District Air Quality Officer
Nkangala District Municipality
Private Bag X 437 or 2032
Middelburg
1050

Date
29 May 2025

Enquiries
Lizo Ntila
+27 17 648 0027

Dear Ms N Simelane

HENDRINA POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2024/2025

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 other reporting requirements listed in the Minimum Emission Standards The emissions are for Eskom's 2024/25 financial year, which is from 1 April 2024 to 31 March 2025 Emissions of particulates, as measured by installed CEMS and SO_2 and NO_x (as NO_2) and N_2O, gaseous emissions 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 (N_2O, SO_2 and NO_x) are calculated from mass balance for SO_2, from station-specific emission factors for NO_x and from a generic emission factor for N_2O

Continuous emission monitors are installed for both North and South stacks, however for SO_2 and NO_x (as NO_2) calculated data from Eskom Research and Technology Division (RT&D) was used

The emissions in the table below are those of the 2024/2025 financial year

Table 1 Total emissions at Hendrina Power Station 2023/24

Power Station	Coal-fired emissions (tons/annum)	Fuel-oil emissions (tons/annum)	Total (tons/annum)
Hendrina Power Station	N_2O 27 319 PM 806 SO_2 29057 NO_x 19673	SO_2 230	N_2O 27 319 PM 806 SO_2 29287 NO_x 19673

Generation Division (Operating Cluster 2)
Hendrina Power Station
Impala Street Pullenshope
Private Bag X 1003 Pullenshope 1096 SA
Tel +27 13 296 3400 Fax +27 13 296 3451 www eskom co za

Table 2 Pollutant Emission Trends for 2023/2024 FY

Month	PM (Tons)	SO_2 (Tons)	NO_x (Tons)	N_2O (Tons)
April 2024	89 42	2904	1973	2 95
May 2024	105 58	3466	2245	3 30
June 2024	117.74	2960	2082	3.09
July 2024	82.11	2976	2044	3.02
August 2024	52.40	2055	1323	1 99
September 2024	32 60	1796	1262	1 85
October 2024	67.81	2582	1835	2.68
November 2024	57 15	2841	1908	2 84
December 2024	24 25	1432	1031	1.53
January 2025	68 49	2558	1598	2 39
February 2025	56.54	1604	1116	1.66
March 2025	52.22	1884	1256	1.87

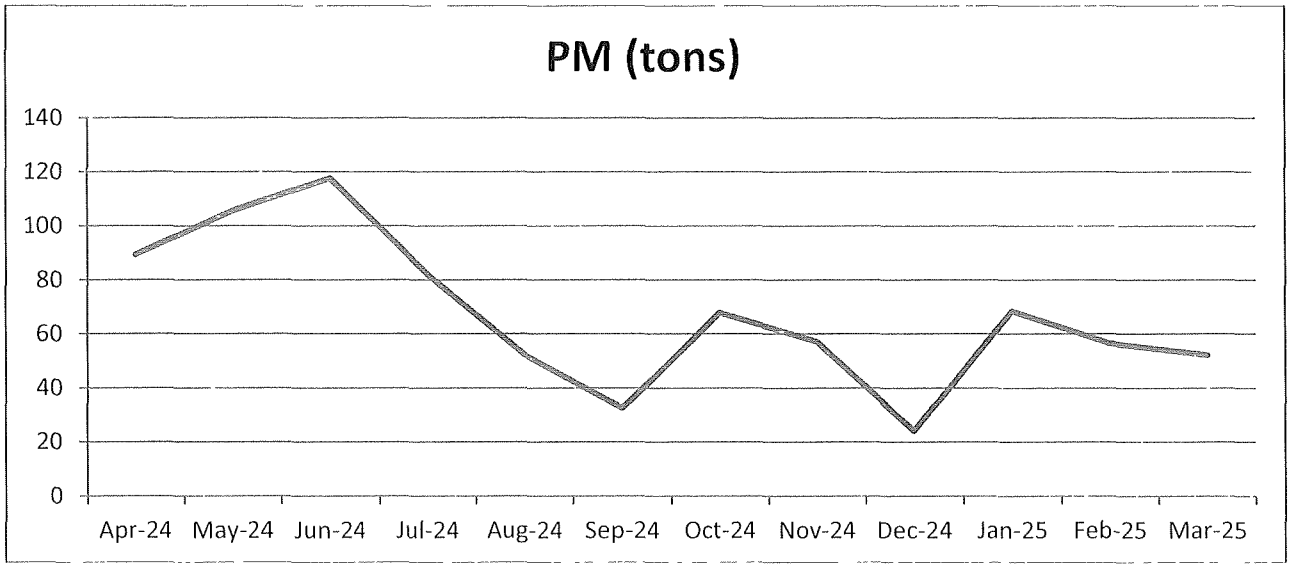

Figure 1: Monthly Particulate Emissions in tons from Hendrina Power Station 2024/2025 FY

