Eskom

Dan Hlanyane
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Gert Sibande District Municipality
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Date:
05 August 2024

Enquiries:
Tel +27 17 749 9399

Dear Mr. Hlanyane

TUTUKA POWER STATION'S MONTHLY STACK EMISSIONS REPORT FOR THE MONTH OF JULY 2024.

This serves as the monthly report required in terms of Section 7.4 in Tutuka Power Station's Atmospheric Emission License (16/4/Lekwa/Eskom H SOC Ltd TPS/0013/2019/F03 dated 25 April 2019). The emissions are for the month of July 2024. Verified emissions of particulates matter, SO_x and NO_x are also included.

Note: Unit 6 was not on load in July 2024

1. RAW MATERIALS

Raw Materials and Products	Raw Material type	Units	Max. Permitted	Actual Consumption
	Coal	Tons	1 200 000	534 524
	Fuel Oil	Tons	10 000	3380.57
Production Rates	**Product/By-Product Name**	**Units**	**Mx. Production Capacity Permitted**	**Indicative production rate**
	Energy	GWh	2 5727.200	987.1
	Ash	Tons	350 000	131 653
	Re Ash	Kg/MWh	Not specified	1.08

Note: Maximum energy rate is as per the maximum capacity stated in the AEL:[30748MW]/12x 24hrsx 31days in month/1000 to convert to GWh.

Generation Division
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2. ENERGY SOURCES CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	*16-24*	21.800
Sulphur Content	%	*0.6 TO >2.6*	1.040
Ash Content	%	*21 TO >33*	24.630

3. EMISSIONS 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 July-2024
Unit 1	*Electro Static Precipitators (ESP)*	99.0%
Unit 2	*Electro Static Precipitators (ESP)*	99.1%
Unit 3	*Electro Static Precipitators (ESP)*	99.0%
Unit 4	*Electro Static Precipitators (ESP)*	99.4%
Unit 5	*Electro Static Precipitators (ESP)*	98.8%
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_2	NO	O_2
Unit 1	95.0	100.0	94.9	100.0
Unit 2	100.0	100.0	89.6	100.0
Unit 3	100.0	100.0	85.7	85.7
Unit 4	99.1	100.0	96.4	97.8
Unit 5	96.3	100.0	99.8	100.0
Unit 6	Off	Off	Off	Off

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6. EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO_2 (tons)	NO_x (tons)
Unit 1	305.4	2 756	1 125
Unit 2	110.1	914	226
Unit 3	158.6	1 284	257
Unit 4	209.5	3 430	1 413
Unit 5	233.3	1 850	996
Unit 6	Off	Off	Off
SUM	1 016.9	10 234	4 016

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm^3)
Unit 1	22	3	0	0	3	264.8
Unit 2	16	0	0	0	0	256.3
Unit 3	8	4	0	0	4	284.5
Unit 4	28	0	0	0	0	120.5
Unit 5	16	3	0	0	3	211.4
Unit 6	Off	Off	Off	Off	Off	Off
SUM	**90**	**10**	**0**	**0**	**10**	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm^3)
Unit 1	29	0	0	0	0	2 442.2
Unit 2	16	0	0	0	0	2 134.9
Unit 3	14	0	0	0	0	2 341.7
Unit 4	29	0	0	0	0	2 034.1
Unit 5	23	0	0	0	0	1 660.4
Unit 6	Off	Off	Off	Off	Off	Off
SUM	111	**0**	**0**	**0**	**0**	

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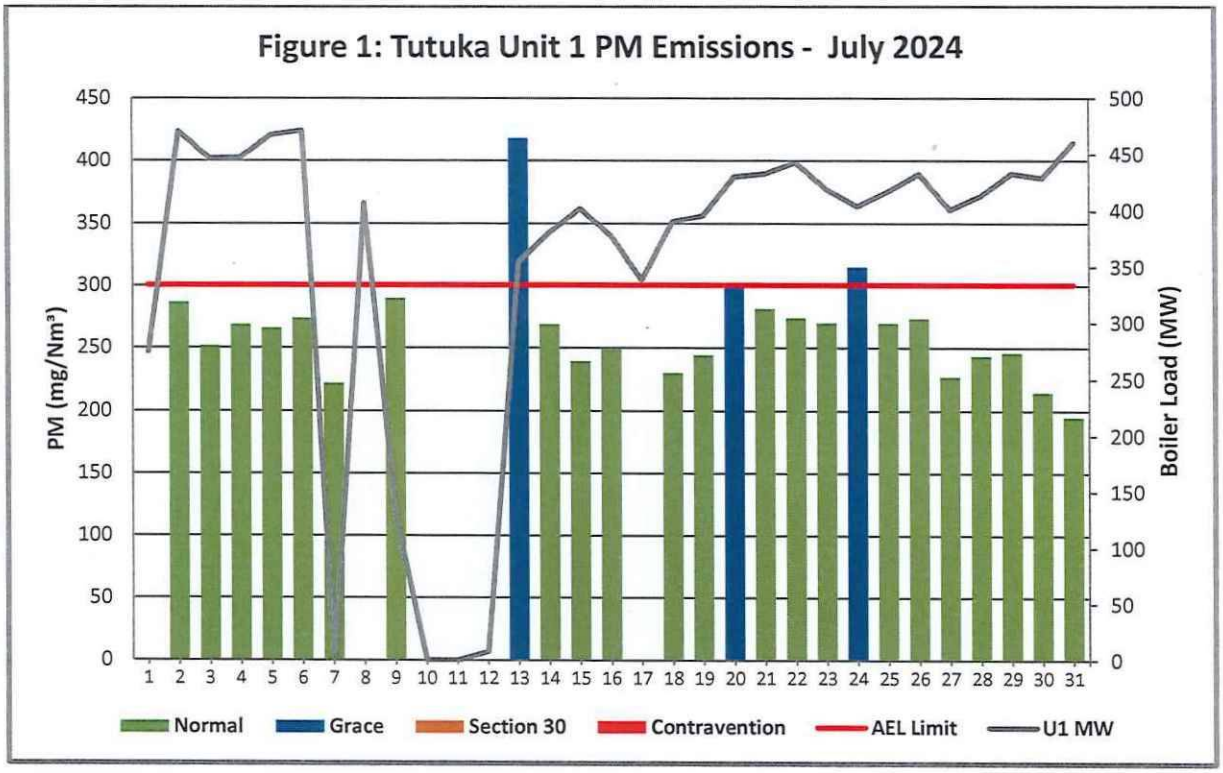
Table 6.4: Operating days in compliance to NOx AEL Limit - July 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	29	0	0	0	0	869.6
Unit 2	16	0	0	0	0	510.7
Unit 3	14	0	0	0	0	483.9
Unit 4	29	0	0	0	0	826.7
Unit 5	23	0	0	0	0	850.6
Unit 6	Off	Off	Off	Off	Off	Off
SUM	**111**	**0**	**0**	**0**	**0**	

