



Generation

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

**Attention:**  
Mr D Hlanyane

AND

Directorate: Air Quality Management Services  
The Director:  
Mr Vumile Senene  
Department of Environmental Affairs  
Private Bag X447  
PRETORIA  
0001  
Tel: (012) 310 3263  
Fax: (012) 320 0488

**Date: 2022/10/10**

Enquiries: Nomasonto Nsibande

☎ +27 17 779 8995

☎ +27 86 507 5108

Enquiries: Thabo Montja

☎ +27 17 779 8834

**Total number of pages:**

**10**

**Total number of annexes:**

## GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02

  
\_\_\_\_\_  
BOILER ENGINEERING MANAGER

11/10/2022

\_\_\_\_\_  
DATE

  
\_\_\_\_\_  
ENGINEERING MANAGER

11/10/2022

\_\_\_\_\_  
DATE

  
\_\_\_\_\_  
ENVIRONMENTAL MANAGER

11/10/2022

\_\_\_\_\_  
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 Sep-2022
	Coal	Tons	650 000	107 983.0
	Fuel Oil	Tons	18 000	4162
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Sep-2022
	Energy	GWh	806.4	183.66
	Ash	Tons	300 000	30 354
	RE PM	kg/MWh	not specified	0.11

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	19.84
Sulphur Content	%	0.6 to < 1.2	0.73
Ash Content	%	27 to < 32	28.11

## 3 EMISSION LIMITS (mg/Nm<sup>3</sup>)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO
North	50	3500	1100
South	50	3500	1100

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	
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 <sub>2</sub>	NO	O <sub>2</sub>
North	100.0	88.9	91.3	96.4
South				

Note: NO<sub>x</sub> emissions is measured as NO in PPM. Final NO<sub>x</sub> value is expressed as total NO<sub>2</sub>

## 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	0.00	0.0	0.0
Unit 2	11.78	593.8	228.5
Unit 3	9.22	411.0	162.6
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>21.01</b>	<b>1 004.8</b>	<b>391.1</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	30	0	0	0	20.5
South	0	0	0	0	
<b>SUM</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.3: Operating days in compliance to SO<sub>2</sub> AEL Limit - September 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
North	30	0	0	0	1 138.4
South	0	0	0	0	
<b>SUM</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - September 2022

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	30	0	0	0	438.0
South	0	0	0	0	
<b>SUM</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Note: NO<sub>x</sub> emissions is measured as NO in PPM. Final NO<sub>x</sub> value is expressed as total NO<sub>2</sub>

