

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 Apr-2021
	Coal	Tons	820 000	248 720.0
	Fuel Oil	Tons	3 200	647.76

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Apr-2021
	Energy	GWh	1440	417.36
	Ash	Tons	290 000	60 364
	RE PM	kg/MWh	not specified	0.157

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	1.25
Ash Content	%	31 to < 35	24.27

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SOx	NOx
North	50	3200	1200
South	50	3200	1200

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Apr-2021
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)	99.972%
Unit 5	Fabric Filter Plant (FFP)	99.969%
Unit 6	Fabric Filter Plant (FFP)	99.985%
Unit 7	Fabric Filter Plant (FFP)	99.985%
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 ₂	NO	O ₂	CO ₂
North	99.8	33.5	40.3	94.0	93.1
South	100.0	97.5	100.0	96.4	97.6

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of April-2021

Associated Unit/Stack	PM (tons)	SO _x (tons)	NO _x (tons)	CO ₂ (tons)
North	6.2	899.7	485.2	114 069.9
South	59.3	3 116.2	1 662.1	272 119.4
SUM	65.5	4 015.9	2 147.3	386 189.3

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
North	21	0	0	0	0	8.6
South	31	0	0	0	0	30.7
SUM	52	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
North	22	0	0	0	0	1 247.7
South	31	0	0	0	0	1 585.9
SUM	53	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
North	22	0	0	0	0	670.2
South	31	0	0	0	0	833.3
SUM	53	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 2021

