



Generation

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

**Attention:**  
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AND

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**10**

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## GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02

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

2022/12/12  
\_\_\_\_\_  
DATE

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

12/12/2022  
\_\_\_\_\_  
DATE

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

2022/12/12  
\_\_\_\_\_  
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 Nov-2022
	Coal	Tons	650 000	112 436.9
	Fuel Oil	Tons	20 000	5975.04
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Nov-2022
	Energy	GWh	806.4	184.25
	Ash	Tons	300 000	30 976
	RE PM	kg/MWh	not specified	0.06

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	19.99
Sulphur Content	%	0.6 to < 1.2	0.93
Ash Content	%	27 to < 32	27.55

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

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

**4 ABATEMENT TECHNOLOGY (%)**

Associated Unit/Stack	Technology Type	Efficiency
Unit 1	Fabric Filter Plant (FFP)	99.943%
Unit 2	Fabric Filter Plant (FFP)	99.962%
Unit 3	Fabric Filter Plant (FFP)	99.941%
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	100.0	100.0	95.4
South				

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

**6 EMISSION PERFORMANCE**

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

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	4.55	603.6	196.4
Unit 2	4.53	681.4	226.0
Unit 3	1.85	468.3	148.8
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>10.93</b>	<b>1 753.3</b>	<b>571.1</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	30	0	0	0	12.3
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 - November 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	1 995.4
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 - November 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	649.0
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		

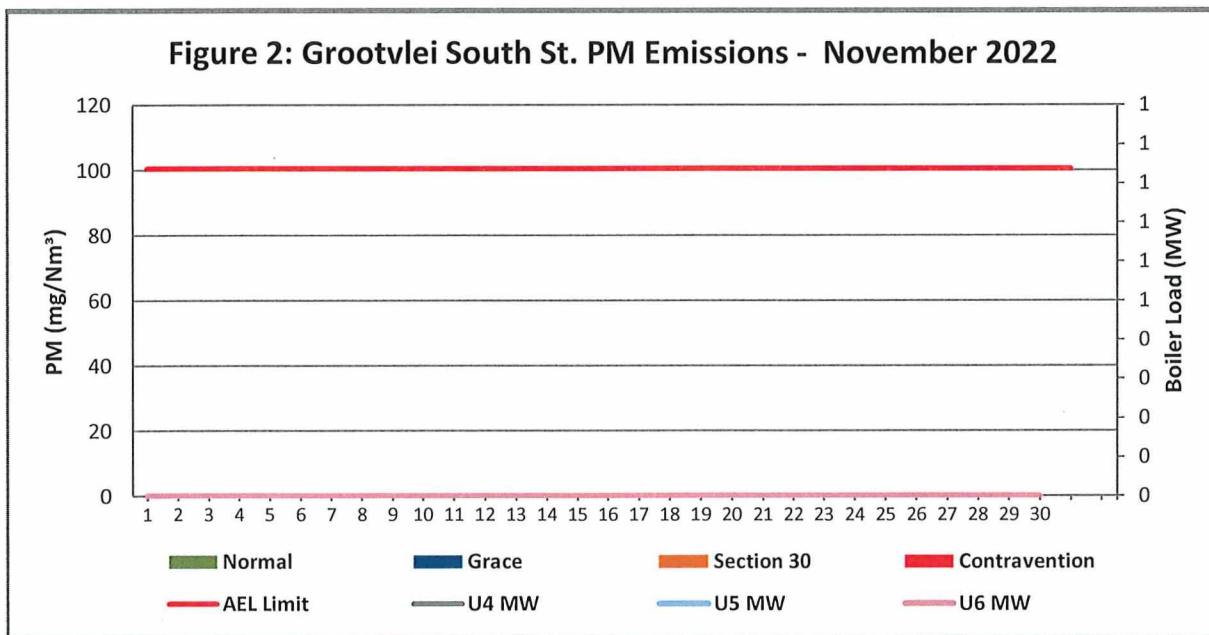
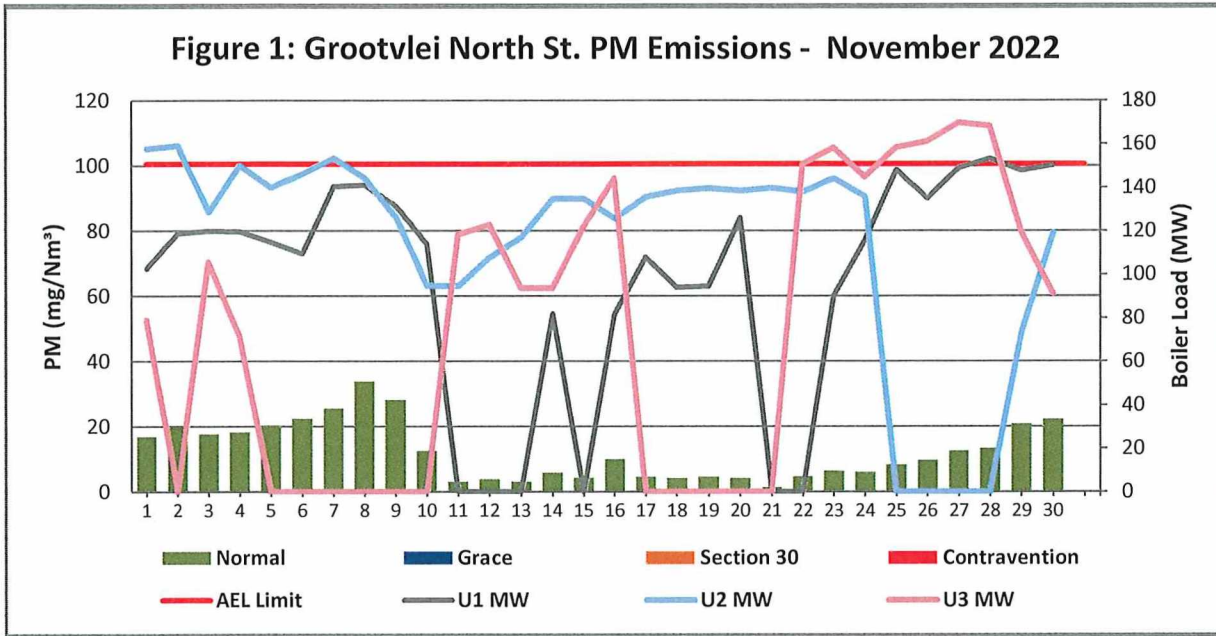


