

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

Date:
 01 May 2018

Enquiries:

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

1. Raw Materials and Products

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption/ Rate in Month of May 2018
	Coal	Tons/month	850 000	877 904
	Fuel Oil	Tons/month	5 500	3818.86
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of MAY 2018
	Energy	GW	1 589 GW (based on annual permitted production capacity)	1 421.7
	Ash	kT/month	N/A	227 289.3

Table 1: Quantity of Raw Materials and Products used/produced for the month of MAY 2018

Generation Division – Operating Unit Coal 2
 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

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

2. Abatement Technology

Associated Unit/Stack	Technology Type	*Minimum Control Efficiency (%)	Actual Utilisation (%)
Unit 1	Electrostatic precipitator	99.5%	100
Unit 2	Electrostatic precipitator	99.3%	100
Unit 3	Electrostatic precipitator	99.4%	100
Unit 4	Electrostatic precipitator	99.1%	100
Unit 5	Electrostatic precipitator	99.1%	100
Unit 6	Electrostatic precipitator	99.4%	100

Table 2: Abatement Equipment Control Technology for month of MAY 2018

*Calculated from the assumption of 90% fly ash to 10% bottom ash and percentage ash as measured in coal (Alstom, Tutuka Power Station Capacity Increase Study).

3. Energy Source Characteristics

Characteristic	Stipulated Range (Unit)	Monthly Average Content
CV Content	N/A	20.220
Sulphur Content	0.6 - > 2.6%	0.870
Ash Content	21-33%	25.890

Table 3: Energy Source Material Characteristics for the month of MAY 2018

4. Emissions Reporting

Unit	PM (tons)	*SO ₂ (tons)	*NO ₂ (tons)	*CO ₂ (tons)
1	226.3	18 075	7 640	
2	282.3			
3	230.3			
4	355.6			
5	310.8			
6	38.8			

Table 4: Monthly tonnages for the month of MAY 2018

*Based on coal burnt as per Emissions Summary

Unit	PM	*NO ₂	*SO ₂	*CO ₂
1	130.6	852	2246	
2	199.4	822	1924	
3	140.1	871	1740	
4	201.0	899	2198	
5	219.9	1022	1988	
6	51.8	703	2508	

Table 5: Monthly average Emissions Concentration (mg/Nm³)

*Based on unverified gaseous emission data - QAL2 tests in progress

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

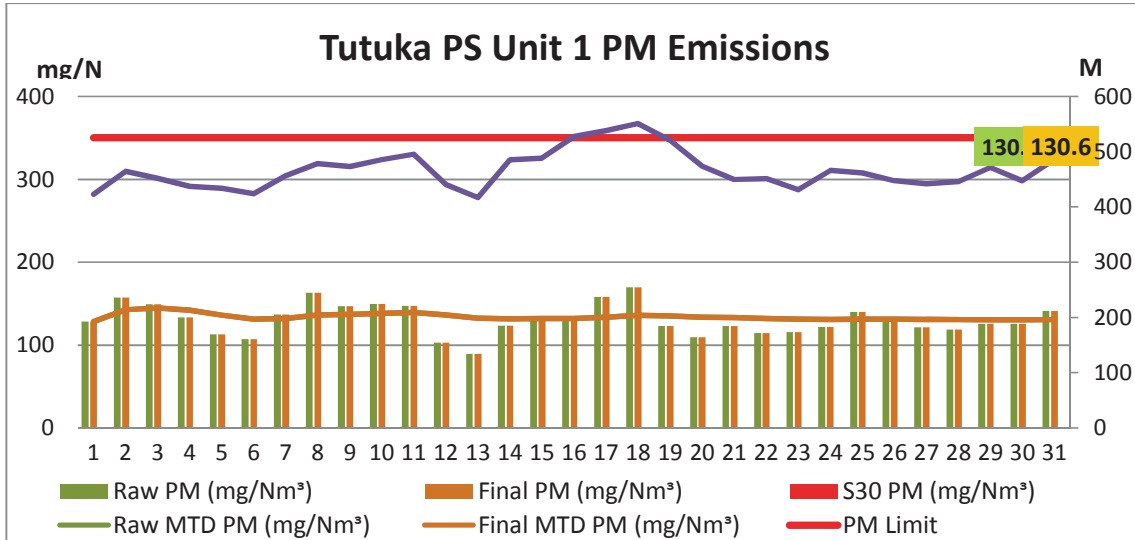


Figure 1: Unit 1 Daily Average Particulate Matter Emissions for the month of MAY 2018 (against the emissions limit and load generated)

