



Generation

Gert Sibande District Municipality  
Corner of Joubert & Oosthuise Streets  
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2350

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AND

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**10**

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## GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02

  
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BOILER ENGINEERING MANAGER

14/06/2022

\_\_\_\_\_  
DATE

  
\_\_\_\_\_  
ENGINEERING MANAGER

14/06/2022

\_\_\_\_\_  
DATE

  
\_\_\_\_\_  
ENVIRONMENTAL MANAGER

14/06/2022

\_\_\_\_\_  
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	Maximum Permitted Consumption Rate	Consumption Rate May-2022
	Coal	650 000	168 439.0
	Fuel Oil	18 000	5536.53
Production Rates	Product / By-Product Name	Maximum Production Capacity Permitted	Production Rate May-2022
	Energy	833.28	285.43
	Ash	300 000	51 273
	RE PM	not specified	0.31

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1.2	0.97
Ash Content	%	27 to < 32	30.44

## 3 EMISSION LIMITS (mg/Nm<sup>3</sup>)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO
North	100	3500	1100
South	50	3500	1100

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	
Unit 1	Fabric Filter Plant (FFP)	99.801%
Unit 2	Fabric Filter Plant (FFP)	99.801%
Unit 3	Fabric Filter Plant (FFP)	99.827%
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 <sub>2</sub>	NO	O <sub>2</sub>
North	100.0	97.8	97.8	100.0
South				

## 6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of May-2022

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
Unit 1	30.66	786.9	287.8
Unit 2	31.07	938.1	339.6
Unit 3	26.08	704.8	250.4
Unit 4	0.00	0.0	0.0
Unit 5	0.00	0.0	0.0
Unit 6	0.00	0.0	0.0
<b>SUM</b>	<b>87.81</b>	<b>2 429.8</b>	<b>877.7</b>

Table 6.2: Operating days in compliance to PM AEL Limit - May 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	28	3	0	3	67.3
South	0	0	0	0	
<b>SUM</b>	<b>28</b>	<b>3</b>	<b>0</b>	<b>3</b>	





Table 6.3: Operating days in compliance to SO<sub>x</sub> AEL Limit - May 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	1 751.8
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

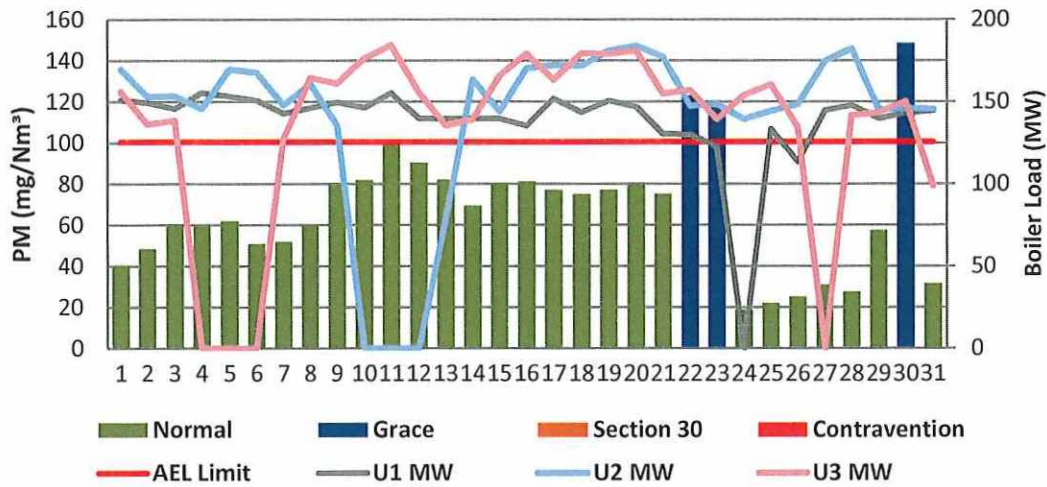
Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - May 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	636.9
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

