

HENDRINA POWER STATION MONTHLY EMISSIONS REPORT
 Atmospheric Emission License 17/4/AEL/MP313/11/16



About Corona virus/ COVID-19:

WhatsApp Support Line: 0600-123456

Twitter/instagram/whatsapp/youtube

COVID-19

Online Resource & News Portal
SAcoronavirus.co.za



health
 Department
 of Health
 REPUBLIC OF SOUTH AFRICA



1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate Jan-2021
	Coal	Tons	820 000	271 315.0
	Fuel Oil	Tons	3 200	626.36

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jan-2021
	Energy	GWh	1488	419.19
	Ash	Tons	290 000	72 658
	RE PM	kg/MWh	not specified	0.066

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.95
Ash Content	%	31 to < 35	26.78

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 Jan-2021
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)	99.969%
Unit 5	Fabric Filter Plant (FFP)	Unit Off-line
Unit 6	Fabric Filter Plant (FFP)	100.000%
Unit 7	Fabric Filter Plant (FFP)	100.000%
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	CO ₂
North	96.1	89.7	92.0	91.7	85.4
South	99.9	93.7	93.7	99.6	93.7

6 EMISSION PERFORMANCE

Table 6.1 Monthly tonnages for the month of January-2021

Associated Unit/Stack	PM (tons)	SOx (tons)	NOx (tons)	CO ₂ (tons)
North	5.4	703.8	351.6	66,788.7
South	22.4	4,091.3	2,434.9	490,883.3
SUM	27.8	4,795.2	2,786.5	557,672.1

Table 6.2: Operating days in compliance to PM AEL Limit - January 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	27	0	0	0	0	11.6
South	31	0	0	0	0	9.0
SUM	58	0	0	0	0	

Table 6.3: Operating days in compliance to SOx AEL Limit - January 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
North	28	0	0	0	0	1 471.3
South	31	0	0	0	0	1 669.7
SUM	59	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - January 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
North	28	0	0	0	0	734.4
South	31	0	0	0	0	993.8
SUM	59	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 - January 2021