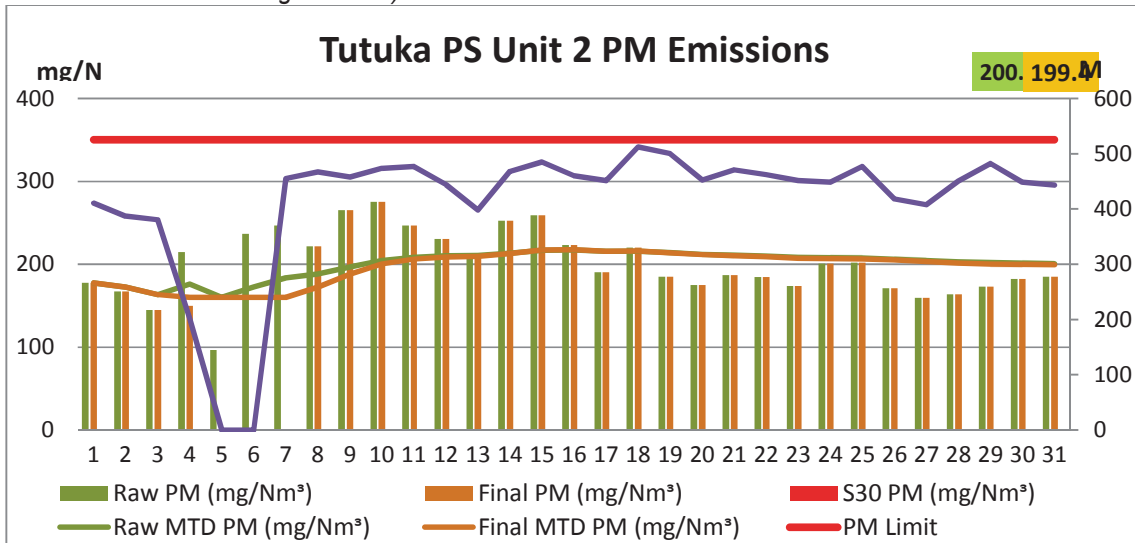


Figure 2: Unit 2 Daily Average emissions for the month of MAY 2018 (against the emission limits and load generated)

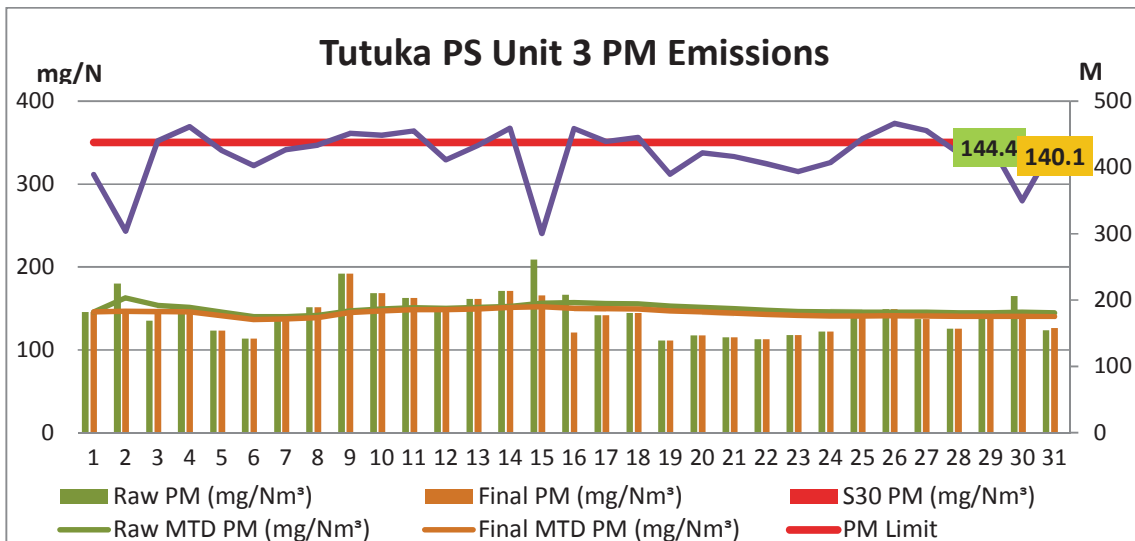


Figure 3: Unit 3 Daily Average Particulate Matter Emissions for the month of MAY 2018 (against the emissions limit and load generated)

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

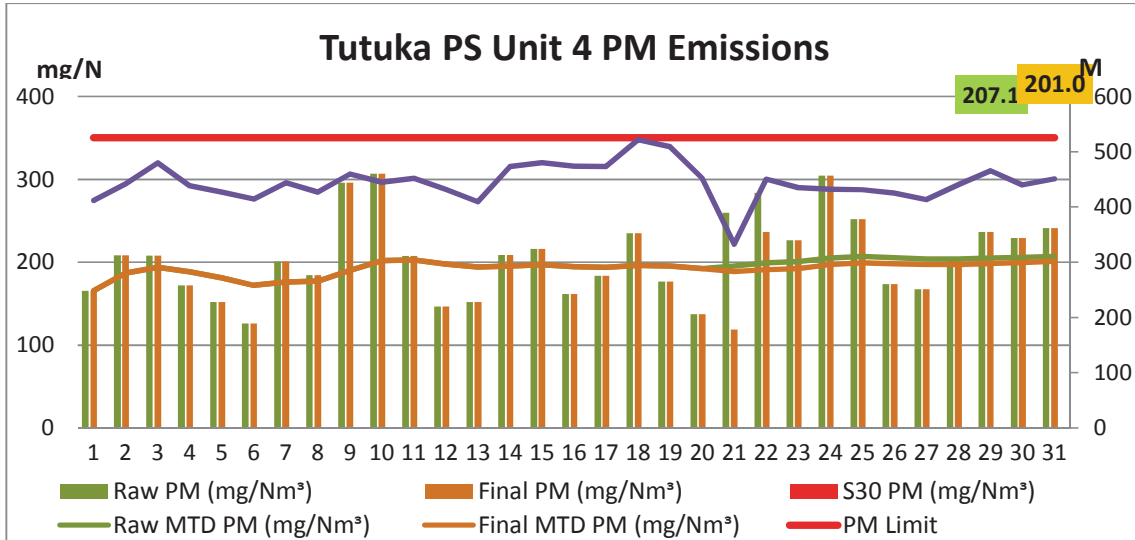


Figure 4: Unit 4 Daily Average PM emissions for the month of MAY 2018 (against the emission limits and load generated)

