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 ERMELO  
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Date:  
 01 July 2018

Enquiries:

## TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – JULY 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 July 2018
	Coal	Tons/month	850 000	853771
	Fuel Oil	Tons/month	5 500	5390.70
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of JULY 2018
	Energy	GW	1 589 GW (based on annual permitted production capacity)	1421.7
	Ash	kT/month	N/A	215833.4

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

### 2. Abatement Technology

Associated Unit/Stack	Technology Type	*Minimum Control Efficiency (%)	Actual Utilisation (%)
Unit 1	Electrostatic precipitator	98.6%	100
Unit 2	Electrostatic precipitator	99.0%	100
Unit 3	Electrostatic precipitator	99.2%	100
Unit 4	Electrostatic precipitator	98.9%	100
Unit 5	Electrostatic precipitator	99.2%	100
Unit 6	Electrostatic precipitator	99.0%	100

Table 2: Abatement Equipment Control Technology for month of JULY 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	
Sulphur Content	0.6 - > 2.6%	0.88
Ash Content	21-33%	25.28

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

### 4. Emissions Reporting

Unit	PM (tons)	*SO <sub>2</sub> (tons)	*NO <sub>2</sub> (tons)	*CO <sub>2</sub> (tons)
1	222.1	18 565	6 951	
2	253.7			
3	268.5			
4	405.3			
5	327.8			
6	386.1			

Table 4: Monthly tonnages for the month of JULY 2018

\*Based on coal burnt as per Emissions Summary

Unit	PM	*NO <sub>2</sub>	*SO <sub>2</sub>	*CO <sub>2</sub>
1	136.7	709	2256	
2	197.9	755	1899	
3	189.9	858	1955	
4	323.5	743	1968	
5	183.2	994	1989	
6	312.0	772	3173	

Table 5: Monthly average Emissions Concentration (mg/Nm<sup>3</sup>)

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

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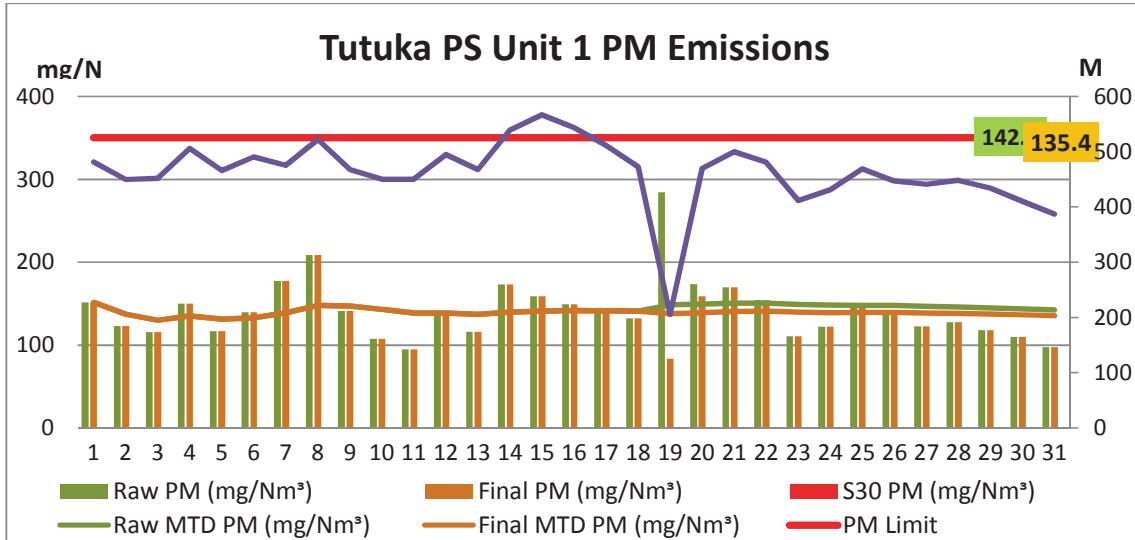


Figure 1: Unit 1 Daily Average Particulate Matter Emissions for the month of JULY 2018 (against the emissions limit and load generated)