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

Table 6.5: Legend

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



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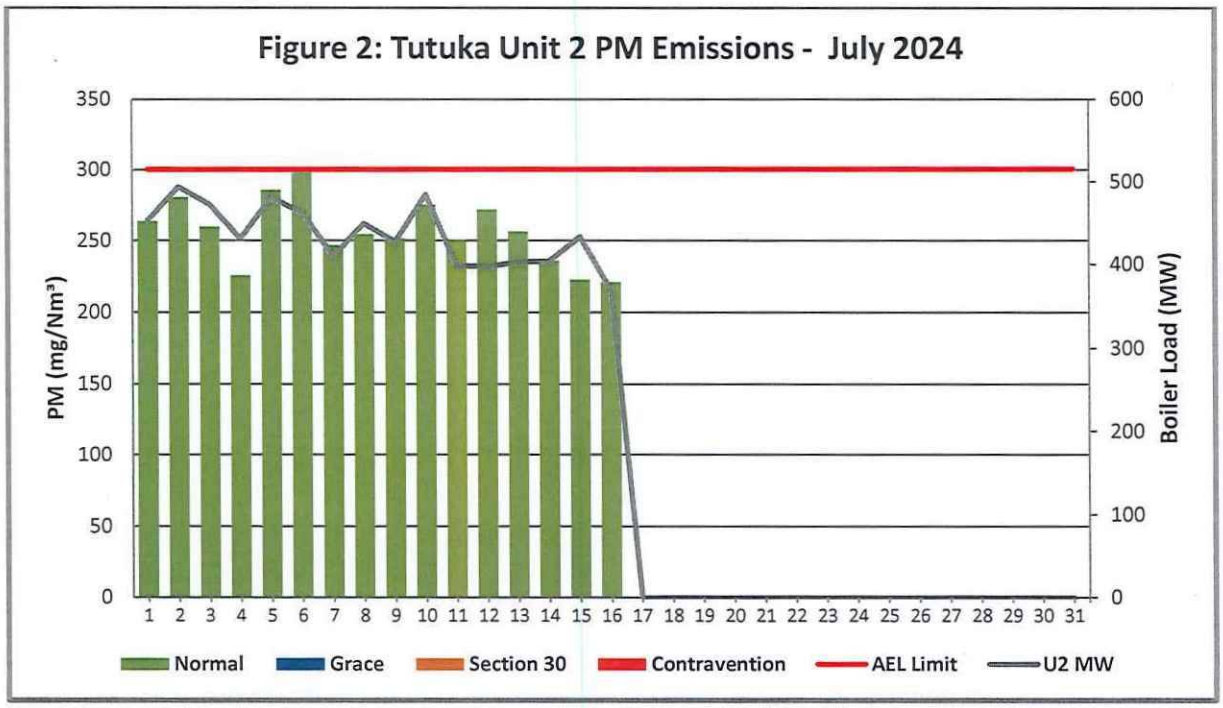

