



Generation

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

Attention:

Mr D Hlanyane

AND

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GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02

Notemba Sobuwa

pp

BOILER ENGINEERING MANAGER

2024/04/15

DATE

Thabo Montja

ENGINEERING MANAGER

2024/04/15

DATE

Nomasonto Nsibande

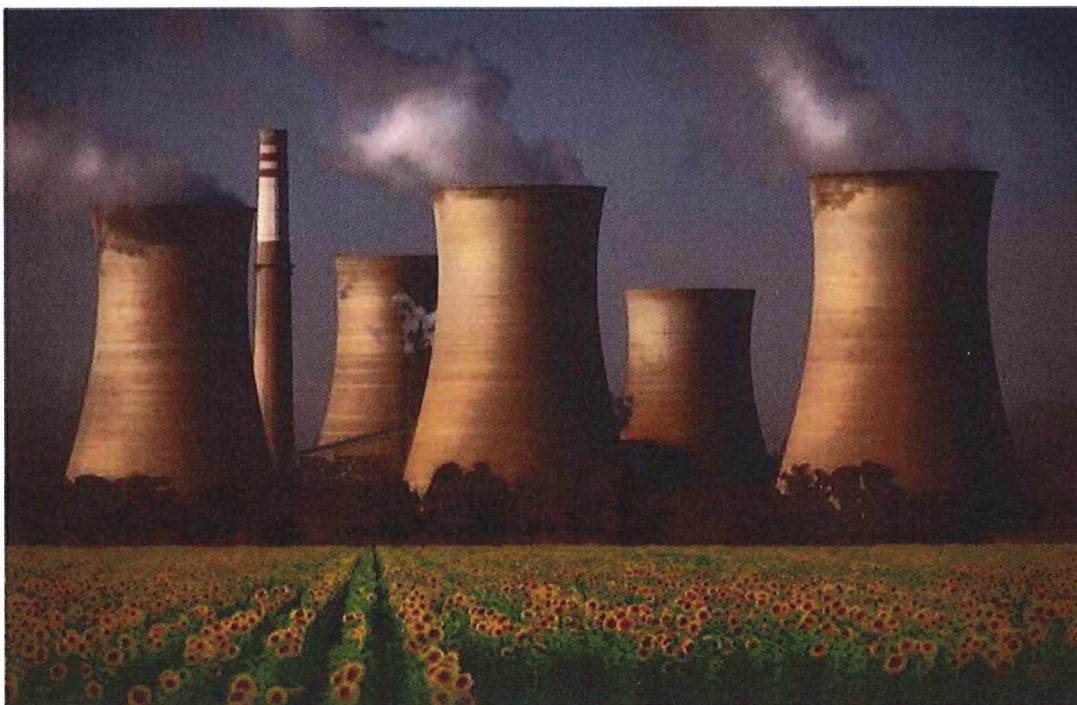
ENVIRONMENTAL MANAGER

2024/04/15

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-2024
	Coal	Tons	650 000	135 925.0
	Fuel Oil	Tons	20 000	1413.95
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Indicative Production Rate Mar-2024
	Energy	GWh	833.28	214.30
	Ash	Tons	300 000	35 259
	RE PM	kg/MWh	not specified	0.11

Note: Maximum energy production is calculated as: $(190\text{MW} \times 4 \text{ Units} + 180\text{MW} \times 2 \text{ Units}) \times 24\text{hrs} \times \text{Days in month} / 1000 = \text{GWh}$.

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	20.04
Sulphur Content	%	0.6 to < 1.2	0.63
Ash Content	%	27 to < 32	25.94

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)	99.932%
Unit 2	Fabric Filter Plant (FFP)	99.954%
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 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 March-2024

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	8.68	811.8	346.7
Unit 2	14.13	1 156.9	494.0
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
SUM	22.81	1 968.7	840.7

Table 6.2: Operating days in compliance to PM AEL Limit - March 2024

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm ³)
North	31	0	0	0	19.4
South	0	0	0	0	
SUM	31	0	0	0	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - March 2024

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO ₂ (mg/Nm ³)
North	31	0	0	0	1 608.1
South	0	0	0	0	
SUM	31	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - March 2024

