

**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 May-2021
	Coal	Tons	650 000	189 109,0
	Fuel Oil	Tons	18 000	1608,48
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate May-2021
	Energy	GWh	833,28	301,93
	Ash	Tons	300 000	50 908
	RE PM	kg/MWh	not specified	0,09

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1.2	0,59
Ash Content	%	27 to < 32	26,92

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

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

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency May-2021
Unit 1	<i>Fabric Filter Plant (FFP)</i>	99,939%
Unit 2	<i>Fabric Filter Plant (FFP)</i>	99,945%
Unit 3	<i>Fabric Filter Plant (FFP)</i>	99,948%
Unit 4	<i>Fabric Filter Plant (FFP)</i>	Unit Off-line
Unit 5	<i>Fabric Filter Plant (FFP)</i>	Unit Off-line
Unit 6	<i>Fabric Filter Plant (FFP)</i>	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	99,0	99,5	99,7	100,0
South				

## 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
Unit 1	11,32	1 109,4	246,3
Unit 2	8,72	1 040,7	213,0
Unit 3	5,96	777,5	158,5
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>26,01</b>	<b>2 927,6</b>	<b>617,8</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	30	1	0	0	1	19,8
South	0	0	0	0	0	
<b>SUM</b>	<b>30</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	1 959,4
South	0	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

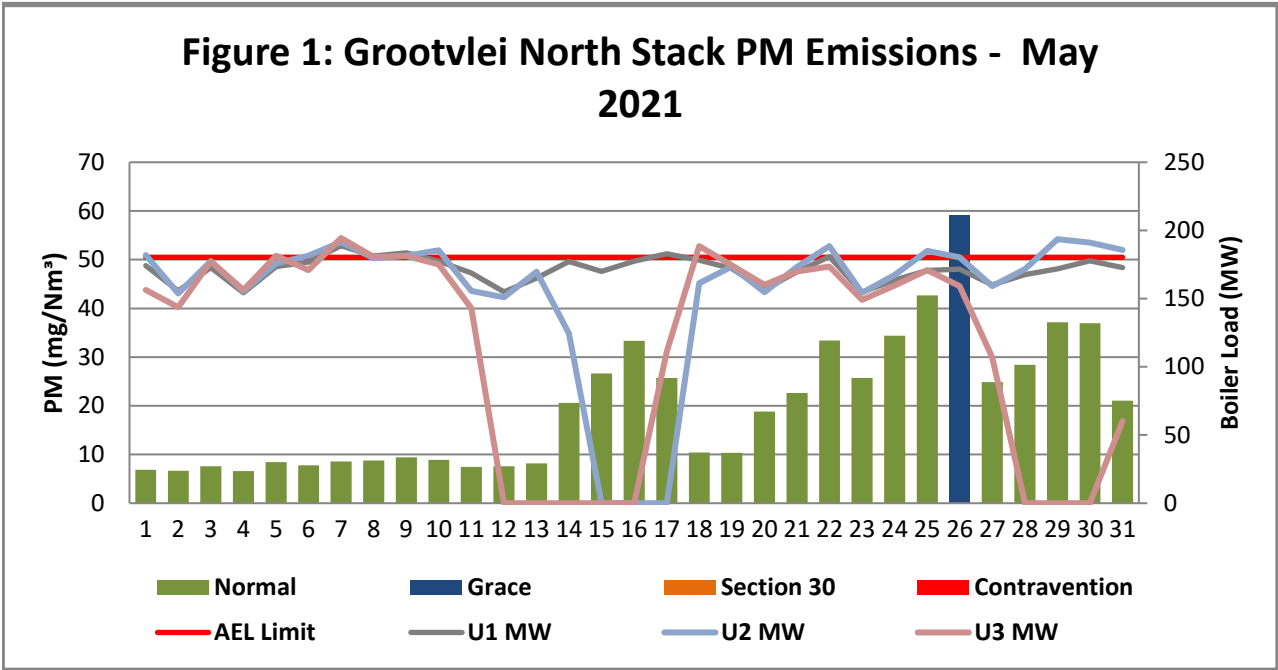
Table 6.4: Operating days in compliance to NOx AEL Limit - May 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	434,0
South	0	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