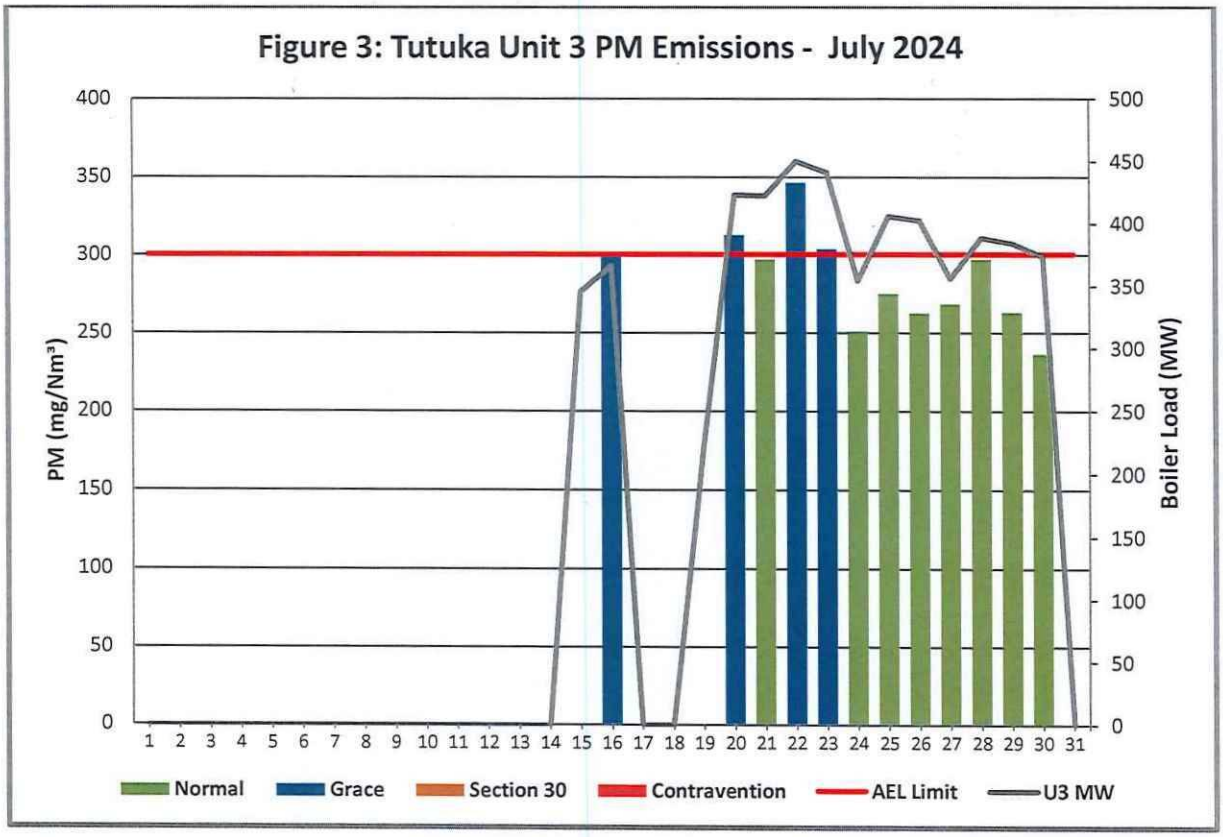

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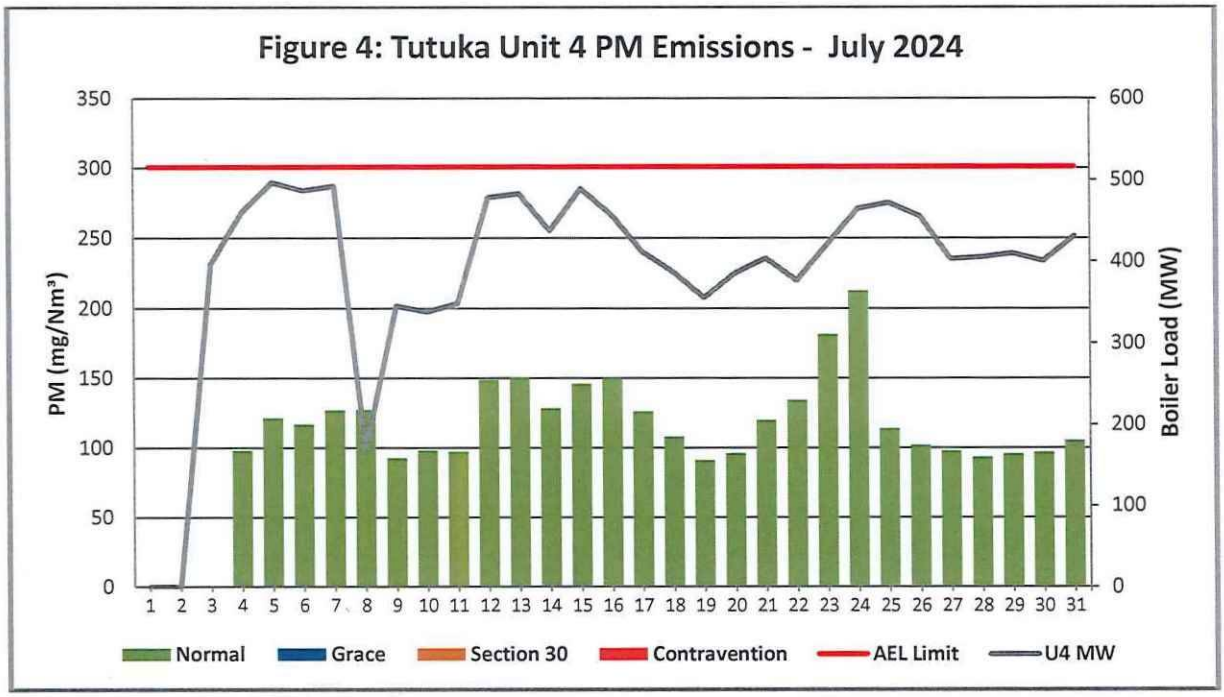

