

Air Quality Officer
DEDET
Private bag X11215
NELSPRUIT
1200

Date:
2024.01.30

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Dear Mr. Mahlangu

ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF DECEMBER 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 December 2023, verified emissions of particulates; SO₂ and NO_x (as NO₂) are also included.

Raw Materials and Products

Table1: Quantity of Raw Materials and Products used/produced for the Month of December 2023

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption/ Rate in Month of December 2023
	Coal	Tons/month	1 050 330	319 541.47
	Fuel Oil	Tons/month	10 000	5143.25
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of December 2023
	Energy	GWh	1 785 600	647.653
	Ash	Tons/month	421 000	74 037.7

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Abatement Technology

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

Associated Unit/Stack	Technology Type	Actual Efficiency (%) for the month of December 2023
North Stack	Fabric Filter Bags	99.8%
South Stack	Fabric Filter Bags	99.7%

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

Associated Unit/Stack	Technology Type	Utilisation December 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 ₂	NO
Stack 1	98.8	93.5	93.4
Stack 2	99.1	98.4	98.4

Energy Source Characteristics

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

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.5 to < 1 (%)	0.633
Ash Content	17 to < 40 (%)	23.17

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	0	37.0
South	31	0	0	0	0	73.6
SUM	62	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
North	31	0	0	0	0	896.9
South	31	0	0	0	0	515.0
SUM	62	0	0	0	0	

Table 6: Operating days in compliance to Sox AEL Limit –December 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
North	31	0	0	0	0	1310.2
South	31	0	0	0	0	1164.4
SUM	62	0	0	0	0	

Emissions Reporting

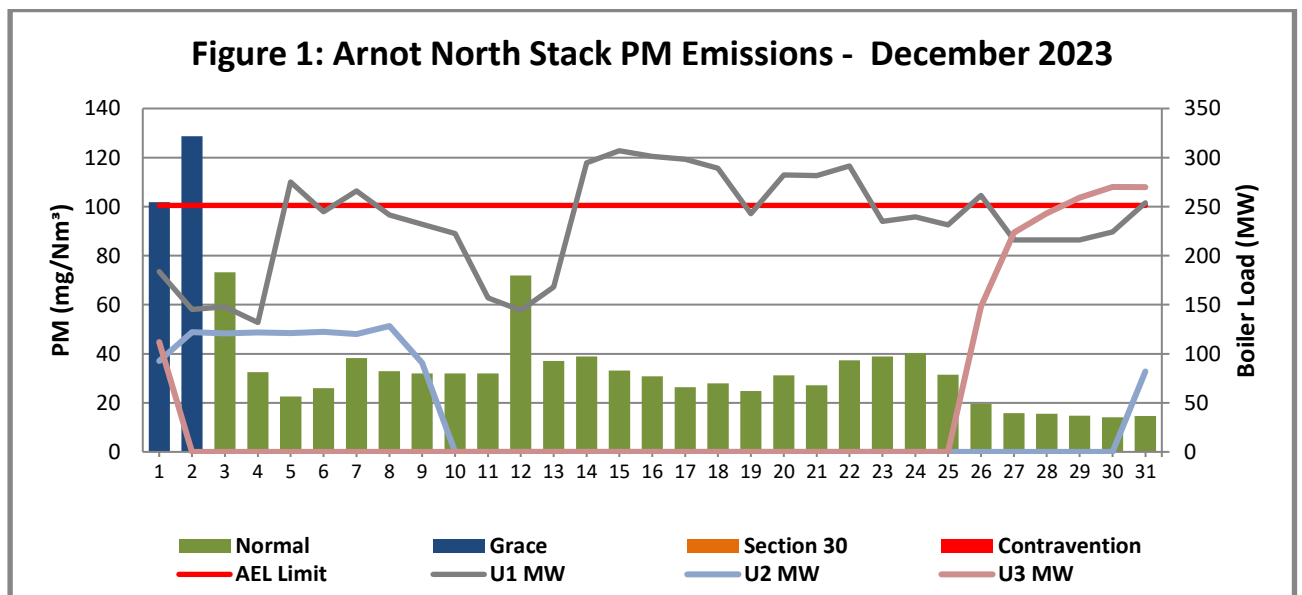


Figure 1: PM emissions (daily averages) for the month of December 2023 against the emission limit for the North Stack

