

**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 May-2020
	Coal	Tons	820 000	177 150.0
	Fuel Oil	Tons	3 200	999.83

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate May-2020
	Energy	GWh	1488	290.34
	Ash	Tons	290 000	46 360
	RE PM	kg/MWh	not specified	0.023

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.82
Ash Content	%	31 to < 35	26.17

**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 May-2020
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.974%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	99.990%
Unit 5	Fabric Filter Plant (FFP)	99.981%
Unit 6	Fabric Filter Plant (FFP)	99.630%
Unit 7	Fabric Filter Plant (FFP)	99.783%
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%
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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>
North	98.9	97.7	98.3	95.2
South	100.0	55.5	97.4	60.9

#### 6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of May-2020

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
North	5.6	1 251.9	504.2
South	1.1	1 431.3	622.8
SUM	6.6	2 683.2	1 127.0

Table 6.2: Operating days in compliance to PM AEL Limit - May 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	7.1
South	31	0	0	0	0	1.0
SUM	62	0	0	0	0	

Table 6.3: Operating days in compliance to SOx AEL Limit - May 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	1 624.2
South	31	0	0	0	0	1 282.9
SUM	62	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - May 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	654.6
South	31	0	0	0	0	533.1
SUM	62	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: Hendrina North Stack PM Emissions - May 2020