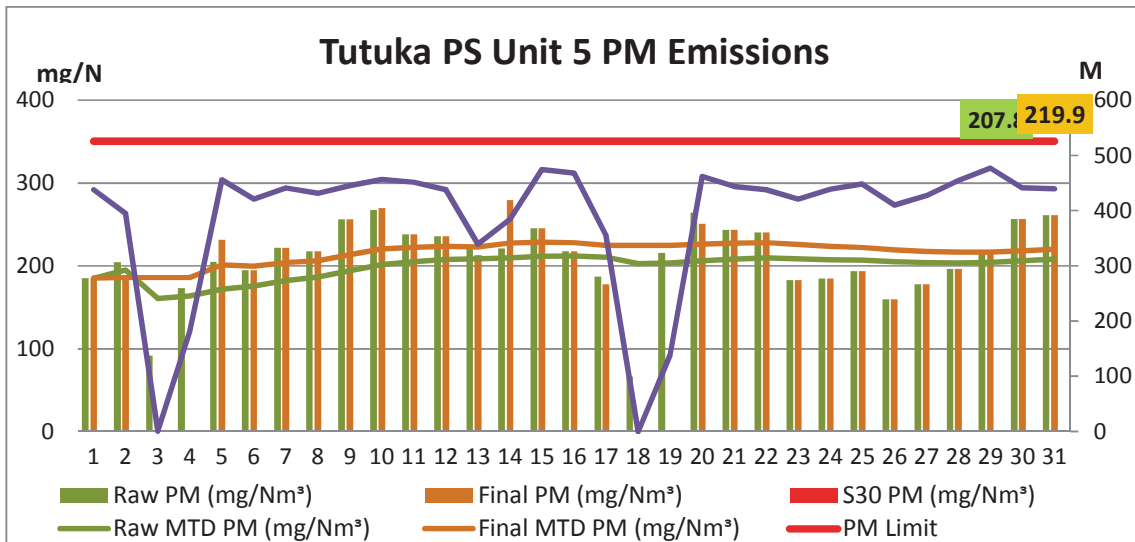


Figure 5: Unit 5 Daily Average Particulate Matter Emissions for the month of MAY 2018 (against the emissions limit and load generated)

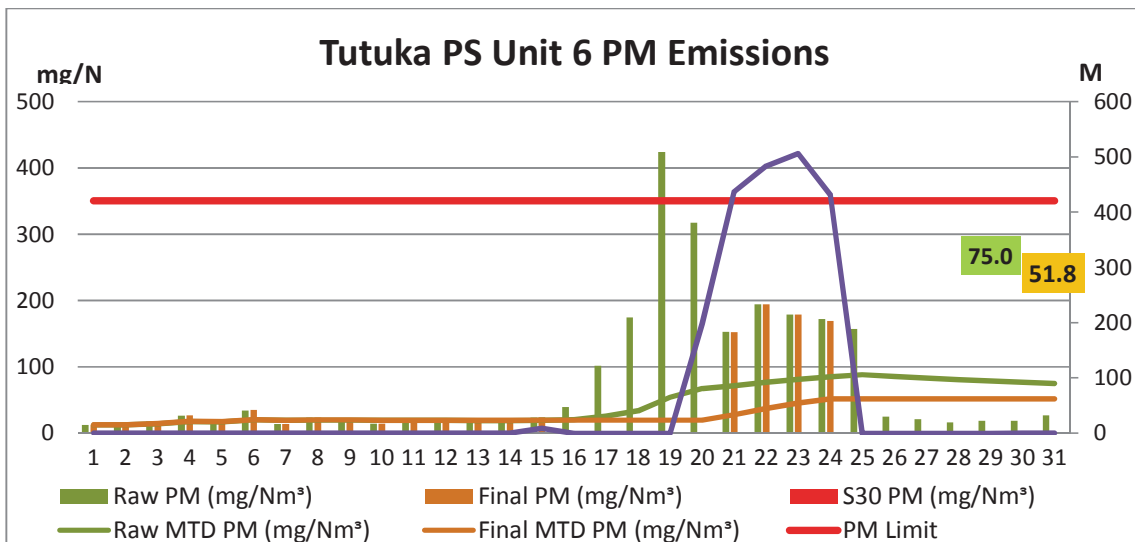


Figure 6: Unit 6 Daily Average PM emissions for the month of MAY 2018 (against the emission limits and load generated)