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

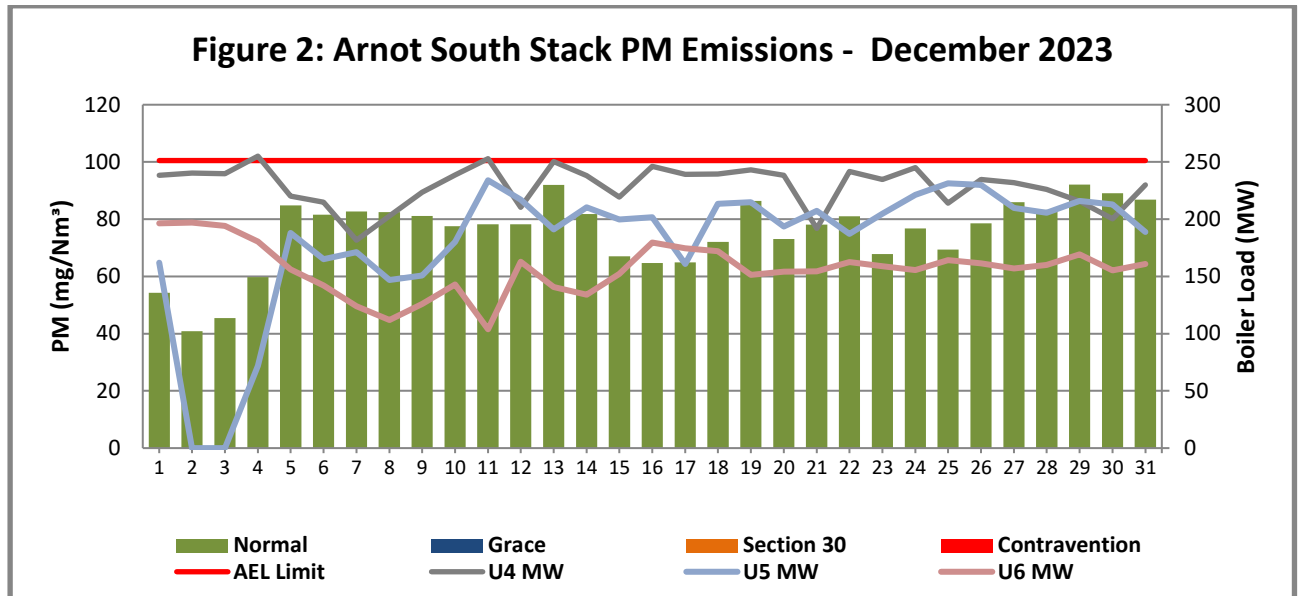


Figure 2: PM emissions (daily averages) for the month of December 2023 against emission limit for the South Stack

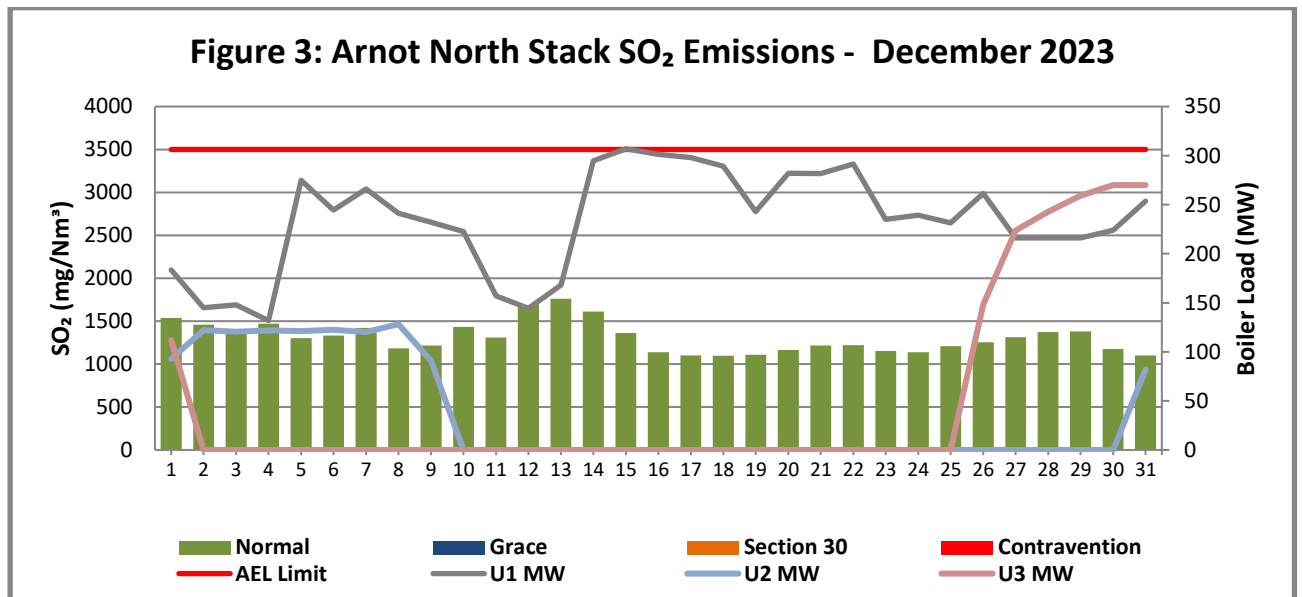


Figure 3: SO₂ emissions (daily averages) for the month of December 2023 against emission limit for the North Stack

