



Generation

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

Attention:

Ms T Mogakabe

AND

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The Chief Director:
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GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2024/F04

Thabo Mahlangu

BOILER ENGINEERING MANAGER

2025/11/26

DATE

ENGINEERING MANAGER

27/11/2025

DATE

ENVIRONMENTAL MANAGER

2025/11/26

DATE

GROOTVLEI POWER STATION MONTHLY EMISSIONS REPORT
Atmospheric Emission License GPS/0015/2024/F04



1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max Permitted Consumption Rate	Consumption Rate Oct-2025
	Coal	Tons	650 000	53 789
	Fuel Oil	Tons	20 000	938.450
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Indicative Production Rate Oct-2025
	Energy	GWh	892.800	83.114
	Ash	Tons	300 000	16 927.000
	RE Ash	kg/MWh	not specified	0.024

Note: Max energy rate = AEL capacity [1,200 MW] × 24 hrs × days in month ÷ 1,000 (to convert to GWh).

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24 (MJ/kg)	22.100
Sulphur Content	%	< 1.46 (%)	0.630
Ash Content	%	24.7 to < 38.1 (%)	22.180

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	Daily Limit		
	PM	SO ₂	NO _x
North	100	3500	1100
South	100	3500	1100

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	FFP Efficiency
North	Fabric Filter Plant (FFP)	99.982%
South	Fabric Filter Plant (FFP)	Off-line

Note: The FFP does not have a bypass mode; therefore, it operates at 100% utilization.

5 DATA RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
North	100.0	71.8	77.4	92.3
South		Off	Off	Off

Note: NO_x emissions are measured as NO in PPM. The final NO_x value is expressed as total NO₂ equivalent.

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for October 2025

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	1.5	212	58
Unit 2	Exempt	5	1
Unit 3	0.5	196	49
Unit 4	Off	Off	Off
Unit 5	Off	Off	Off
Unit 6	Off	Off	Off
SUM	1.97	414	108

Table 6.2: PM AEL Daily Compliance - October 2025

Associated Unit/Stack	Normal	Grace	Section 30	NC	Total Exceedance	Mnth Avg (mg/Nm ³)
North	21	0	0	0	0	5.6
South	0	0	0	0	0	Off
SUM	21	0	0	0	0	

Table 6.3: SO₂ AEL Daily Compliance - October 2025

Associated Unit/Stack	Normal	Grace	Section 30	NC	Total Exceedance	Mnth Avg (mg/Nm ³)
North	25	0	0	0	0	945.0
South	Off	Off	Off	Off	Off	Off
SUM	25	0	0	0	0	

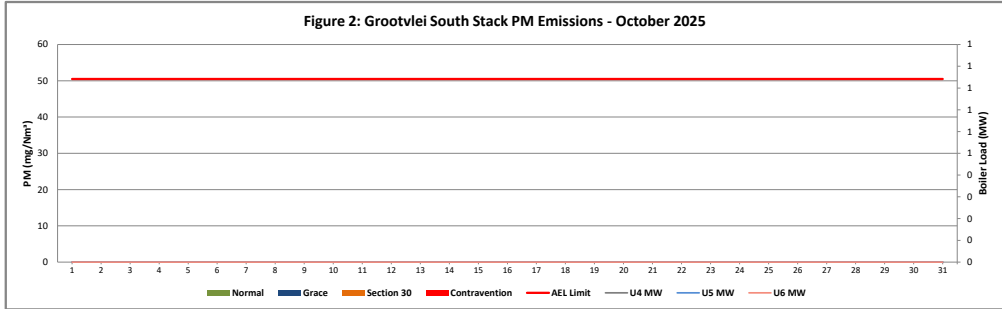
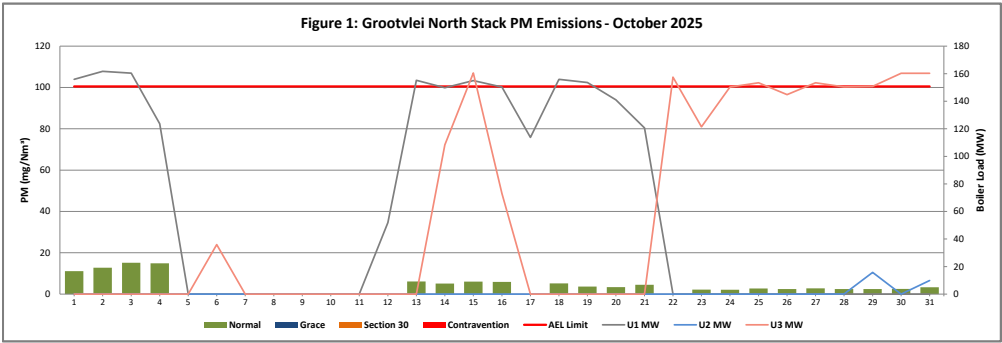
Table 6.4: NO_x AEL Daily Compliance - October 2025

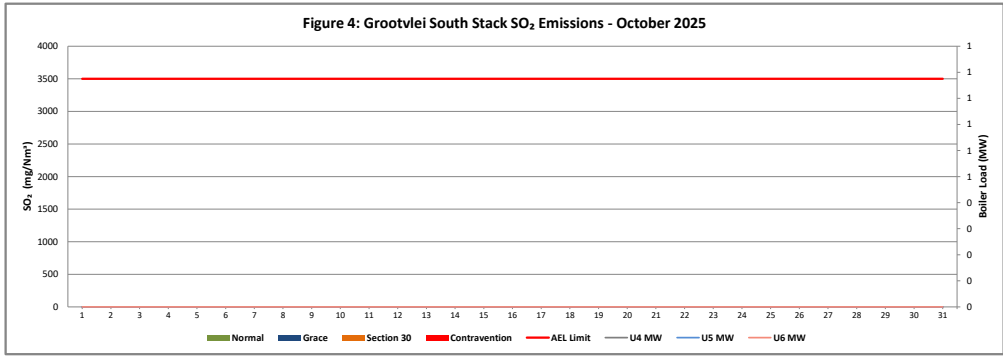
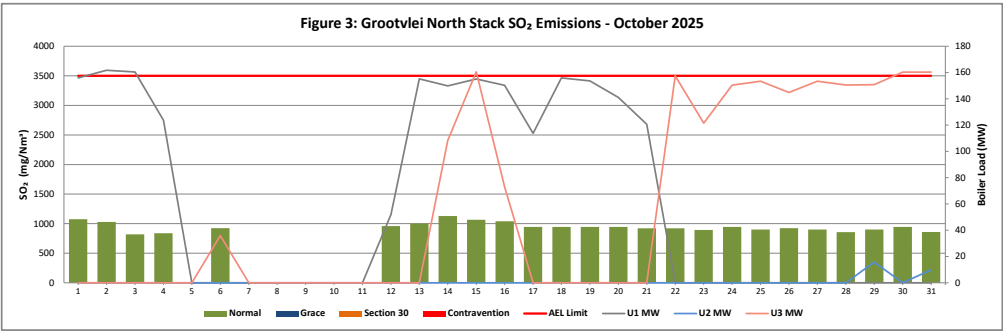
Associated Unit/Stack	Normal	Grace	Section 30	NC	Total Exceedance	Mnth Avg (mg/Nm ³)
North	25	0	0	0	0	239.2
South	Off	Off	Off	Off	Off	Off
SUM	25	0	0	0	0	

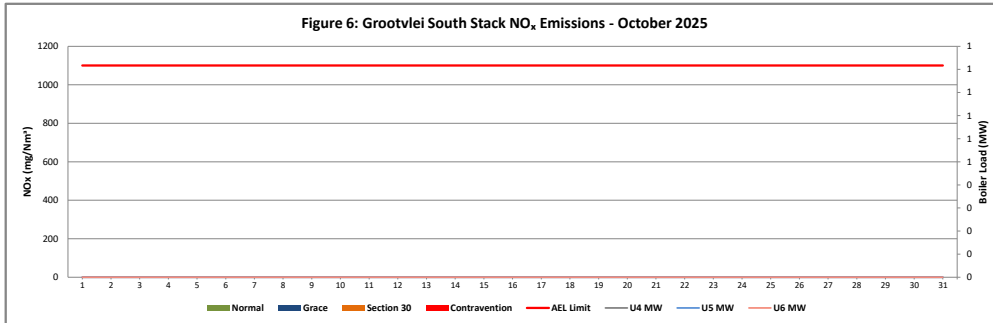
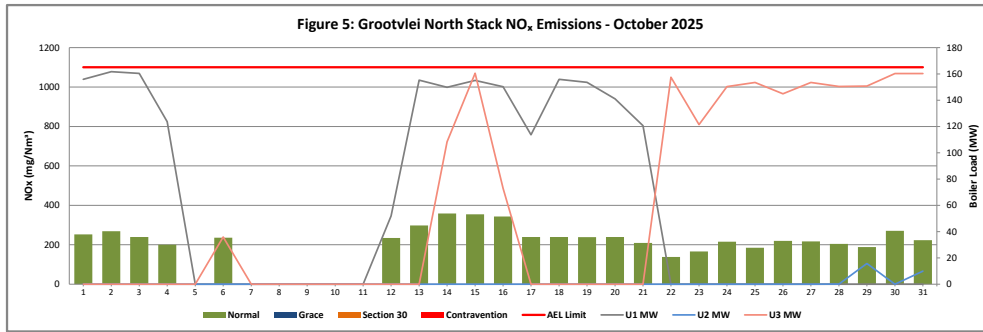
Note: NO_x emissions is measured

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		Emissions above ELV but outside grace or S30 incident conditions







7 Shut-down and light-up information for OCTOBER 2025

Event Description		Event 1		Event 2		Event 3		Event 4		Event 5		Event 6		Event 7		Event 8	
Unit 1	Breaker Open (BO)	5:50 pm	2025/10/04	10:30 pm	2025/10/16	8:25 pm	2025/10/21										
	Draught Group (DG) Shut Down (SD)	4:25 am	2025/10/05	DG did not trip or SD	DG did not trip or SD	11:30 am	2025/10/22										
	BO to DG SD (duration)	00:10:35	DD:HH:MM	n/a	DD:HH:MM	00:15:05	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
	Fires in time	12:15 pm	2025/10/10														
	Synch. to Grid (or BC)	1:10 pm	2025/10/12														
	Fires in to BC (duration)	02:00:55	DD:HH:MM		DD:HH:MM		DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
	Emissions below limit from BC (end date)	12:00 am	2025/10/14														
	Emissions below limit from BC (duration)	01:10:50	DD:HH:MM		DD:HH:MM		DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
Event Description		Event 1		Event 2		Event 3		Event 4		Event 5		Event 6		Event 7		Event 8	
Unit 2	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		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		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		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
Event Description		Event 1		Event 2		Event 3		Event 4		Event 5		Event 6		Event 7		Event 8	
Unit 3	Breaker Open (BO)	BO previously	BO previously	3:25 pm	2025/10/16	12:35 am	2025/10/23										
	Draught Group (DG) Shut Down (SD)	n/a	n/a	9:20 pm	2025/10/16	DG did not trip or SD	DG did not trip or SD										
	BO to DG SD (duration)	n/a	DD:HH:MM	00:05:55	DD:HH:MM	n/a	DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
	Fires in time	1:10 pm	2025/10/13	10:00 am	2025/10/21												
	Synch. to Grid (or BC)	4:05 am	2025/10/14	12:15 am	2025/10/22												
	Fires in to BC (duration)	00:14:55	DD:HH:MM	00:14:15	DD:HH:MM		DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
	Emissions below limit from BC (end date)	12:00 am	2025/10/16	12:00 am	2025/10/24												
	Emissions below limit from BC (duration)	01:19:55	DD:HH:MM	01:23:45	DD:HH:MM		DD:HH:MM	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
Event Description		Event 1		Event 2		Event 3		Event 4		Event 5		Event 6		Event 7		Event 8	
Unit 4	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		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		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		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
Event Description		Event 1		Event 2		Event 3		Event 4		Event 5		Event 6		Event 7		Event 8	
Unit 5	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		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		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		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	
Event Description		Event 1		Event 2		Event 3		Event 4		Event 5		Event 6		Event 7		Event 8	
Unit 6	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		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		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		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM	

8 EMERGENCY EVENTS AND PLANT FAILURES

Table 8. Emergency Generation per unit for the month of October 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 (e.g., noise, dust, offensive odours etc.)

Table 9. Complaints for the month of October 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
(insert name of affected)	(Insert root cause for incident)	(Insert emissions associated with incident)	(Insert dispersion model information where applicable)	(Insert mitigation measures taken)	(Insert date of implementation of

10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

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

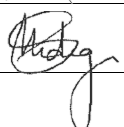
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8 GENERAL

1.South stack offline. Expired correlation test, awaiting Opacity calibration and minimum of 2 unit to be onload and stable. We experienced ongoing issues with the emissions monitoring system throughout the month. Key gas readings (SO2, NO2, O2, CO2) frequently dropped to zero or became unavailable, and in some cases never recovered. Surrogate values were used for O2 and CO2 from QAL2 Report.

Thabo Mahlangu  2025/11/26
Boiler Plant Engineering Manager Date

 2025/11/26
Environmental Practitioner Date

Themba Mokgosi  2025/11/28
General Manager Date

Compiled by: Environmental Department
For: Department of Environmental Affairs and Tourism
Copies: Generation Environmental Management

Generation Compliance Management
Generation Asset Management

Grootvlei Power Station:

Learner Intern Grad Environmental
Chief Air Pollution Control Officer

D Herbst
B Mccourt

R Rampiar
E Patel

Engineering Manager
Operating Manager
Maintenance Manager
Production Manager
Boiler Engineering Manager
System Engineer
Environmental Manager