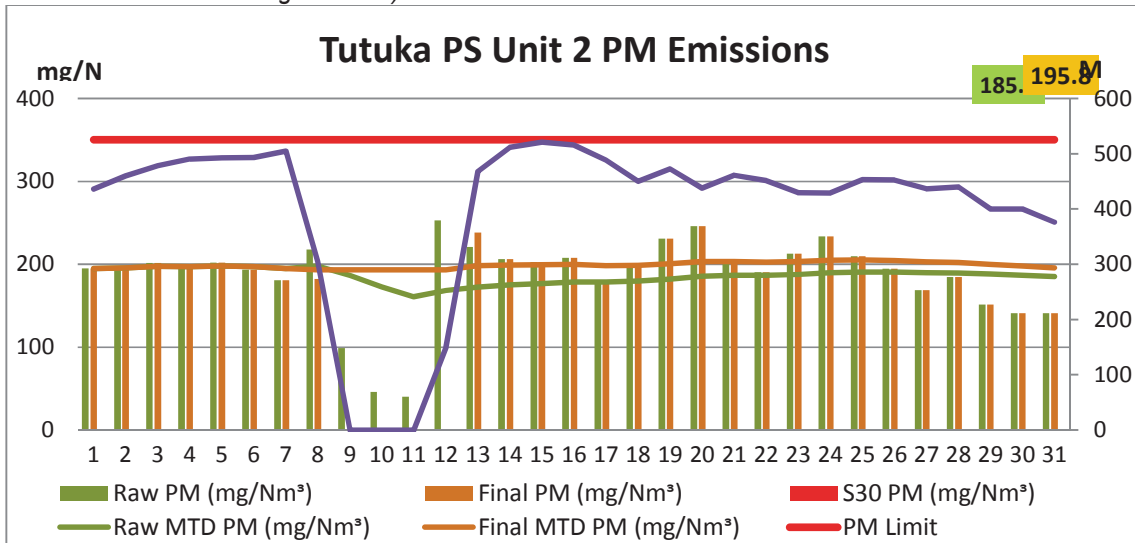


Figure 2: Unit 2 Daily Average emissions for the month of JULY 2018 (against the emission limits and load generated)

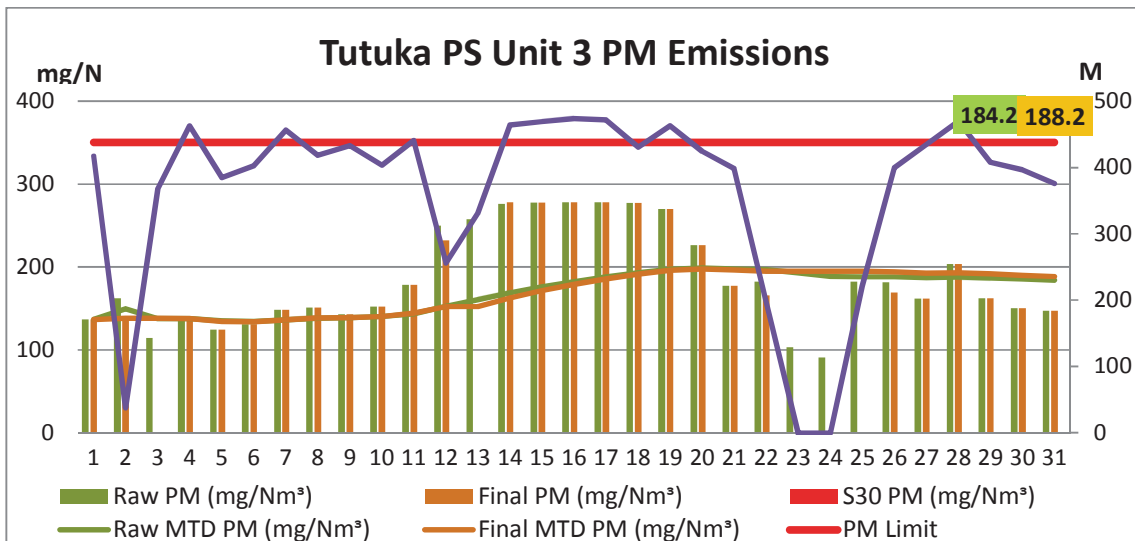


Figure 3: Unit 3 Daily Average Particulate Matter Emissions for the month of JULY 2018 (against the emissions limit and load generated)

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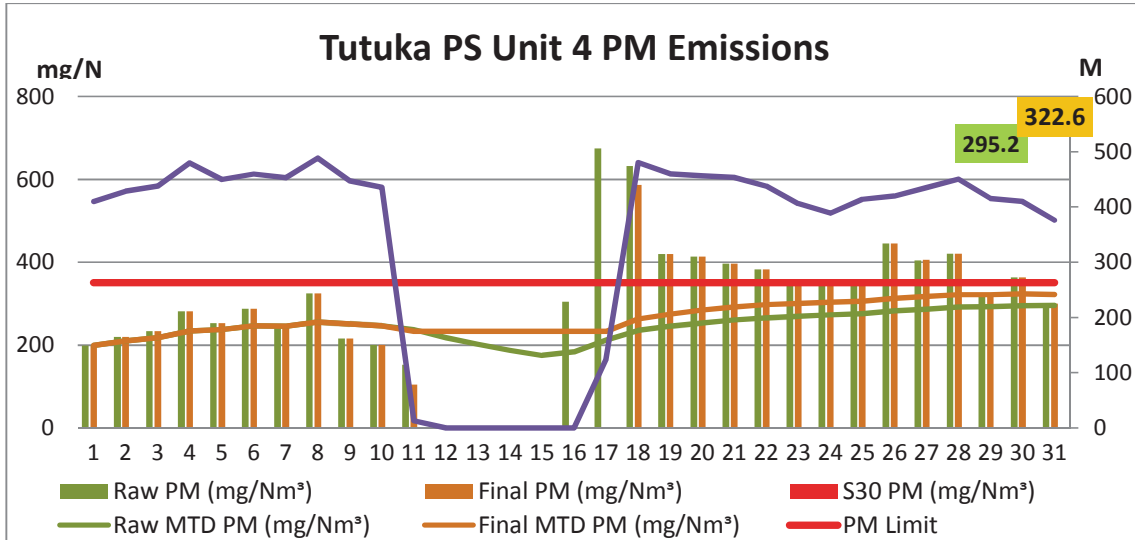


