

**HENDRINA POWER STATION MONTHLY EMISSIONS REPORT**

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



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**1 RAW MATERIALS AND PRODUCTS**

Raw Materials and Products	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate Jan-2022
	Coal	Tons	820 000	303 002.0
	Fuel Oil	Tons	3 200	923.72

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jan-2022
	Energy	GWh	1488	456.97
	Ash	Tons	290 000	90 355
	RE PM	kg/MWh	not specified	0.298

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	1.34
Ash Content	%	31 to < 35	29.82

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

Associated Unit/Stack	PM	SOx	NOx
North	75	3200	1200
South	75	3200	1200

**4 ABATEMENT TECHNOLOGY (%)**

Associated Unit/Stack	Technology Type	Efficiency Jan-2022
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.972%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	Unit Off-line
Unit 5	Fabric Filter Plant (FFP)	99.971%
Unit 6	Fabric Filter Plant (FFP)	99.966%
Unit 7	Fabric Filter Plant (FFP)	99.963%
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 <sub>2</sub>	NO	O <sub>2</sub>	CO <sub>2</sub>
North	100.0	60.8	100.0	56.7	64.2
South	100.0	100.0	100.0	66.8	98.9

**6 EMISSION PERFORMANCE**

Table 6.1: Monthly tonnages for the month of January-2022

Associated Unit/Stack	PM (tons)	SOx (tons)	NOx (tons)	CO <sub>2</sub> (tons)
North	9.3	2 233.4	881.4	234 220.0
South	127.1	4 613.9	2 435.0	304 214.2
<b>SUM</b>	136.4	6 847.3	3 316.4	538 434.2

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	9.5
South	31	0	0	0	0	50.7
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.3: Operating days in compliance to SOx AEL Limit - January 2022

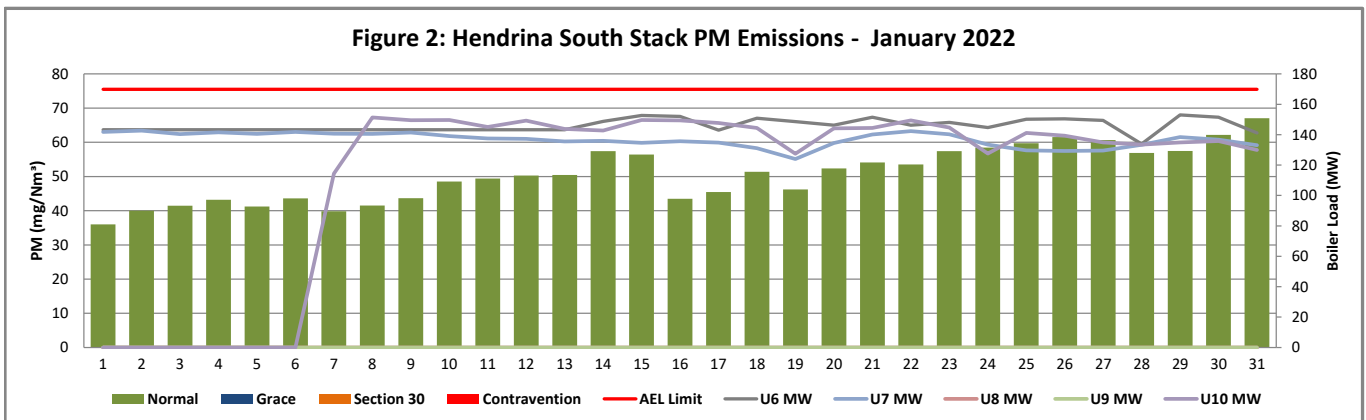
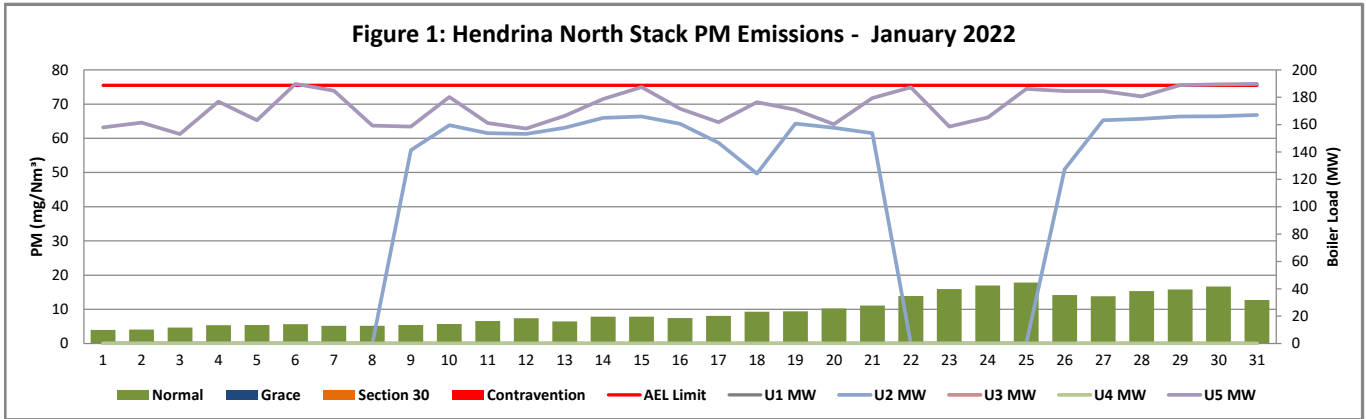
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	2 173.5
South	31	0	0	0	0	1 788.6
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.4: Operating days in compliance to NOx AEL Limit - January 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	829.8
South	31	0	0	0	0	942.8
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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