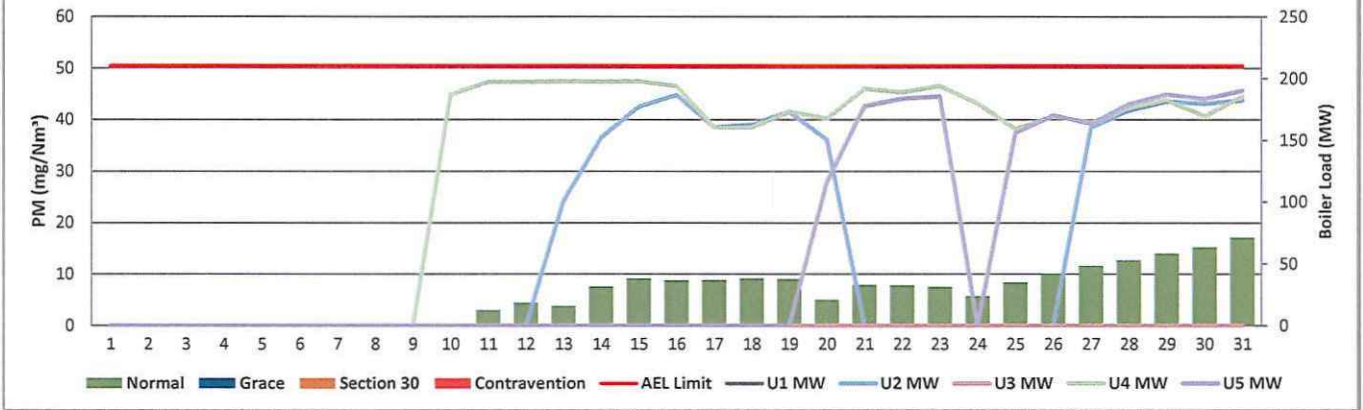


Figure 2: Hendrina South Stack PM Emissions - April 2021

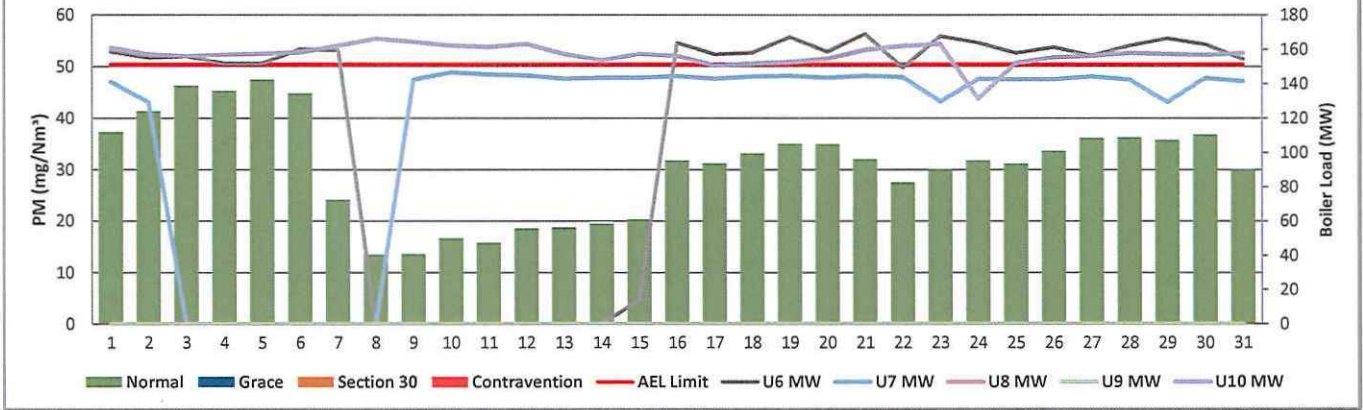


Figure 3: Hendrina North Stack SOx Emissions - April 2021

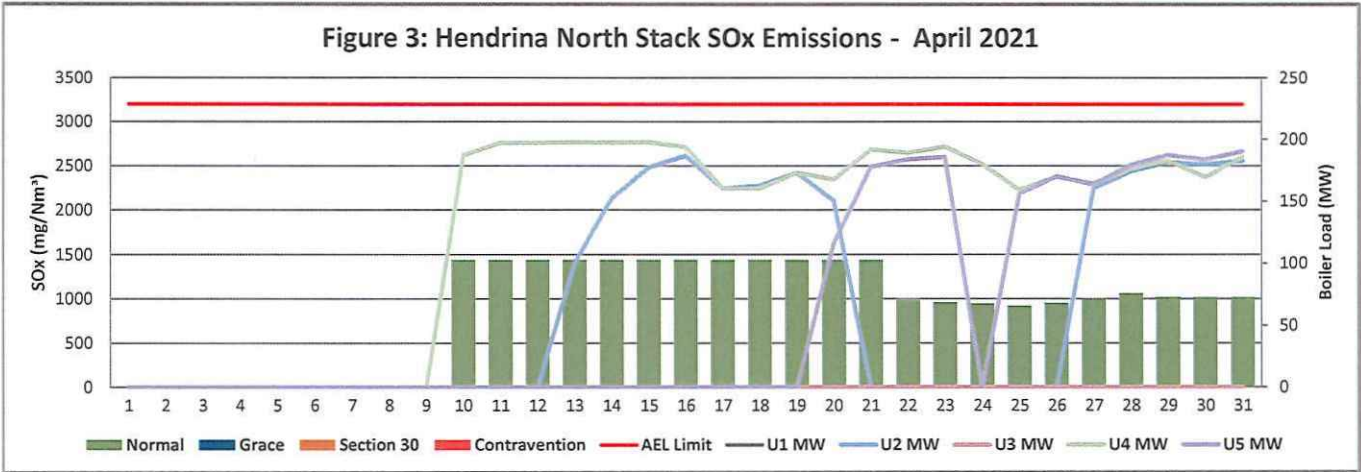


