



Generation

Gert Sibande District Municipality  
Corner of Joubert & Oosthuise 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

2023/04/11

\_\_\_\_\_  
DATE

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

11/04/2023

\_\_\_\_\_  
DATE

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

2023/04/11

\_\_\_\_\_  
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 Mar-2023
	Coal	Tons	650 000	148 211.0
	Fuel Oil	Tons	20 000	1477.77
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Mar-2023
	Energy	GWh	833.28	217.52
	Ash	Tons	300 000	38 950
	RE PM	kg/MWh	not specified	0.24

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	20.01
Sulphur Content	%	0.6 to < 1.2	0.79
Ash Content	%	27 to < 32	26.28

## 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)	99.855%
Unit 2	Fabric Filter Plant (FFP)	99.897%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
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	99.9	99.9	100.0
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 March-2023

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	21.07	856.0	354.1
Unit 2	30.17	1 152.2	475.1
Unit 3	0.00	0.0	0.0
Unit 4	0.00	0.0	0.0
Unit 5	0.00	0.0	0.0
Unit 6	0.00	0.0	0.0
<b>SUM</b>	<b>51.24</b>	<b>2 008.2</b>	<b>829.2</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	43.8
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.3: Operating days in compliance to SO<sub>2</sub> AEL Limit - March 2023





Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	1 604.4
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

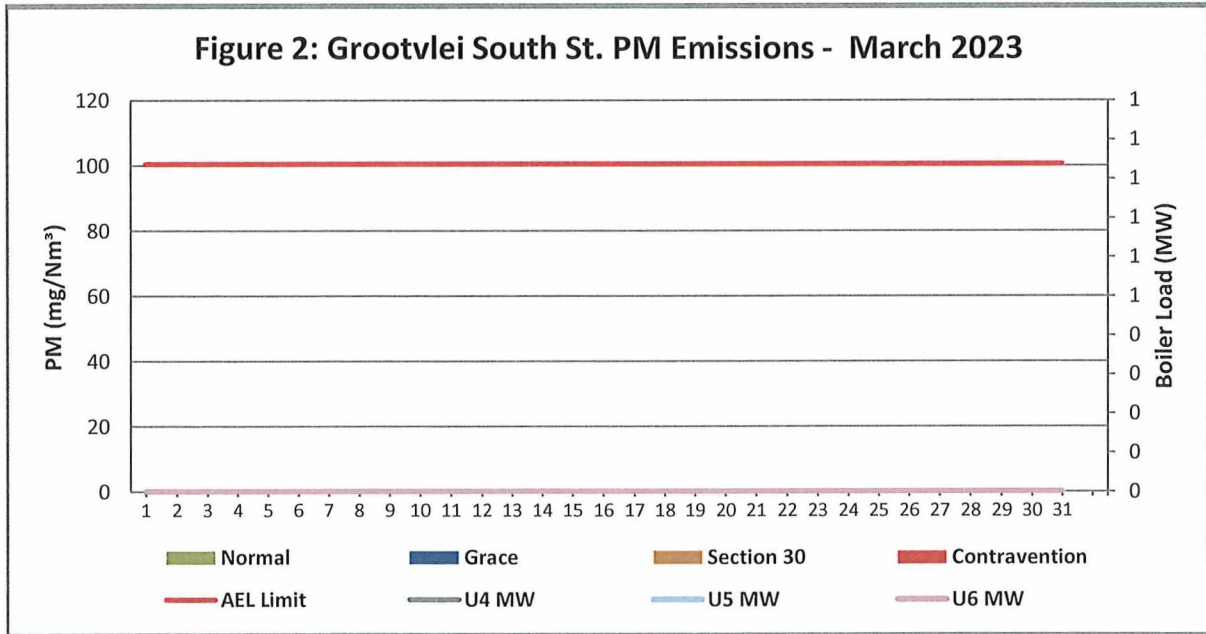
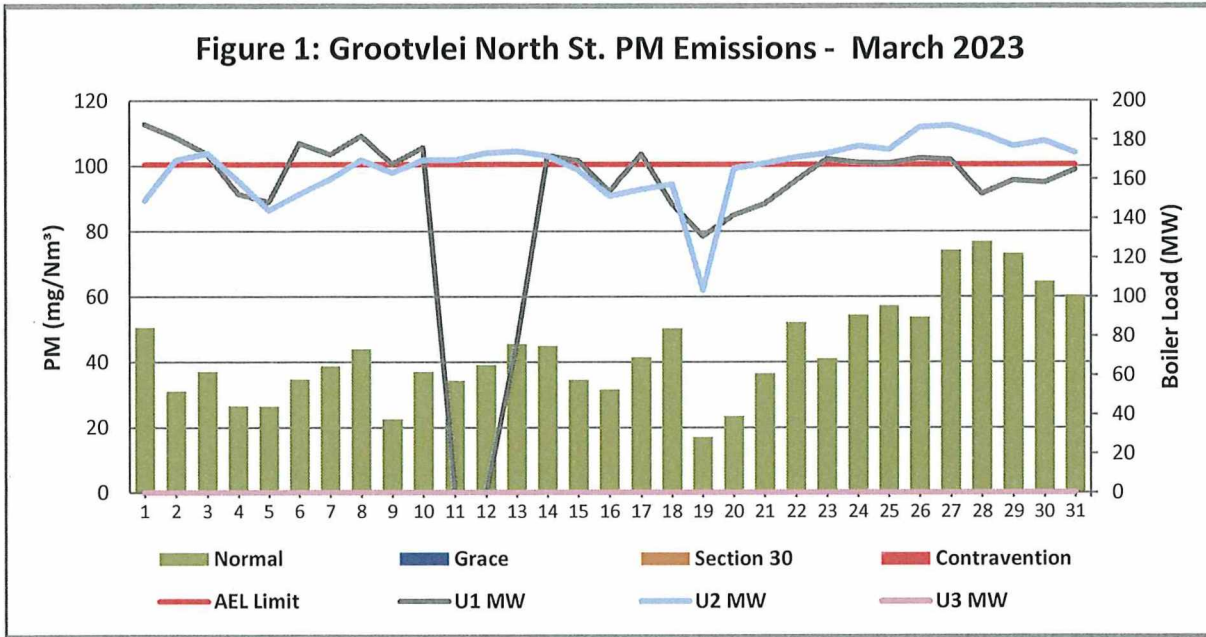
Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - March 2023