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO _x (mg/Nm ³)
North	31	0	0	0	686.7
South	0	0	0	0	
SUM	31	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 - March 2024

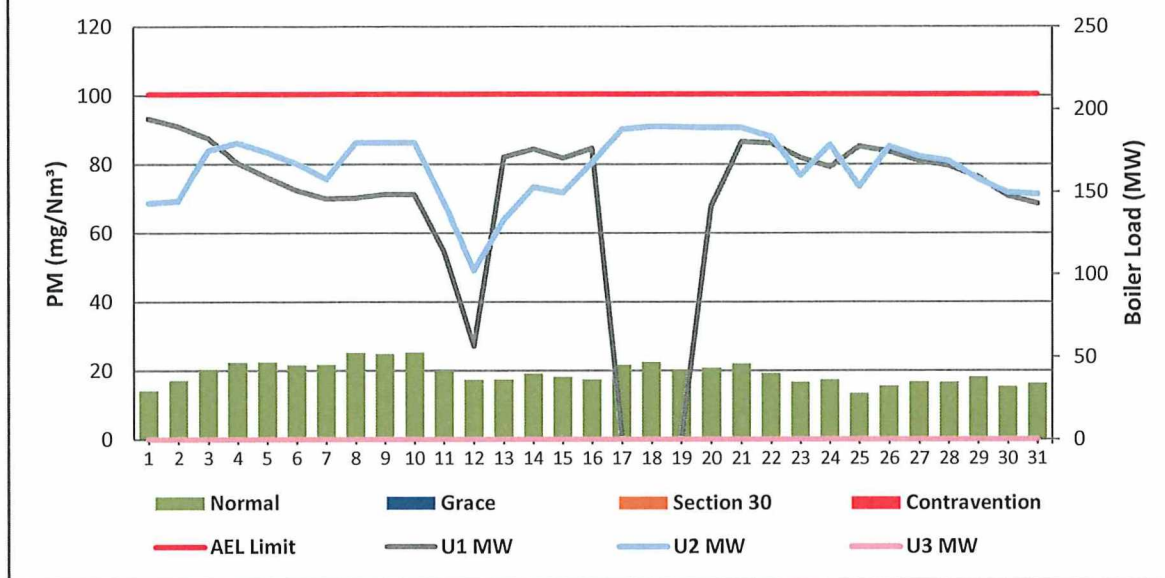