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

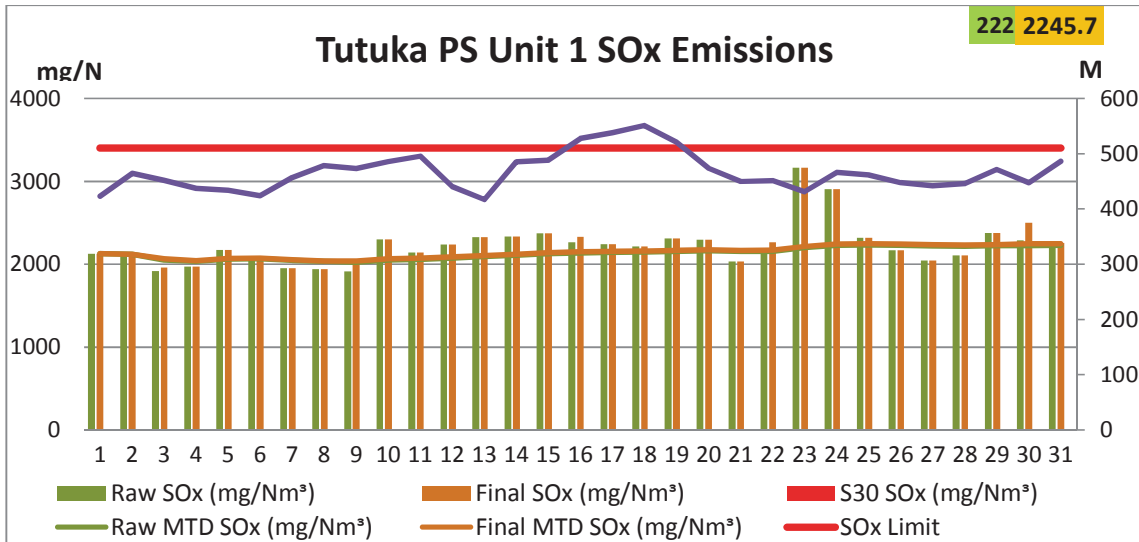


Figure 7: Unit 1 Daily Average SOx Emissions for the month of MAY 2018 (against the emissions limit and load generated)

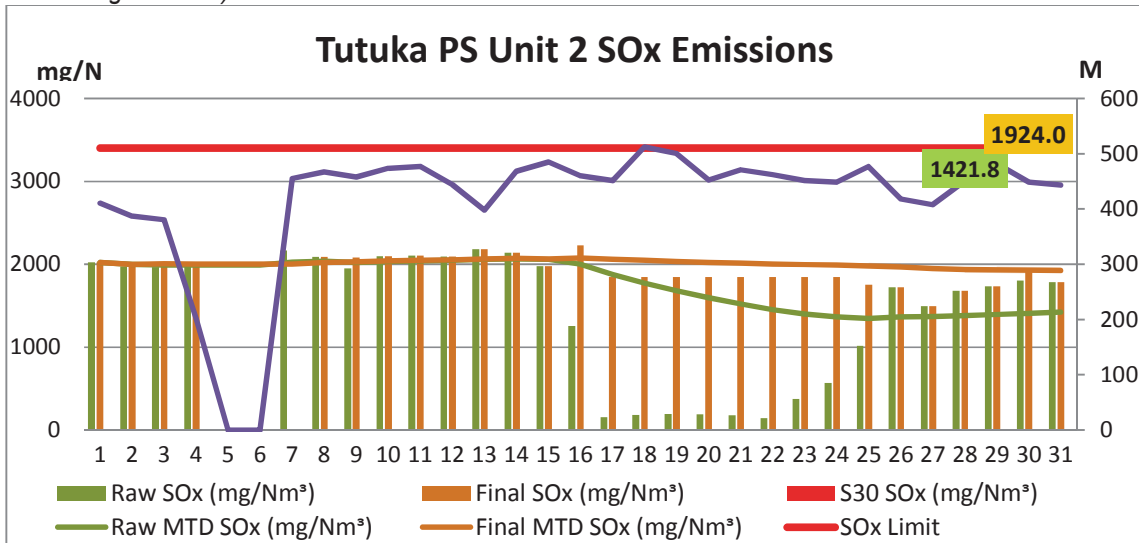


Figure 8: Unit 2 Daily Average SOx emissions for the month of MAY 2018 (against the emission limits and load generated)

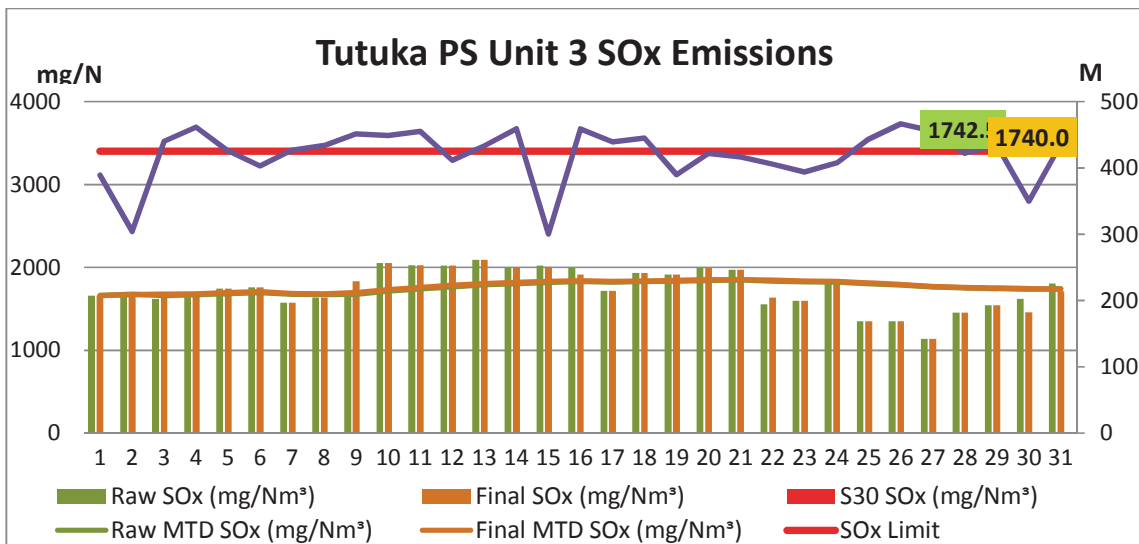


Figure 9: Unit 3 Daily Average SOx emissions for the month of MAY 2018 (against the emission limits and load generated)