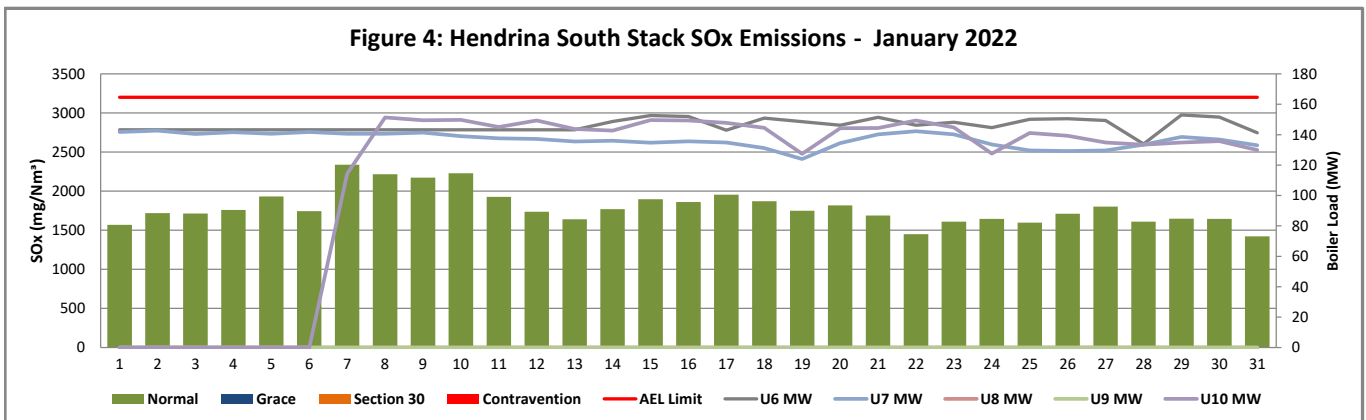
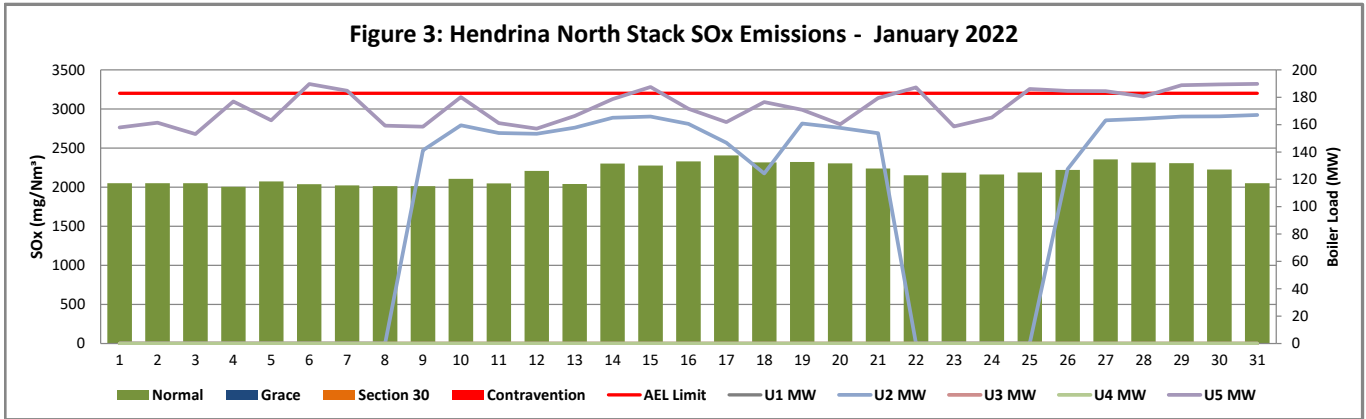