Figure 4: Unit 4 Daily Average PM emissions for the month of JULY 2018 (against the emission limits and load generated)

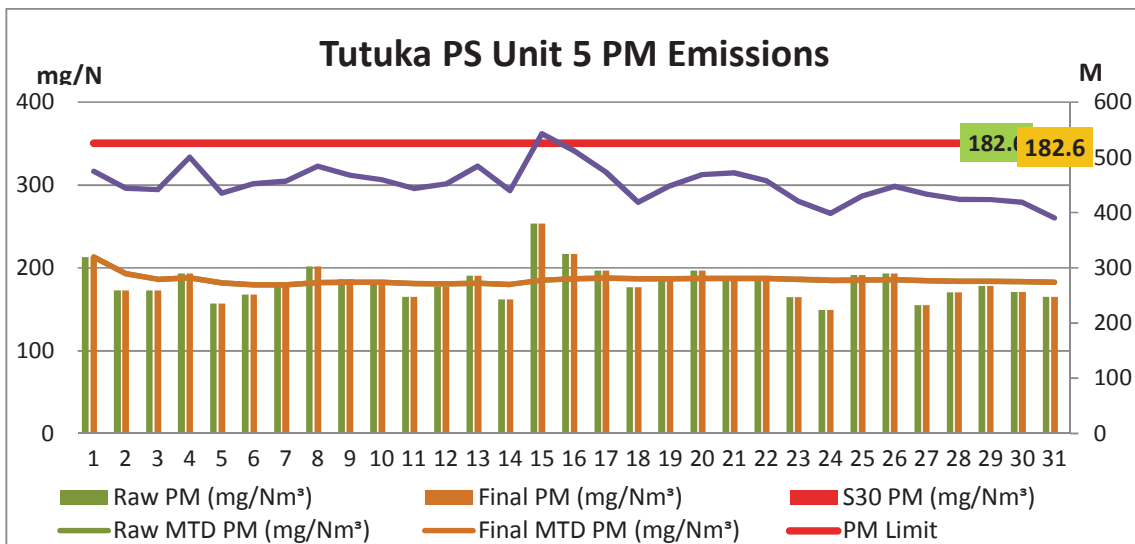


Figure 5: Unit 5 Daily Average Particulate Matter Emissions for the month of JULY 2018 (against the emissions limit and load generated)

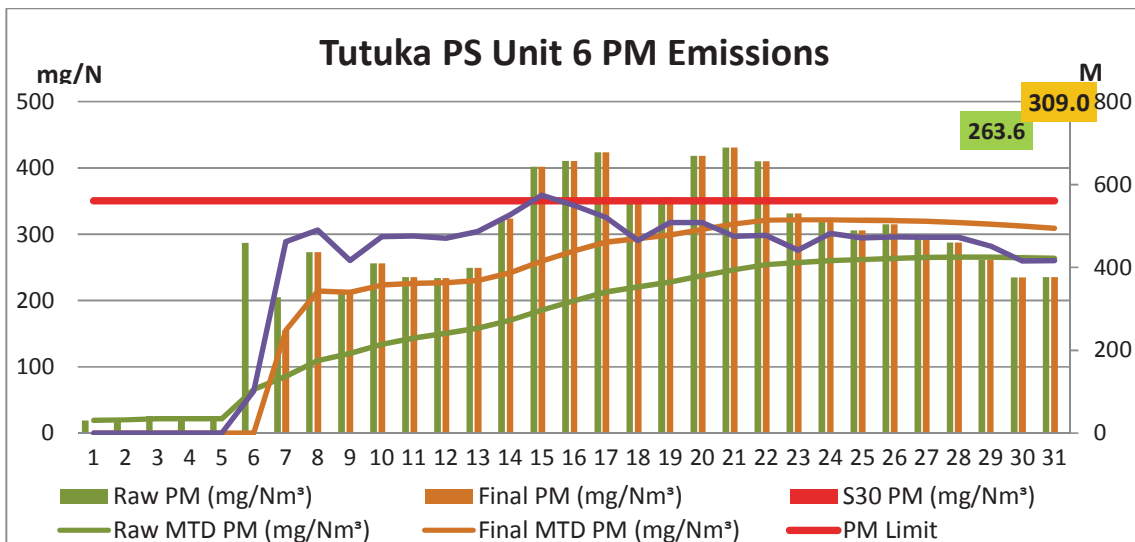


Figure 6: Unit 6 Daily Average PM emissions for the month of JULY 2018 (against the emission limits and load generated)

