

**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 Feb-2022
	Coal	<i>650 000</i>	<i>122 008.6</i>
	Fuel Oil	<i>18 000</i>	<i>5565.66</i>
Production Rates	Product / By-Product Name	Maximum Production Capacity Permitted	Production Rate Feb-2022
	Energy	<i>752.64</i>	<i>186.95</i>
	Ash	<i>300 000</i>	<i>34 260</i>
	RE PM	<i>not specified</i>	<i>0.13</i>

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1.2	0.90
Ash Content	%	27 to < 32	28.08

## 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)	99.872%
Unit 2	Fabric Filter Plant (FFP)	99.985%
Unit 3	Fabric Filter Plant (FFP)	99.916%
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	99.7	97.8	97.8	98.1
South				

## 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
Unit 1	16.27	656.9	229.4
Unit 2	1.39	242.7	77.8
Unit 3	7.57	615.9	203.0
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>25.23</b>	<b>1 515.6</b>	<b>510.2</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	35.8
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.3: Operating days in compliance to SOx AEL Limit - February 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	1 628.4
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

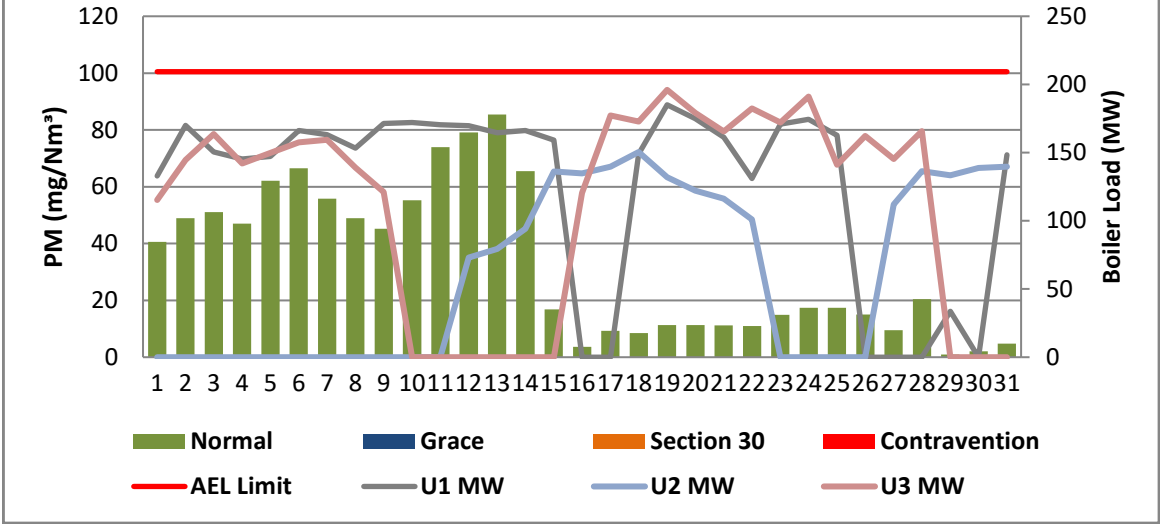
Table 6.4: Operating days in compliance to NOx AEL Limit - February 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
North	31	0	0	0	573.4
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

