

District Air Quality Officer
Nkangala District Municipality
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1050

Date
3 December 2024

Enquiries
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Dear Ms N Simelane

HENDRINA POWER STATION'S ANNUAL EMISSIONS REPORT FOR FINANCIAL YEAR 2023/2024.

This serves as the annual report required in terms of Section 7.6 in Hendrina Power Station's Atmospheric Emission License (17/4/AEL/MP/313/11/16), as well as in terms of other reporting requirements listed in the Minimum Emission Standards. The emissions are for Eskom's 2023/2024 financial year, which is from 1 April 2023 to 31 March 2024. Verified emissions of particulates, as measured by installed CEMS and SO₂ and NO_x (as NO₂) and N₂O, are also included.

1. Pollutant Emission Trends

Particulate emissions are measured at all power stations with opacity monitors, which are correlated to obtain emission concentrations. Gaseous emissions (N₂O, SO₂ and NO_x) are calculated from mass balance for SO₂, from station-specific emission factors for NO_x and from a generic emission factor for N₂O.

Continuous emission monitors are installed for both North and South stacks, however for SO₂ and NO_x (as NO₂) calculated data from Eskom Research and Technology Division (RT&D) was used.

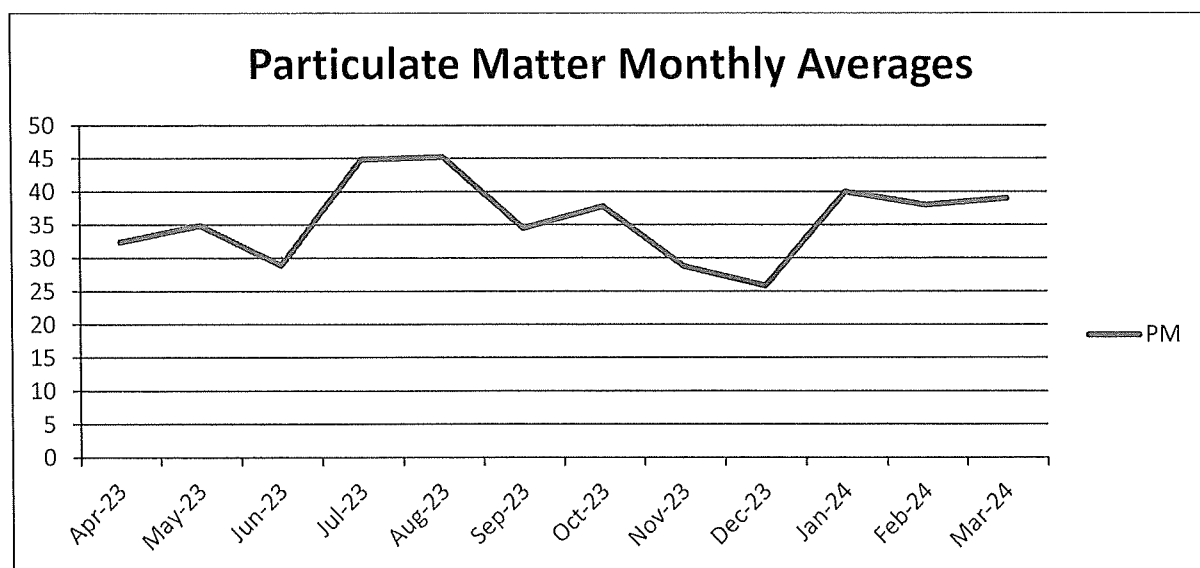
The emissions in the table below are that of the 2023/2024 financial year (FY).

Table 1 Total emissions at Hendrina Power Station 2023/2024 FY

Power Station	Coal-fired emissions (tons/annum)	Fuel-oil emissions (tons/annum)	Total (tons/annum)
Hendrina Power Station	N ₂ O 15 440	SO ₂ 126	N ₂ O 15 440
	PM 430		PM 430
	SO ₂ 15619		SO ₂ 15745
	NO _x 10546		NO _x 10546

