

Mr. Vusi Mahlangu
Air Quality Officer
DEDET
Private bag X11215
NELSPRUIT
1200

Date:
2022/05/24

Enquiries:
Mariam Joseph
Tel +27 13 297 9487
Fax +27 86 245 8512

Dear Mr. Mahlangu

ARNOT POWER STATION'S ANNUAL EMISSIONS REPORT: 2021 / 2022 FINANCIAL YEAR.

1. EXECUTIVE SUMMARY.

This serves as the annual report required in terms of Section 7.6 in Arnot Power Station's Atmospheric Emission License. The emissions are for Eskom Arnot Power Station's 2021/2022 financial year, which is from 1 April 2021 to 31 March 2022. Verified measured emissions of particulates, SO₂ and NO_x (as NO₂) and calculated greenhouse gas emissions are included. Conditions 7.2.1 requires the License Holder to report its operational performance against the conditions of license on a regular basis and at least on an annual basis, to the licensing authority.

This annual report will cover the following: Daily particulate emissions, Gaseous emissions (NO_x and Sox) in mg/Nm³ for 2021/2022 financial year.

AEL FACILITIES DETAILS:

Name of facility	Eskom Holding SOC Limited: Arnot Power Station
Description of facility	Power Station- Electricity Generation
AEL Reference Number	17/4/AEL/MP312/11/15
Current Responsible Person	Marcus Nematodzi

Table 1. PM (Daily Average) 01 April 2021 - 30 March 2022

Month	Arnot PM (tons)	Arnot SO ₂ (tons)	Arnot NO ₂ (tons)	Arnot CO ₂ (tons)	GWh (COAL FIRED)	N ₂ O tons (Coal Fired)
April 21	229	5925	4870	1126595	991	16
May 21	239	5595	4533	1058642	949	15
June 21	175	5396	4595	1069715	903	15
July 21	110	5365	4138	968993	859	14
August 21	97	3953	3620	849480	859	12
September 21	59	4623	3712	868079	766	13
October 21	47	3638	3197	747089	754	11
November 21	131	5051	4474	1940998	601	15
December 21	113	4335	3604	840559	834	12
January 22	117	4403	3618	846489	666	12
February 22	126	3527	2983	698794	698	10
March 22	166	2832	2588	608100	525	09