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

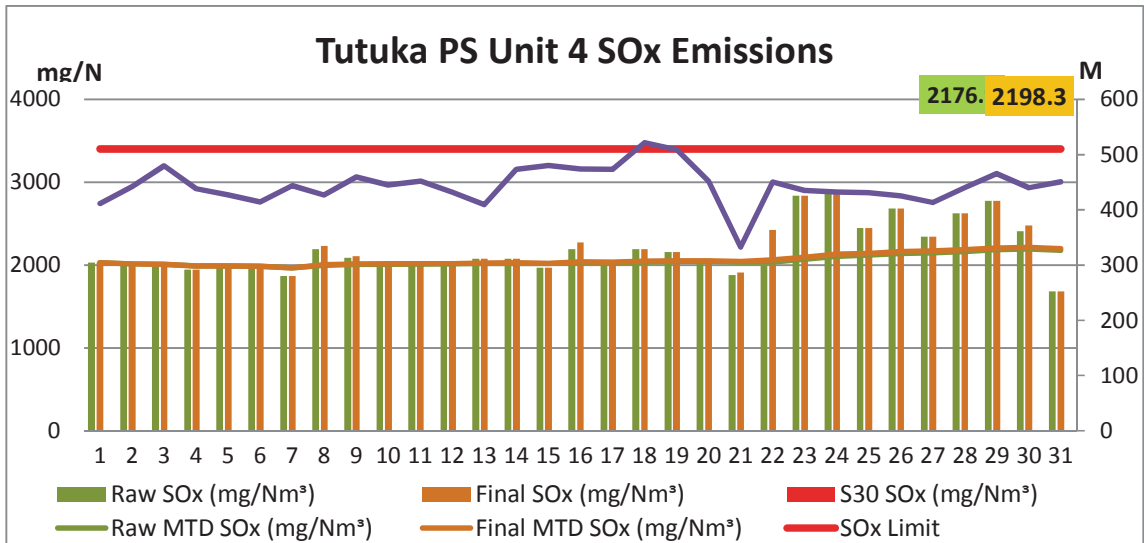


Figure 10: Unit 4 Daily Average SOx emissions for the month of MAY 2018 (against the emission limits and load generated)

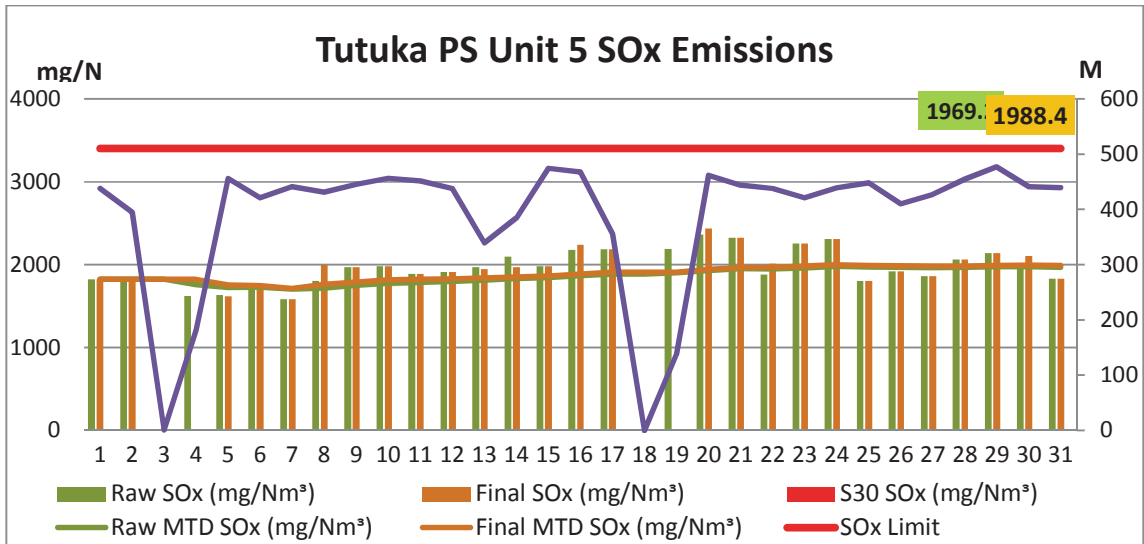


Figure 11: Unit 5 Daily Average SOx Emissions for the month of MAY 2018 (against the emissions limit and load generated)

