

Air Quality Officer  
DEDET  
Private bag X11215  
NELSPRUIT  
1200

Date:  
2023.11.21

Inquiries:  
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 OCTOBER 2023

This serves as the monthly report required in terms of Section 6 in Arnot Power Station's Atmospheric Emission License. The emissions are for October 2023, 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 October 2023

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption/ Rate in Month of October 2023
	Coal	Tons/month	1 050 330	455 821.56
	Fuel Oil	Tons/month	10 000	3765.26
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of October 2023
	Energy	GWh	1 785 600	777 158
	Ash	Tons/month	421 000	108 440

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## Abatement Technology

Table 2.1 (a) Abatement Equipment Efficiency Control Technology for month of October 2023

Associated Unit/Stack	Technology Type	Actual Efficiency (%) for the month of October 2023
North Stack	Fabric Filter Bags	99.9%
South Stack	Fabric Filter Bags	99.8%

Table 2.1 (b) Abatement Equipment Utilisation (%) for the month of October 2023

Associated Unit/Stack	Technology Type	Utilisation October 2023
North	<i>Fabric Filter Plant (FFP)</i>	100 %
South	<i>Fabric Filter Plant (FFP)</i>	100 %

Table 2.1 (c) Monitor Reliability (%)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO
Stack 1	98.5	98.5	98.5
Stack 2	99.2	92.7	89.4

## Energy Source Characteristics

Table 3: Energy Source Material Characteristics for the month of October 2023

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.5 to < 1 (%)	0.169
Ash Content	17 to < 40 (%)	23.79

Table 4 Operating days in compliance to PM AEL Limit –October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	12.9
South	31	0	0	0	0	65.6
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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Table 5: Operating days in compliance to NOx AEL Limit – October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	793.9
South	31	0	0	0	0	490.1
<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 –October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	1405.8
South	31	0	0	0	0	1115.7
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