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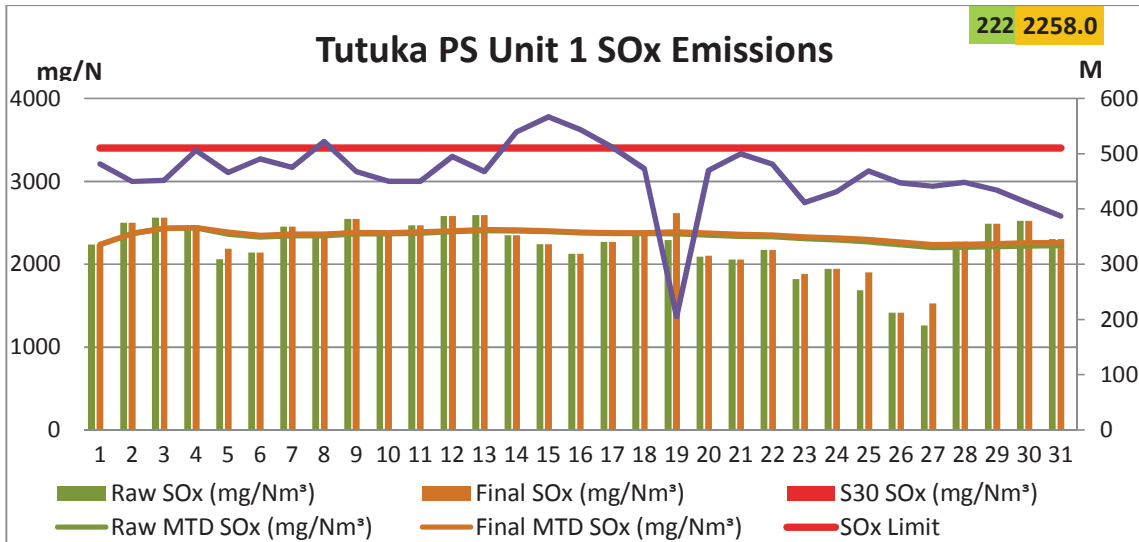


Figure 7: Unit 1 Daily Average SOx Emissions for the month of JULY 2018 (against the emissions limit and load generated)

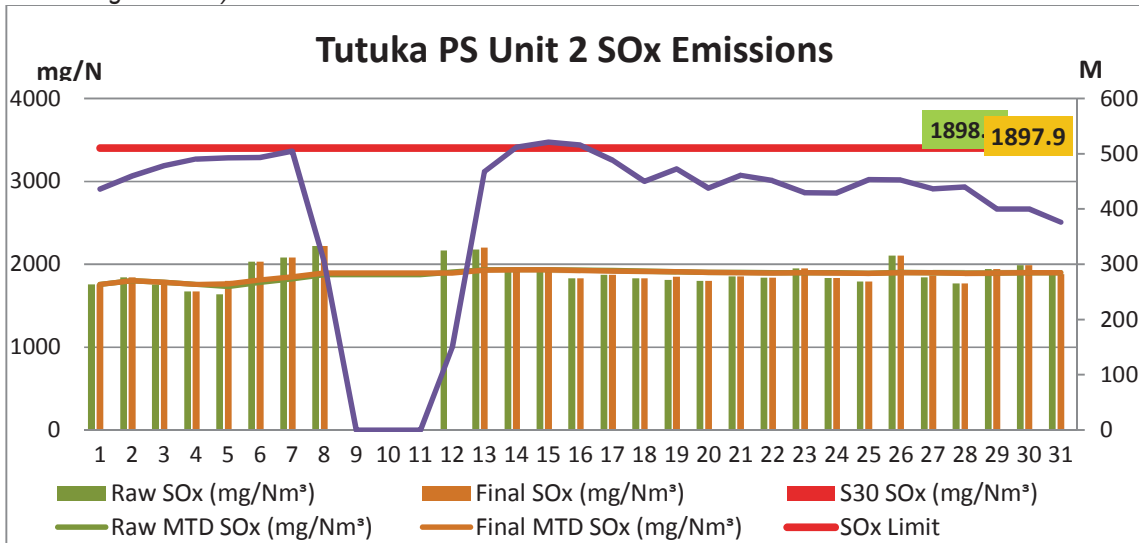


Figure 8: Unit 2 Daily Average SOx emissions for the month of JULY 2018 (against the emission limits and load generated)

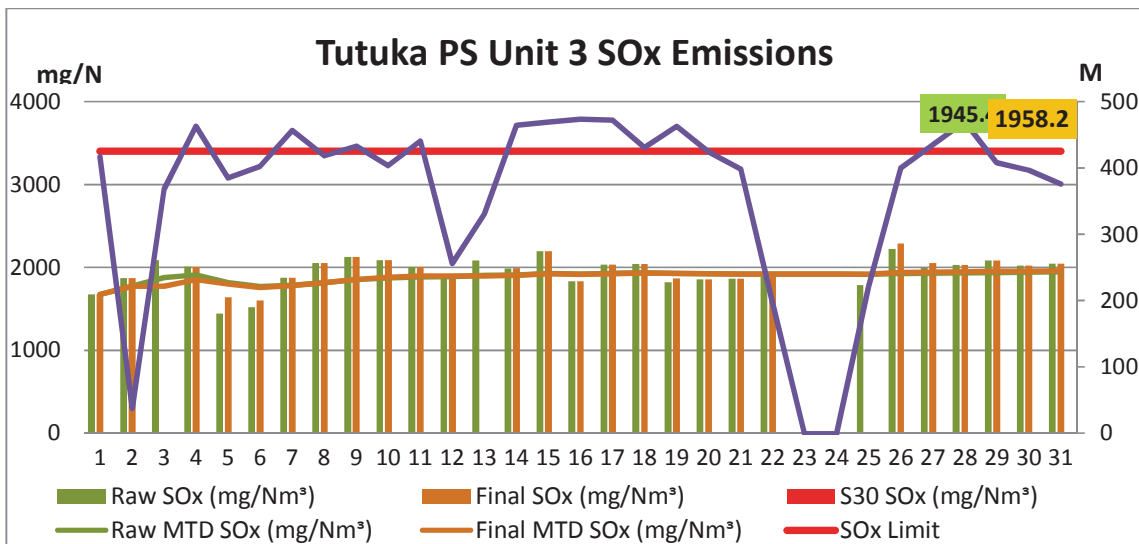


Figure 9: Unit 3 Daily Average SOx emissions for the month of JULY 2018 (against the emission limits and load generated)

