

Mr. Dan Hlanyane
 Air Quality Officer
 Gert Sibande District Municipality
 c/o Joubert & Oosthuise Street
 ERMELO
 2350

Date:
 20 April 2022

Enquiries:
 Monica Mokgawa
 017) 749 9399

E-mail: Dan.Hlanyane@gsibande.gov.za
 E-mail: records@sibande.gov.za

Dear Mr. Hlanyane

TUTUKA POWER STATION'S MONTHLY STACK EMISSIONS REPORT FOR THE MONTH OF MARCH 2022

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 March 2022. Verified emissions of particulates matter, SO₂ and NO_x (as NO₂) are also included.

Raw Materials and Products

Table 1: Quantity of Raw Materials and Products used/produced for the month of March 2022

Raw Materials and Products used	Raw Material Type	Units	Maximum Permitted Consumption / Rate (Quantity)	Consumption / Rate in Month of March 2022
	Coal	Tons/month	1 200 000	292 634
	Fuel Oil	Tons/month	10 000	8014.35
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of March 2022
	Energy	GWh	2611.44	477.2
	Ash	Tons/month	not specified	73 861
	RE PM	kg/MWh	not specified	1.98

Generation Division

Tutuka Power Station
 Portion of Pretorius Vlei No.374/S Bethal Road
 Private Bag X 2016 Standerton 2430 SA
 Tel +27 17 749 9111 Fax +27 17 749 5736 www.eskom.co.za
 Eskom Holdings SOC Limited Reg No 2002/015527/30

Abatement Technology

Table 2: Abatement Equipment Control Technology for March 2022

Associated Unit/Stack	Technology Type	Minimum Control Efficiency (%)	Actual Efficiency (%)
			March 2022
Unit 1	ESP	95%	98.9%
Unit 2	ESP	95%	0
Unit 3	ESP	95%	98.8%
Unit 4	ESP	95%	99.3%
Unit 5	ESP	95%	96.6%
Unit 6	ESP	95%	0

Energy Source Characteristics

Table 3: Energy Source Material Characteristics for the month of March 2022




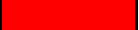
Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.6 -2.6	1.010
Ash Content	21 -33	25.240

Table 4: Monitor Reliability

Associated Unit/Stack	PM	SOx	NOx
Unit 1	90.0	88.1	80.6
Unit 2	0	0	0
Unit 3	100.0	99.8	99.8
Unit 4	96.7	89.8	86.6
Unit 5	88.1	99.4	99.4
Unit 6	0	0	0

Emissions Reporting

Table 6.5: Graph Legend Description

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

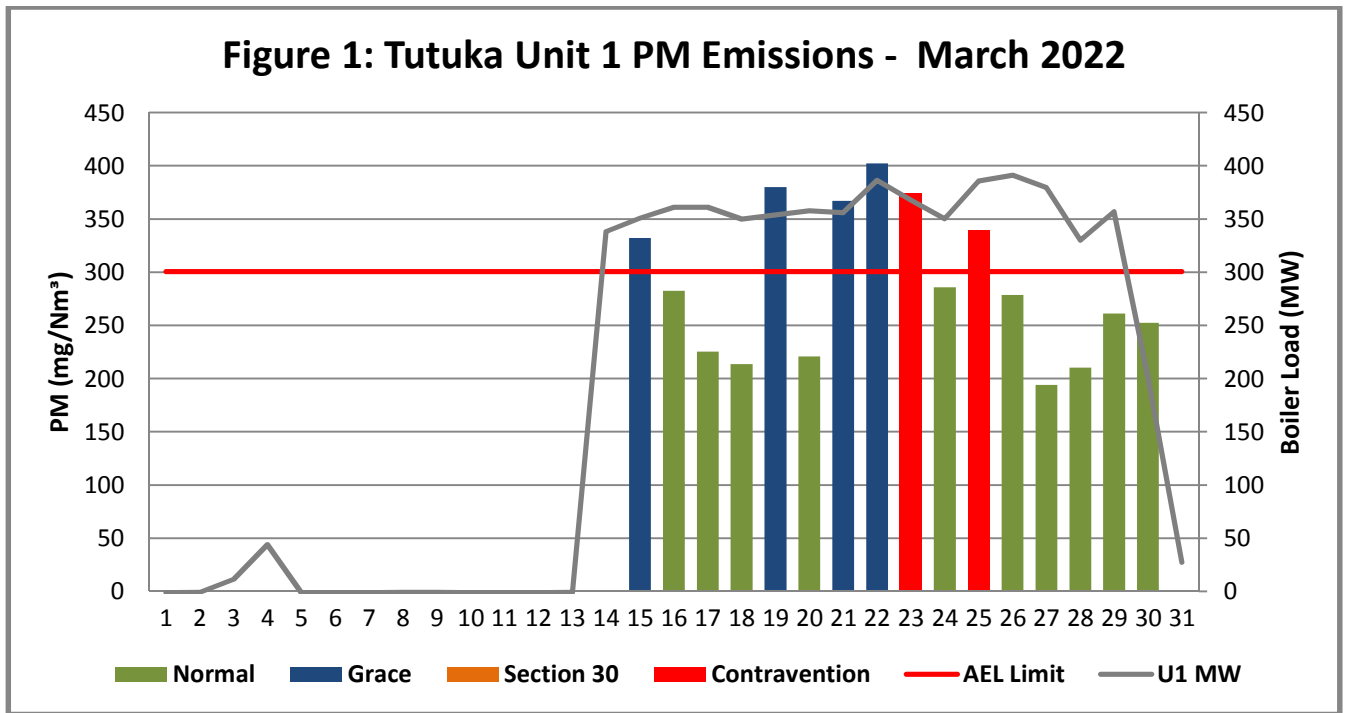


Figure 1: Unit 1 Daily Average PM emissions for the month of March 2022 (against the emission limit and load Generated)