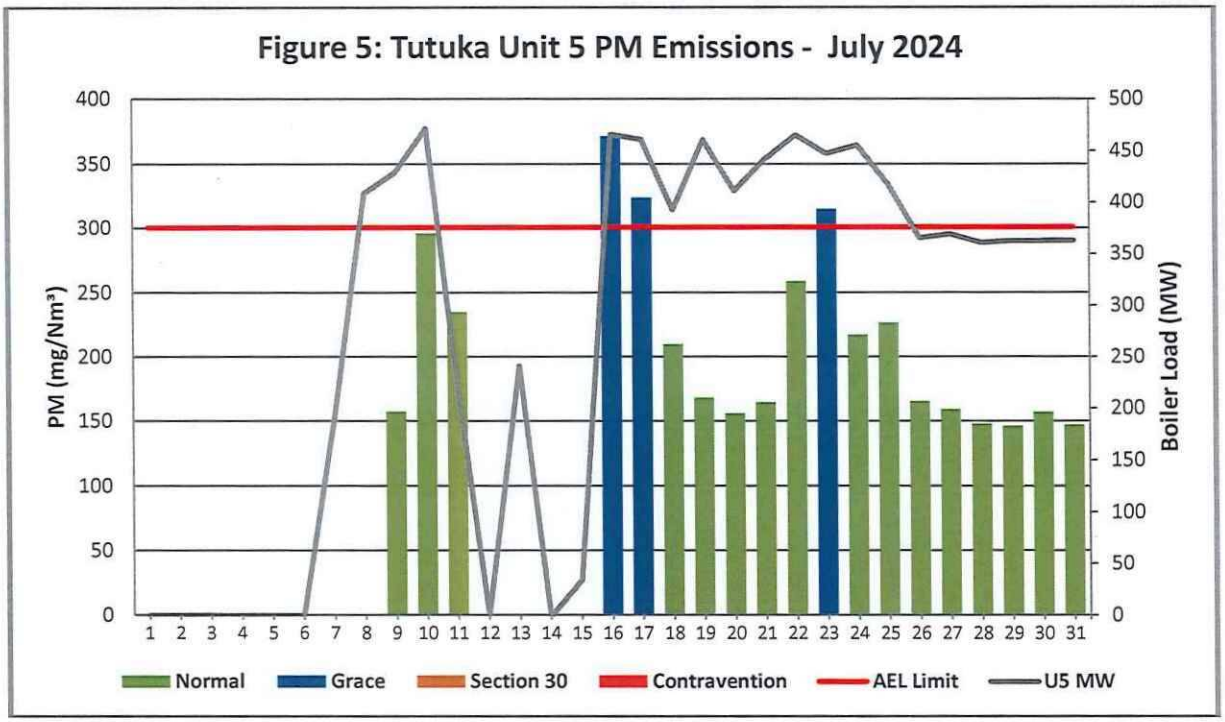

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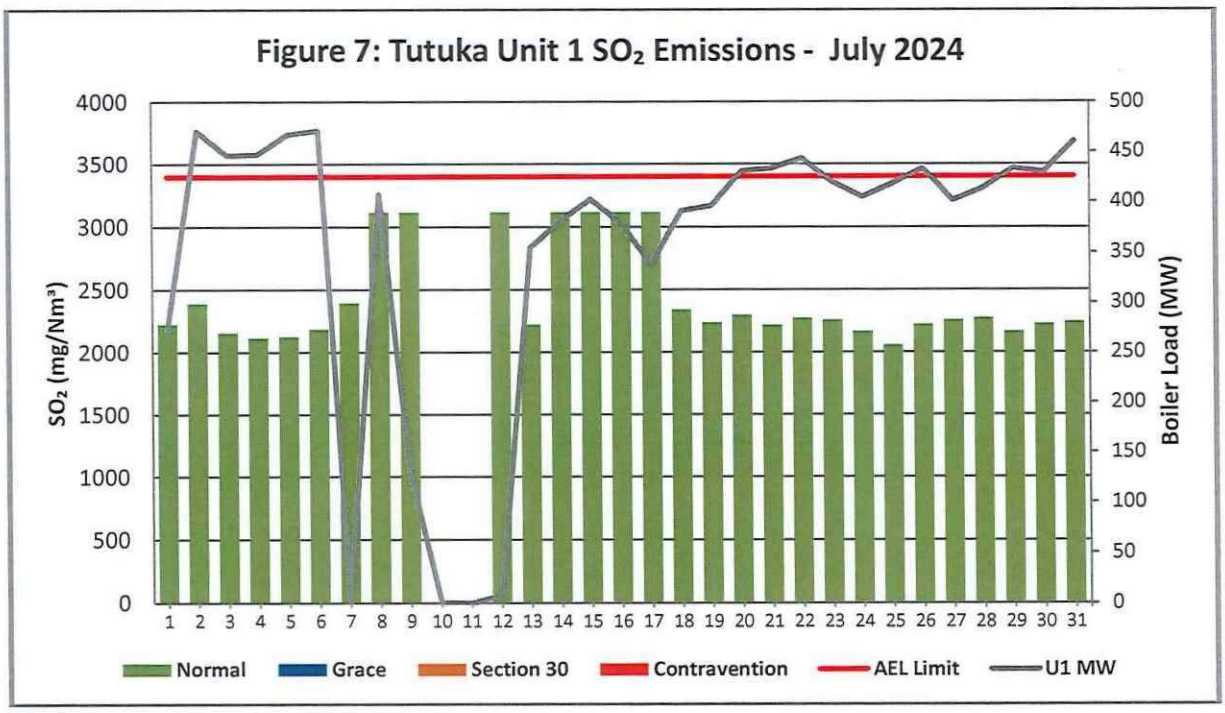