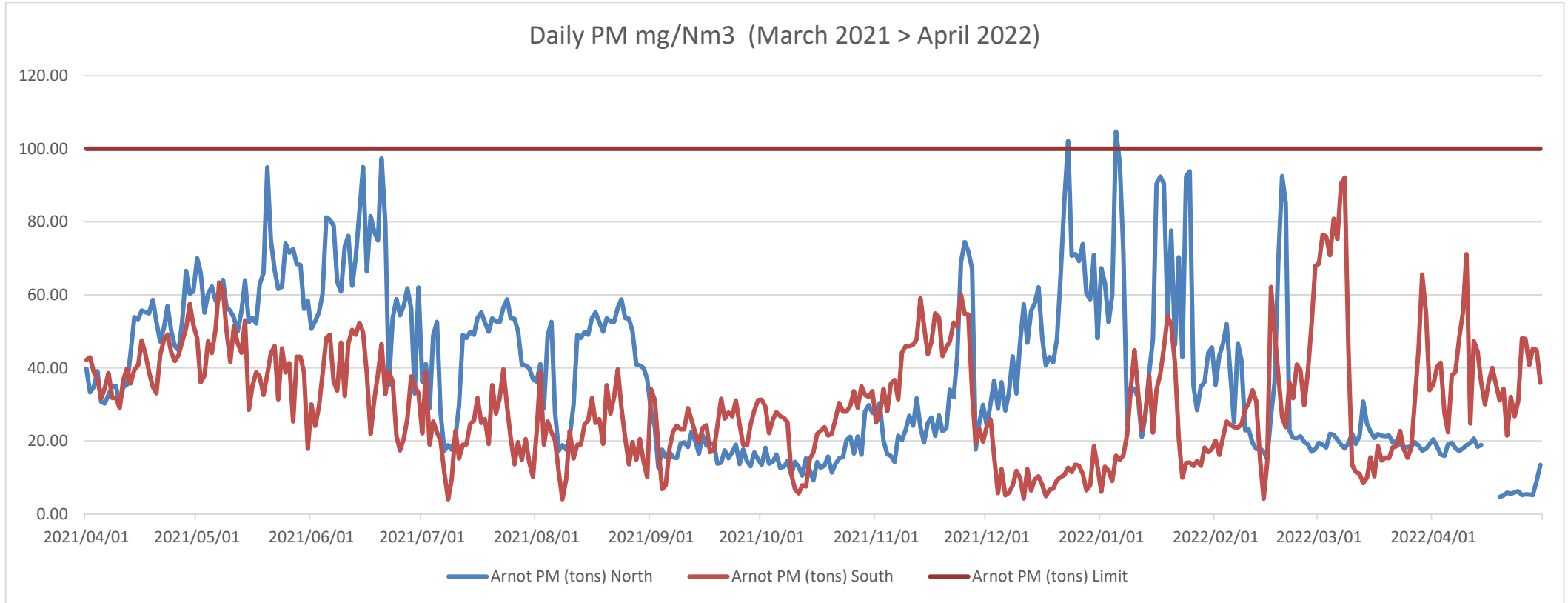


Figure 1. PM Daily Emissions Performance 01 April 2021 - 30 March 2022

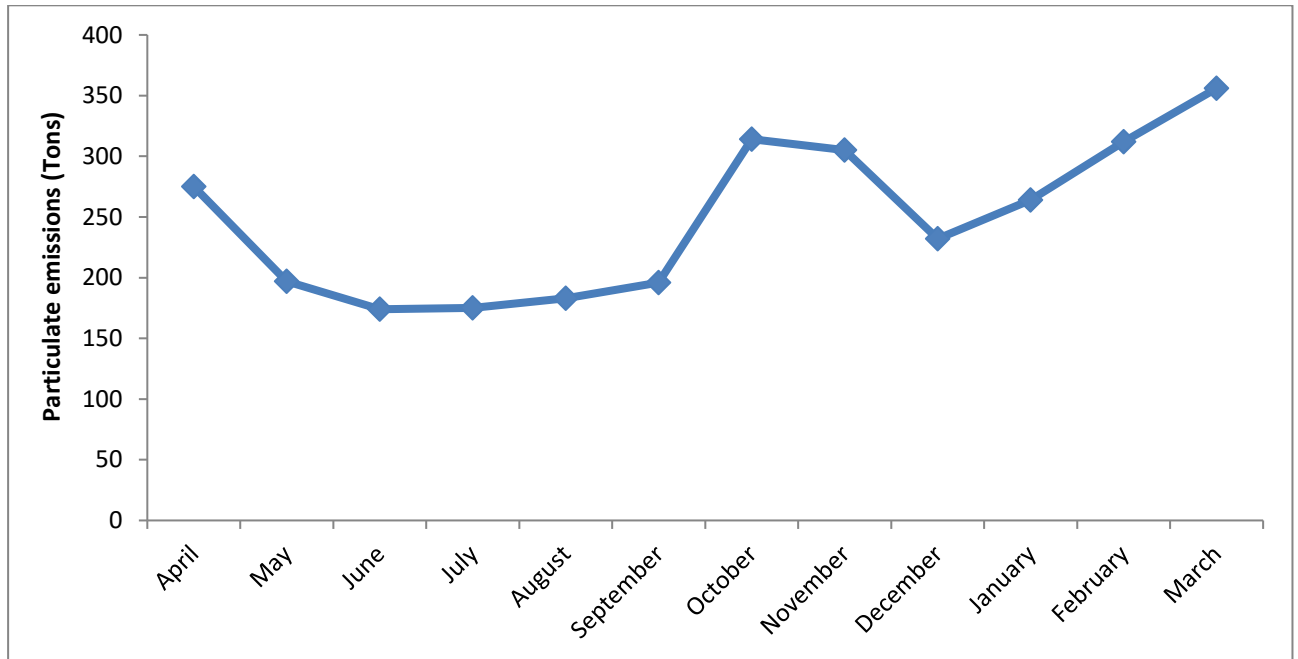


Figure 2. PM (tons) 01 April 2021- 31 March 2022

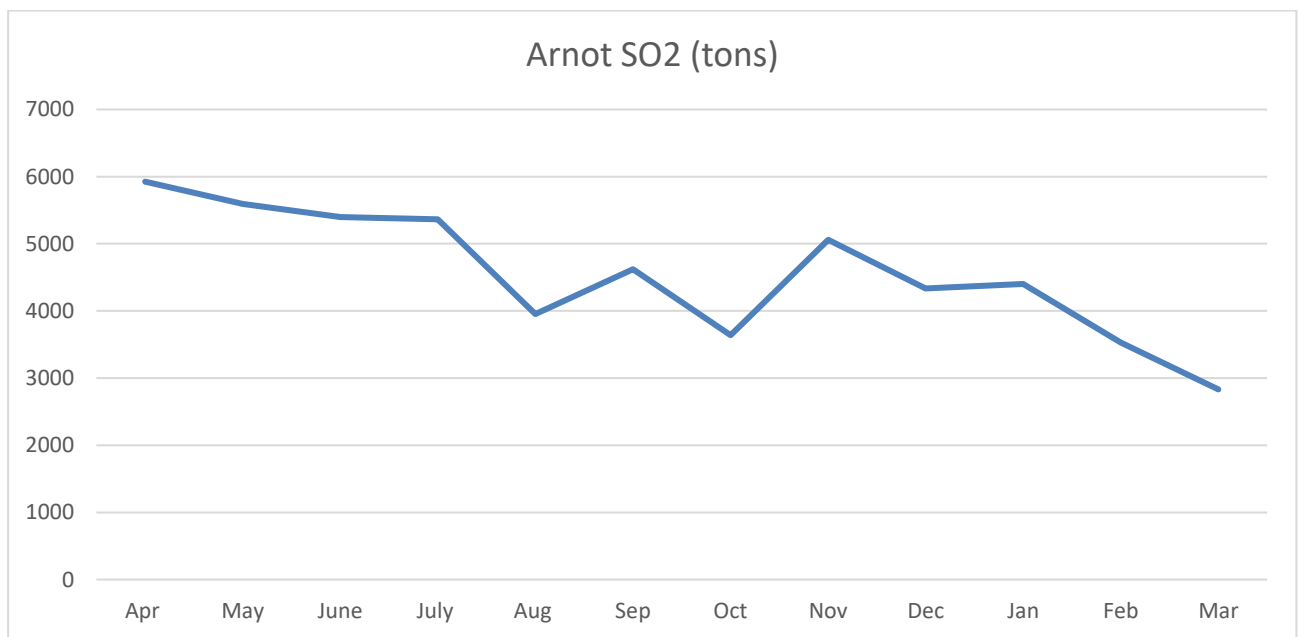


Figure 3. SO2 (tons) 01 April 2021 - 31 March 2022

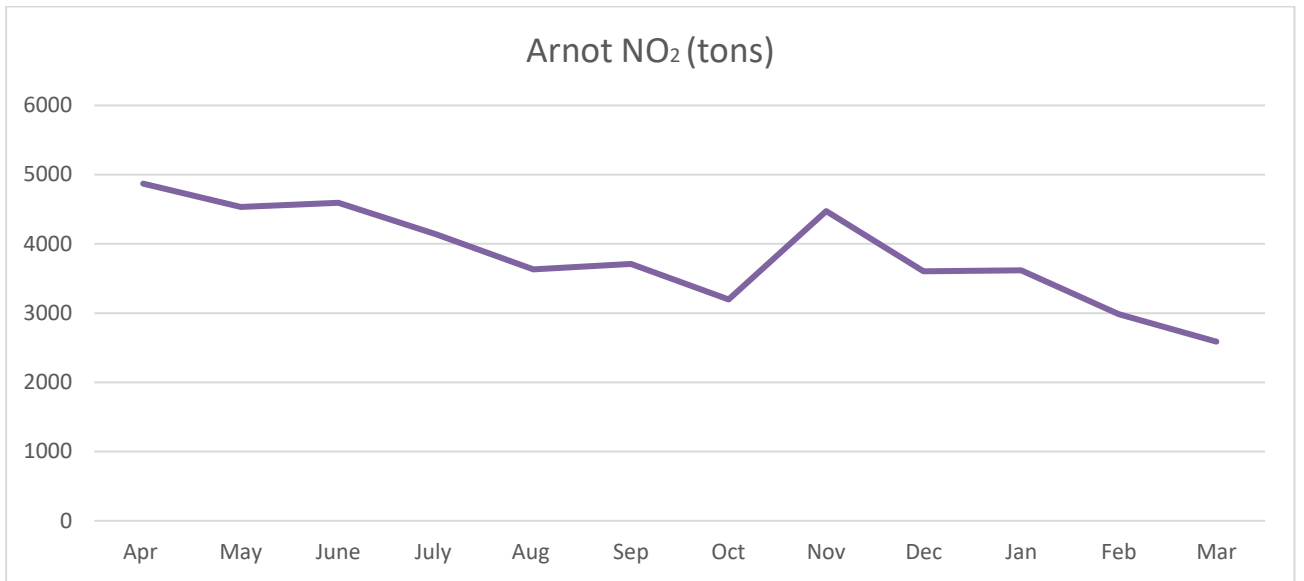


Figure 4. NO₂ (tons) 01 April 2019 - 31 March 2020

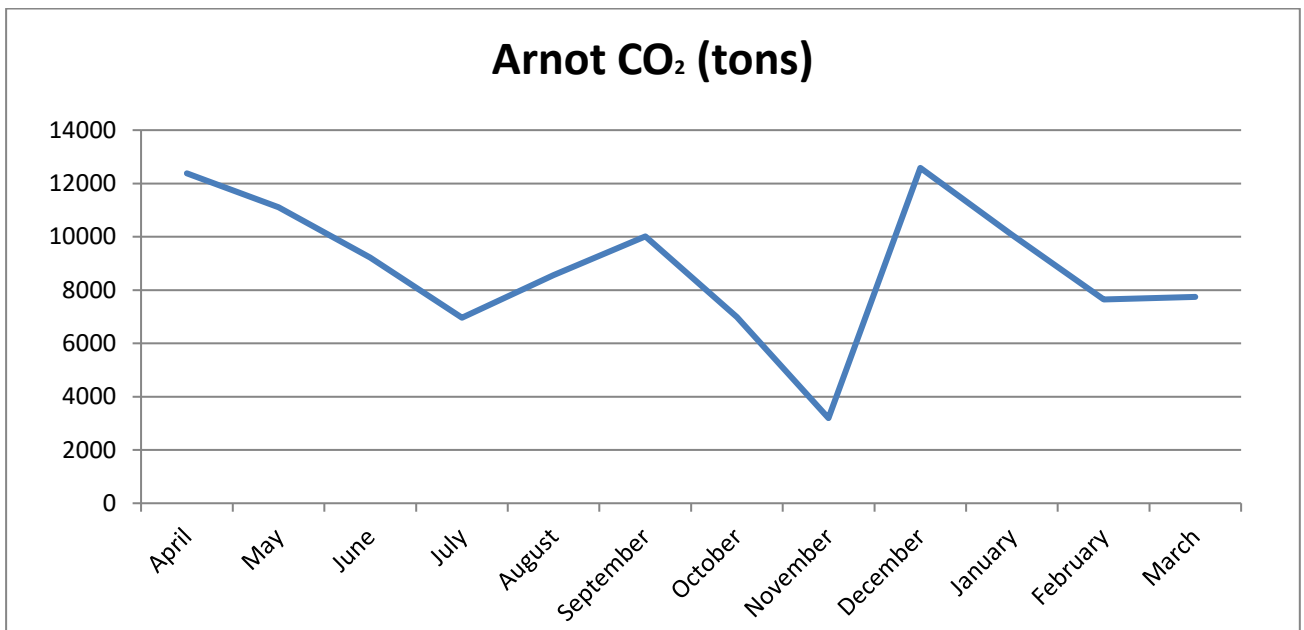


Figure 5. CO₂ (tons) April 2021- 31 March 2022

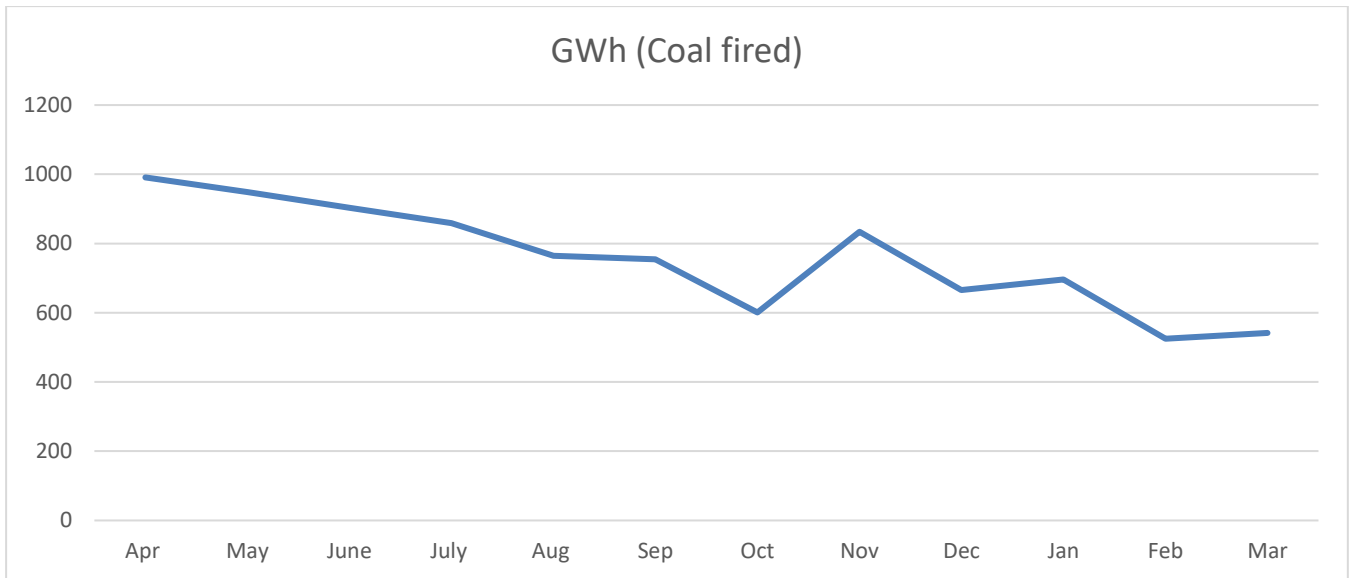


Figure 6 GWh (tons) 01 April 2021- 31 March 2022

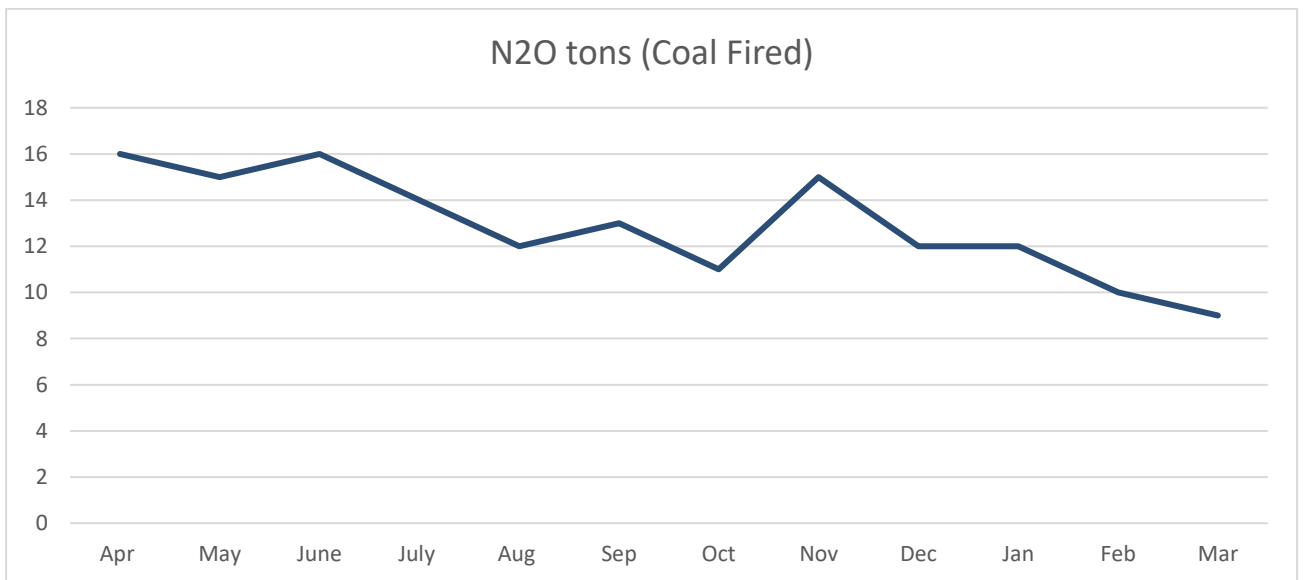


Figure 7 N2O (tons) 01 April 2021- 31 April 2022

Compliance Audit Report(s):