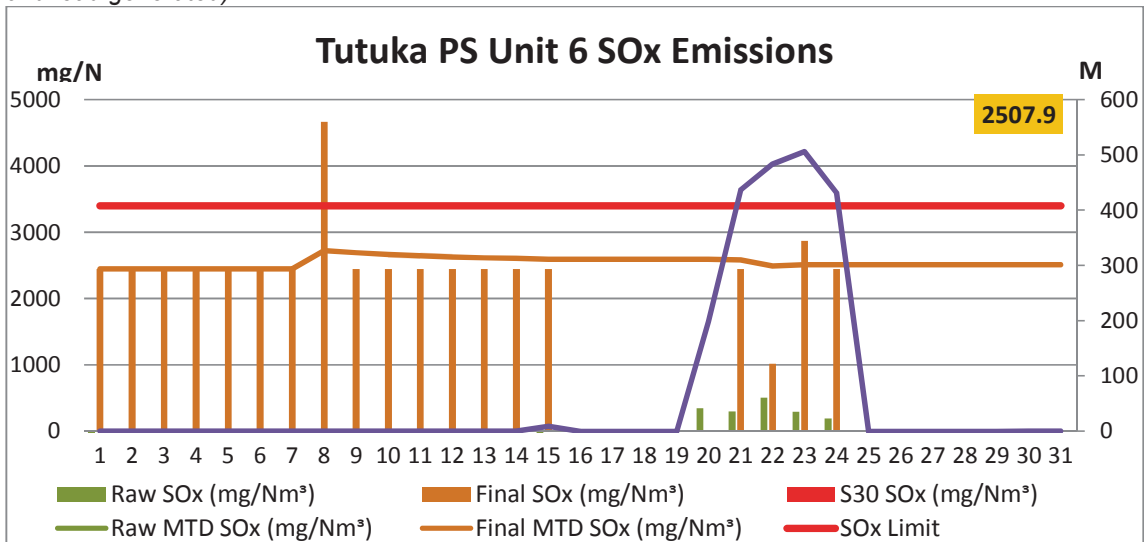


Figure 12: Unit 6 Daily SOx emissions for the month of MAY 2018 (against the emission limits and load generated)

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

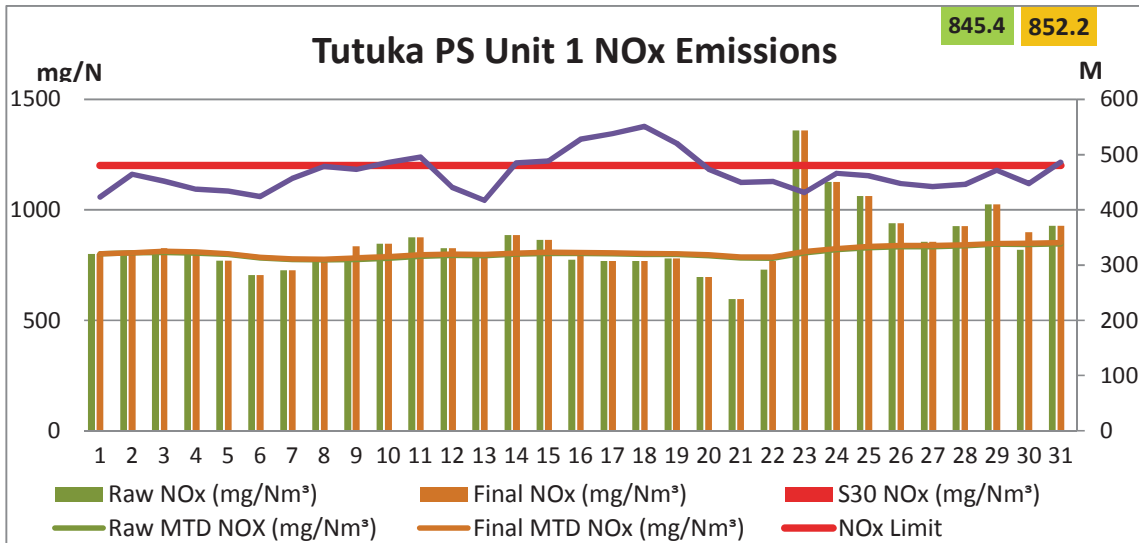


Figure 13: Unit 1 Daily Average NOx Emissions for the month of MAY 2018 (against the emissions limit and load generated)

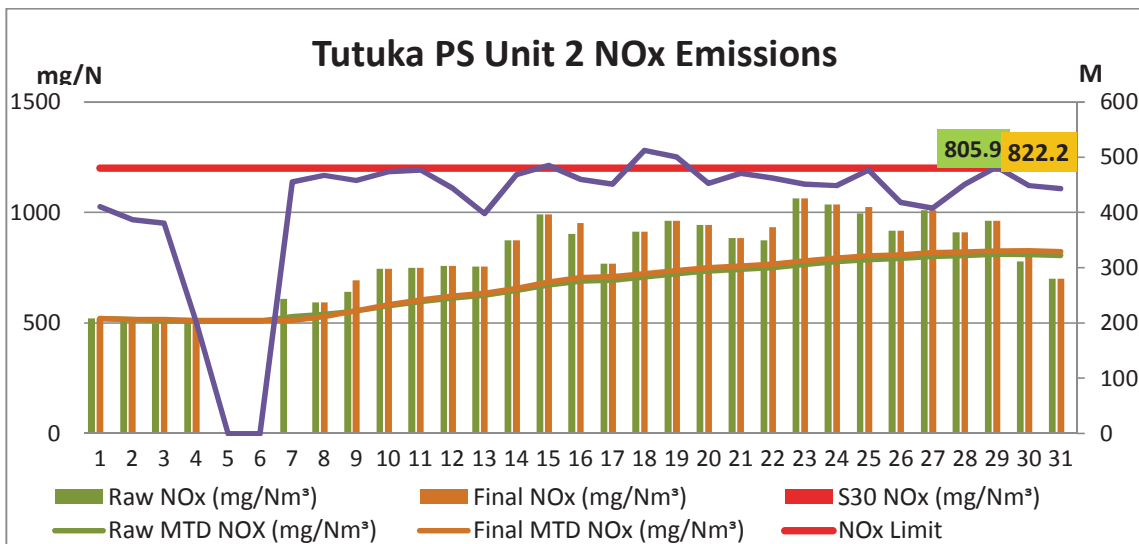


Figure 14: Unit 2 Daily Average NOx emissions for the month of MAY 2018 (against the emission limits and load generated)