Figure 4: Hendrina South Stack SOx Emissions - April 2021

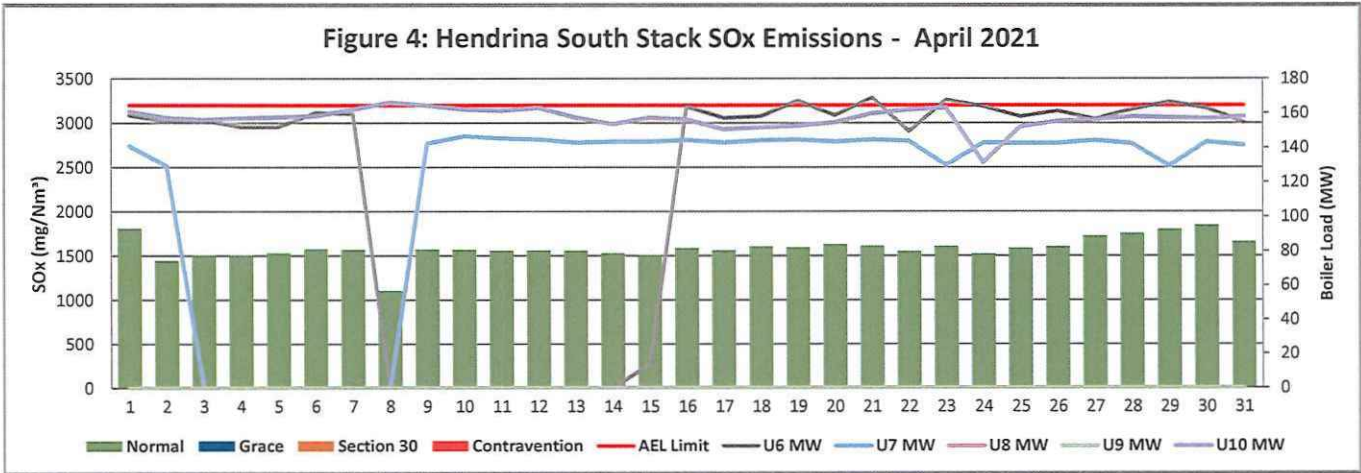


Figure 5: Hendrina North Stack NOx Emissions - April 2021

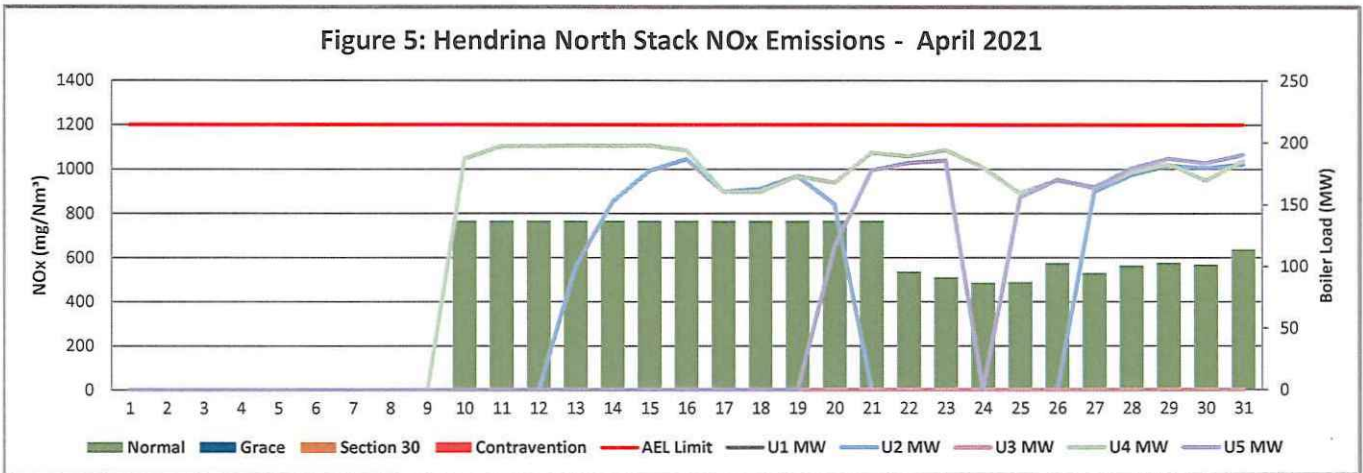
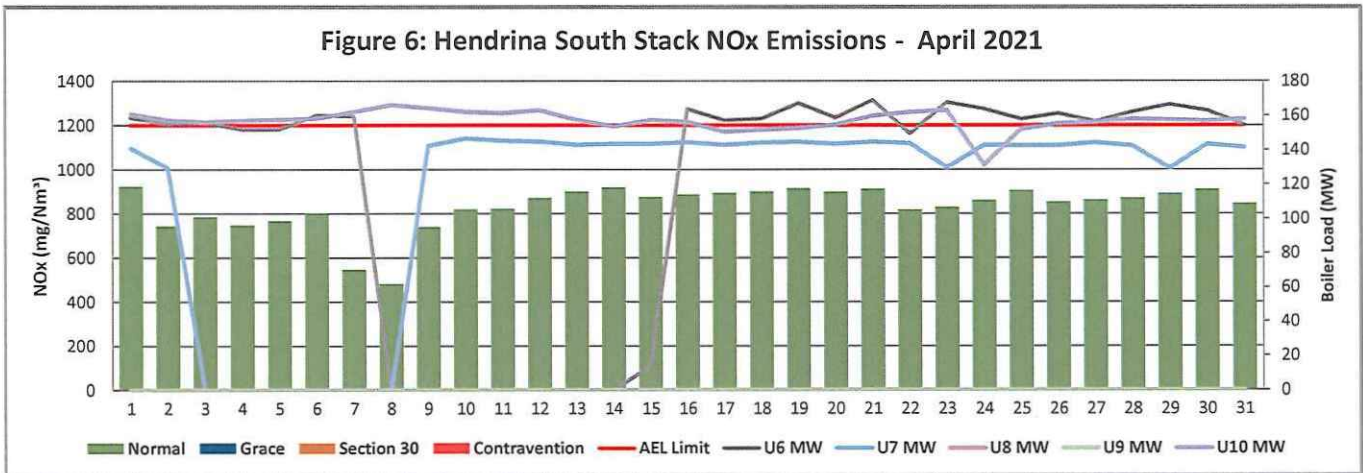