Figure 3: Grootvlei North St. SO<sub>2</sub> Emissions - November 2022

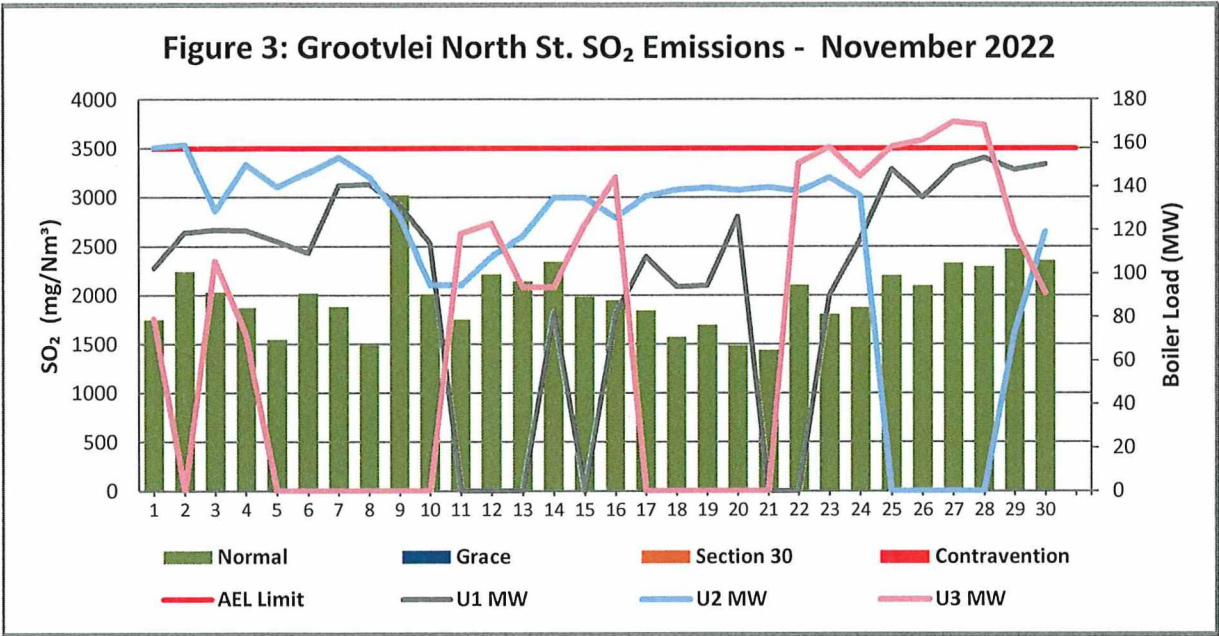
