

HENDRINA POWER STATION MONTHLY EMISSIONS REPORT
 Atmospheric Emission License 17/4/AEL/MP313/11/16

Empowering the future together

1933 - 2023



1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate Sep-2023
	Coal	Tons	820 000	101 834.0
Fuel Oil	Tons	3 200	247.65	

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Sep-2023
	Energy	GWh	1440	163.54
Ash	Tons	290 000	23 035	
RE PM	kg/MWh	not specified	0.211	

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.57
Ash Content	%	20 to < 35	22.62

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 Sep-2023
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	Unit Off-line
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	Unit Off-line
Unit 5	Fabric Filter Plant (FFP)	Unit Off-line
Unit 6	Fabric Filter Plant (FFP)	100.000%
Unit 7	Fabric Filter Plant (FFP)	100.000%
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 ₂	NO	O ₂	CO ₂
North		66.7	66.7	100.0	56
South	100.0	11.1	12.6	99.6	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 September-2023

Associated Unit/Stack	PM (tons)	SO _x (tons)	NO _x (tons)
North	0.0	6.2	1.6
South	34.5	2 294.3	788.1
SUM	34.5	2 300.5	789.8

Table 6.2: Operating days in compliance to PM AEL Limit - September 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	0	0	0	0	0	
South	30	0	0	0	0	34.0
SUM	30	0	0	0	0	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - September 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
North	3	0	0	0	0	3 253.3
South	30	0	0	0	0	2 253.3
SUM	33	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - September 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
North	3	0	0	0	0	878.8
South	30	0	0	0	0	774.7
SUM	33	0	0	0	0	

