



Generation

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

Attention:

Mr D Hlanyane

AND

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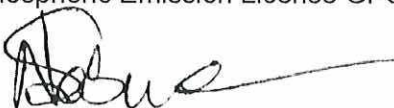
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GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02



BOILER ENGINEERING MANAGER

2022/05/10

DATE

pp M Malebana *MMalebana*

ENGINEERING MANAGER

2022/05/11

DATE



ENVIRONMENTAL MANAGER

2022/05/11

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 Apr-2022
	Coal	650 000	132 487.0
Fuel Oil	18 000	4858.1	
Production Rates	Product / By-Product Name	Maximum Production Capacity Permitted	Production Rate Apr-2022
	Energy	806.4	220.66
	Ash	300 000	40 727
	RE PM	not specified	0.15

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1.2	1.11
Ash Content	%	27 to < 32	30.74

3 EMISSION LIMITS (mg/Nm³)

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

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	
Unit 1	Fabric Filter Plant (FFP)	99.897%
Unit 2	Fabric Filter Plant (FFP)	99.889%
Unit 3	Fabric Filter Plant (FFP)	99.936%
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	O ₂
North	97.9	97.3	97.3	97.8
South				

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO ₂ (tons)
Unit 1	14.52	738.4	254.9
Unit 2	10.92	482.2	180.2
Unit 3	8.21	632.6	213.9
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	33.65	1 853.2	649.0

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm ³)
North	28	0	0	0	35.8
South	0	0	0	0	
SUM	28	0	0	0	

Table 6.3: Operating days in compliance to SO_x AEL Limit - April 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO _x (mg/Nm ³)
North	29	0	0	0	1 799.8
South	0	0	0	0	
SUM	29	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - April 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO _x (mg/Nm ³)
North	29	0	0	0	621.1
South	0	0	0	0	
SUM	29	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		

