

Air Quality Officer  
DEDET  
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NELSPRUIT  
1200

Date:  
2022.11.16

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Dear Mr. Mahlangu

## ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF OCTOBER 2022

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 2022, 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 2022

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption/ Rate in Month of October 2022
	Coal	Tons/month	1 050 330	410 818.30
	Fuel Oil	Tons/month	10 000	2657.13
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of October 2022
	Energy	GWh	1 785 600	750 343
	Ash	Tons/month	421 000	108.661

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## Abatement Technology

Table 2.1 (a) Abatement Equipment Control Technology for month of October 2022

Associated Unit/Stack	Technology Type	Actual Efficiency (%) for the month of October 2022
North Stack	Fabric Filter Bags	99.8%
South Stack	Fabric Filter Bags	99.9%

Table 2.1 (b) Abatement Equipment Utilisation (%) for the month of October 2022

Associated Unit/Stack	Technology Type	Utilisation October 2022
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	100.0	99.6	99.7
Stack 2	100.0	99.7	99.6

## Energy Source Characteristics

Table 3: Energy Source Material Characteristics for the month of October 2022

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.5 to < 1 (%)	0.688
Ash Content	17 to < 40 (%)	26.45

Table 4 Operating days in compliance to PM AEL Limit –October 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	30.8
South	31	0	0	0	0	42.6
<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 NO<sub>x</sub> AEL Limit – October 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	31	0	31	527.7
South	31	0	0	0	0	624.8
<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 –October 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	31	0	31	1 177.8
South	31	0	0	0	0	1 170.0
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

## Emissions Reporting

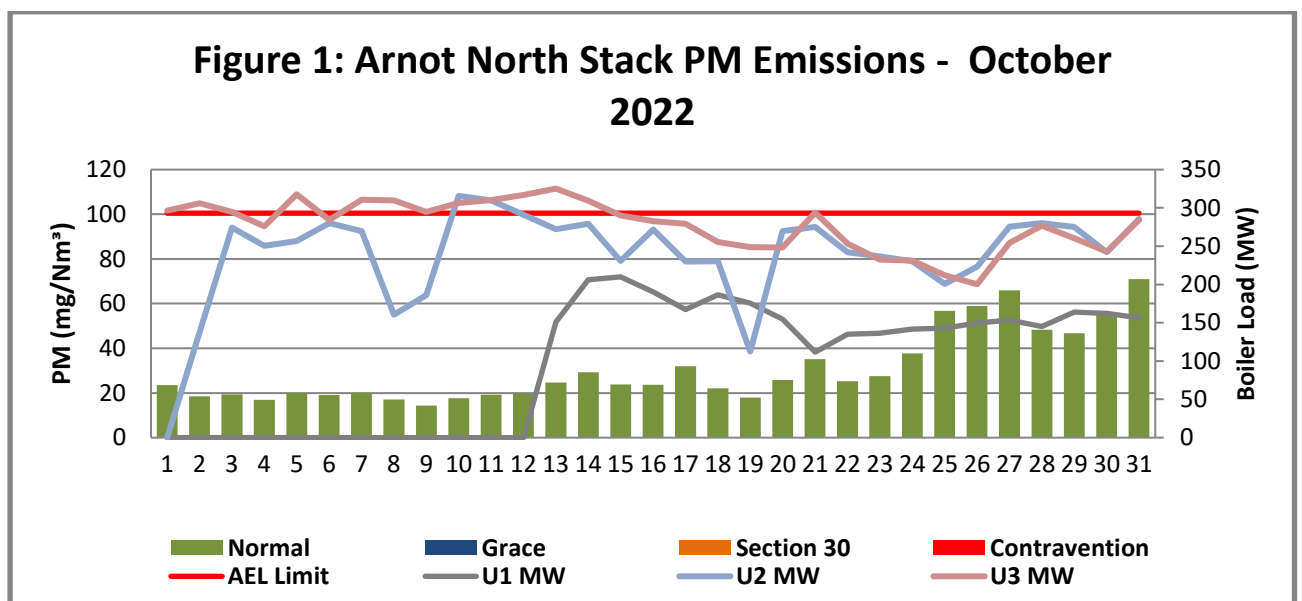


Figure 1: PM emissions (daily averages) for the month of October 2022 against the emission limit for the North Stack

