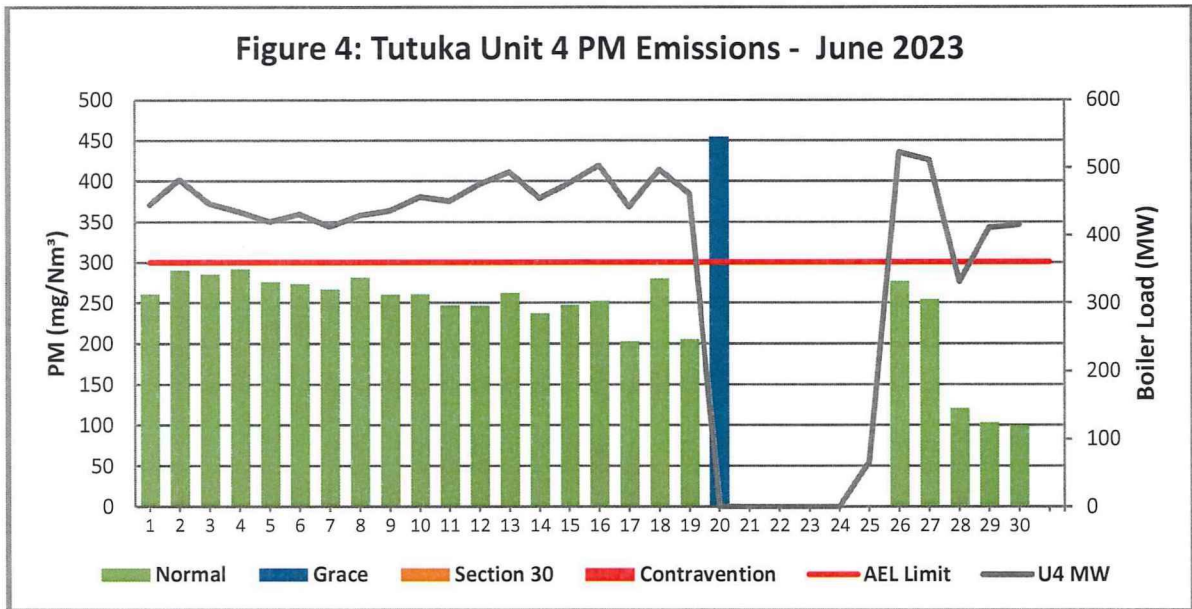
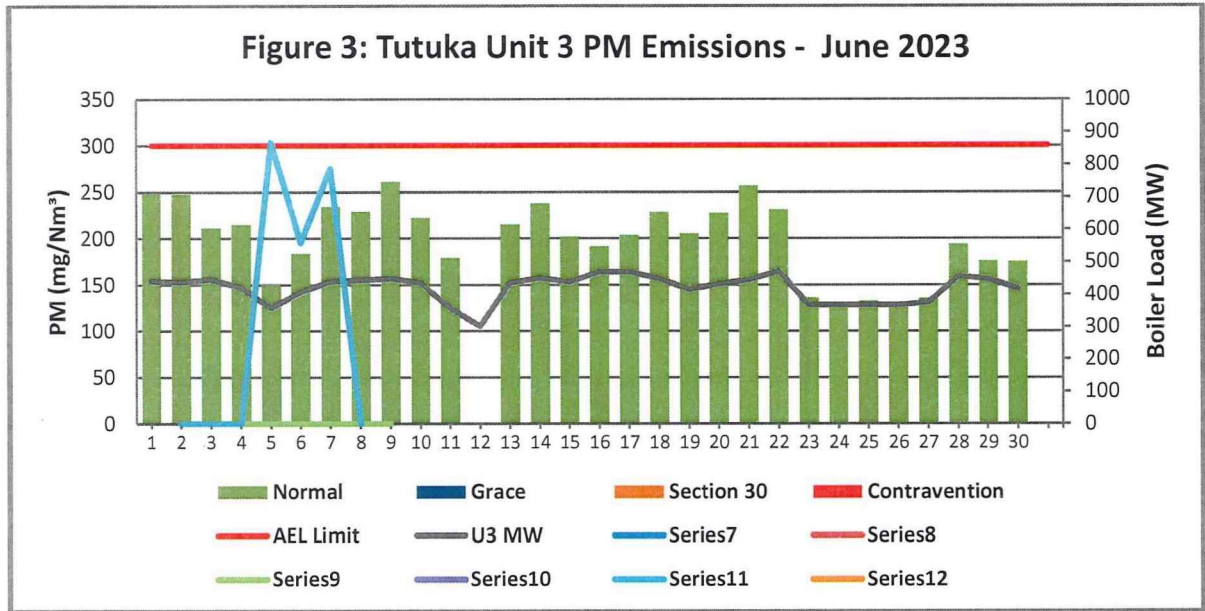