Table 2 Pollutant Emission Trends for 2023/2024 FY

Month	PM (tons)	SO ₂ (tons)	NO _x (tons)	N ₂ O (tons)
April 2023	32	1278	772	1
May 2023	35	1210	831	1
June 2023	29	1150	779	1
July 2023	45	1484	961	1
August 2023	45	1640	1234	2
September 2023	35	1097	784	1
October 2023	38	1075	748	1
November 2023	29	740	488	1
December 2023	26	874	545	1
January 2024	40	1452	881	1
February 2024	38	1651	1049	2
March 2024	39	1967	1475	2

**Figure 1:** Monthly Particulate Emissions in tons from Hendrina Power Station 2023/2024 FY

Please note Gaseous emissions are largely dependent on the power generated by the power station, and thus the amount of coal burnt

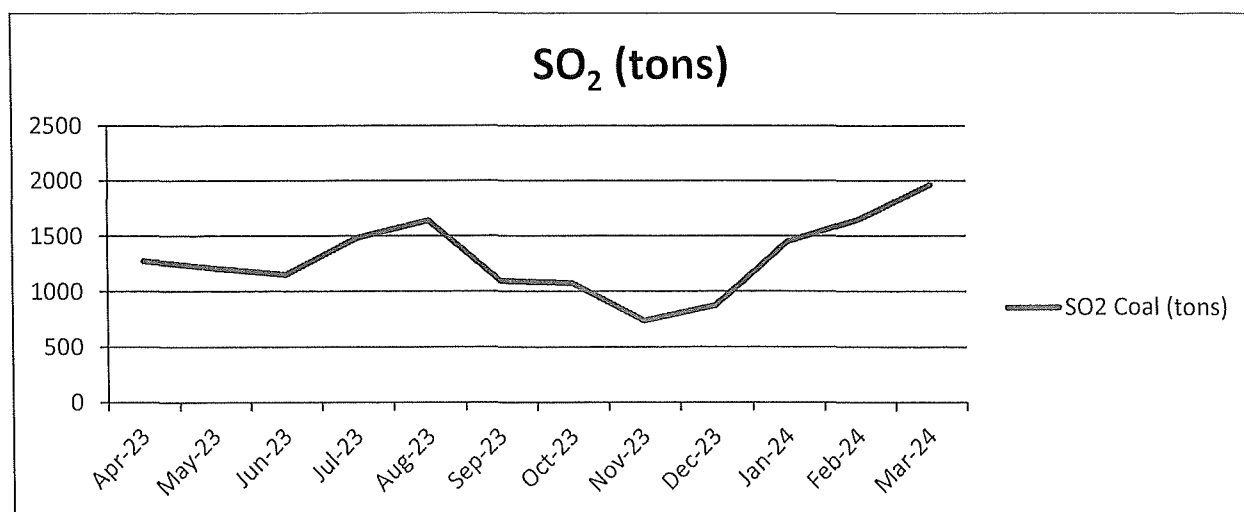


Figure 2: Monthly SO₂ Emissions in tons from Hendrina Power Station 2023/2024 FY

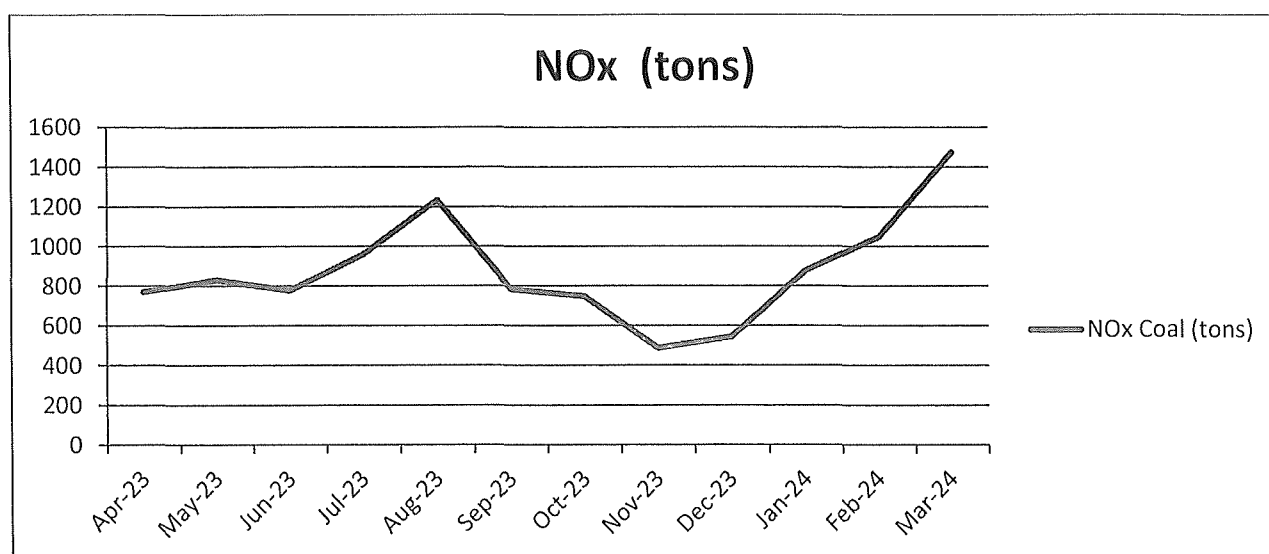


Figure 3: Monthly NO₂ Emissions in tons for Hendrina Power Station 2023/24 FY

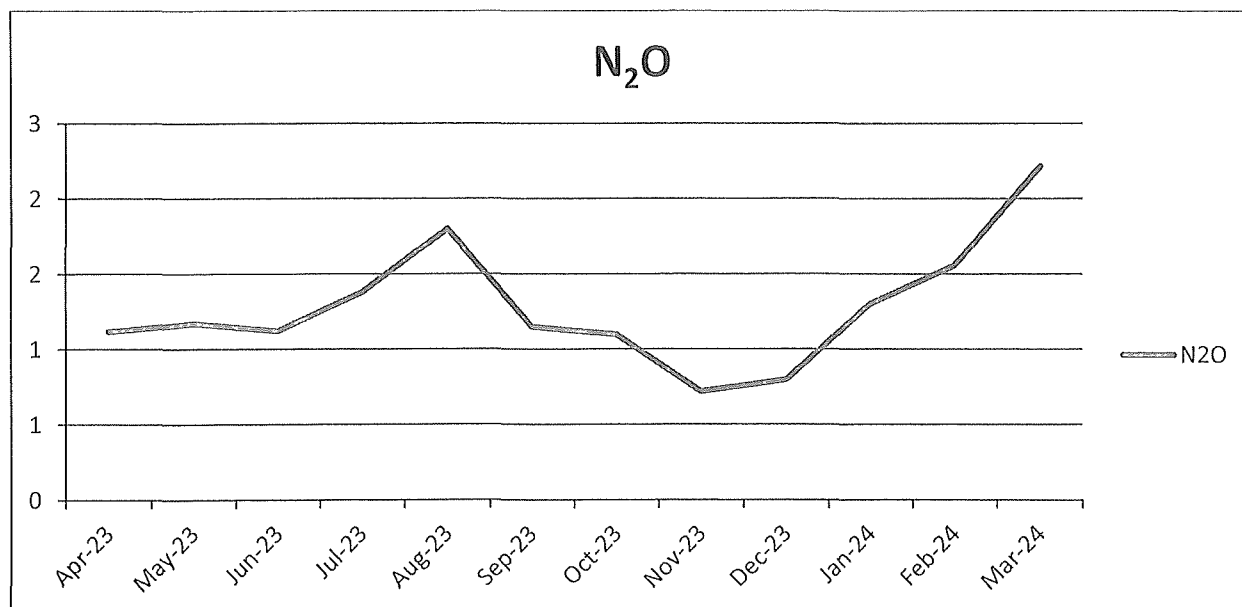


Figure 4. Monthly N₂O Emissions in tons from Hendrina Power Station for 2023/2024 FY