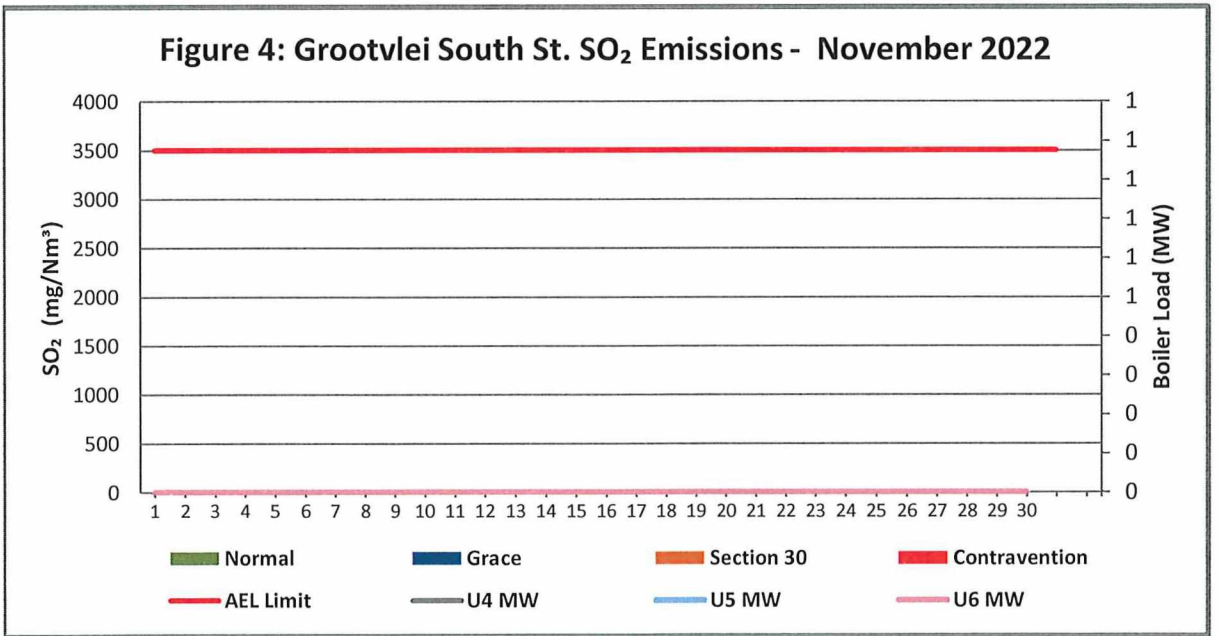
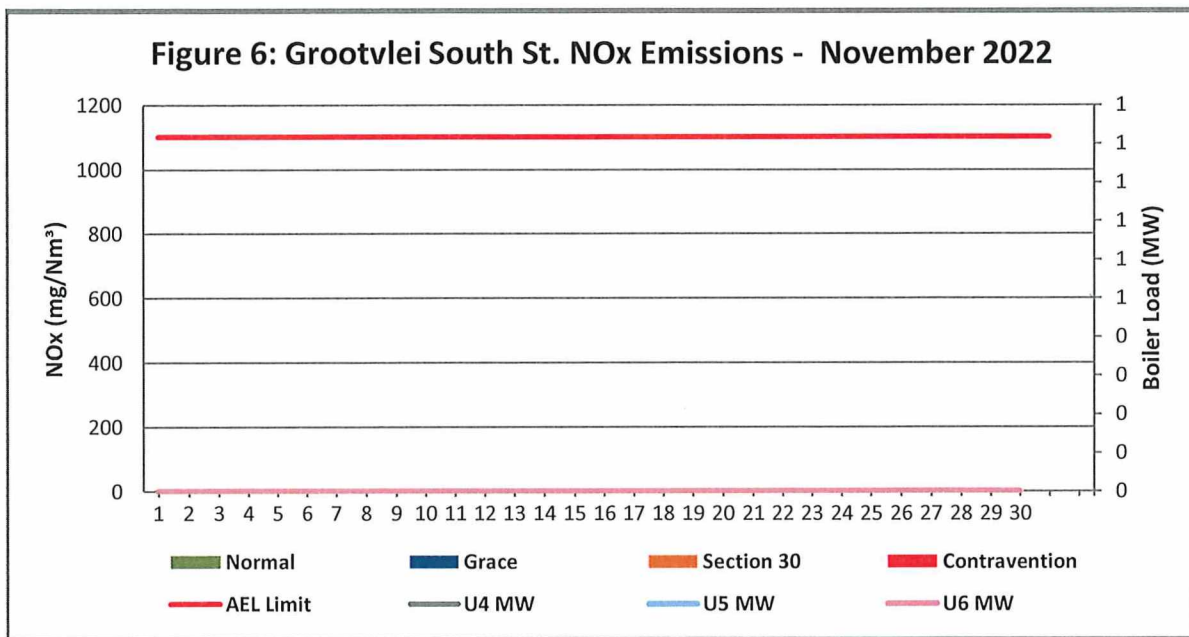
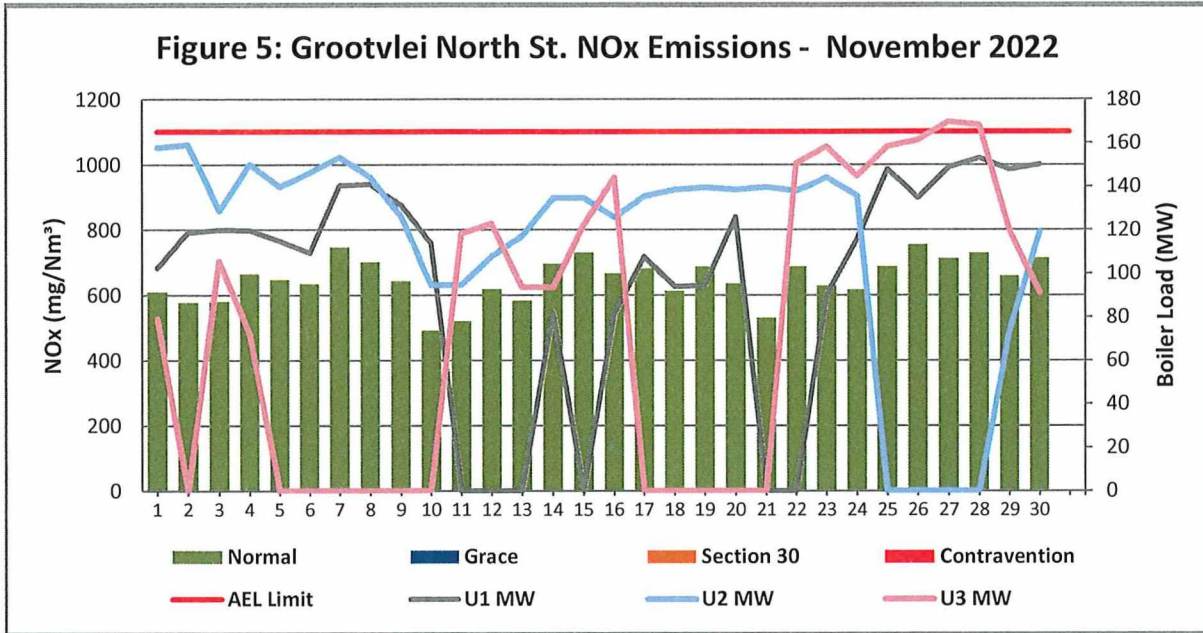


