



Generation

Gert Sibande District Municipality
Corner of Joubert & Oosthuise Streets
Ermelo
2350

Attention:

Mr D Hlanyane

AND

Directorate: Air Quality Management Services
The Director:
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Date: 2020/02/05

Enquiries:

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**Total number of pages:
10**

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GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02

BOILER ENGINEERING MANAGER

2020/02/05
DATE

ENGINEERING MANAGER

2020.02.05
DATE

ENVIRONMENTAL MANAGER

2020.02.05
DATE

GROOTVLEI POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License GPS/0015/2015/F02


1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Jan-2020
	Coal	Tons	650 000	177 238.9
	Fuel Oil	Tons	18 000	3425.19111
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Jan-2020
	Energy	GWh	833.28	258.84
	Ash	Tons	300 000	56 744
	RE PM	kg/MWh	not specified	0.06

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	
Sulphur Content	%	0.6 to < 1.2	0.83
Ash Content	%	27 to < 32	32.02

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO
North	100	3500	1100
South	100	3500	1100

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Jan-2020
Unit 1	Fabric Filter Plant (FFP)	99.977%
Unit 2	Fabric Filter Plant (FFP)	99.968%
Unit 3	Fabric Filter Plant (FFP)	99.960%
Unit 4	Fabric Filter Plant (FFP)	Unit Off-line
Unit 5	Fabric Filter Plant (FFP)	Unit Off-line
Unit 6	Fabric Filter Plant (FFP)	Unit Off-line

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	100.0	100.0		100.0
South					

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)	CO ₂ (tons)
Unit 1	4.31	816.4	232.2	
Unit 2	5.56	962.1	292.3	
Unit 3	5.92	810.5	242.6	
Unit 4	0.00	0.0	0.0	
Unit 5	0.00	0.0	0.0	
Unit 6	0.00	0.0	0.0	
SUM	15.79	2 589.0	767.1	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	0	15.3
South	0	0	0	0	0	
SUM	31	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SOx (mg/Nm ³)
North	31	0	0	0	0	2 218.3
South	0	0	0	0	0	
SUM	31	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm ³)
North	31	0	0	0	0	653.5
South	0	0	0	0	0	
SUM	31	0	0	0	0	

Table 6.5: Legend Description


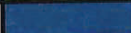
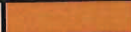
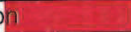
Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contra-vention		Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Grootvlei North Stack PM Emissions - January 2020