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		

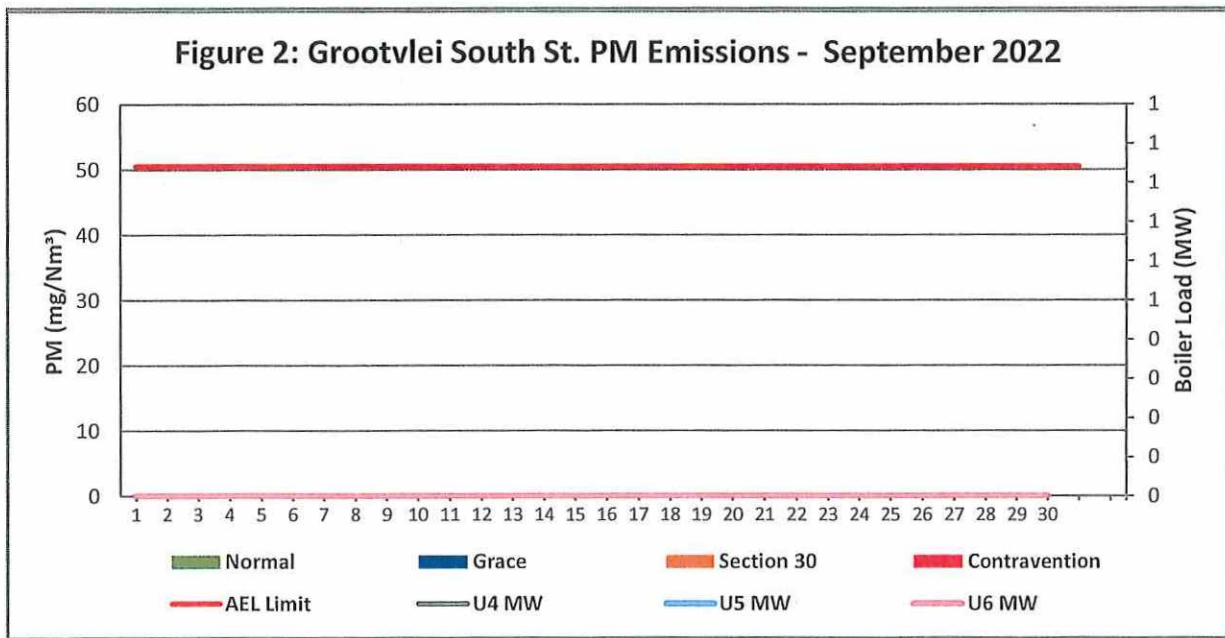
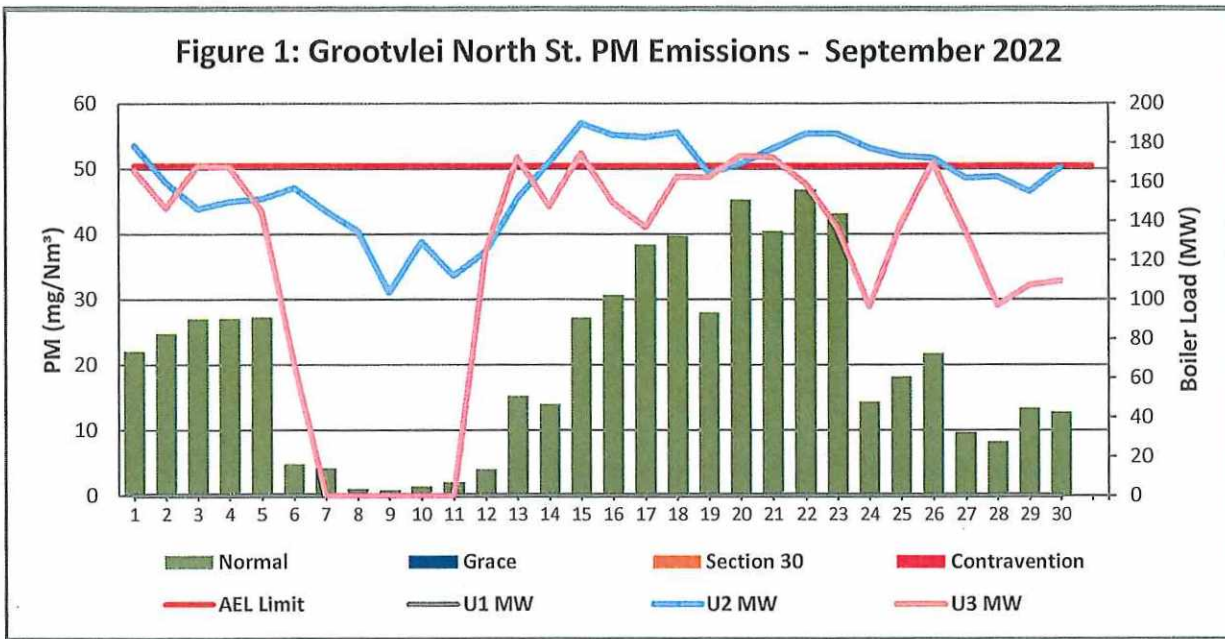