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

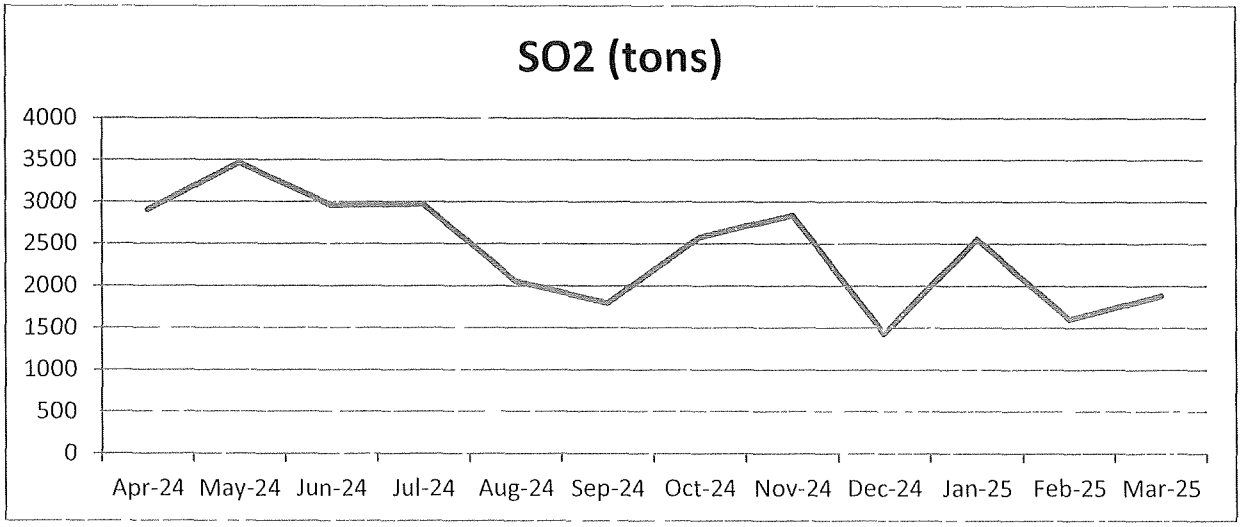

Figure 2: Monthly SO_2 Emissions in tons from Hendrina Power Station 2024/2025 FY