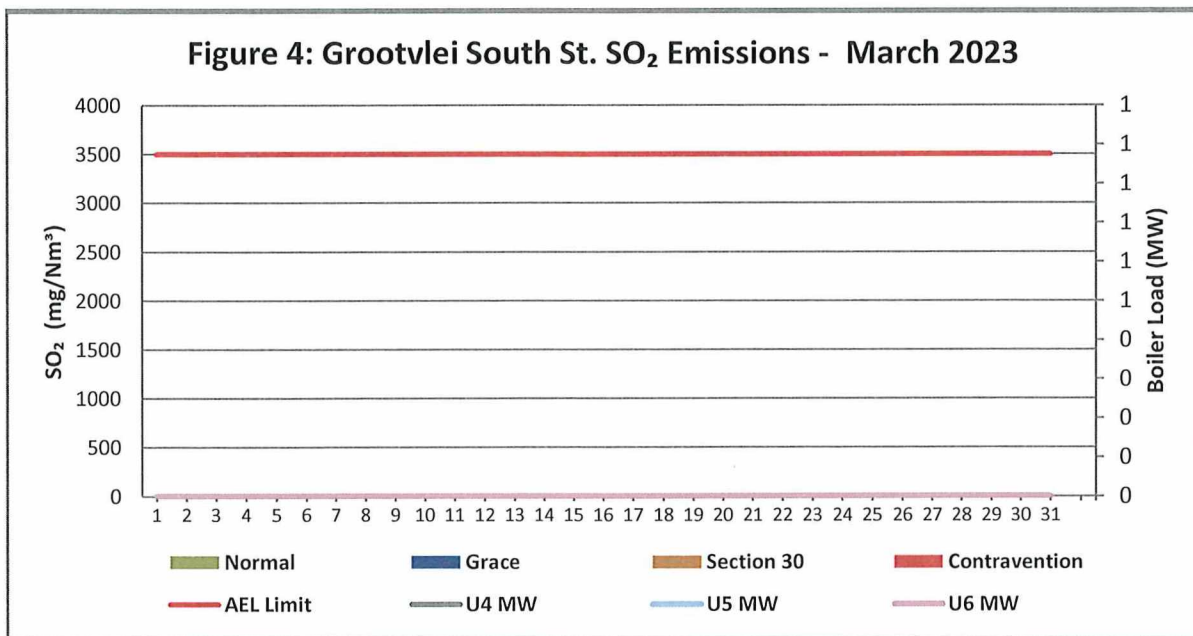
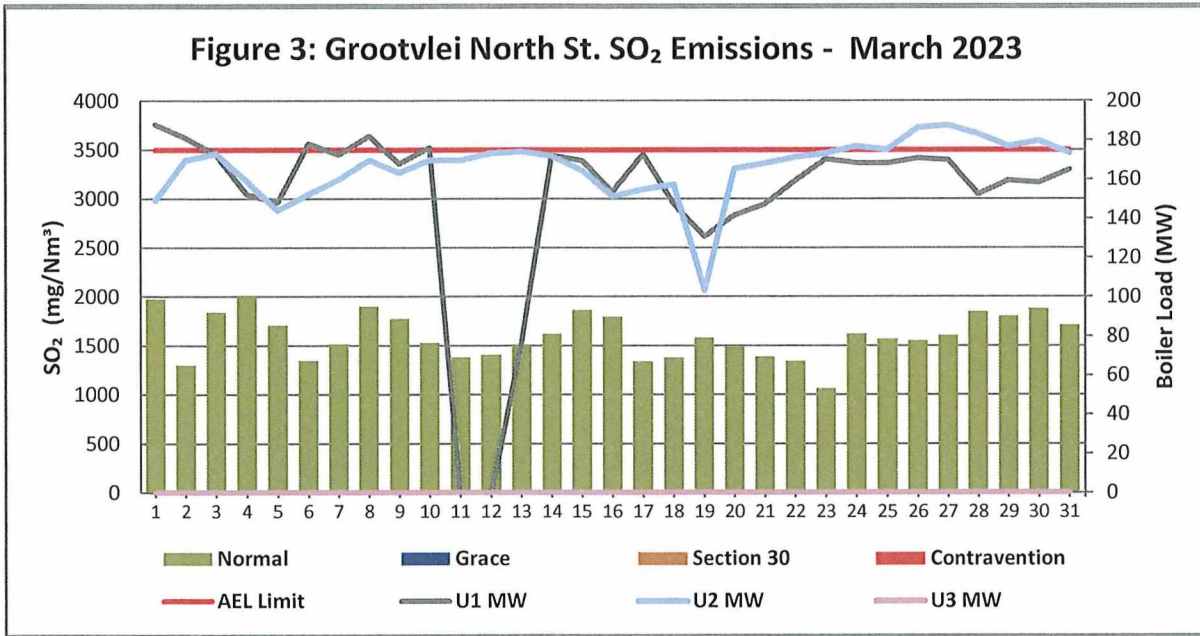
Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	661.9
South	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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>

