

Air Quality Officer
DEDET
Private bag X11215
NELSPRUIT
1200

Date:
2023.02.22

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Dear Mr. Mahlangu

ARNOT POWER STATION'S MONTHLY EMISSIONS REPORT FOR THE MONTH OF DECEMBER 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 December 2022, 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 2022

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption/ Rate in Month of December 2022
	Coal	Tons/month	1 050 330	417 114.4
	Fuel Oil	Tons/month	10 000	3151.92
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of December 2022
	Energy	GWh	1 785 600	730 563
	Ash	Tons/month	421 000	106 698

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Abatement Technology

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

Associated Unit/Stack	Technology Type	Actual Efficiency (%) for the month of December 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 December 2022

Associated Unit/Stack	Technology Type	Utilisation December 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 ₂	NO
Stack 1	100.0	92.9	93.5
Stack 2	100.0	95.3	92.1

Energy Source Characteristics

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

Characteristic	Stipulated Range (Unit)	Monthly Average Content
Sulphur Content	0.5 to < 1 (%)	0.588
Ash Content	17 to < 40 (%)	25.58

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	0	35.5
South	31	0	0	0	0	31.1
SUM	62	0	0	0	0	

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Table 5 Operating days in compliance to NOx AEL Limit – December 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
North	31	0	0	0	0	455.3
South	31	0	0	0	0	564.5
SUM	62	0	0	0	0	

Table 6: Operating days in compliance to Sox AEL Limit –November 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
North	31	0	0	0	0	1090.2
South	31	0	0	0	0	1028.8
SUM	62	0	0	0	0	

Emissions Reporting

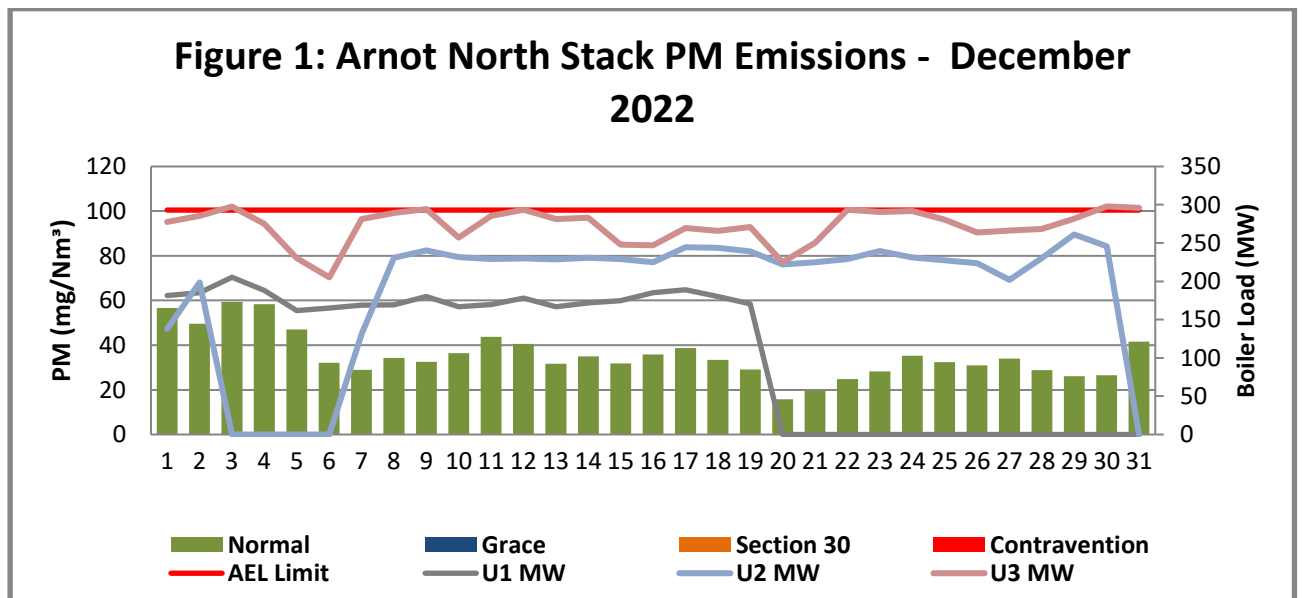


Figure 1: PM emissions (daily averages) for the month of December 2022 against the emission limit for the North Stack