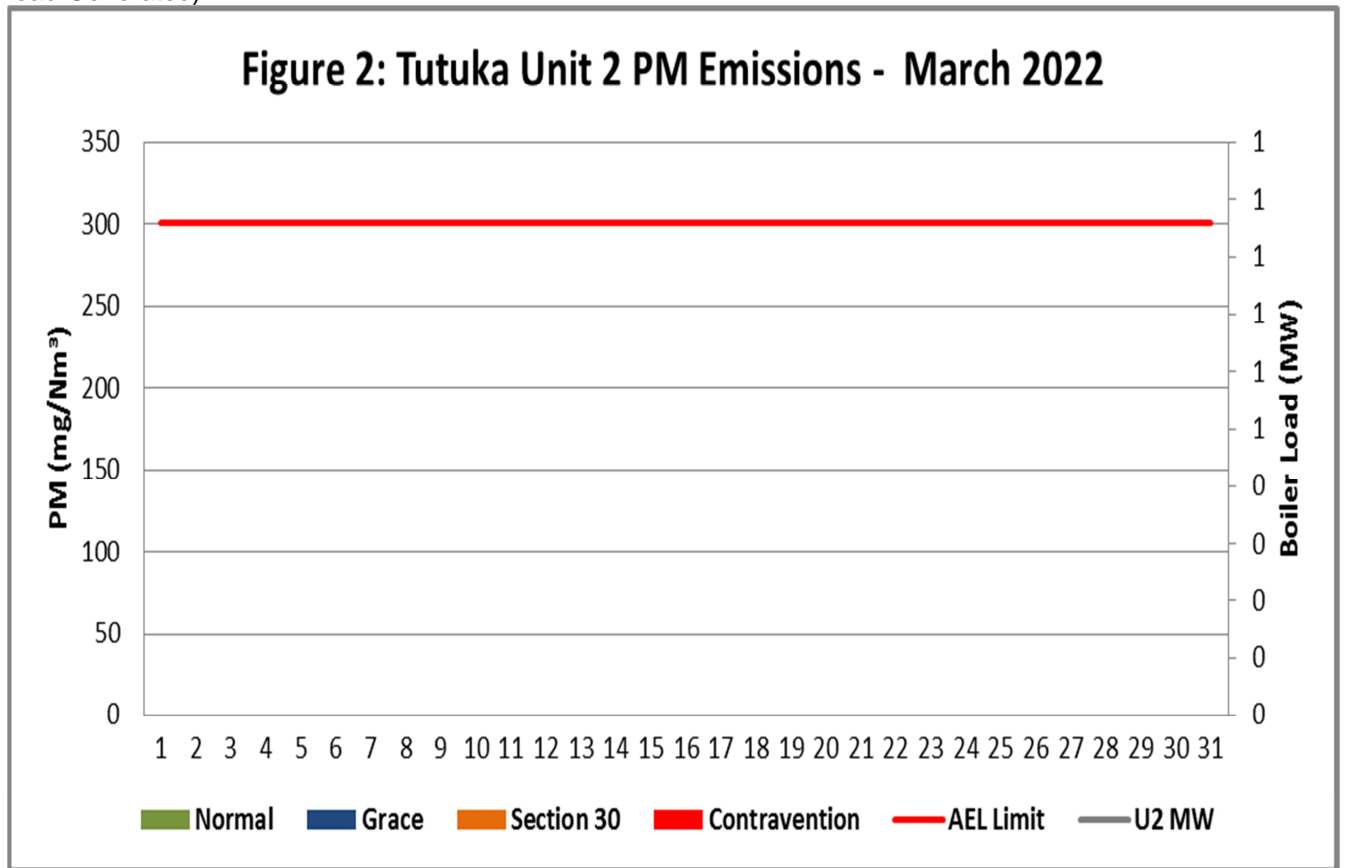


Figure 2: Unit 2 Daily Average PM emissions for the month of March 2022 (against the emission limit and load Generated)

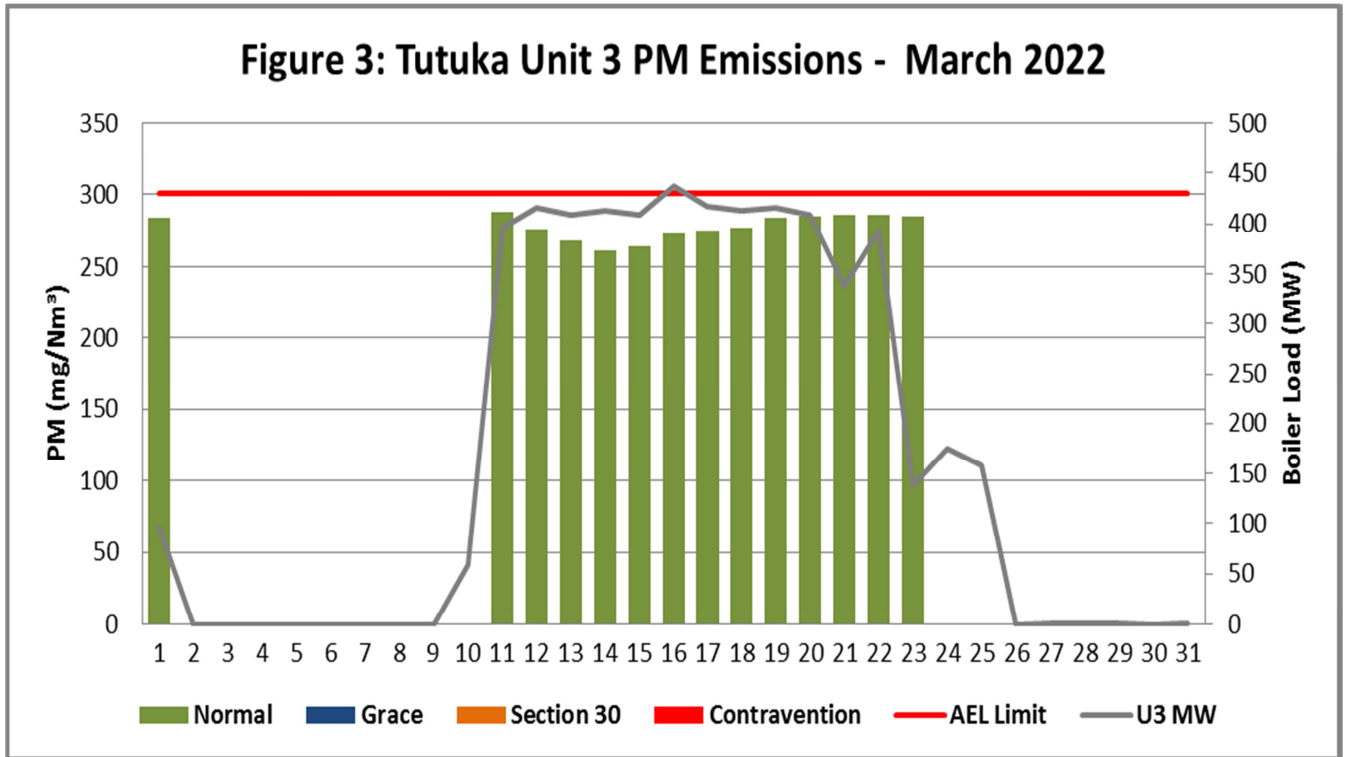


Figure 3: Unit 3 Daily Average PM emissions for the month of March 2022 (against the emission limit and load Generated)

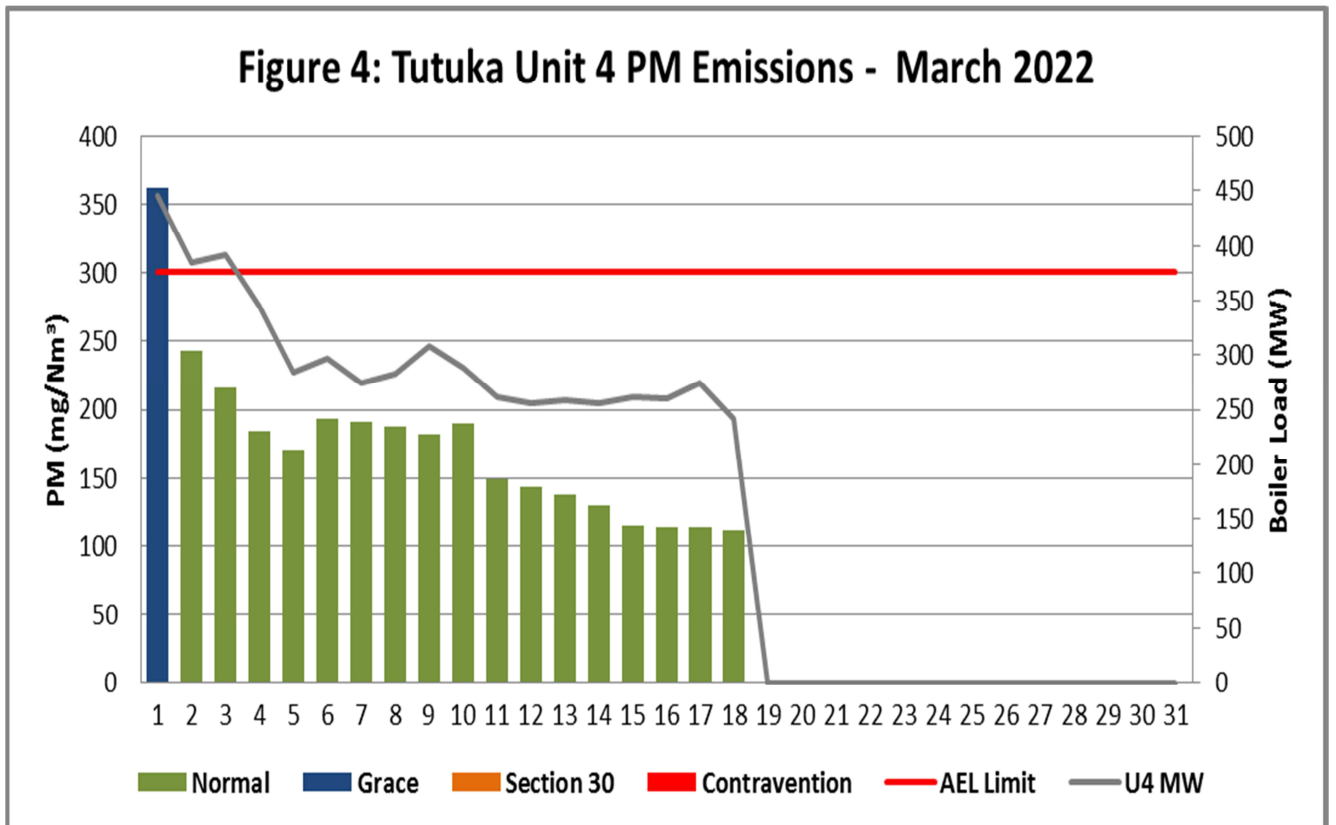


Figure 4: Unit 4 Daily Average PM emissions for the month of March 2022 (against the emission limit and load Generated)