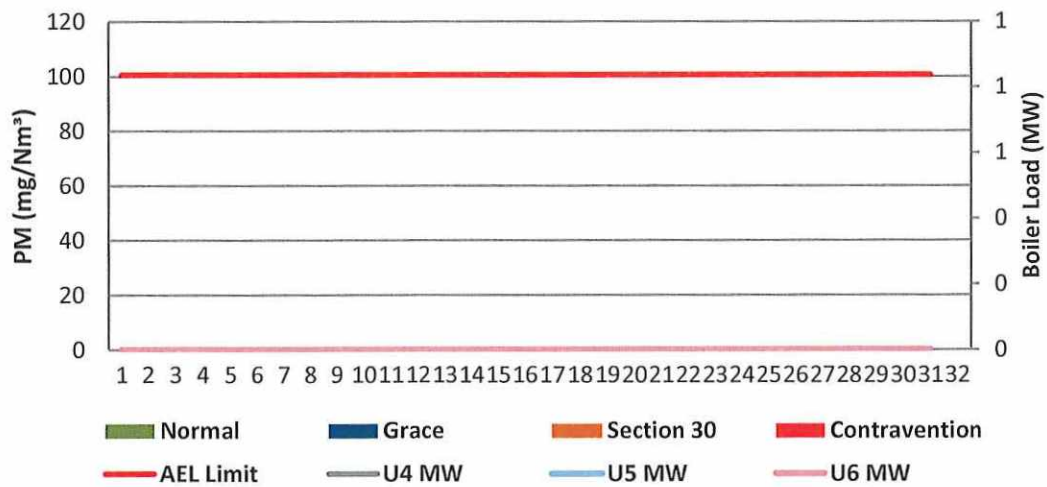
Table 6.5: Legend Description

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		

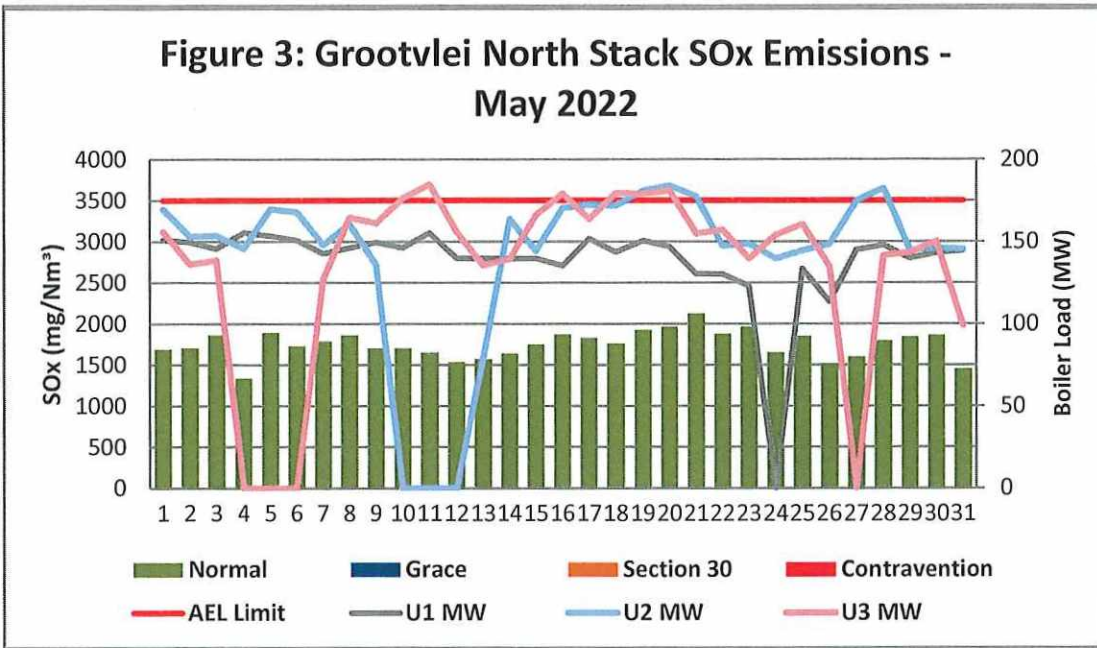
**Figure 1: Grootvlei North Stack PM Emissions - May 2022**



