

**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 Oct-2023
	Coal	Tons	820 000	101 210.0
	Fuel Oil	Tons	3 200	319.7

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Oct-2023
	Energy	GWh	1488	157.36
	Ash	Tons	290 000	23 511
	RE PM	kg/MWh	not specified	0.240

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.59
Ash Content	%	20 to < 35	23.23

**3 EMISSION LIMITS (mg/Nm<sup>3</sup>)**

Associated Unit/Stack	PM	SO <sub>2</sub>	NOx
North	75	3500	1200
South	75	3500	1200

**4 ABATEMENT TECHNOLOGY (%)**

Associated Unit/Stack	Technology Type	Efficiency Oct-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 <sub>2</sub>	NO	O <sub>2</sub>	CO <sub>2</sub>
North					
South	100.0	99.7	83.2	99.7	99.40244954

Note: NO<sub>x</sub> emissions is measured as NO in PPM. Final NO<sub>x</sub> value is expressed as total NO<sub>2</sub>

#### 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO <sub>x</sub> (tons)	NO <sub>x</sub> (tons)
North	0.0	0.0	0.0
South	37.8	2 487.3	610.1
SUM	37.8	2 487.3	610.1

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	0	0	0	0	0	
South	30	0	0	0	0	39.6
SUM	30	0	0	0	0	

Table 6.3: Operating days in compliance to SO<sub>2</sub> AEL Limit - October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
North	0	0	0	0	0	
South	31	0	0	0	0	2 305.0
SUM	31	0	0	0	0	

Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	0	0	0	0	0	
South	31	0	0	0	0	571.1
SUM	31	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

