

Air Quality Officer  
DEDET  
Private bag X11215  
NELSPRUIT  
1200

Date:  
2022.01.07

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Dear Mr. Mahlangu

## ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF DECEMBER 2021

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 2021, 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 2021

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	406 981.24
	Fuel Oil	Tons/month	10 000	4579.11
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of December 2021
	Energy	GWh	1 785 600	720.60
	Ash	Tons/month	421 000	98 123

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## Abatement Technology

Table 2: Abatement Equipment Control Technology for month of December 2021

Associated Unit/Stack	Technology Type	Actual Utilisation (%) for the month of December 2021
North Stack	Fabric Filter Bags	99.8%
South Stack	Fabric Filter Bags	100%

Table 2.1 Abatement Equipment Efficiency Utilisation (%) for the month of December 2021

Associated Unit/Stack	Technology Type	Efficiency December 2021
North	<i>Fabric Filter Plant (FFP)</i>	100%
South	<i>Fabric Filter Plant (FFP)</i>	100%

## Energy Source Characteristics

Table 3: Energy Source Material Characteristics for the month of December 2021

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.5 to < 1 (%)	0.588
Ash Content	17 to < 40 (%)	24.11

Table 4 Operating days in compliance to PM AEL Limit –December 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	1	0	0	0	52.2
South	31	0	0	0	0	11.0
<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 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	497.0
South	31	0	0	0	0	582.3
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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Table 6: Operating days in compliance to SOx AEL Limit –December 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	1347.9
South	31	0	0	0	0	1305.4
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

