

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



1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate Jun-2023
	Coal	Tons	820 000	96 820.0
Fuel Oil	Tons	3 200	1113.28	

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jun-2023
	Energy	GWh	1440	150.71
Ash	Tons	290 000	24 273	
RE PM	kg/MWh	not specified	0.192	

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.61
Ash Content	%	20 to < 35	25.07

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 Jun-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)	100.000%

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	0.0	73.1	0.0	0.0	0
South	100.0	0.0	0.0	0.0	0

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

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of June-2023

Associated Unit/Stack	PM (tons)	SO _x (tons)	NO _x (tons)
North	0.0	0.0	0.0
South	28.9	0.0	0.0
SUM	28.9	0.0	0.0

The number of number of days under normal operation for North Stack PM is zero because boilers for North Stack were

The number of number of days under normal operation for North Stack and South Gaseous Emissions is zero because Gaseous monitors faulty

Table 6.2: Operating days in compliance to PM-AEL Limit - June 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	33.3
SUM	30	0	0	0	0	

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

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

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

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

Table 6.5: Legend Description

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

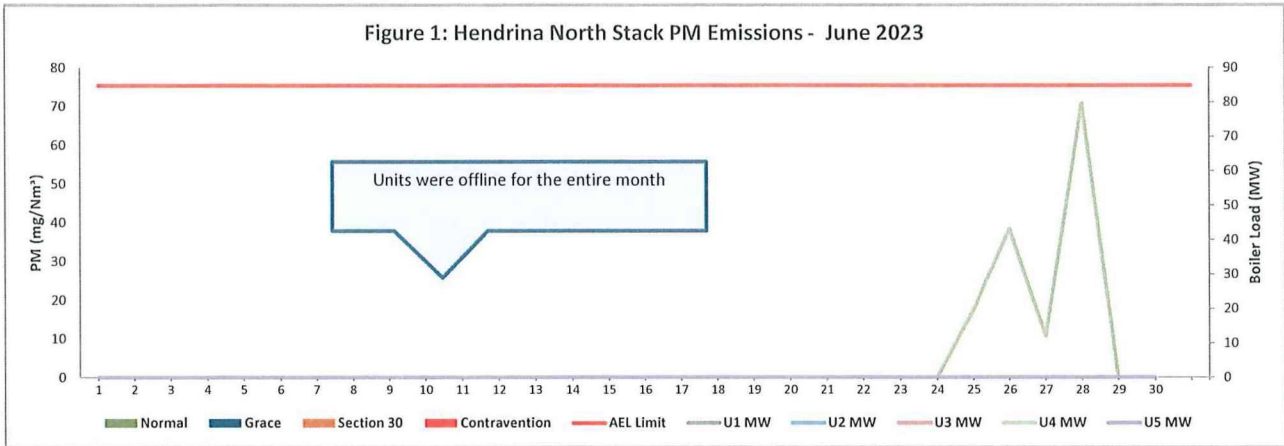


Figure 1: PM Emissions trends for North Stack- June 2023

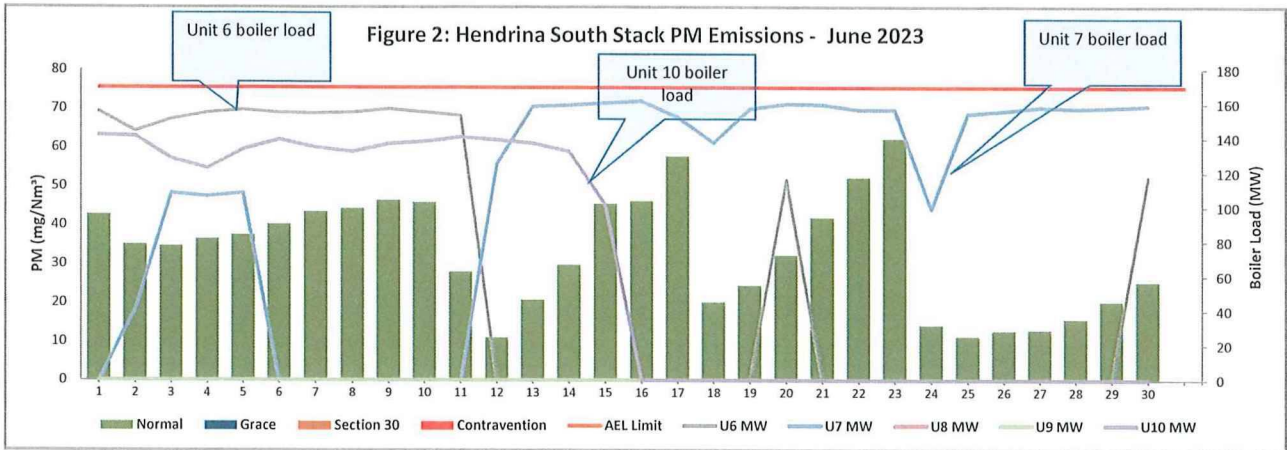


Figure 2: PM Emissions trends for South Stack- June 2023

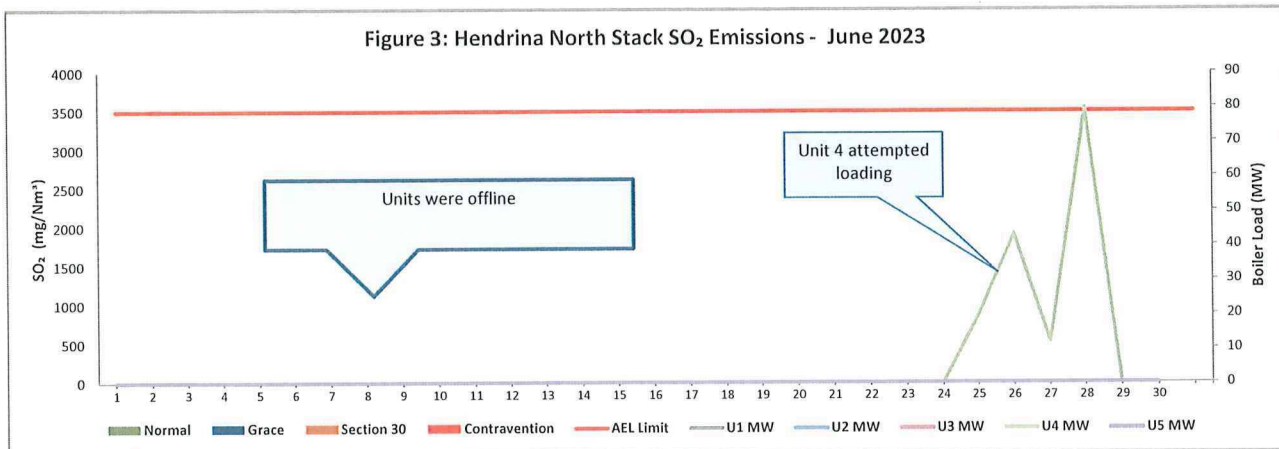


Figure 3: Sulphur dioxide Emissions trends for North Stack- June 2023

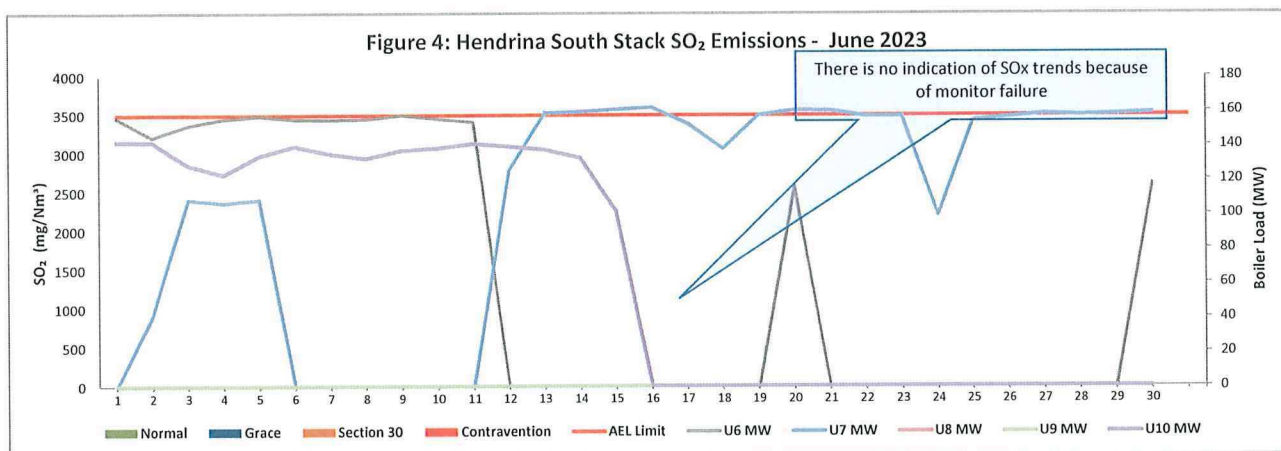


Figure 3: Sulphur dioxide Emissions trends for South Stack- June 2023

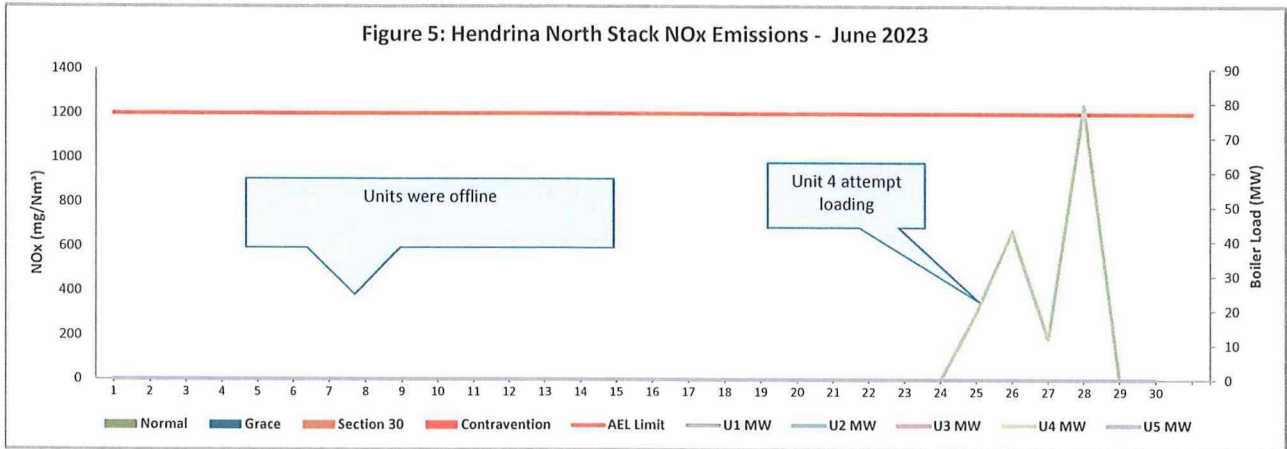


Figure 5: Nitrogen dioxide Emissions trends for North Stack- June 2023

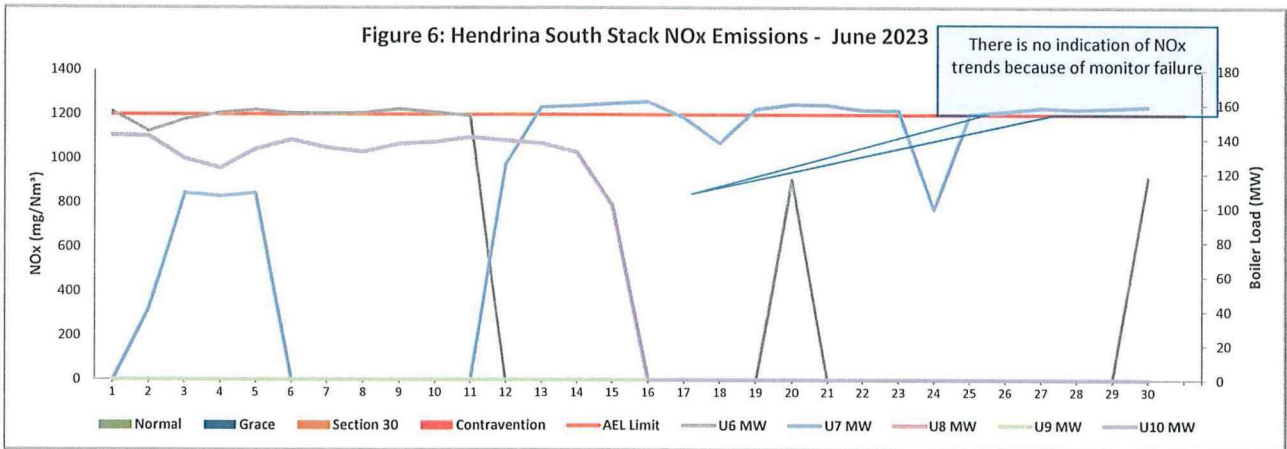


Figure 5: Nitrogen dioxide Emissions trends for South Stack- June 2023

7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7 1 PM Start-up information for the month of June-2023

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No	Unit 6		no event		Unit 7		Unit 10	
Breaker Open (BO)	11 25 am	2023/06/11			9 55 am	2023/06/05	12 55 am	2023/06/15
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD			DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	n/a	DD HH MM		DD HH MM	n/a	DD HH MM	n/a	DD HH MM
Fires in time								
Synch to Grid (or BC)								
Fires in to BC (duration)		DD HH MM		DD HH MM		DD HH MM		DD HH MM
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)		DD HH MM		DD HH MM		DD HH MM		DD HH MM

7.2 Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of June-2023 in mg/Nm³

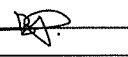
[[Include reference to once off test showing typical emissions rates during fires in and SD]]

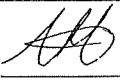
8 Complaints register

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
<i>There were no complaints related to air quality received during the month of June 2023</i>					

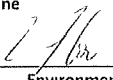
11 General

North Stack Units were offline for entire month of June 2023, although there was attempt to light-up unit boiler 4 between 24 and 29 June

 26/07/2023
Compiled Environmental Officer Date
B Madipe

 26/07/2023
Boiler/ FFP Date
Akani Hlungwane

 31/07/2023
Authorised by GM Date
T Lekalakala

 26/07/2023
Validated by Manager Environmental Date
L Ntla

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