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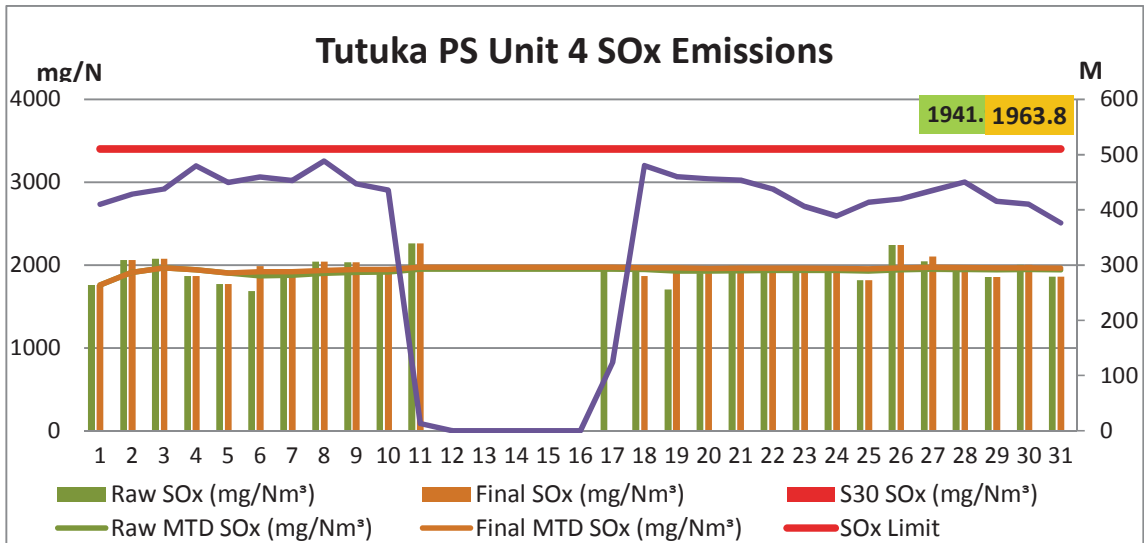


Figure 10: Unit 4 Daily Average SOx emissions for the month of JULY 2018 (against the emission limits and load generated)

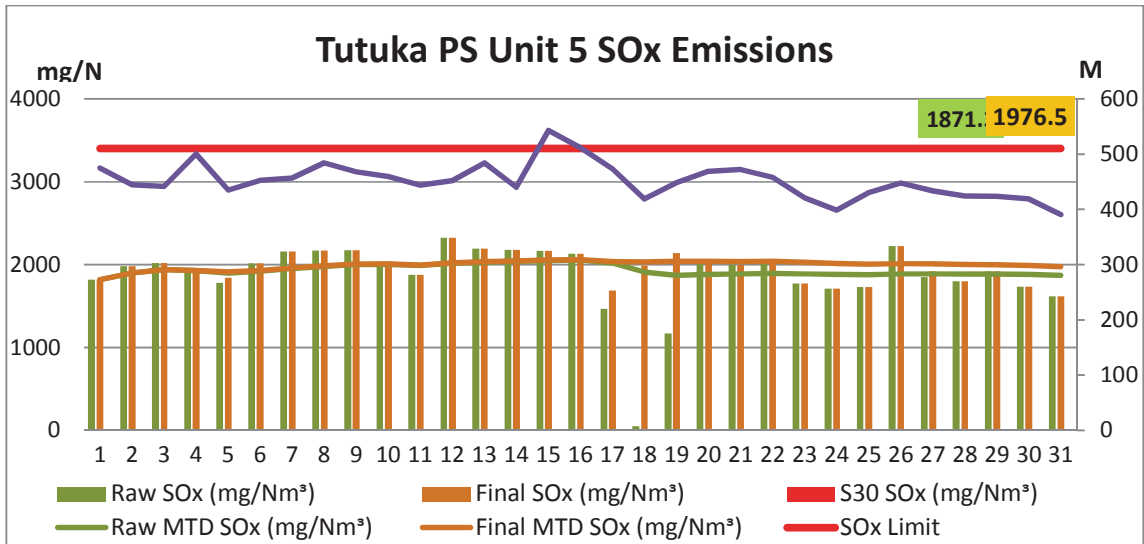


Figure 11: Unit 5 Daily Average SOx Emissions for the month of JULY 2018 (against the emissions limit and load generated)