Figure 5: Tutuka Unit 5 PM Emissions - June 2023

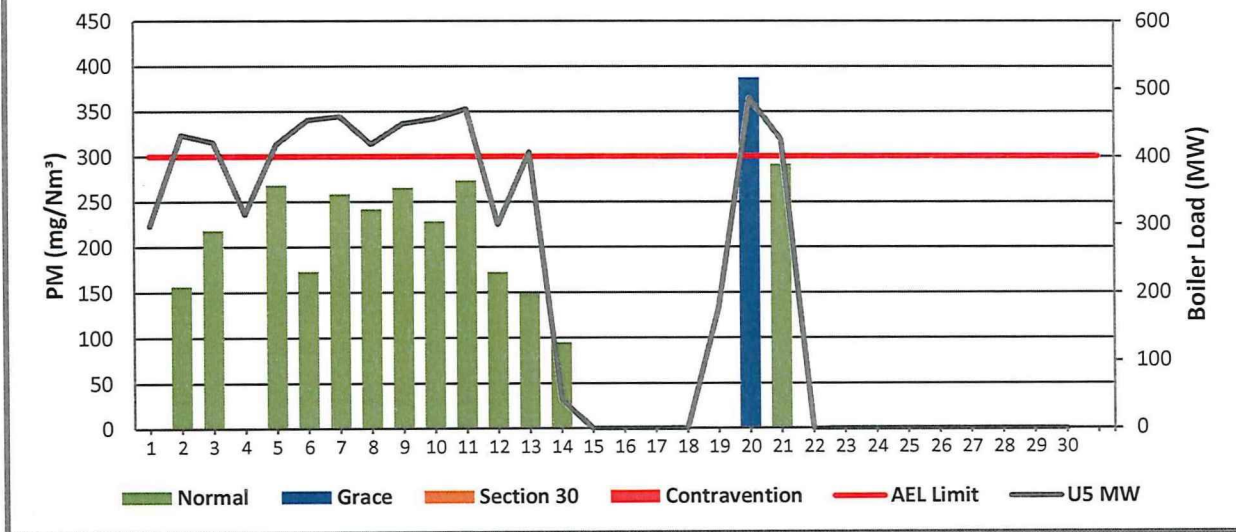


Figure 9: Tutuka Unit 3 SO<sub>2</sub> Emissions - June 2023

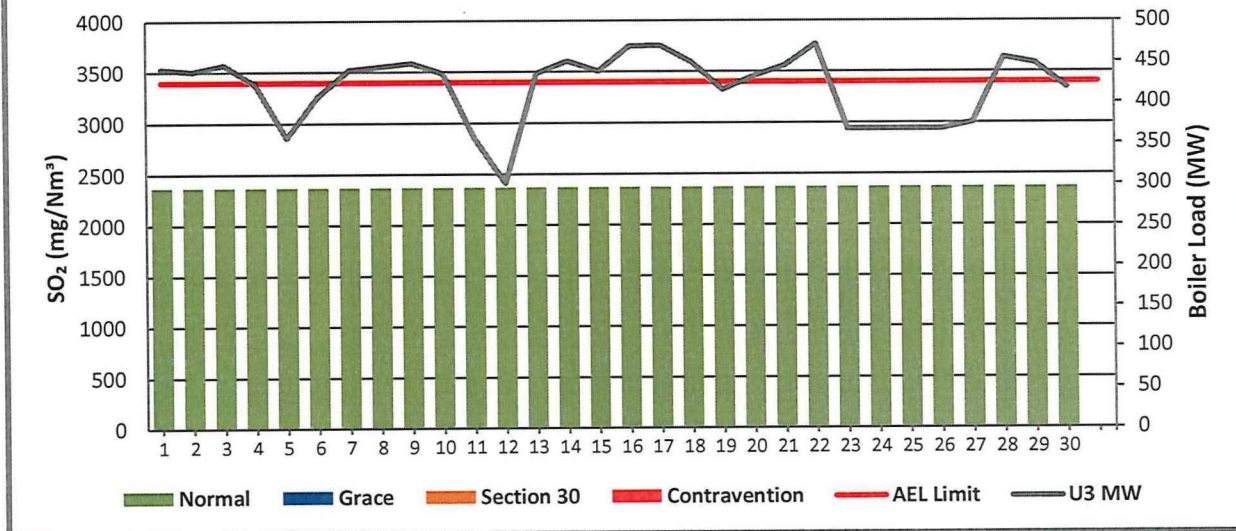


Figure 10: Tutuka Unit 4 SO<sub>2</sub> Emissions - June 2023

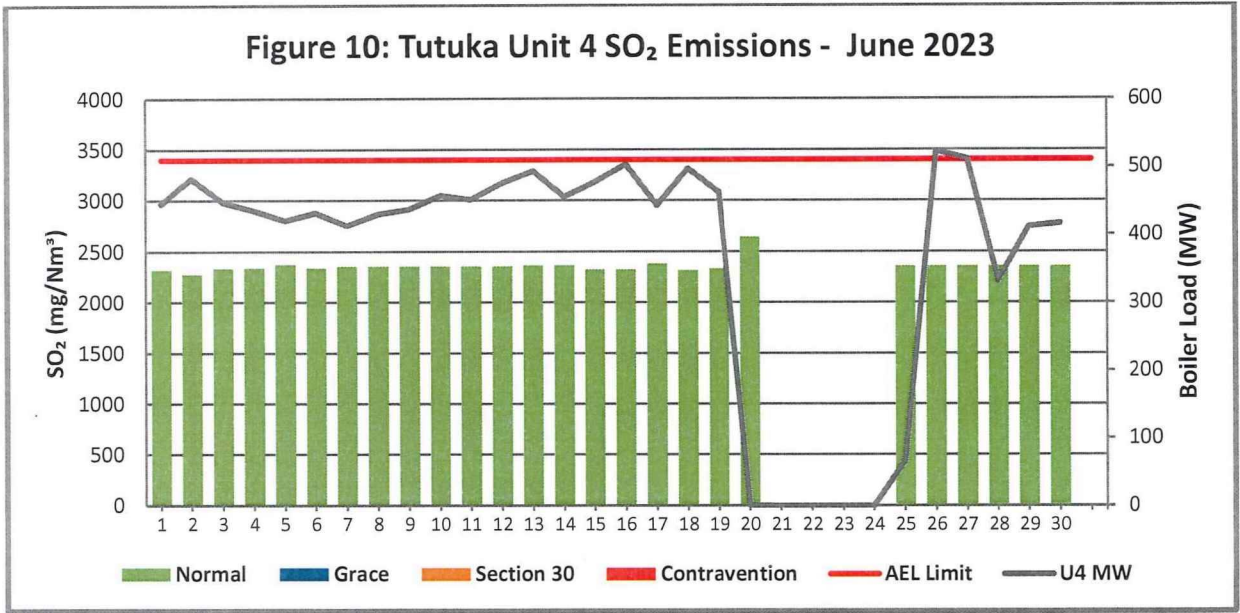


Figure 11: Tutuka Unit 5 SO<sub>2</sub> Emissions - June 2023

