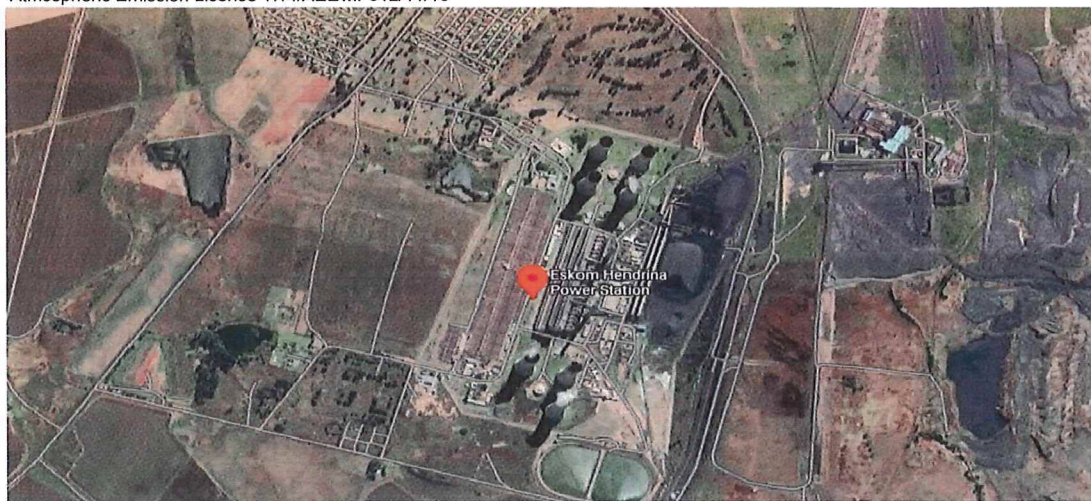


HENDRINA POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License 17/4/AEL/MP312/11/16


1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate Feb-2024
	Coal	Tons	820,000	141,890.0
	Fuel Oil	Tons	3,200	922878

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Feb-2024
	Energy	GWh	1392	234.97
	Ash	Tons	290,000	33,117
	RE PM	kg/MWh	not specified	0.162

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.65
Ash Content	%	20 to < 35	23.34

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
North	75	3500	1200
South	75	3500	1200

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-2024
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.969%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	Unit Off-line
Unit 5	Fabric Filter Plant (FFP)	99.962%
Unit 6	Fabric Filter Plant (FFP)	99.964%
Unit 7	Fabric Filter Plant (FFP)	96.600%
Unit 8	Fabric Filter Plant (FFP)	Unit Off-line
Unit 9	Fabric Filter Plant (FFP)	Unit Off-line
Unit 10	Fabric Filter Plant (FFP)	Unit Off-line

Note: Abatement plant does not have bypass mode operation hence plant 100% Utilised

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO _x	NO	O ₂	CO ₂
North	97.3	97.4	94.5	97.1	68.2
South	99.6	1.6	0.9	100.0	100

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂.

6 EMISSION PERFORMANCE

Table 6.1 Monthly tonnages for the month of February-2024

Associated Unit/Stack	PM (tons)	SO _x (tons)	NO _x (tons)
North	6.2	2,273.2	1,900.4
South	31.8	685.4	220.8
SUM	38.0	2,958.6	2,121.3

Table 6.2: Operating days in compliance to PM AEL Limit - February 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
North	28	0	0	0	0	8.0
South	29	0	0	0	0	50.2
SUM	57	0	0	0	0	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - February 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm³)
North	29	0	0	0	0	2,606.2
South	29	0	0	0	0	1,052.8
SUM	58	0	0	0	0	

North Stack NO_x exceedance due to monitor defects. Mitigation measure outline at section 9 of this report: General

Table 6.4: Operating days in compliance to NO_x AEL Limit - February 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm³)
North	2	0	0	27	27	2,229.0
South	29	0	0	0	0	339.2
SUM	31	0	0	27	27	