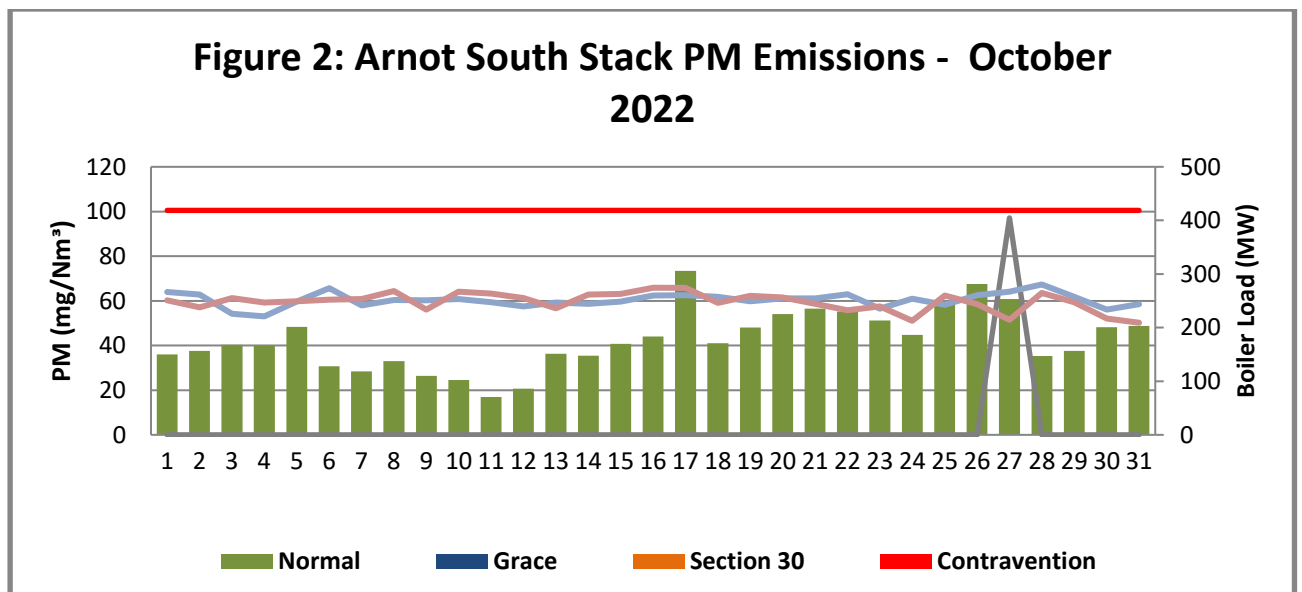
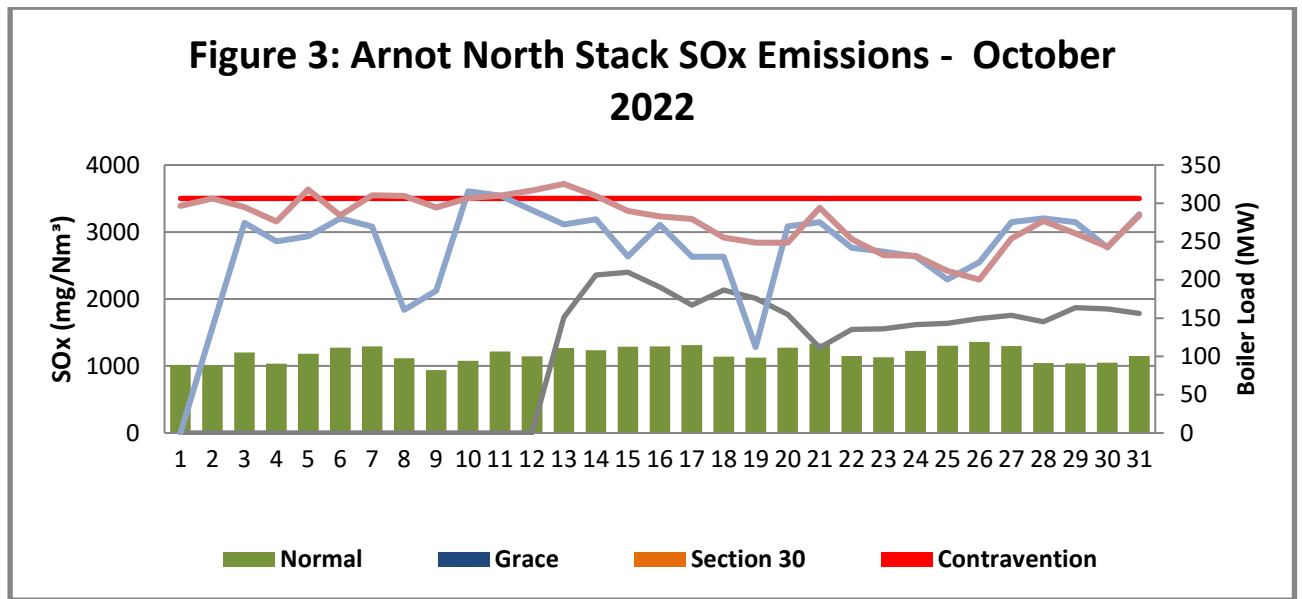
