

Mr. Vusi Mahlangu  
 Air Quality Officer  
 DEDET  
 Private bag X11215  
 NELSPRUIT  
 1200

Date:  
 01 February 2021

Enquiries:  
 Mariam Joseph  
 Tel +27 13 297 9828  
 Fax + 27 86 661 7663

Dear Mr. Mahlangu

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF DECEMBER 2020**

This serves as the monthly report required in terms of Section 6 in Arnot Power Station's Atmospheric Emission License. The emissions are for the month of December 2020, Verified emissions of particulates; SO<sub>2</sub> and NO<sub>x</sub> (as NO<sub>2</sub>) are also included.

**Raw Materials and Products**

Table1: Quantity of Raw Materials and Products used/produced for the Month of December 2020

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption/ Rate in Month of December
	Coal	Tons/month	1 050 330	450317.79
Fuel Oil	Tons/month	10 000	3043.04	
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of December 2020
	Energy	GWh	1 785 600	833.825
	Ash	Tons/month	421 000	105 914

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**Abatement Technology**

Table 2: Abatement Equipment Control Technology for month of December 2020

Associated Unit/Stack	Technology Type	Actual Utilisation (%) for the month of December 2020
North Stack	Fabric Filter Bags	99.8%
South Stack	Fabric Filter Bags	99.7%

**Energy Source Characteristics**

Table 3. Energy Source Material Characteristics for the month of -December 2020

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.5 to < 1 (%)	0.625%
Ash Content	17 to < 40 (%)	23.52%

Table 4 Operating days in compliance to PM AEL Limit –December 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	50.6
South	31	0	0	0	0	51.6
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 5 Operating days in compliance to NOx AEL Limit – December 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	622.9
South	31	0	0	0	0	630.7
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6: Operating days in compliance to SOx AEL Limit –December 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	1183.7
South	31	0	0	0	0	1349.5
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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Emissions Reporting

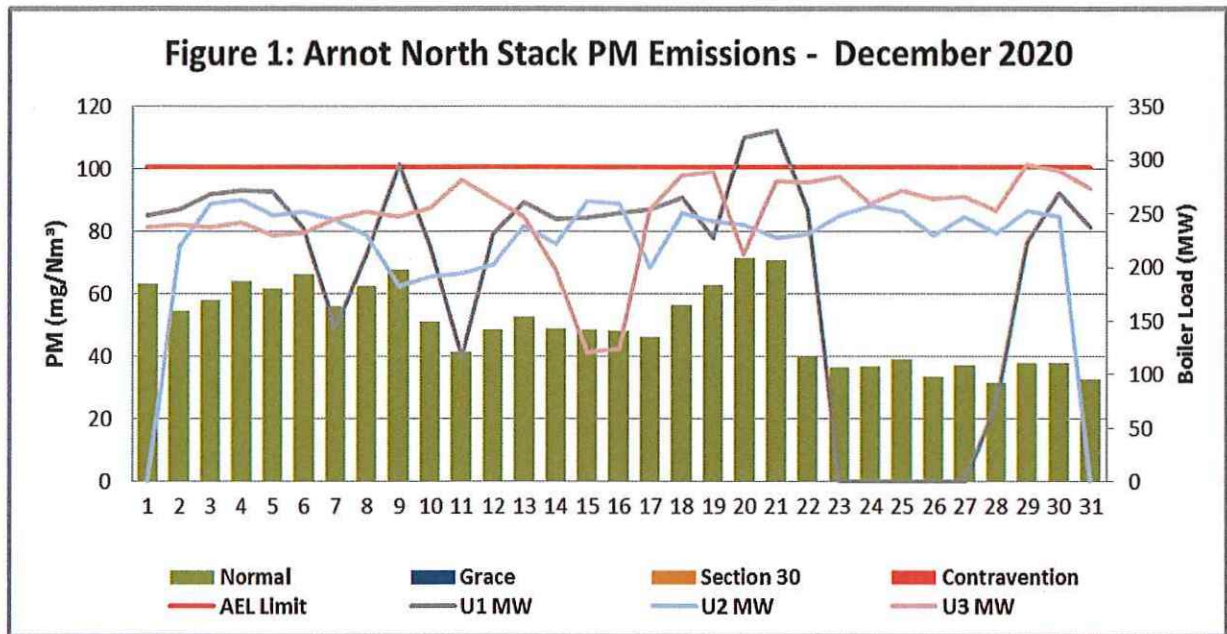


Figure 1: PM emissions (daily averages) for the month of December 2020 against emission limit for the North Stack

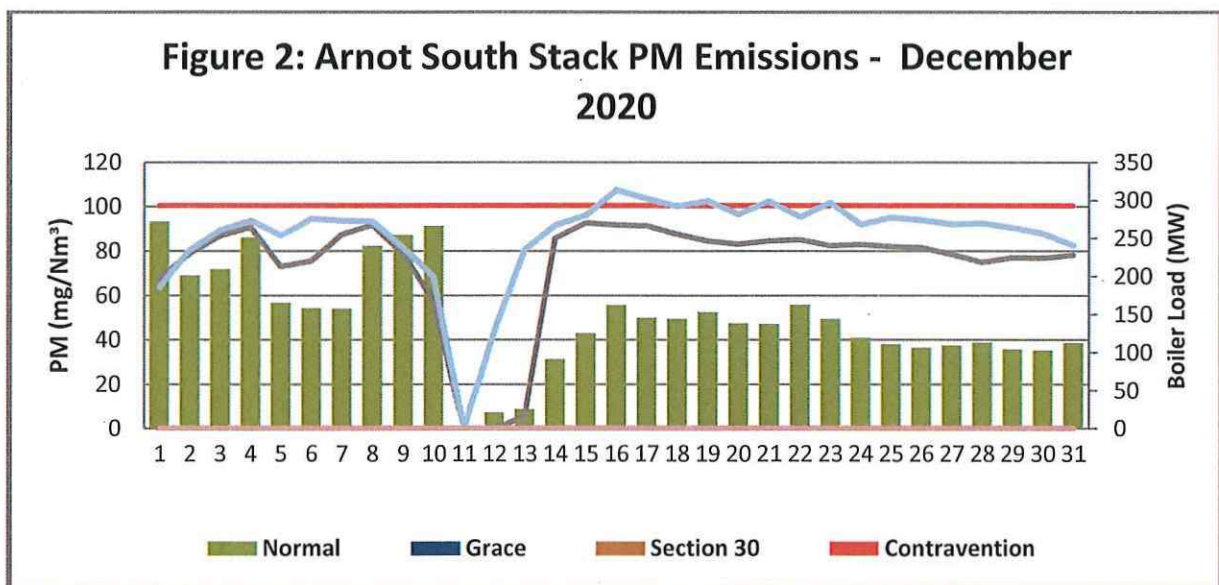


Figure 2: PM emissions (daily averages) for the month of December 2020 against emission limit for the South Stack

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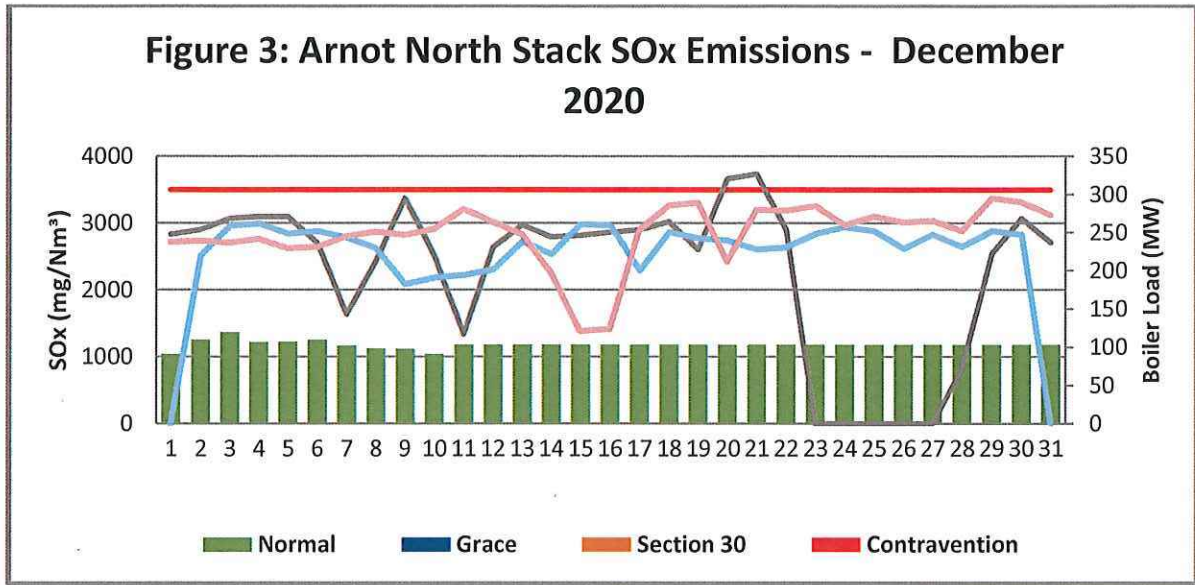


Figure 3: SO<sub>2</sub> emissions (daily averages) for the month of December 2020 against emission limit for the North Stack

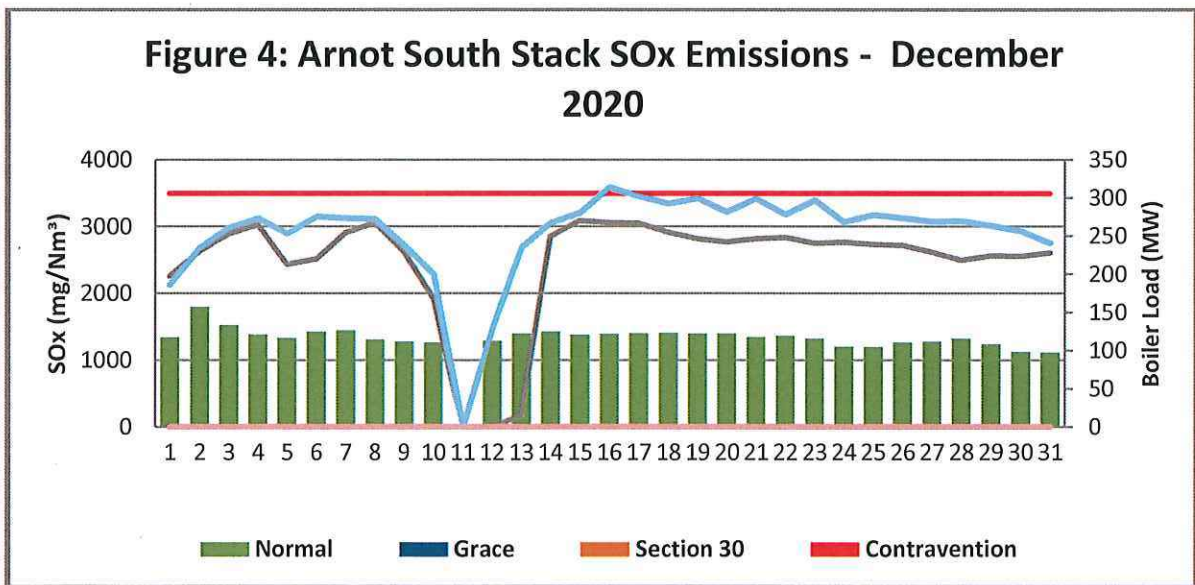


Figure 4: SO<sub>2</sub> emissions (daily averages) for the month of December -2020 against emission limit for the South Stack

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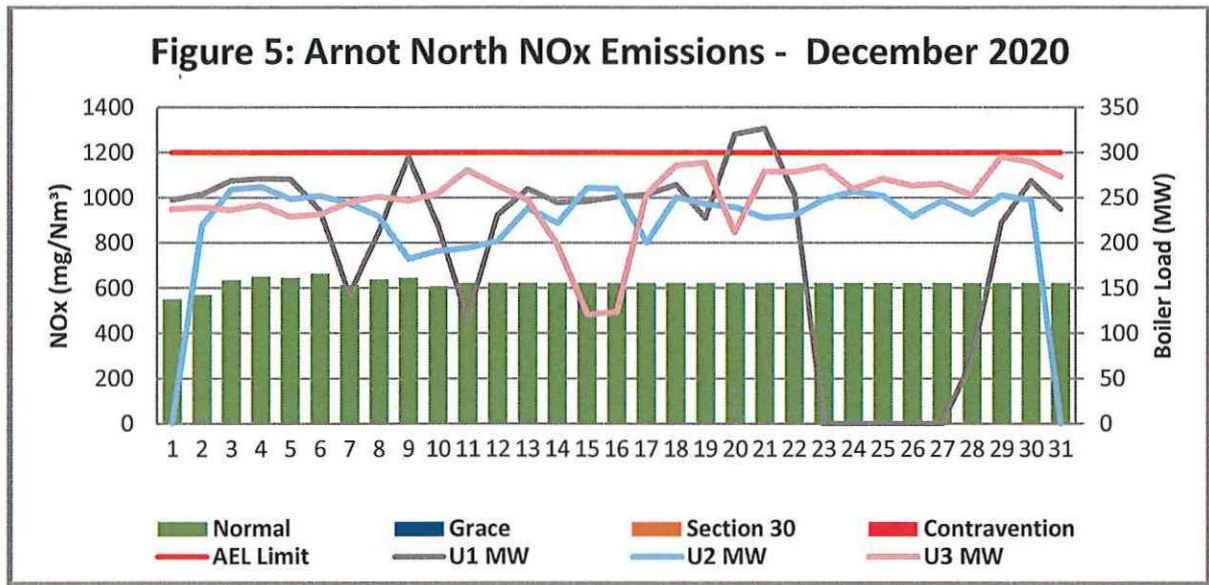