Figure 5: Hendrina North Stack NOx Emissions - January 2022

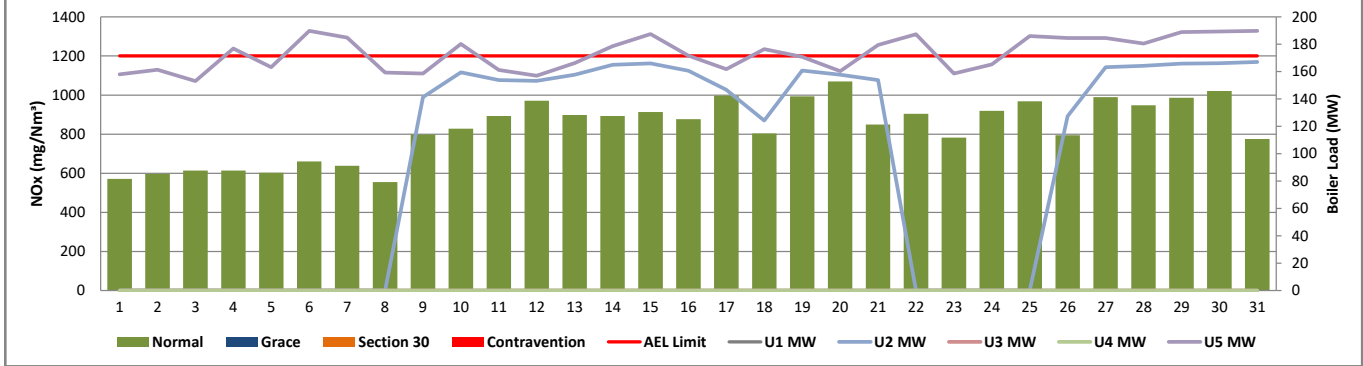
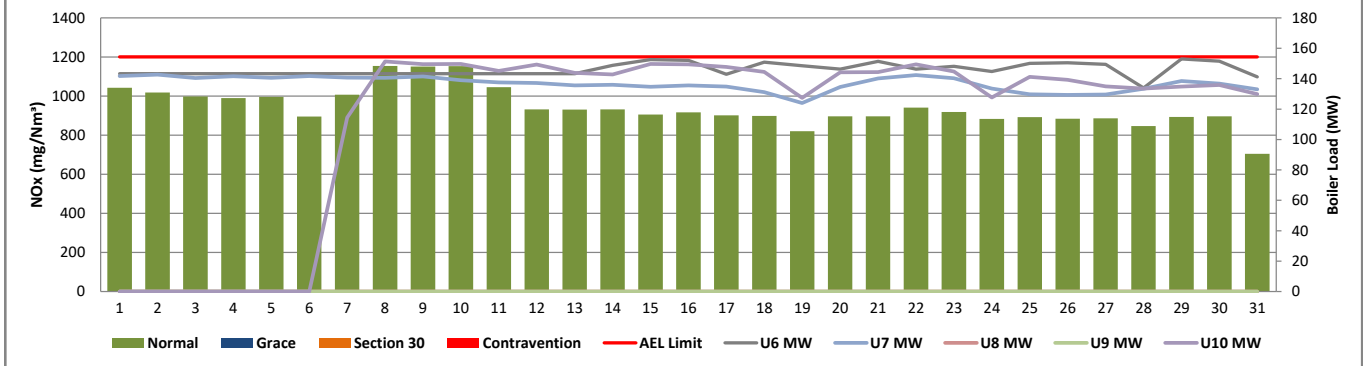


