



Generation

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

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

2023/11/08
DATE

ENGINEERING MANAGER

2023/11/08
DATE

ENVIRONMENTAL MANAGER

2023/11/08
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	Units	Maximum Permitted Consumption Rate	Consumption Rate Oct-2023
	Coal	Tons	650 000	106 456.1
	Fuel Oil	Tons	20 000	1709.71

Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Oct-2023
	Energy	GWh	833.28	144.07
	Ash	Tons	300 000	28 509
	RE PM	kg/MWh	not specified	0.20

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	20.12
Sulphur Content	%	0.6 to < 1.2	0.66
Ash Content	%	27 to < 32	26.78

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)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	100.000%
Unit 3	Fabric Filter Plant (FFP)	100.000%
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	0.0	0.0	0.0
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 October-2023

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	0.00	0.0	0.0
Unit 2	16.30	1 067.4	379.4
Unit 3	12.76	920.3	327.2
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	29.05	1 987.6	706.6

Table 6.2: Operating days in compliance to PM AEL Limit - October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm ³)
North	29	0	0	0	31.8
South	0	0	0	0	
SUM	29	0	0	0	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO ₂ (mg/Nm ³)
North	30	0	0	0	2 253.2
South	0	0	0	0	
SUM	30	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - October 2023

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO _x (mg/Nm ³)
North	30	0	0	0	801.0
South	0	0	0	0	
SUM	30	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

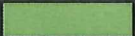
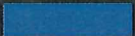


Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		

Figure 1: Grootvlei North St. PM Emissions - October 2023

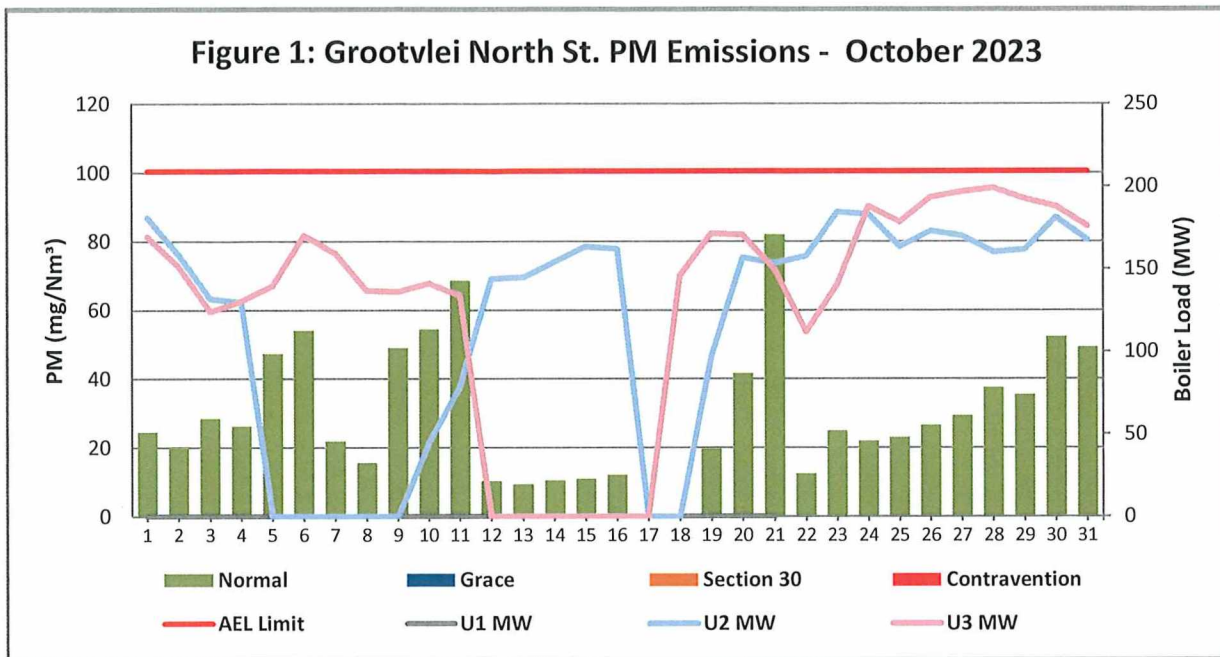
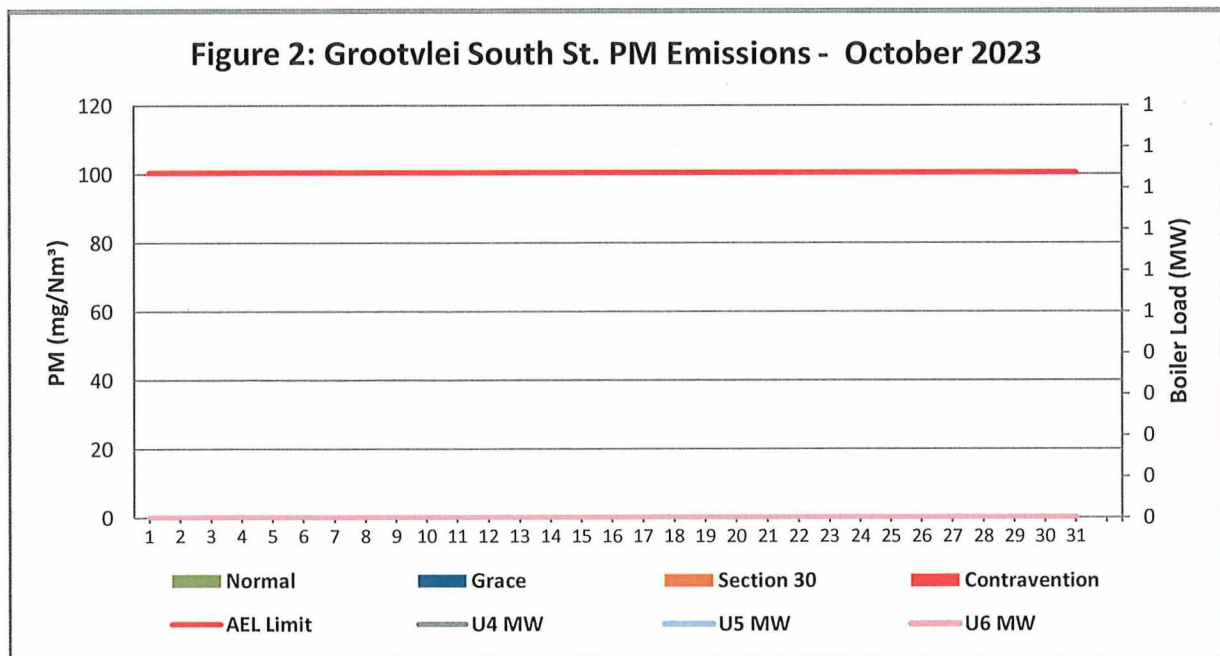
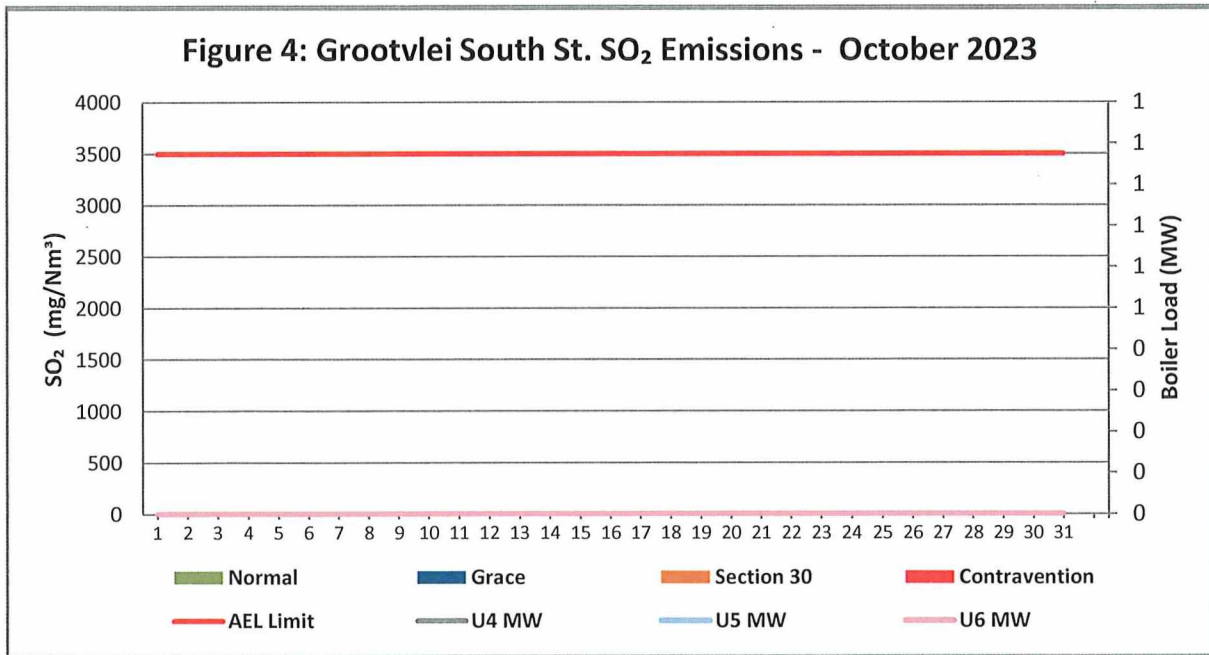
