

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-2020
	Coal	Tons	820 000	265 950.0
	Fuel Oil	Tons	3 200	484.64

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Aug-2020
	Energy	GWh	1488	457.37
	Ash	Tons	290 000	63 057
	RE PM	kg/MWh	not specified	0.030

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.81
Ash Content	%	31 to < 35	23.71

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 Aug-2020
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.968%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	99.973%
Unit 5	Fabric Filter Plant (FFP)	99.974%
Unit 6	Fabric Filter Plant (FFP)	99.970%
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	O ₂
North	100.0	99.6	99.6	99.3
South	83.6	67.3	83.5	75.7

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
North	10.4	2 202.1	937.6
South	3.4	1 500.4	857.6
SUM	13.8	3 702.5	1 795.2

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	0	8.4
South	26	0	0	0	0	3.2
SUM	57	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
North	31	0	0	0	0	1 679.6
South	26	0	0	0	0	1 339.8
SUM	57	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
North	31	0	0	0	0	710.7
South	26	0	0	0	0	733.7
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 - August 2020

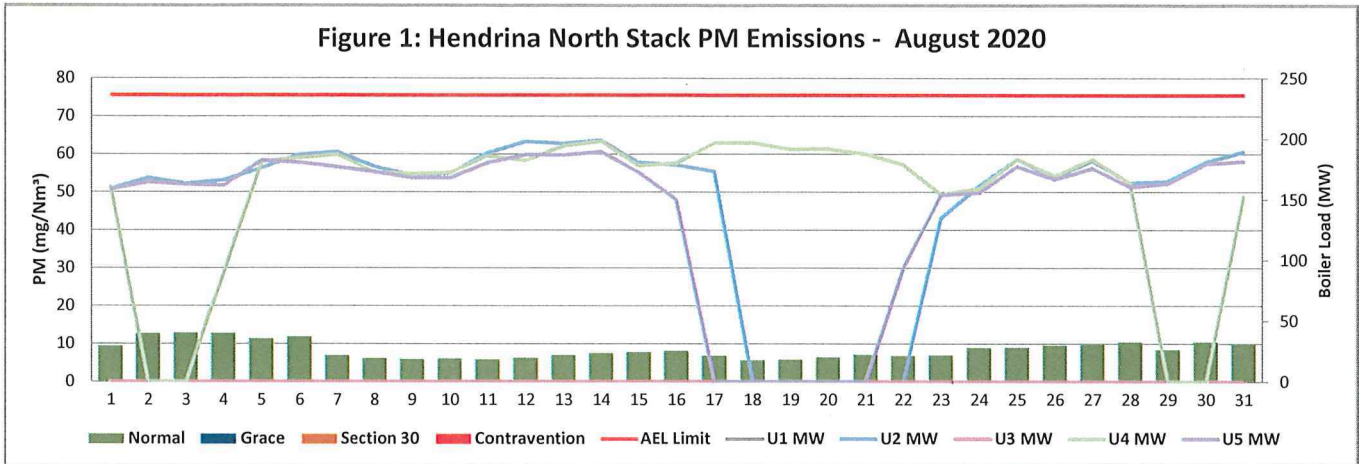


Figure 2: Hendrina South Stack PM Emissions - August 2020

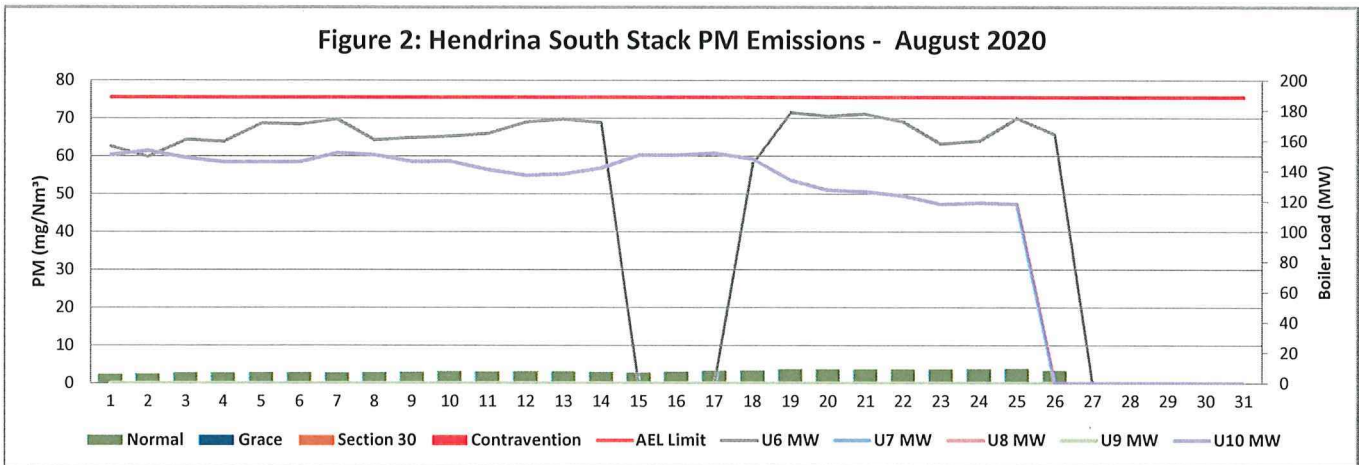


Figure 3: Hendrina North Stack SOx Emissions - August 2020

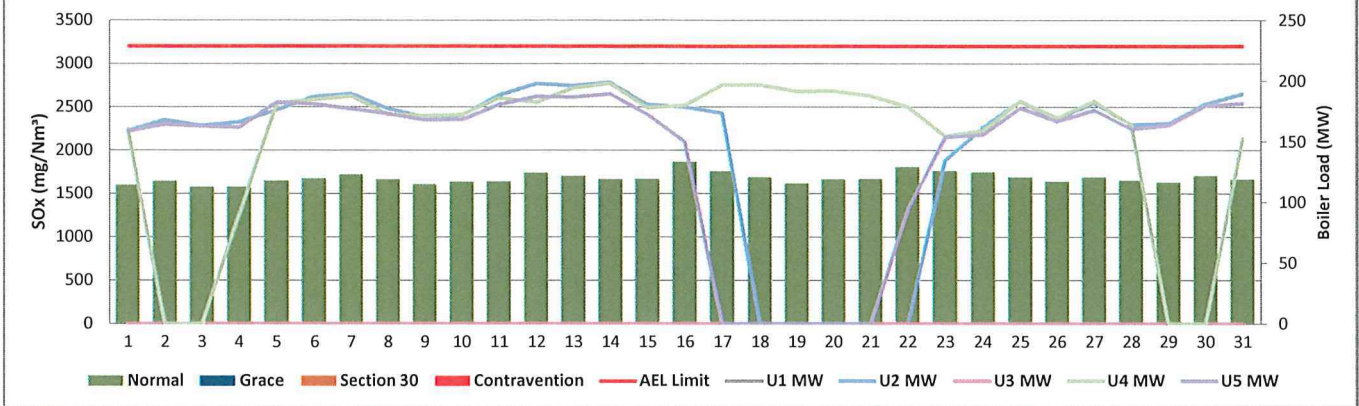


Figure 4: Hendrina South Stack SOx Emissions - August 2020

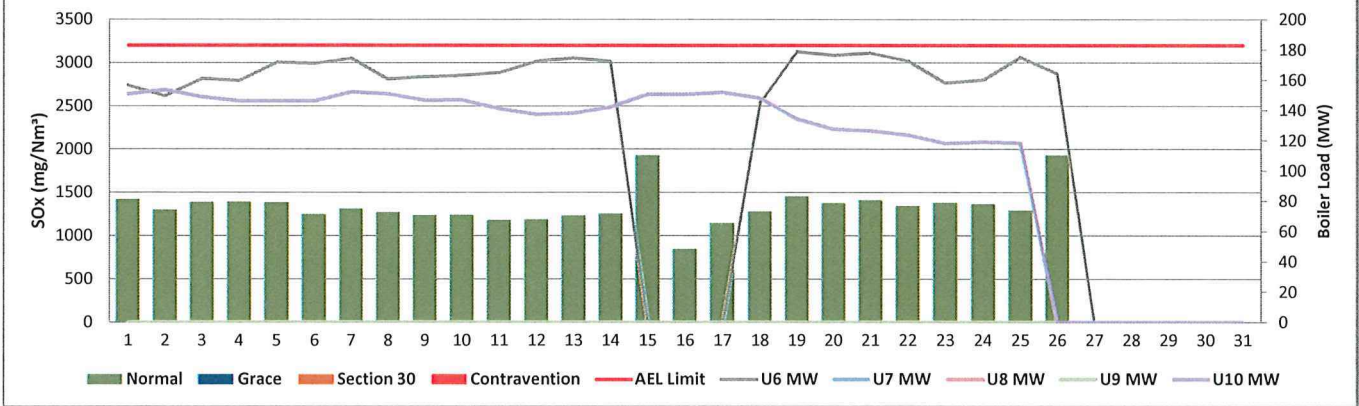


Figure 5: Hendrina North Stack NOx Emissions - August 2020

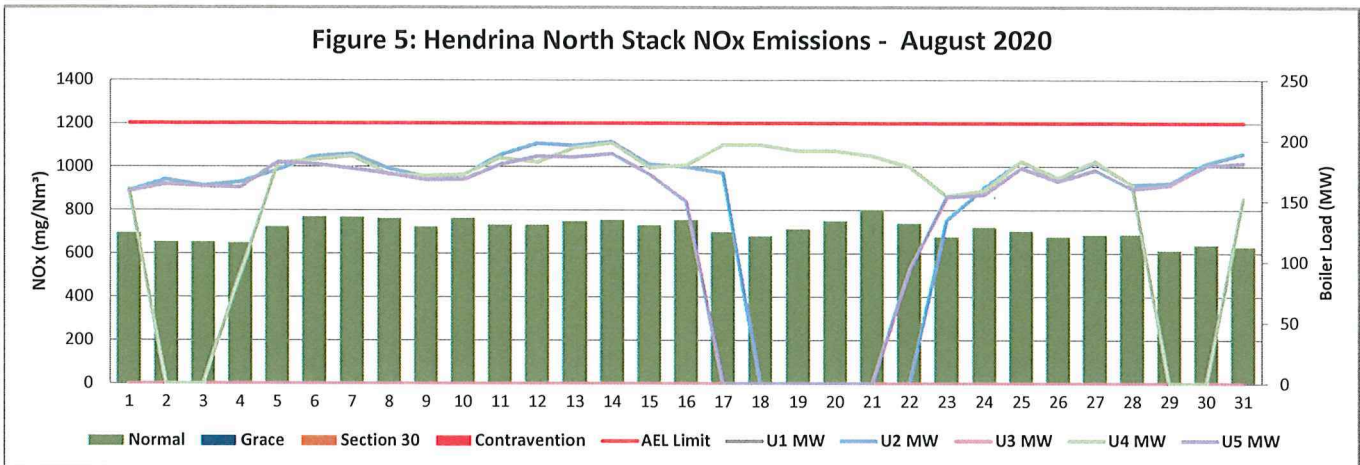
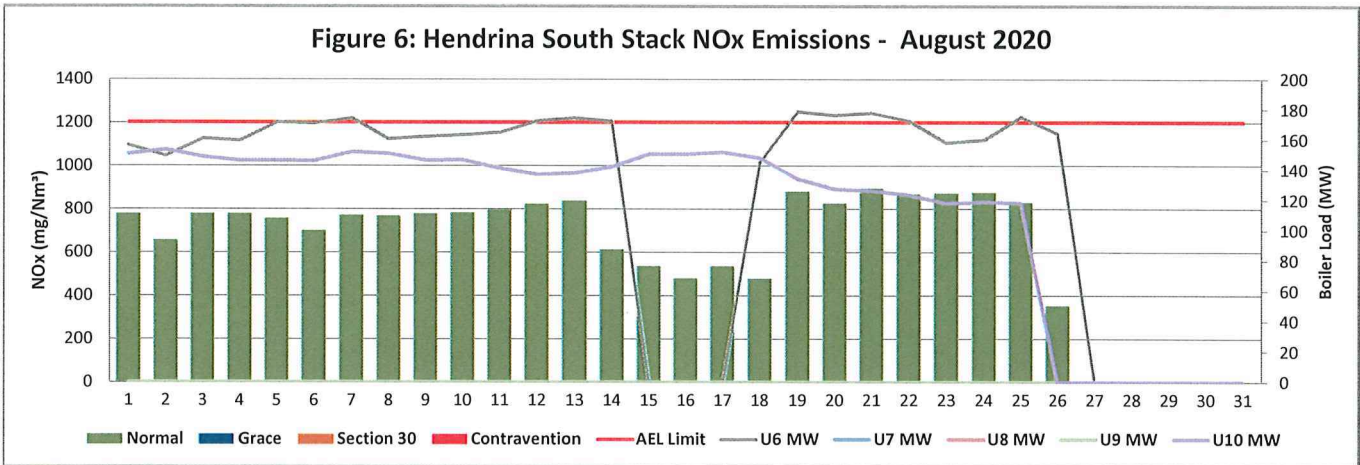