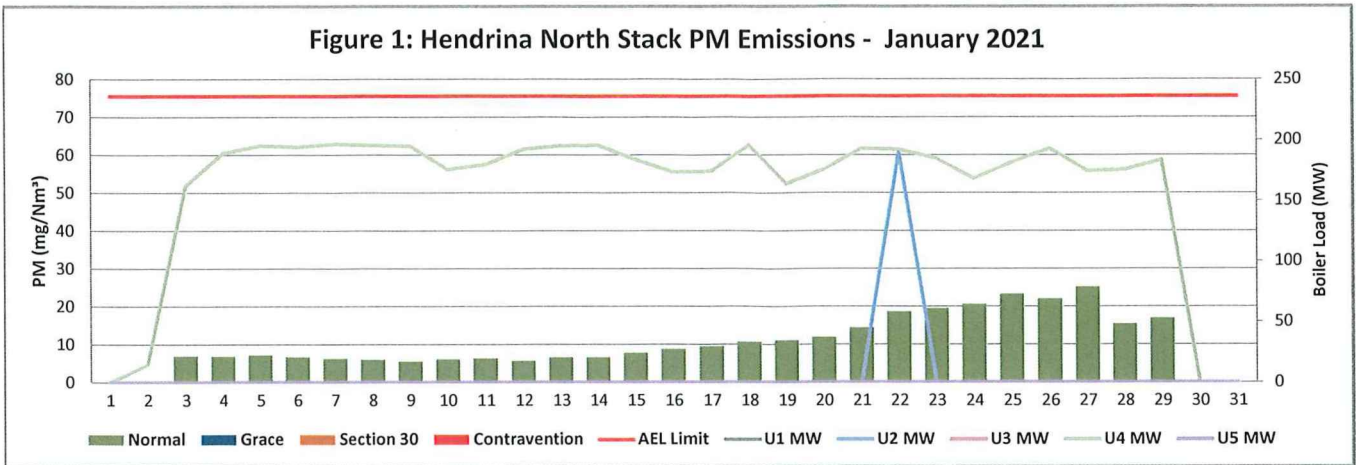


Figure 2: Hendrina South Stack PM Emissions - January 2021

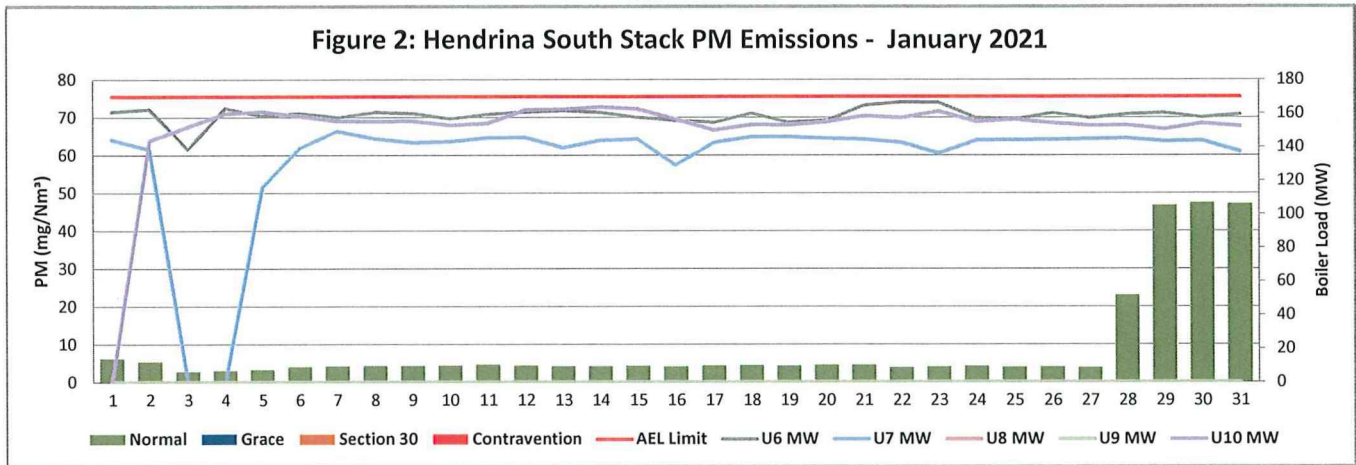


Figure 3: Hendrina North Stack SOx Emissions - January 2021

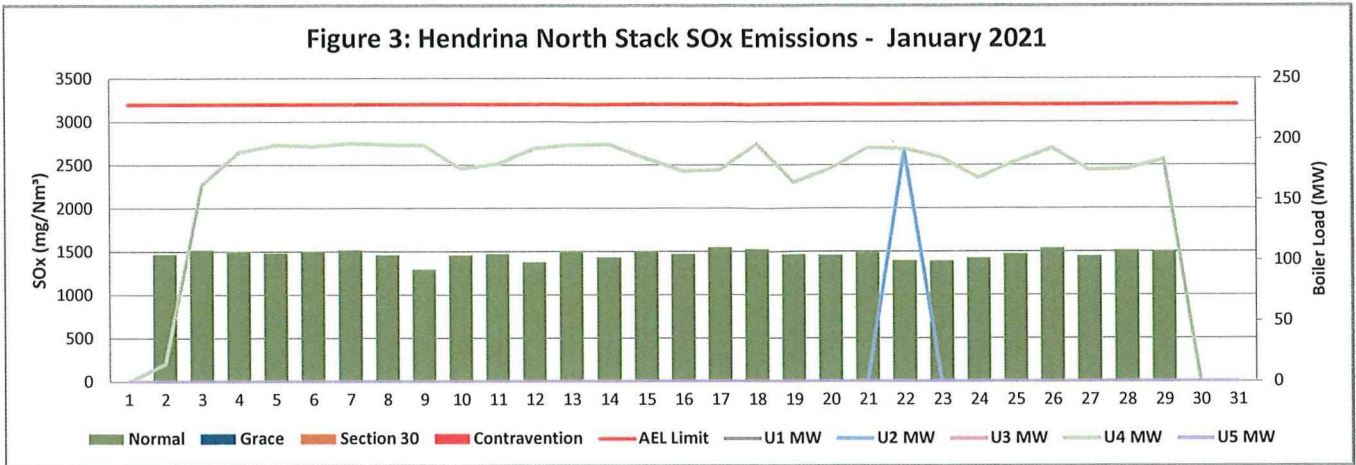


Figure 4: Hendrina South Stack SOx Emissions - January 2021

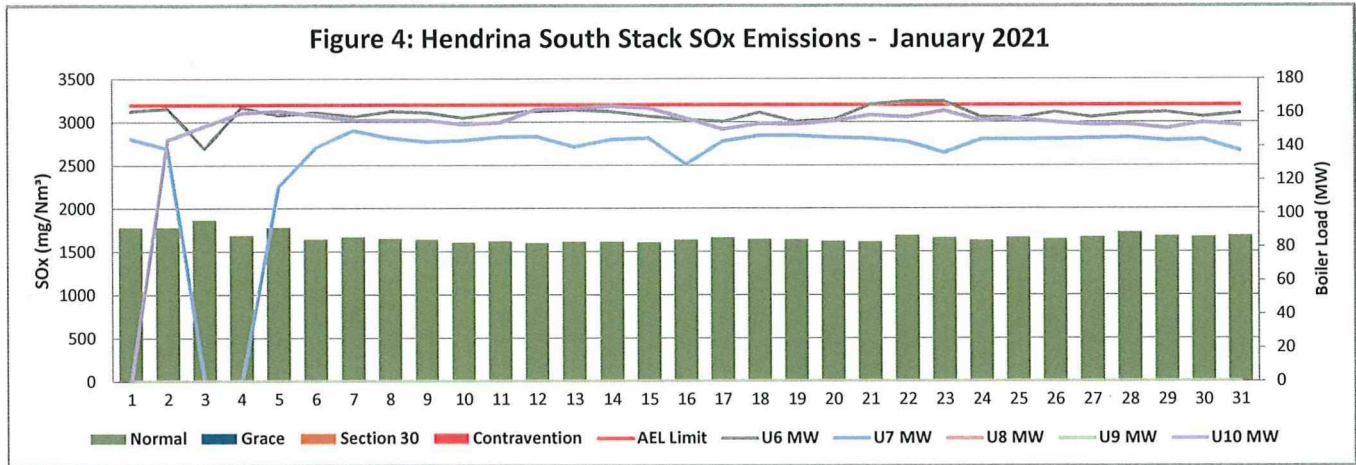


Figure 5: Hendrina North Stack NOx Emissions - January 2021

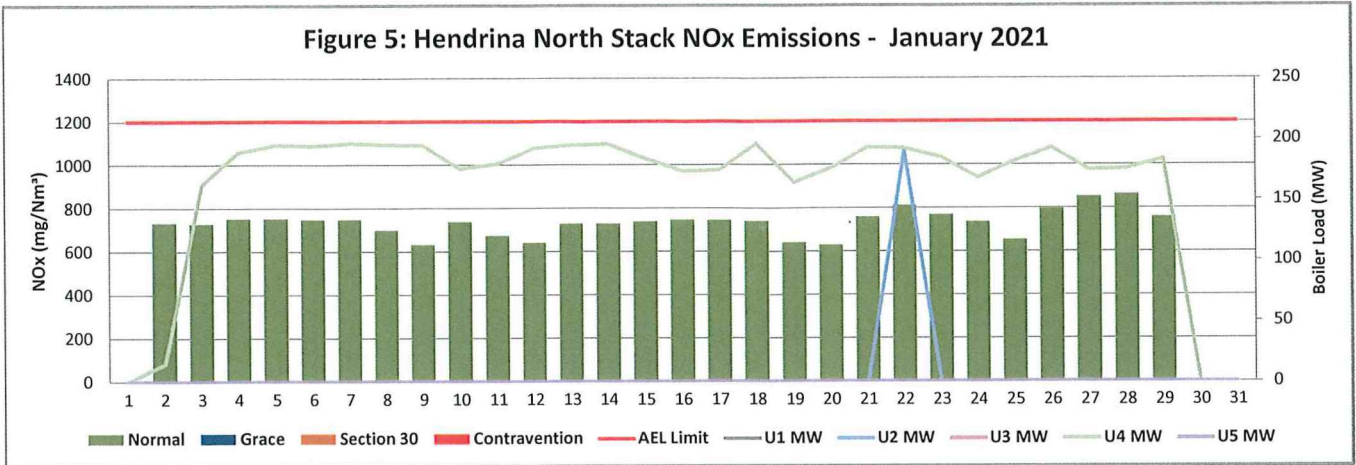
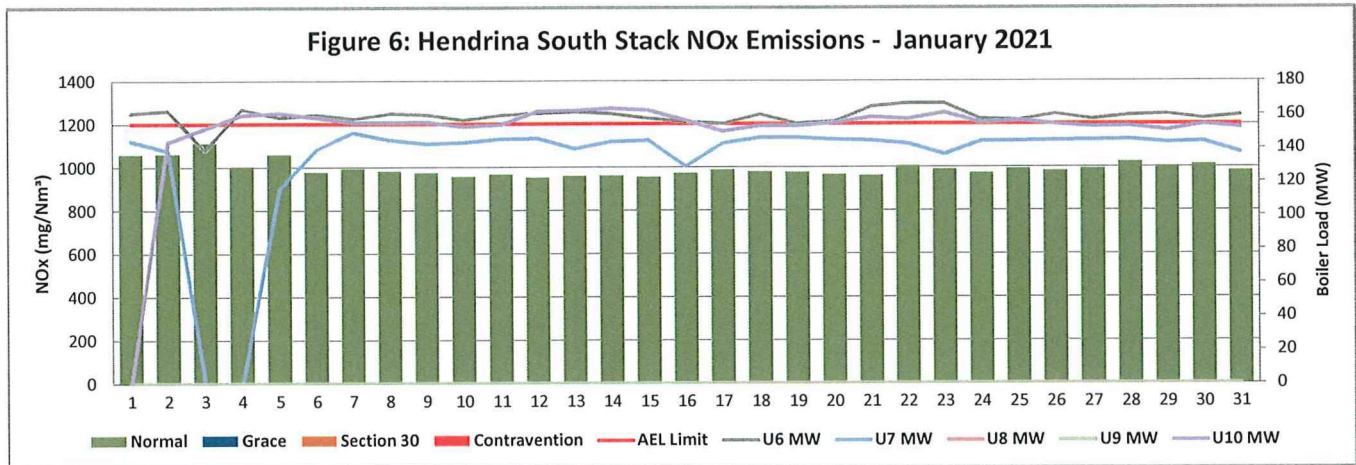


Figure 6: Hendrina South Stack NOx Emissions - January 2021



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1 PM Start-up information for the month of January-2021

North Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 4</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	<i>11:40 AM</i>	<i>2021/01/01</i>						