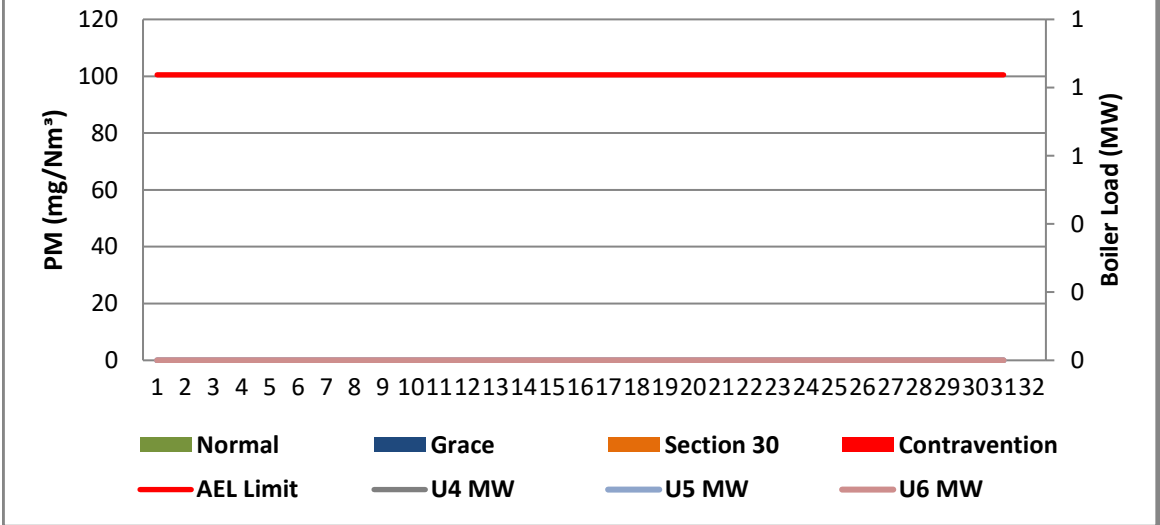
Table 6.5: Legend Description

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		

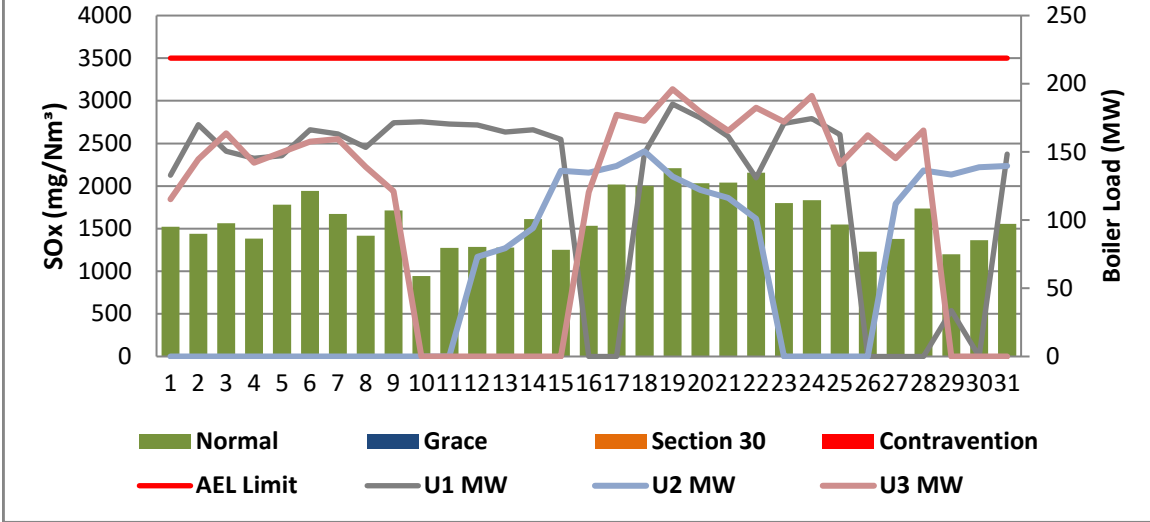
**Figure 1: Grootvlei North Stack PM Emissions - February 2022**