Figure 3: Grootvlei North St. SO<sub>2</sub> Emissions - September 2022

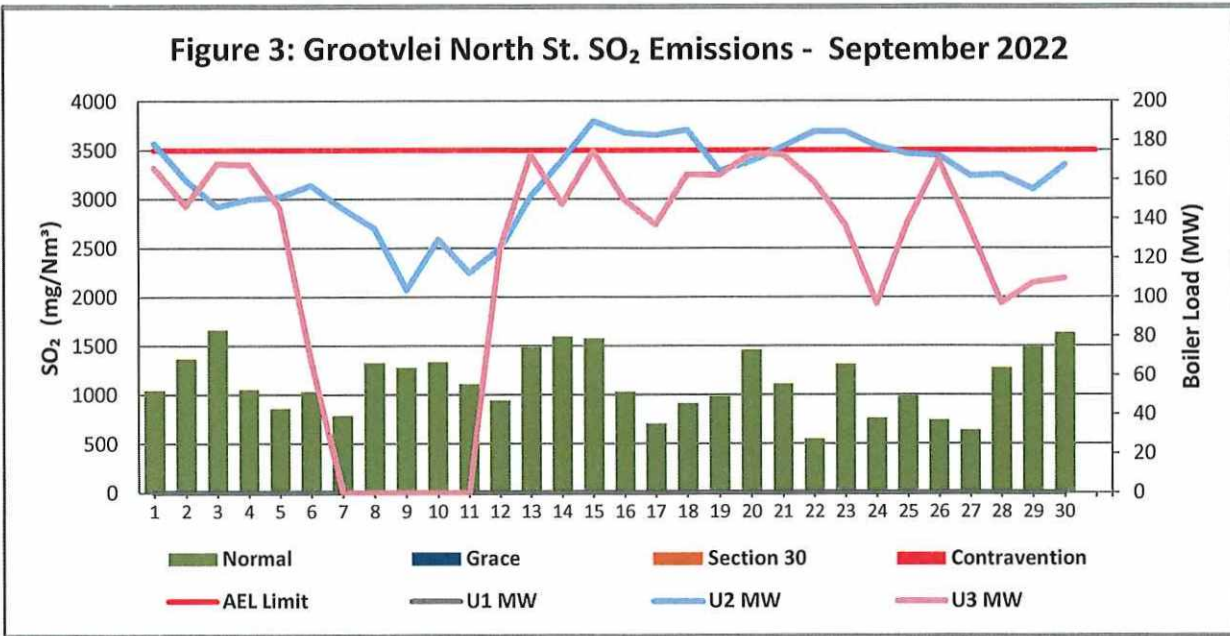