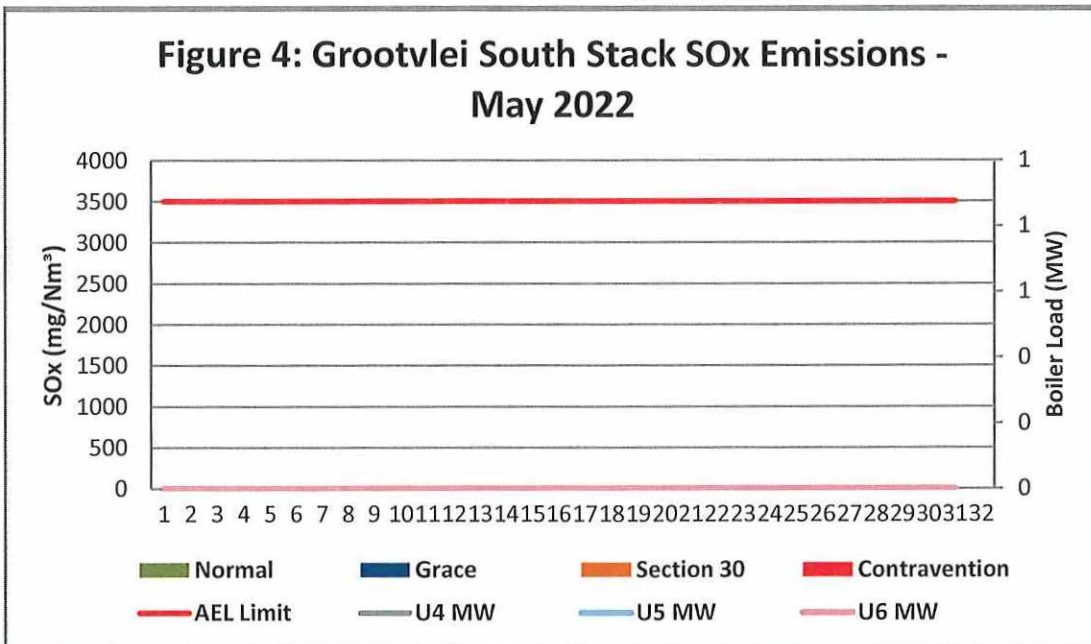
**Figure 2: Grootvlei South Stack PM Emissions - May 2022**



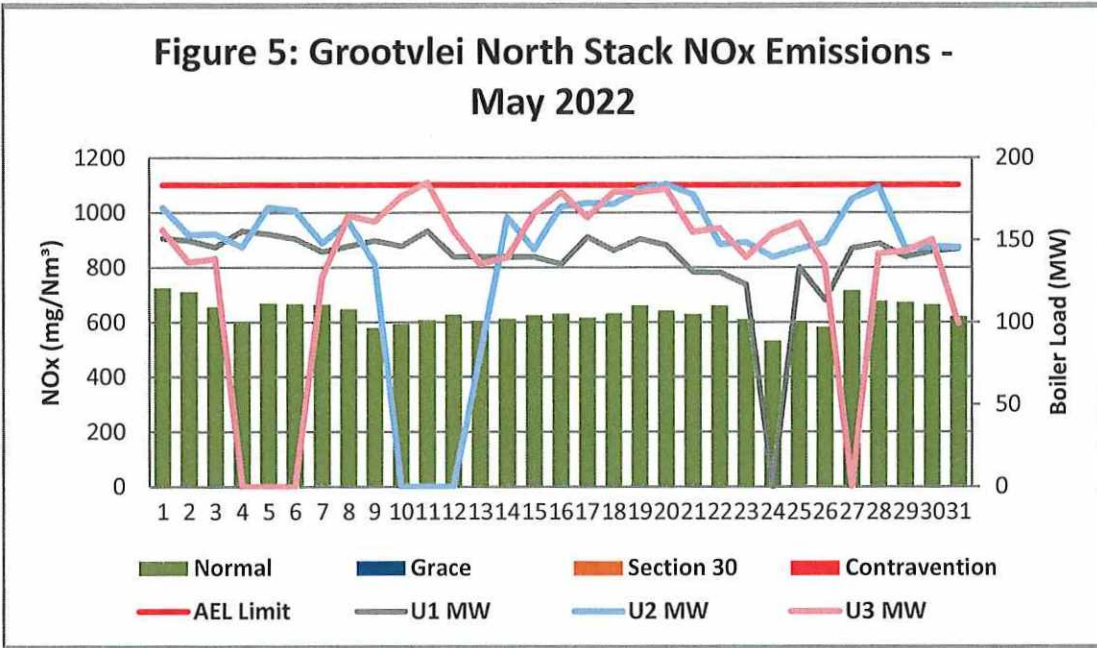
**Figure 3: Grootvlei North Stack SOx Emissions - May 2022**