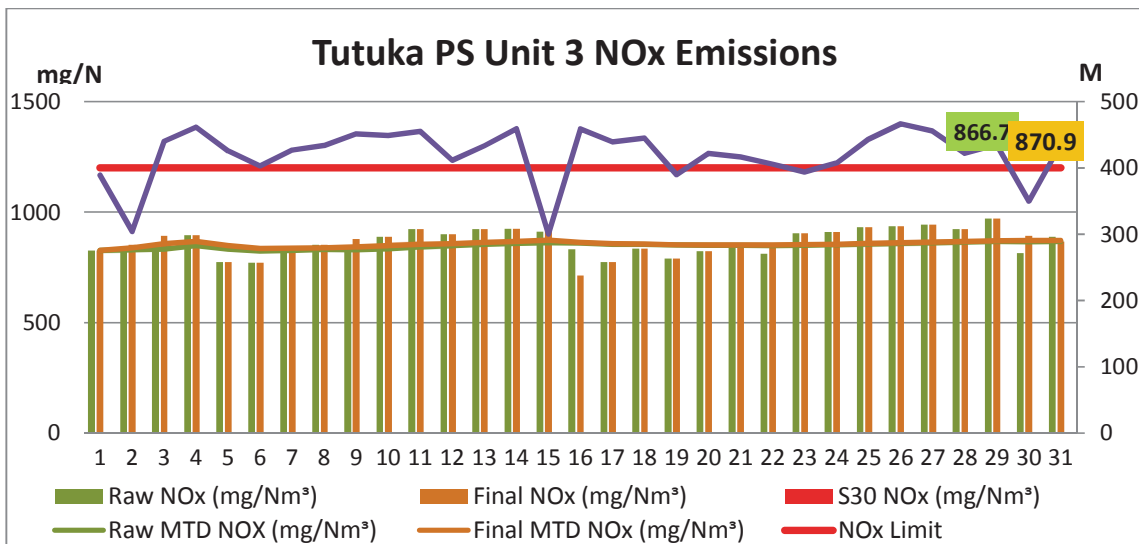


Figure 15: Unit 3 Daily Average NOx emissions for the month of MAY 2018 (against the emission limits and load generated)

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

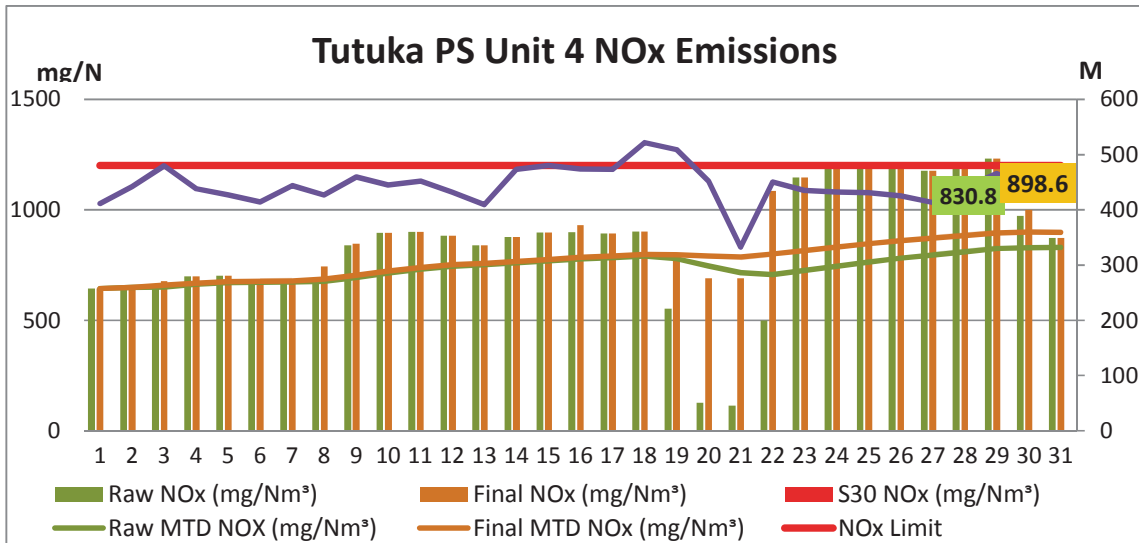


Figure 16: Unit 4 Daily Average NOx emissions for the month of MAY 2018 (against the emission limits and load generated)