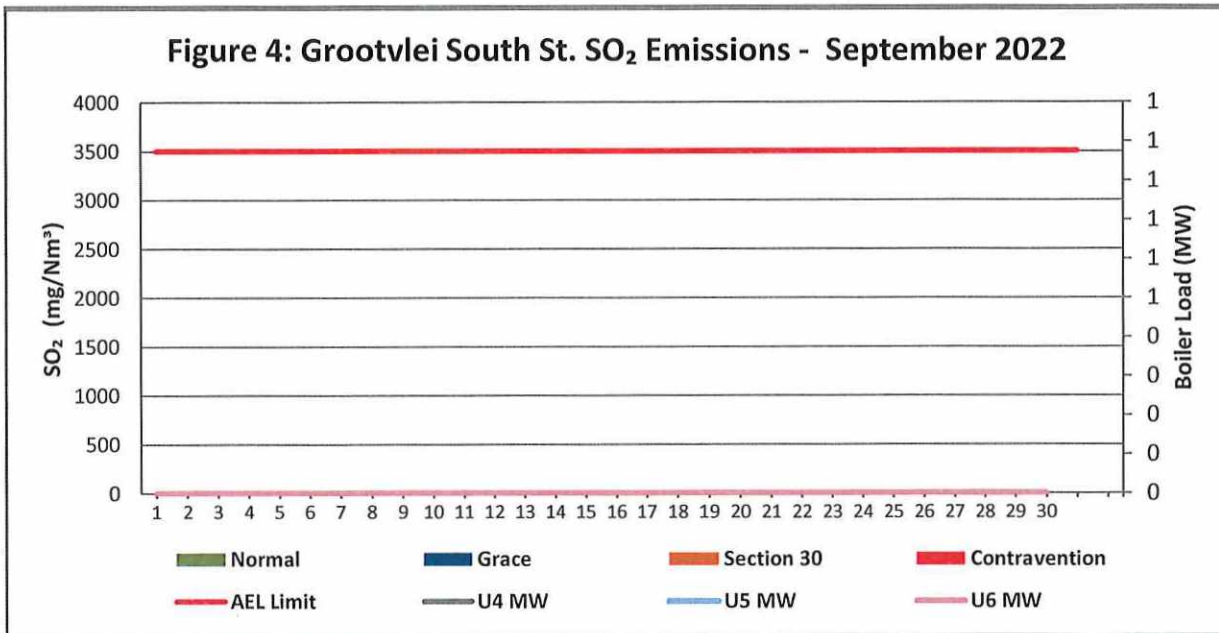
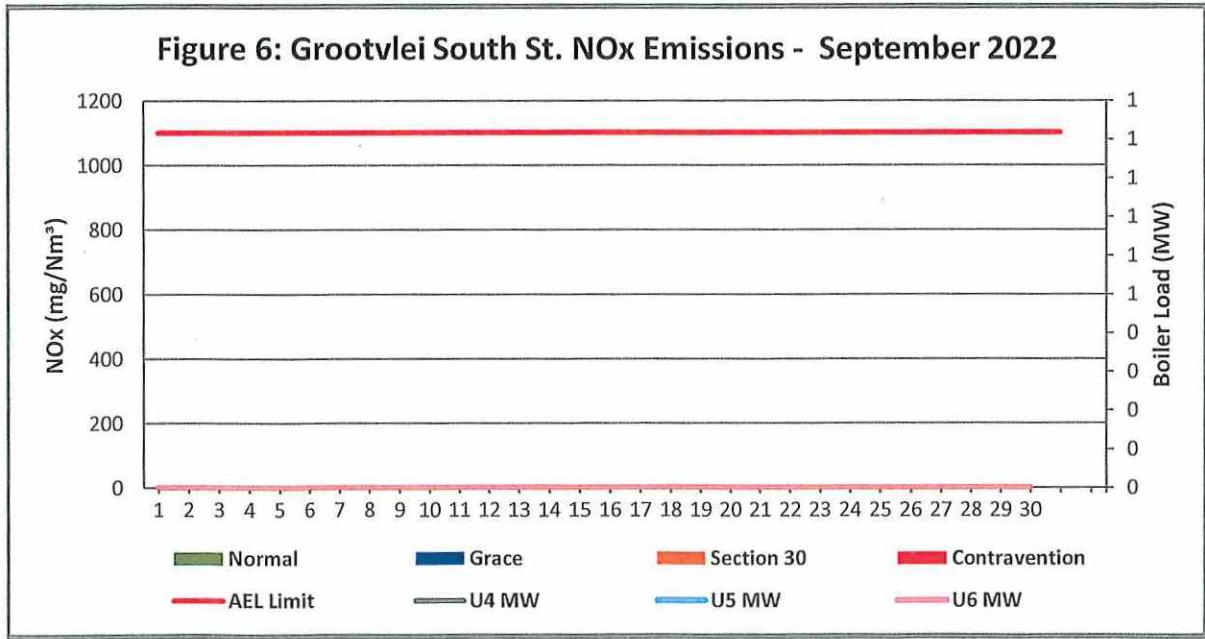
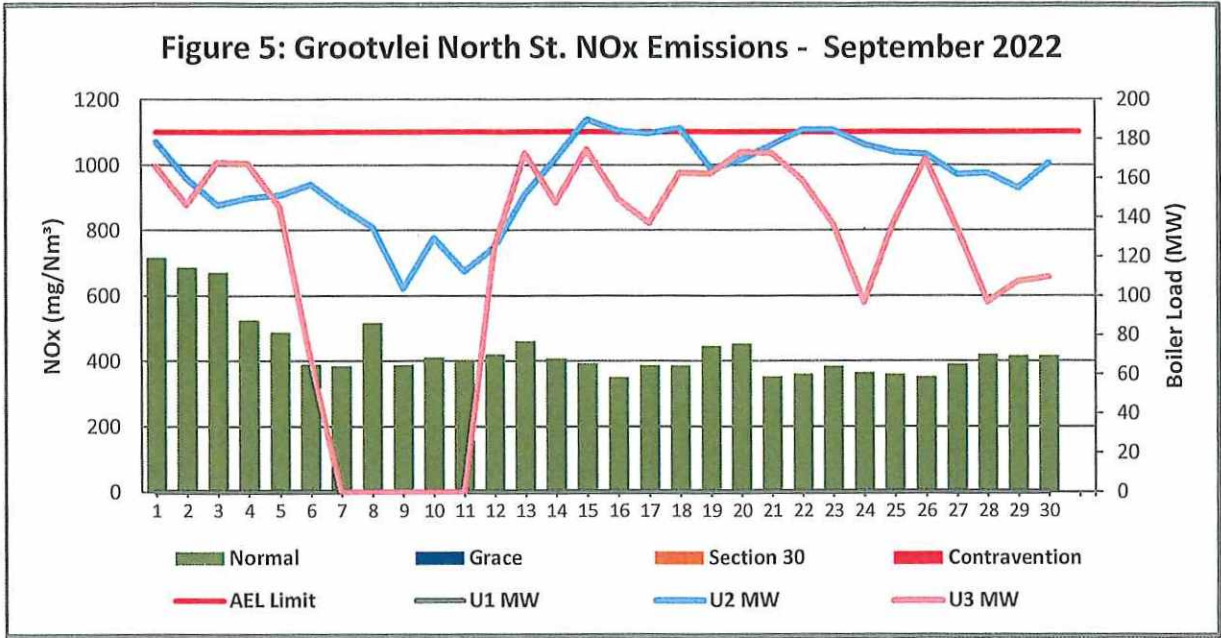