## Emissions Reporting

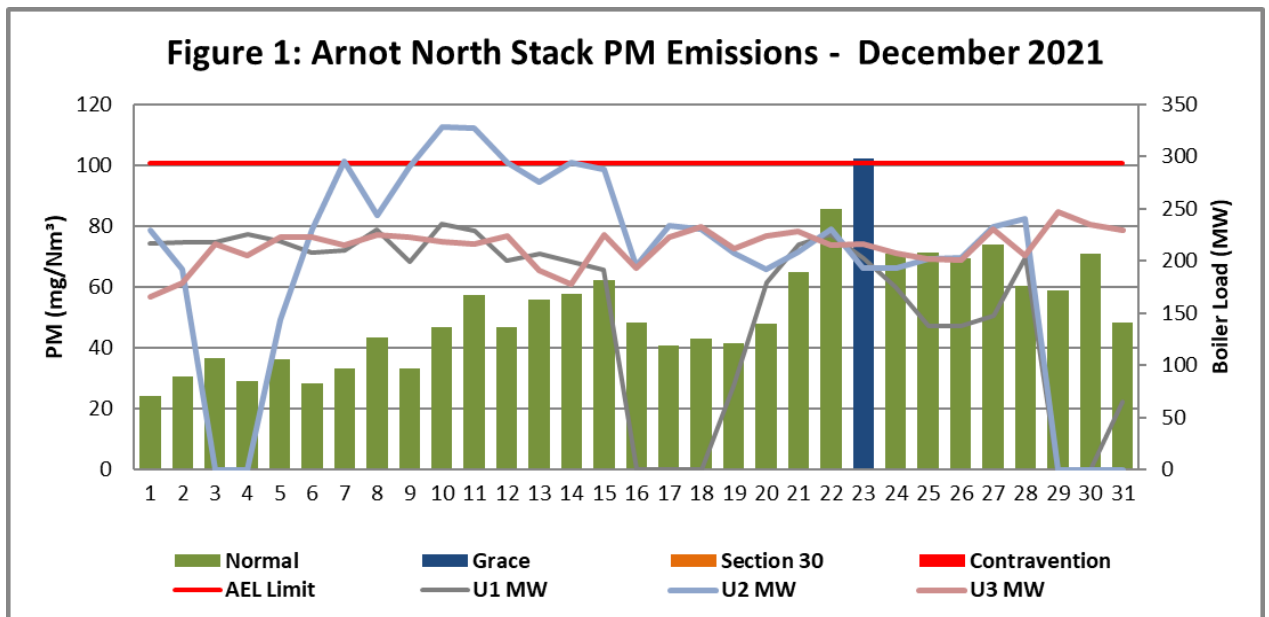