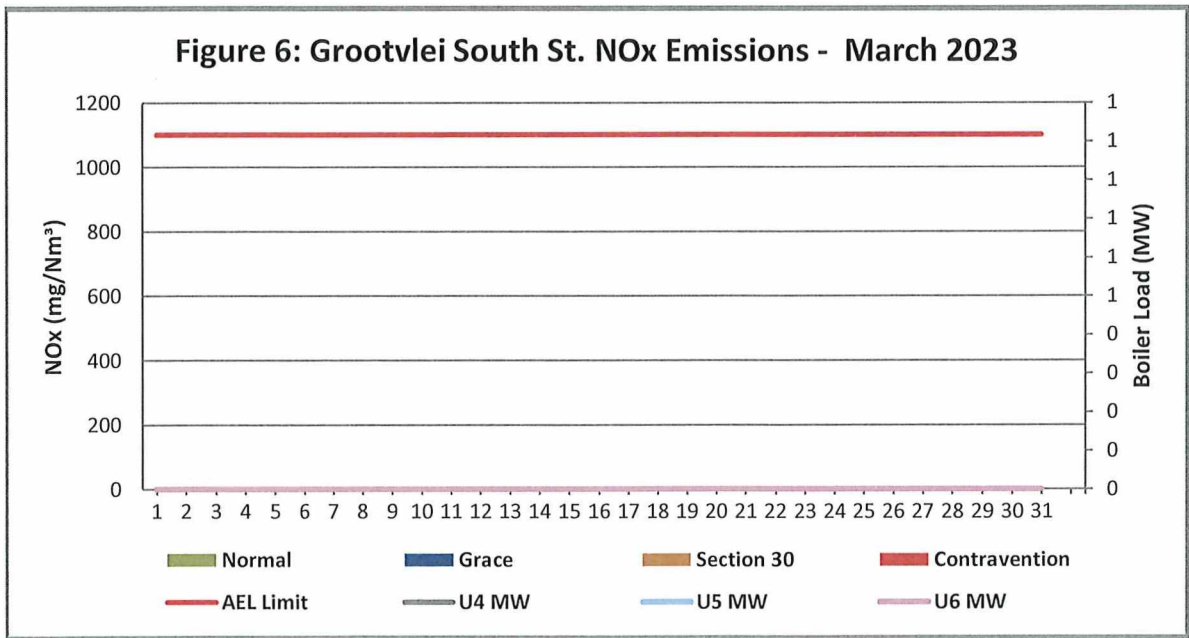
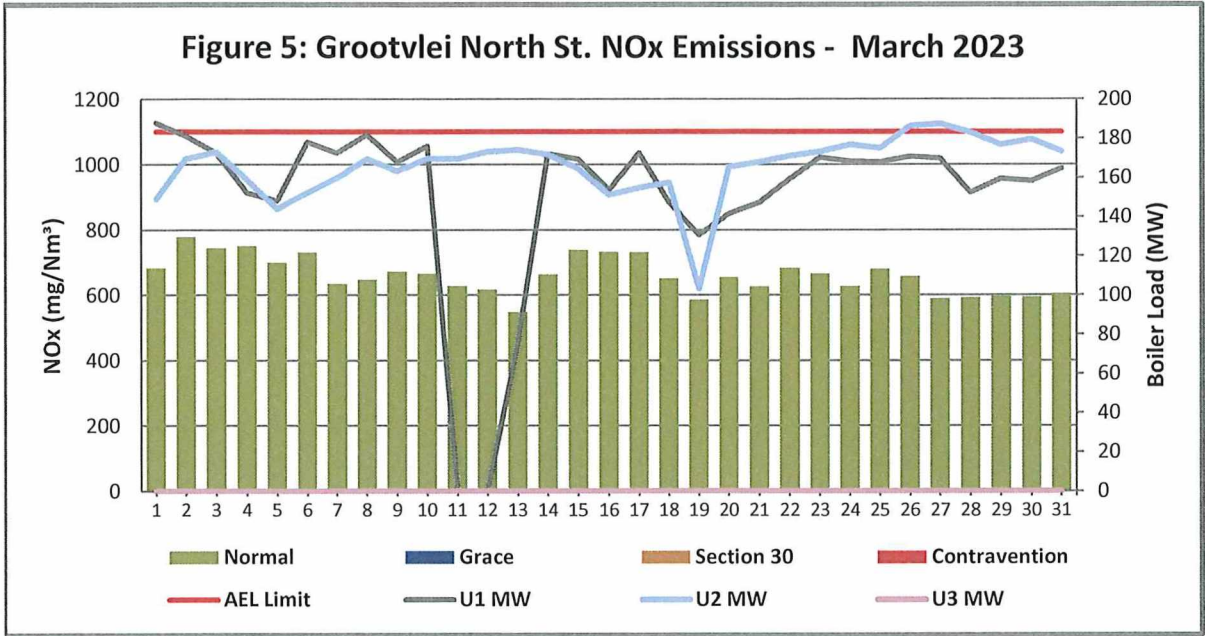
Table 6.5: Legend Description