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

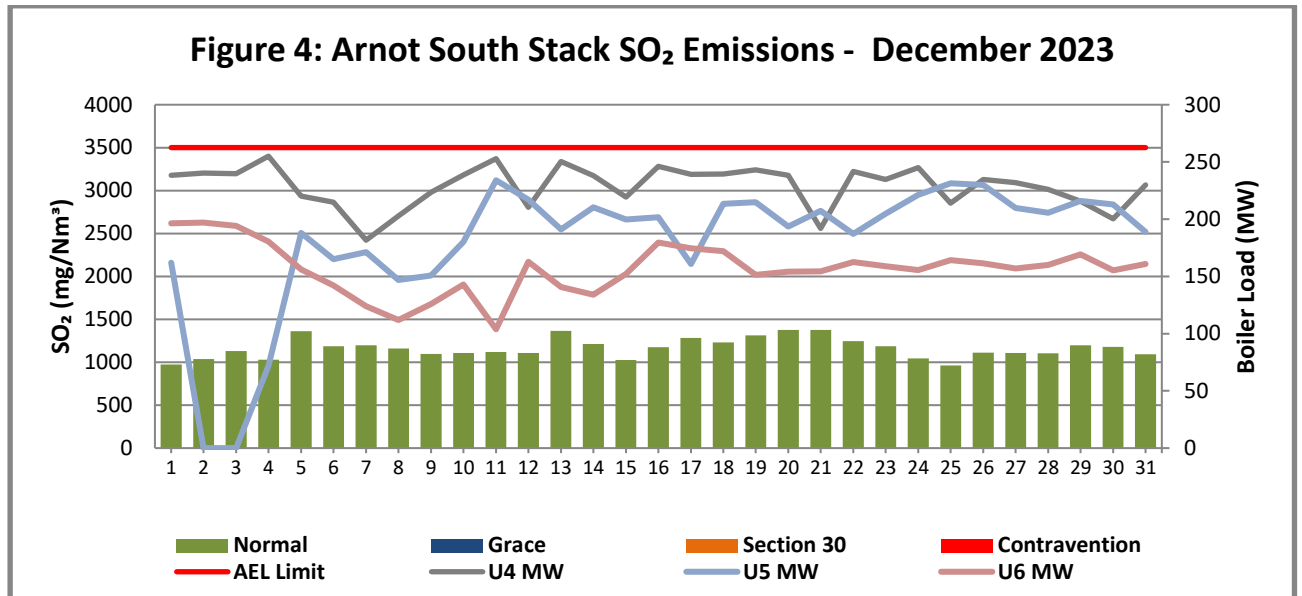


Figure 4: SO₂ emissions (daily averages) for the month of December 2023 against emission limit for the South Stack

