

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 Jul-2023
	Coal	Tons	820 000	130 810.0
Fuel Oil	Tons	3 200	509.34	

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jul-2023
	Energy	GWh	1488	221.27
Ash	Tons	290 000	32 794	
RE PM	kg/MWh	not specified	0.203	

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 Jul-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)	99.99%
Unit 5	Fabric Filter Plant (FFP)	Unit Off-line
Unit 6	Fabric Filter Plant (FFP)	100.00%
Unit 7	Fabric Filter Plant (FFP)	100.00%
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	100.0	97.8	82.5	97.8	98
South	99.6	0.0	0.0	36.2	40

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 July-2023

Associated Unit/Stack	PM (tons)	SO _x (tons)	NO _x (tons)
North	0.3	226.2	66.8
South	44.6	0.0	0.0
SUM	44.9	226.2	66.8

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	8	0	0	0	0	2.9
South	31	0	0	0	0	39.8
SUM	39	0	0	0	0	

North Stack was only accounted for 8 days in a month for PM emissions.

North Stack gaseous emissions were detected for a total of 9 days. South Stack gaseous emissions was zero because the monitors are faulty.

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
North	9	0	0	0	0	1 434.7
South	0	0	0	0	0	
SUM	9	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
North	9	0	0	0	0	447.6
South	0	0	0	0	0	
SUM	9	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

