

Ms M Nembilwi
Air Quality Officer
Nkangala District Municipality
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Middelburg
1050

Date:
27 May 2022

Enquiries
Justice Ramagoma
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Dear Ms M Nembilwi

HENDRINA POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2021/2022

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 2021/22 financial year, which is from 1 April 2021 to 31 March 2022. Verified emissions of particulates, as measured by installed CEMS and SO₂ and NO_x (as NO₂), as calculated, are also included.

Table 1 Name, description and reference number of the plant as specified in the AEL

Name of facility	Eskom Holding SOC Limited Hendrina Power Station
Description of facility	Power Station – Electricity Generation Solid fuel combustion for steam rising
Reference number of the plant	17/4/AEL/MP/313/11/16
Current Responsible Person	Anari Van Greuning

Emission Trends:

Table 1 below gives the emissions for the three (PM, SO_x and NO_x) parameters for the 2021/22 financial year.

Table 2: General oversight of emissions at Power Station 2021/22

Power Station	Coal-fired emissions (tons/annum)
Hendrina Power Station	PM 681.95 Tons
	SO ₂ 38704.01 Tons
	NO _x 20000.31 Tons

PM Particulate matter (PM) is a by-product of coal combustion, in the form of fly ash emitted through stacks. SO₂, NO_x, and CO₂, are by-products of coal combustion which are released as flue gases through stacks.

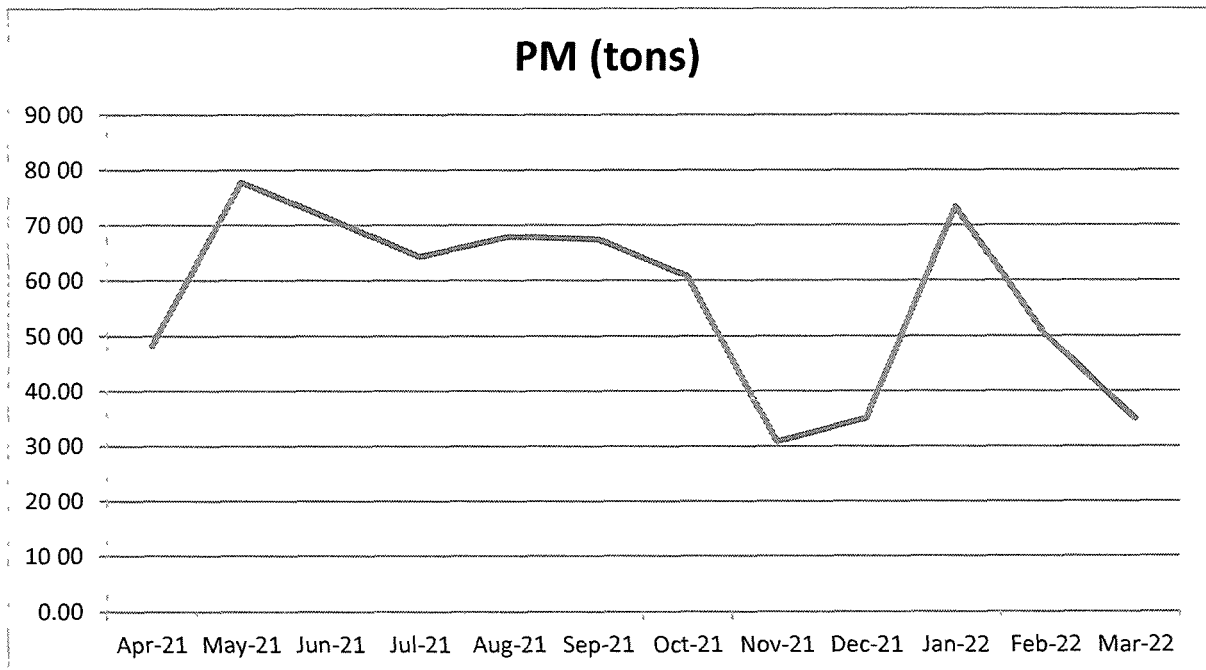


Figure 1 Monthly Particulate Emissions in tons from Hendrina Power Station 2021/2022