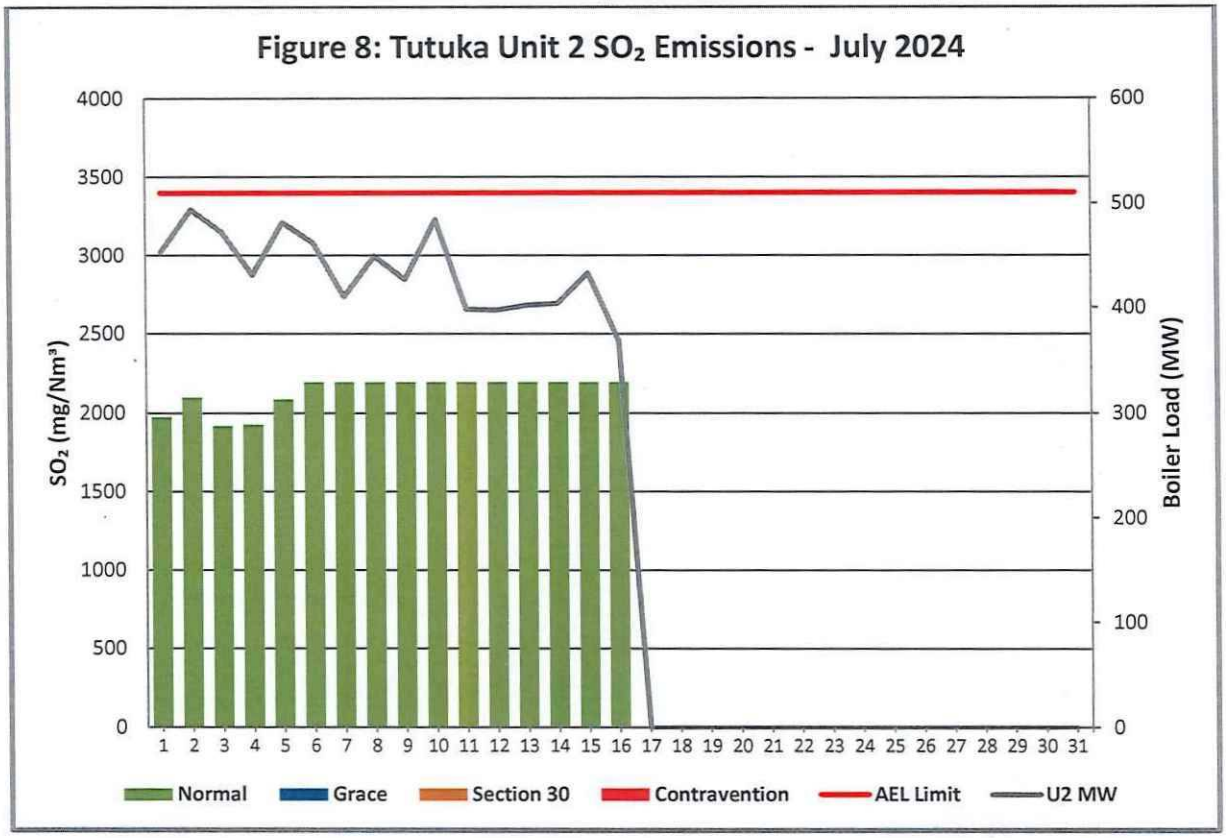

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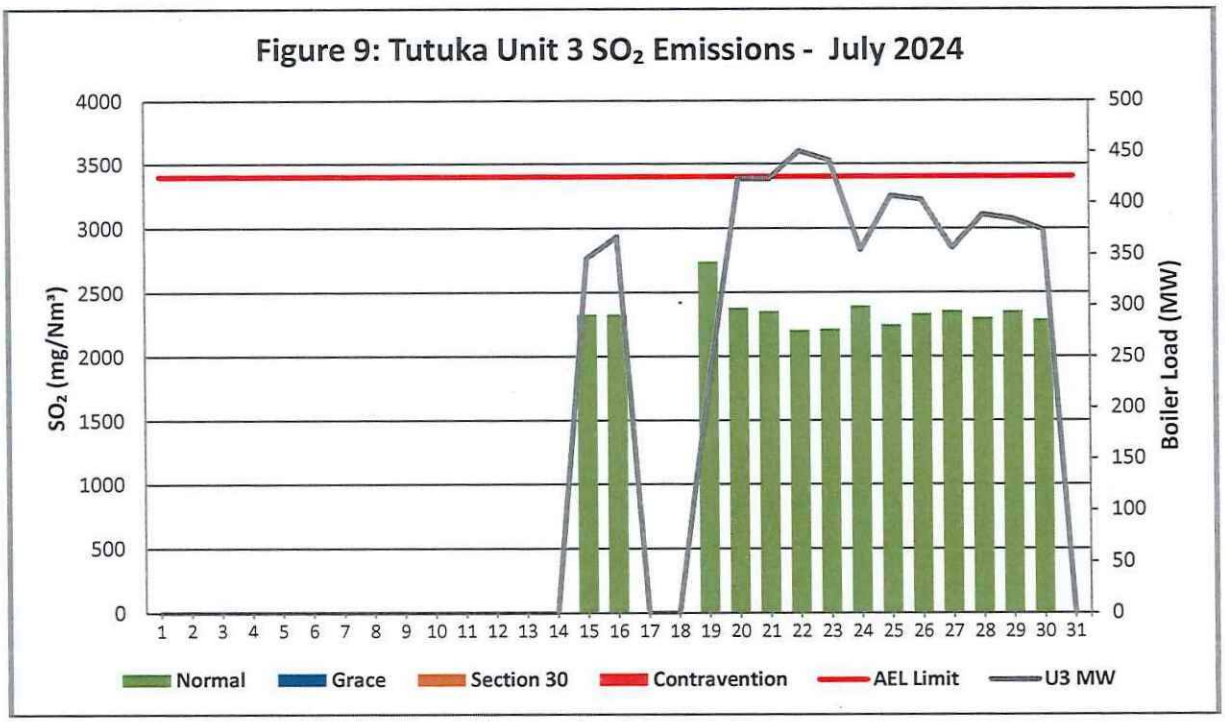