## Emissions Reporting

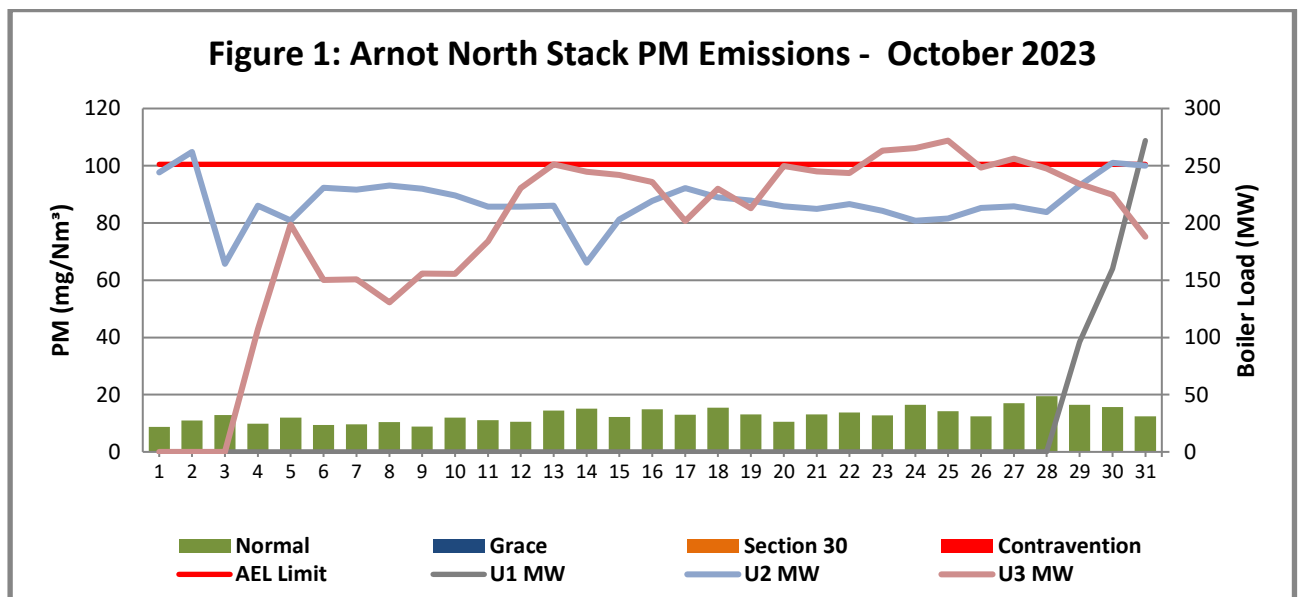