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		









7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 2		Unit 2	
Breaker Open (BO)	1:25 pm	2023/03/10	3:15 pm	2023/03/27	11:20 am	2023/03/01	9:55 pm	2023/03/06
Draught Group (DG) Shut Down (SD)	1:30 pm	2023/03/10	4:05 pm	2023/03/27	11:25 am	2023/03/01	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	00:00:05	DD:HH:MM	00:00:50	DD:HH:MM	00:00:05	DD:HH:MM	n/a	DD:HH:MM
Fires in time	6:10 am	2023/03/13	7:05 pm	2023/03/27	2:00 pm	2023/03/01		
Synch. to Grid (or BC)	8:25 pm	2023/03/13	12:40 am	2023/03/28	7:40 pm	2023/03/01		
Fires in to BC (duration)	00:14:15	DD:HH:MM	00:05:35	DD:HH:MM	00:05:40	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.	no event		no event		no event		no event	
Breaker Open (BO)								
Draught Group (DG) Shut Down (SD)								
BO to DG SD (duration)		DD:HH:M 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:M 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:M M		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 March-2023 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 March-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 March-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 Acceptable	Comments / Reference No.

11 General

South Stack off.

  
11/04/2023  
Environmental Department Date

  
11/04/2023  
Boiler Engineering Date

  
2023/04/11  
General Manager Date

Compiled by: Boiler Engineering Department

FFP System Engineer

For: Department of Environmental Affairs and Tour 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