Figure 1: Grootvlei North Stack PM Emissions - April 2022

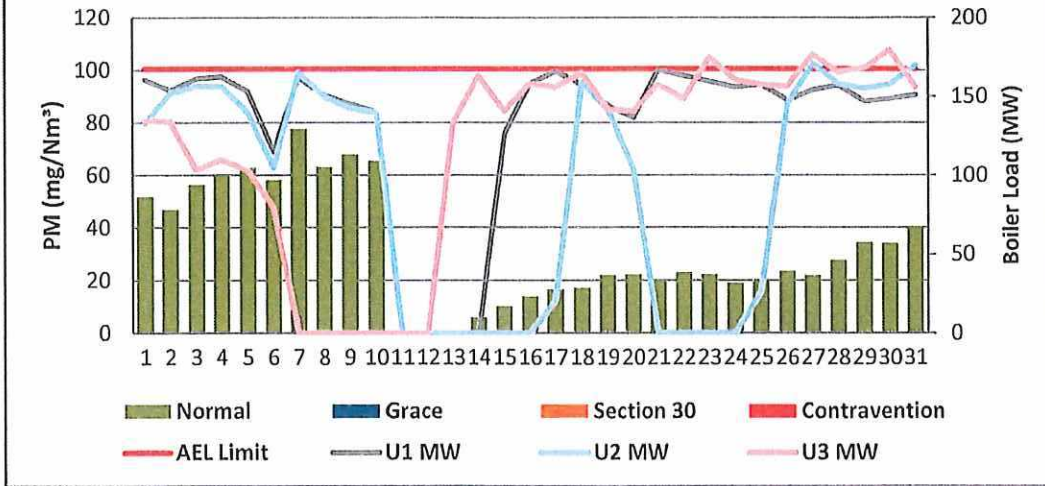


Figure 2: Grootvlei South Stack PM Emissions - April 2022

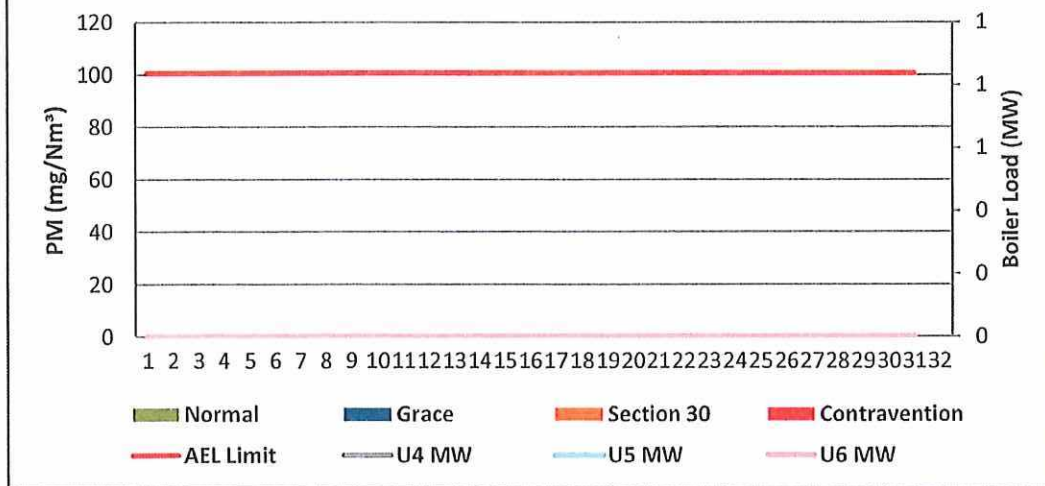


Figure 3: Grootvlei North Stack SOx Emissions - April 2022

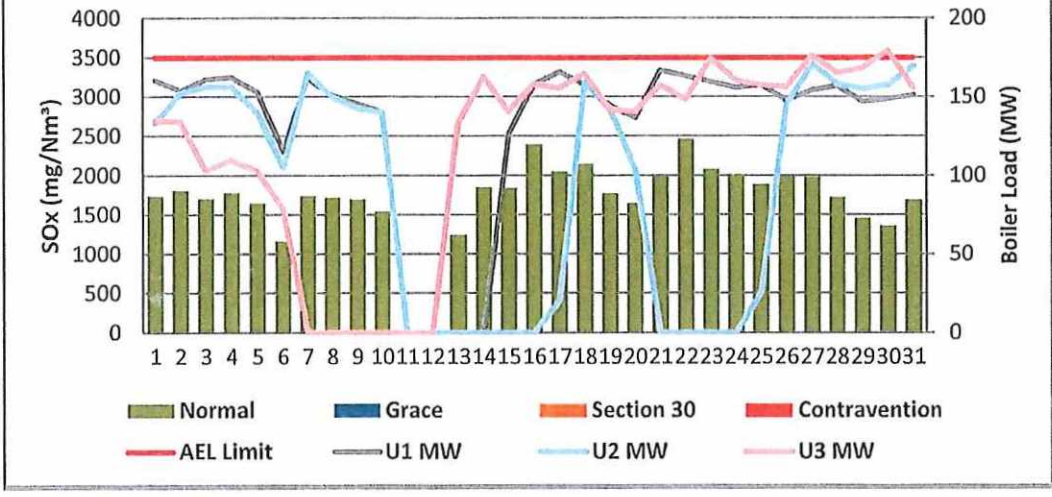


Figure 4: Grootvlei South Stack SOx Emissions - April 2022

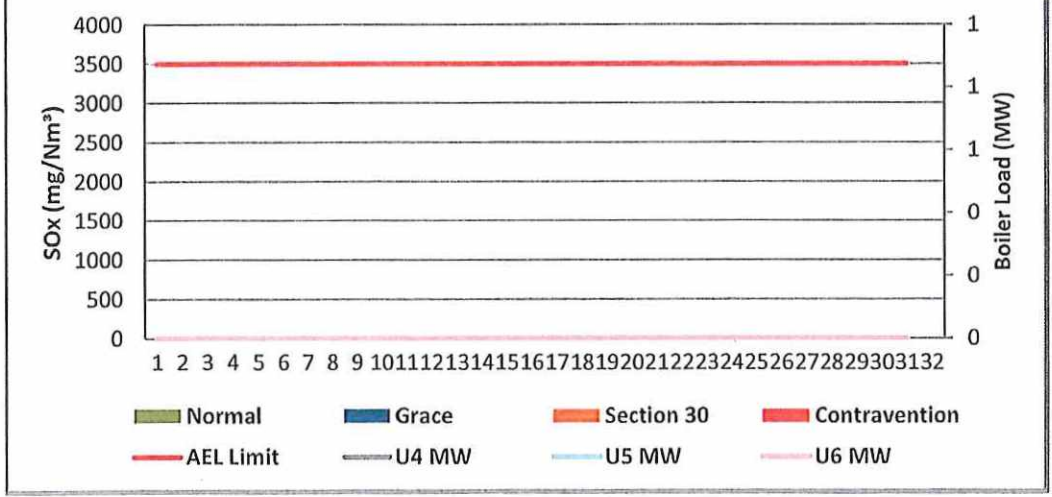


Figure 5: Grootvlei North Stack NOx Emissions - April 2022

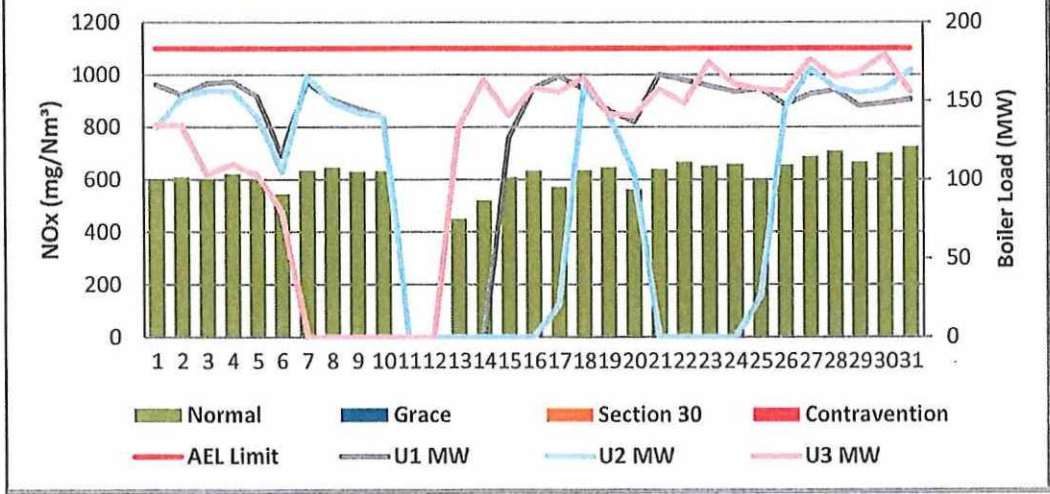
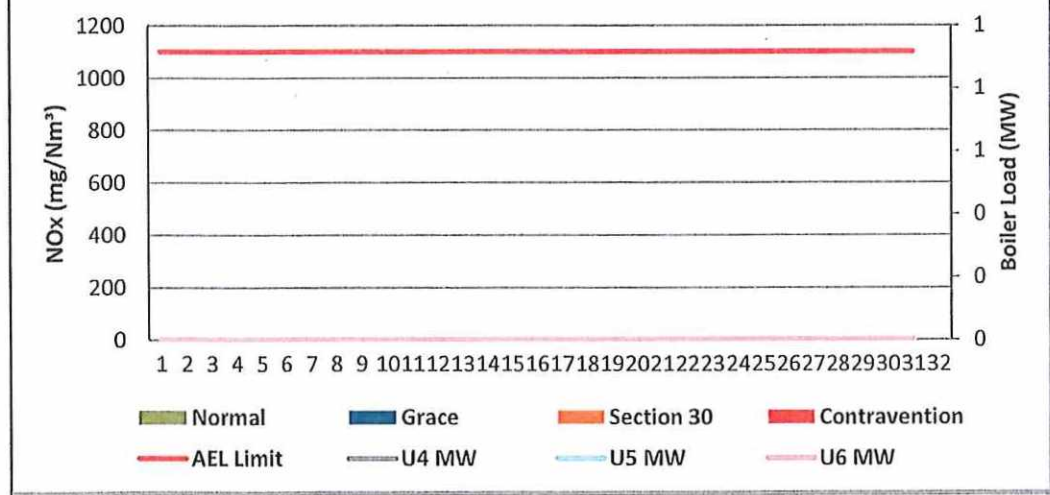


Figure 6: Grootvlei South Stack NOx Emissions - April 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1			Event 3		Event 4	
Unit No.	Unit 1			Unit 2		Unit 2	
Breaker Open (BO)	10:55 AM	10/04/2022	17/04/2022	10:35 AM	01/04/2022	10:55 AM	10/04/2022
Draught Group (DG) Shut Down (SD)	9:35 PM	10/04/2022	DG did not trip or SD	11:20 AM	01/04/2022	9:55 PM	10/04/2022
BO to DG SD (duration)	00:10:40	DD:HH:MM	DD:HH:MM	00:00:45	DD:HH:MM	00:11:00	DD:HH:MM
Fires in time	4:40 PM	14/04/2022		11:25 AM	01/04/2022	12:25 AM	17/04/2022
Synch. to Grid (or BC)	3:55 AM	15/04/2022		5:25 PM	01/04/2022	11:35 PM	17/04/2022
Fires in to BC (duration)	00:11:15	DD:HH:MM	DD:HH:MM	00:06:00	DD:HH:MM	00:23:10	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	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

North Stack ...Cont.	Event 1			Event 3		Event 4	
Unit No.	Unit 2			Unit 3		Unit 3	
Breaker Open (BO)	10:55 AM	20/04/2022	02/04/2022	6:40 AM	06/04/2022		
Draught Group (DG) Shut Down (SD)	10:40 PM	20/04/2022	02/04/2022	8:15 PM	06/04/2022		
BO to DG SD (duration)	00:11:45	DD:HH:MM	DD:HH:MM	00:13:35	DD:HH:MM		DD:HH:MM
Fires in time	10:40 AM	25/04/2022	02/04/2022	2:05 PM	12/04/2022		
Synch. to Grid (or BC)	11:05 PM	25/04/2022	03/04/2022	12:55 AM	13/04/2022		
Fires in to BC (duration)	00:12:25	DD:HH:MM	DD:HH:MM	00:10:50	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	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		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 April-2022 in mg/Nm³

[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 April-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 April-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

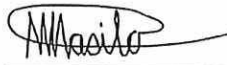
To be completed in the case of a S30 incident or a legal contravention:

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.


 Environmental Department 10/05/2022
 Date


 Boiler Engineering 10/05/2022
 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

D Herbst
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Group Technology Engineering

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Grootvlie Power Station:

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