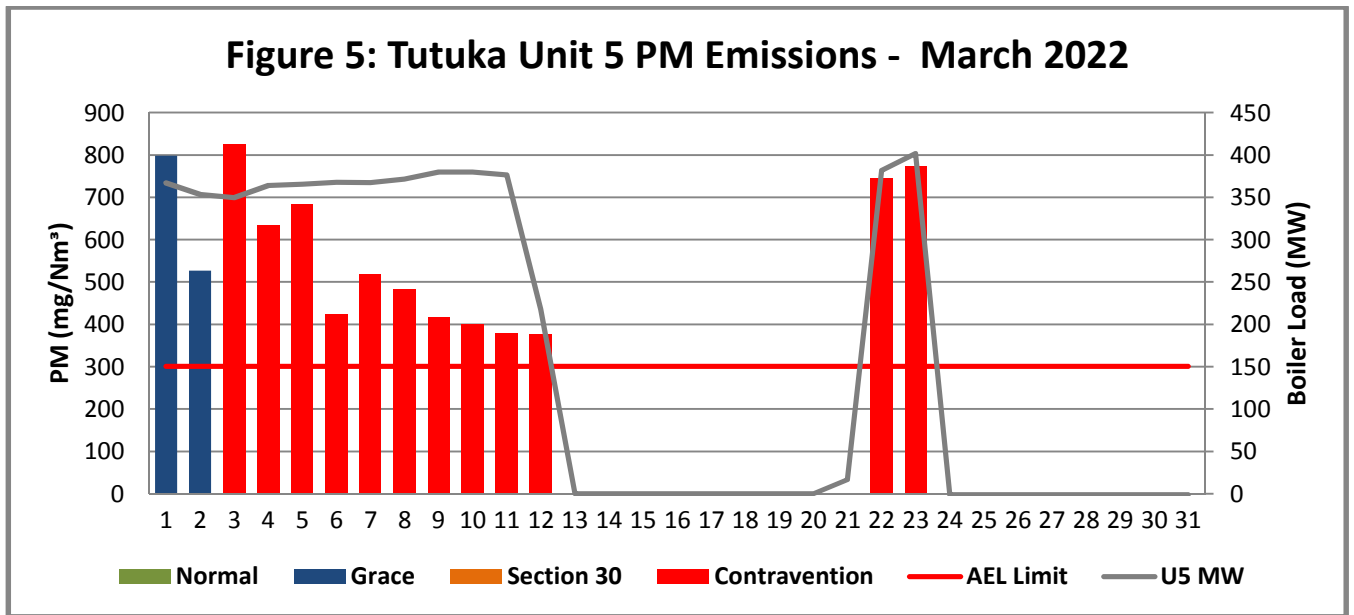


Figure 5: Unit 5 Daily Average PM emissions for the month of March 2022 (against the emission limit and load Generated)

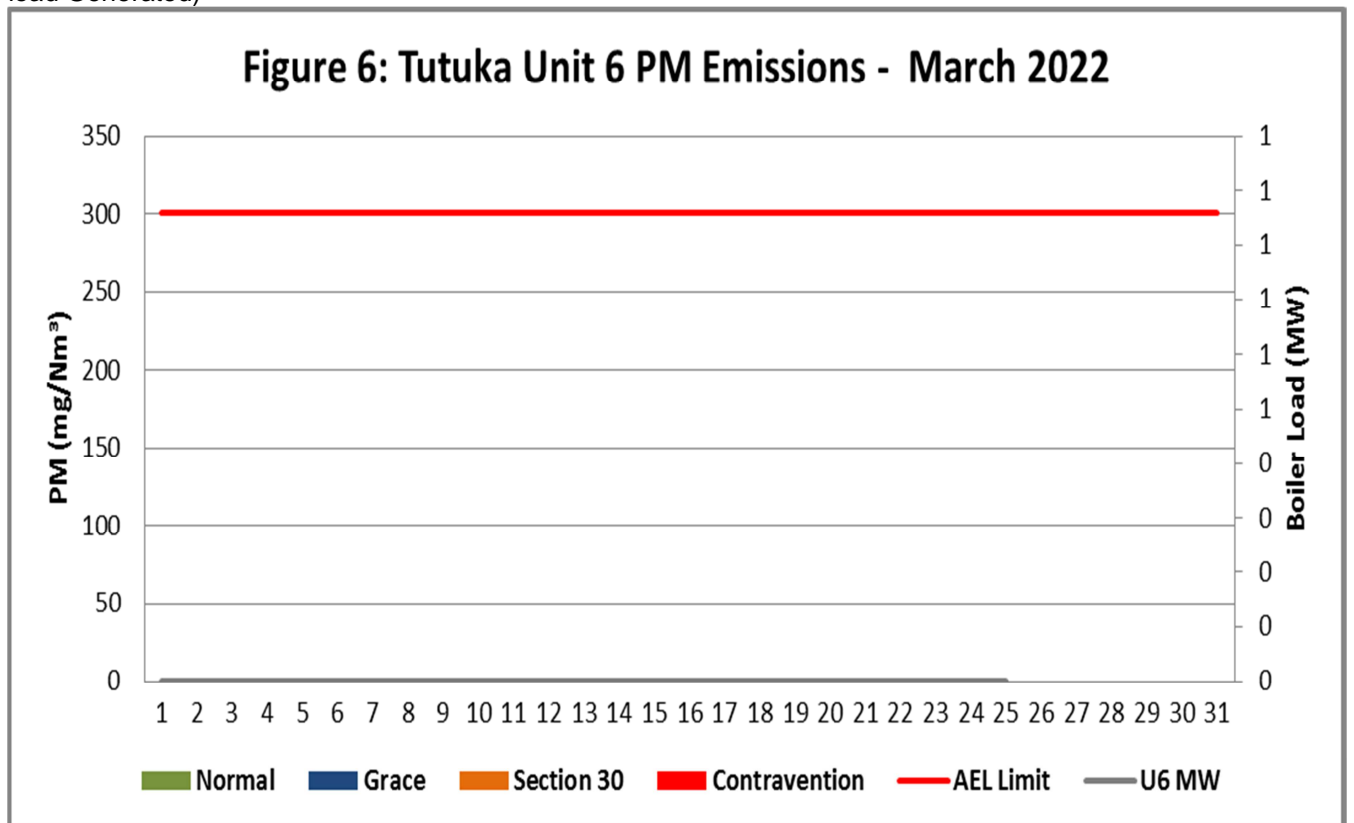


Figure 6: Unit 6 Daily Average PM emissions for the month of March 2022 (against the emission limit and load Generated)

