

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 Apr-2020
	Coal	Tons	820 000	190 043.0
Fuel Oil	Tons	3 200	576.71	

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Apr-2020
	Energy	GWh	1440	298.10
Ash	Tons	290 000	51 768	
RE PM	kg/MWh	not specified	0.034	

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	
Sulphur Content	%	0.6 to < 1	1.16
Ash Content	%	31 to < 35	27.24

3 EMISSION LIMITS (mg/Nm³)

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

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Apr-2020
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.959%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	99.976%
Unit 5	Fabric Filter Plant (FFP)	99.982%
Unit 6	Fabric Filter Plant (FFP)	Unit Off-line
Unit 7	Fabric Filter Plant (FFP)	Unit Off-line
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	CO ₂	O ₂
North	100.0	97.8	100.0		97.2
South	77.9	34.7	76.7		41.7

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)	CO ₂ (tons)
North	9.6	1 594.5	698.6	
South	0.5	827.9	319.7	
SUM	10.0	2 422.4	1 018.3	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	0	9.6
South	23	0	0	0	0	0.9
SUM	54	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
North	31	0	0	0	0	1 611.6
South	26	0	0	0	0	1 375.2
SUM	57	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
North	31	0	0	0	0	702.5
South	26	0	0	0	0	521.5
SUM	57	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 - April 2020