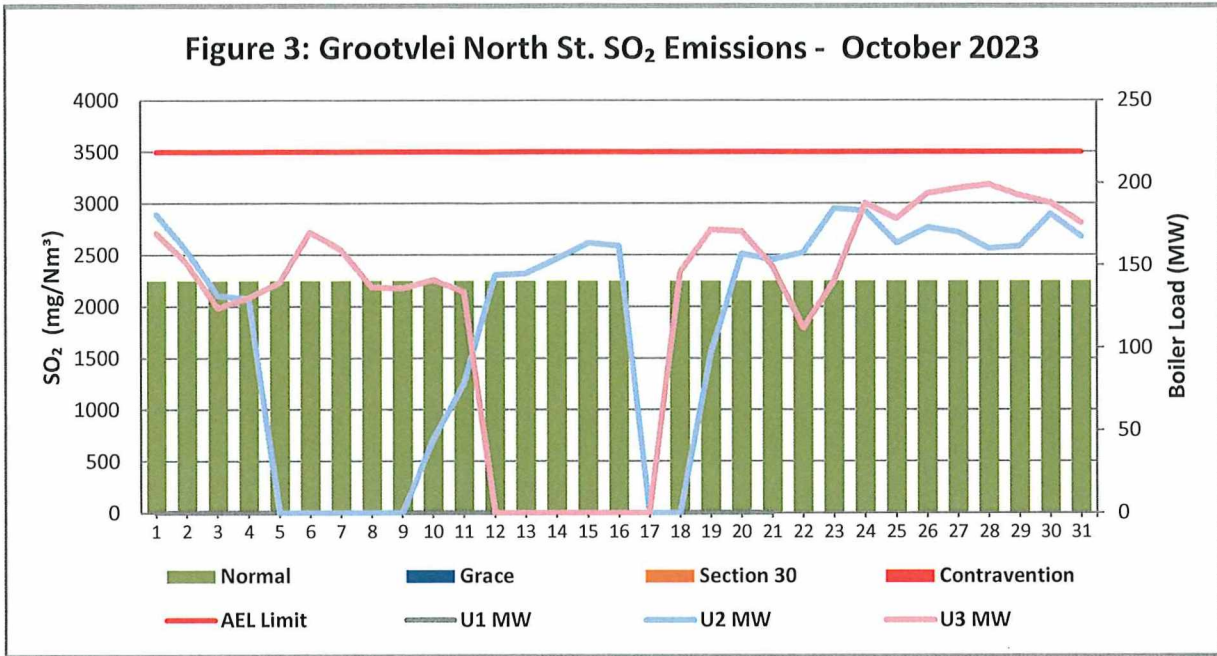
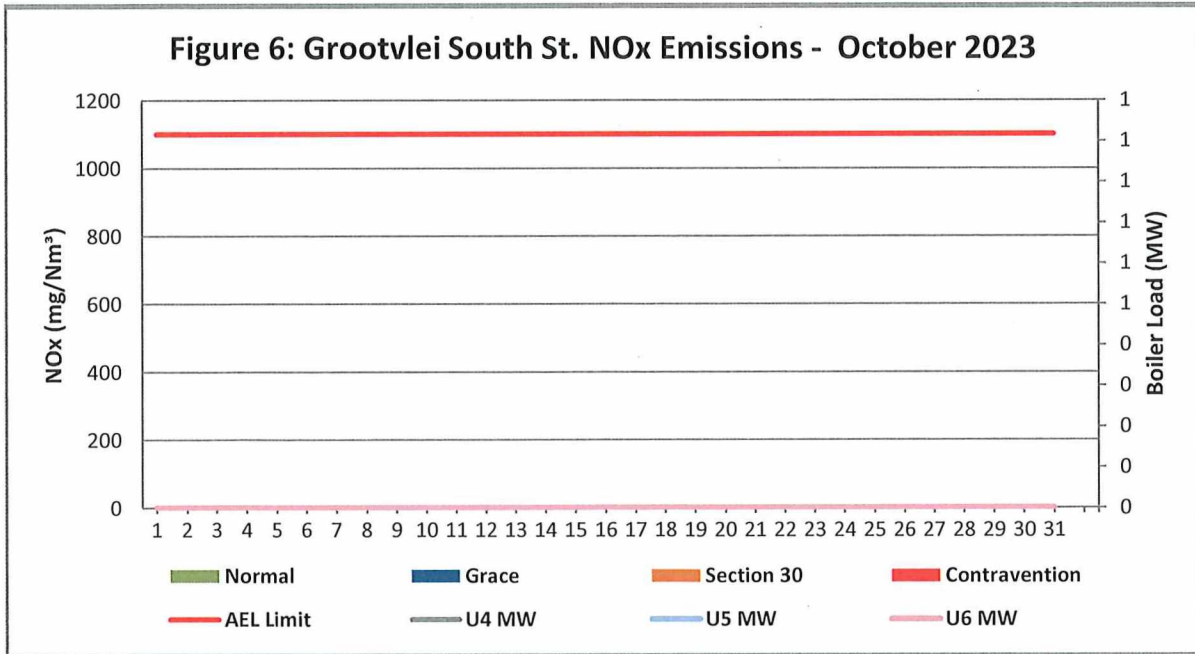
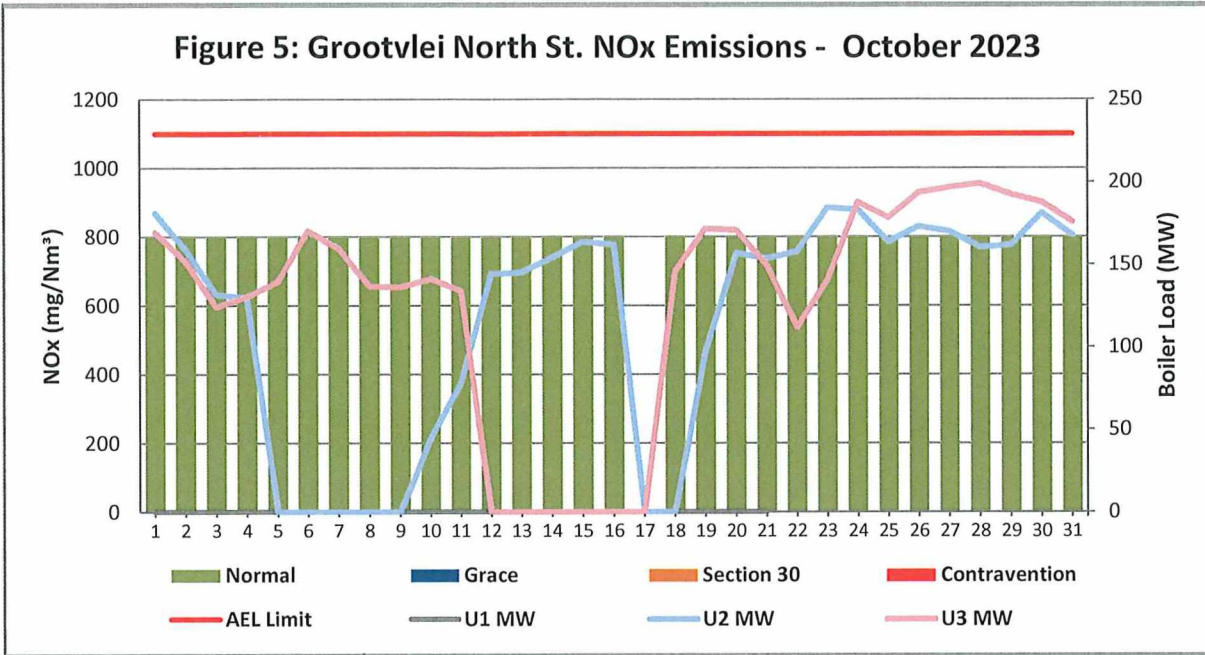