Figure 4: Grootvlei South St. SO<sub>2</sub> Emissions - November 2022





7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 2		Unit 3	
Breaker Open (BO)	10:35 am	2022/11/10	10:40 am	2022/11/20	11:50 am	2022/11/24	9:20 pm	2022/11/01
Draught Group (DG) Shut Down (SD)	10:35 pm	2022/11/10	11:00 am	2022/11/21	3:30 am	2022/11/25	10:00 pm	2022/11/01
BO to DG SD (duration)	00:12:00	DD:HH:MM	01:00:20	DD:HH:MM	00:15:40	DD:HH:MM	00:00:40	DD:HH:MM
Fires in time	1:00 pm	2022/11/16	1:35 am	2022/11/23	2:55 pm	2022/11/28	12:30 am	2022/11/11
Synch. to Grid (or BC)	5:25 pm	2022/11/16	1:05 pm	2022/11/23	4:00 am	2022/11/29	12:30 pm	2022/11/11
Fires in to BC (duration)	00:04:25	DD:HH:MM	00:11:30	DD:HH:MM	00:13:05	DD:HH:MM	00:12:00	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)	8:20 am	2022/11/23						
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD						
BO to DG SD (duration)	n/a	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 M		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 M		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 M		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 M		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 M		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 M		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 November-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 November-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 November-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.

 12/12/22  
\_\_\_\_\_  
Environmental Department Date

Maleka Mathebula  12/12/2022  
\_\_\_\_\_  
Boiler Engineering Date

 12/12/2022  
\_\_\_\_\_  
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  
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