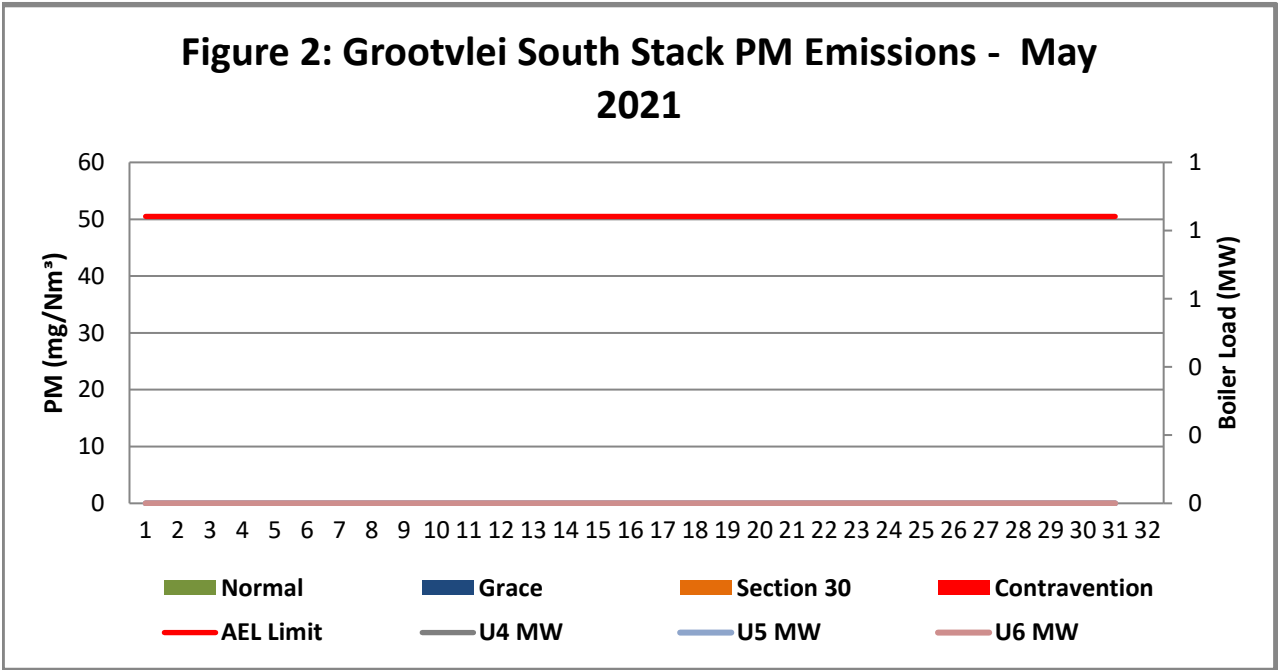
Table 6.5: Legend Description

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
Contra-vention		Emissions above ELV but outside grace or S30 incident conditions

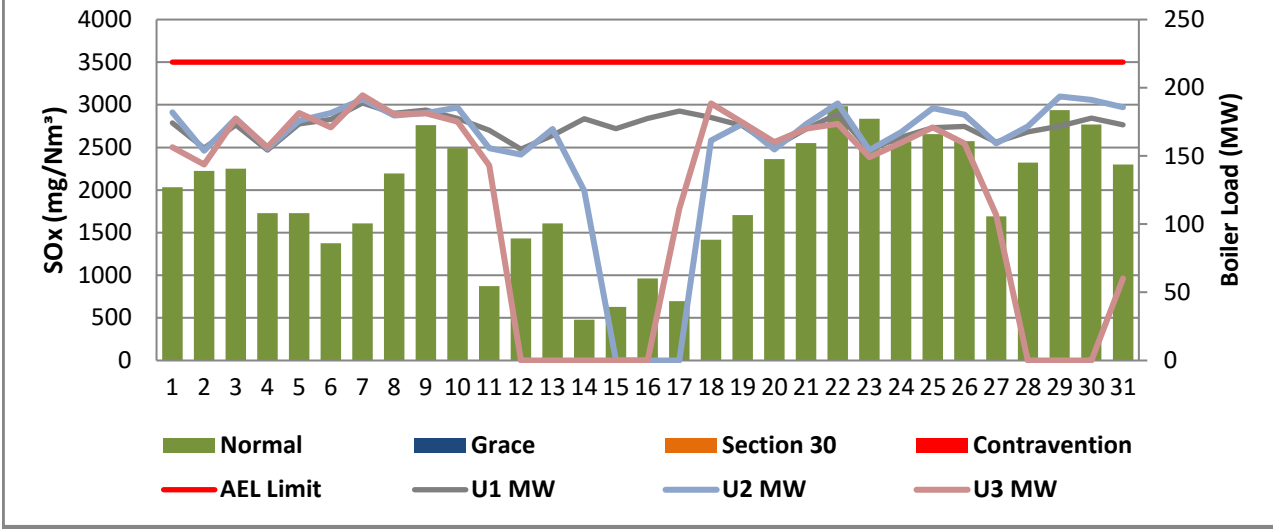
**Figure 1: Grootvlei North Stack PM Emissions - May 2021**