Figure 2: Grootvlei South St. PM Emissions - October 2023







7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of October-2023

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 2		Unit 2		Unit 2		Unit 3	
Breaker Open (BO)	7:10 am	2023/10/04	8:35 am	2023/10/16	10:00 am	2023/10/29	7:55 pm	2023/10/08
Draught Group (DG) Shut Down (SD)	12:30 am	2023/10/05	8:40 am	2023/10/16	12:20 pm	2023/10/29	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	00:17:20	DD:HH:MM	00:00:05	DD:HH:MM	00:02:20	DD:HH:MM	n/a	DD:HH:MM
Fires in time	12:10 am	2023/10/10	9:45 pm	2023/10/18	4:20 pm	2023/10/29		
Synch. to Grid (or BC)	9:10 pm	2023/10/10	6:25 am	2023/10/19	9:30 pm	2023/10/29		
Fires in to BC (duration)	00:21:00	DD:HH:MM	00:08:40	DD:HH:MM	00:05:10	DD:HH:MM		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	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM

North Stack ...Cont.	Event 5		Event 6		Event 7		Event 8	
Unit No.	Unit 3		Unit 3		no event		no event	
Breaker Open (BO)	12:05 pm	2023/10/11	9:50 am	2023/10/23				
Draught Group (DG) Shut Down (SD)	12:15 pm	2023/10/12	DG did not trip or SD	DG did not trip or SD				
BO to DG SD (duration)	01:00:10	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	10:20 pm	2023/10/17						
Synch. to Grid (or BC)	11:20 am	2023/10/18						
Fires in to BC (duration)	00:13:00	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

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 5</i>		<i>Event 6</i>		<i>Event 7</i>		<i>Event 8</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 October-2023 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 October-2023

	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 October-2023

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

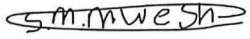
To be completed in the case of a S30 incident or a legal contravention:

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 Acceptance	Comments / Reference No.

11 General

South Stack off. Surrogate values from the QAL2 report were employed for reporting gaseous data. A project to install a new gas analyzer is currently underway, and subsequent parallel testing will be conducted.

 2023/11/03
Environmental Department Date

 . 2023/11/03
Boiler Engineering Date

 08/11/2023
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
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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