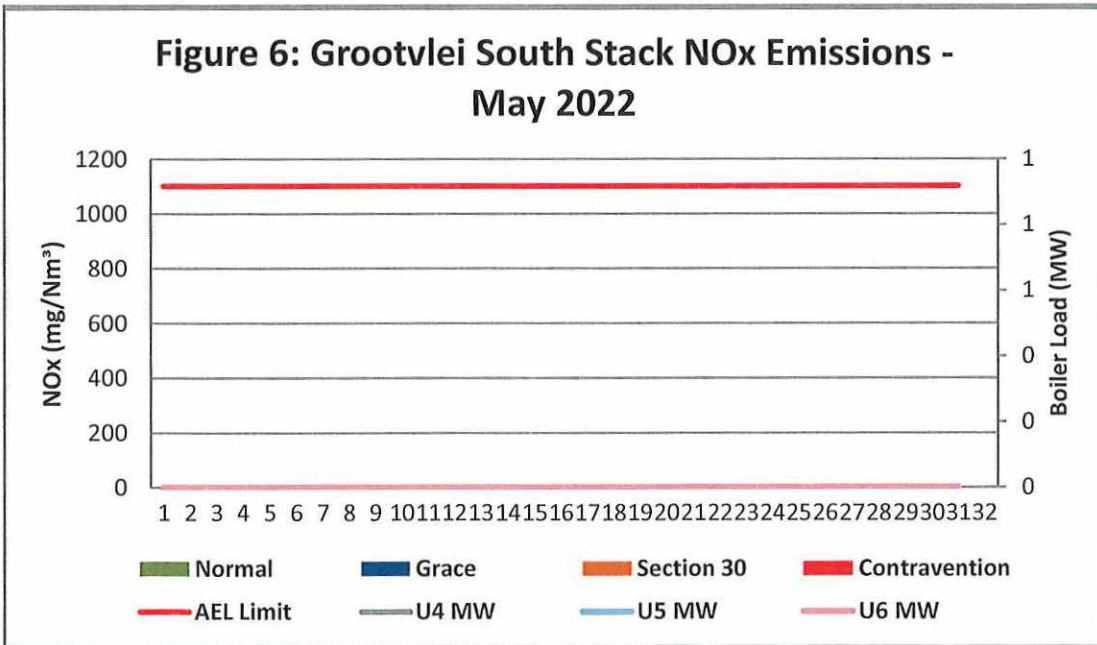
**Figure 4: Grootvlei South Stack SOx Emissions - May 2022**