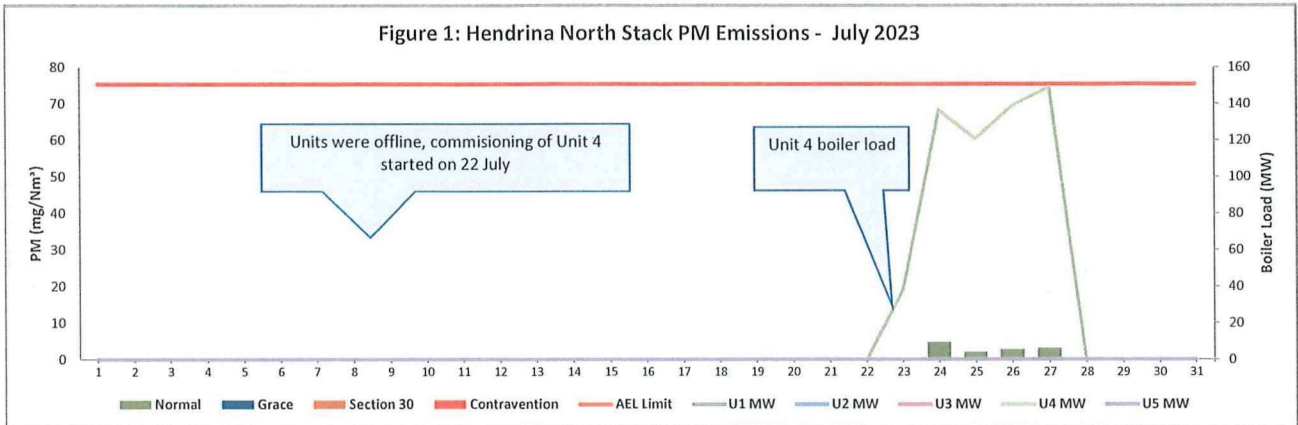


Figure 1: PM Emissions trends for North Stack- July 2023

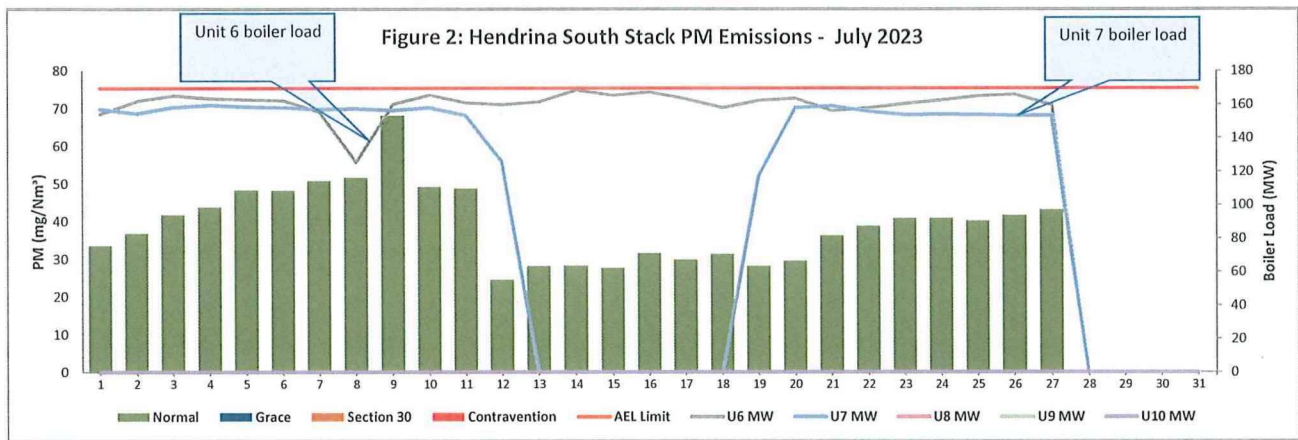


Figure 2: PM Emissions trends for South Stack- July 2023

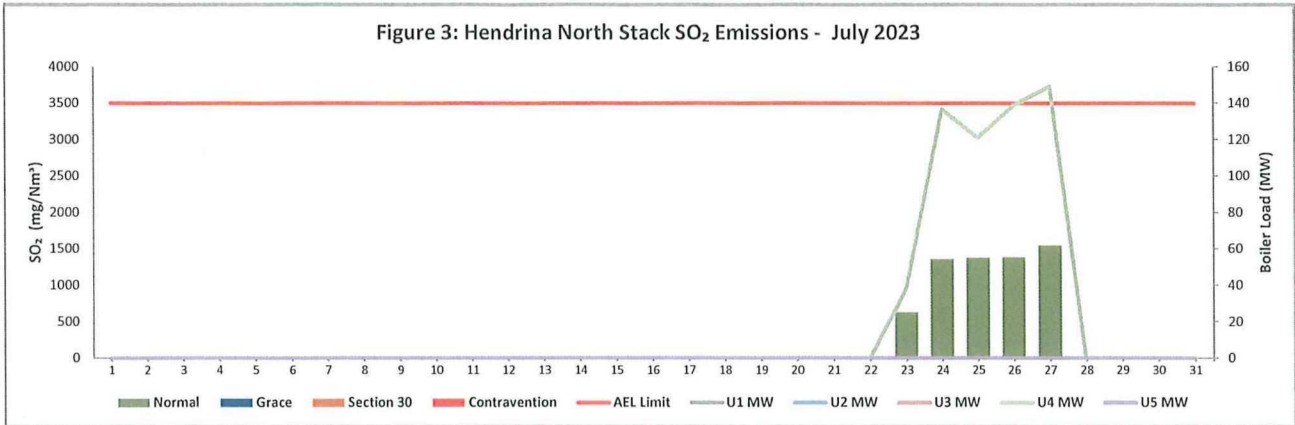


Figure 3: Sulphur dioxide Emissions trends for North Stack- July 2023

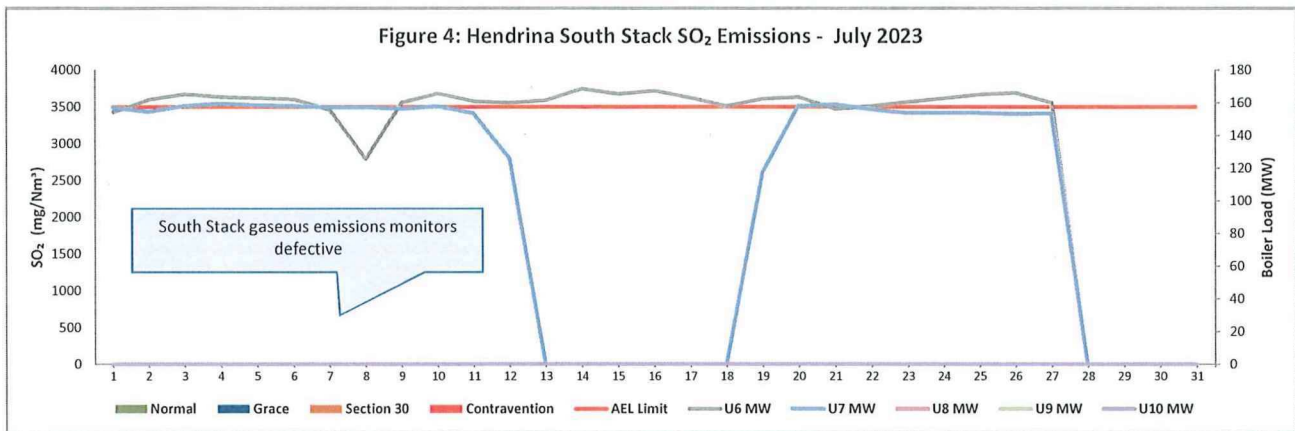


Figure 3: Sulphur dioxide Emissions trends for South Stack- July 2023

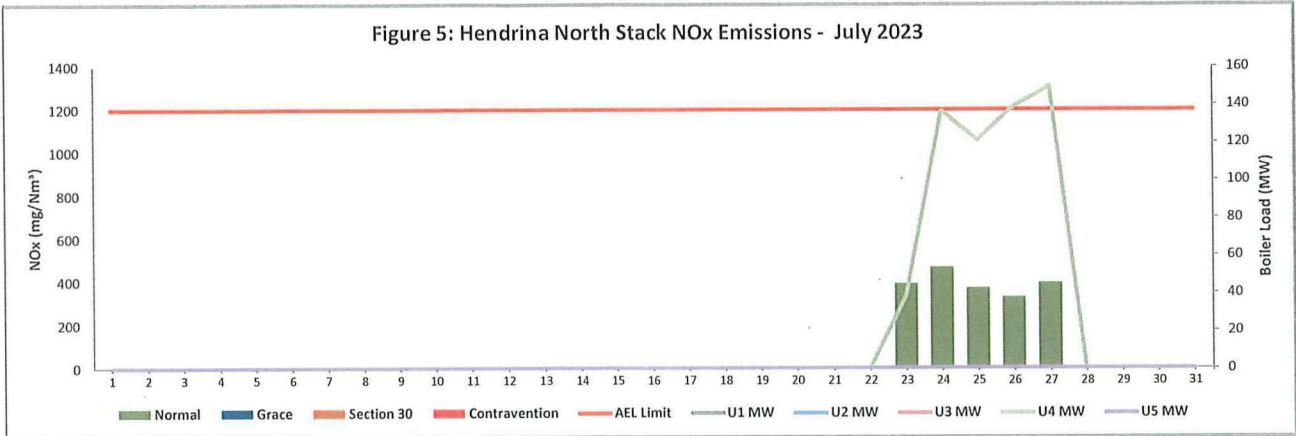


Figure 5: Nitrogen dioxide Emissions trends for North Stack- July 2023

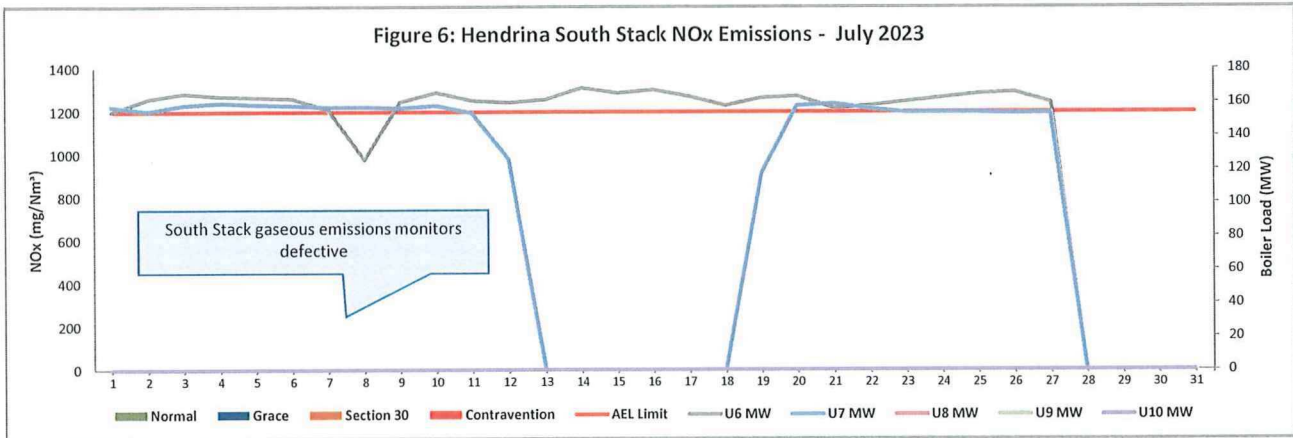


Figure 5: Nitrogen dioxide Emissions trends for South Stack- July 2023

7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1	
Unit No	Unit 4	
Breaker Open (BO)		
Draught Group (DG) Shut Down (SD)		
BO to DG SD (duration)		DD HH MM
Fires in time	10 10 am	2023/07/23
Synch to Grid (or BC)	10 40 pm	2023/07/23
Fires in to BC (duration)	00 12 30	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

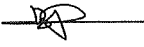
South Stack	Event 1		Event 2		Event 3	
Unit No	Unit 6		Unit 6		Unit 7	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	11 35 pm	2023/07/07	4 15 pm	2023/07/12
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	9 10 pm	2023/07/09	4 30 pm	2023/07/20