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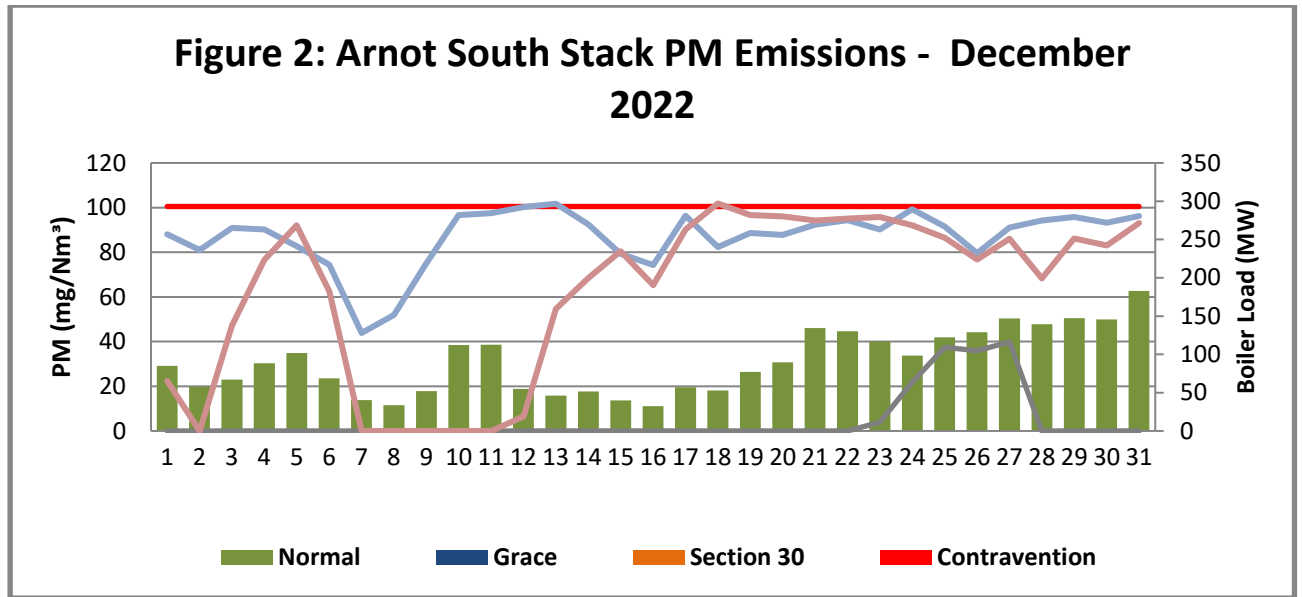


Figure 2: PM emissions (daily averages) for the month of December 2022 against emission limit for the South Stack

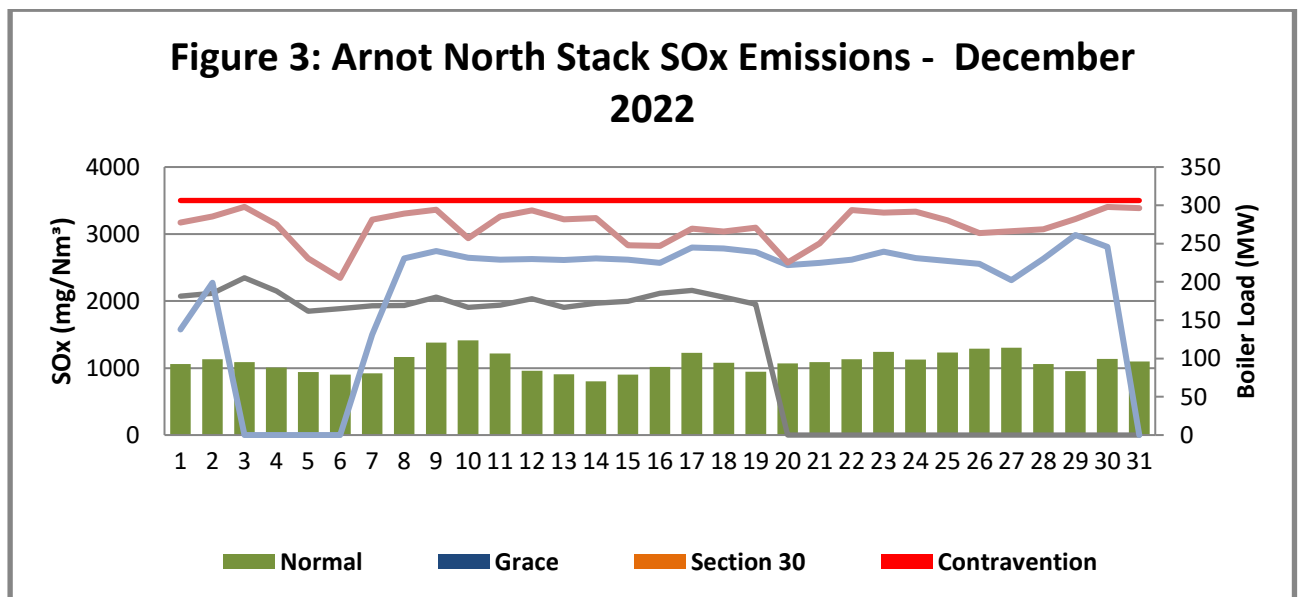


Figure 3: SO₂ emissions (daily averages) for the month of December 2022 against emission limit for the North Stack