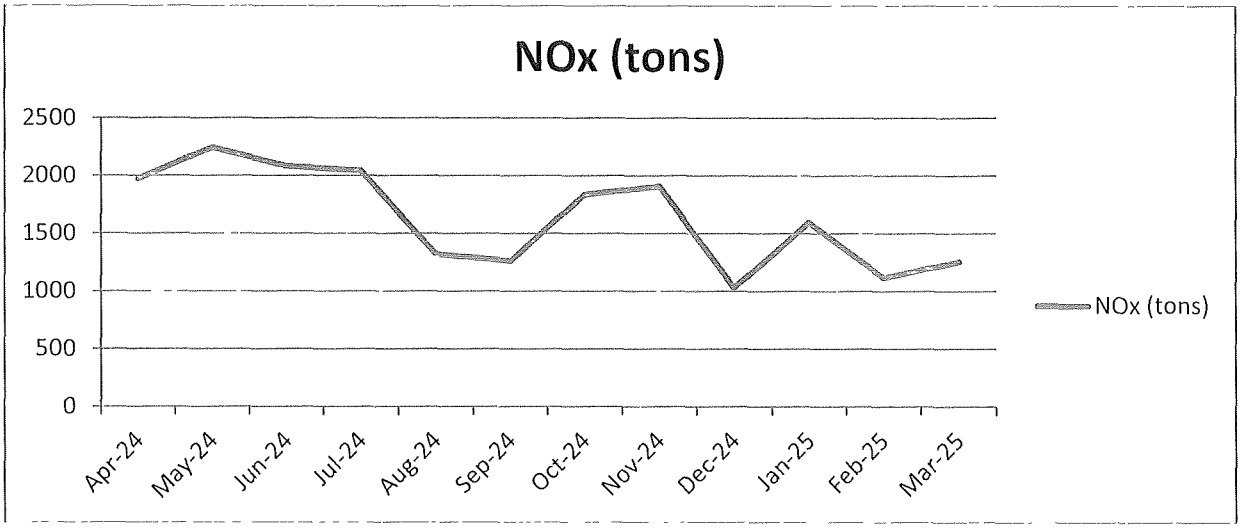

Figure 3: Monthly NO_2 Emissions in tons for Hendrina Power Station 2024/25 FY

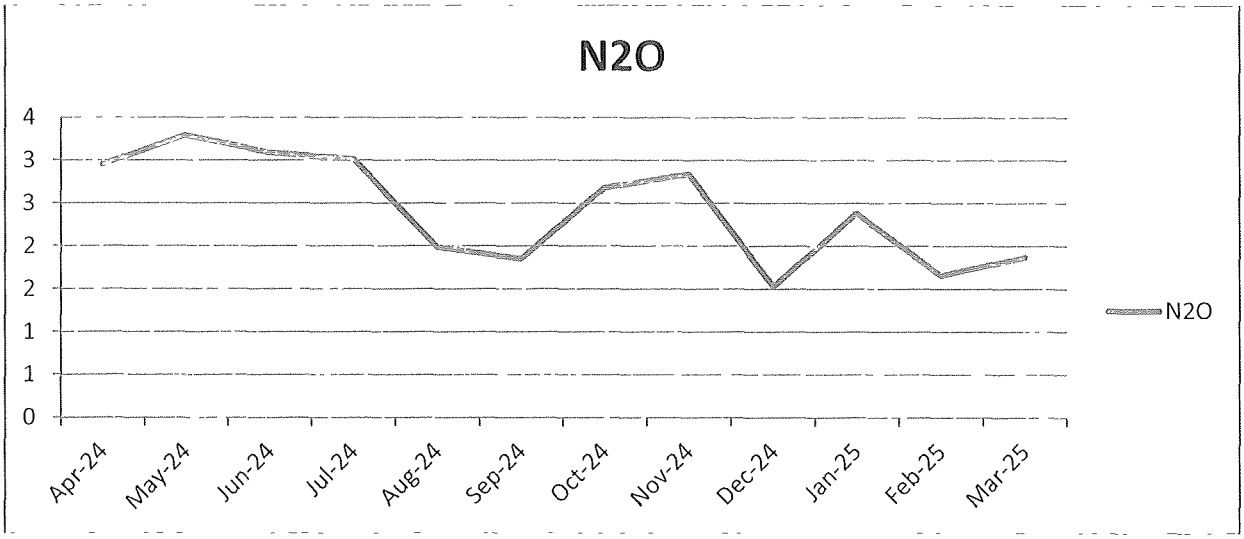

Figure 4. Monthly N2O Emissions in tons from Hendrina Power Station for 2024/2025 FY