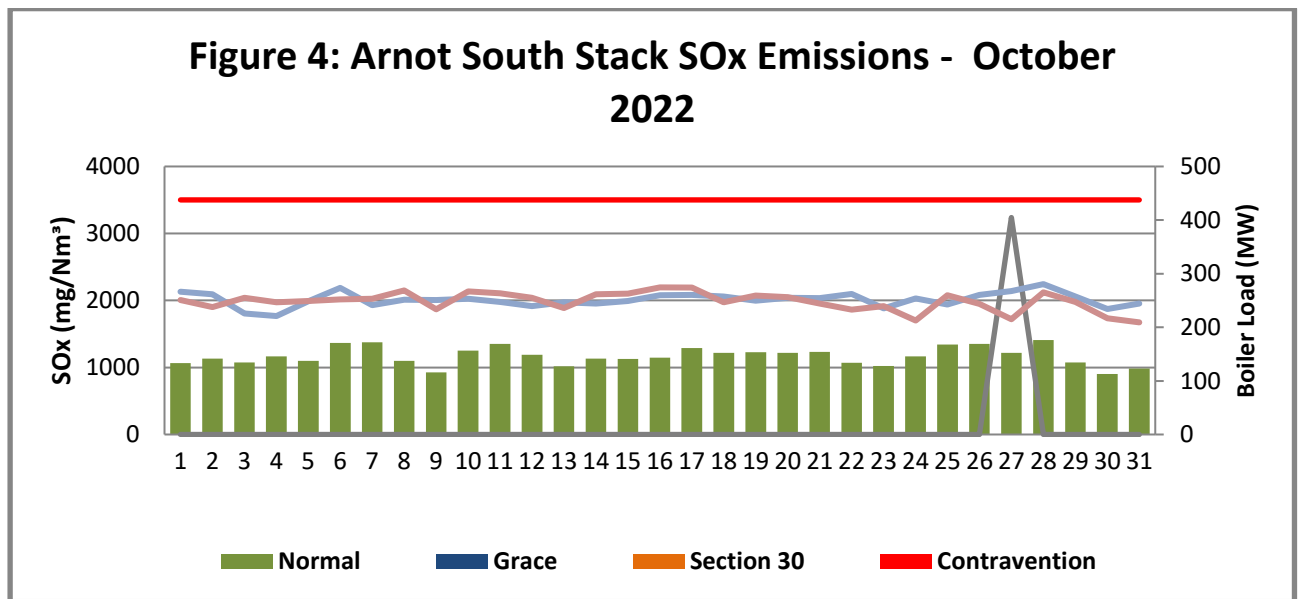