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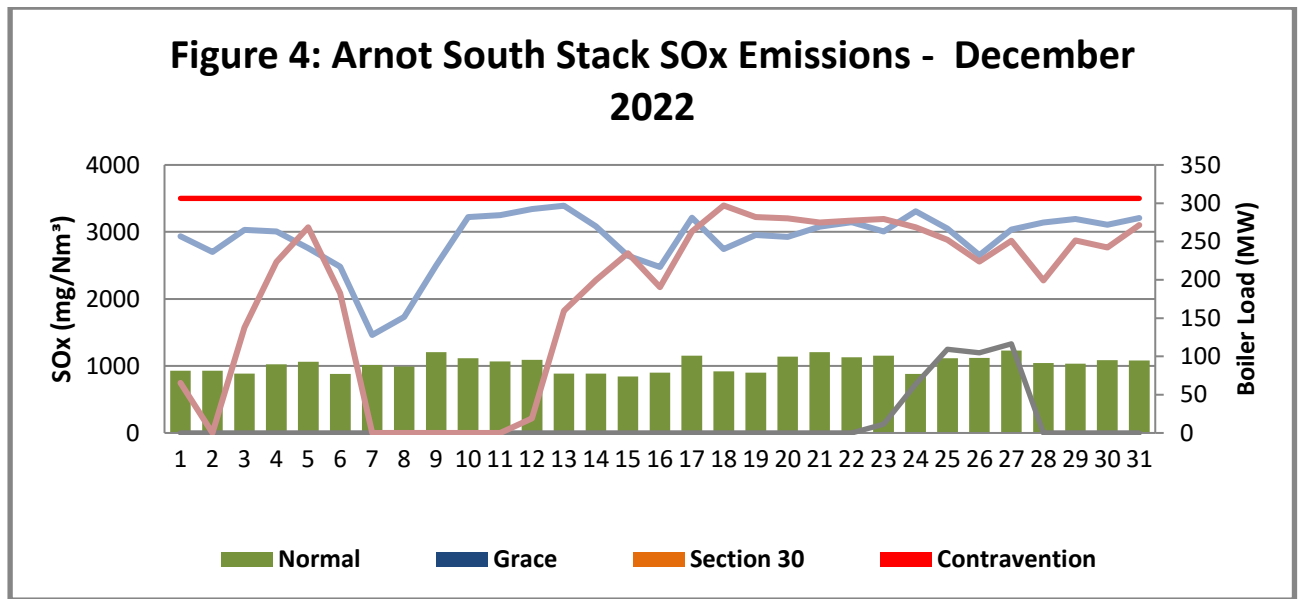


Figure 4: SO₂ emissions (daily averages) for the month of December 2022 against emission limit for the South Stack