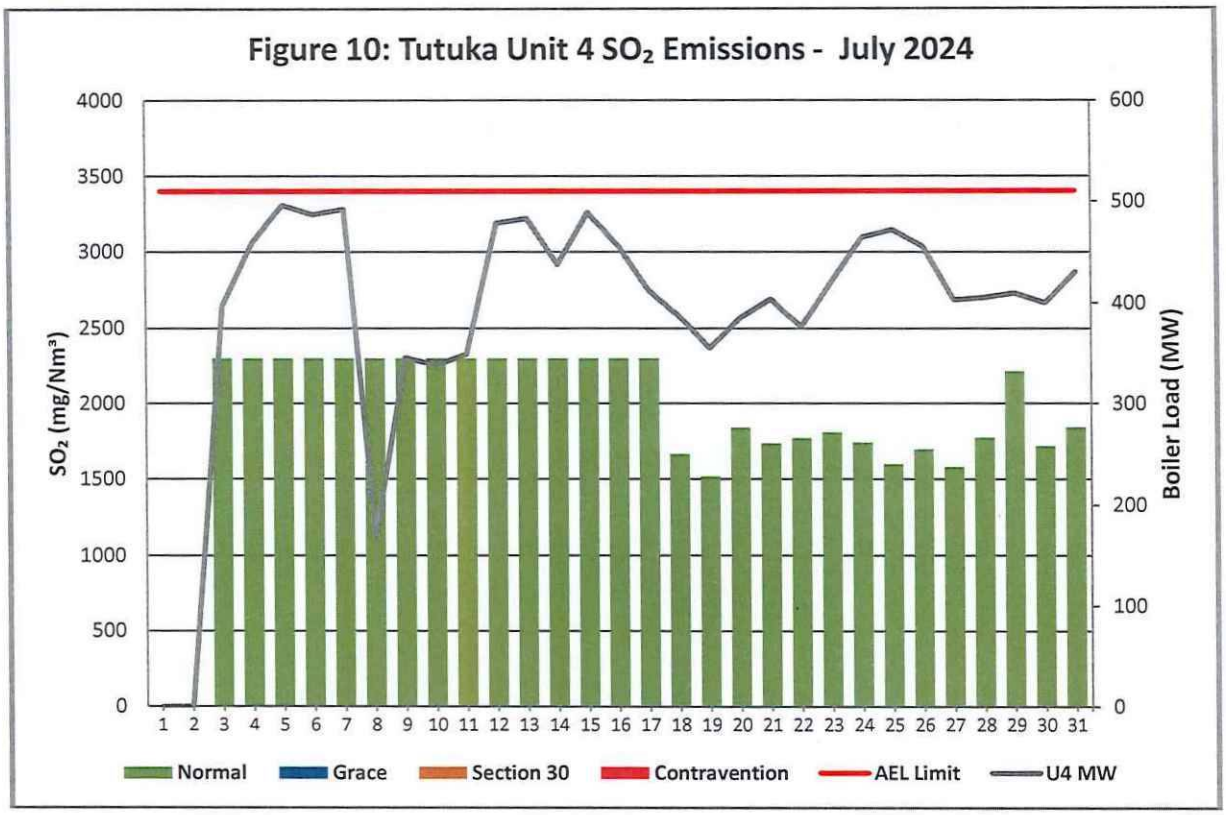

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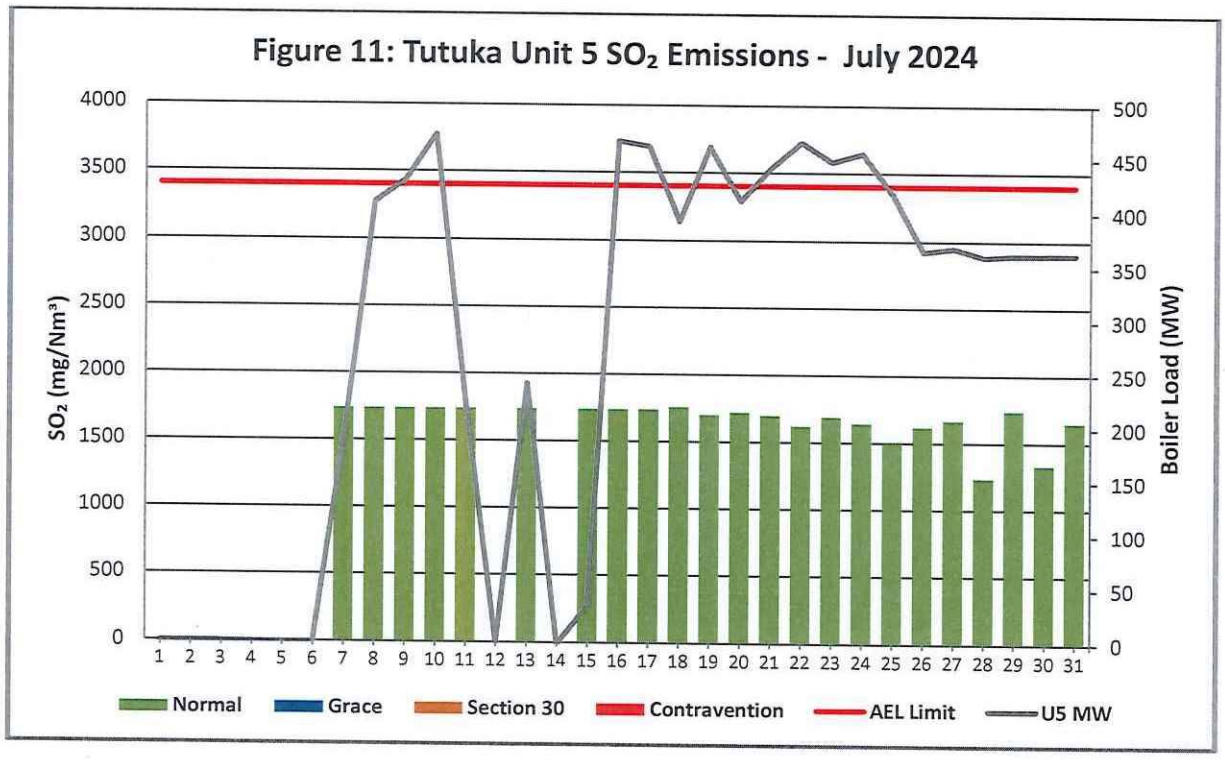