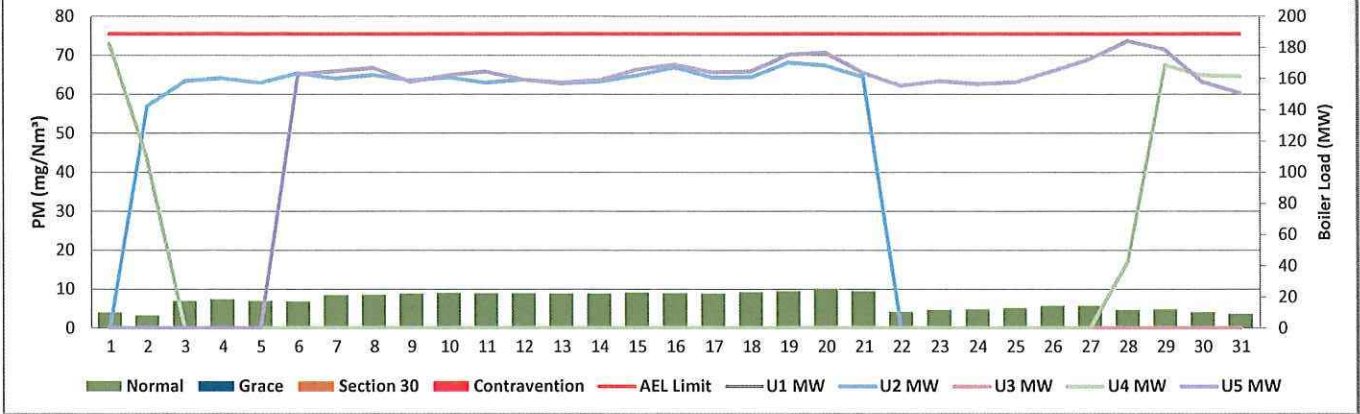


Figure 2: Hendrina South Stack PM Emissions - May 2020

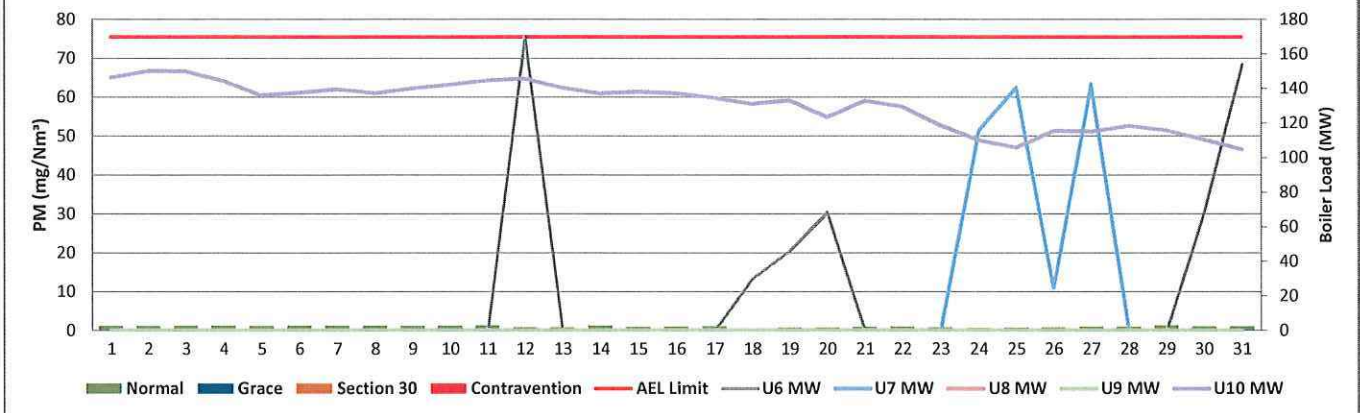




Figure 3: Hendrina North Stack SOx Emissions - May 2020

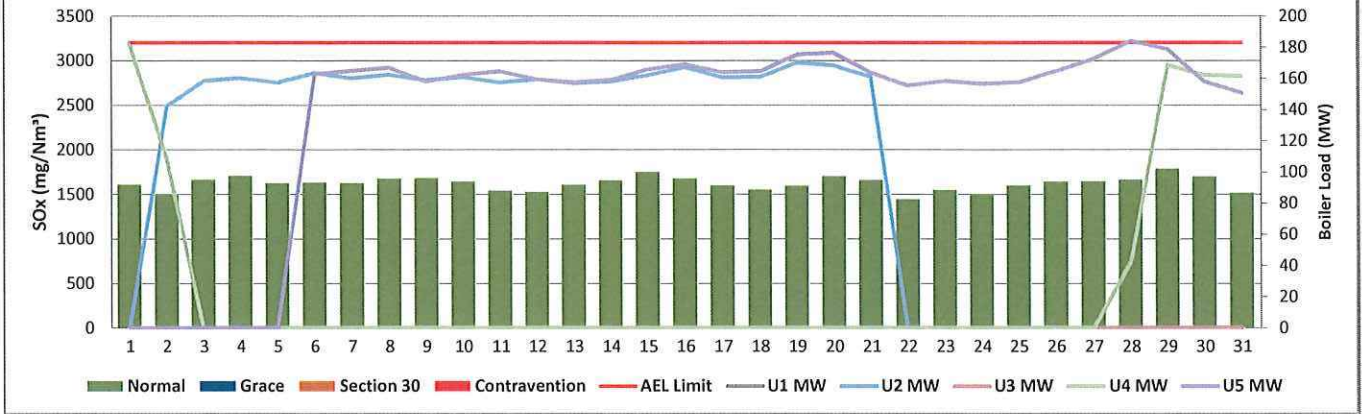