Figure 6: Hendrina South Stack NOx Emissions - January 2022



## 7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>	
Unit No.	<i>Unit 2</i>		<i>Unit 2</i>		<i>Unit 2</i>	
Breaker Open (BO)	<i>11:15 am</i>	<i>2021/12/26</i>	<i>3:45 am</i>	<i>2022/01/18</i>	<i>11:55 am</i>	<i>2022/01/21</i>
Draught Group (DG) Shut Down (SD)	<i>4:45 am</i>	<i>2021/12/27</i>	<i>9:15 am</i>	<i>2022/01/18</i>	<i>12:15 am</i>	<i>2022/01/22</i>
BO to DG SD (duration)	<i>01:00:00</i>	<i>DD:HH:MM</i>	<i>00:05:30</i>	<i>DD:HH:MM</i>	<i>00:12:20</i>	<i>DD:HH:MM</i>
Fires in time	<i>12:40 pm</i>	<i>2022/01/08</i>	<i>2022/01/18</i>	<i>2022/01/18</i>	<i>26:03:40</i>	<i>2022/01/26</i>
Synch. to Grid (or BC)	<i>12:40 am</i>	<i>2022/01/09</i>	<i>8:10 pm</i>	<i>2022/01/18</i>	<i>3:40 pm</i>	<i>2022/01/26</i>
Fires in to BC (duration)	<i>00:12:00</i>	<i>DD:HH:MM</i>	<i>00:12:00</i>	<i>DD:HH:MM</i>	<i>00:12:00</i>	<i>DD:HH:MM</i>
Emissions below limit from BC (end date)	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>
Emissions below limit from BC (duration)	<i>n/a</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>

South Stack	<i>Event 1</i>		<i>Event 2</i>	
Unit No.	<i>Unit 6</i>		<i>Unit 7</i>	
Breaker Open (BO)	<i>12:15 pm</i>	<i>2022/01/16</i>	<i>3:55 am</i>	<i>2022/01/19</i>
Draught Group (DG) Shut Down (SD)	<i>5:25 pm</i>	<i>2022/01/16</i>	<i>7:45 am</i>	<i>2022/01/19</i>
BO to DG SD (duration)	<i>00:05:10</i>	DD:HH:MM	<i>00:03:50</i>	DD:HH:MM
Fires in time	<i>6:20 pm</i>	<i>2022/01/16</i>	<i>2022/01/19</i>	<i>2022/01/19</i>
Synch. to Grid (or BC)	<i>12:20 am</i>	<i>2022/01/17</i>	<i>3:40 pm</i>	<i>2022/01/19</i>
Fires in to BC (duration)	<i>00:06:00</i>	DD:HH:MM	<i>00:06:00</i>	DD:HH:MM
Emissions below limit from BC (end date)	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of January-2022 in mg/Nm<sup>3</sup>

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**8 EMERGENCY GENERATION**

*none*

**9 COMPLAINTS REGISTER**

*There was no complain receieved*

**10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER**

11 General



17/02/2022

\_\_\_\_\_  
**Compiled: Environmental Officer** Date  
**B. Madiope**

\_\_\_\_\_  
**FFP** Date  
**Marco Cossa**

\_\_\_\_\_  
**Authorised by: GM** Date  
**A Van Greuning**

\_\_\_\_\_  
**Validated by Manager:** **Boiler or Environmental** Date  
**R. Goliada J. Ramagoma**

Compiled by: Boiler Engineering Department

FFP SE/ Environmental Officer

For: Nkangala District Municipality

Air Quality Officer

Copies: Eskom Environmental Management

D Herbst  
 B Mccourt

Group Technology Engineering

R Rampiar  
 E. Patel

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