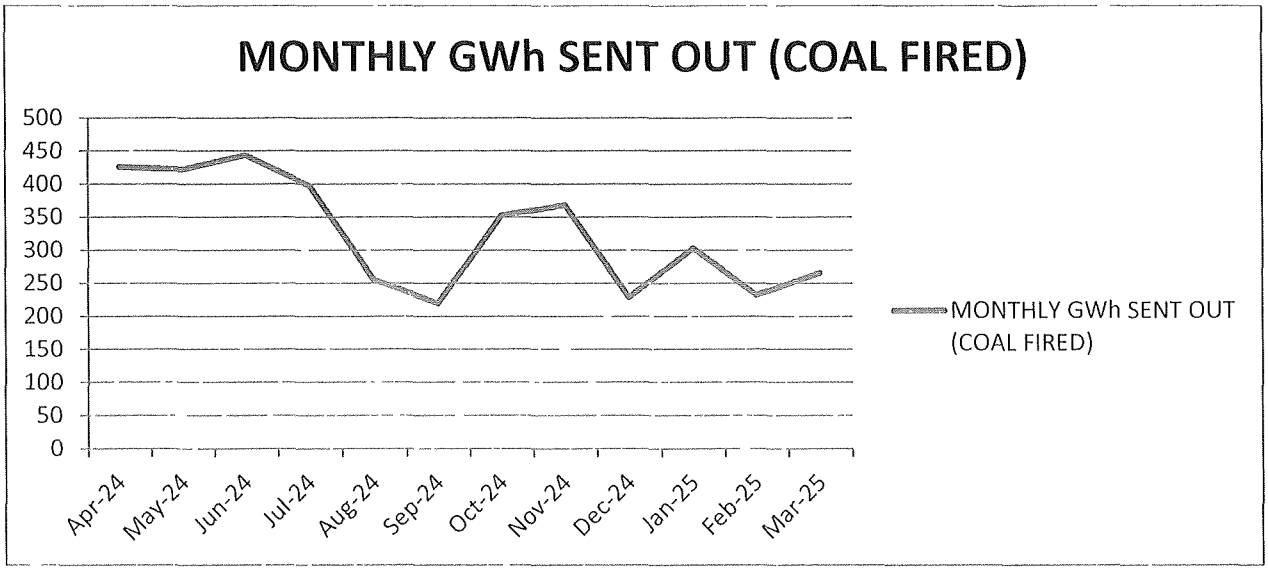

Figure 5: Monthly Energy sent out in GWh at Hendrina Power Station 2024/2025 FY

2. Explanation of instances where MES were exceeded.

Exceedance Number	Stack and Pollutant	Exceedance Date	Reason for Exceedance or Grace Period	Remediation Measure and Effectiveness	Submission to Authority
1	South Stack (PM)	24 June 2024	Damaged FFP bags because of high hopper levels due to unavailability of Ashplant	-Return to service of South Ash Plant- (Fully Effective) -Replacement of damaged bags (Fully Effective)	12 July 2024
2	North Stack (PM)	20 October 2024	Damaged FFP bags because of high hopper levels due to damaged C booster pump	-Return to service of booster pumps C and D (Fully Effective) -Replacement of damaged bags (Fully Effective)	23 October 2024
3	North Stack (PM)	4,16 - 18January, 7 February 2025	Damaged FFP bags because of high hopper levels due to damaged FFP inlet duct allowing moisture-ingress into the hoppers	-Replacement of damaged FFP bags (Fully Effective)	20 January 2025
4	South Stack (PM)	27 January 2025	Stuck sliding gate valve	Dusting and ashing and load reduction (Fully Effective)	Not a s30, exceedance indicated in monthly report
5	South Stack (PM)	31 March 2025	Hopper blockage (Preliminary investigation)	Unblocking of hoppers, dusting, load reduction and repair of stuck dumper (Fully effective)	Not a s30, exceedance indicated in monthly report

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

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 the test was conducted on 27th of April and 1st of May 2024
- The most recent parallel measurements for gaseous emissions for North Stack were conducted between 9th and 14th of March 2024, while for South Stack was conducted on 27th of April and 1st of May 2024
- The curves for North and South Stack correlations as well as South Stack parallel tests have since been implemented

3 1 Monitor Reliability

Notifications regarding monitor reliability during the year were sent to the Air Quality Officer at the Nkangala District Municipality offices as per the respective months as part of the monthly reporting process Monitor reliability status is also being included in the monthly emissions reports

4. Compliance Audit Report(s) and compliance actions

The station conducted an Atmospheric Emissions License KPI baseline assessment on 28 January 2025 The purpose of the assessment was to assess the station's compliance with the license There was no compliance notice issued to the station related to emissions

5. Major Upgrades Projects

No upgrade was done There is planned replacement of Continuous Emission Monitoring System in the 2025 calendar year and the Licensing Authority will be kept abreast of the developments

6. Greenhouse Gas Emissions:

Greenhouse gas emissions such as CO_2 and N_2O have been reported on in table 1 above These have been calculated

7. Fugitive dust management

The station has an active four-year contract with a qualified and suitable service provider to measure fugitive dust on twenty sites (labeled site 1 to site 20) which are around all point and non-point sources No complaints have been received

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 MSRG meeting which is held twice a year

9. Air quality offset program

Hendrina Power Station offset program is at Kwa Zamokuhle for replacing the traditional coal stoves with electric stoves and gas heaters to reduce indoor pollution and to improve ambient air quality

10. General

10 1 Complaints Register:

The Station did not receive any emissions related complaint for 2024/25 financial year

10 2 **NAEIS reporting:**

Hendrina Power Station submitted its annual report on the NAEIS system

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 30/05/2025

Approved by
T Lekalakala
GENERAL MANAGER
HENDRINA POWER STATION