Arnot Checklist for Blitz AEL Compliance Review conducted 18 February 2022

Major upgrades projects:

No major projects related to the atmospheric emissions license were done for the financial year.

Greenhouse gas emissions:

Please refer to table 1 and figure 1-7

Gaseous and Particulate Monitoring Data availability

The Table below indicates the availability of the PM and Gaseous monitors on both the south and north stack for each month between 01 April 2021 and 31 March 2022

Table 2. Monitoring System Availability (%)

	North Stack PM	South Stack PM	North Stack SO ₂	South Stack SO ₂	North Stack NO ₂	South Stack SO ₂
Apr-2021	100	100	99.6	99.3	100	99.8
May-2021	100	99.8	100	100	100	92.6
June-2021	100	100	99.7	100	94.6	99.9
July-2021	99.9	99.2	99.3	94.6	93.8	100
Aug-2021	100	100	100	99.6	87.4	100
Sep- 2021	99.8	100	75.5	99.6	99.6	97.9
Oct-2021	100	99.6	76.8	98	99	100
Sep-2021	100	100	99.7	99.6	100	90.9
Nov-2021	100	99.9	100	38.2	99.6	94.2
Dec-2021	100	100	100	99.8	100	99.7
Jan-2022	100	100	99.6	100	100	100
Feb-2022	100	100	100	100	98.5	100
Mar-2022	100	100	100	100	98.3	100
Total	99.9	99.9	96.6	96.7	96.9	98

For instances in case the gaseous monitors were performing below 80%, it was due to the analyzers being out of commission. The station has a contract with SI Analytics who are responsible for the maintenance, repairs; when monitors are found to be out of commission the supplier is called out to do repairs.

