Eskom

MAY 2023

HENDRINA POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License 17/4/AEL/MP313/11/16

Empowering the future together

1923-2023

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate May-2023
	Coal	Tons	*820 000*	*112 470.0*
	Fuel Oil	Tons	*3 200*	*1162.418*
Production Rates	**Product / By-Product Name**	**Units**	**Max. Production Capacity Permitted**	**Production Rate May-2023**
	Energy	GWh	*1488*	*175.51*
	Ash	Tons	*290 000*	*28 534*
	RE PM	kg/MWh	*not specified*	*0.199*

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	*0.6 to < 1*	*0.60*
Ash Content	%	*31 to < 35*	*25.37*

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO_2	NOx
North	*75*	*3500*	*1200*
South	*75*	*3500*	*1200*

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency May-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	CO2
North					
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 NO_2

There is no emissions tons because boilers for the North Stack were all offline

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SOx (tons)	NOx (tons)
North			
South	34.9	0.0	0.0
SUM	34.9	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 all offline

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

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
North						
South	30	0	0	0	0	37.3
SUM	30	0	0	0	0	

Table 6.3: Operating days in compliance to SO_2 AEL Limit - May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm³)
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 NOx AEL Limit - May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
North						
South	0	0	0	0	0	
SUM	0	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