Figure 2: Grootvlei South St. PM Emissions - March 2024

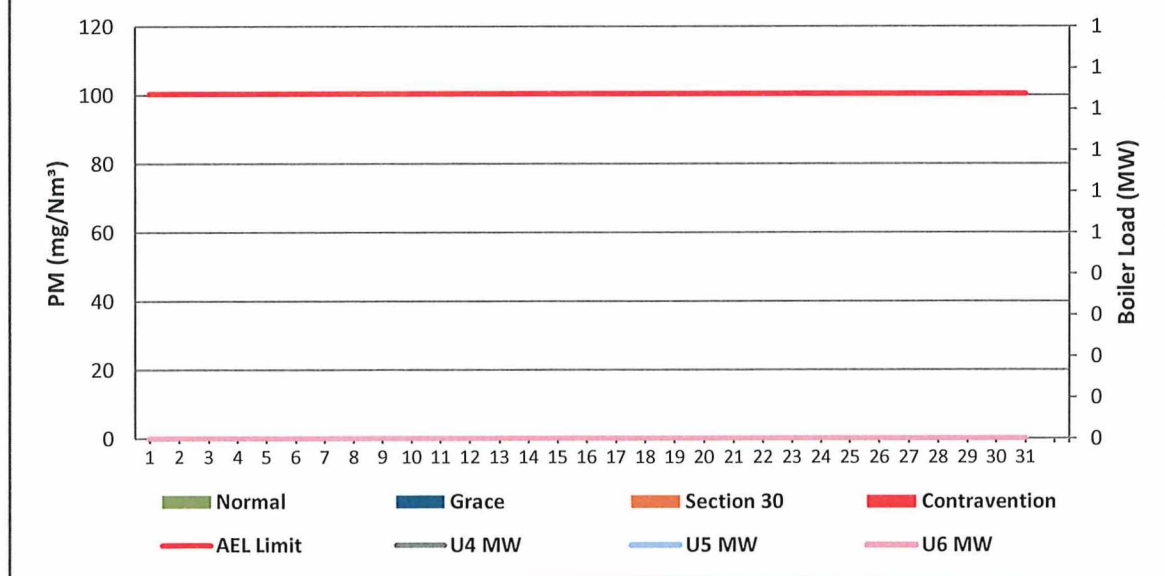


Figure 3: Grootvlei North St. SO₂ Emissions - March 2024

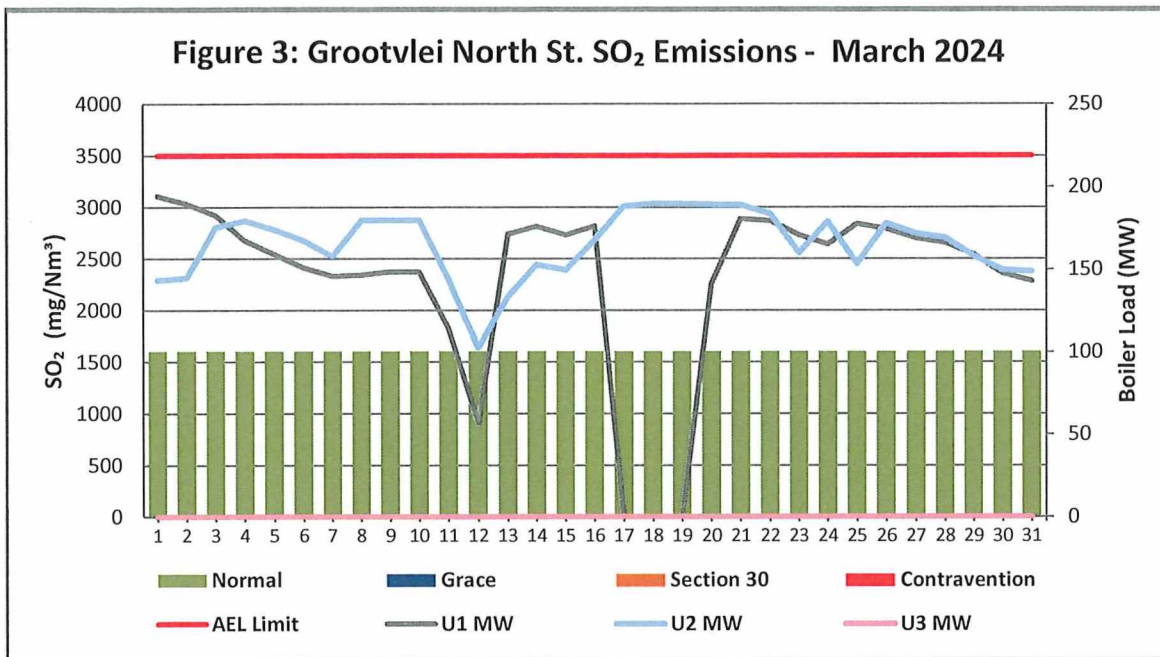