Table 6.5: Legend Description

Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions

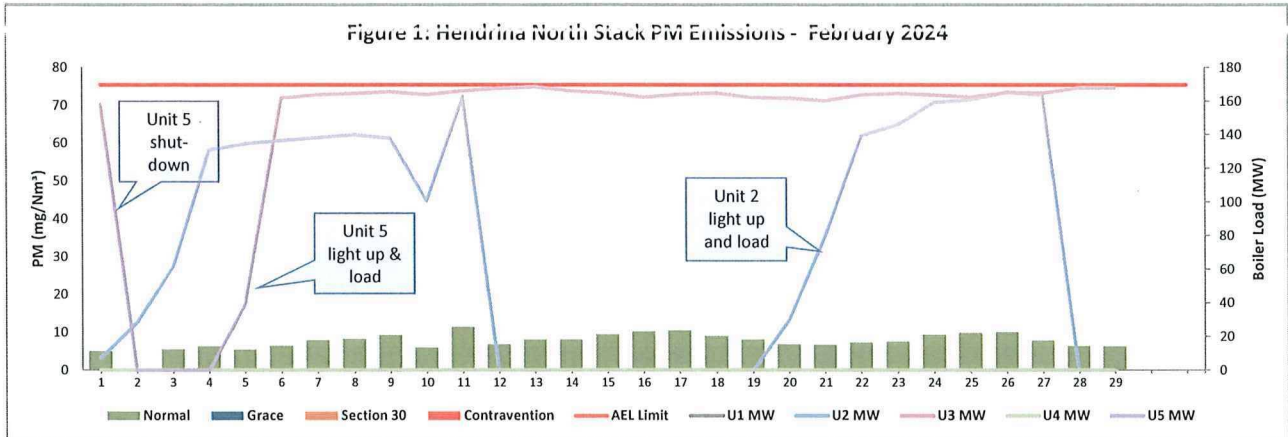


Figure 1: PM Emissions trends for North Stack- February 2024

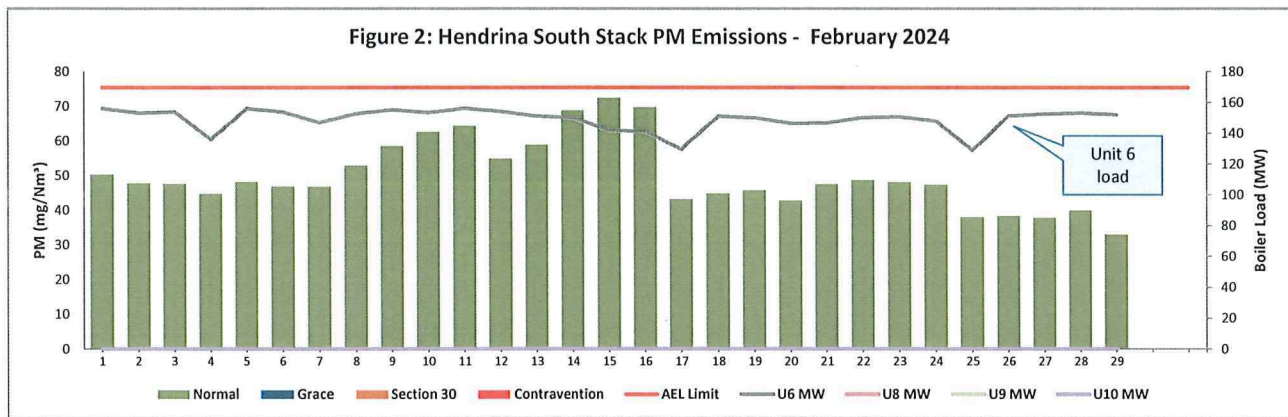


Figure 2: PM Emissions trends for South Stack- February 2024

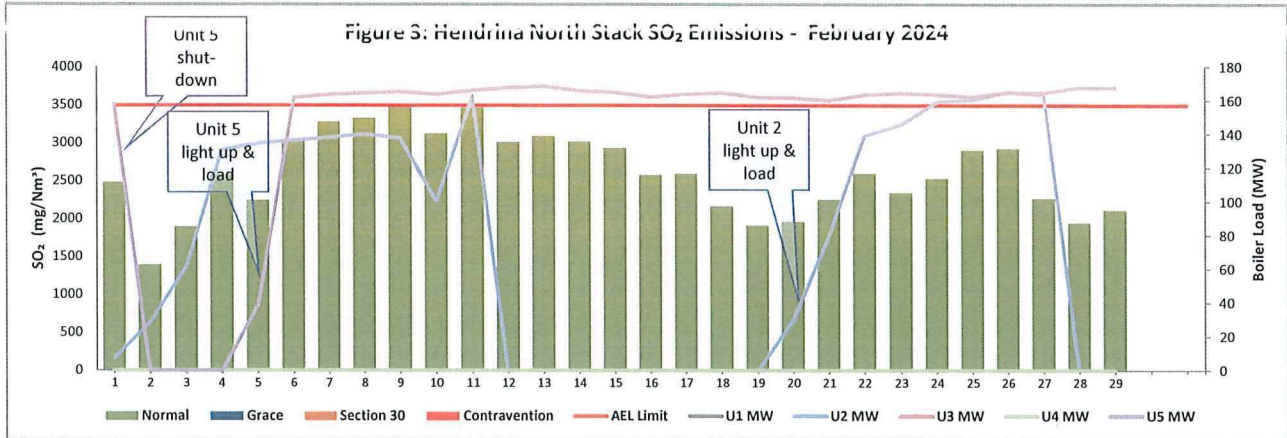


Figure 4: Sulphur dioxide Emissions trends for North Stack- February 2024

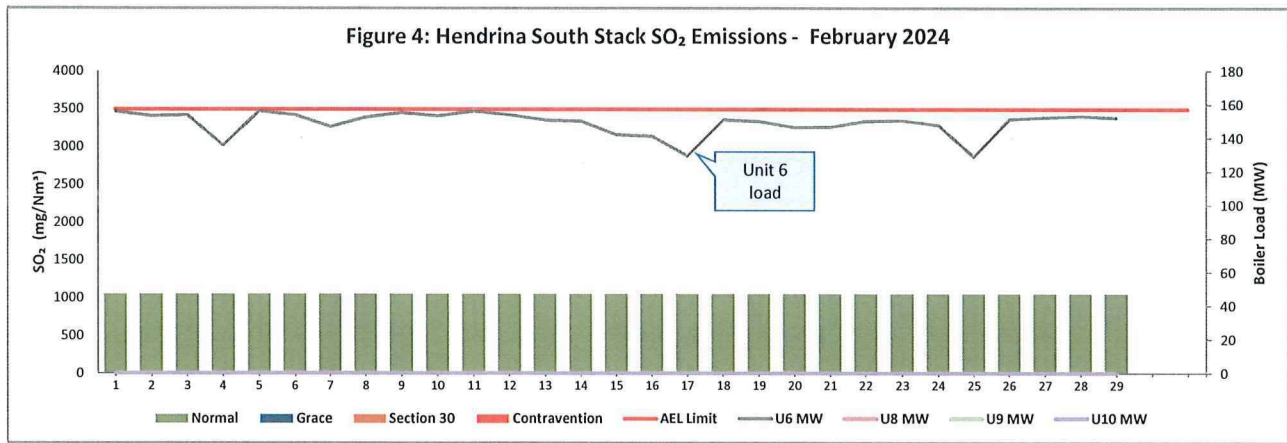


Figure 4: Sulphur dioxide Emissions trends for South Stack- February 2024

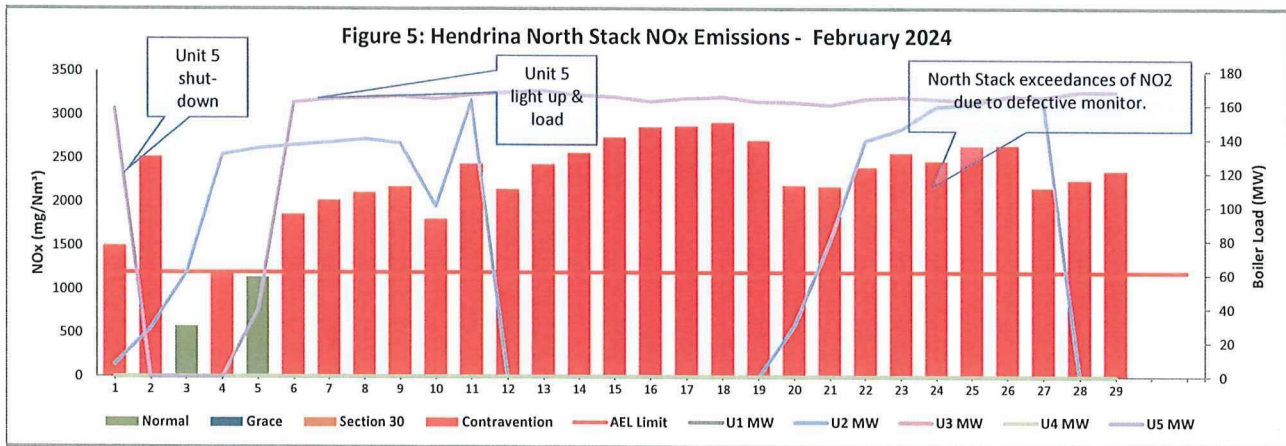


Figure 5: Nitrogen dioxide Emissions trends for North Stack- February 2024

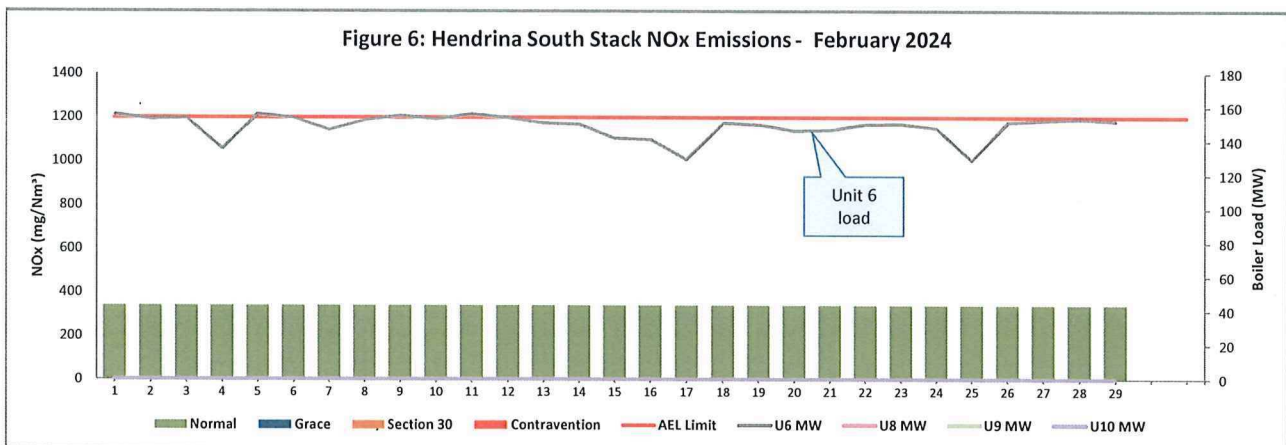


Figure 6: Nitrogen dioxide Emissions trends for South Stack- February 2024

7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7 1 PM Start-up information for the month of February-2024

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No	Unit 2		Unit 2		Unit 2		Unit 5	
Breaker Open (BO)			7 55 PM	11/02/2024	6 15 PM	27/02/2024	6 55 PM	01/02/2024
Draught Group (DG) Shut Down (SD)			11 15 AM	12/02/2024	1 55 AM	28/02/2024	9 15 PM	01/02/2024