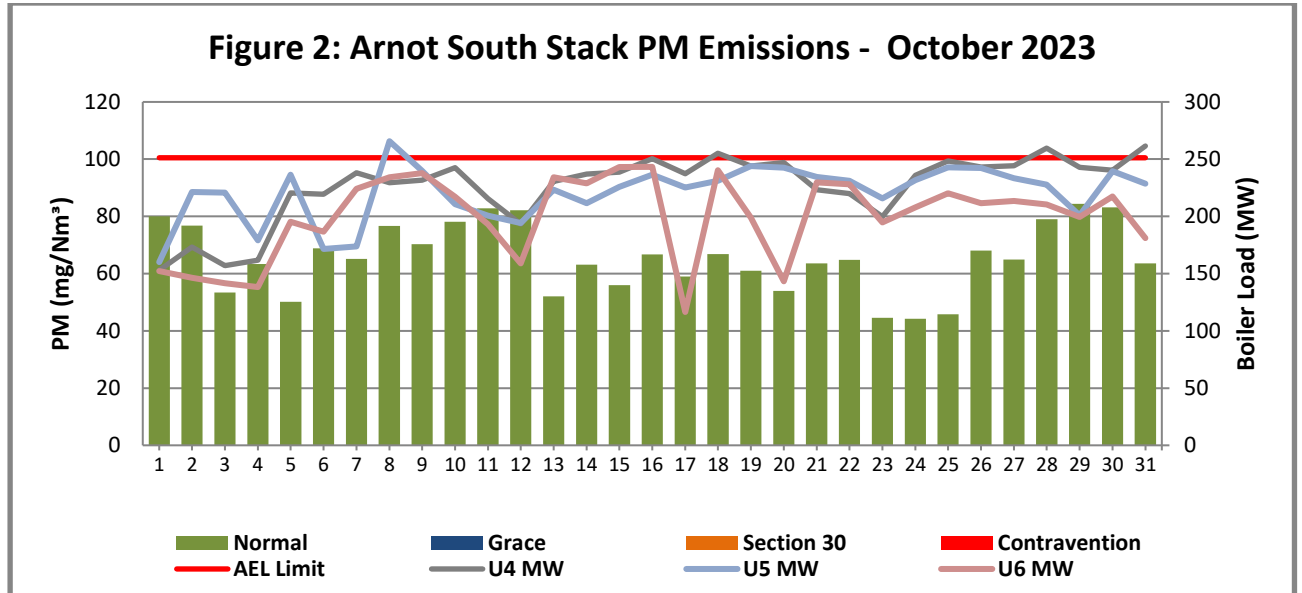
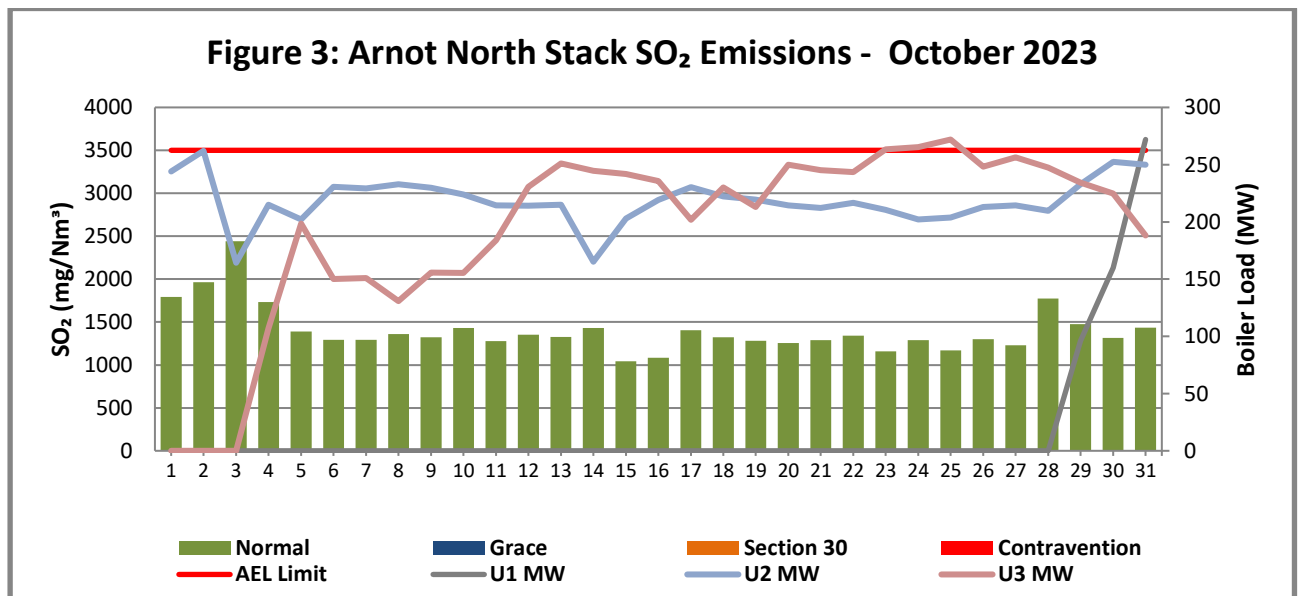