Figure 2: PM emissions (daily averages) for the month of October 2022 against emission limit for the South Stack

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF OCTOBER 2022**

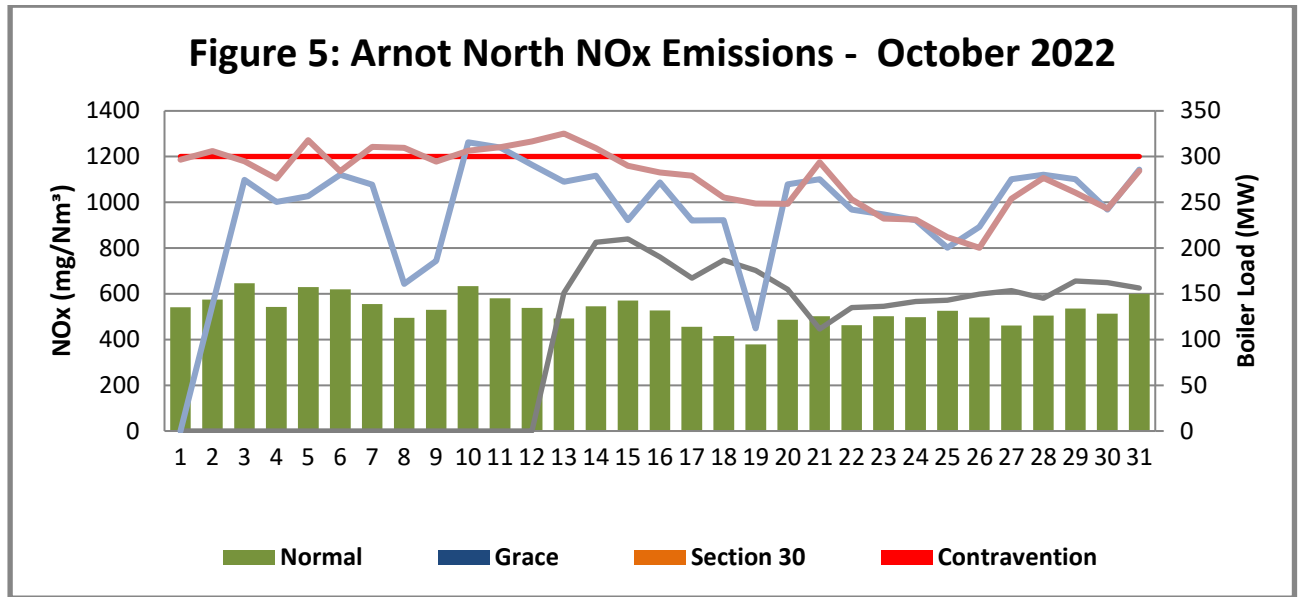


**Figure 3: SO<sub>2</sub> emissions (daily averages) for the month of October 2022 against emission limit for the North Stack**

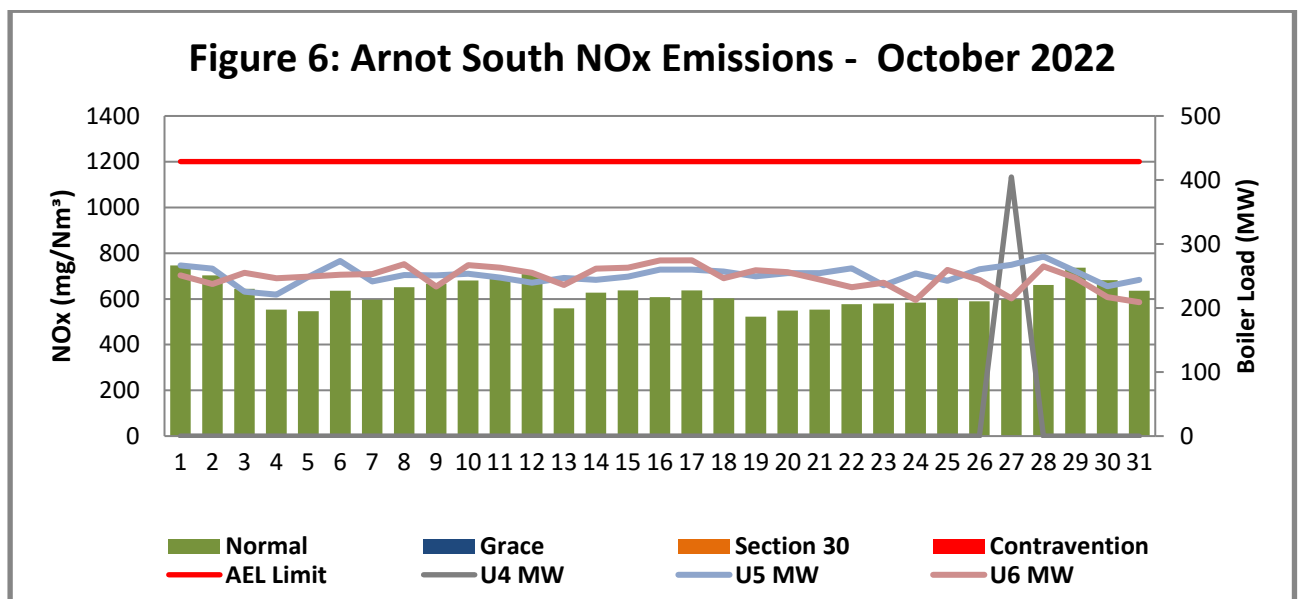


**Figure 4: SO<sub>2</sub> emissions (daily averages) for the month of October 2022 against emission limit for the South Stack**

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF OCTOBER 2022**



**Figure 5: NO<sub>2</sub> emissions (daily averages) for the month of October 2022 against emission limit for the North Stack**



**Figure 6: NO<sub>2</sub> emissions (daily averages) for the month of October 2022 against emission limit for the South Stack**

**Table 4: Monthly tonnages for the month of October 2022**

Unit	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
<b>Total Tons (North &amp; South Stack)</b>	128.7	4 622.6	2 173.9

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

**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 2022

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	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.

Hoping the above will meet your satisfaction.

**ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF  
OCTOBER 2022**

Compiled by



2022.11.16

Lawrence Machebe

**ENVIRONMENTAL OFFICER: ARNOT**

Verified by

Date:



16-11-2022

Jan-Louis Human

**SYSTEM ENGINEER: ARNOT**

Supported by:

Date: 2022.11.16



Rofhiwa Tshikovha

**SENIOR ENVIRONMENTAL ADVISOR: ARNOT**

Yours sincerely



Marcus Nemadodzi

**GENERAL MANAGER: ARNOT POWER STATION**

Date: 2022-11-17