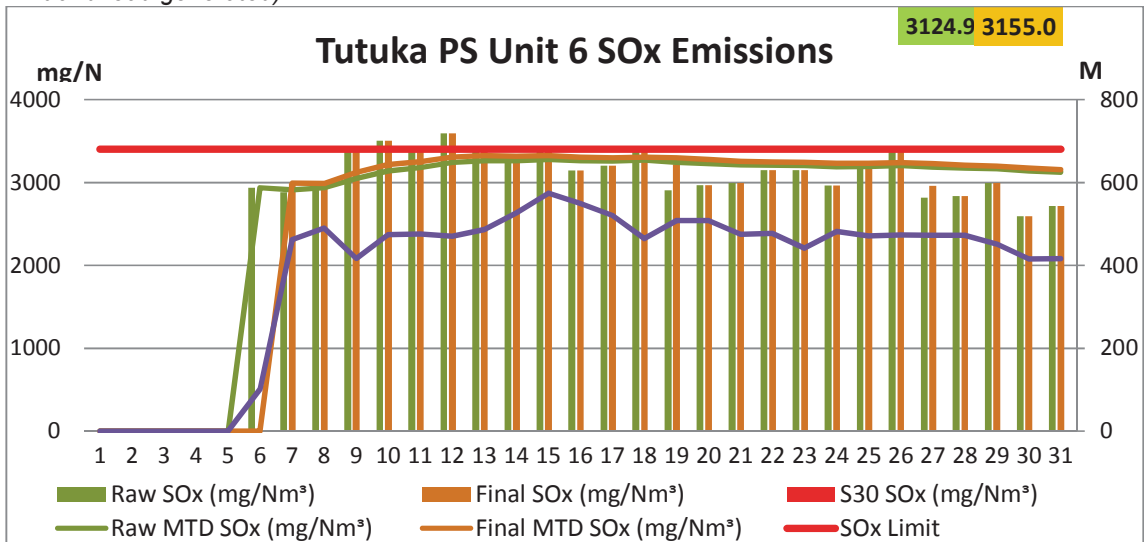


Figure 12: Unit 6 Daily SOx emissions for the month of JULY 2018 (against the emission limits and load generated)

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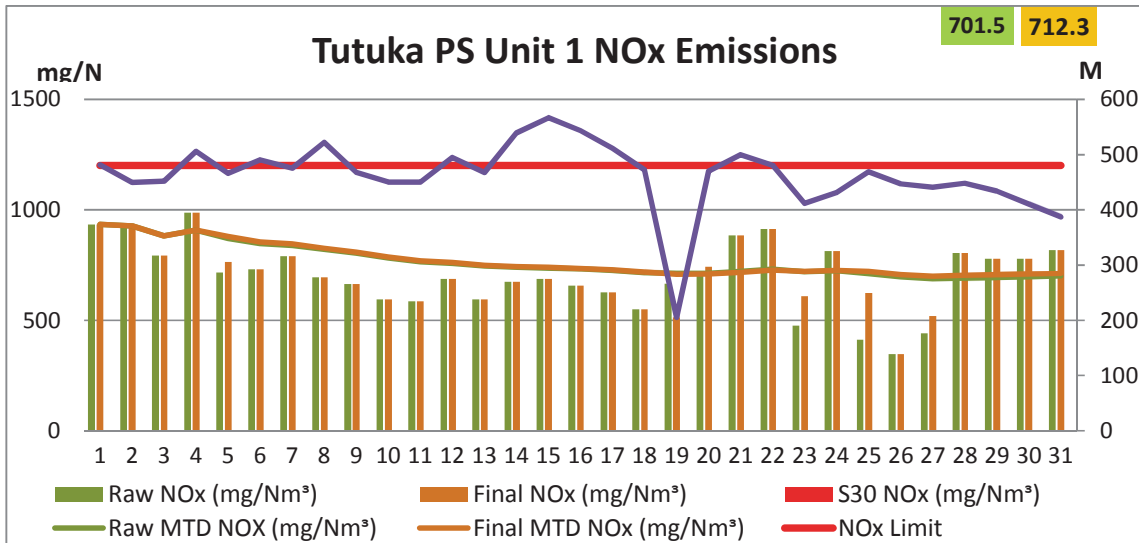


Figure 13: Unit 1 Daily Average NOx Emissions for the month of JULY 2018 (against the emissions limit and load generated)