Figure 1: PM emissions (daily averages) for the month of October 2023 against the emission limit for the North Stack

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF OCTOBER 2023**

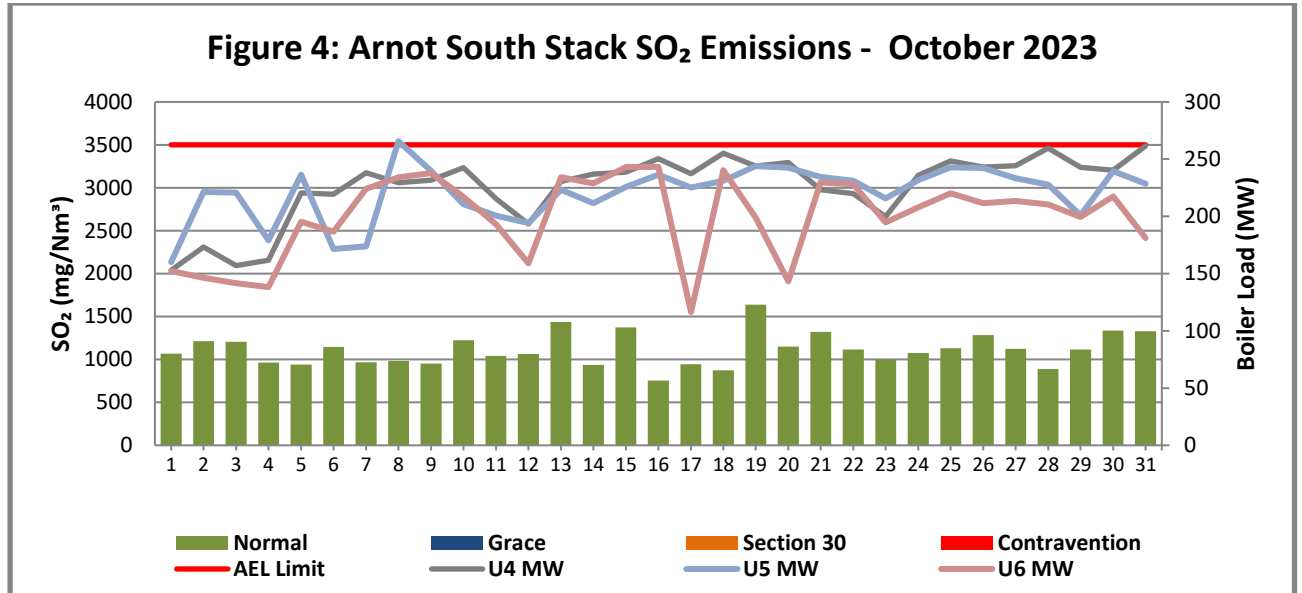


**Figure 2: PM emissions (daily averages) for the month of October 2023 against emission limit for the South Stack**

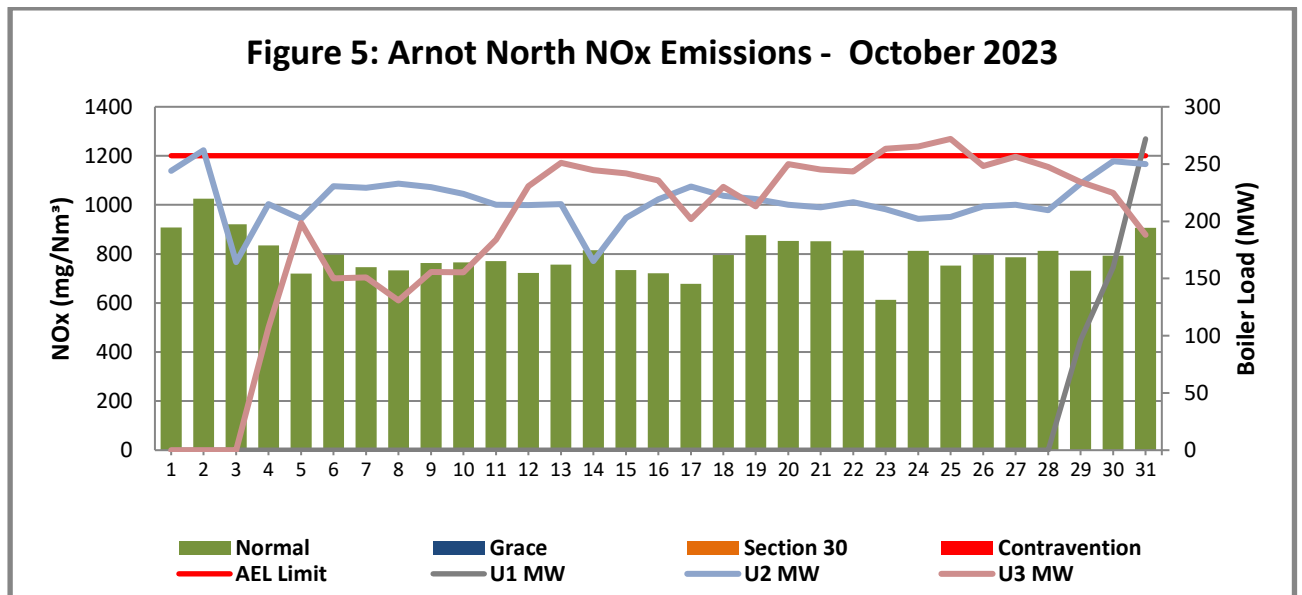


**Figure 3: SO₂ emissions (daily averages) for the month of October 2023 against emission limit for the North Stack**

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF OCTOBER 2023**

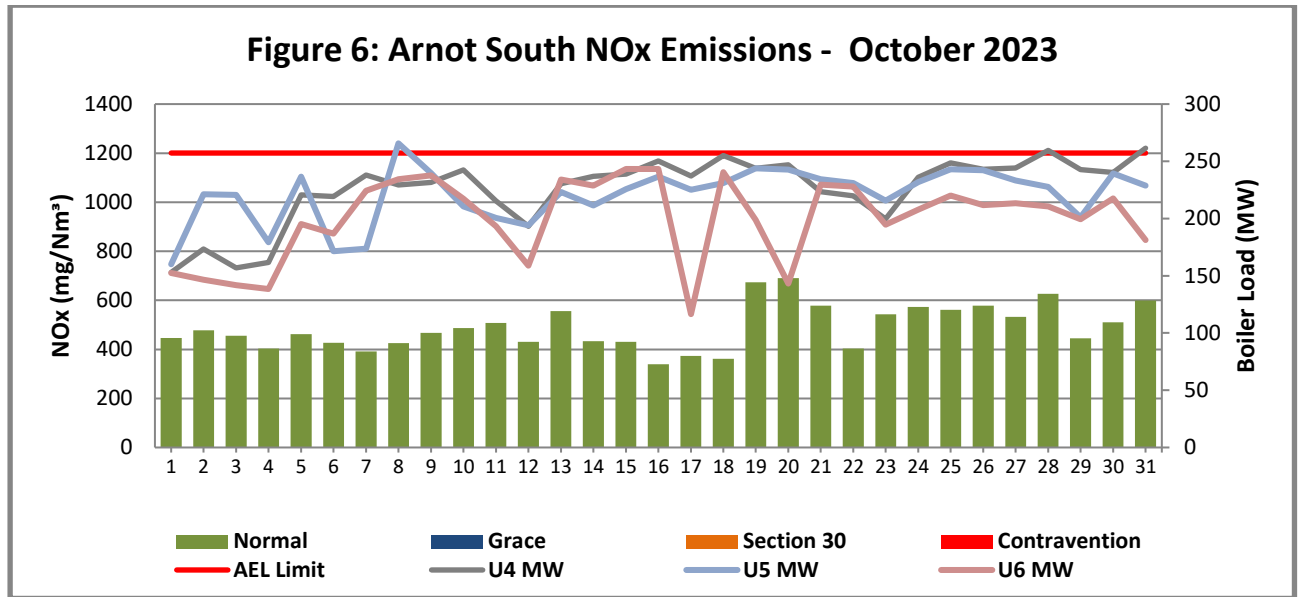


**Figure 4: SO<sub>2</sub> emissions (daily averages) for the month of October 2023 against emission limit for the South Stack**



**Figure 5: NO<sub>2</sub> emissions (daily averages) for the month of October 2023 against emission limit for the North Stack**

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**Figure 6: NO<sub>2</sub> emissions (daily averages) for the month of October 2023 against emission limit for the South Stack**

**Table 4: Monthly tonnages for the month of October 2023**

Unit	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
<b>Total Tons (North &amp; South Stack)</b>	123.8	4 449	2 335

**Table 5: 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

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## Light up information

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