Figure 6: Hendrina South Stack NOx Emissions - April 2021



7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit		no event		Unit		Unit	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	<i>12:15 AM</i>	<i>2021/04/20</i>	<i>BO previously</i>	<i>BO previously</i>	<i>BO previously</i>	<i>BO previously</i>
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	<i>05:45 AM</i>	<i>2021/04/20</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>00:05:30</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM
Fires in time	<i>12:40 AM</i>	<i>2021/04/13</i>			<i>26:18:40</i>	<i>2021/04/26</i>	<i>2021/04/10</i>	<i>2021/04/10</i>
Synch. to Grid (or BC)	<i>06:40 PM</i>	<i>2021/04/13</i>			<i>06:40 AM</i>	<i>2021/04/27</i>	<i>12:50 AM</i>	<i>2021/04/10</i>
Fires in to BC (duration)	<i>00:18:00</i>	DD:HH:MM		DD:HH:MM	<i>00:12:00</i>	DD:HH:MM	<i>#####</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)	<i>n/a</i>	DD:HH:MM		DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM

North Stack ...Continued	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit		no event		no event		no event	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	<i>12:05 AM</i>	<i>2021/05/04</i>				
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	<i>12:05 AM</i>	<i>2021/05/04</i>				
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>01:00 AM</i>	<i>2021/04/20</i>						
Synch. to Grid (or BC)	<i>01:00 PM</i>	<i>2021/04/20</i>						
Fires in to BC (duration)	<i>00:12:00</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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	no event		Unit		no event		Unit 7	
Breaker Open (BO)		#REF!	BO previously	BO previously			03:05 AM	2021/04/02
Draught Group (DG) Shut Down (SD)		#REF!	n/a	n/a			03:05 AM	2021/04/02
BO to DG SD (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			2021/04/15	2021/04/15			2021/04/09	2021/04/09
Synch. to Grid (or BC)			11:40 PM	2021/04/15			05:00 AM	2021/04/09
Fires in to BC (duration)		DD:HH:MM	00:05:00	DD:HH:MM		DD:HH:MM	00:05:00	DD:HH:MM
Emissions below limit from BC (end date)			not > limit	not > limit			not > limit	not > limit
Emissions below limit from BC (duration)		DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM	n/a	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-2021 in mg/Nm³

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

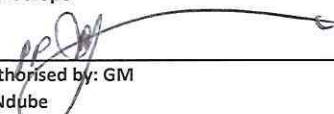
Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX

11 General

North Stack Units has been offload from 1st of April until 9th of April 2021

 14/05/2021
Compiled: Environmental Officer Date
B. Madiupe

 2021-05-17
Authorised by: GM Date
L. Ndube

Compiled by: Boiler Engineering Department


For: Nkangala District Municipality

Copies: Eskom Environmental Management

Group Technology Engineering

Hendrina Power Station:

 14/05/2021
Boiler/ FFP Date
Marco Cossa

 14/05/2021
Validated by Manager: Boiler or Environmenta 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