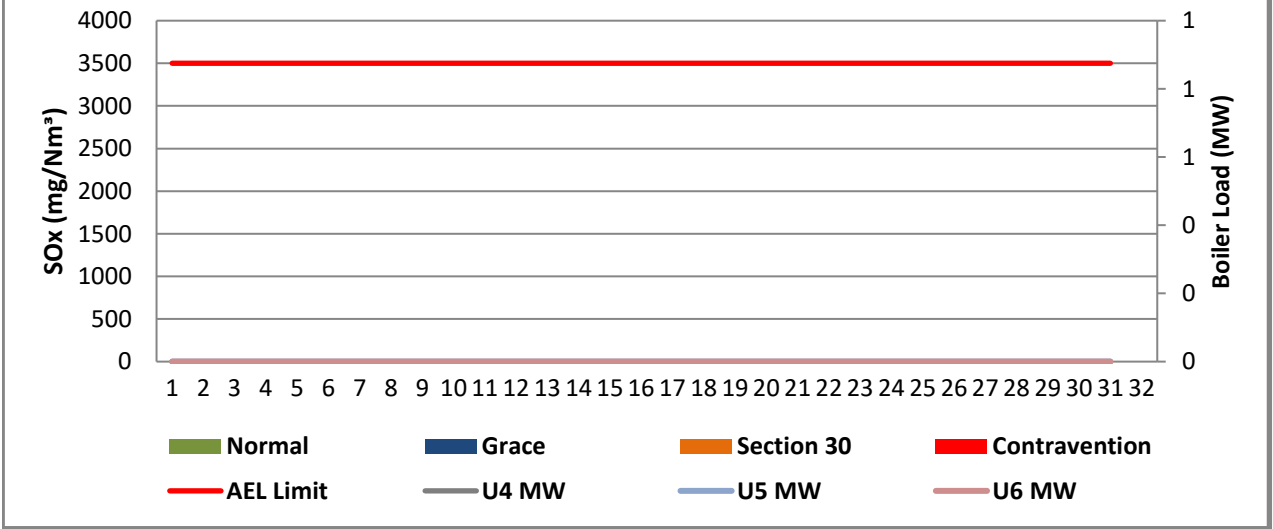
**Figure 2: Grootvlei South Stack PM Emissions - May 2021**



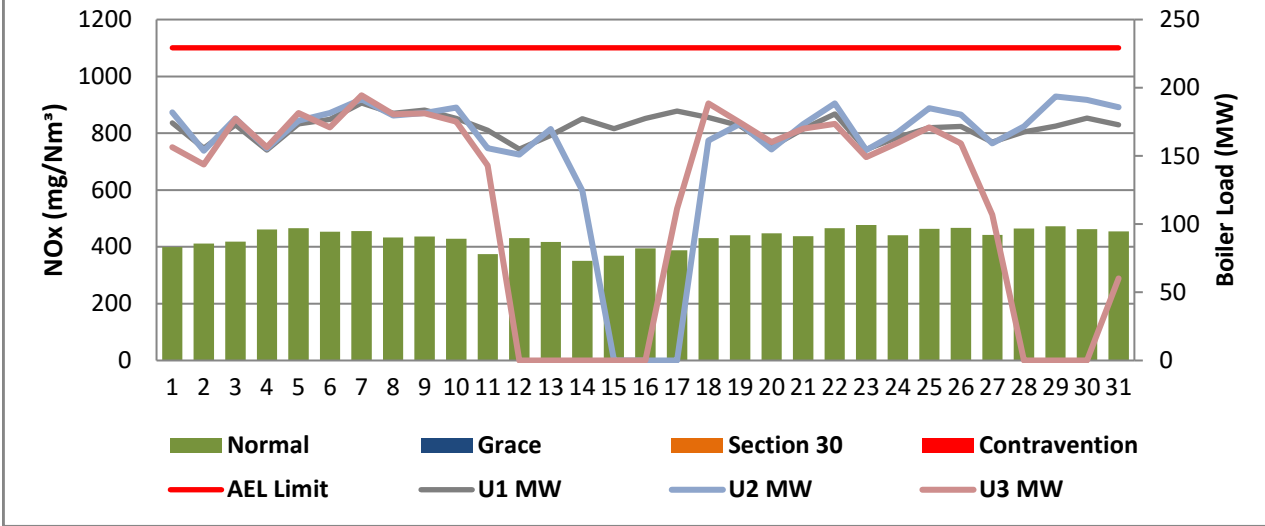
**Figure 3: Grootvlei North Stack SOx Emissions - May 2021**