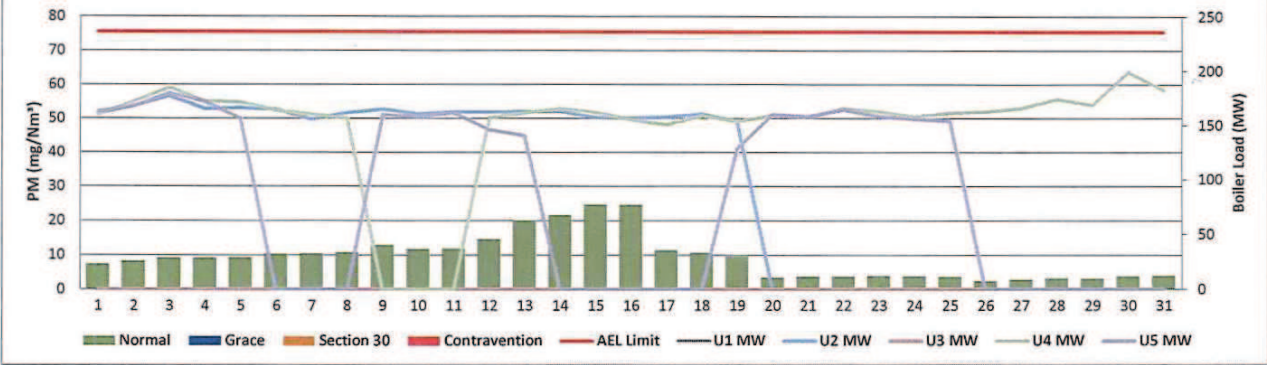


Figure 2: Hendrina South Stack PM Emissions - April 2020

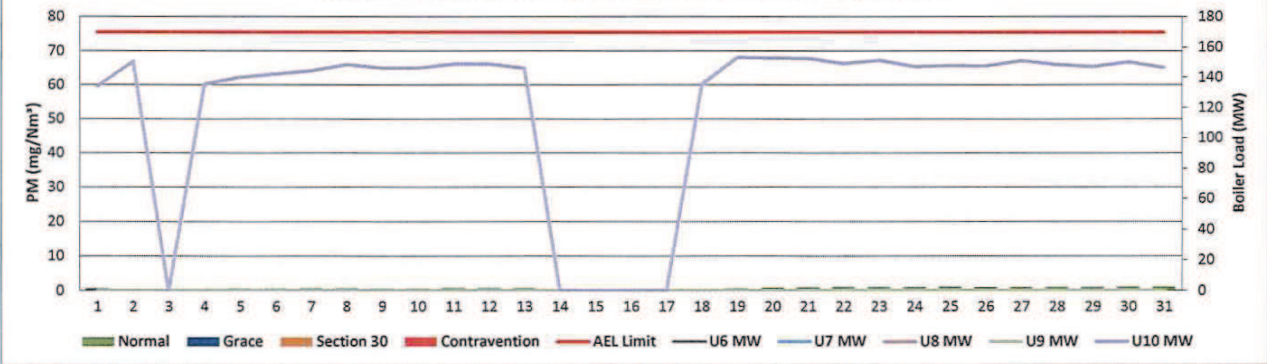


Figure 3: Hendrina North Stack SOx Emissions - April 2020

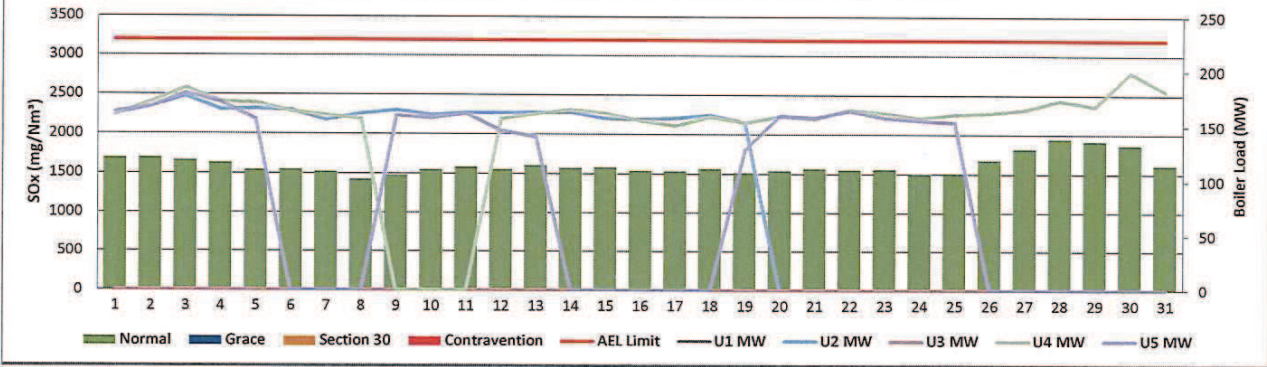


Figure 4: Hendrina South Stack SOx Emissions - April 2020

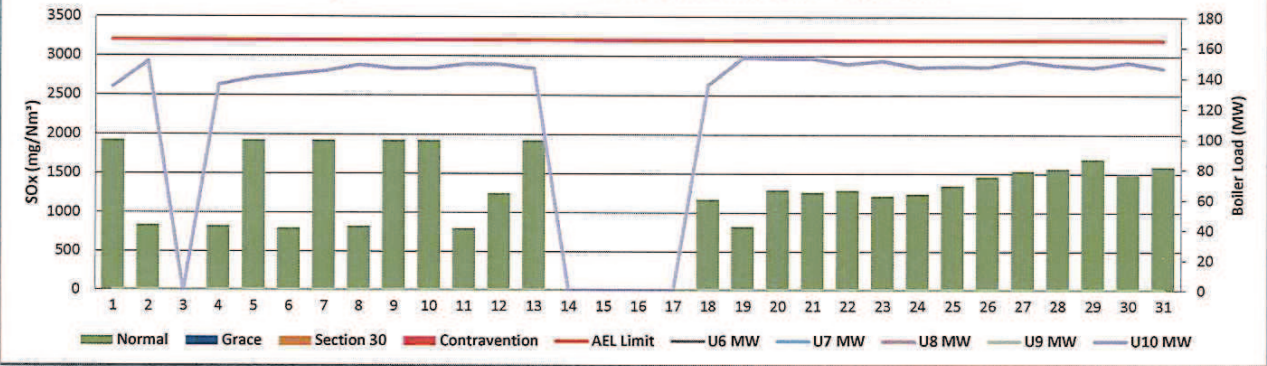


Figure 5: Hendrina North Stack NOx Emissions - April 2020

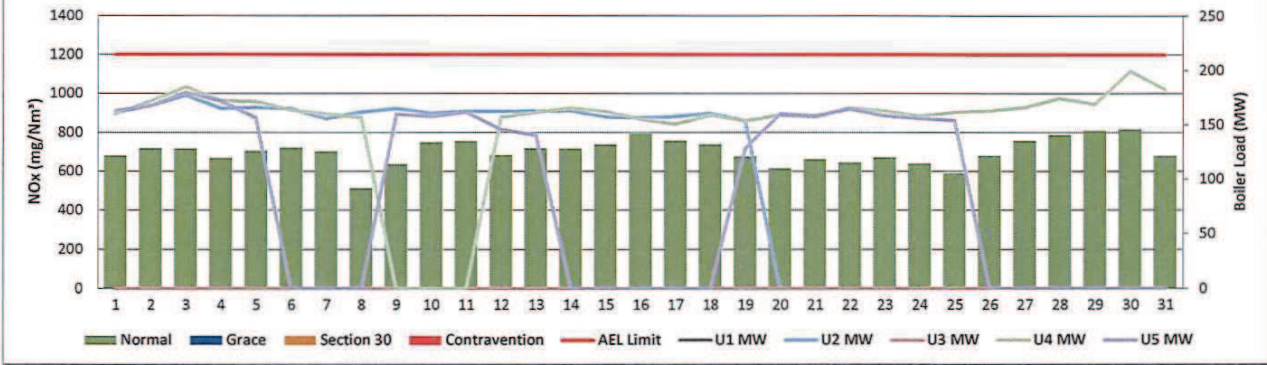
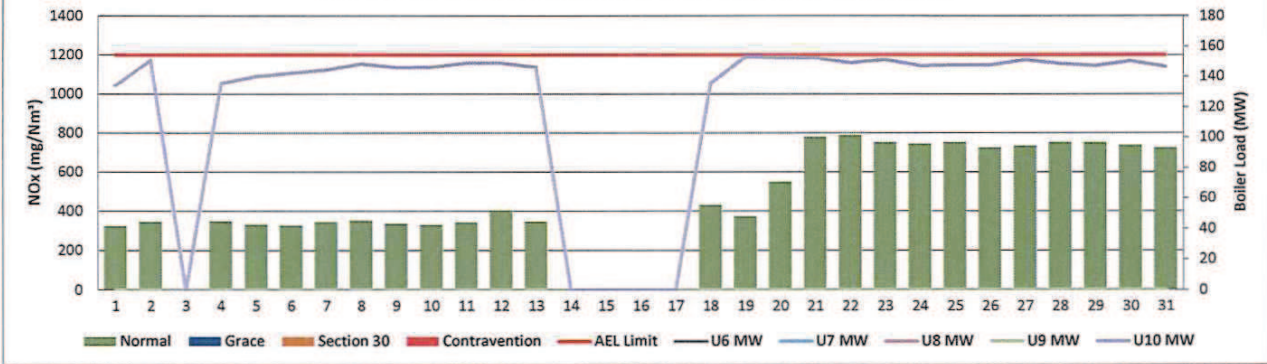


Figure 6: Hendrina South Stack NOx Emissions - April 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

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

North 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 4</i>		<i>Unit 5</i>		<i>Unit 5</i>	
Breaker Open (BO)	<i>10:55 PM</i>	<i>2020/04/19</i>	<i>09:35 AM</i>	<i>2020/04/08</i>	<i>09:45 AM</i>	<i>2020/04/05</i>	<i>11:15 PM</i>	<i>2020/04/13</i>
Draught Group (DG) Shut Down (SD)	<i>10:55 PM</i>	<i>2020/04/19</i>	<i>09:35 AM</i>	<i>2020/04/08</i>	<i>09:45 AM</i>	<i>2020/04/05</i>	<i>11:15 PM</i>	<i>2020/04/13</i>
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			<i>2020/04/11</i>	<i>2020/04/11</i>	<i>09:00:00</i>	<i>2020/04/09</i>	<i>2020/04/19</i>	<i>2020/04/19</i>
Synch. to Grid (or BC)			<i>10:40 AM</i>	<i>2020/04/12</i>	<i>12:00 PM</i>	<i>2020/04/09</i>	<i>04:30 PM</i>	<i>2020/04/19</i>
Fires in to BC (duration)		DD:HH:MM	<i>00:12:00</i>	DD:HH:MM	<i>00:12:00</i>	DD:HH:MM	<i>00:12:00</i>	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>	<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	<i>n/a</i>	DD:HH:MM

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)		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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 10		Unit 10		no event		no event	
Breaker Open (BO)		#REF!	08:35 PM	2020/04/13				
Draught Group (DG) Shut Down (SD)		#REF!	08:35 PM	2020/04/13				
BO to DG SD (duration)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	05:20 AM	2020/04/04	2020/04/18	2020/04/18				
Synch. to Grid (or BC)	05:45 AM	2020/03/31	06:10 AM	2020/04/18				
Fires in to BC (duration)	#####	DD:HH:MM	00:06:00	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit				
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM

South Stack ...Continued	Event 1		Event 2		Event 3		Event 4	
Unit No.	no event		no event		no event		no event	
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

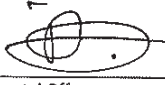
7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of April-2020 in mg/Nm³

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

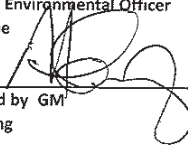
Remember to add attachments here, see ReportAddendum Tab

Reserved for Addendum XXXX

11 General


 22/5/2020

Compiled Environmental Officer
B Madioppe Date

 25/05/2020

Authorised by GM
M Lesolang Date

Boiler/ FFP
Marco Cossa Date

 J. Ramagoma 22/05/20
Validated by Manager. Boiler or Environments 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