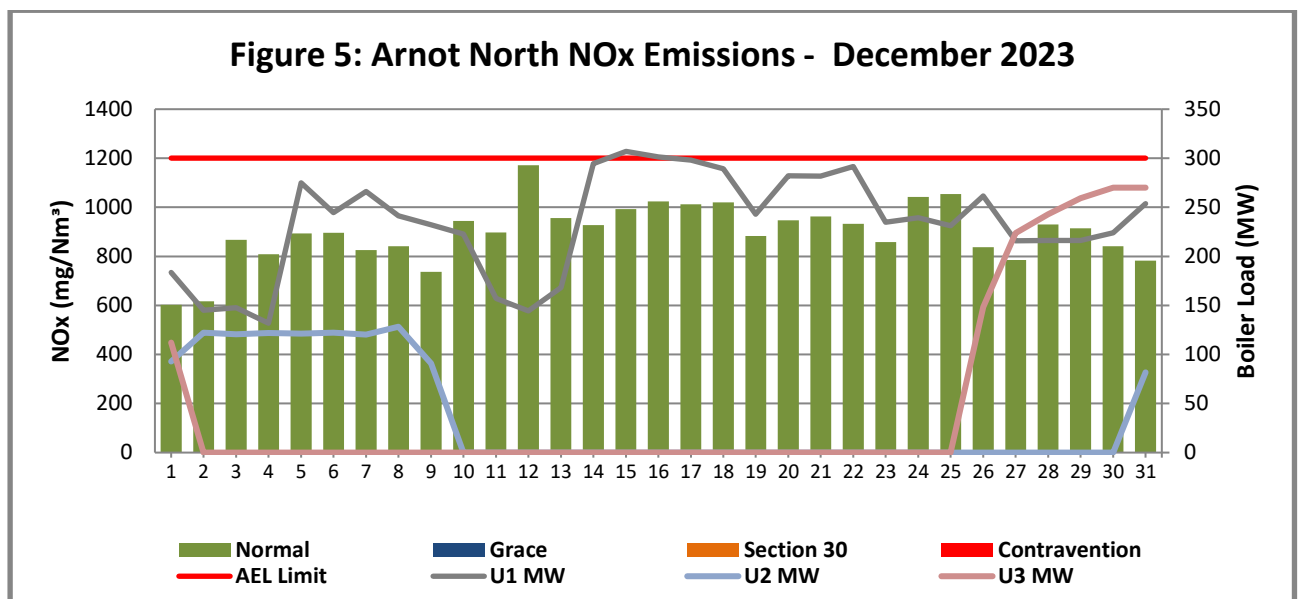


Figure 5: NO₂ emissions (daily averages) for the month of December 2023 against emission limit for the North Stack

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

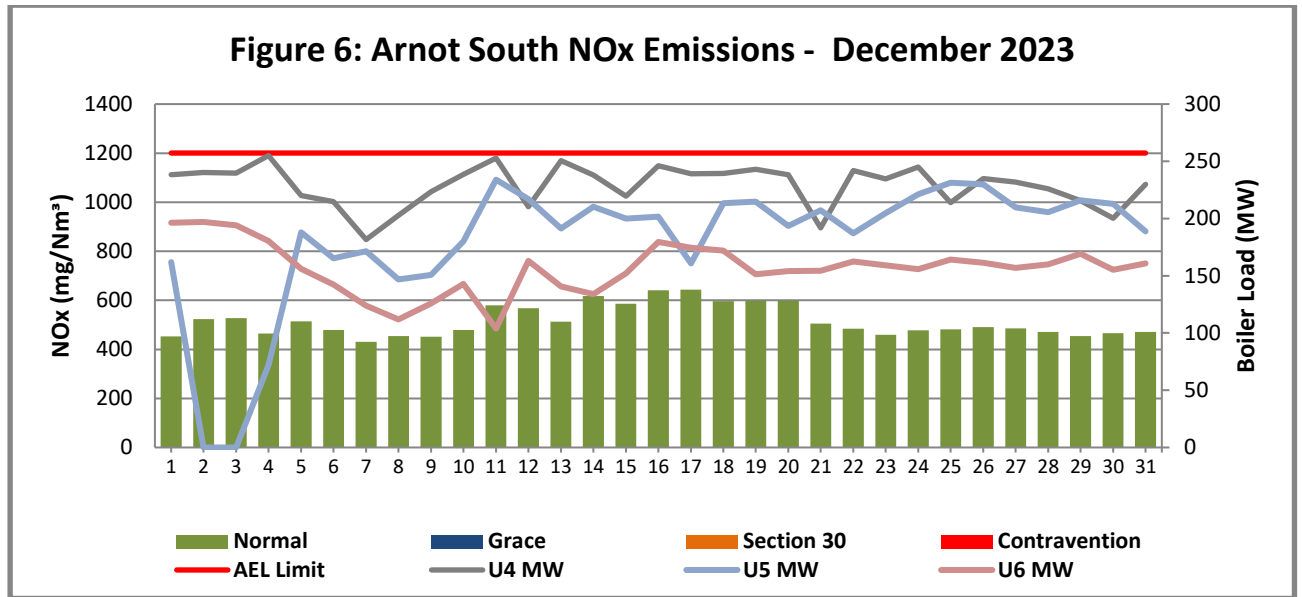


Figure 6: NO₂ emissions (daily averages) for the month of December 2023 against emission limit for the South Stack

Table 4: Monthly tonnages for the month of December 2023

Unit	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
Total Tons (North & South Stack)	255.7	5361	2880

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 December 2023

No Noise, dust and offensive odors complaints registered in the month of December 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:

Hoping the above will meet your satisfaction.

Compiled by

Date:

Lawrence Machebe

ENVIRONMENTAL OFFICER: ARNOT POWER STATION

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

Verified by

Date: 2024.02.06

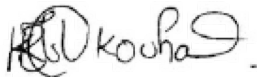


Sandile Mbuyazi

SYSTEM ENGINEER: ARNOT POWER STATION

Supported by:

Date: 2024.02.06



Rofhiwa Tshikovha

SENIOR ENVIRONMENTAL ADVISOR: ARNOT POWER STATION

Yours sincerely

pp 

Marcus Nemadodzi

Date: 08 February 2024

GENERAL MANAGER: ARNOT POWER STATION