**Figure 5: Grootvlei North Stack NOx Emissions - May 2022**



**Figure 6: Grootvlei South Stack NOx Emissions - May 2022**



## 7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of May-2022

North Stack	Event 1			Event 3		Event 4	
Unit No.	Unit 1			no event		Unit 2	
Breaker Open (BO)	10:30 PM	23/05/2022	31/05/2022	1:15 PM	04/05/2022	10:40 PM	08/05/2022
Draught Group (DG) Shut Down (SD)	11:10 PM	23/05/2022	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	8:10 AM	10/05/2022
BO to DG SD (duration)	00:00:40	DD:HH:MM	DD:HH:MM	n/a	DD:HH:MM	01:09:30	DD:HH:MM
Fires in time	6:35 PM	24/05/2022				7:20 PM	12/05/2022
Synch. to Grid (or BC)	2:35 AM	25/05/2022				4:50 AM	13/05/2022
Fires in to BC (duration)	00:08:00	DD:HH:MM	DD:HH:MM		DD:HH:MM	00:09:30	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		DD:HH:MM	n/a	DD:HH:MM

North Stack ...Cont.	Event 1			Event 3		Event 4	
Unit No.	no event			Unit 3		Unit 3	
Breaker Open (BO)	11:55 PM	31/05/2022	03/05/2022	2:15 PM	09/05/2022	10:30 AM	26/05/2022
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	04/05/2022	2:25 PM	09/05/2022	11:45 PM	26/05/2022
BO to DG SD (duration)	n/a	DD:HH:MM	DD:HH:MM	00:00:10	DD:HH:MM	00:13:15	DD:HH:MM
Fires in time			06/05/2022	3:25 PM	09/05/2022		
Synch. to Grid (or BC)			07/05/2022	6:15 PM	09/05/2022		
Fires in to BC (duration)		DD:HH:MM	DD:HH:MM	00:02:50	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)			not > limit	not > limit	not > limit		
Emissions below limit from BC (duration)		DD:HH:MM	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM



South Stack	<i>Event 1</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<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 3</i>		<i>Event 4</i>	
Unit No.	<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 May-2022 in mg/Nm<sup>3</sup>**

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



**ADDENDUM TO MONTHLY EMISSIONS REPORT**

**8 EMERGENCY GENERATION**

Emergency Generation *[This is only required for stations that are requested to report on this information]*

Table 8. Emergency Generation per unit for the month of May-2022

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Emergency Generation hours declared by national Control						
Emergency Hours declared including hours after stand down						
Hours over the Limit during Emergency Generation						

**9 COMPLAINTS REGISTER**

Table 9. Complaints for the month of May-2022

Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date measure will be implemented
<i>(Insert name of affected person/source)</i>	<i>(Insert root cause for incident)</i>	<i>(Insert emissions associated with incident)</i>	<i>(Insert dispersion model information where applicable)</i>	<i>(Insert mitigation measures taken)</i>	<i>(Insert date of implementation of mitigation method)</i>

**10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER**

To be completed in the case of a S30 incident or a legal contravention:

Unit no	Incident Start Date	Incident End Date	Incident Cause	Remedial action	Date S30 initial notification sent	Date S30 investigation report sent	Date DEA Acknowledgment	Date DEA Acceptable	Comments / Reference No.

**11 General**

**South Stack off. North stack emissions above 100mg/Nm<sup>3</sup> on 22&23 May due to leaking FFP bags on Unit 1. North Stack emissions above 100mg/Nm<sup>3</sup> on 28 May due to leaking FFP bags on Unit 3.**

Teffo MCJ 14 June 2022  
 Environmental Department Date

Masilo 09/06/2022  
 Boiler Engineering Date

[Signature] 15/06/2022  
 General Manager Date

Compiled by: Boiler Engineering Department FFP System Engineer

For: Department of Environmental Affairs and Tourism Chief Air Pollution Control Officer

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 K Langerman

Group Technology Engineering R Rampiar  
 E. Patel

Grootvlie Power Station: Engineering Manager  
 Operating Manager  
 Maintenance Manager  
 Unit Production Manager  
 Boiler Engineering Manager  
 System Engineer  
 Environmental Officer  
 Performance and Test  
 Production Manager