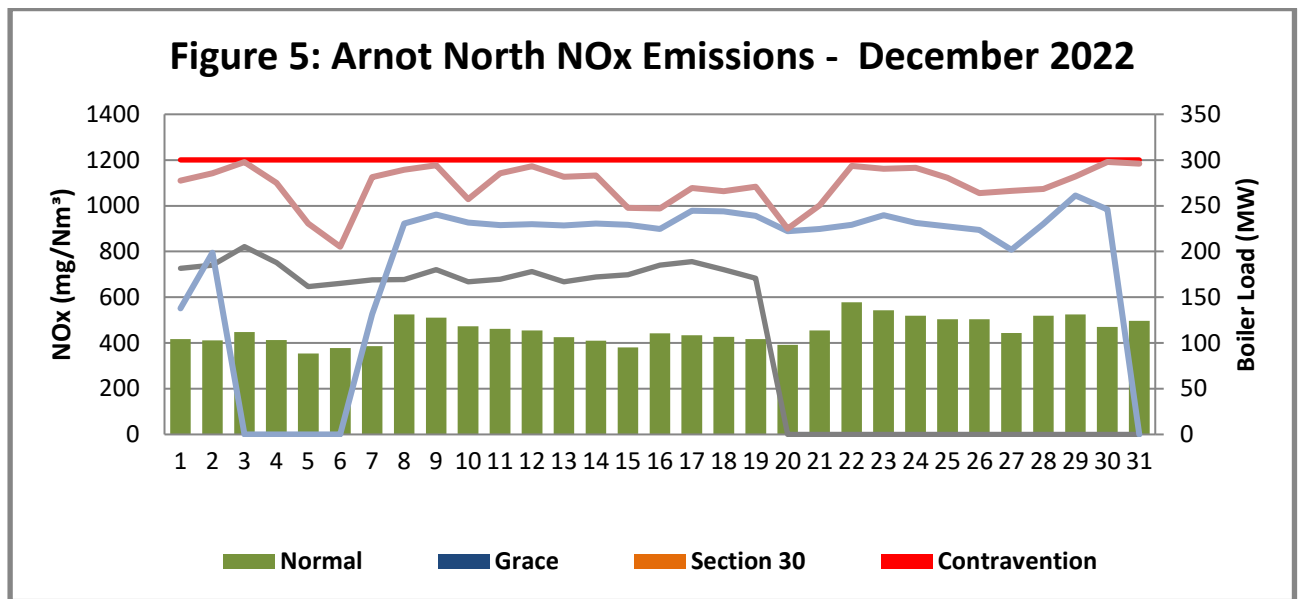


Figure 5: NO₂ emissions (daily averages) for the month of December 2022 against emission limit for the North Stack

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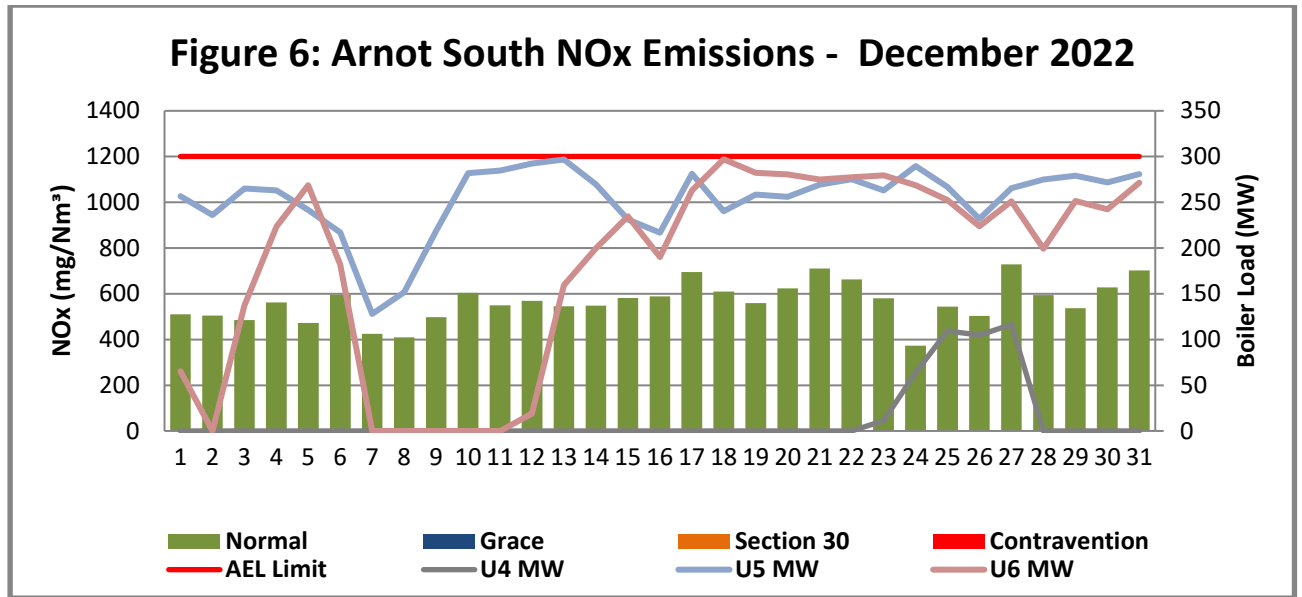


Figure 6: NO₂ emissions (daily averages) for the month of December 2022 against emission limit for the South Stack

Table 4: Monthly tonnages for the month of December 2022

Unit	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
Total Tons (North & South Stack)	121.3	3 932.2	1 787.8

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 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.

Note: Parallel test expired, and the station is currently conducting the tests and will backfit the data and communicate to the licensing office

Hoping the above will meet your satisfaction.

Compiled by



2023.02.22

Lawrence Machebe

ENVIRONMENTAL OFFICER: ARNOT

Verified by

Date: 27/2/2023

WMoll



pp

Jan-Louis Human

SYSTEM ENGINEER: ARNOT

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

Supported by:

Date: 2023.02.22



Rofhiwa Tshikovha

SENIOR ENVIRONMENTAL ADVISOR: ARNOT

Yours sincerely



Marcus Nemadodzi

Date: 2023-02-28

GENERAL MANAGER: ARNOT POWER STATION