Eskom

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Dear Mr Hlanyane

TUTUKA POWER STATION MONTHLY REPORT FOR MARCH 2024

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 for Particulate Matters, Sulphur, and Nitrogen dioxides for the month of March 2024

The report presents monthly trends for each monitored pollutant. Units 3, 4 and 5 were offload for the month of March 2024. There was only one exceedance for Particulate Matter recorded in unit 2 which fell outside the 48-hour period allowed for start-ups, maintenance and shut down. The exceedance was due to a section 30 fire incident that occurred in the electrostatic precipitator board. The rest of the units operated within the limits for PMs and gases.

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted	Actual Consumption Mar-2024
	Coal	Tons	*1 200 000*	*1 045*
	Fuel Oil	Tons	*10 000*	*2763.68*
Production Rates	**Product / By-Product Name**	**Units**	**Max. Production Capacity Permitted**	**Indicative Production Rate Mar-2024**
	Energy	GWh	*2 611*	*422.8*
	Ash	Tons	*350 000*	*512*
	RE Ash	kg/MWh	*not specified*	*1.21*

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: [3 510 MW] x 24 hrs x days in Month/1000 to convert to GWh

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	*16-24*	*20.920*
Sulphur Content	%	*0.6 TO 2.6*	*0.600*
Ash Content	%	*21 TO 33*	*26.590*

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO_2	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 Mar-2024
Unit 1	*Electrostatic Precipitators (ESP)*	*98.0%*
Unit 2	*Electrostatic Precipitators (ESP)*	*99.0%*
Unit 3	*Electrostatic Precipitators (ESP)*	*99.2%*
Unit 4	*Electrostatic Precipitators (ESP)*	*Unit Off*
Unit 5	*Electrostatic Precipitators (ESP)*	*Unit Off*
Unit 6	*Electrostatic 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_2	NO	O_2
Unit 1	*100.0*	*90.6*	*100.0*	*86.4*
Unit 2	*84.5*	*16.7*	*16.7*	*100.0*
Unit 3	*100.0*	*99.6*	*100.0*	*98.9*
Unit 4	*Off*	*Off*	*Off*	*Off*
Unit 5	*Off*	*Off*	*Off*	*Off*
Unit 6	*Off*	*Off*	*Off*	*Off*

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of March-2024

Associated Unit/Stack	PM (tons)	SO_2 (tons)	NO_x (tons)
Unit 1	149.6	1 734	599
Unit 2	250.3	2 193	919
Unit 3	111.7	648	402
Unit 4	Off	Off	Off
Unit 5	Off	Off	Off
Unit 6	Off	Off	Off
SUM	511.7	4 575	1 920

Table 6.2: Operating days in compliance to PM AEL Limit - March 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
Unit 1	19	0	0	0	0	183.0
Unit 2	15	2	0	1	3	230.5
Unit 3	12	0	0	0	0	187.7
Unit 4	Off	Off	Off	Off	Off	Off
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	Off	Off	Off	Off	Off	Off
SUM	46	2	0	1	3	

