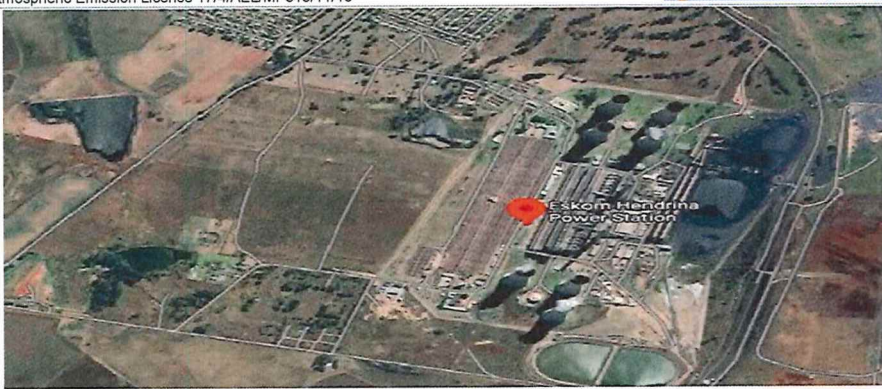




AUGUST 2022

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 Aug-2022
	Coal	Tons	820 000	141 751.0
	Fuel Oil	Tons	3 200	752416

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Aug-2022
	Energy	GWh	1488	213.89
	Ash	Tons	290 000	37 564
	RE PM	kg/MWh	not specified	0.235

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.90
Ash Content	%	31 to < 35	26.50

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NOx
North	75	3200	1200
South	75	3200	1200

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Aug-2022
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.961%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	Unit Off-line
Unit 5	Fabric Filter Plant (FFP)	99.977%
Unit 6	Fabric Filter Plant (FFP)	99.993%
Unit 7	Fabric Filter Plant (FFP)	99.990%
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
North	100.0	99.0	89.5	61.3
South	100.0	100.0	100.0	100.0

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 August-2022

Associated Unit/Stack	PM (tons)	SOx (tons)	NOx (tons)
North	1.7	359.5	128.8
South	48.7	1 882.0	999.7
SUM	50.3	2 241.5	1 128.5

Table 6.2: Operating days in compliance to PM AEL Limit - August 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	11	0	0	0	0	9.0
South	29	2	0	0	2	46.0
SUM	40	2	0	0	2	

Comments: PM emissions are reported according to section 7.3 of the license which states that PM emissions are not reportable during unit offload, and shutdown and start-up operations.
 North Stack Units (boiler unit 1 to 5) is not accounted for 20 days because of units offloads, and shutdown and start-up operations.
 South Stack, normal operating days was only 29 because there was exceedance of PM limit for the other 2 days.

Table 6.3: Operating days in compliance to SO₂ AEL Limit - August 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
North	14	0	0	0	0	1 559.5
South	31	0	0	0	0	1 717.6
SUM	45	0	0	0	0	

Comments: Gaseous emissions are reported for as long as gasses are detected through the monitor.
 North Stack: There was no detection of SO₂ emission for the remaining 17 days

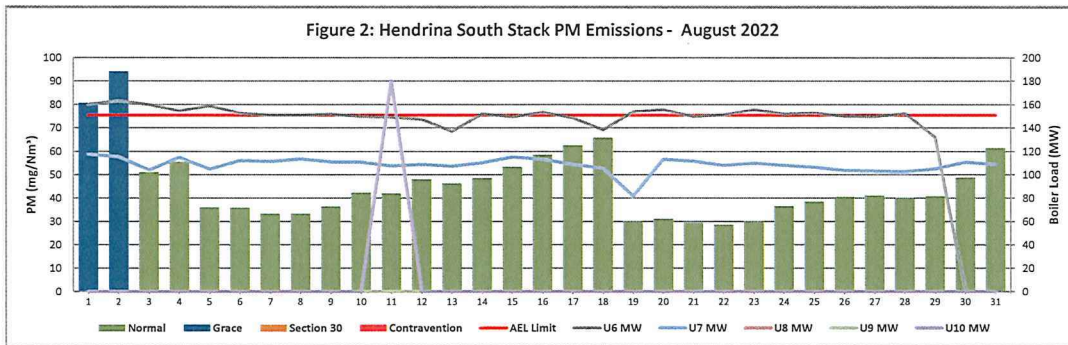
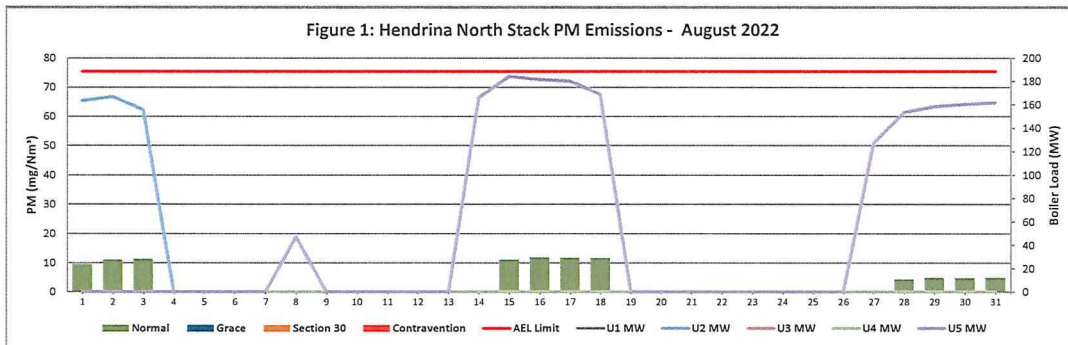
Table 6.4: Operating days in compliance to NO_x AEL Limit - August 2022