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

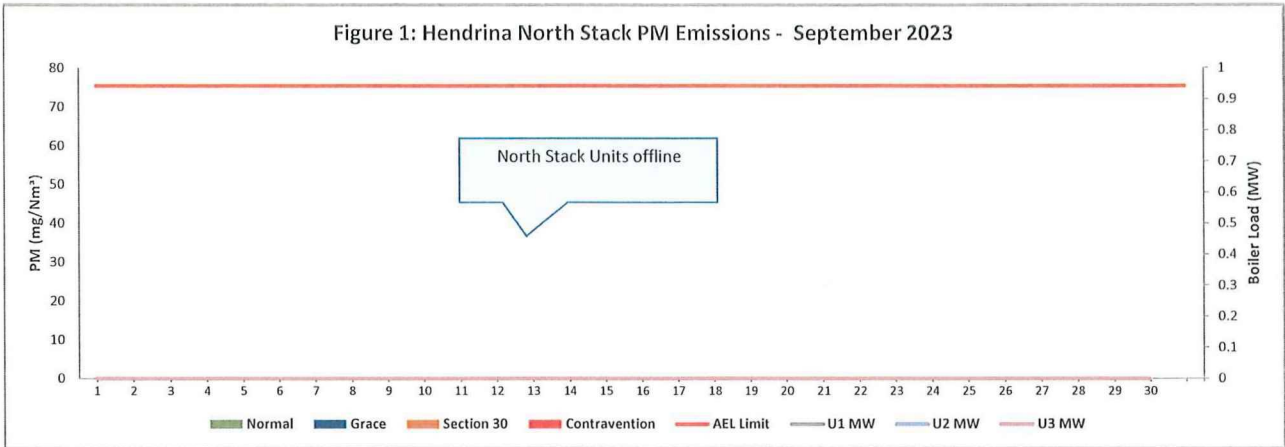


Figure 1: PM Emissions trends for North Stack- September 2023

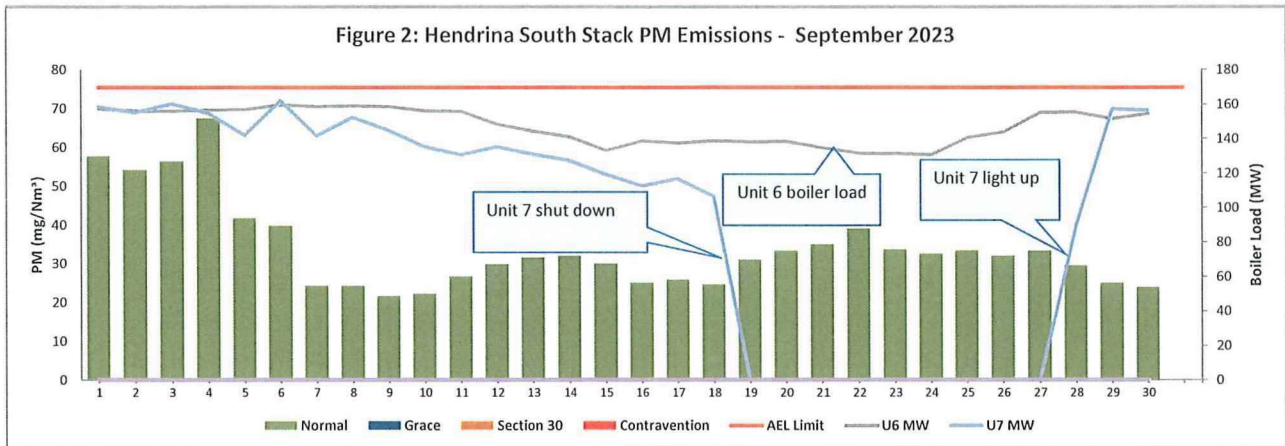


Figure 2: PM Emissions trends for South Stack- September 2023

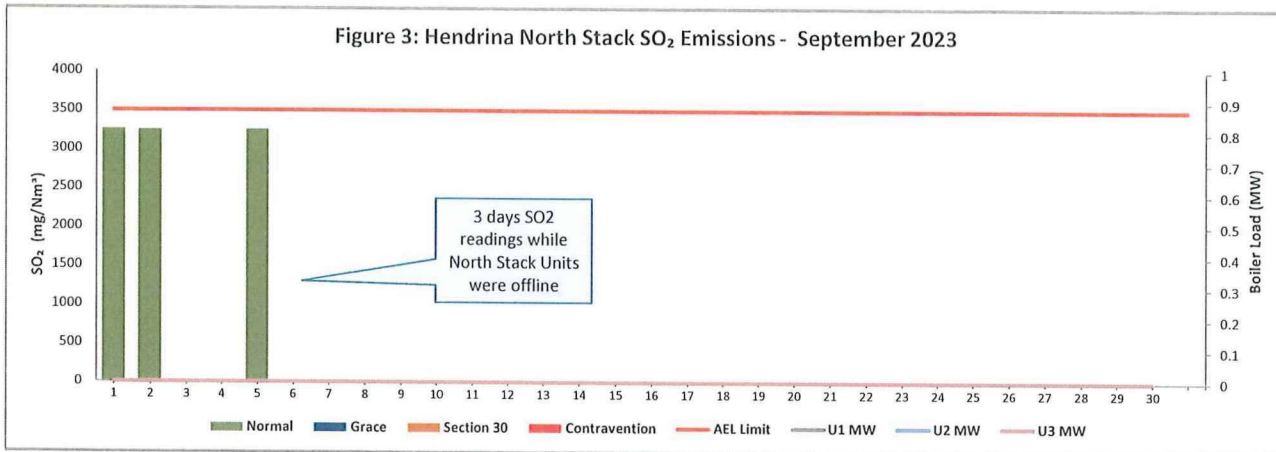


Figure 3: Sulphur dioxide Emissions trends for North Stack- September 2023

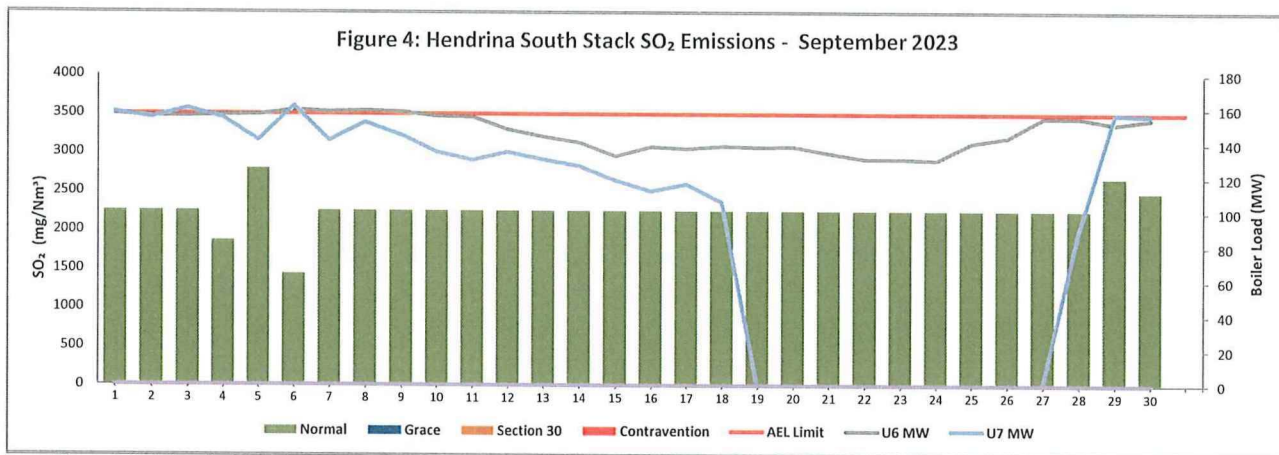


Figure 4: Sulphur dioxide Emissions trends for South Stack- September 2023

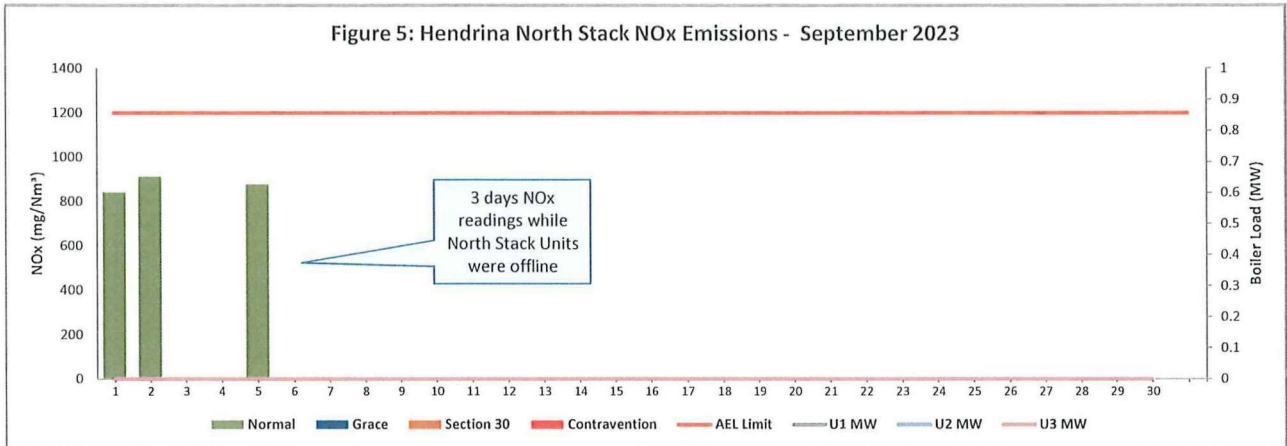


Figure 5: Nitrogen dioxide Emissions trends for North Stack- September 2023

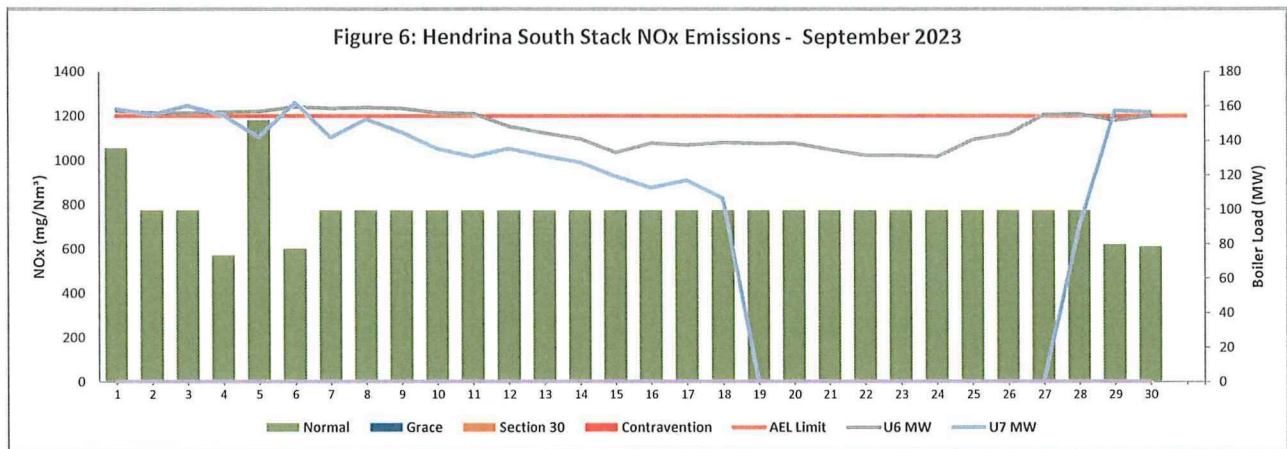


Figure 6: Nitrogen dioxide Emissions trends for South Stack- September 2023

7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1 PM Start-up information for the month of September-2023


South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 7		no event		no event		no event	
Breaker Open (BO)	7:15 pm	2023/09/18						
Draught Group (DG) Shut Down (SD)	7:15 pm	2023/09/18						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	10:30 am	2023/09/28						
Synch. to Grid (or BC)	4:30 pm	2023/09/28						
Fires in to BC (duration)	00:06:00	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit						
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

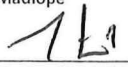
8. Complaints register

Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Date measure will be implemented	Measures implemented to prevent reoccurrence
There were no complaints related to air quality received during the month of September 2023.					


11 General

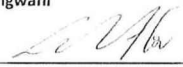
Correlation and Parallel testing planned to resume before end of November 2023. Station is still certifying the use of hand rails and a landing platform for the stacks located at about 150m above ground.


25/10/2023

Compiled: Environmental Officer Date
B. Madiope

27/10/2023

Authorised by: GM Date
T. Lekalakala

P.P. 
26/10/2023

Boiler/ FFP Date
Akani Hlungwani

25/10/2023

Validated by Manager: Environmental Date
L. Ntila

Compiled by: Boiler Engineering Department

For: Nkangala District Municipality

Copies: Eskom Environmental Management

Group Technology Engineering

Hendrina Power Station:

FFP SE/ Environmental Officer

Air Quality Officer

D Herbst
B Mccourt

R Rampiar
E. Patel

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