Figure 4: Hendrina South Stack SOx Emissions - May 2020

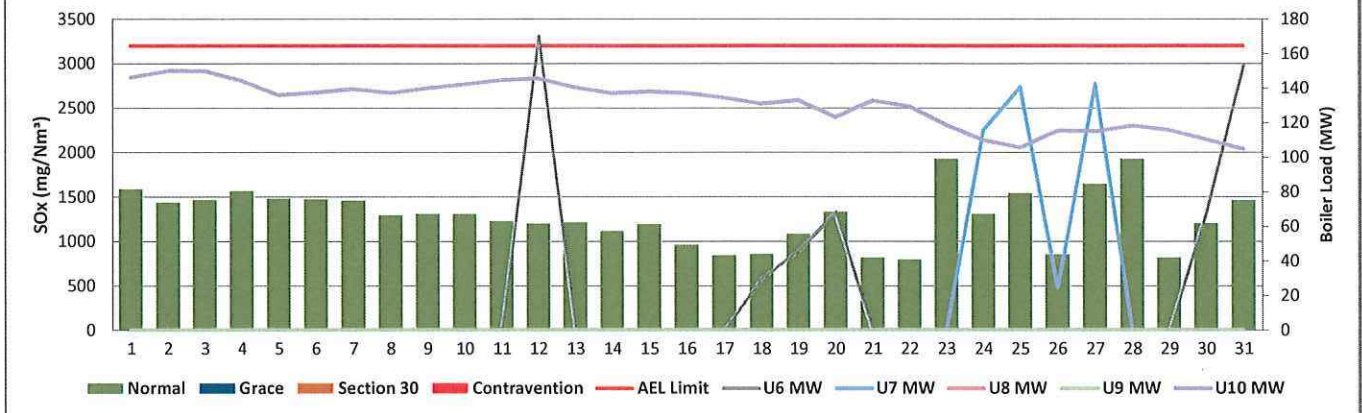


Figure 5: Hendrina North Stack NOx Emissions - May 2020

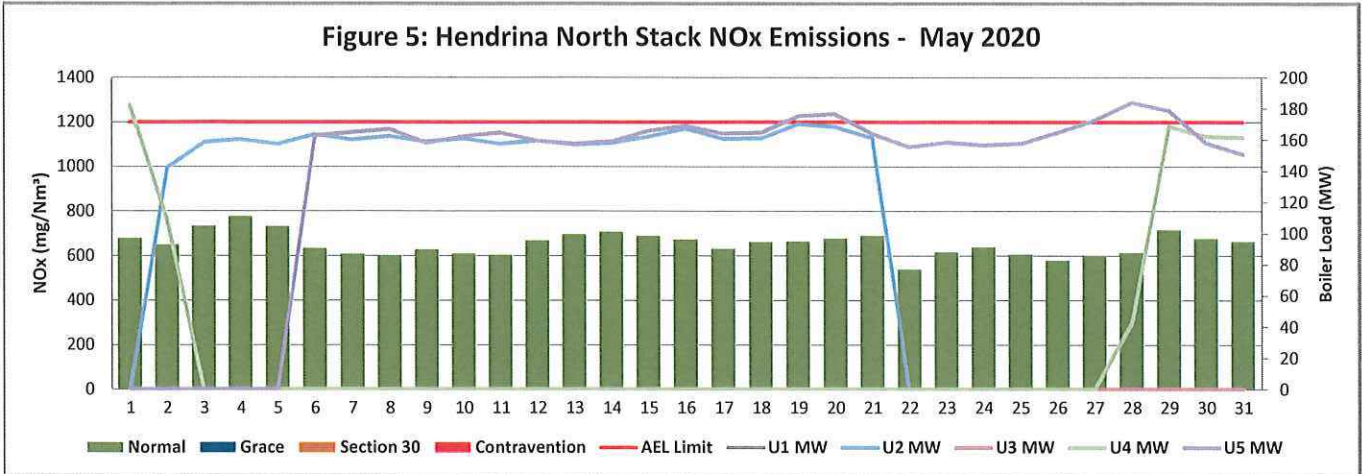
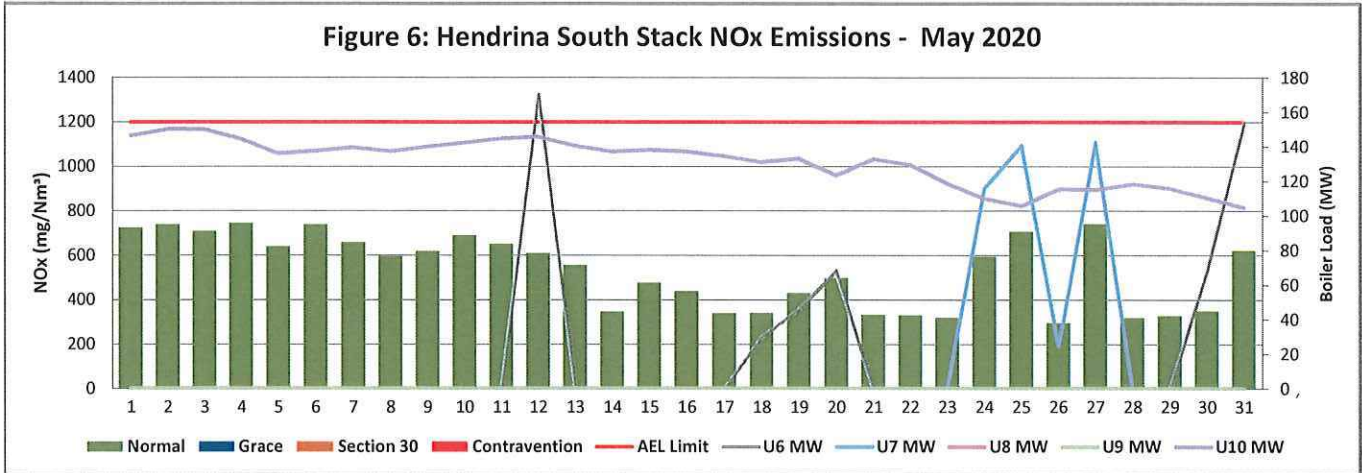