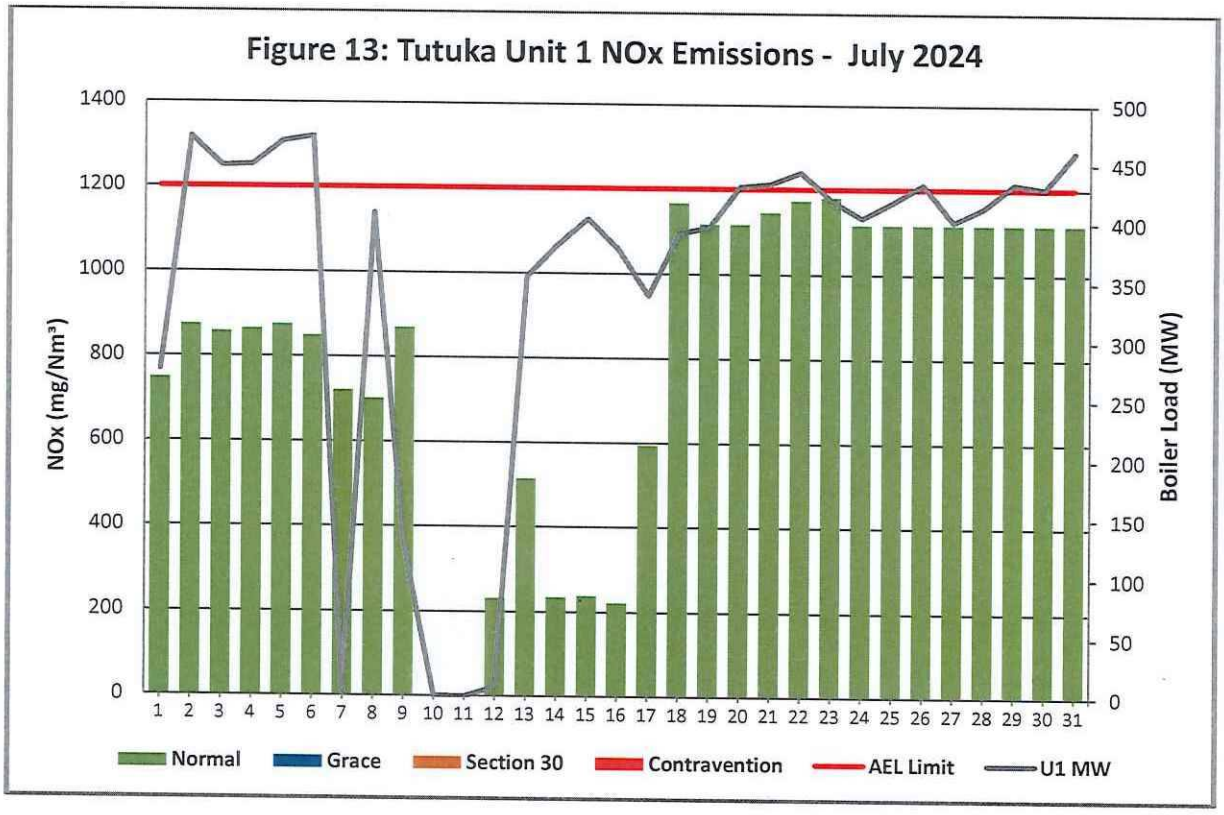

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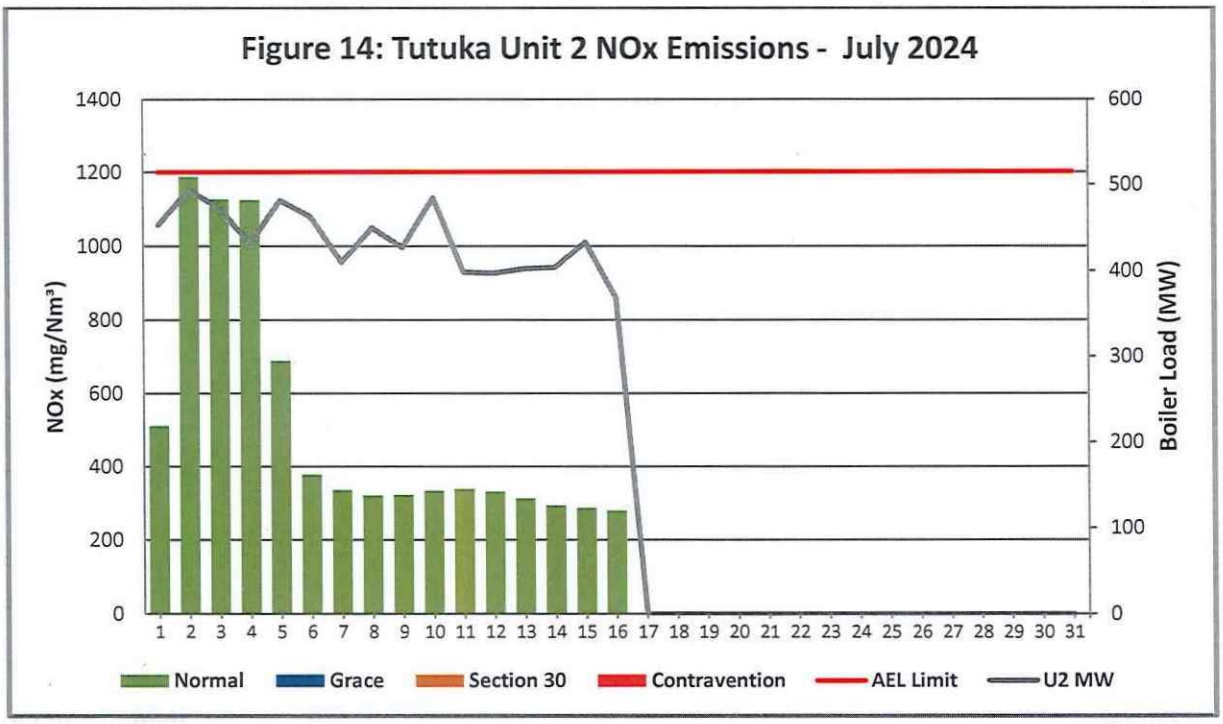