Table 6.3: Operating days in compliance to SO_2 AEL Limit - March 2024

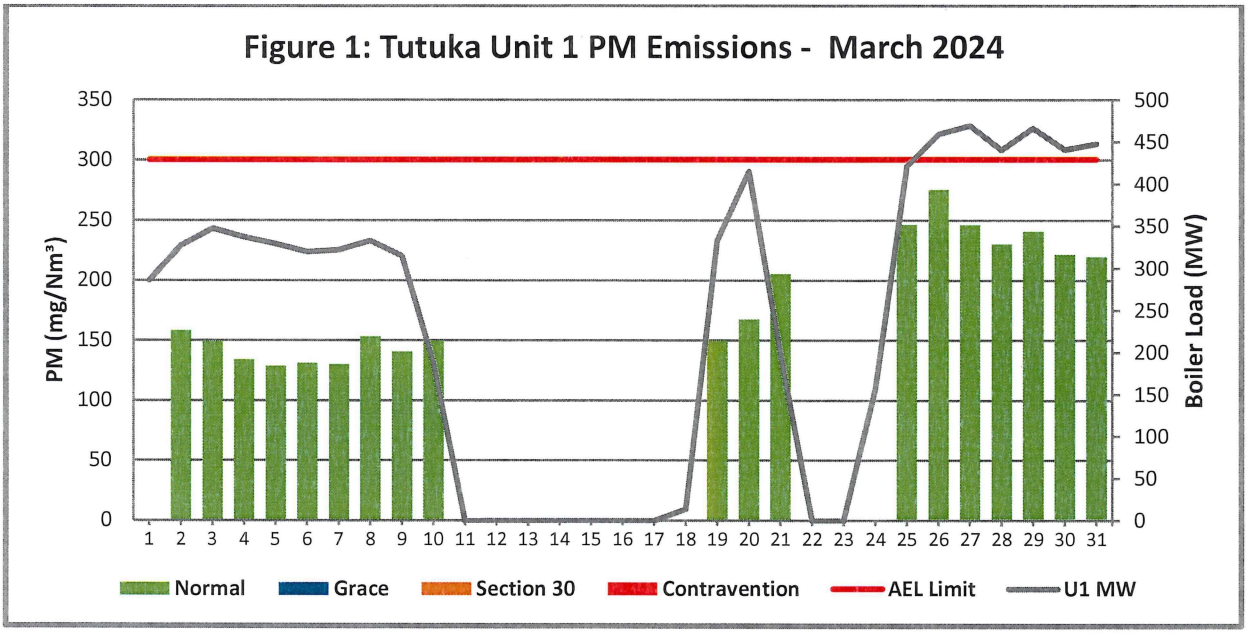
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm³)
Unit 1	22	0	0	0	0	2 118.1
Unit 2	18	0	0	0	0	1 974.6
Unit 3	13	0	0	0	0	1 144.4
Unit 4	Off	Off	Off	Off	Off	Off
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	Off	Off	Off	Off	Off	Off
SUM	53	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - March 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	22	0	0	0	0	694.9
Unit 2	18	0	0	0	0	827.7
Unit 3	13	0	0	0	0	671.8
Unit 4	Off	Off	Off	Off	Off	Off
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	Off	Off	Off	Off	Off	Off
SUM	53	0	0	0	0	

Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO_2

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



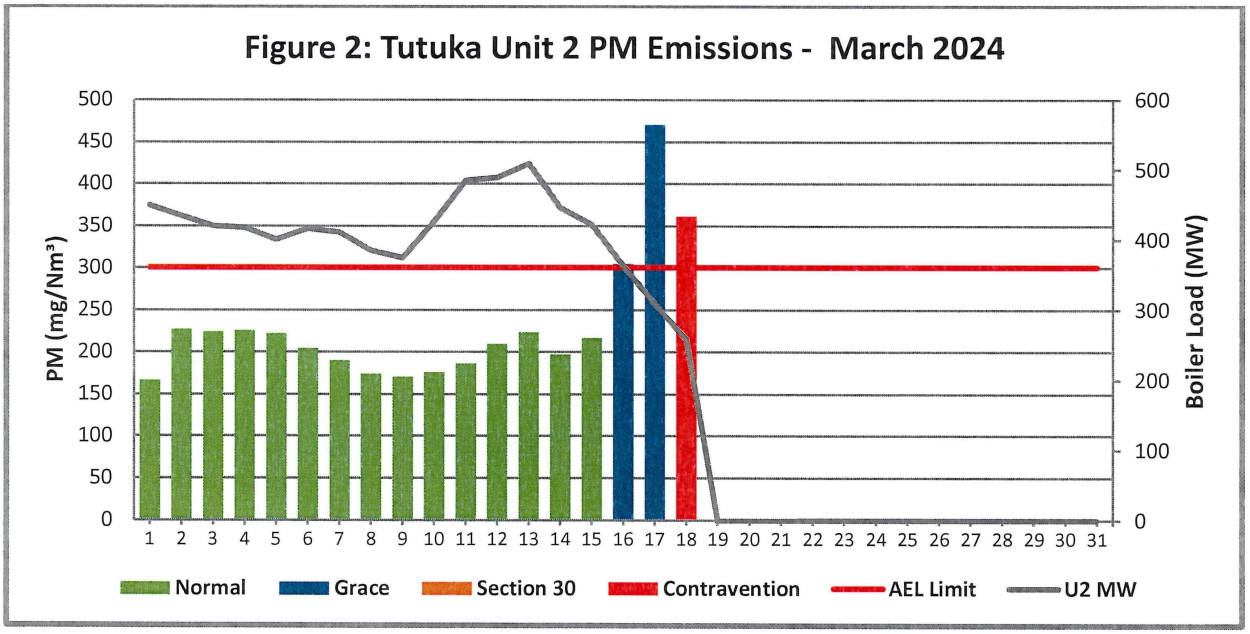


Figure 3: Tutuka Unit 3 PM Emissions - March 2024

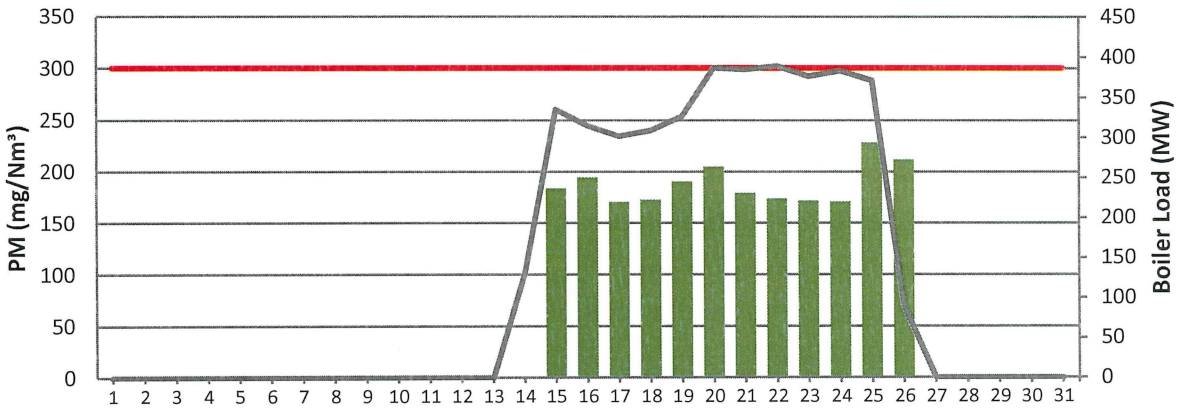


Figure 7: Tutuka Unit 1 SO_2 Emissions - March 2024