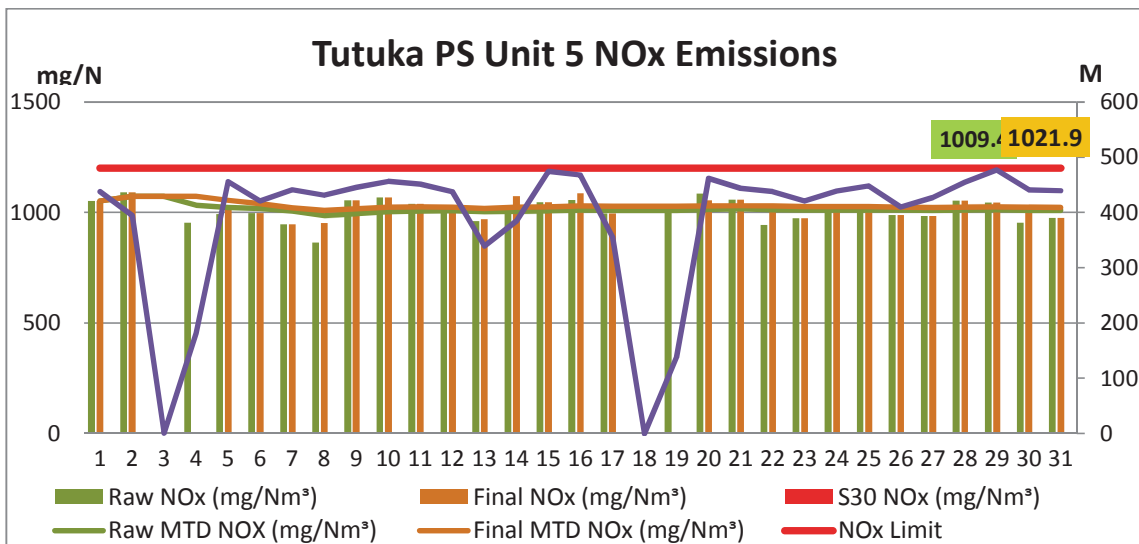


Figure 17: Unit 5 Daily Average NOx emissions for the month of MAY 2018 (against the emission limits and load generated)

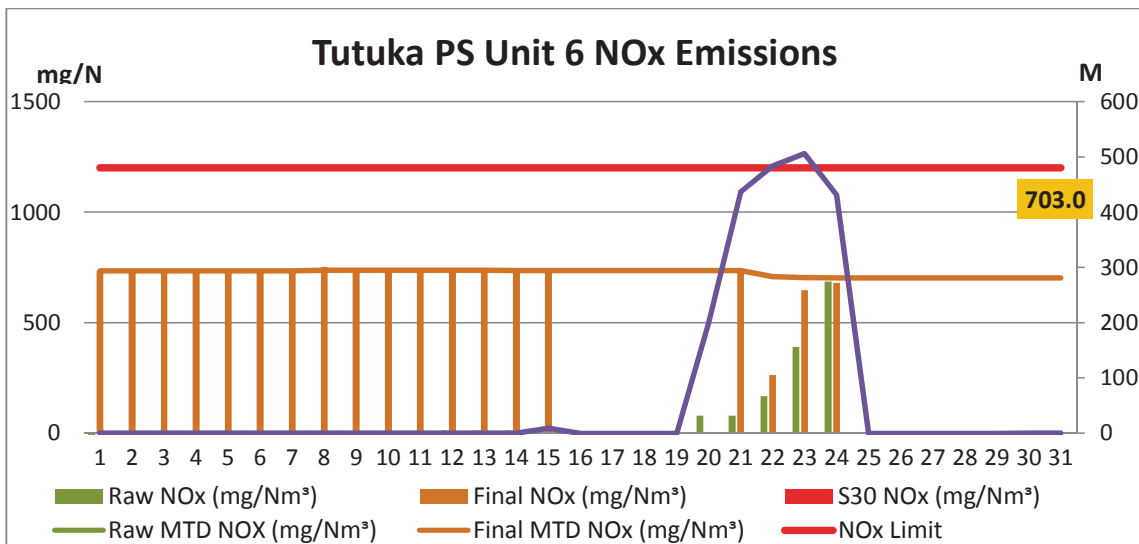


Figure 18: Unit 6 Daily Average NOx emissions for the month of MAY 2018 (against the emission limits and load generated)

TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – MAY 2018

5. Comments on the Performance and Availability of Each Unit

Unit	Days operating under normal operation	Days operating in grace period	Days operating under S 30	Days Unit offline
1	31:00:00	00:00:00	00:00:00	00:00:00
2	28:12:20	00:00:00	00:00:00	02:11:40
3	30:09:50	00:00:00	00:00:00	00:14:10
4	30:19:35	00:00:00	00:00:00	00:04:25
5	27:11:55	00:00:00	00:00:00	03:12:05
6	18:23:15	00:00:00	00:00:00	12:00:45

Table 6: Each unit and respective days operating under normal operation, days in grace period, and section 30 days respectively for the month of MAY 2018

*Values rounded to the nearest day

Number & Type of Starts	U1	U2	U3	U4	U5	U6
Number Of Hot Starts (Off-Load < 30 Hrs)	1	5	10	4	3	2
Number Of Cold Starts (Off-Load > 30 hrs)	0	0	0	0	0	1

Table 7: Number and type of Unit start-ups for each unit respectively for the month of MAY 2018

6. Complaints

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
N/A	N/A	N/A	N/A	N/A	N/A

Table 8: Complaints for the month of MAY 2018

7. General

Additional information demonstrating compliance with conditions of the Air Emissions License is included in weekly, monthly and annual emission reports submitted to the Eskom Sustainability Division: Air Quality Center of Excellence and the Authorities.

Compiled by:

Emissions Control Officer

Approved by:

Tutuka Environmental Manager