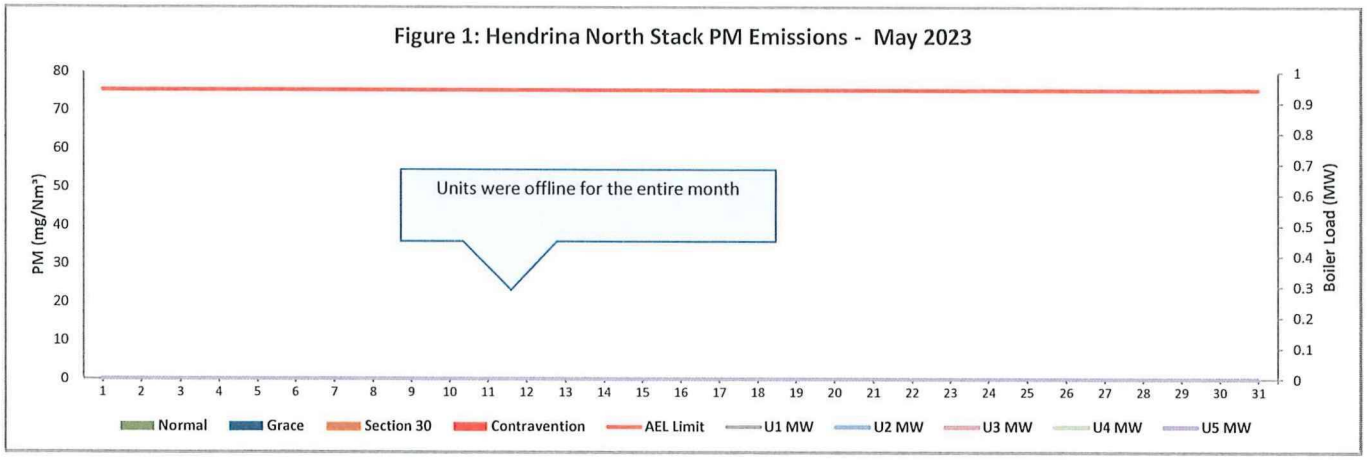

Figure 1: PM Emissions trends for North Stack- May 2023

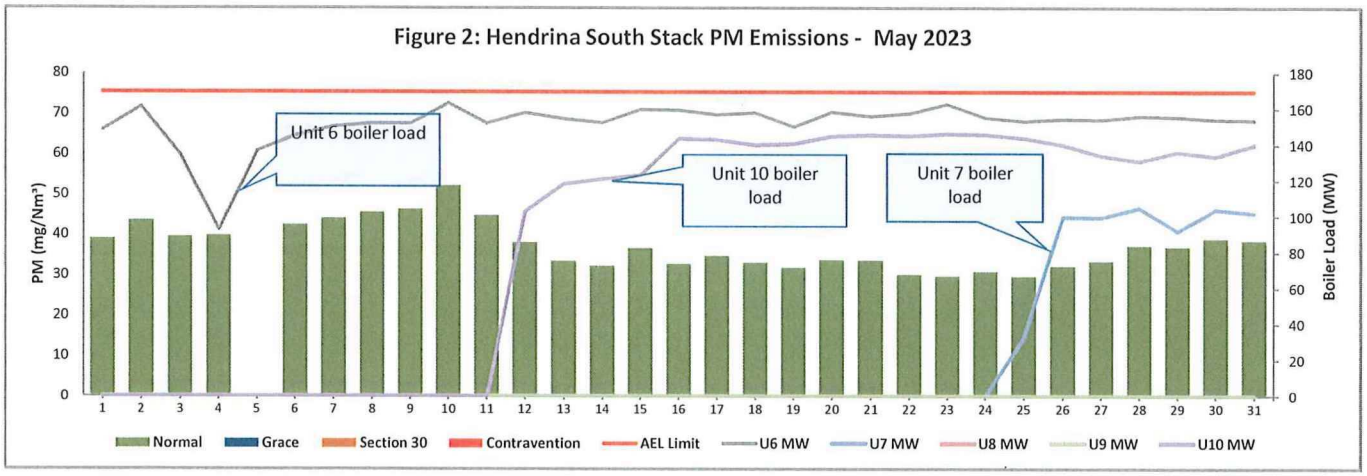

Figure 2: PM Emissions trends for South Stack- May 2023

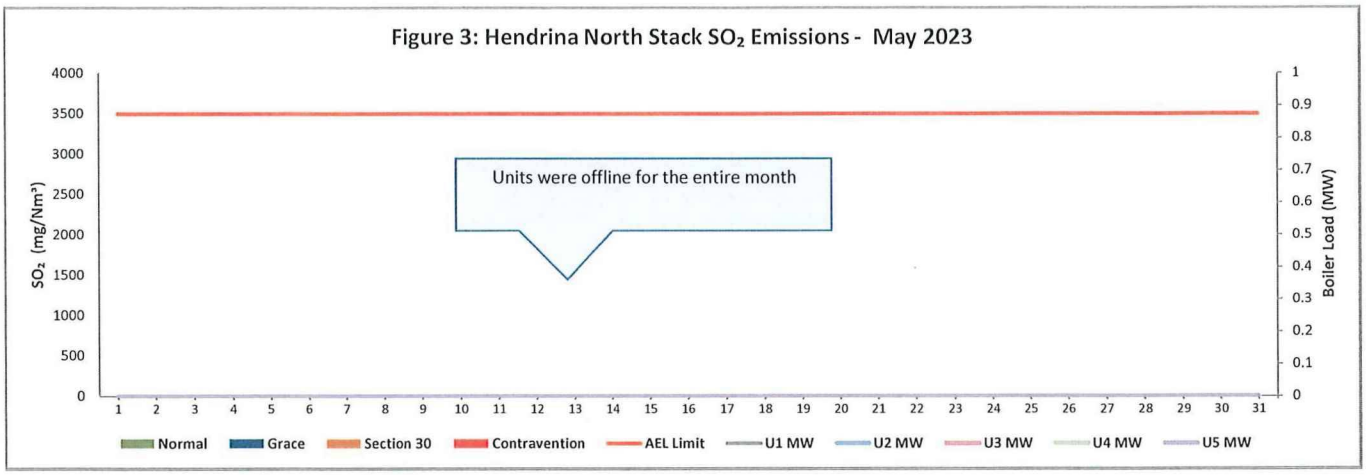

Figure 3: Sulphur dioxide Emissions trends for North Stack- May 2023

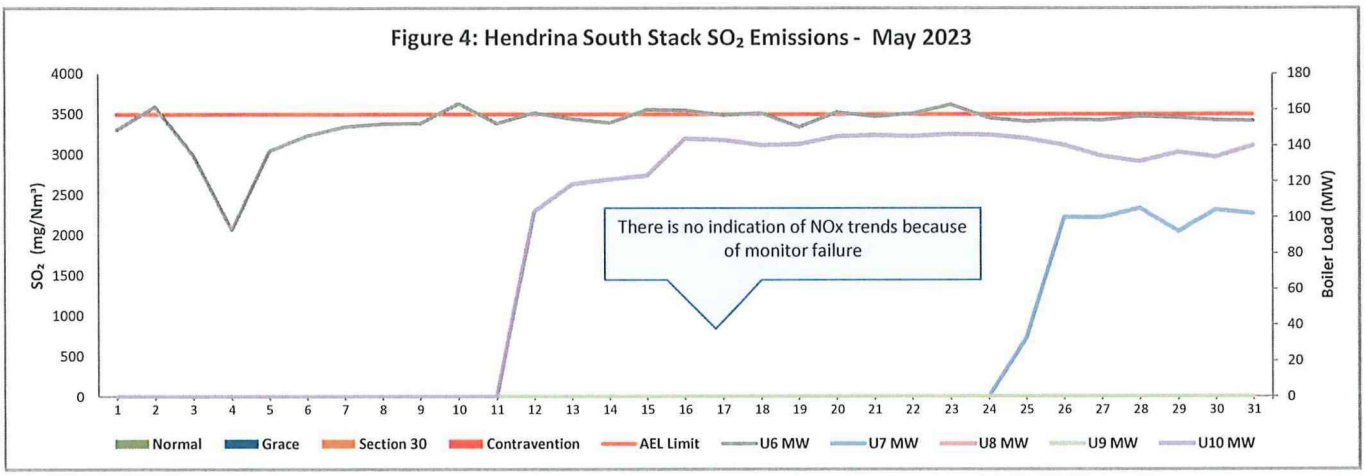

Figure 3: Sulphur dioxide Emissions trends for South Stack- May 2023

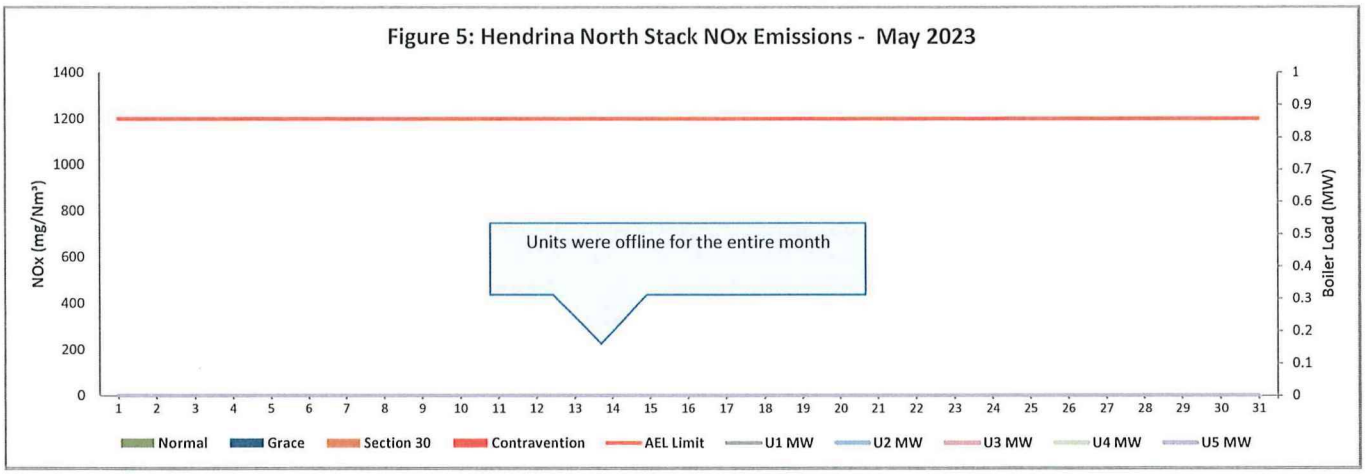

Figure 5: Nitrogen dioxide Emissions trends for North Stack- May 2023

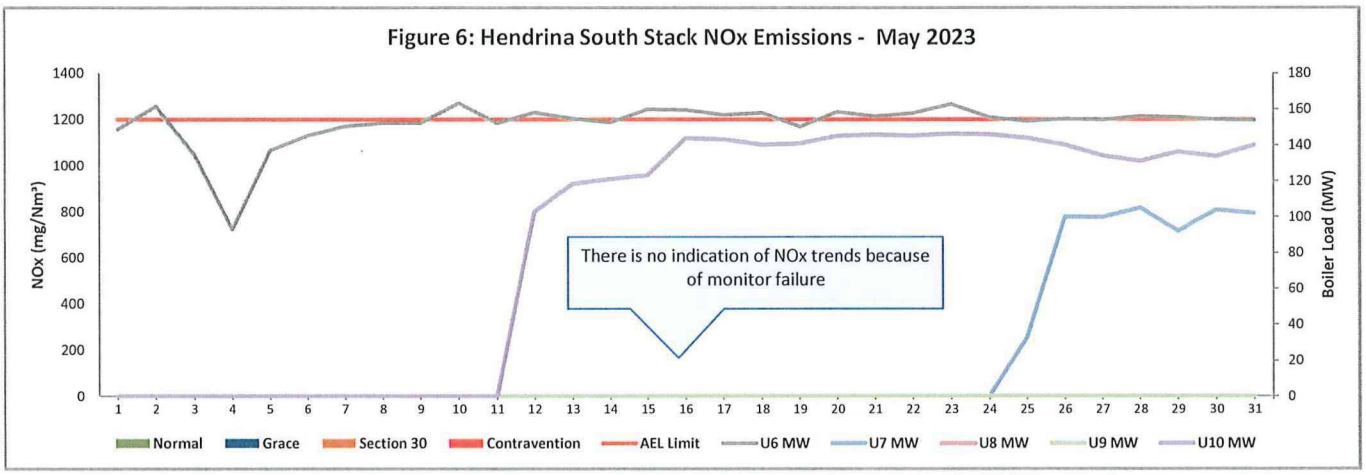

Figure 6: Nitrogen dioxide Emissions trends for South Stack- May 2023

7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No	Unit 6		Unit 7		Unit 7		Unit 10	