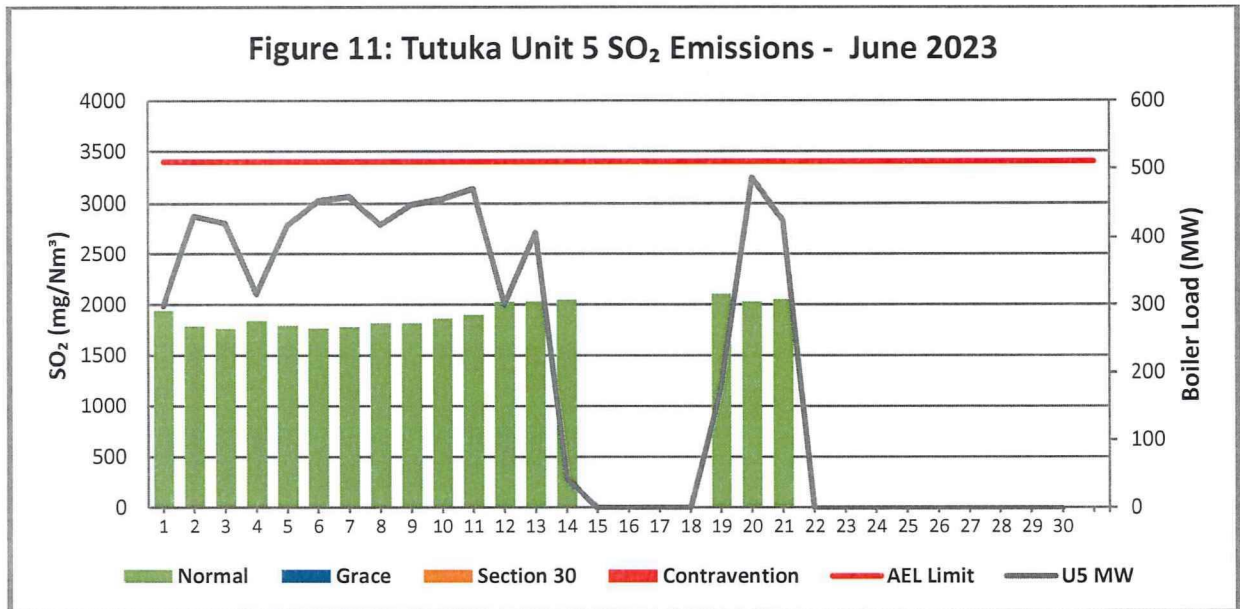




Figure 15: Tutuka Unit 3 NOx Emissions - June 2023

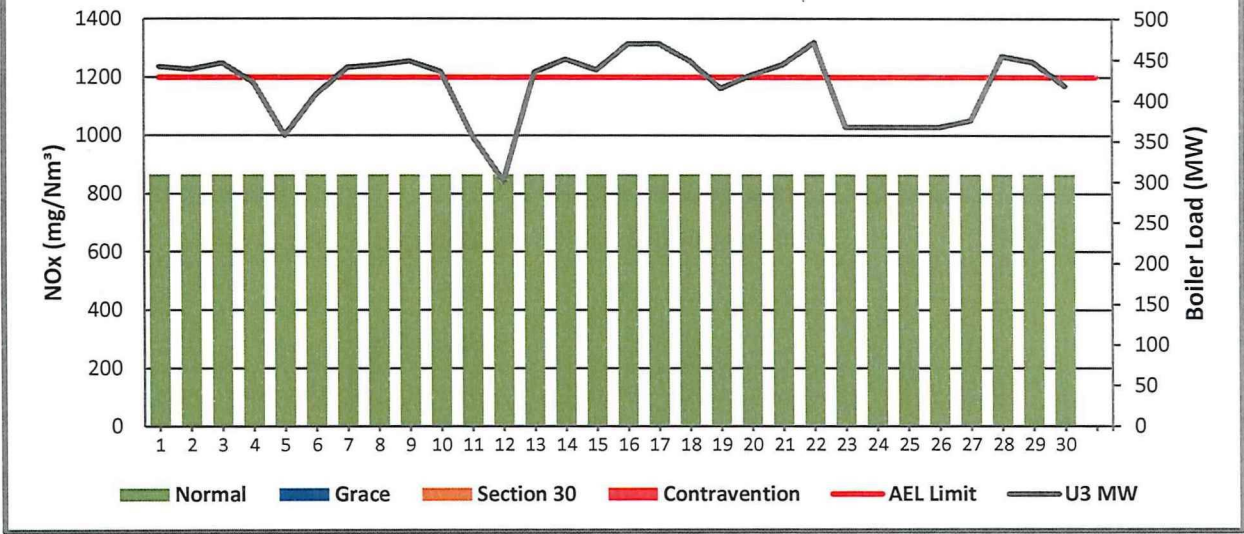


Figure 16: Tutuka Unit 4 NOx Emissions - June 2023

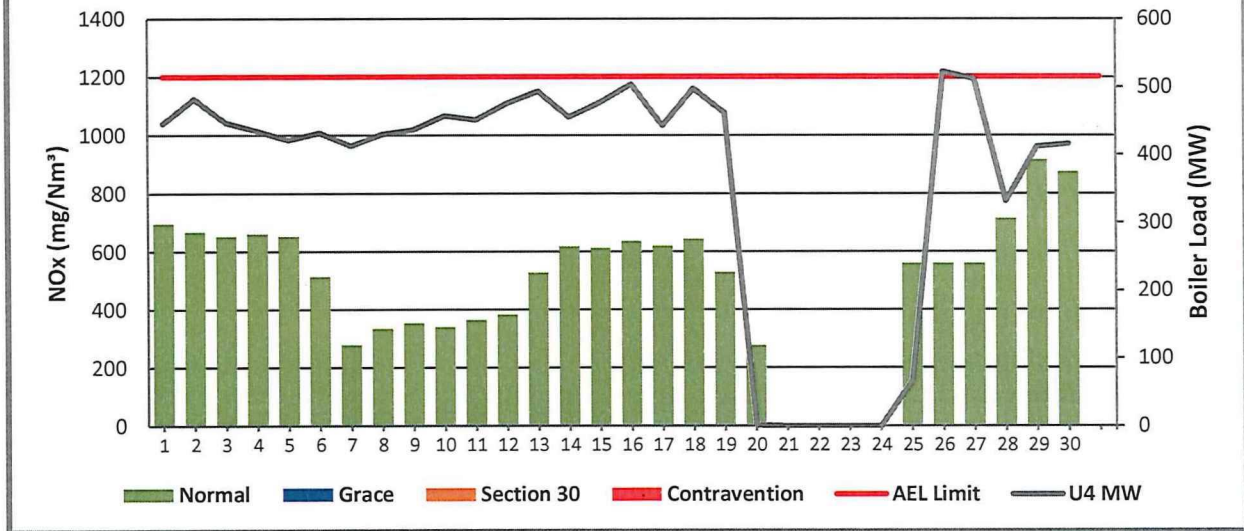
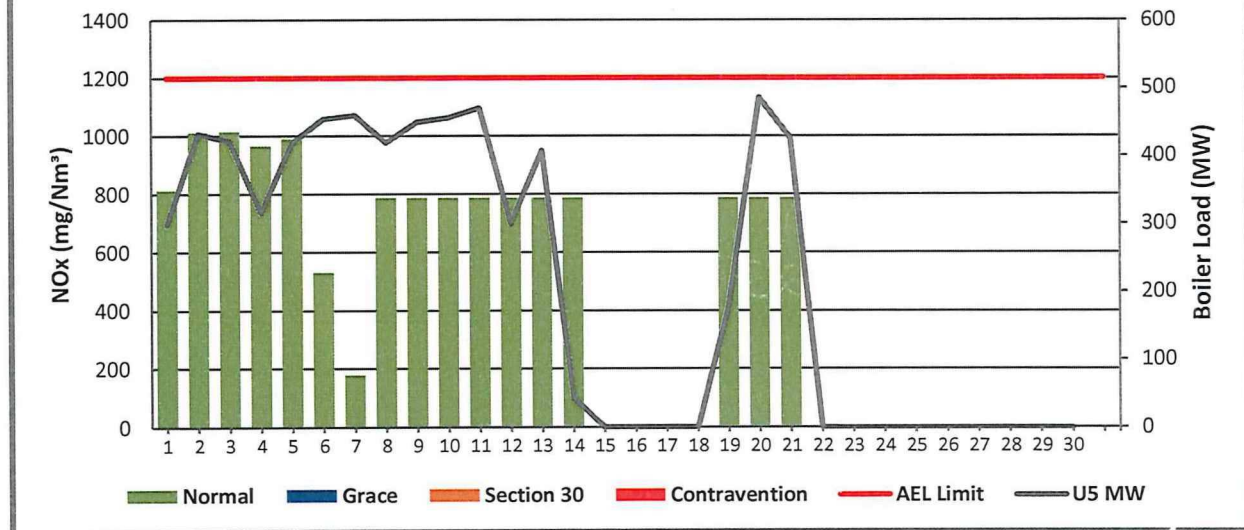


Figure 17: Tutuka Unit 5 NOx Emissions - June 2023.

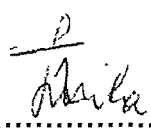
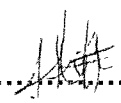
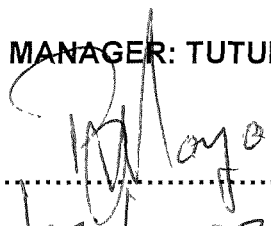


**7. COMPLAINTS REGISTER**

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 June 2023					

For more information or enquiries contact the Tutuka environmental team

Yours Sincerely

<p><b>Compiled by: Xoli Jila</b></p> <p><b>SENIOR ADVISOR ENVIRONMENT</b></p> <p>Signature:  .....</p> <p>Date : 12 July 2023</p>	<p><b>Supported By: Mike Molepo</b></p> <p><b>SENIOR CHEMIST: BOILER ENGINEERING</b></p> <p>Signature:  .....</p> <p>Date : 12/07/2023</p>
<p><b>Approved by: Bruce Moyo</b></p> <p><b>GENERAL MANAGER: TUTUKA POWER STATION</b></p> <p>Signature:  .....</p> <p>Date: <u>12/07/2023</u> .....</p>	