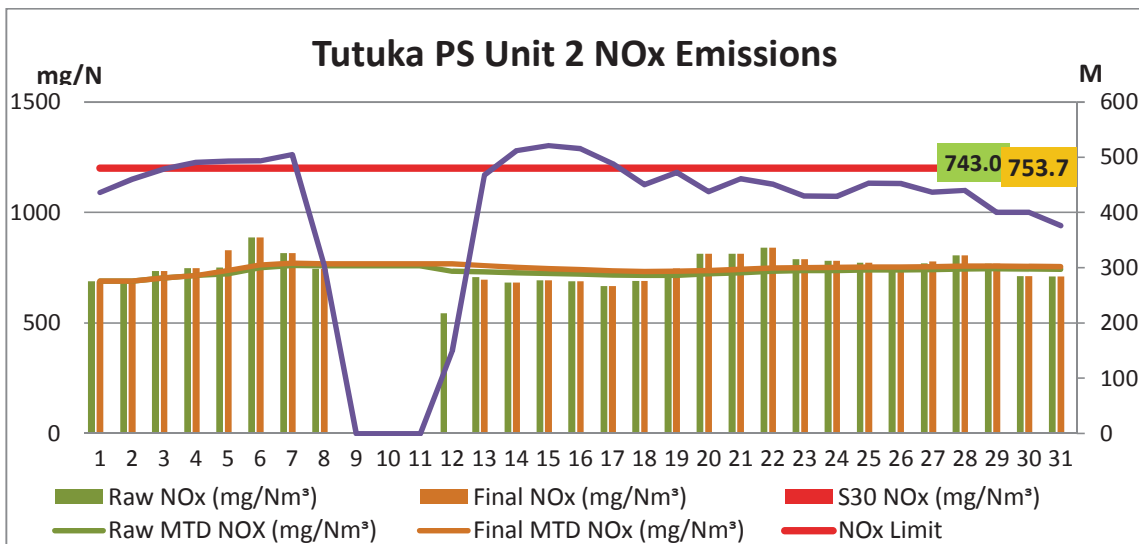


Figure 14: Unit 2 Daily Average NOx emissions for the month of JULY 2018 (against the emission limits and load generated)

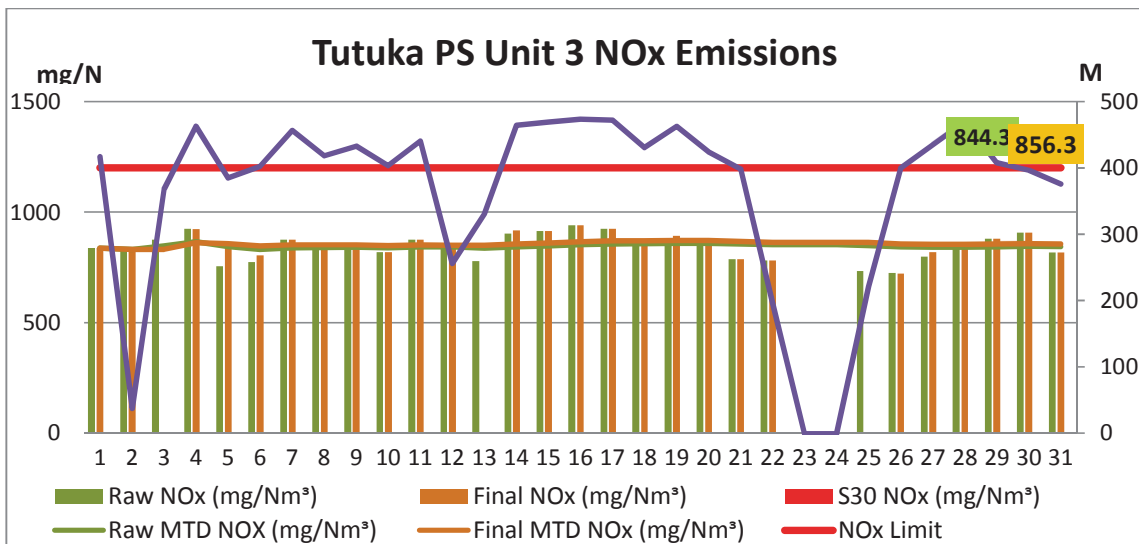


Figure 15: Unit 3 Daily Average NOx emissions for the month of JULY 2018 (against the emission limits and load generated)

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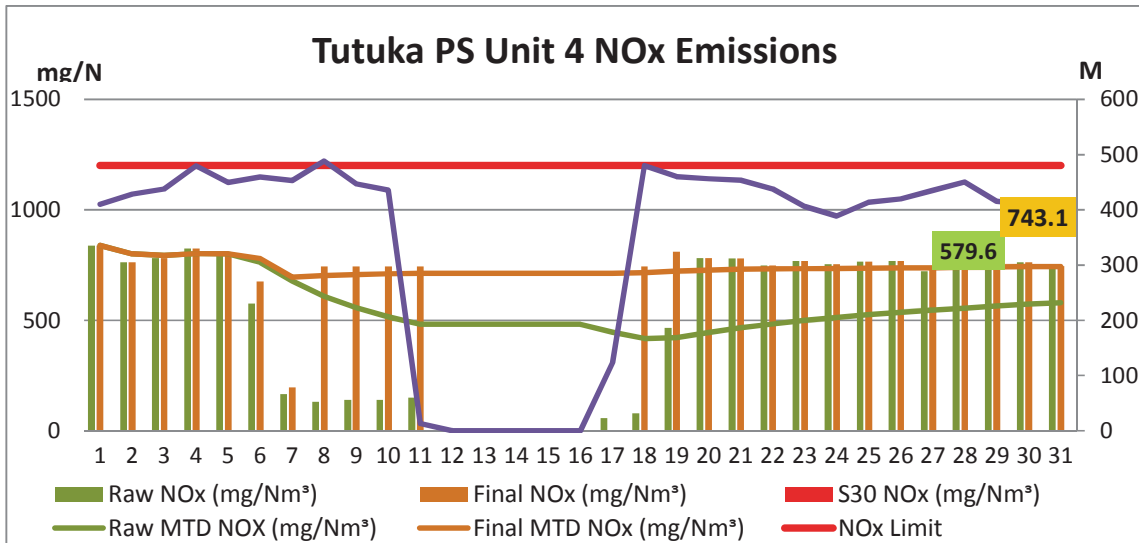