Figure 6: Hendrina South Stack NOx Emissions - August 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 2</i>		<i>Unit 2</i>		<i>Unit 4</i>		<i>no event</i>	
Breaker Open (BO)			07:35 AM	2020/08/17	01:15 PM	2020/08/01		
Draught Group (DG) Shut Down (SD)			06:05 PM	2020/08/17	06:55 PM	2020/08/01		
BO to DG SD (duration)		DD:HH:MM	00:10:30	DD:HH:MM	00:05:40	DD:HH:MM		DD:HH:MM
Fires in time	10:00 AM	2020/08/31	2020/08/23	2020/08/23	05:00:30	2020/08/05		
Synch. to Grid (or BC)	10:00 PM	2020/07/31	06:30 PM	2020/08/23	06:30 AM	2020/08/05		
Fires in to BC (duration)	#####	DD:HH:MM	00:12:00	DD:HH:MM	00:06:00	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit		
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM		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>Unit 5</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)			10:25 AM	2020/08/16				
Draught Group (DG) Shut Down (SD)			10:25 AM	2020/08/16				
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			2020/08/22	2020/08/22				
Synch. to Grid (or BC)			09:30 PM	2020/08/22				
Fires in to BC (duration)		DD:HH:MM	00:12:00	DD:HH:MM		DD:HH:MM		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		DD:HH:MM		DD:HH:MM

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 6		no event		no event		no event	
Breaker Open (BO)		#REF!						
Draught Group (DG) Shut Down (SD)		#REF!						
BO to DG SD (duration)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	08:40 AM	2020/08/18						
Synch. to Grid (or BC)	12:55 PM	2020/08/13						
Fires in to BC (duration)	#####	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit						
Emissions below limit from BC (duration)	n/a	DD:HH:MM		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 August-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


 29/07/2020
 Compiled Environmental Officer Date

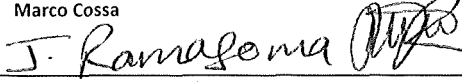
 01/10/2020
 Authorised by, GM Date
 M Lesolang

Compiled by Boiler Engineering Department
 For Nkangala District Municipality
 Copies Eskom Environmental Management

 Group Technology Engineering

 Hendrina Power Station

 29/09/20
 Boiler/ FFP Date
 Marco Cossa

 29/09/20
 Validated by Manager Boiler or Environment Date
 R Nelwamondo J Ramagoma

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