Figure 4: Grootvlei South St. SO<sub>2</sub> Emissions - September 2022





## 7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 2		Unit 3		Unit 3		Unit 3	
Breaker Open (BO)	8:15 pm	2022/09/01	12:45 am	2022/09/06	10:55 pm	2022/09/13	9:50 am	2022/09/27
Draught Group (DG) Shut Down (SD)	8:20 pm	2022/09/01	11:30 am	2022/09/06	DG did not trip or SD	DG did not trip or SD	11:20 am	2022/09/27
BO to DG SD (duration)	00:00:05	DD:HH:MM	00:10:45	DD:HH:MM	n/a	DD:HH:MM	00:01:30	DD:HH:MM
Fires in time	8:35 pm	2022/09/01	5:20 am	2022/09/12	10:55 pm	2022/09/13	5:25 am	2022/09/28
Synch. to Grid (or BC)	11:35 pm	2022/09/01	3:05 pm	2022/09/12	4:30 am	2022/09/14	1:50 pm	2022/09/28
Fires in to BC (duration)	00:03:00	DD:HH:MM	00:09:45	DD:HH:MM	00:05:35	DD:HH:MM	00:08:25	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.	no event		no event		no event		no event	
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

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 September-2022 in mg/Nm<sup>3</sup>

[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 September-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 September-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. On the 20th September 2022 around 00:45, the north stack monitor was reading Null. C&I maintenance was called out and the monitor was attended to and operational on the 21st September 2022.

Calvin Teffo  10/10/2022  
 Environmental Department Date

Maleka Mathebula  10/10/2022  
 Boiler Engineering Date

 12/10/2022  
 General Manager Date

Compiled by: Boiler Engineering Department FFP System Engineer

For: Department of Environmental Affairs and Touris 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