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

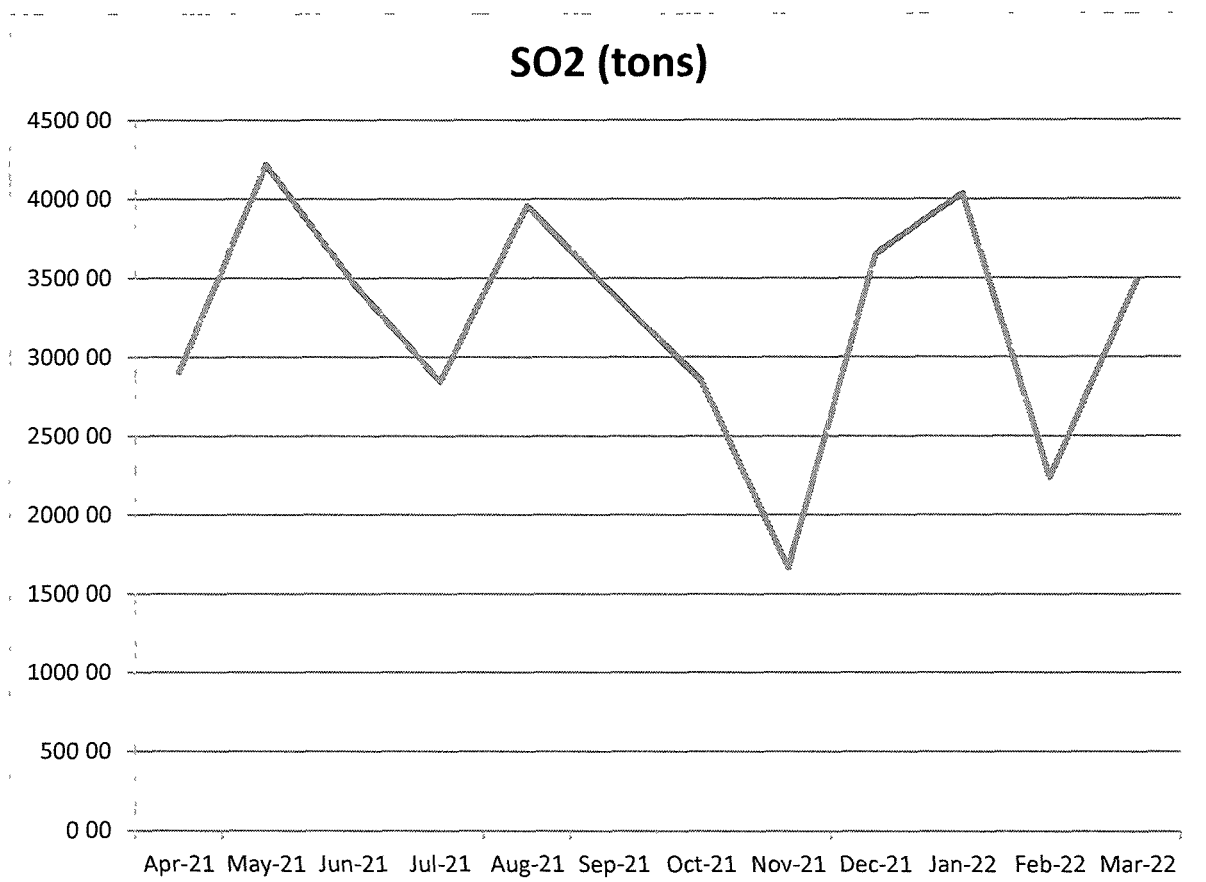


Figure 2 Monthly SO₂ Emissions in tons from Hendrina Power Station 2021/2022

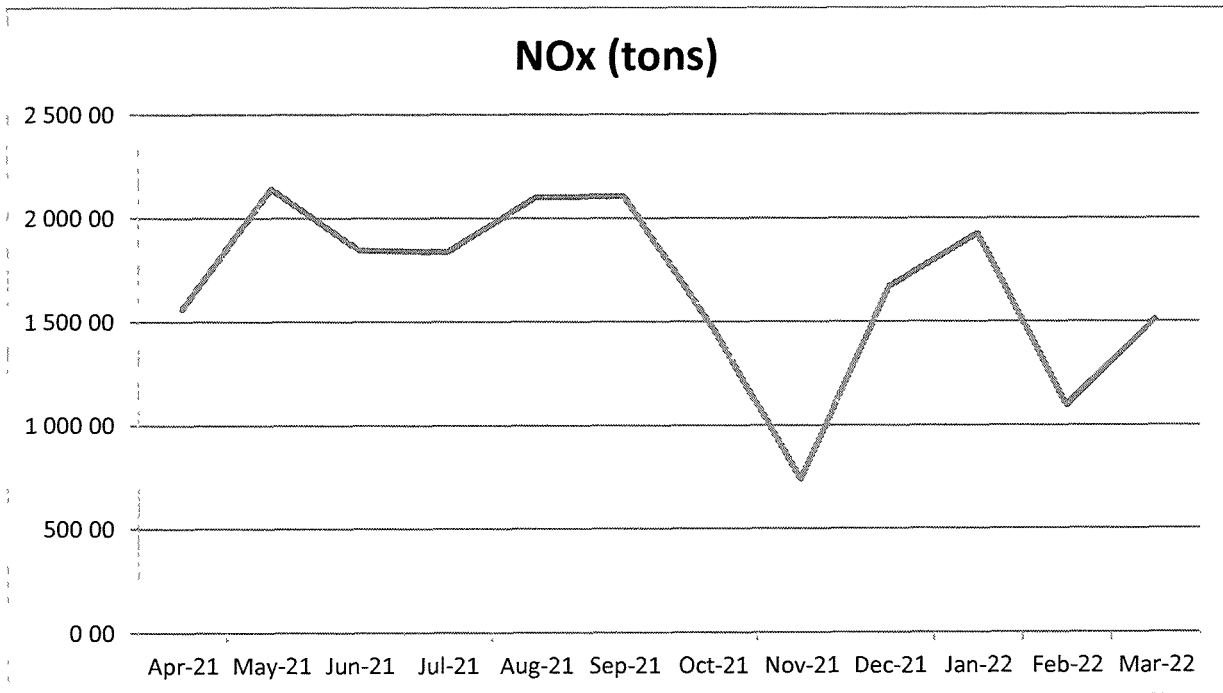


Figure 3 Monthly NO₂ Emissions in tons for Hendrina Power Station 2021/22

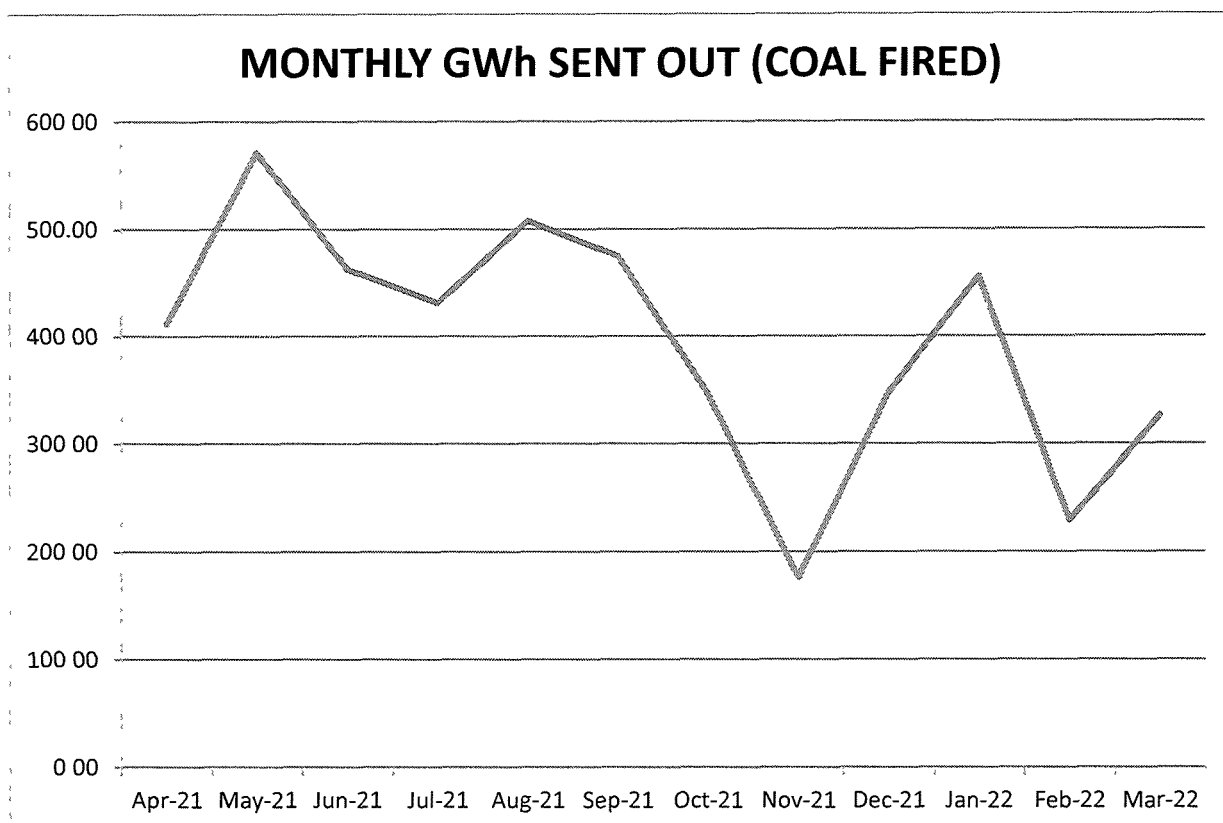


Figure 4 Monthly Energy sent out in GWh at Hendrina Power Station 2021/2022

Figures showing compliance with the daily average emission limits of the respective pollutants were presented in the monthly emission reports sent the Air Quality Officer at the Nkangala District Municipality offices

Annual Monitoring Data Availability: for CEMS

Table 3 Annual average of emissions monitors availability North Stack

North Stack (unit 1 to 5)	Particulate Matter	SO ²	NO _x	O ₂	CO ₂
Availability (%)	100	92	92	94	87

Table 4. Annual average of emissions monitors availability South Stack

South Stack (unit 6 to 10)	Particulate Matter	SO ²	NO _x	O ₂	CO ₂
Availability (%)	100	100	99	89	91

Notifications regarding monitor unavailability during the year were sent to the Air Quality Officer at the Nkangala District Municipality offices the respective months as part of the monthly