BO to DG SD (duration)		DD HH MM	00 15 20	DD HH MM	00 07 40	DD HH MM	00 02 20	DD HH MM
Fires in time	10 40 AM	02/02/2024	22/02/2024	22/02/2024			05/02/2024	05/02/2024
Synch to Grid (or BC)	10 40 PM	02/02/2024	12 10 PM	22/02/2024			2 50 AM	06/02/2024
Fires in to BC (duration)	00 12 00	DD HH MM	00 12 00	DD HH MM		DD HH MM	00 12 00	DD HH MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit			not > limit	not > limit
Emissions below limit from BC (duration)	n/a	DD HH MM	n/a	DD HH MM		DD HH MM	n/a	DD HH MM

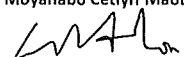
8 Complaints register

Source Code / Name	Root Cause Analysis	Calculation of impacts / emissions associated with the incident	Dispersion modeling or pollutants where applicable	Date measure will be implemented	Measures implemented to prevent reoccurrence
The Station did not receive complaints related to air quality during the month of February 2024					

09 General

Hendrina Power Station experienced exceedances of NO₂ for North Stack due to monitor defects and the problem monitor failures on the South Stack due to unavailability of Power. A major contributor of the monitor issues is the ageing of the equipment. The station has taken to execute short term and long term mitigations to ensure reliability of the Continuous Emissions Monitoring System. Short term actions include interim repairs and replacement for the damaged equipment, which are now complete. For the long term, the station has submitted a request for quote from the Original Equipment Manufacturer for a complete overhaul of the system for which the station will still engage Licensing Authority.

 28/03/2024
 Compiled Environmental Officer Date
 B Madipe
 2024/04/04
 Authorised by GM Date
 T Lekalakala

 28/03/2024
 Boiler/ FFP Date
 Moyahabo Cetlyff Maoto
 28/03/2024
 Validated by Manager Environmental Date
 L Ntula

Compiled by Boiler Engineering Department

FFP SE/ Environmental Officer

For Nkangala District Municipality

Air Quality Officer

Copies Eskom Environmental Management

D Herbst
B Mccourt

Group Technology Engineering

R Rampiar
E Patel

Hendrina Power Station

Engineering Manager
Operating Manager
Maintenance Manager
Unit Production Manager
Boiler Engineering Manager
System Engineer Boiler Engineering
Environmental Officer
C & I Engineering Manager
Production Manager
Environmental Manager
PSM