Figure 16: Unit 4 Daily Average NOx emissions for the month of JULY 2018 (against the emission limits and load generated)

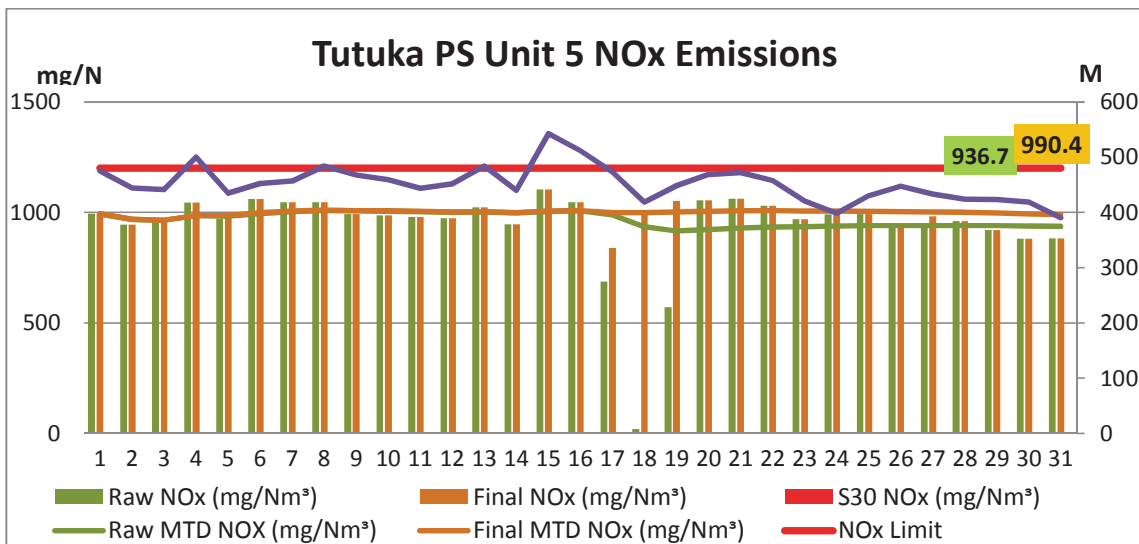


Figure 17: Unit 5 Daily Average NOx emissions for the month of JULY 2018 (against the emission limits and load generated)

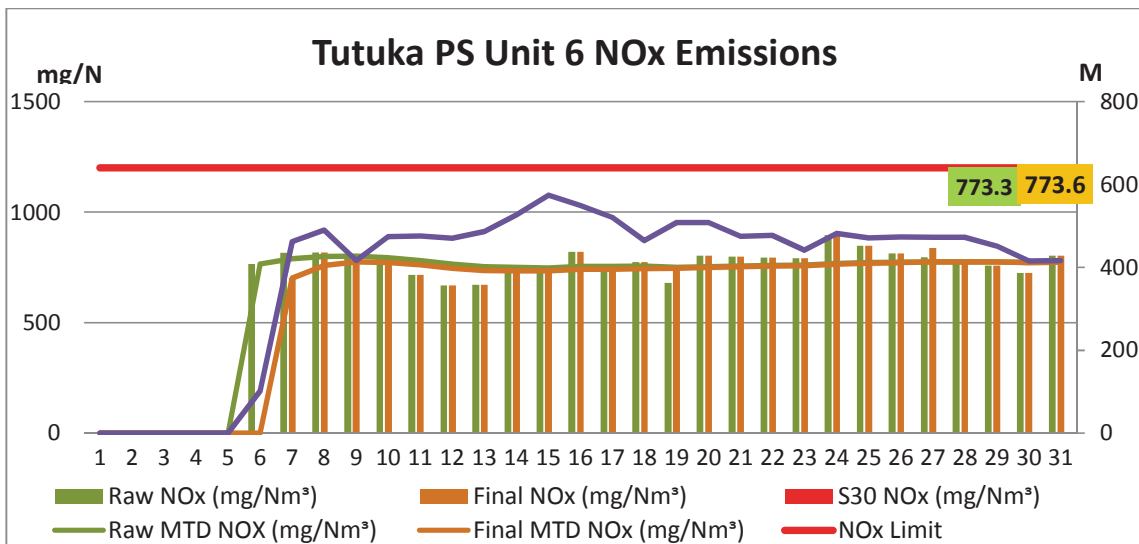


Figure 18: Unit 6 Daily Average NOx emissions for the month of JULY 2018 (against the emission limits and load generated)



## TUTUKA POWER STATION MONTHLY EMISSIONS REPORT – JULY 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	29:10:40	00:00:00	00:00:00	00:13:20
2	26:01:00	00:00:00	00:00:00	03:23:00
3	25:14:50	00:00:00	00:00:00	04:09:10
4	23:10:45	00:00:00	00:00:00	06:13:15
5	30:00:00	00:00:00	00:00:00	00:00:00
6	24:07:15	00:00:00	00:00:00	05:16:45

Table 6: Each unit and respective days operating under normal operation, days in grace period, and section 30 days respectively for the month of JULY 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)	6	7	3	2	0	0
Number Of Cold Starts (Off-Load > 30 hrs)	2	3	1	0	0	0

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