Breaker Open (BO)	8 25 am	2023/05/04	BO previously	BO previously	1 45 am	2023/05/31		
Draught Group (DG) Shut Down (SD)	8 25 am	2023/05/04	n/a	n/a	5 35 pm	2023/05/31		
BO to DG SD (duration)		DD HH MM	n/a	DD HH MM	00 15 50	DD HH MM		DD HH MM
Fires in time	6 50 pm	2023/05/04	2023/05/25	2023/05/25			2023/05/15	2023/05/15
Synch to Grid (or BC)	6 50 am	2023/05/05	9 00 pm	2023/05/25			5 50 am	2023/05/15
Fires in to BC (duration)	00 12 00	DD HH MM	00 12 00	DD HH MM		DD HH MM	00 05 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

South Stack Continued	Event 1	
Unit No	Unit 10	
Breaker Open (BO)	12 00 am	2023/06/01
Draught Group (DG) Shut Down (SD)	12 00 am	2023/06/01
BO to DG SD (duration)		DD HH MM
Fires in time		
Synch to Grid (or BC)		
Fires in to BC (duration)		DD HH MM
Emissions below limit from BC (end date)		
Emissions below limit from BC (duration)		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 May 2023					

11 General

North Stack units were offline for entire month of May 2023

26/06/2023

Compiled Environmental Officer — Date

B Madiope

2023/06/30

Authorised by GM — Date

T Lekalakala

27/06/2023

Boiler/ FFP — Date

Marco Cossa

27/06/2023

Validated by Manager Environmental — Date

L Ntila

Compiled by	Boiler Engineering Department	FFP SE/ Environmental Officer
For	Nkangala District Municipality	Air Qaulity Officer
Copies	Eskom Environmental Management	D Herbst B Mccourt
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	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