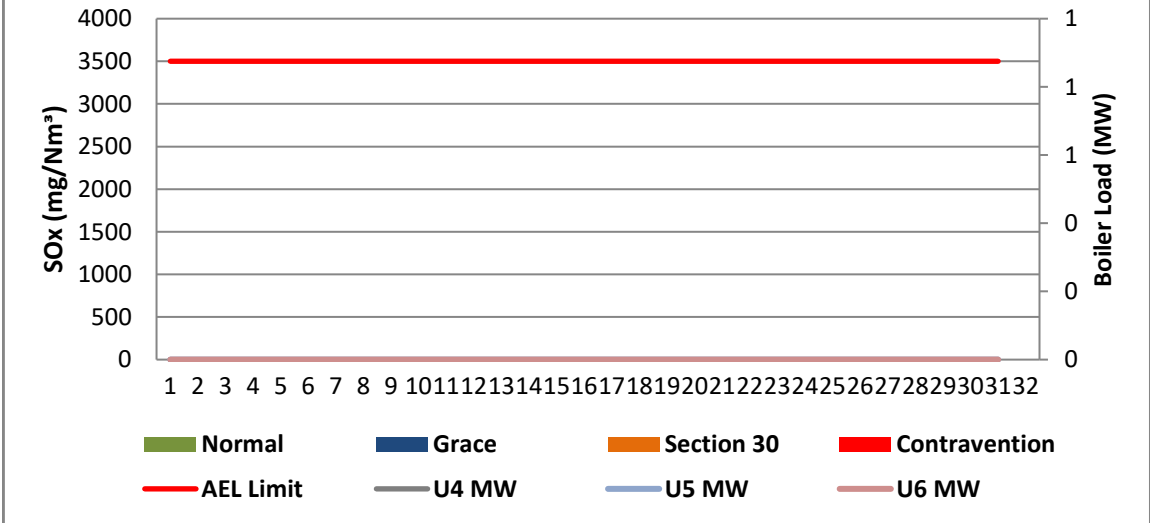
**Figure 2: Grootvlei South Stack PM Emissions - February 2022**



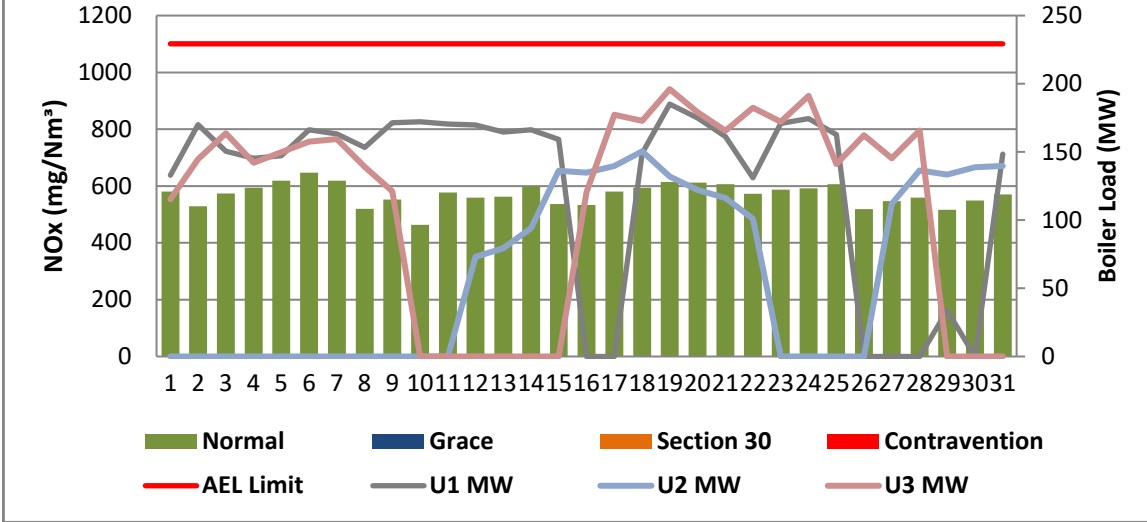
**Figure 3: Grootvlei North Stack SOx Emissions - February 2022**