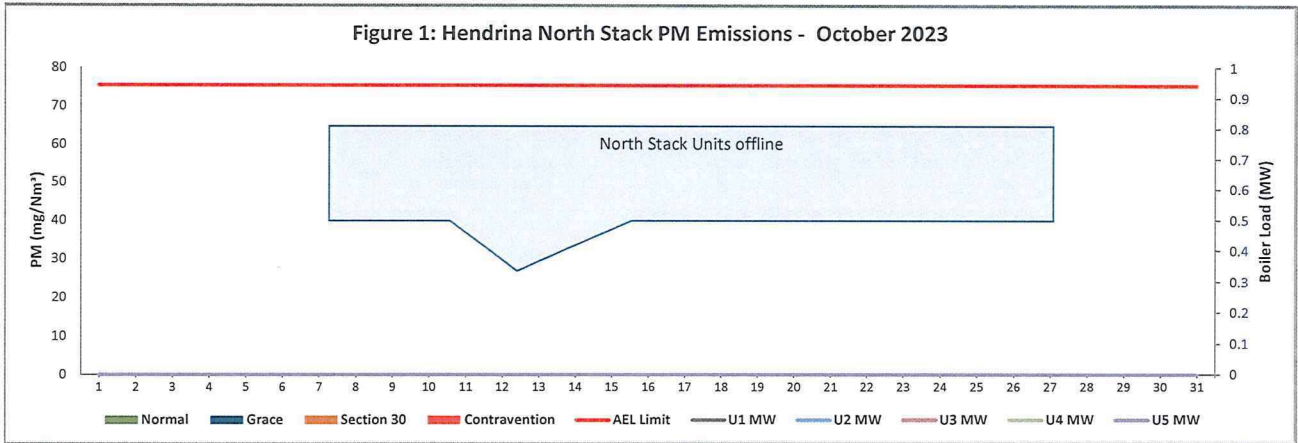


Figure 1: PM Emissions trends for North Stack- October 2023

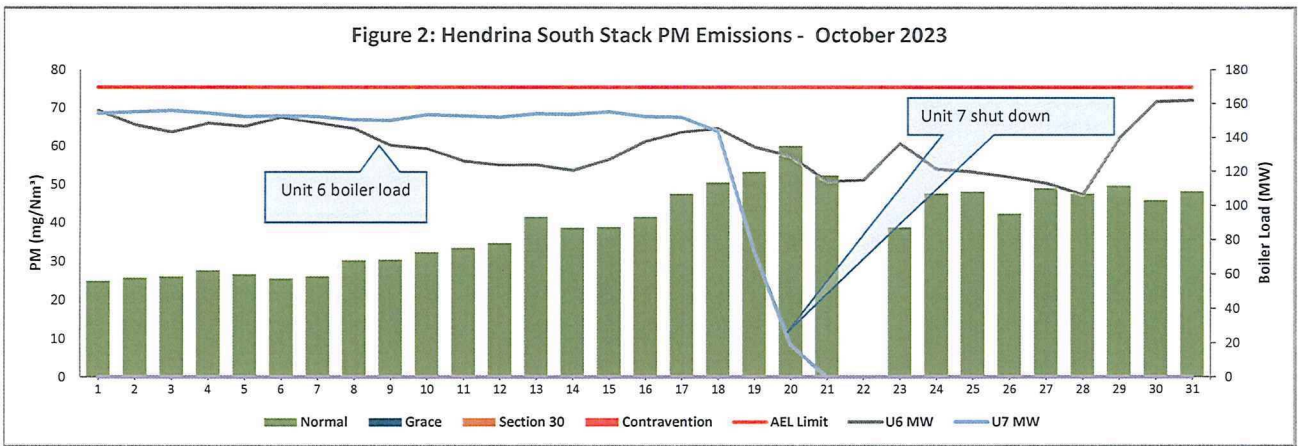


Figure 2: PM Emissions trends for South Stack- October 2023

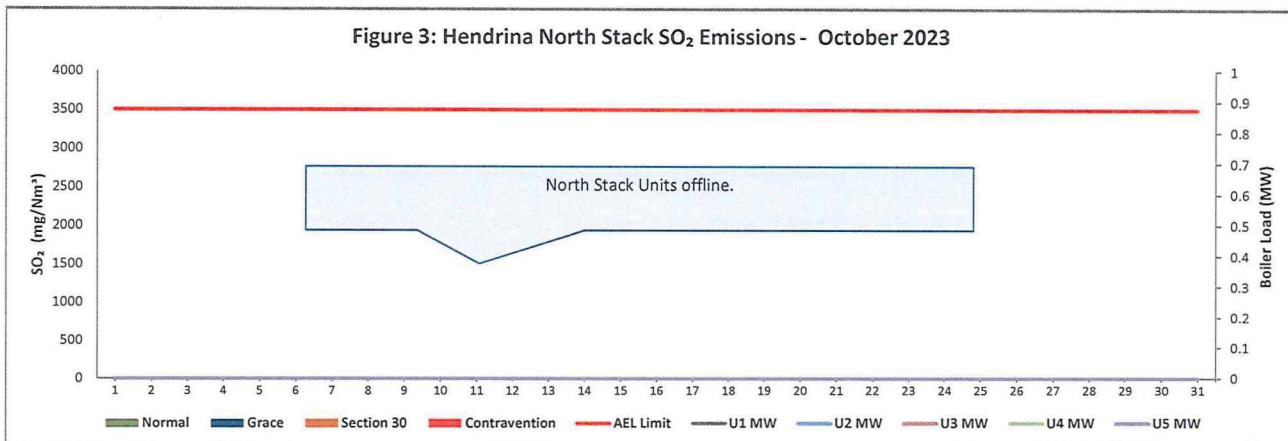


Figure 3: Sulphur dioxide Emissions trends for North Stack- October 2023

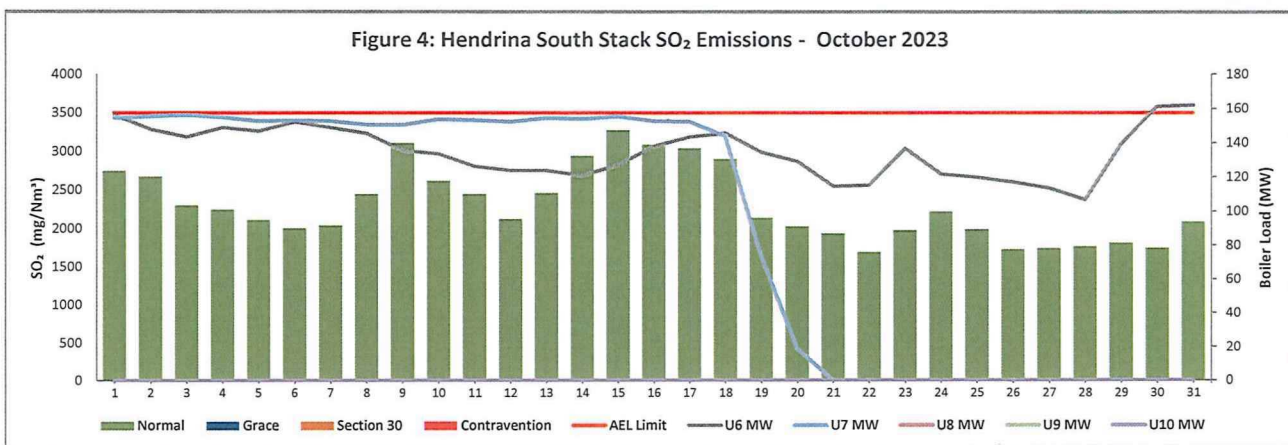


Figure 4: Sulphur dioxide Emissions trends for South Stack- October 2023

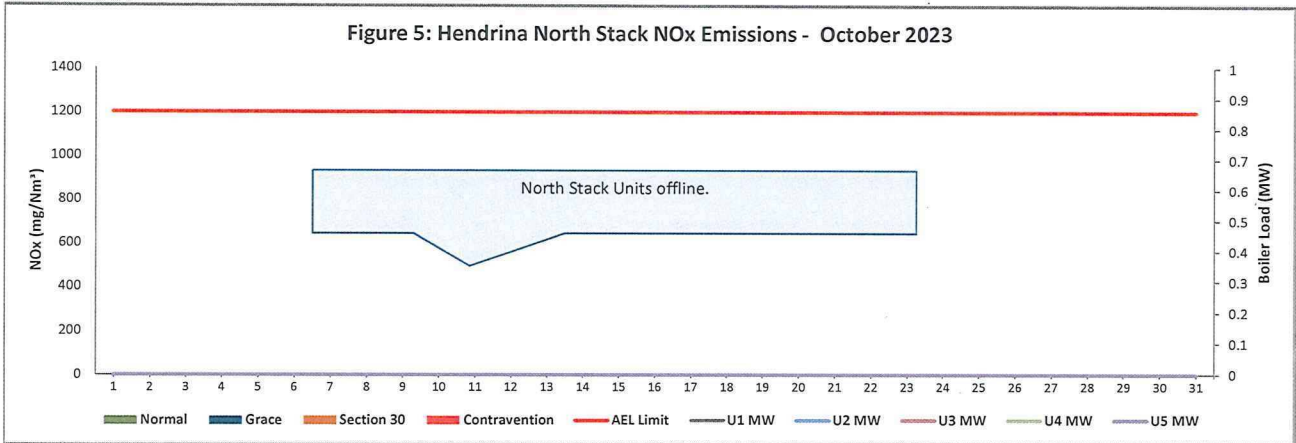


Figure 5: Nitrogen dioxide Emissions trends for North Stack- October 2023

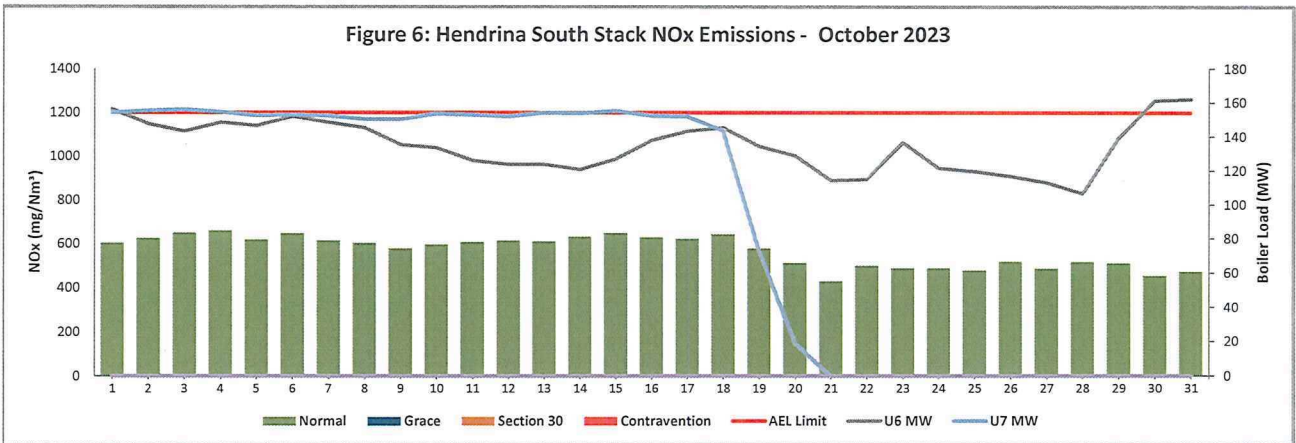


Figure 6: Nitrogen dioxide Emissions trends for South Stack- October 2023

## 7 SHUT DOWN AND LIGHT UP INFORMATION

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


South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 6		Unit 6		Unit 7		Unit 7	
Breaker Open (BO)	3:35 pm	2023/10/21	7:45 pm	2023/11/02	BO previously	BO previously	10:05 am	2023/10/19
Draught Group (DG) Shut Down (SD)	3:35 pm	2023/10/21	7:45 pm	2023/11/02	n/a	n/a	1:05 pm	2023/10/20
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM	01:03:00	DD:HH:MM
Fires in time	8:01 am	2023/10/21						
Synch. to Grid (or BC)	1:00 am	2023/10/22						
Fires in to BC (duration)	00:16:59	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
The Station did not receive complaints related to air quality during the month of October 2023.					

11 General

On monthly basis the Station is updating Eskom Data Portal with its latest montly signd emission report.

 20/11/2023  
 Compiled: Environmental Officer Date

B. Madiope  
 29/11/2023  
 Authorised by: GM Date  
 T. Lekalakala

p.p.  21/11/2023  
 System Date

Akani Hlungwani  
 21/11/2023  
 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