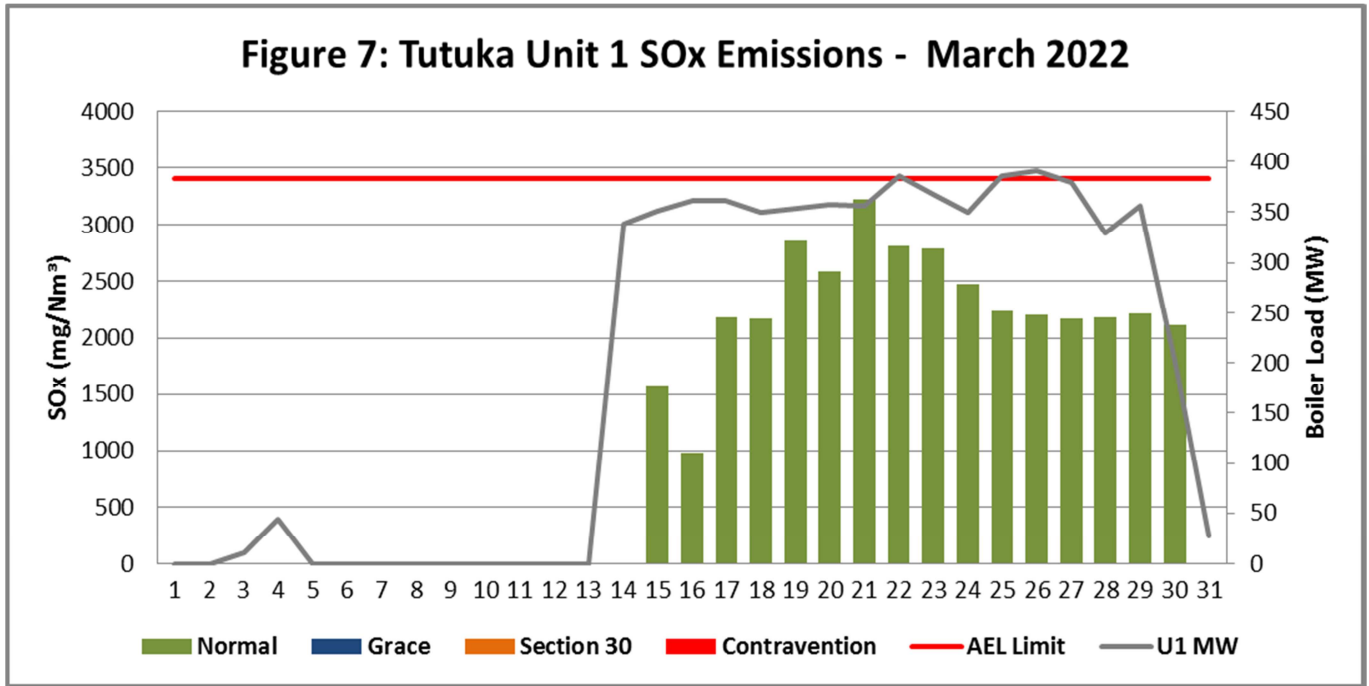


Figure 7: Unit 1 Daily Average SOx emissions for the month of March 2022 (against the emission limit and load Generated)

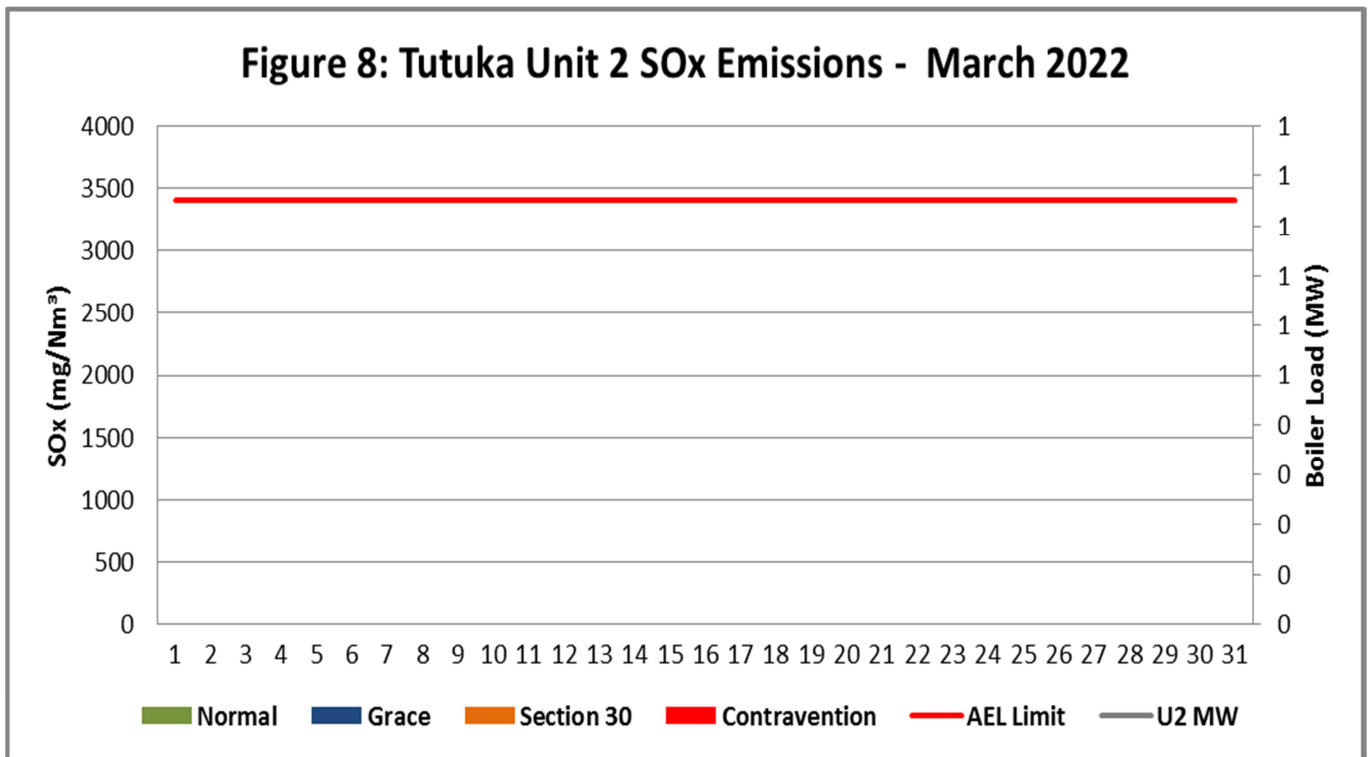


Figure 8: Unit 2 Daily Average SOx emissions for the month of March 2022 (against the emission limit and load Generated)

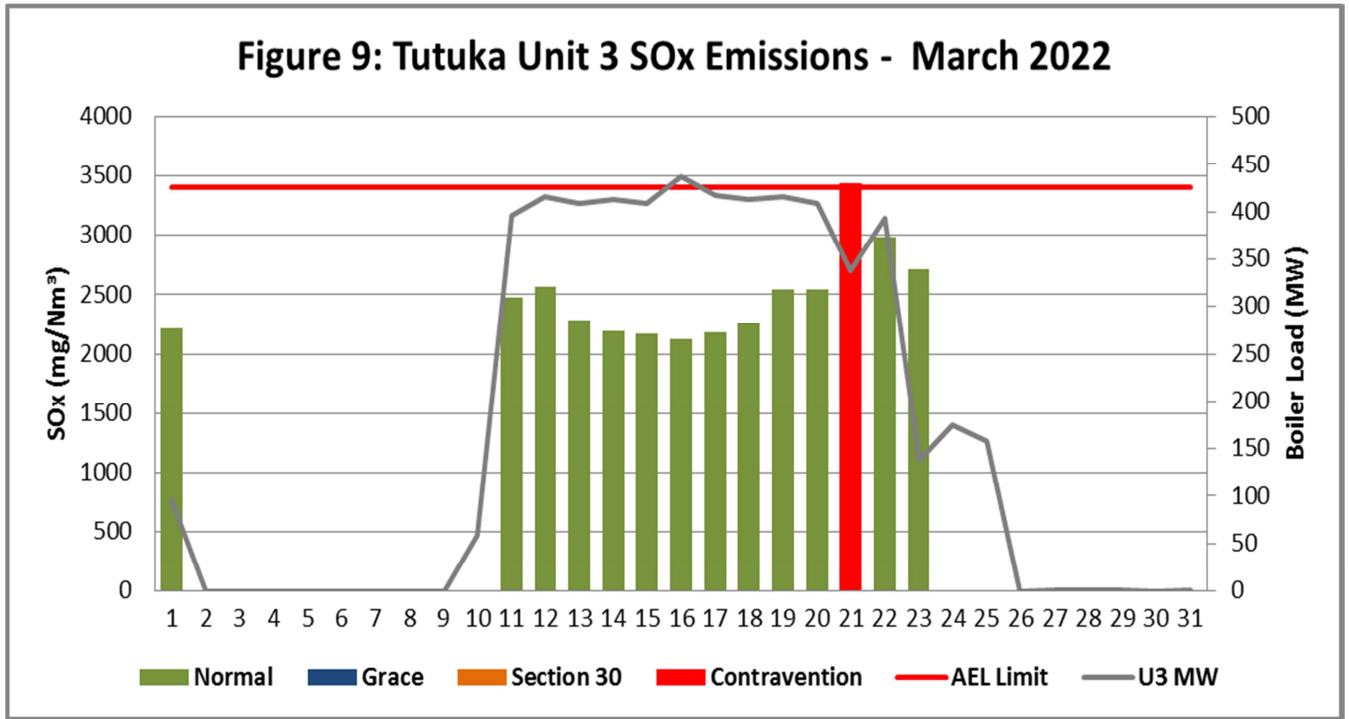


Figure 9: Unit 3 Daily Average SOx emissions for the month of March 2022 (against the emission limit and load Generated)