Complaints Register

Table 2. Complaints for 01 April 2021- 31 March 2022

There were no emissions related complaints registered for the past financial year.

Source Code/ Name	Date complaint Received	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
No Emissions related complaints received from April 2021- March 2022						

Most recent correlation/ spot tests

Please note North is reporting on an expired curve still, Data will be back fitted and communicated to your office in case there might be changes Notification has been send to the licensing Officer. Correlation and verification tests on the North Side to be conducted from the 30th May – 03rd June 2022.

South Stack correlation test was last conducted on the 18 May 2021- Next tests is due 18 May 2023

NAIES

Arnot Power Station has submitted its annual NAIES report on the system for the 2021 reporting period in March 2022

General

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

Hoping the above will meet your satisfaction.

Compile by



Lawrence Machebe

ENVIRONMENTAL OFFICER: ARNOT

Date: 2022.05.26

Verified By



Rofhiwa Tshikovha

SENIOR ENVIRONMENTAL ADVISORT: ARNOT

Date: 2022.05.27

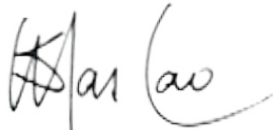
Approve By



Jan-Louis Human
System Engineer

Date: 31-05-2022

Yours sincerely

pp 

Marcus Nematodzi

GENERAL MANAGER: ARNOT

Date: