



Generation

Gert Sibande District Municipality
Corner of Joubert & Oosthuise Streets
Ermelo
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Attention:

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AND

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Total number of pages:

10

Total number of annexes:

GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02



BOILER ENGINEERING MANAGER



ENGINEERING MANAGER



ENVIRONMENTAL MANAGER

2025/06/25

DATE

2025/06/25

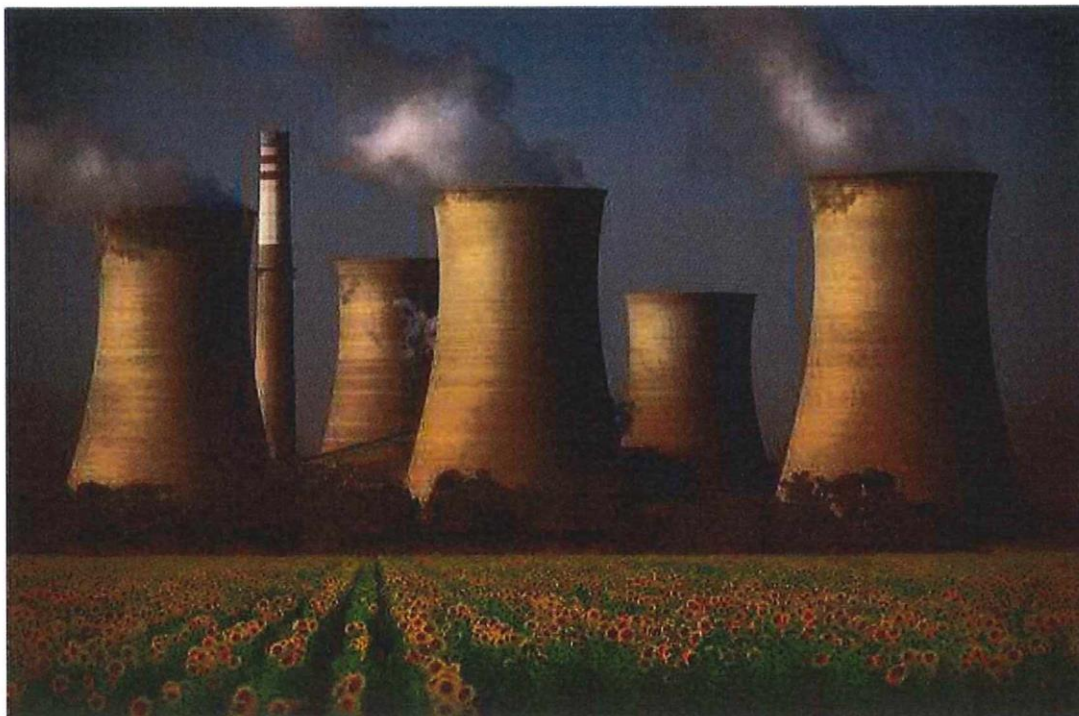
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GROOTVLEI POWER STATION MONTHLY EMISSIONS REPORT

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-2025
	Coal	Tons	650 000	113 767.5
	Fuel Oil	Tons	20 000	3751.28
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Indicative Production Rate May-2025
	Energy	GWh	892.8	186.83
	Ash	Tons	300 000	29 681
	RE PM	kg/MWh	not specified	0.16

Note: Maximum energy production is calculated as: (200MW x 6 Units) x 24hrs x Days in month / 1000 = GWh.

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	19.91
Sulphur Content	%	< 1.46	0.77
Ash Content	%	< 24.7 - 38.1	26.09

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	Efficiency
Unit 1	Fabric Filter Plant (FFP)	99.860%
Unit 2	Fabric Filter Plant (FFP)	99.897%
Unit 3	Fabric Filter Plant (FFP)	98.779%
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	100.0	73.8	70.0	38.8
South				

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of May-2025

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	15.10	780.9	161.2
Unit 2	14.97	901.8	195.7
Unit 3	0.31	58.5	20.0
Unit 4	0.00	0.0	0.0
Unit 5	0.00	0.0	0.0
Unit 6	0.00	0.0	0.0
SUM	30.37	1 741.2	377.0

Table 6.2: Operating days in compliance to PM AEL Limit - May 2025

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	30.5
South	0	0	0	0	
SUM	31	0	0	0	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - May 2025

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO ₂ (mg/Nm ³)
North	31	0	0	0	1 735.9
South	0	0	0	0	
SUM	31	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - May 2025

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO _x (mg/Nm ³)
North	31	0	0	0	373.7
South	0	0	0	0	
SUM	31	0	0	0	

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂

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 St. PM Emissions - May 2025

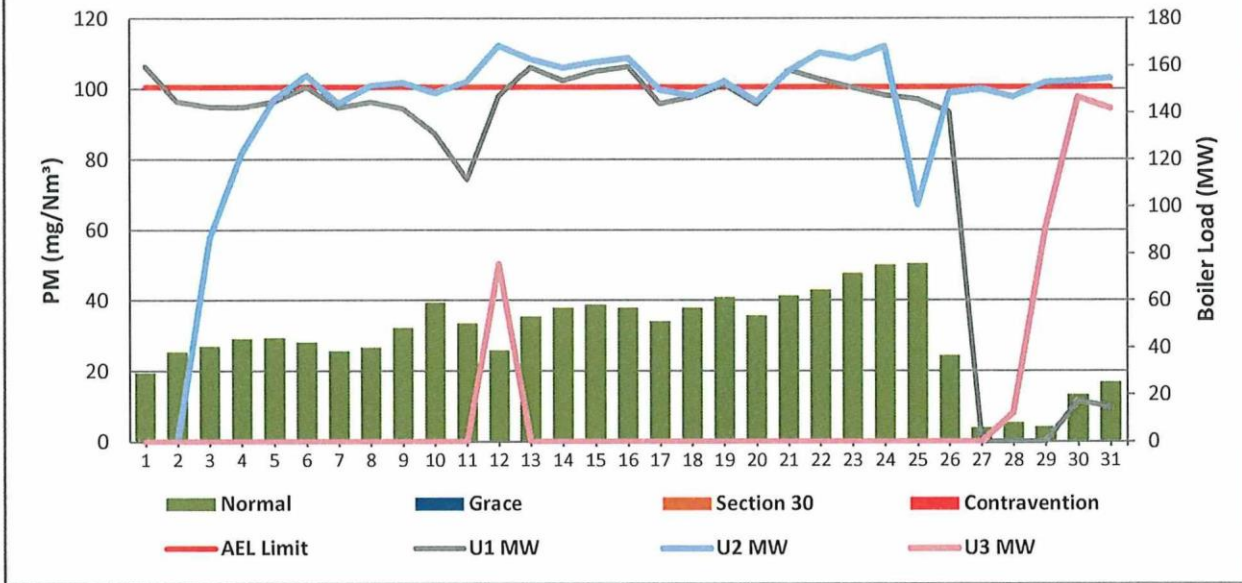


Figure 2: Grootvlei South St. PM Emissions - May 2025

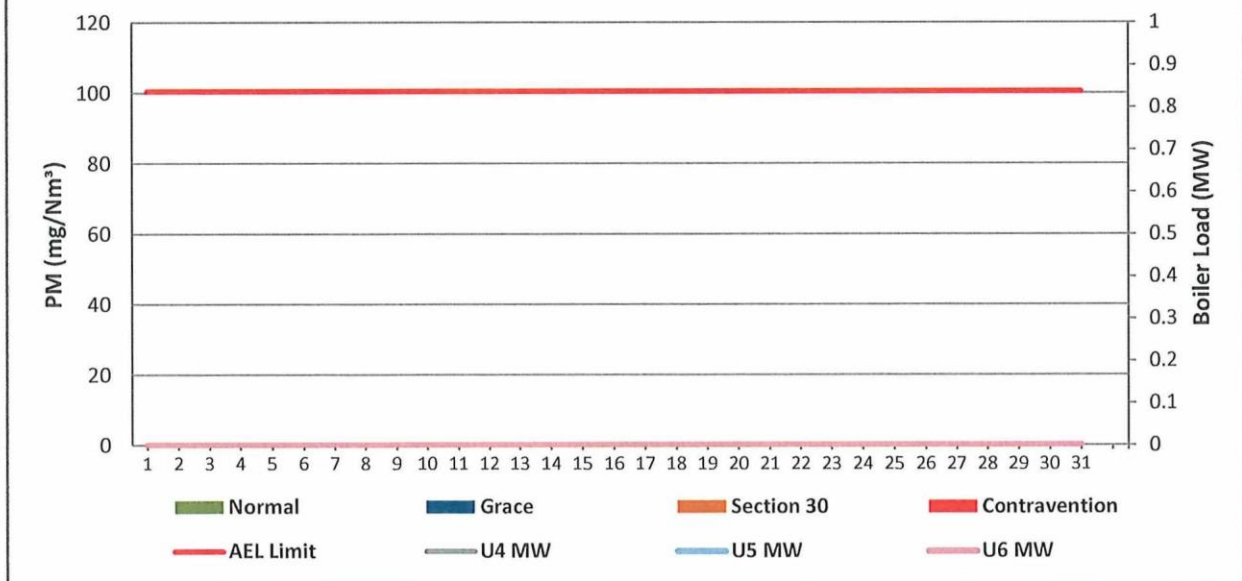


Figure 3: Grootvlei North St. SO₂ Emissions - May 2025

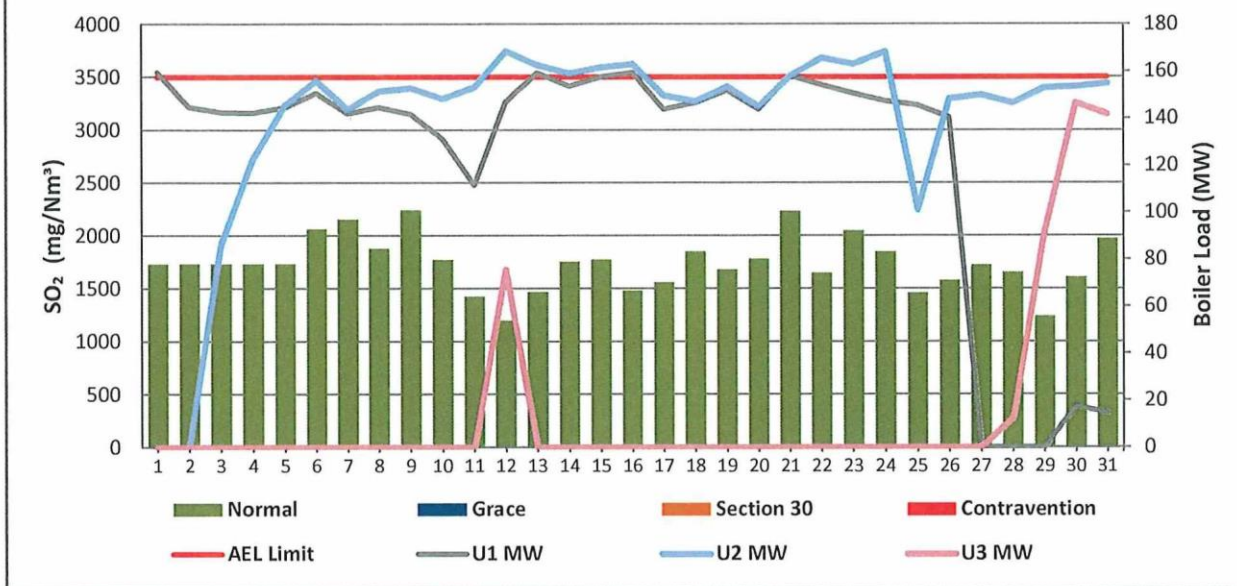


Figure 4: Grootvlei South St. SO₂ Emissions - May 2025

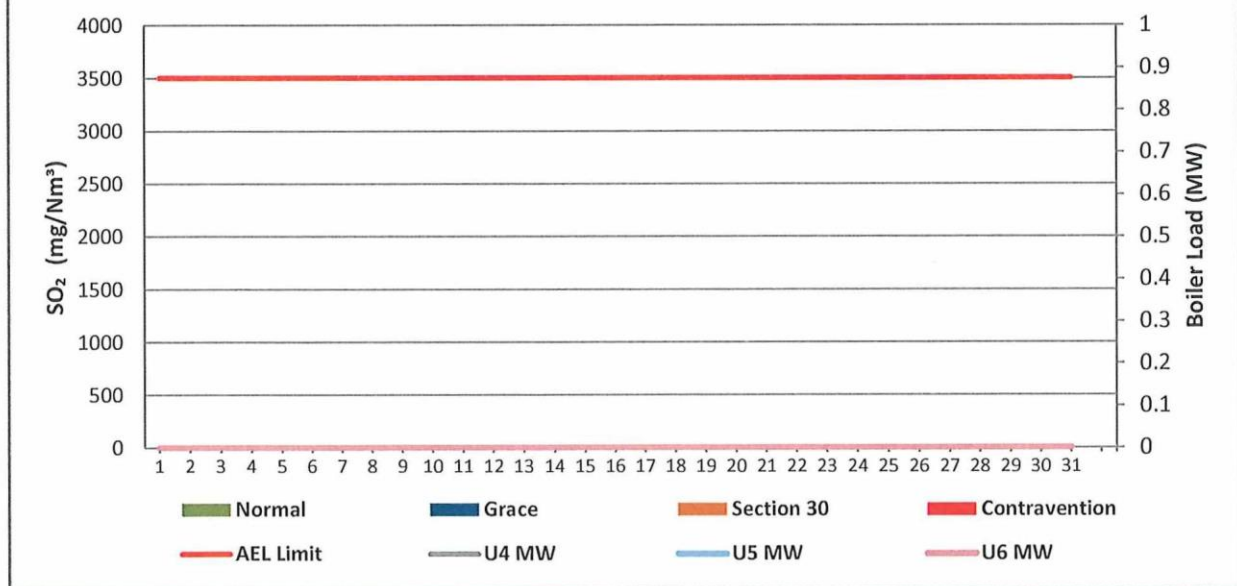


Figure 5: Grootvlei North St. NOx Emissions - May 2025

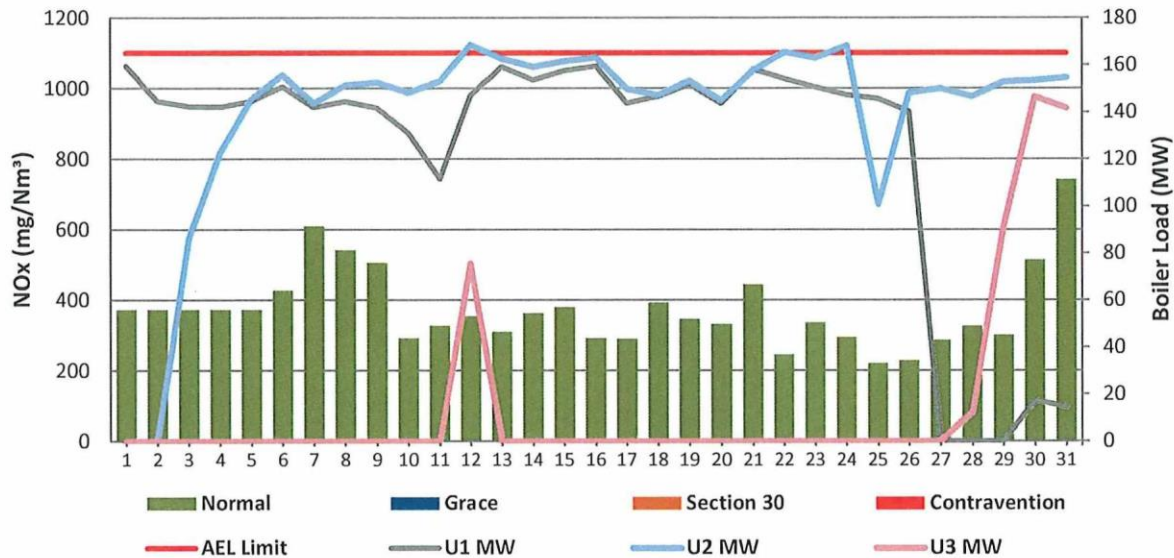
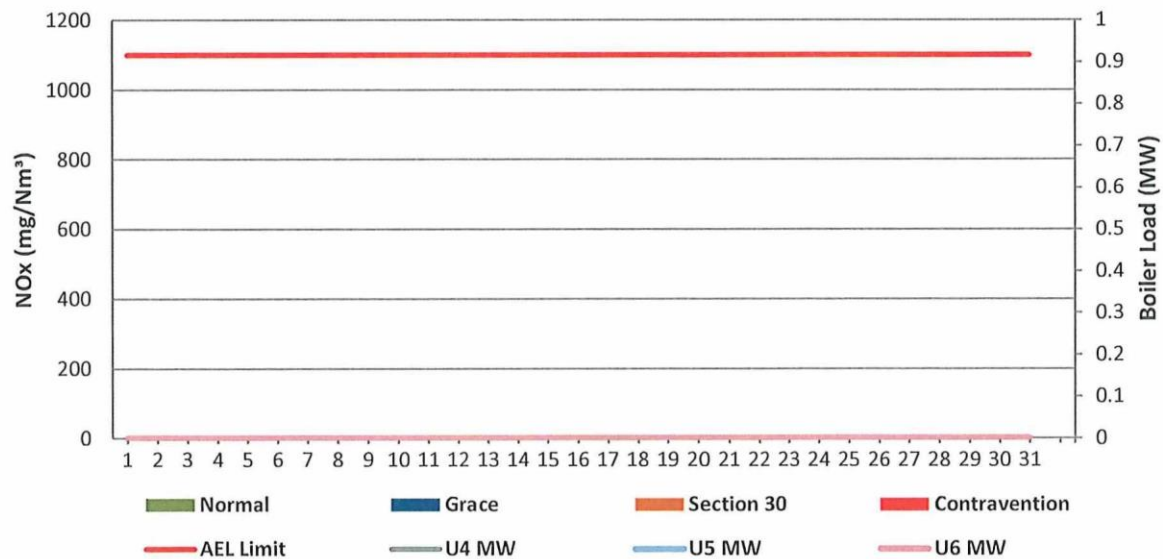


Figure 6: Grootvlei South St. NOx Emissions - May 2025



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of May-2025

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 2		Unit 2	
Breaker Open (BO)	2:30 pm	2025/05/11	6:15 am	2025/05/26	BO previously	BO previously	6:45 pm	2025/05/24
Draught Group (DG) Shut Down (SD)	2:30 pm	2025/05/11	8:05 pm	2025/05/26	n/a	n/a	5:40 am	2025/05/25
BO to DG SD (duration)		DD:HH:MM	00:13:50	DD:HH:MM	n/a	DD:HH:MM	00:10:55	DD:HH:MM
Fires in time	2:30 pm	2025/05/11	10:10 pm	2025/05/29	6:30 am	2025/05/02	9:20 am	2025/05/25
Synch. to Grid (or BC)	1:30 am	2025/05/12	11:55 pm	2025/05/30	11:55 pm	2025/05/02	7:45 pm	2025/05/25
Fires in to BC (duration)	00:11:00	DD:HH:MM	01:01:45	DD:HH:MM	00:17:25	DD:HH:MM	00:10:25	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	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	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

North Stack ...Cont.	Event 5		Event 6		Event 7		Event 8	
Unit No.	Unit 3		no event		no event		no event	
Breaker Open (BO)	BO previously	BO previously						
Draught Group (DG) Shut Down (SD)	n/a	n/a						
BO to DG SD (duration)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	3:10 am	2025/05/29						
Synch. to Grid (or BC)	5:30 pm	2025/05/29						
Fires in to BC (duration)	00:14:20	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit						
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

North Stack ...Cont	<i>Event 9</i>		<i>Event 10</i>		<i>Event 11</i>		<i>Event 12</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	<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-2025 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 May-2025

	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-2025

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

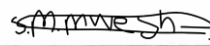
To be completed in the case of a S30 incident or a legal contravention:

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. The correlation test expired in March 2025. A PR is pending approval, and suitable plant conditions are required to proceed with the test. The gas analyser has faced multiple issues, including communication problems with the DCS and a disconnected air supply line, leading to low reliability. These issues are currently being addressed and should be monitored daily.


 Environmental Department 25/06/2025
 Date


 Boiler Engineering 26/06/2025
 Date


 General Manager 25/06/2025
 Date

Compiled by: Environmental Department

Environmental Officer

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

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Grootvlei Power Station:

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