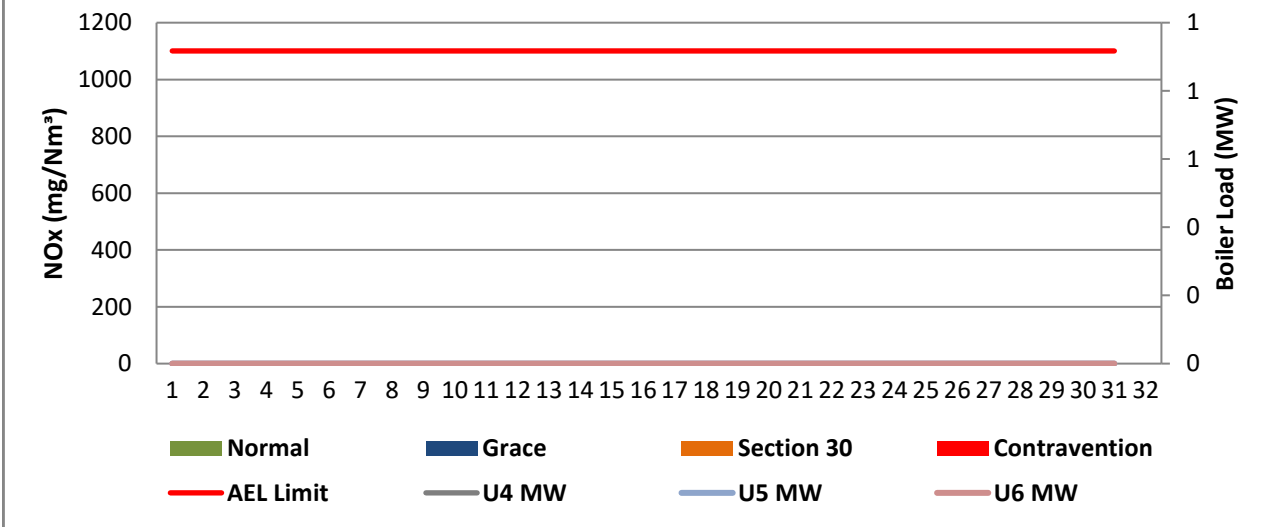
**Figure 4: Grootvlei South Stack SOx Emissions - May 2021**



**Figure 5: Grootvlei North Stack NOx Emissions - May 2021**



**Figure 6: Grootvlei South Stack NOx Emissions - May 2021**



**7 SHUT DOWN AND LIGHT UP INFORMATION**

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

North Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>Unit 2</i>		<i>Unit 2</i>		<i>no event</i>	
Breaker Open (BO)			6:45 am	2021/05/11	2:05 am	2021/05/14		
Draught Group (DG) Shut Down (SD)			<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	6:45 pm	2021/05/14		
BO to DG SD (duration)		DD:HH:MM	<i>n/a</i>	DD:HH:MM	00:16:40	DD:HH:MM		DD:HH:MM
Fires in time			6:45 am	2021/05/11	11:25 am	2021/05/17		
Synch. to Grid (or BC)			1:40 pm	2021/05/11	2:45 am	2021/05/18		
Fires in to BC (duration)		DD:HH:MM	00:06:55	DD:HH:MM	00:15:20	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)			<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>		
Emissions below limit from BC (duration)		DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM

North Stack ...Cont.	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 3</i>		<i>Unit 3</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	4:50 am	2021/05/11	1:55 am	2021/05/27				
Draught Group (DG) Shut Down (SD)	6:40 pm	2021/05/11	9:55 am	2021/05/27				
BO to DG SD (duration)	00:13:50	DD:HH:MM	00:08:00	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	3:20 am	2021/05/17	7:55 pm	2021/05/30				
Synch. to Grid (or BC)	4:05 pm	2021/05/17	5:35 pm	2021/05/31				
Fires in to BC (duration)	00:12:45	DD:HH:MM	00:21:40	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>				
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM		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 May-2021 in mg/Nm<sup>3</sup>**

**[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.

  
2021/06/15  
Environmental Department Date

  
15-06-2021  
Boiler Engineering Date

pp   
19/08/2021  
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

D Herbst  
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