BO to DG SD (duration)	<i>n/a</i>	DD HH MM	01 21 35	DD HH MM	08 00 15	DD HH MM
Fires in time			2023/07/08	2023/07/08	19 10 30	2023/07/19
Synch to Grid (or BC)			6 20 pm	2023/07/08	4 30 pm	2023/07/19
Fires in to BC (duration)		DD HH MM	00 05 50	DD HH MM	00 06 00	DD HH MM
Emissions below limit from BC (end date)			<i>not > limit</i>	<i>not > limit</i>	<i>not > limit</i>	<i>not > limit</i>
Emissions below limit from BC (duration)		DD HH MM	<i>n/a</i>	DD HH MM	<i>n/a</i>	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 July 2023					


9 General

The works to repair and reinstate full functionality for gaseous emissions monitors is in progress. By the time of submission of the August 2023 emissions report the works will have been completed



 Compiled. Environmental Officer
 B Madiope
 24/08/2023

 Date



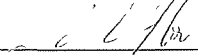
 Boiler/ FFP
 Akani Hlungwani
 28/08/2023

 Date



 Authorised by GM
 T Lekalakala

 Date



 Validated by Manager
 Environmental
 L Ntla
 29/08/2023

 Date

Compiled by Boiler Engineering Department
 For Nkangala District Municipality
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 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