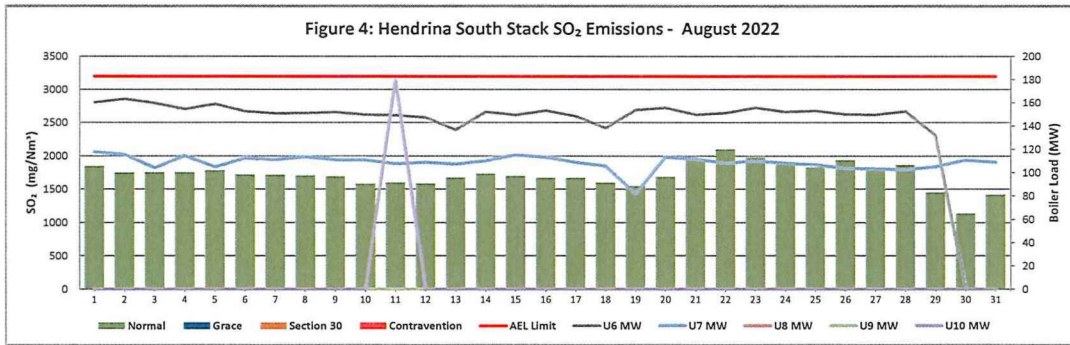
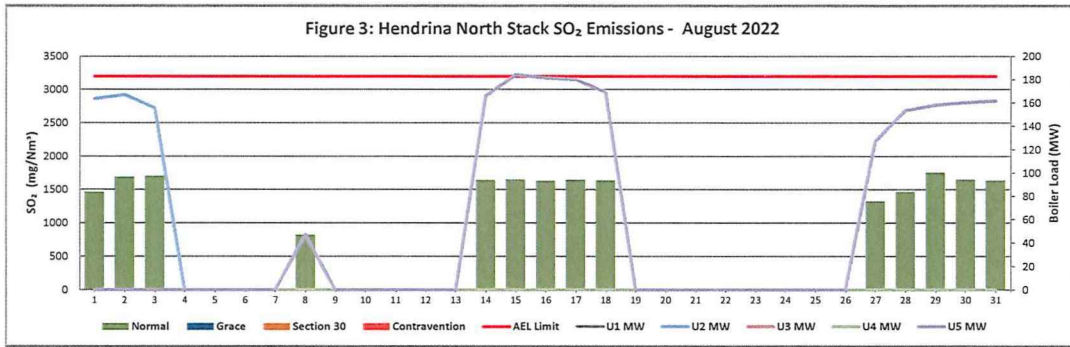
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
North	14	0	0	0	0	574.1
South	31	0	0	0	0	915.1
SUM	45	0	0	0	0	