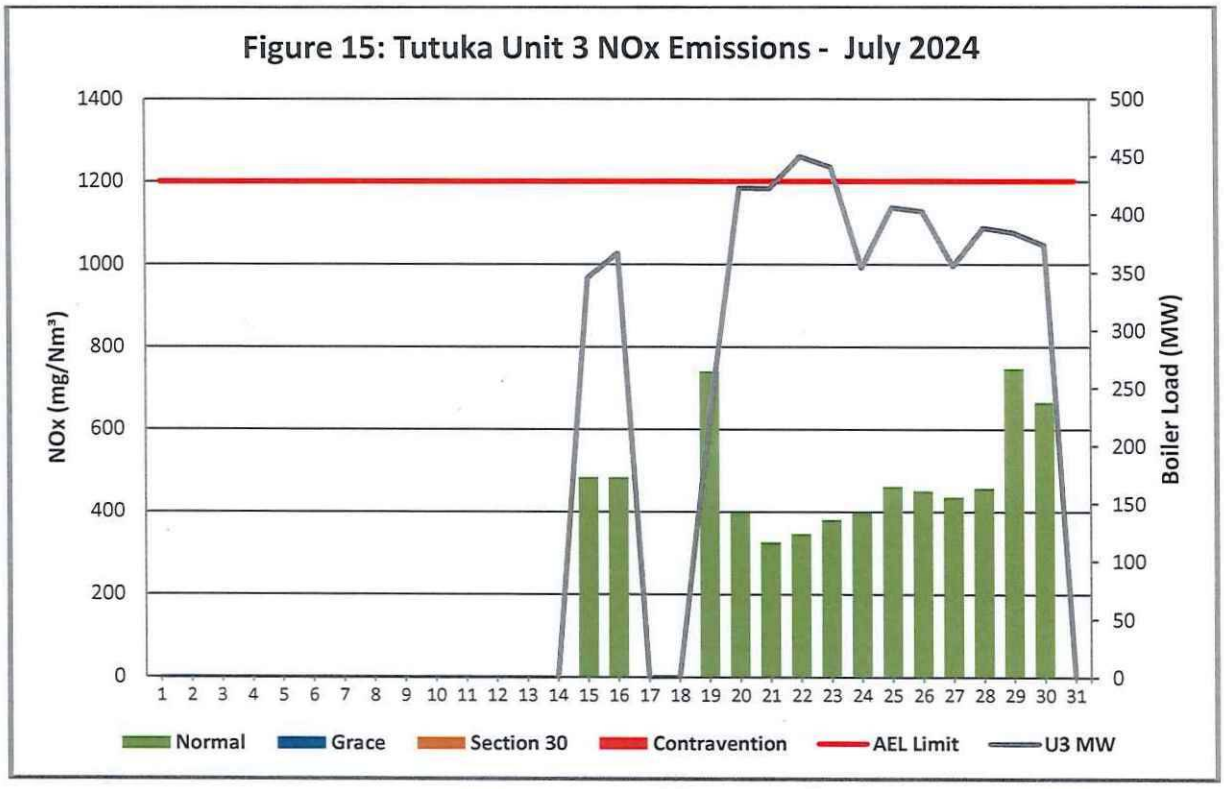

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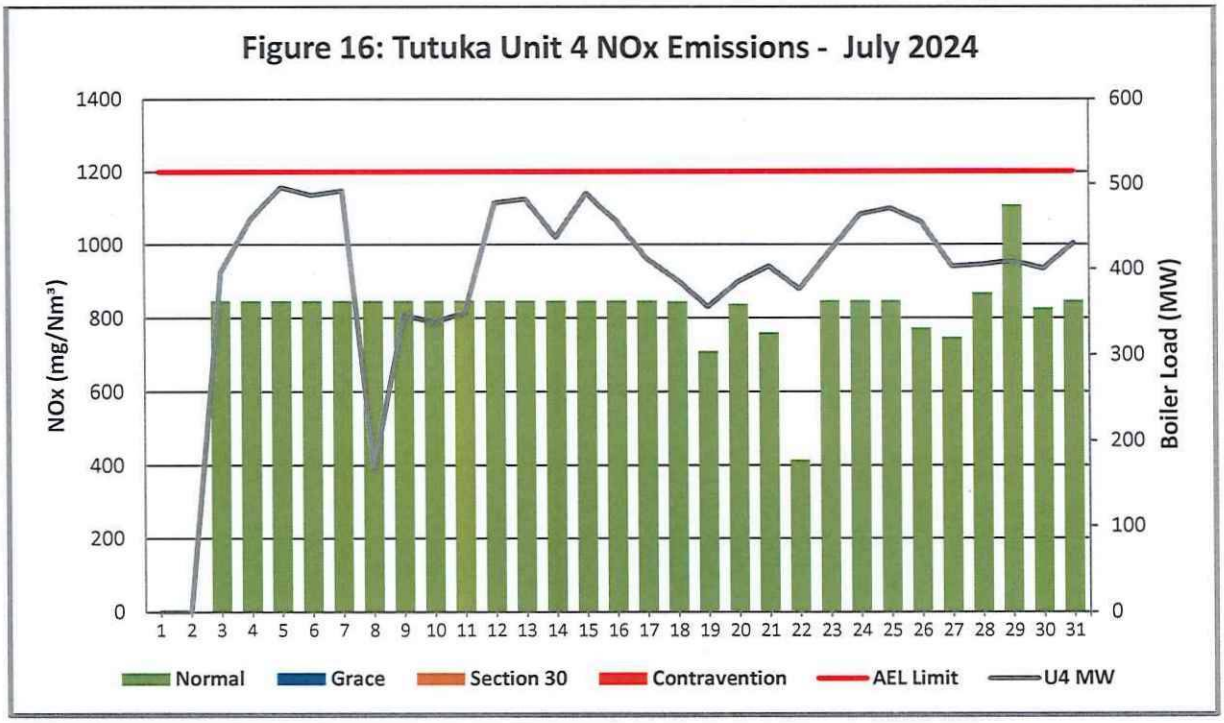

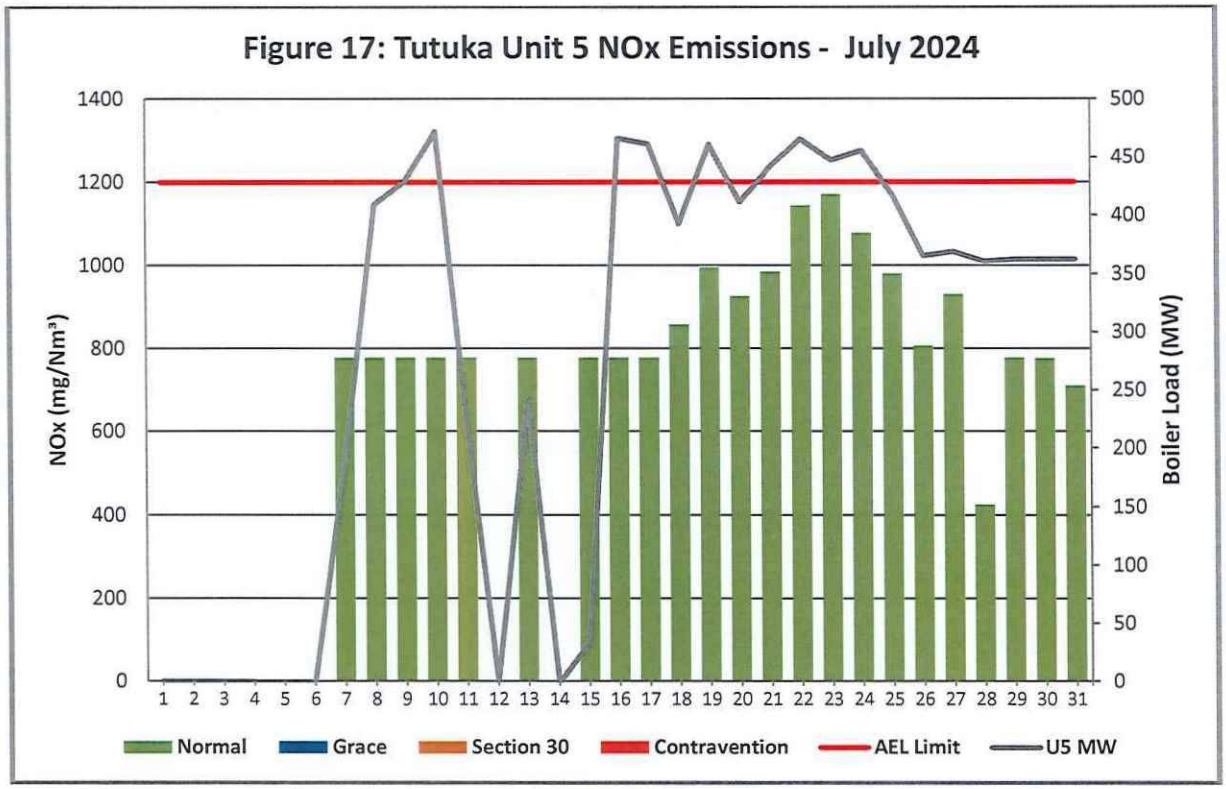

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Light up information
PM Start-up information for the month of fabricate July 2024

Number & Type of Starts	Unit	1	2	3	4	5	6
Number Of Hot Starts (Off-Load < 30 Hrs)	-	1.00	0.00	0.00	1.00	0.00	0.00
Number Of Cold Starts (Off-Load > 30 hrs)	-	3.00	0.00	2.00	1.00	3.00	0.00

General

The station experienced high PM emissions on unit 1, 3 and 5.The emissions exceedances were within the grace period and were due to challenges with the dust handling plant. The station incurred a load loss of about 77 Megawatts (MW) on unit five (5) on the 17th July 2024.The surrogate values were used for gaseous emission for unit 1-5.

7.COMPLANTS 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 received for the month of July 2024					

Tutuka Power station reiterate its commitment to comply with the atmospheric emission license, which to us is not just a matter of compliance, but also a commitment which is core in our principles of doing business.

Compiled by:	Verified by:
..... Monica Mokgawa **ENVIRONMENTAL MANAGER: TUTUKA POWER STATION**	..... Mike Molepo **SENIOR CHEMIST (BOILER ENGNEERNG): TUTUKA POWER STATION**
Approved by Bruce Moyo **GENERAL MANAGER: TUTUKA POWER STATION**	

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