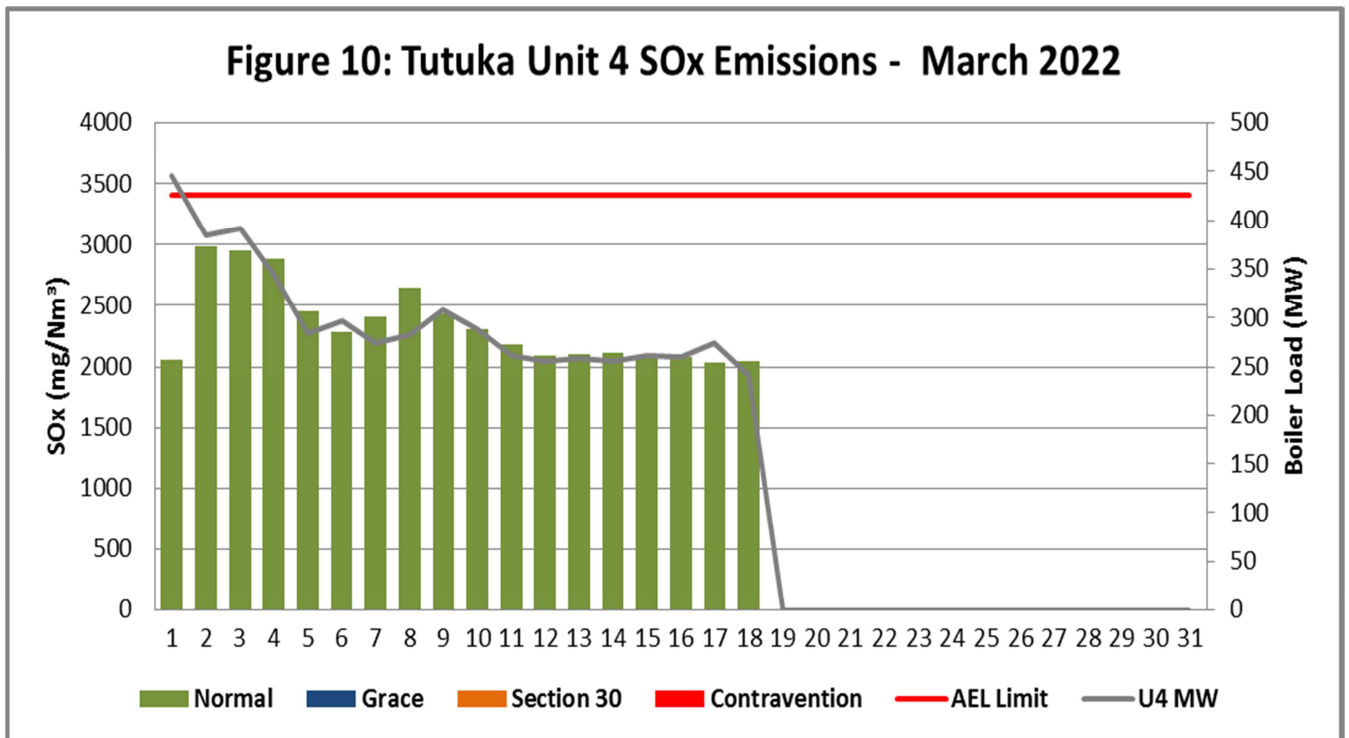


Figure 10: Unit 4 Daily Average SOx emissions for the month of March 2022 (against the emission limit and load Generated)

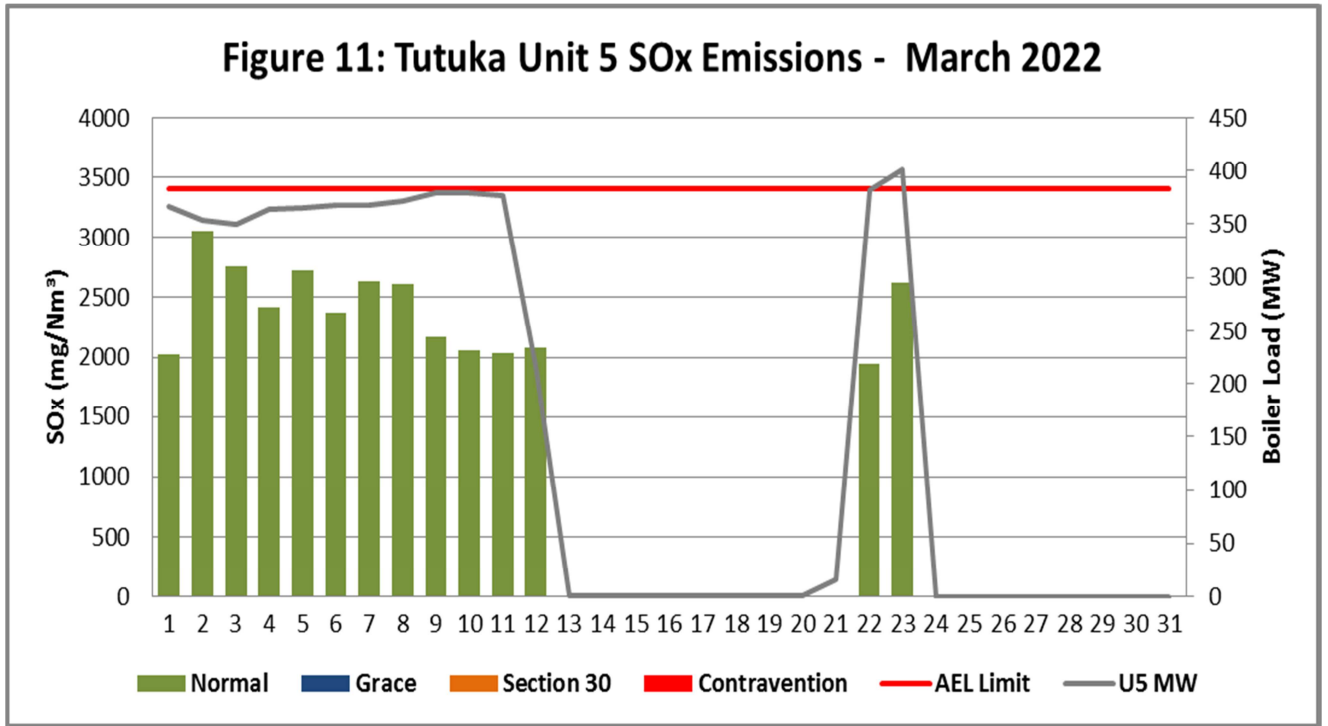


Figure 11: Unit 5 Daily Average SOx emissions for the month of March 2022 (against the emission limit and load Generated)