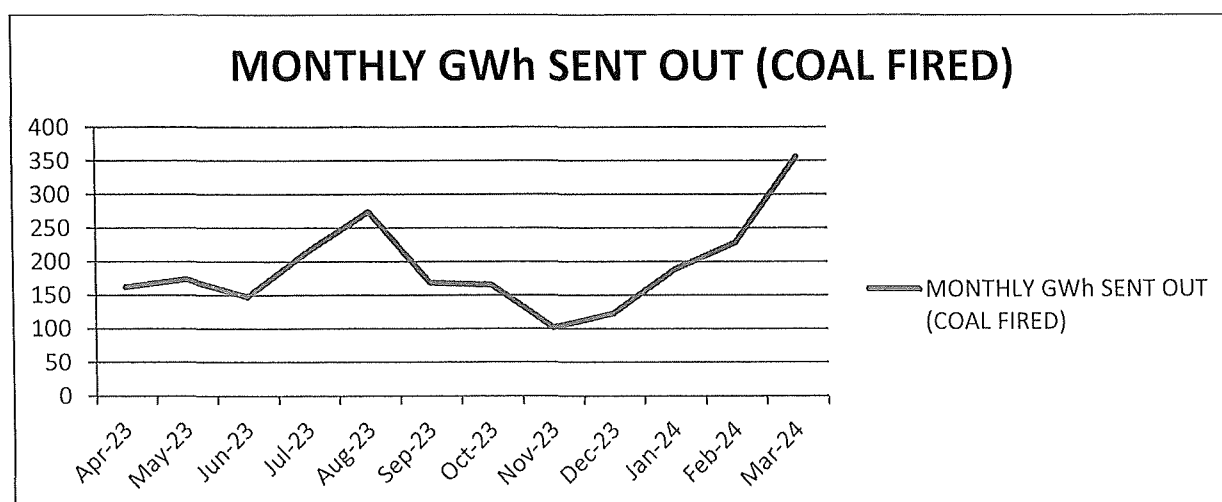


Figure 5: Monthly Energy sent out in GWh at Hendrina Power Station 2023/2024 FY

2. Explanation of instances where MES were exceeded.

Table 3 Overview of instances where daily average limit exceedances for 2023/24 financial year

Exceedance Number	Stack and Pollutant	Exceedance Date	Reason for Exceedance or Grace Period	Remediation Measure and Effectiveness	Submission to Authority
1	North Stack (PM)	No incidents were recorded for this period			
2	South Stack (PM)	No incidents were recorded for this period			

3. Emission Monitoring Information

- Inthuu Measurements (T1026) was appointed to carry out parallel and correlation tests
- The most recent correlation test for the PM emissions for North Stack was between the 27th of February and 17th of March 2024, while for South Stack it was planned for 27th of April and 1st of May 2024
- The most recent parallel measurements for gaseous emissions for North Stack was between 9th and 14th of March 2024, while for South Stack it was planned for 27th of April and 1st of May 2024
- Test reports will be submitted separately

3.1 Monitor Reliability

Notifications regarding monitor unavailability during the year were sent to the Air Quality Officer at the Nkangala District Municipality offices per the respective months as part of the monthly reporting process. Monitor availability status is also being included in the monthly emissions reports. The yearly average availability of monitors is affected by unit availability.

4. Compliance Audit Report(s) and compliance actions

The station conducted an emissions review data integrity between 16 October and 20 November 2023. The purpose of this review was to ensure the integrity of emissions data reported, compliance to emission standards, guidelines, and internal processes.

There was no compliance notice issued to the station related to emissions.

5. Major Upgrades Projects

No upgrade was done. There is no planned major upgrade related to emissions.

6. Greenhouse Gas Emissions

Greenhouse gas emissions as CO₂ and N₂O have been reported on in table 1 above. These have been calculated.

7. Fugitive dust management

The station had active contract with Azile to measure fugitive dust on twenty sites (labeled site 1 to site 20) which are around all point and non-point sources. Site 2 (adjacent to railway line and coal truck gravel road) tend to pick up higher dust samples during high volumes of trucks. The station increases dust suppressions during higher volumes of truck movement.

8. Participation in priority area programs

The station is participating in Nkangala District Municipality Implementation Task Team meeting which is held quarterly. The station is also represented at MSRSG meeting which is held twice in a year.

9. Air quality offset program

Hendrina Power Station offset program is at Kwazamokuhle for replacing the traditional coal stoves with electric stoves and gas heaters to reduce indoor pollution and to improve ambient air quality. The program is still ongoing— project is planned for completion in October 2024.

10. General

10.1 Complaints Register:

The Station did not receive any emissions related complaint for 2023/24 financial year.

10.2 NAEIS reporting:

Hendrina Power Station submitted its annual report on the NAEIS system by the 31 March 2024.

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

Yours sincerely,



Date 2024/12/04

T Lekalakala
GENERAL MANAGER
HENDRINA POWER STATION