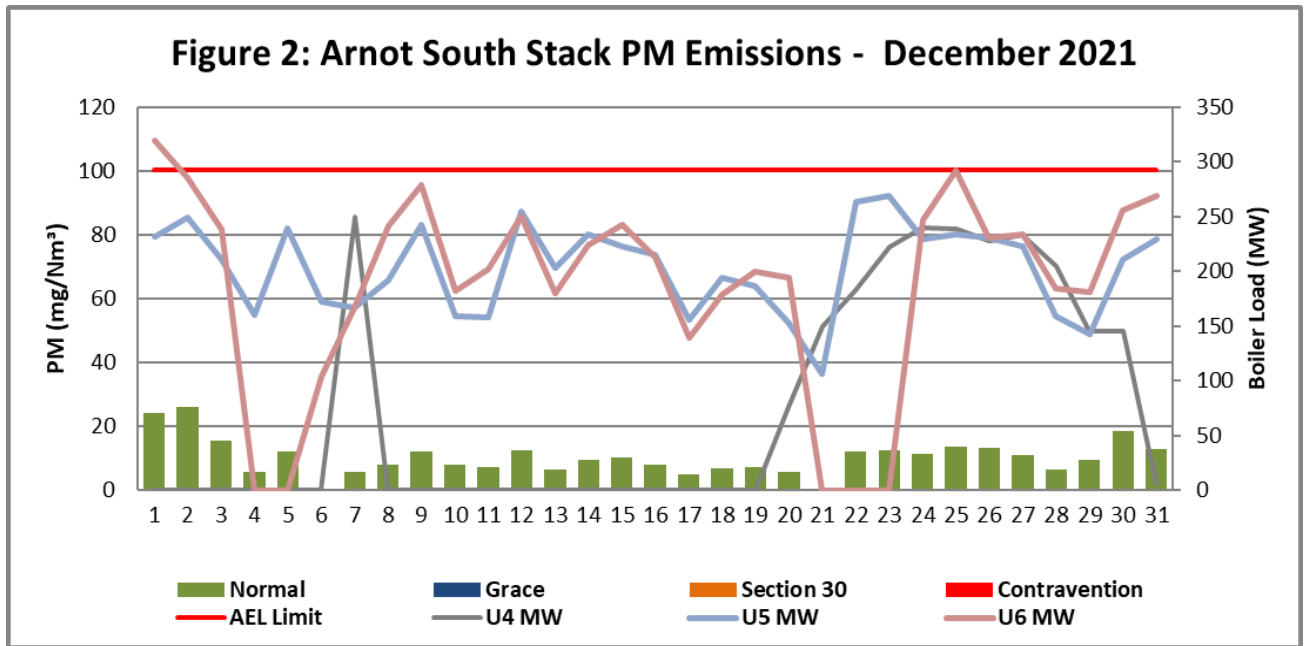
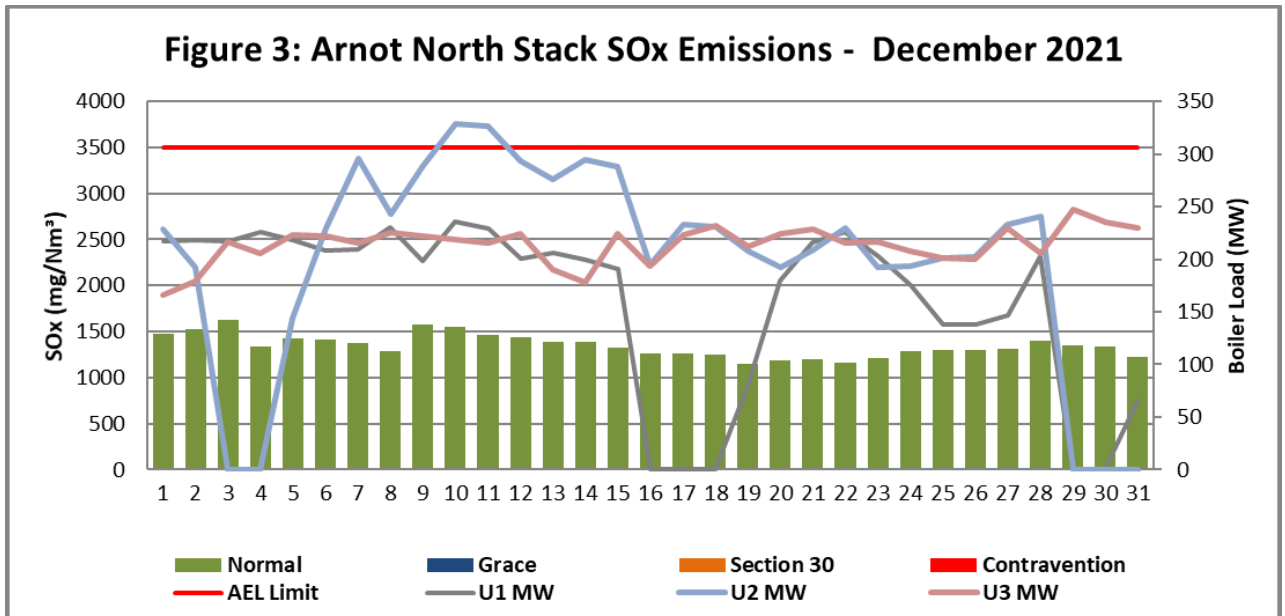


Figure 1: PM emissions (daily averages) for the month of December 2021 against emission limit for the North Stack

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF DECEMBER 2021**

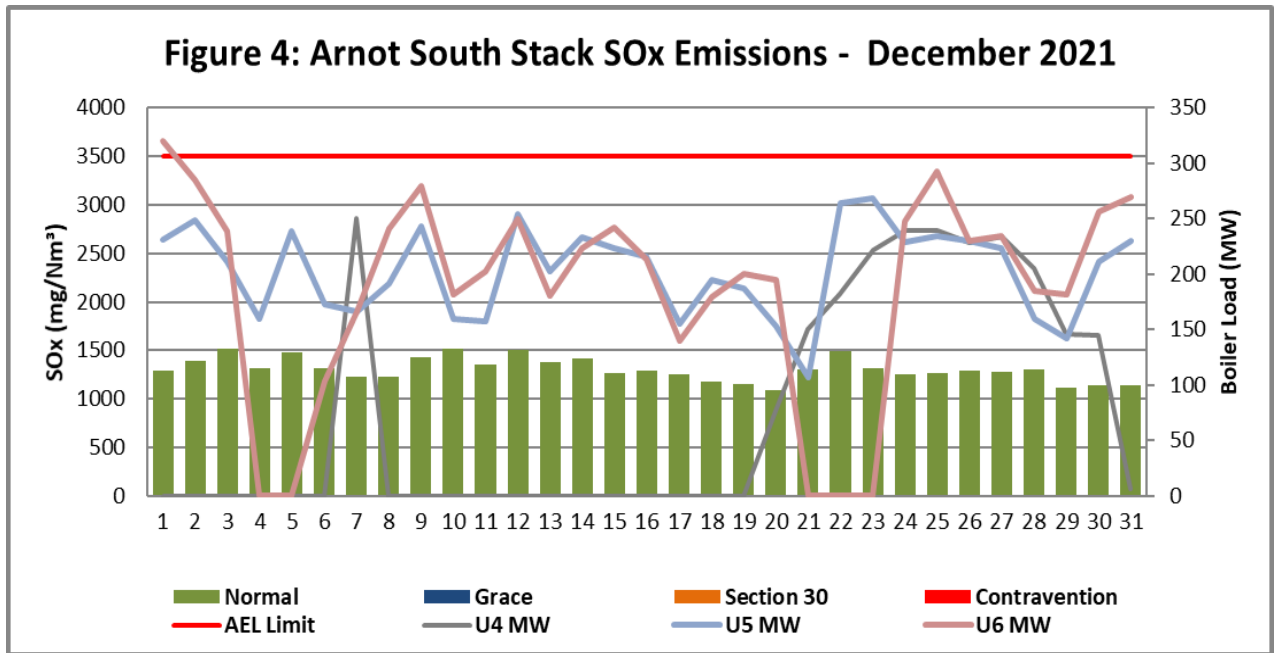


**Figure 2: PM emissions (daily averages) for the month of December 2021 against emission limit for the South Stack**

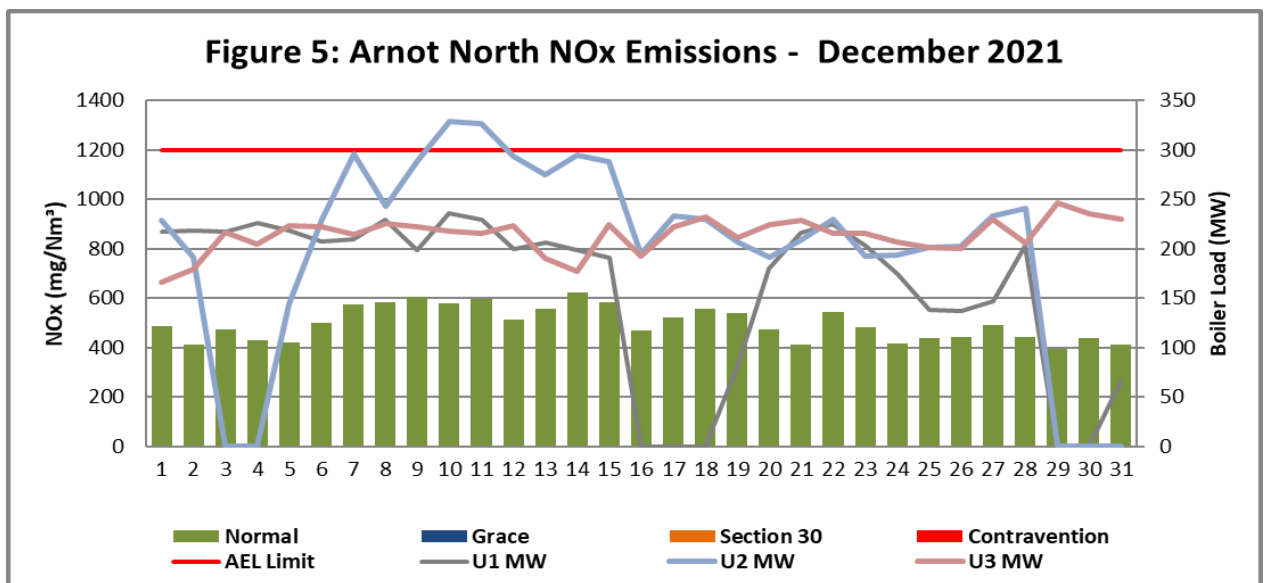


**Figure 3: SO<sub>2</sub> emissions (daily averages) for the month of December 2021 against emission limit for the North Stack**