Synch. to Grid (or BC)	<i>11:40 PM</i>	<i>2021/01/02</i>						
Fires in to BC (duration)	<i>01:12:00</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM		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		DD:HH:MM		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>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 7		no event		Unit		no event	
Breaker Open (BO)		#REF!			BO previously	BO previously		
Draught Group (DG) Shut Down (SD)		#REF!			n/a	n/a		
BO to DG SD (duration)	n/a	DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM
Fires in time	02:10 PM	2021/01/05			02:00:40	2021/01/02		
Synch. to Grid (or BC)	09:45 PM	2021/01/01			06:40 AM	2021/01/02		
Fires in to BC (duration)	#####	DD:HH:MM		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		
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM	n/a	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 January-2021 in mg/Nm³

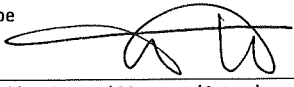
[Include reference to once off test showing typical emissions rates during fires in and SD]

Remember to add attachments here, see ReportAddendum Tab


Reserved for Addendum XXXX

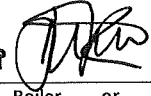
11 General

 17/02/2021
 Compiled Environmental Officer Date
 B. Madiope

 2021/02-17
 Authorised by General Manager (Acting) Date
 T. Mapala

Compiled by Boiler Engineering Department
 For Nkangala District Municipality
 Copies Eskom Environmental Management
 Group Technology Engineering
 Hendrina Power Station

 17/02/21
 Boiler/ FFP Date
 M. Cossa

 17/02/21
 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