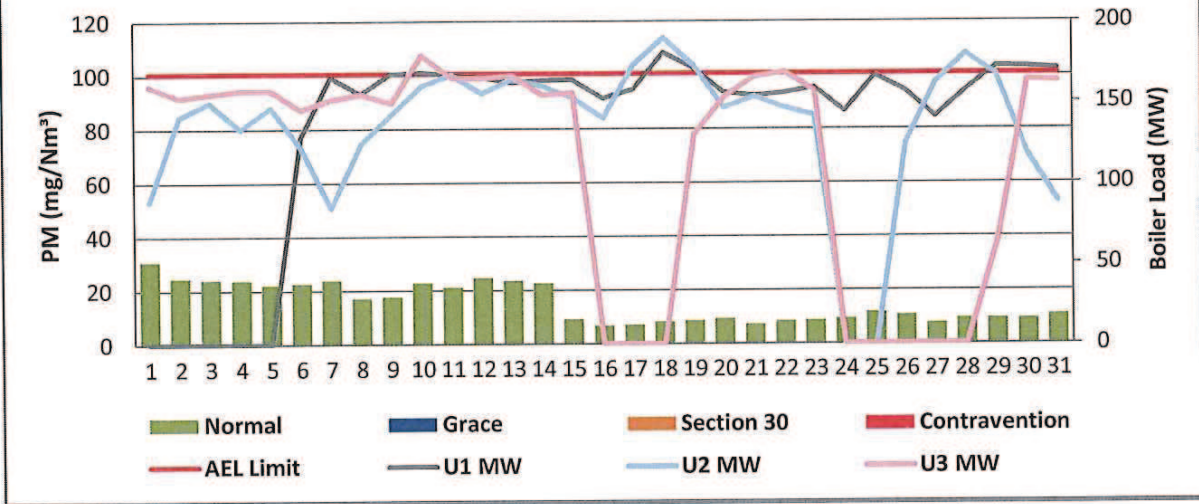


Figure 2: Grootvlei South Stack PM Emissions - January 2020

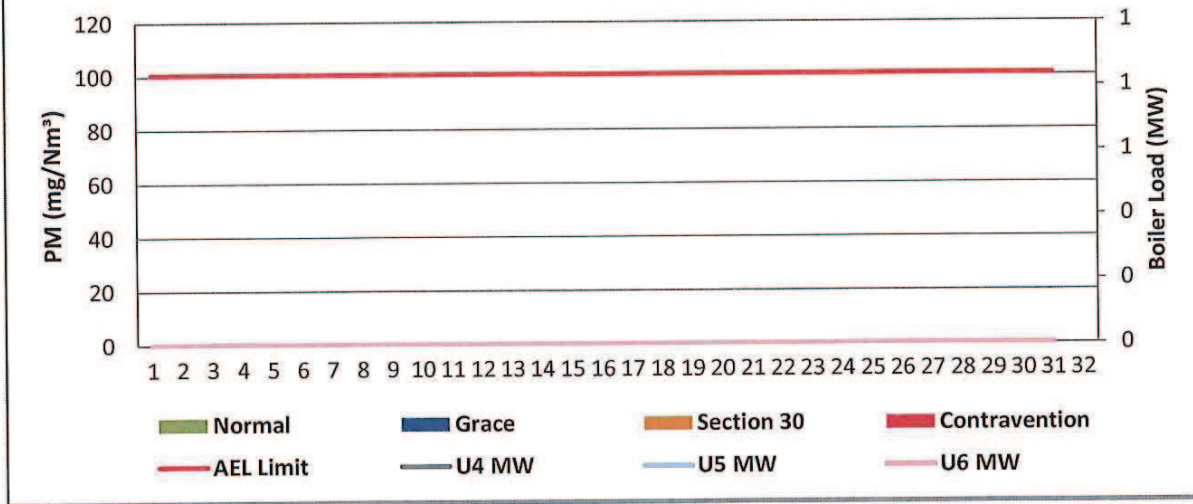


Figure 3: Grootvlei North Stack SOx Emissions - January 2020

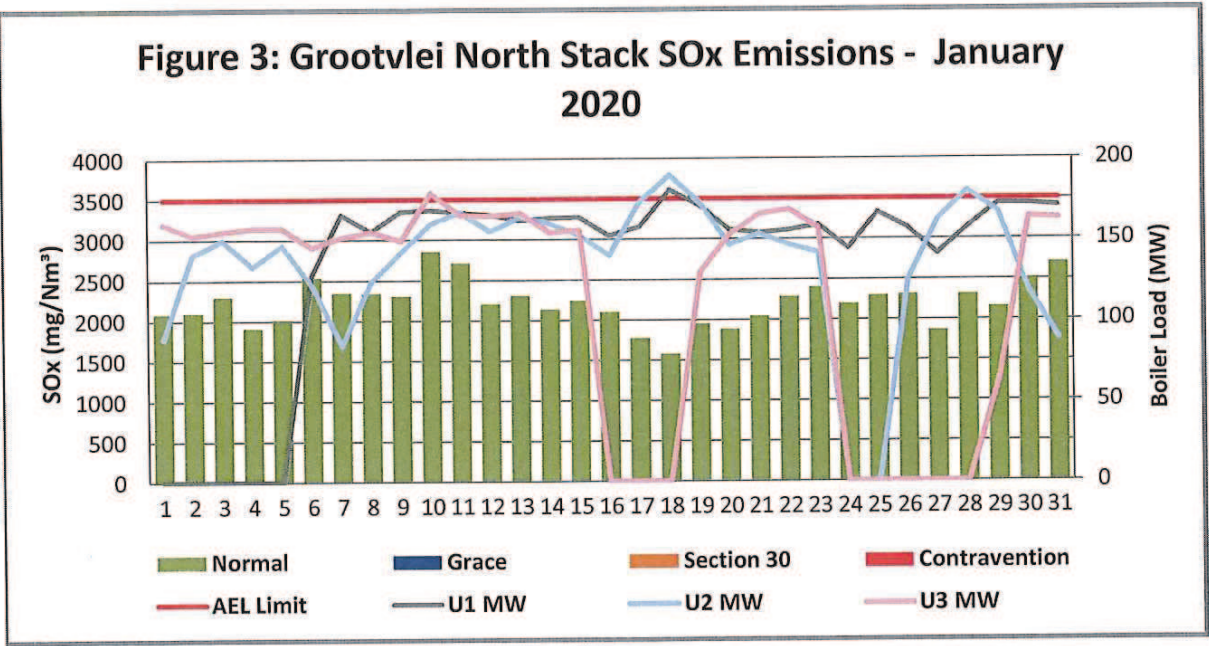


Figure 4: Grootvlei South Stack SOx Emissions - January 2020

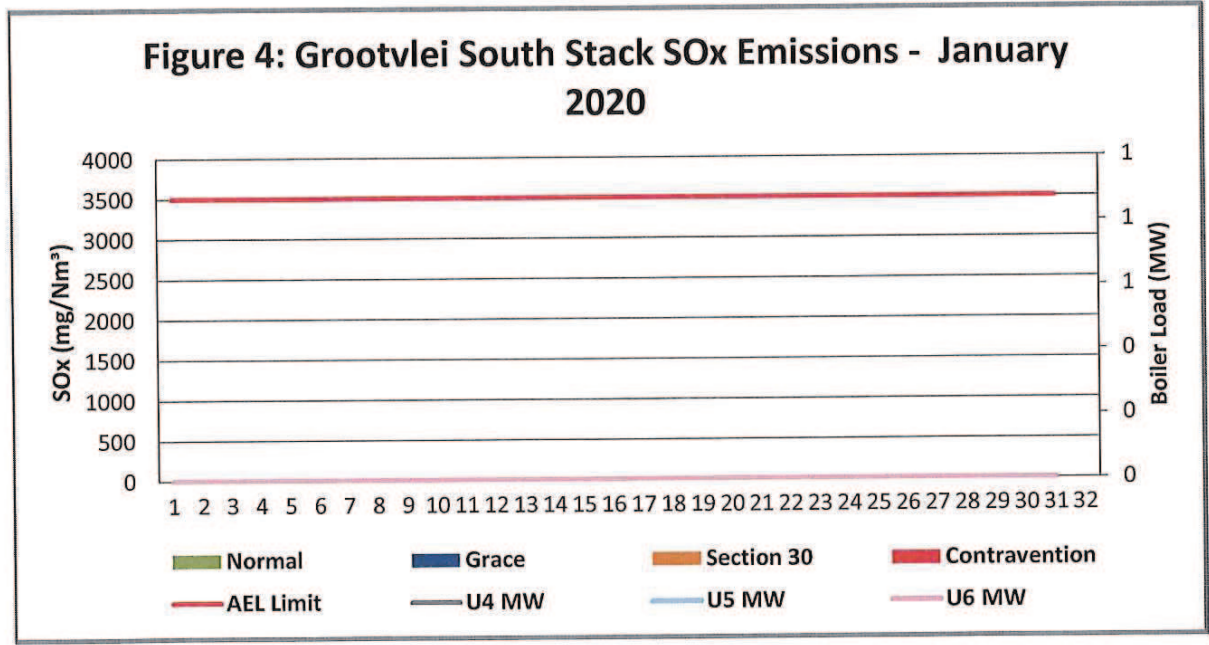


Figure 5: Grootvlei North Stack NOx Emissions - January 2020

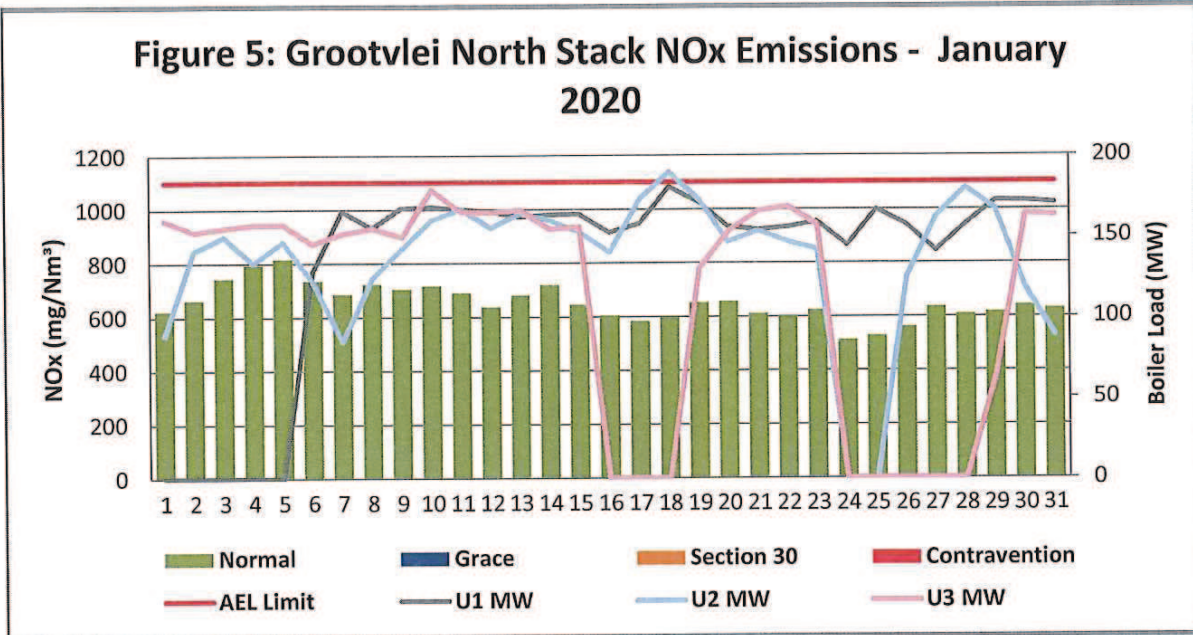
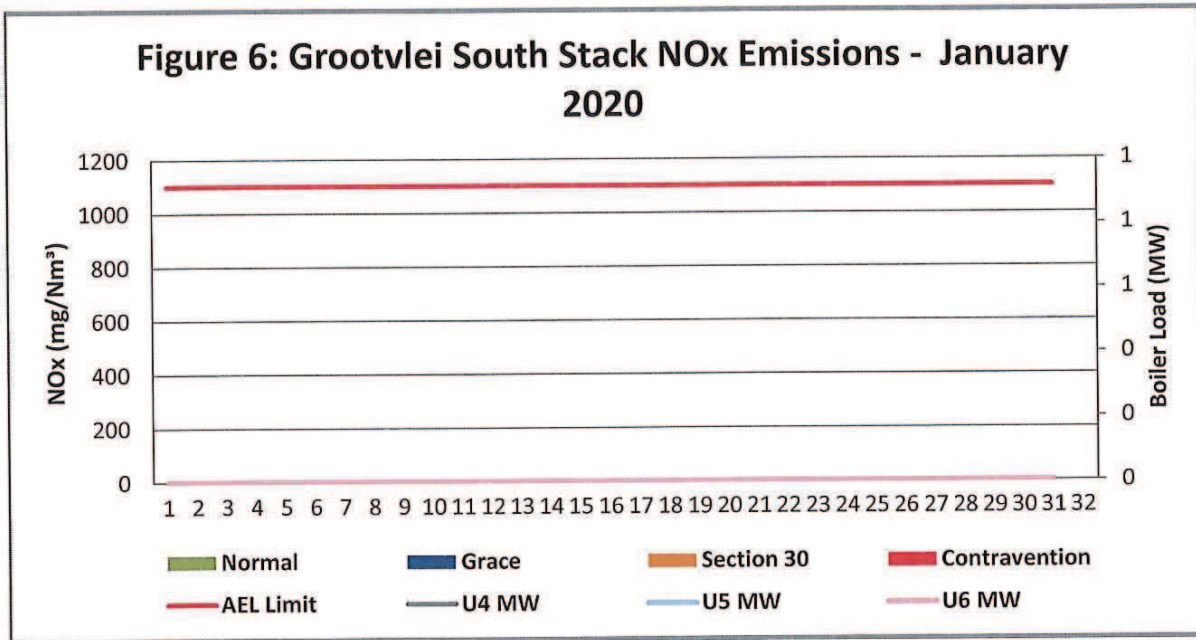


Figure 6: Grootvlei South Stack NOx Emissions - January 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		no event		Unit 2	
Breaker Open (BO)			05:25 AM	2020/01/08	BO previously	BO previously	07:40 AM	2020/01/07
Draught Group (DG) Shut Down (SD)			05:25 AM	2020/01/08	n/a	n/a	08:25 AM	2020/01/07
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM	00:00:45	DD:HH:MM