reporting process. Monitor availability status is also being included in monthly emissions reports. The yearly average availability of monitors is affected by unit availability. South Stack units has been off for some period for maintenance interventions.

Compliance Audit Report(s):

Eskom Head Office had performed internal emissions reporting review. The station is planned to be audited externally before the end of current financial year, and the final audit report will be communicated to the Air Quality Officer at the Nkangala District Municipality offices.

Major Upgrades Projects:

No upgrade was done

Greenhouse Gas Emissions:

Greenhouse gas emissions such as CO₂ have been reported in the preceding sections. These were calculated using the Hendrina Emissions Monitoring Tool.

Results of Spot Measurements or Correlation Tests:

- The most recent correlation test for the PM emissions for North Stack was November 2021, while for South Stack was April 2021, see attached
- The most recent parallel measurements for gaseous emissions for North Stack was August 2021, while for South Stack was April 2021, see attached
- Reports attached.
- The next correlations tests and/or parallel measurements are expected in the calendar year 2023

Reasons for Recorded Emissions Exceedances:

Table 5 Overview of instances were daily average limit exceedances for 2021/22 financial year

Exceedance Number	Stack and Pollutant	Exceedance Date	Reason for Exceedance or Grace Period	Remediation Measure and Effectiveness
1	South Stack (PM)	23-24 September 2021	Grace period Monitor jammed for two days at high emissions levels during self-check cycle.	Monitor repaired
2	South Stack (PM)	11 February 2022	Grace period for South Stack	Maintenance

Complaints Register:

The Station did not receive any emissions related complaint for 2021/22 financial year

NAEIS reporting:

Hendrina Power Station submitted its annual report on the NAEIS system by the 31 March 2022

The rest of the information demonstrating compliance with the emission license conditions is contained in the monthly emission reports sent to the Air Quality Officer at the Nkangala District Municipality offices

Hoping the above will meet your satisfaction



27/05/2022

Compiler Ben Madiope
Environmental Officer



27/05/2022

Verified by Marco Cossa
Boiler System Engineer



Authorized by
A. Van Greuning

GENERAL MANAGER (ACTING): HENDRINA POWER STATION