Figure 5: NO<sub>2</sub> emissions (daily averages) for the month of December -2020 against emission limit for the North Stack

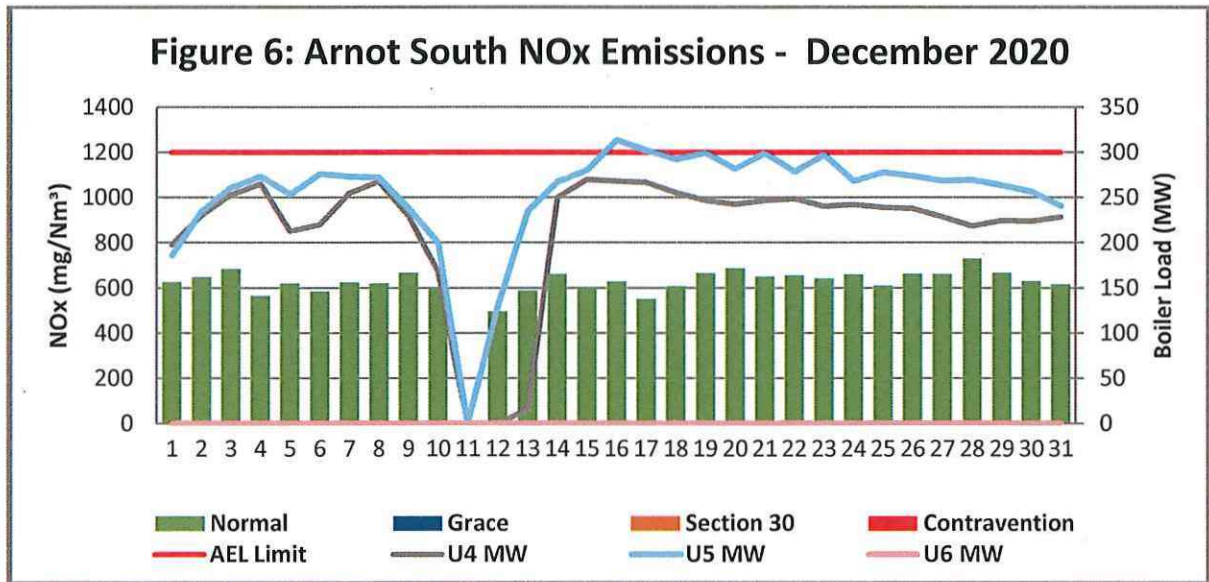


Figure 6: NO<sub>2</sub> emissions (daily averages) for the month of December -2020 against emission limit for the South Stack

Table 4: Monthly tonnages for the month of December 2020

Unit	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
Total Tons (North & South Stack)	222.4	5 519.8	2 756.8

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Table 5: Monitor Availability

Unit	PM (%)	SO <sub>2</sub> (%)	NO <sub>2</sub> (%)
North Stack	100.0	32.3	32.3
South Stack	97.6	96.8	96.7

As of 11<sup>th</sup> December 2020 the North stack was reading errors on the gaseous pollutants. Upon further investigation by Control and Instrumentation Department it was found that the monitor was struck by lightning. The monitor was found to be burnt out and the station is in the process of replacing the monitor.

Table 6 Each unit and respective days operating under normal operation, days in grace period, and section 30 days respectively

Unit	Days operating under normal operation	Days operating in grace period	Days operating under S 30
1	31	0	0
2	31	0	0
3	31	0	0
4	31	0	0
5	31	0	0
6	31	0	0

**Light up information**

Continuous reporting is being done even during start-ups, emissions were not affected.

**Complaints Register**

Table 7 Complaints for the month of December 2020

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
None					

**General**

The rest of the information demonstrating compliance with the emission license conditions is supplied in the annual emission reports sent to your office.

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Hoping the above will meet your satisfaction

Compiled by



Lawrence Machebe

**ENVIRONMENTAL OFFICER: ARNOT**

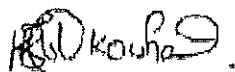
Verified by



Nomathemba Mpulo

**SENIOR TECHNOLOGIST: ARNOT**

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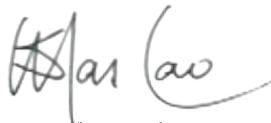


Rofhiwa Tshikovha

**SENIOR ENVIRONMENTAL ADVISOR: ARNOT**

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Yours sincerely

A handwritten signature in black ink, appearing to read "Tsoro Mashao". The signature is fluid and cursive, with the first letter of "Tsoro" being a large, stylized 'T'.

Tsoro Samuel Mashao

**ACTING GENERAL MANAGER: ARNOT**