Fires in time	02:15 PM	2020/01/05	05:25 AM	2020/01/08			02:35 PM	2020/01/07
Synch. to Grid (or BC)	05:25 AM	2020/01/06	09:30 AM	2020/01/08			10:15 PM	2020/01/07
Fires in to BC (duration)	00:15:10	DD:HH:MM	00:04:05	DD:HH:MM		DD:HH:MM	00:07:40	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		DD:HH:MM	n/a	DD:HH:MM

North Stack ...Cont.	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 2		Unit 2		no event		Unit 3	
Breaker Open (BO)	03:20 AM	2020/01/12	11:30 PM	2020/01/23	08:50 AM	2020/01/30	04:55 AM	2020/01/15
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	12:00 AM	2020/01/24	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	n/a	DD:HH:MM	00:00:30	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM
Fires in time	03:20 AM	2020/01/12	07:40 PM	2020/01/25			04:35 AM	2020/01/18
Synch. to Grid (or BC)	09:30 AM	2020/01/12	06:00 AM	2020/01/26			12:35 AM	2020/01/19
Fires in to BC (duration)	00:06:10	DD:HH:MM	00:10:20	DD:HH:MM		DD:HH:MM	00:20:00	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		DD:HH:MM	n/a	DD:HH:MM

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>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 ...Cont.	<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 January-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

South Stack off-line.

Environmental Department Date

Boiler Engineering Date

General Manager Date

Compiled by Boiler Engineering Department

FFP System Engineer

For: Department of Environmental Affairs and Tourism

Chief Air Pollution Control Officer

Copies: Eskom Environmental Management

Group Technology Engineering

Grootvlie Power Station:

- Engineering Manager
- Operating Manager
- Maintenance Manager
- Unit Production Manager
- Boiler Engineering Manager
- System Engineer
- Environmental Officer
- Performance and Test
- Production Manager