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF DECEMBER 2021**

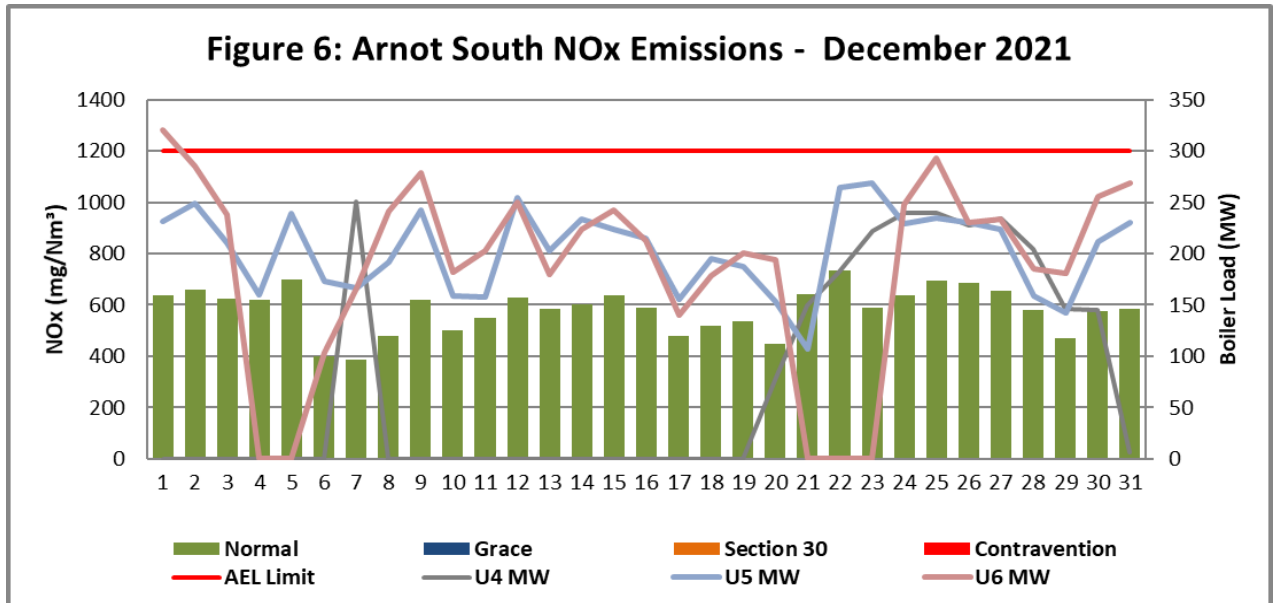


**Figure 4: SO<sub>2</sub> emissions (daily averages) for the month of December -2021 against emission limit for the South Stack**



**Figure 5: NO<sub>2</sub> emissions (daily averages) for the month of December -2021 against emission limit for the North Stack**

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**Figure 6: NO<sub>2</sub> emissions (daily averages) for the month of December -2021 against emission limit for the South Stack**

**Table 4: Monthly tonnages for the month of December 2021**

Unit	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
<b>Total Tons (North &amp; South Stack)</b>	113.3	4257.7	1706.9

**Table 5: Monitor Availability**

Unit	PM (%)	SO <sub>2</sub> (%)	NO <sub>2</sub> (%)
<b>North Stack</b>	100.0	99.9	99.9
<b>South Stack</b>	99.9	93.1	88.6

**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	1	0
4	31	0	0
5	31	0	0
6	31	0	0

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**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 2021

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.

Hoping the above will meet your satisfaction.

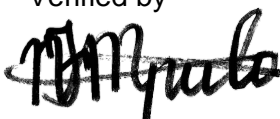
Compiled by



Lawrence Machebe

**ENVIRONMENTAL OFFICER: ARNOT**

Verified by

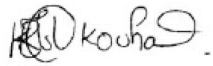


Nomathemba Mpulo

**SENIOR TECHNOLOGIST: ARNOT**

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF  
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Supported by



Rofhiwa Tshikovha

**SENIOR ENVIRONMENTAL ADVISOR: ARNOT**

Yours sincerely



10 January 2022

Tsoro Samuel Mashao

**ACTING GENERAL MANAGER: ARNOT**