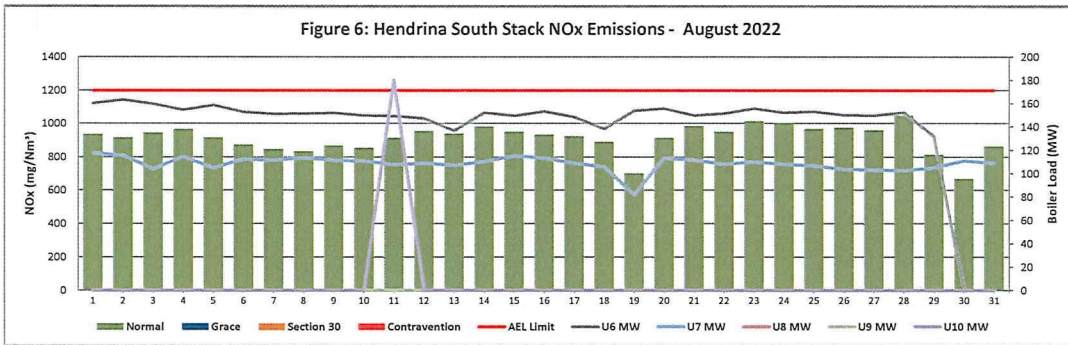
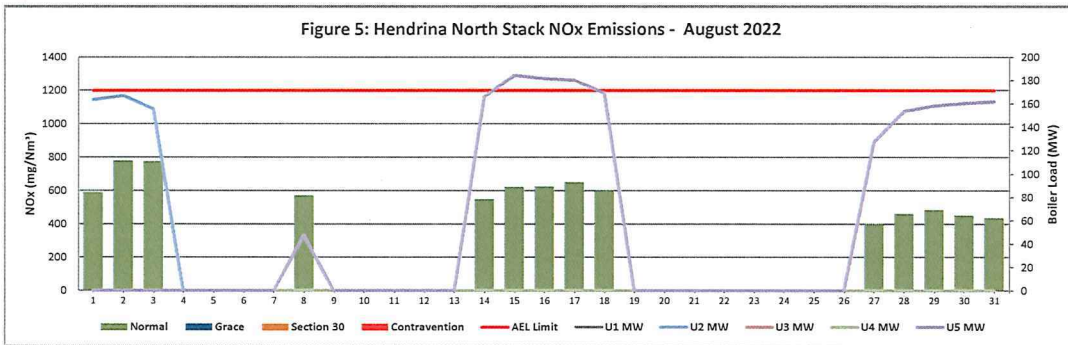
Comments: Gaseous emissions are reported for as long as gasses are detected through the monitor.
 North Stack: There was no detection of NO_x emissions for the remaining 17 days on the North Stack

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







7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1 PM Start-up information for the month of August-2022

North Stack Unit No.	Event 1 Unit 1		Event 2 Unit 2		Event 3 Unit 3		Event 4 Unit 5	
	BO previously	BO previously	6:45 am	2022/08/03			7:45 pm	2022/08/18
Breaker Open (BO)	n/a	BO previously	6:45 am	2022/08/03			7:45 pm	2022/08/18
Draught Group (DG) Shut Down (SD)	n/a	n/a	4:35 pm	2022/08/03			6:55 am	2022/08/19
BO to DG SD (duration)	n/a	DD:HH:MM	00:09:50	DD:HH:MM		DD:HH:MM	00:11:10	DD:HH:MM
Fires in time					14:03:10	2022/08/14	2022/08/27	2022/08/27
Synch. to Grid (or BC)					3:10 pm	2022/08/14	9:10 pm	2022/08/27
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM	00:12:00	DD:HH:MM	00:12:00	DD:HH:MM
Emissions below limit from BC (end date)					not > limit	not > limit	not > limit	not > limit
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

South Stack Unit No.	Event 1 Unit 6		Event 2 Unit 7	
	Breaker Open (BO)	3:45 pm 2022/08/29	11:15 pm 2022/08/18	
Draught Group (DG) Shut Down (SD)	6:36 am 2022/08/00	11:25 pm 2022/08/18		
BO to DG SD (duration)	00:14:50 DD:HH:MM	00:00:10 DD:HH:MM		
Fires in time		19:12:40 2022/08/19		
Synch. to Grid (or BC)		6:40 pm 2022/08/19		
Fires in to BC (duration)		00:05:00 DD:HH:MM		
Emissions below limit from BC (end date)		not > limit		not > limit
Emissions below limit from BC (duration)		DD:HH:MM	n/a	DD:HH:MM

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of August-2022 in mg/Nim³

8 EMERGENCY GENERATION

There was no emergency generation of any boiler unit

9 COMPLAINTS REGISTER


Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Calculation of Impacts / emissions	Measures implemented to prevent		Dispersion modeling of pollutants where	Date measure will be implemented
<i>There was no complaints received</i>								

10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

There was no section 30 or legal contravention for the month of August.

11 General

The Station exceeded PM emissions limit on the South Stack within a grace period of 48 hours

 16/09/2022
Compiled Environmental Officer Date

B Madipe

 03 October 2022
Authorised by GM Date
A Van Greuning


Compiled by Environmental Department

For Nkangala District Municipality

Copies Eskom Environmental Management

Group Technology Engineering

Hendrina Power Station

 20/09/2022
Verified by Boiler Engineer Date
Marco Cossa

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