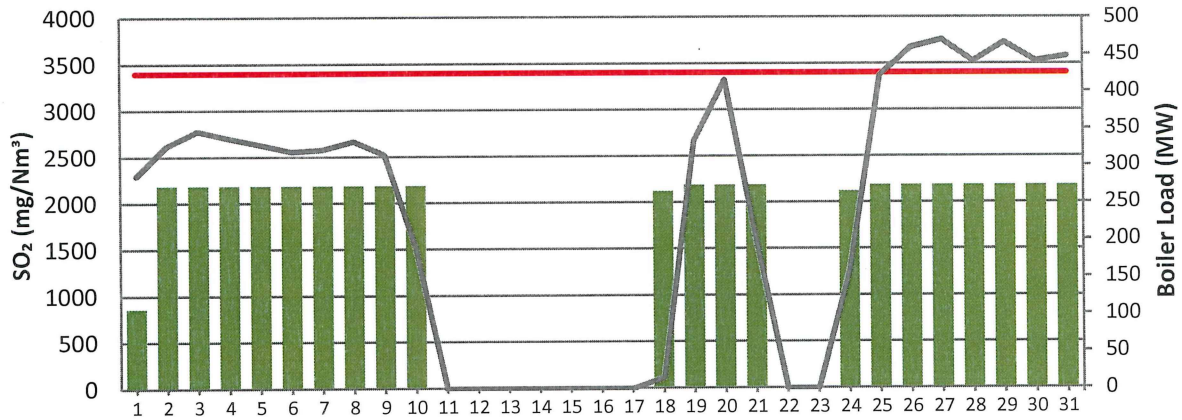


Figure 8: Tutuka Unit 2 SO_2 Emissions - March 2024

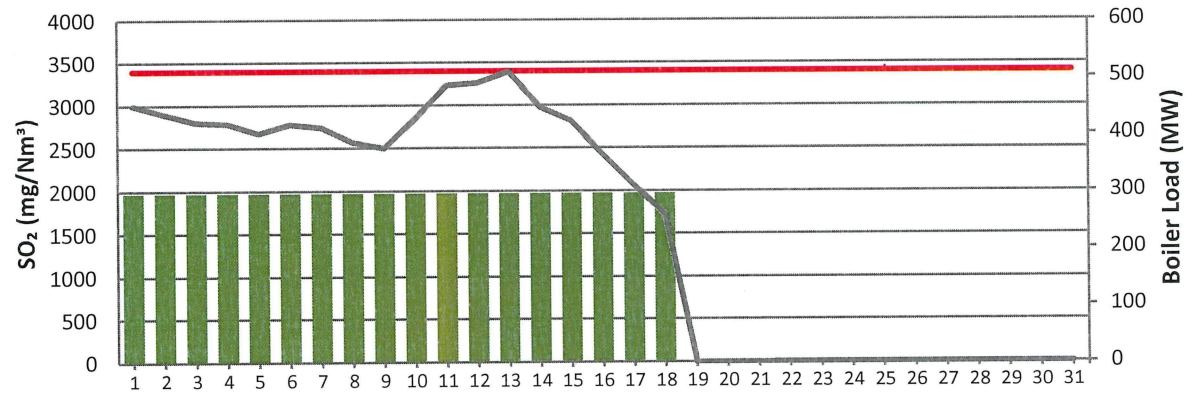


Figure 9: Tutuka Unit 3 SO_2 Emissions - March 2024

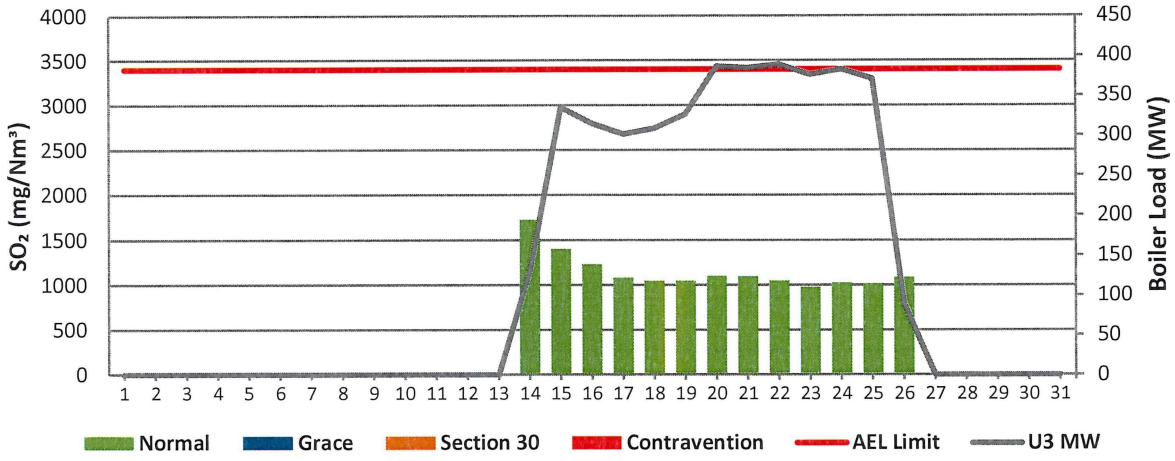


Figure 13: Tutuka Unit 1 NOx Emissions - March 2024