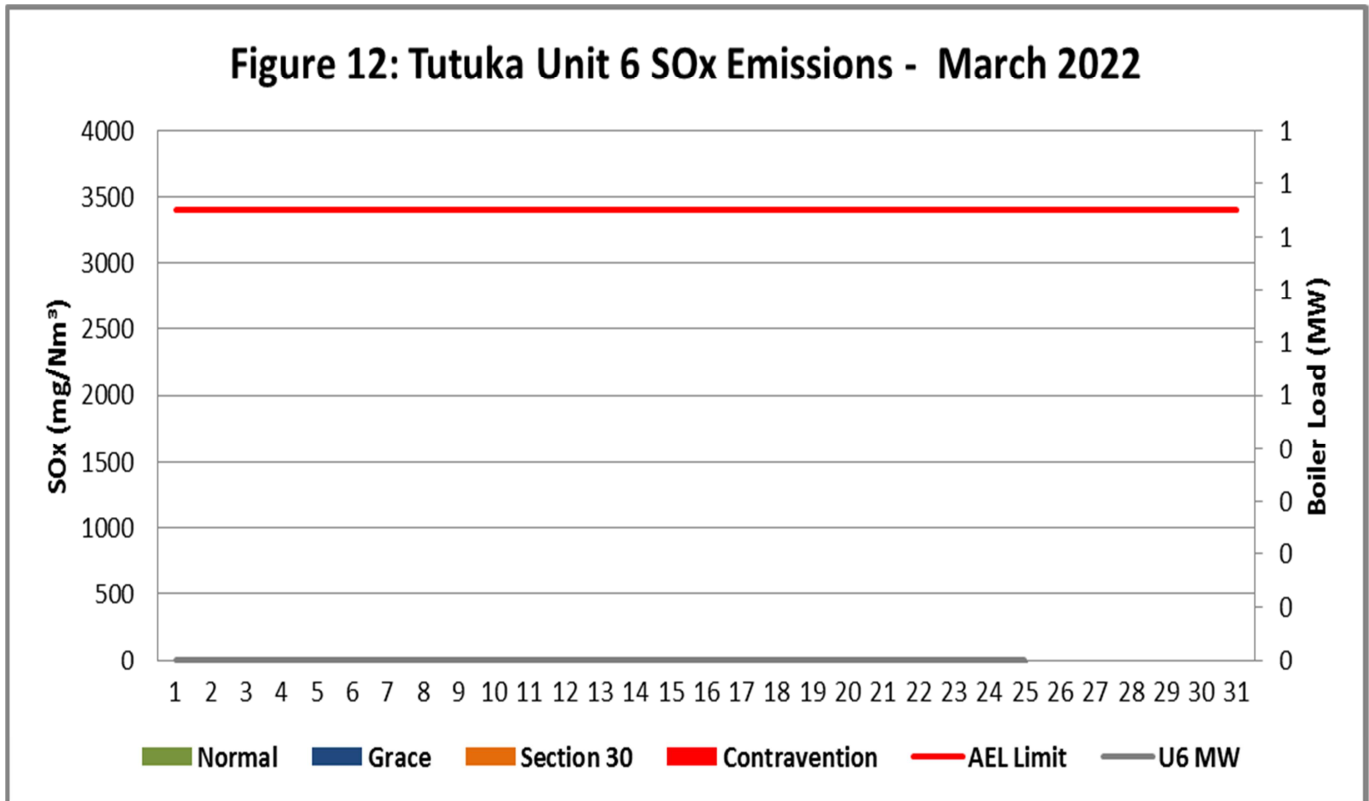


Figure 12: Unit 6 Daily Average SOx emissions for the month of March 2022 (against the emission limit and load Generated)

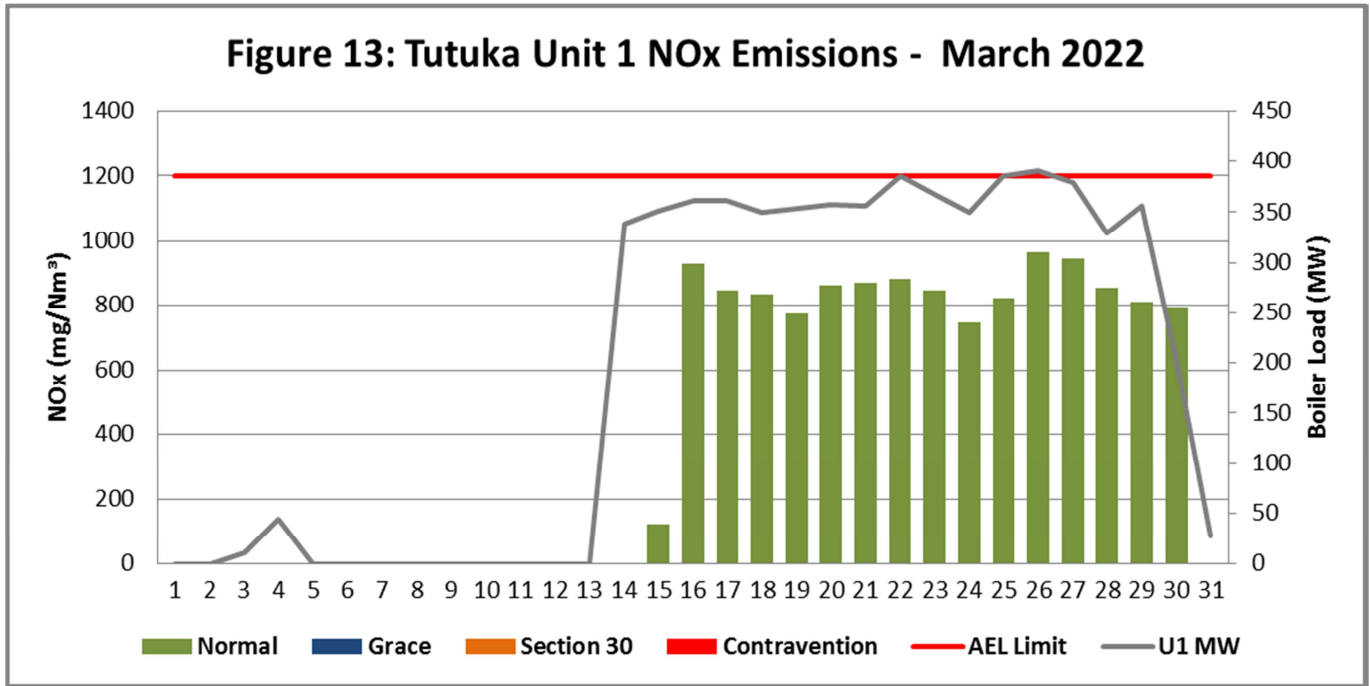


Figure 13: Unit 1 Daily Average NOx emissions for the month of March 2022 (against the emission limit and load Generated)

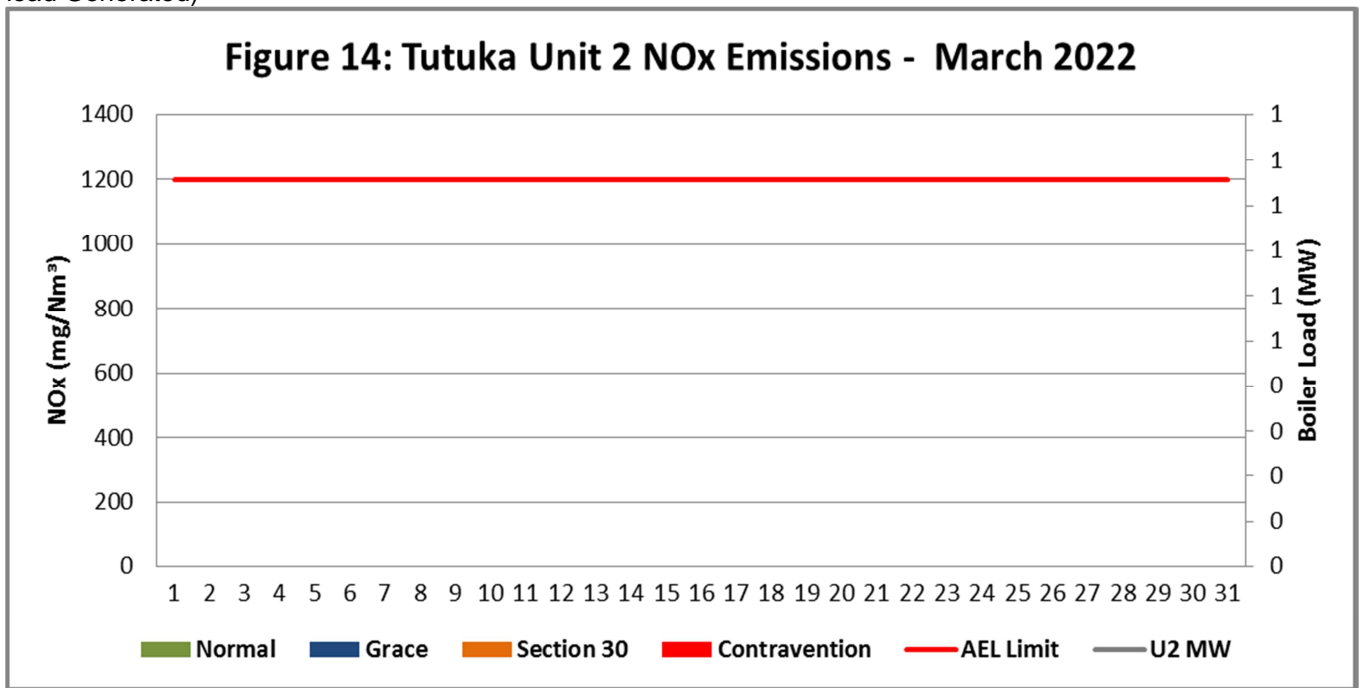


Figure 14: Unit 2 Daily Average NOx emissions for the month of March 2022 (against the emission limit and load Generated)