## Complaints Register

Table 6. Complaints for the month of October 2023

No Noise, dust and offensive odors complaints registered in the month of October 2023.

Source Code/ Name	Root Cause Analysis	Calculation of Impacts/ emissions associated with the incident and dispersion modelling of pollutants, where applicable	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date by which measure will be implemented
None	0	0	0	0	0

## General

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

### Note:

Parallel test has expired, the test will be completed on the 08 January 2024. Data will be back fitted and reported at the licensing office once the process is finalized.

Correlation Test have expired, and the station has conducted the test and the implementation will be on the 15<sup>th</sup> December 2023. Data will be back fitted and reported at the licensing office in case there might be any changes.

Hoping the above will meet your satisfaction.

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF  
OCTOBER 2023**

Compiled by

Date: 2023.12.06



Lawrence Machebe

**ENVIRONMENTAL OFFICER: ARNOT POWER STATION**

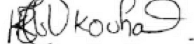
Verified by

Date: 2023.12.06



Sandile Mbuyazi

**SYSTEM ENGINEER: ARNOT POWER STATION**

Supported by: 

Date: 2023.12.06

Rofhiwa Tshikovha

**SENIOR ENVIRONMENTAL ADVISOR: ARNOT POWER STATION**

Yours sincerely



Marcus Nemadodzi

**GENERAL MANAGER: ARNOT POWER STATION**

Date: 2023-12-11