Figure 6: Hendrina South Stack NOx Emissions - May 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1 PM Start-up information for the month of May-2020

North Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit</i>		<i>no event</i>		<i>Unit 4</i>		<i>Unit</i>	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	<i>09:15 PM</i>	<i>2020/05/21</i>	<i>12:15 AM</i>	<i>2020/05/02</i>	<i>BO previously</i>	<i>BO previously</i>
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	<i>11:25 AM</i>	<i>2020/05/22</i>	<i>11:15 AM</i>	<i>2020/05/02</i>	<i>n/a</i>	<i>n/a</i>
BO to DG SD (duration)	<i>n/a</i>	<i>DD:HH:MM</i>	<i>00:14:10</i>	<i>DD:HH:MM</i>	<i>00:11:00</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>
Fires in time	<i>08:00 PM</i>	<i>2020/05/01</i>			<i>27:10:00</i>	<i>2020/05/27</i>	<i>2020/05/04</i>	<i>2020/05/04</i>
Synch. to Grid (or BC)	<i>08:00 AM</i>	<i>2020/05/02</i>			<i>10:00 PM</i>	<i>2020/05/28</i>	<i>05:50 AM</i>	<i>2020/05/06</i>
Fires in to BC (duration)	<i>00:12:00</i>	<i>DD:HH:MM</i>		<i>DD:HH:MM</i>	<i>01:12:00</i>	<i>DD:HH:MM</i>	<i>01:12:00</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>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>

North Stack ...Continued	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>no event</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)								
Draught Group (DG) Shut Down (SD)								
BO to DG SD (duration)		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>		<i>DD:HH:MM</i>

South Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>Unit</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)		<i>#REF!</i>	<i>BO previously</i>	<i>BO previously</i>	<i>08:05 PM</i>	<i>2020/05/25</i>		
Draught Group (DG) Shut Down (SD)		<i>#REF!</i>	<i>n/a</i>	<i>n/a</i>	<i>08:25 PM</i>	<i>2020/05/25</i>		
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>00:00:20</i>	DD:HH:MM		DD:HH:MM
Fires in time			<i>2020/05/23</i>	<i>2020/05/23</i>				
Synch. to Grid (or BC)			<i>05:50 AM</i>	<i>2020/05/24</i>				
Fires in to BC (duration)		DD:HH:MM	<i>00:06:00</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)			<i>not &gt; limit</i>	<i>not &gt; limit</i>				
Emissions below limit from BC (duration)		DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM

South Stack ...Continued	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>no event</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)								
Draught Group (DG) Shut Down (SD)								
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of May-2020 in mg/Nm<sup>3</sup>

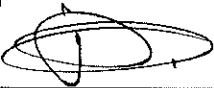
[Include reference to once off test showing typical emissions rates during fires in and SD]




Remember to add attachments here, see ReportAddendum Tab

Reserved for Addendum XXXX

11 General


 12/06/2020

Compiled Environmental Officer Date  
B. Madiope

 15/06/2020

Authorised by, GM Date  
M. Lesolang

Boiler/ FFP Date  
Marco Cossa

 12/06/2020

Validated by Manager Boiler or Environmenta Date  
R. Nelwamondo J Ramagoma

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