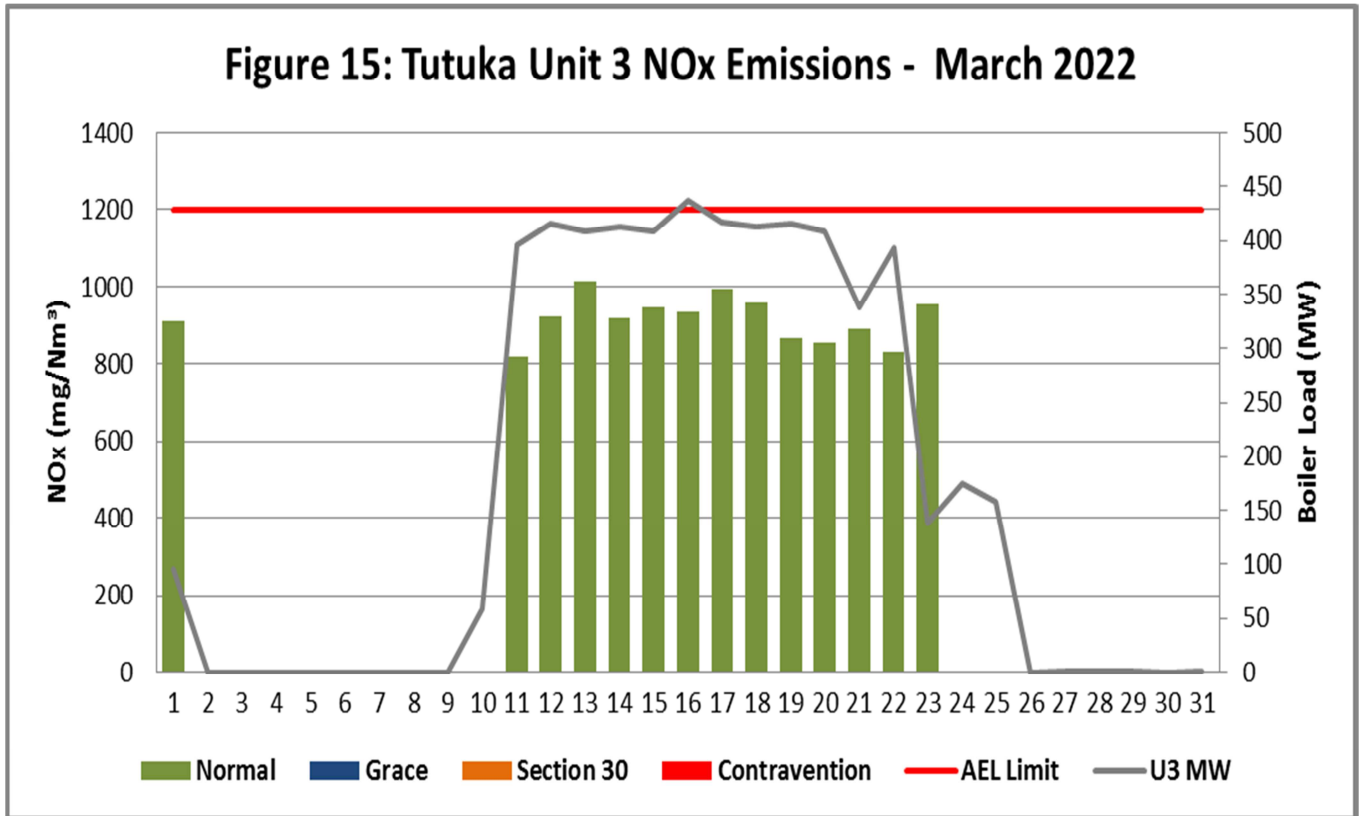


Figure 15: Unit 3 Daily Average NOx emissions for the month of March 2022 (against the emission limit and load Generated)

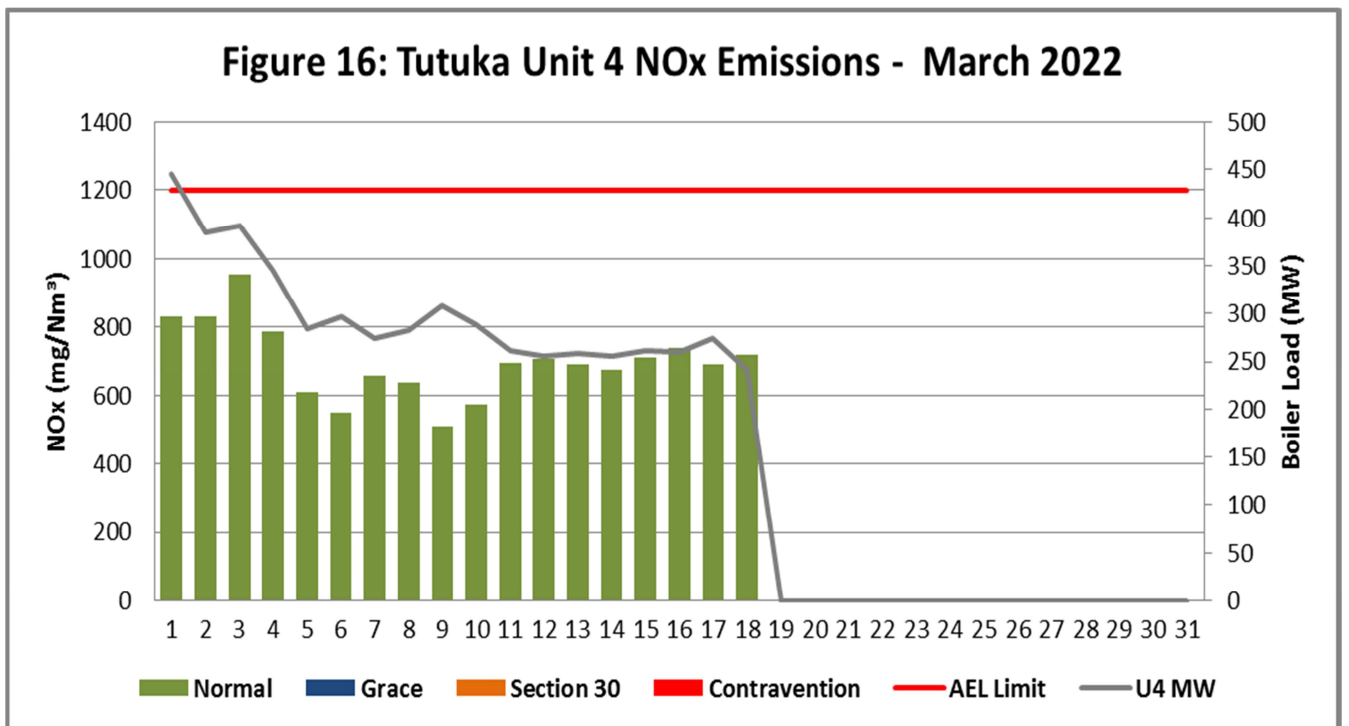


Figure 16: Unit 4 Daily Average NOx emissions for the month of March 2022 (against the emission limit and load Generated)

