

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-2022
	Coal	Tons	820 000	138 764.0
	Fuel Oil	Tons	3 200	387.43

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jun-2022
	Energy	GWh	1440	211.24
	Ash	Tons	290 000	30 209
	RE PM	kg/MWh	not specified	0.156

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	1.09
Ash Content	%	31 to < 35	21.77

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
North	75	3200	1200
South	75	3200	1200

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Jun-2022
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)	99.918%
Unit 6	Fabric Filter Plant (FFP)	Unit Off-line
Unit 7	Fabric Filter Plant (FFP)	99.935%
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
North	100.0	99.7	99.3	99.7
South	100.0	100.0	99.6	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 June-2022

Associated Unit/Stack	PM (tons)	SOx (tons)	NOx (tons)
North	6.4	550.8	217.4
South	26.5	1 489.7	758.2
SUM	32.9	2 040.5	975.6

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	16	1	0	0	1	21.4
South	30	0	0	0	0	30.2
SUM	46	1	0	0	1	

Comments: Condition 7.3 of the Emission License exempt the station from reporting particulate matter (PM) emissions when unit is offline or during the operation of unit shut down or start-up process.

North Stack Units has been fully offline for 10 days. Shut down and start-up process account for 4 days.

North Stack PM Emissions not reportable for 13 days.

There was a 1 x day exceedance of particulate matter (PM) on the North Stack on a grace period, as seen above Table and on graph below.

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
North	17	0	0	0	0	1 669.9
South	30	0	0	0	0	1 665.7
SUM	47	0	0	0	0	

Sulphur Oxide is reportable at any time gasses are detected by monitor

Although North Stack Units has been offline and on shut down/ startup for some period:

North Stack SO_x Gaseous Emissions were detected for 13 days.

South Stack reported normal days in terms of unit operations/s and emissions

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
North	17	0	0	0	0	661.6
South	30	0	0	0	0	845.7
SUM	47	0	0	0	0	

Nitrogen Oxide is reportable at any time gasses are detected by monitor

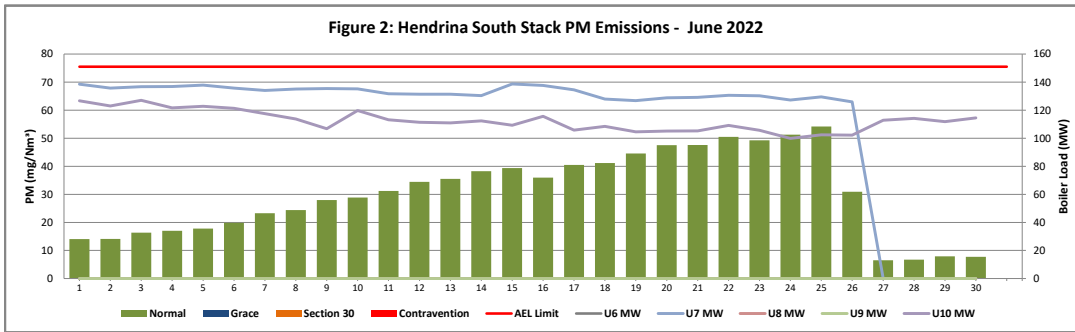
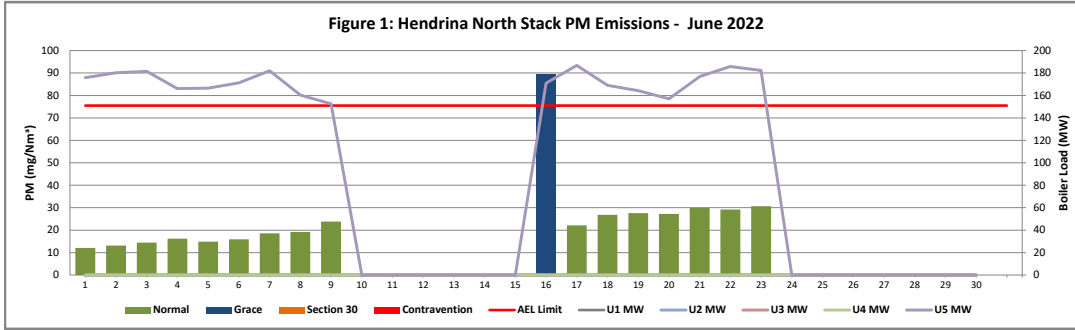
Although North Stack Units has been offline and on shut down/ startup for some period:

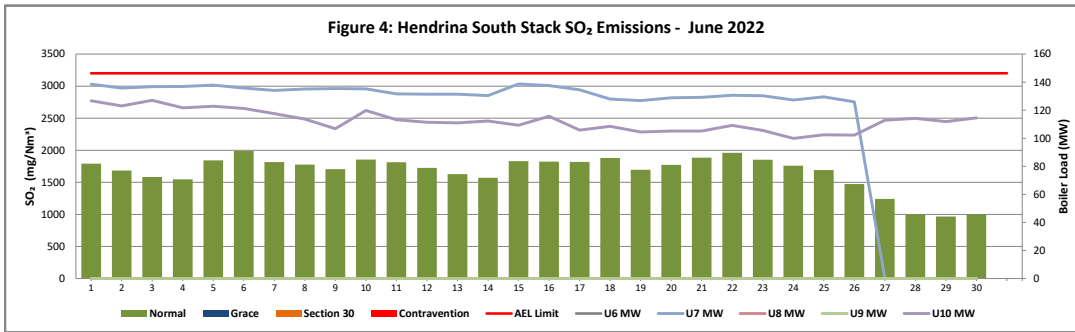
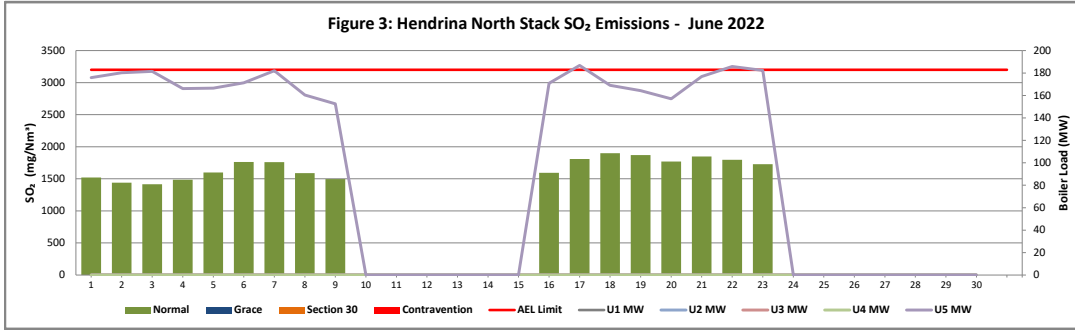
North Stack NO_x Gaseous Emissions were detected for 13 days.

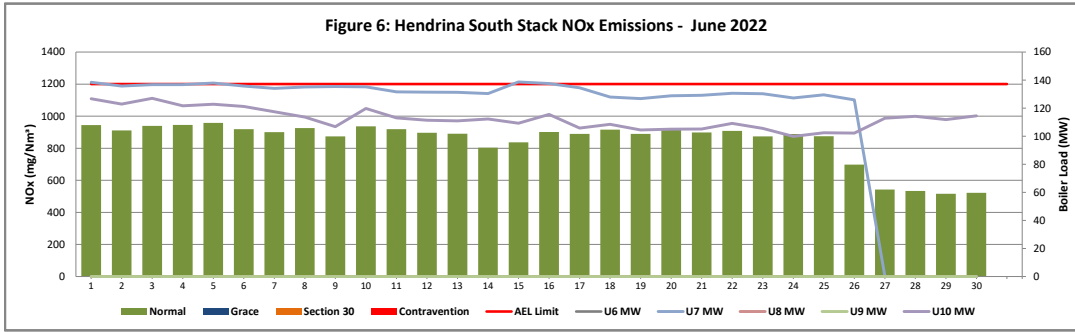
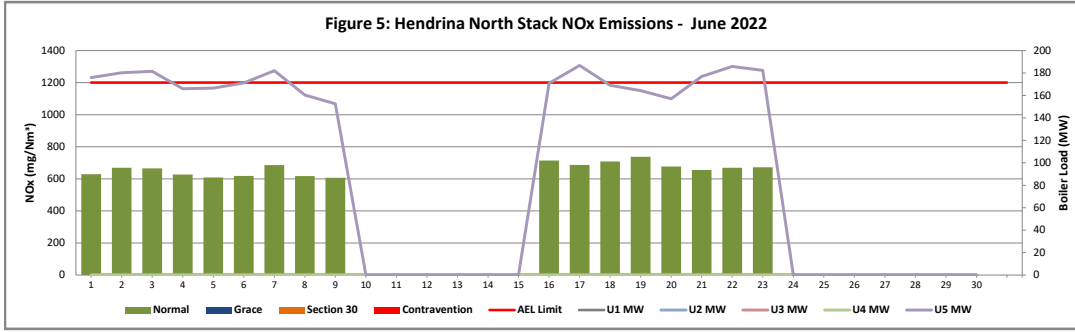
South Stack reported normal days in terms of unit operations/s and emissions.

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 June-2022

North Stack	<i>Event 1</i>	
Unit No.	<i>Unit 5</i>	
Breaker Open (BO)	<i>5:35 am</i>	<i>2022/06/09</i>
Draught Group (DG) Shut Down (SD)	<i>2:35 pm</i>	<i>2022/06/09</i>
BO to DG SD (duration)	<i>00:09:00</i>	DD:HH:MM
Fires in time	<i>11:20 pm</i>	<i>2022/06/15</i>
Synch. to Grid (or BC)	<i>11:20 am</i>	<i>2022/06/16</i>
Fires in to BC (duration)	<i>00:12:00</i>	DD:HH:MM
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM

South Stack	<i>Event 1</i>	
Unit No.	<i>Unit 7</i>	
Breaker Open (BO)	<i>11:45 am</i>	<i>2022/06/26</i>
Draught Group (DG) Shut Down (SD)	<i>11:45 am</i>	<i>2022/06/26</i>
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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of June-2022 in mg/Nm³

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8 EMERGENCY GENERATION

There was no request for emergency power generation

9 COMPLAINTS REGISTER

Table 9. Complaints for the month of June-2022


Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date measure will be implemented
<i>(Insert name of affected person/source)</i>	<i>(Insert root cause for incident)</i>	<i>(Insert emissions associated with incident)</i>	<i>(Insert dispersion model information where applicable)</i>	<i>(Insert mitigation measures taken)</i>	<i>(Insert date of implementation of mitigation method)</i>
There was no complaints received					


10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

There was no section 30 report

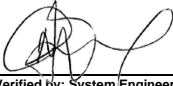
11 General

Raw intake of Coal exceeded sulphur content limit of 1.%, as the sampled coal sulphur content was is 1.09%.

 02/08/2022

Compiled: Environmental Officer Date
B. Madiope
 04 August 2022

Authorised by: GM Date
A Van Greuning

 03/08/2022

Verified by: System Engineer Boiler/ FFP Date
Marco Cossa

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