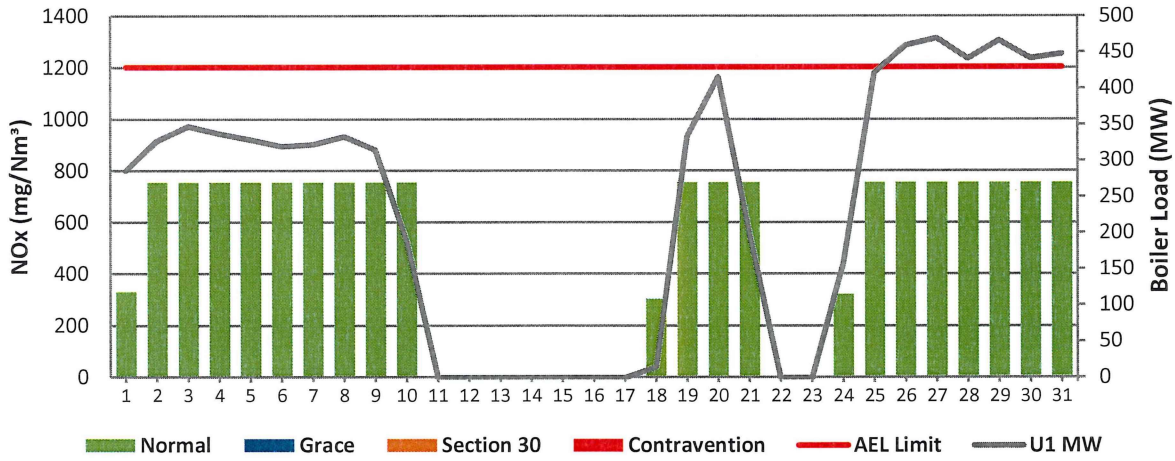
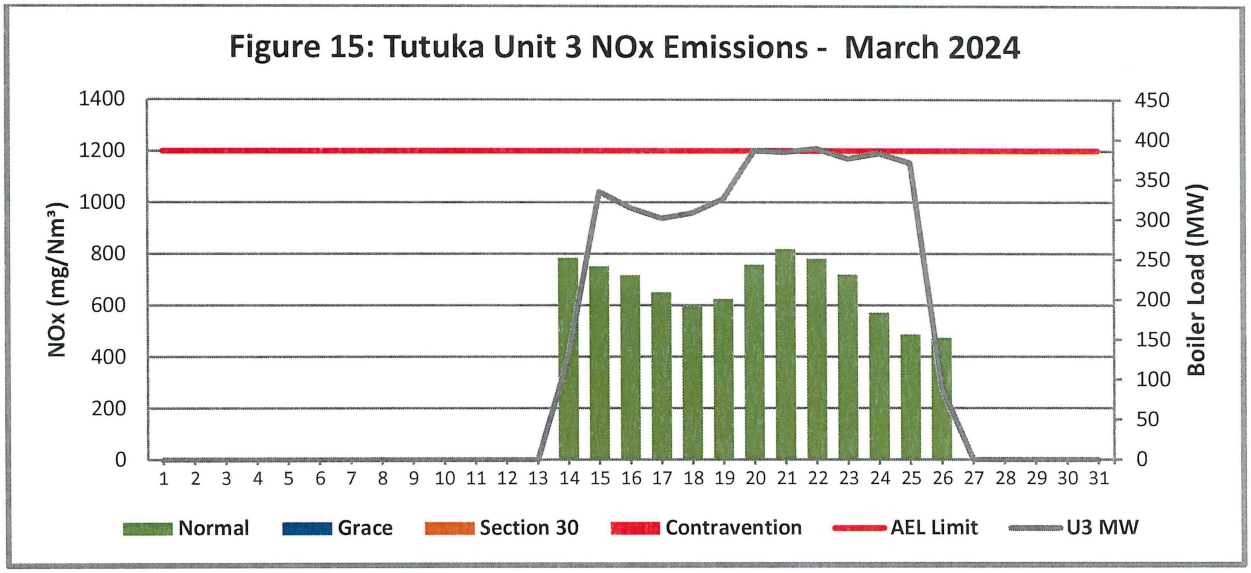


Figure 14: Tutuka Unit 2 NOx Emissions - March 2024



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 March 2024.					

Yours Sincerely

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