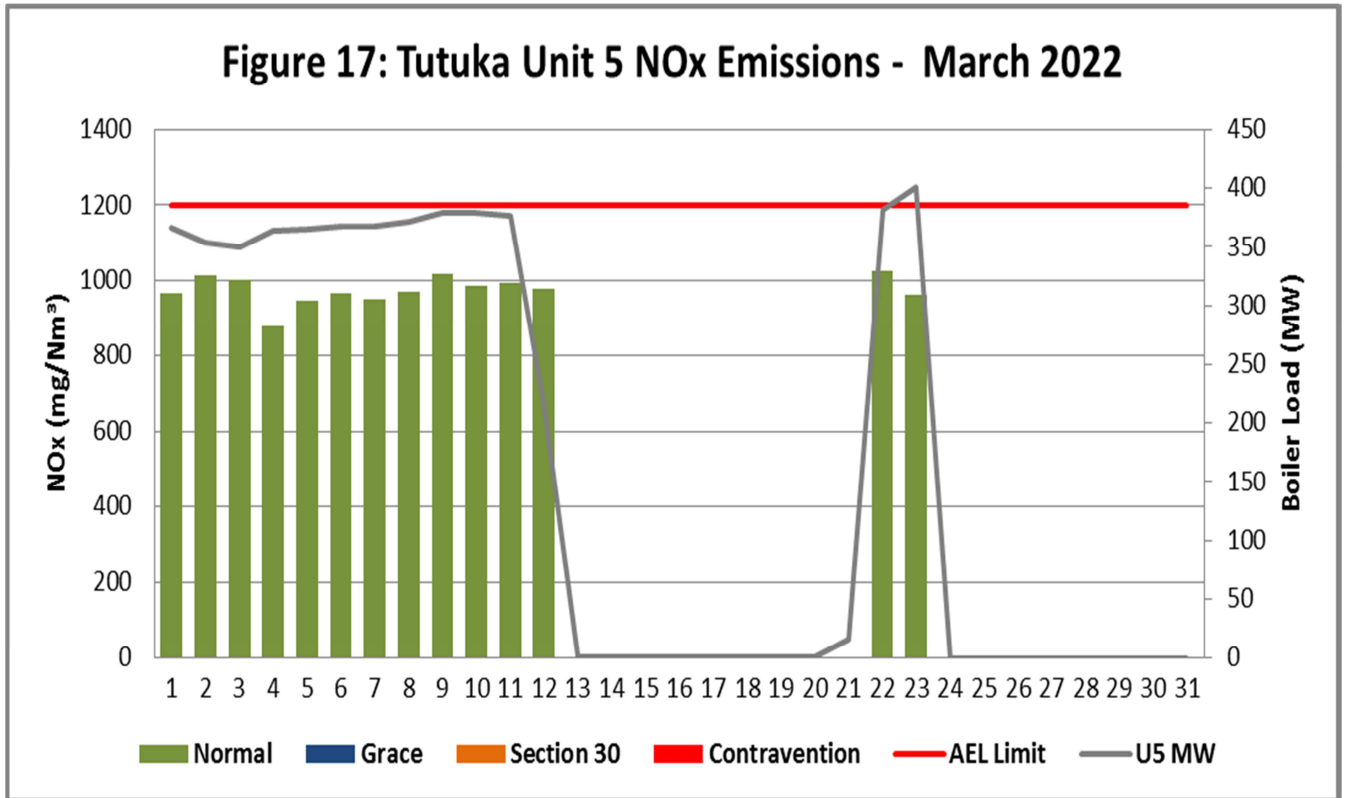


Figure 17: Unit 5 Daily Average NOx emissions for the month of March 2022 (against the emission limit and load Generated)

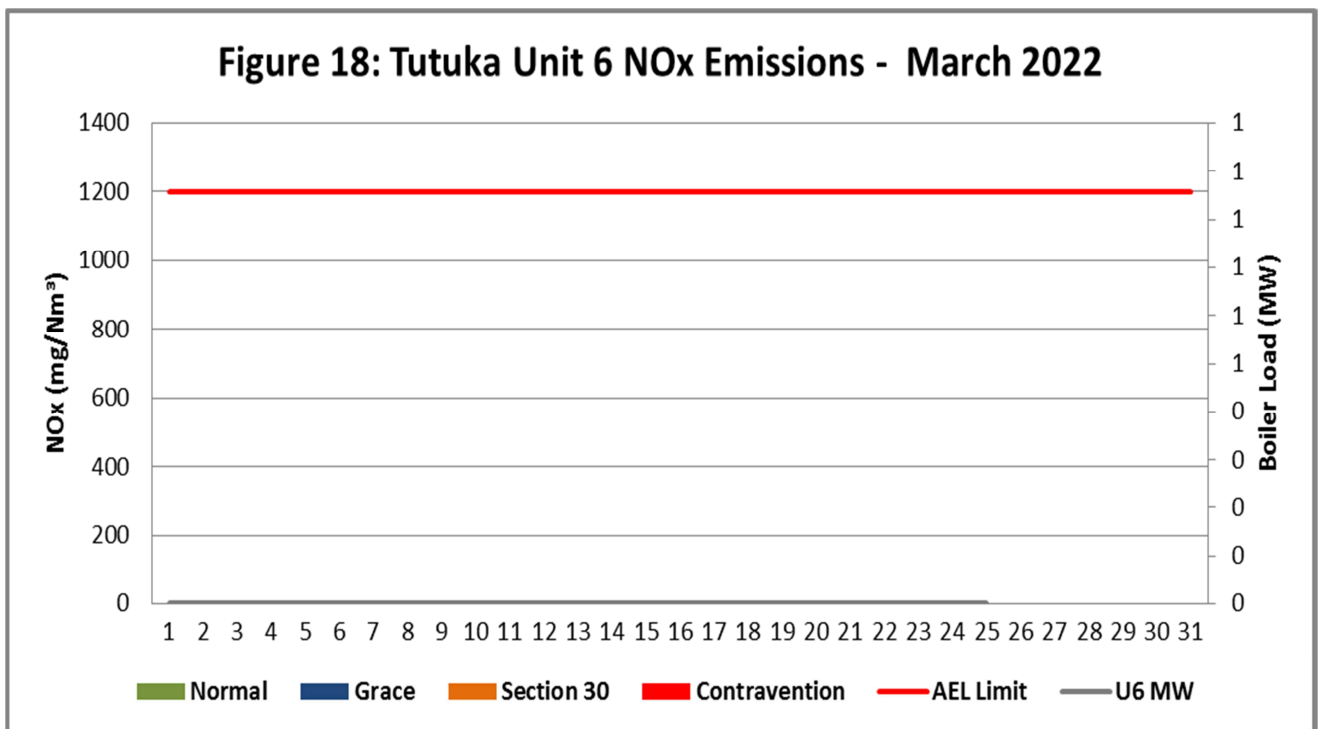


Figure 18: Unit 6 Daily Average NOx emissions for the month of March 2022 (against the emission limit and load Generated)

Table 4: Monthly tonnages for the month March 2022

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)	CO ₂ (tons)
Unit 1	203.0	1 603	561	158 263
Unit 2	0.0	0	0	0
Unit 3	216.5	1 942	720	184 886
Unit 4	115.9	1 490	450	118 507
Unit 5	411.9	1 777	709	150 669
Unit 6	0.0	0	0	0
SUM	947.3	6 813	2 440	612 325

Table 5: Each unit and respective days operating under normal operation and section 30 days respectively

Table 5.1: Operating days in compliance to PM AEL Limit - March 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	10	6	0	0	6	288.7
Unit 2	0	0	0	0	0	0
Unit 3	14	0	0	0	0	278.1
Unit 4	17	1	0	0	1	174.2
Unit 5	0	0	0	14	14	570.1
Unit 6	0	0	0	0	0	0
SUM	41	7	0	14	21	

Table 5.2: Operating days in compliance to SO_x AEL Limit –March 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO _x (mg/Nm ³)
Unit 1	16	0	0	0	0	2 298.3
Unit 2	0	0	0	0	0	0
Unit 3	13	0	0	1	1	2 478.7
Unit 4	18	0	0	0	0	2 341.9
Unit 5	14	0	0	0	0	2 392.2
Unit 6	0	0	0	0	0	0
SUM	61	0	0	1	1	

Table 5.3: Operating days in compliance to NO_x AEL Limit – March 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	16	0	0	0	0	806.7
Unit 2	0	0	0	0	0	0
Unit 3	14	0	0	0	0	915.3
Unit 4	18	0	0	0	0	698.4
Unit 5	14	0	0	0	0	975.3
Unit 6	0	0	0	0	0	0
SUM	61	0	0	0	0	

Light up information

Table 6: PM Start-up information for the month of fabricate March 2022

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

Complaints Register

Table 7: Complaints for the month of March 2022.

Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date by which measure will be implemented
There was no complaint related to air quality received during the month of March 2022.					

General

Unit 04 had PM exceedance which was within the grace period during the month of March 2022; unit 1 and 5 had PM contraventions which were due to challenges with the dust handling plant. Unit 02 and 06 were off during the whole month of March 2022. The gaseous (SOx) emissions on unit 03, was high for 1day.The other unit gaseous emissions were within the daily limit during the month of March 2022; refer to graphs above.

NB: The rest of the information demonstrating compliance with the emission license conditions. For more information contact the Tutuka Environmental team.

Regards

Compiled by
Monica Mokgawa
AIR QUALITY OFFICER: TUTUKA POWER STATION

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Date: 10 May 2022

Verified by
Mike Molepo
SENIOR CHEMIST (BOILER ENGINEERING): TUTUKA POWER STATION

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Approved by:
Sello Mametja
GENERAL MANAGER: TUTUKA POWER STATION

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Date: 2022/05/11