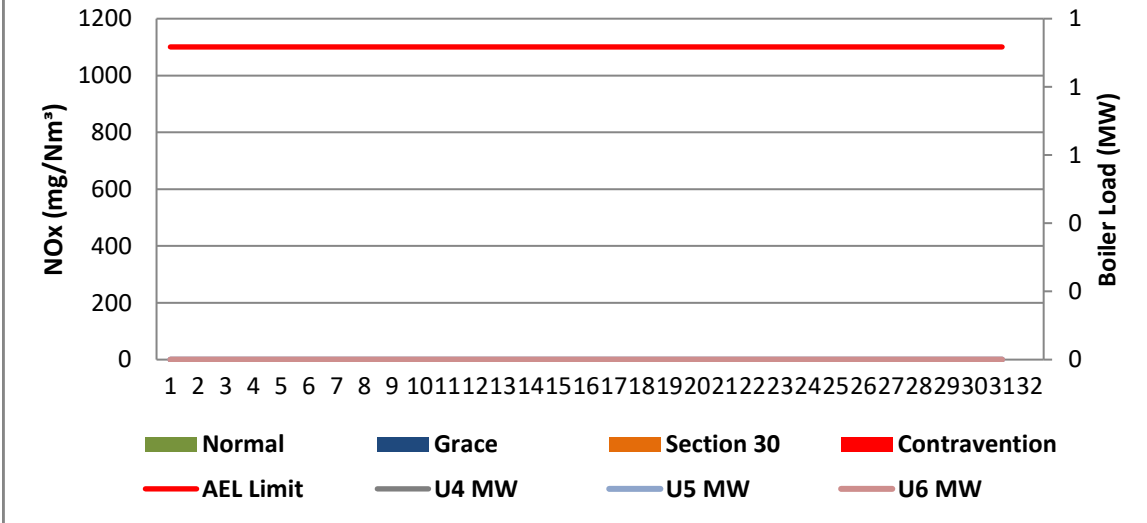
**Figure 4: Grootvlei South Stack SOx Emissions - February 2022**



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



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



## 7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1			Event 3		Event 4	
Unit No.	Unit 1			Unit 2		Unit 2	
Breaker Open (BO)	5:30 AM	15/02/2022	25/02/2022	BO previously	BO previously	9:55 PM	22/02/2022
Draught Group (DG) Shut Down (SD)	4:25 PM	15/02/2022	26/02/2022	n/a	n/a	10:30 AM	23/02/2022
BO to DG SD (duration)	00:10:55	DD:HH:MM	DD:HH:MM	n/a	DD:HH:MM	00:12:35	DD:HH:MM
Fires in time	12:45 PM	17/02/2022	28/02/2022	8:00 AM	13/02/2022	12:45 AM	27/02/2022
Synch. to Grid (or BC)	3:45 AM	18/02/2022		3:55 PM	13/02/2022	2:05 PM	27/02/2022
Fires in to BC (duration)	00:15:00	DD:HH:MM	DD:HH:MM	00:07:55	DD:HH:MM	00:13:20	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	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	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)	12:30 PM	02/02/2022	08/02/2022	12:00 AM	10/02/2022	8:35 PM	25/02/2022
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	8:45 AM	10/02/2022	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	n/a	DD:HH:MM	DD:HH:MM	00:08:45	DD:HH:MM	n/a	DD:HH:MM
Fires in time				7:50 AM	16/02/2022		
Synch. to Grid (or BC)				2:35 PM	16/02/2022		
Fires in to BC (duration)		DD:HH:MM	DD:HH:MM	00:06:45	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)				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 February-2022 in mg/Nm<sup>3</sup>**

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



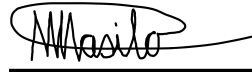
Remember to add attachments here; see ReportAddendum Tab


Reserved for Addendum XXXX

11 General

South Stack off.

  
Environmental Department      2022/03/11  
Date

  
Boiler Engineering      08/03/2022  
Date

 pp      11/03/2022  
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