Figure 4: Grootvlei South St. SO₂ Emissions - March 2024

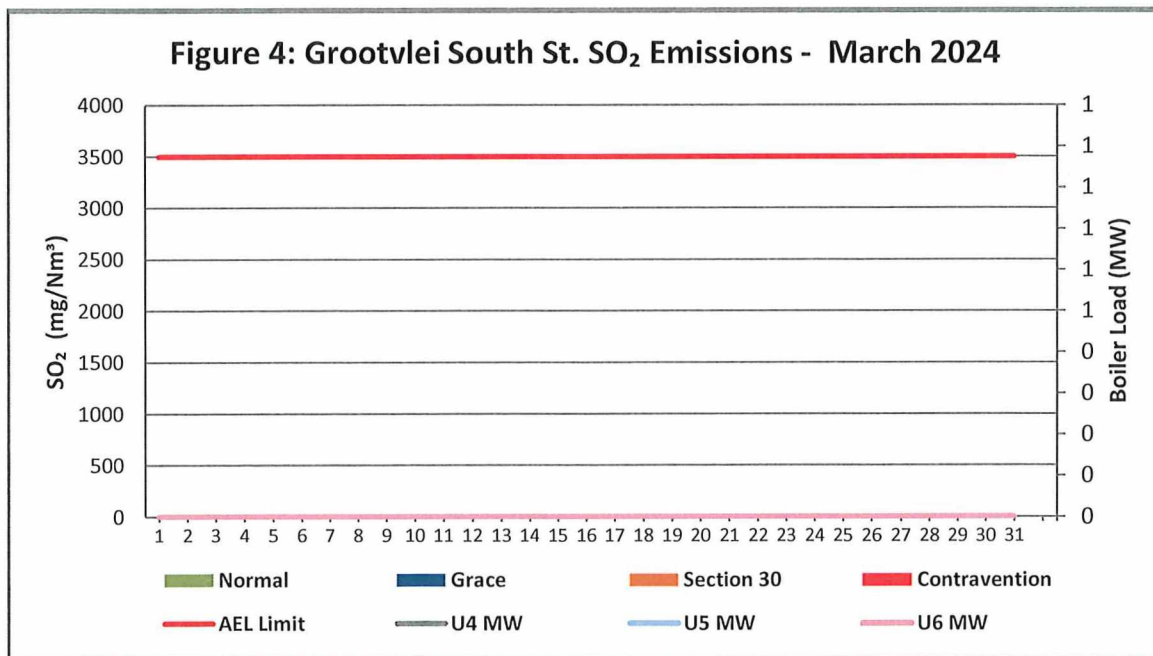


Figure 5: Grootvlei North St. NOx Emissions - March 2024

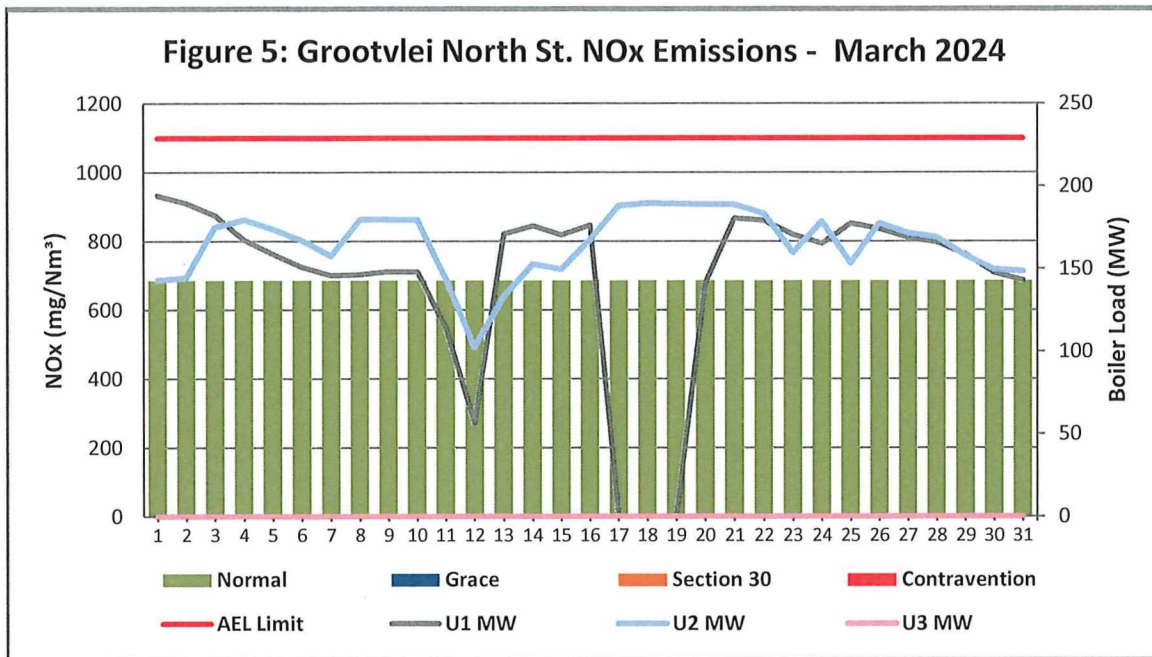
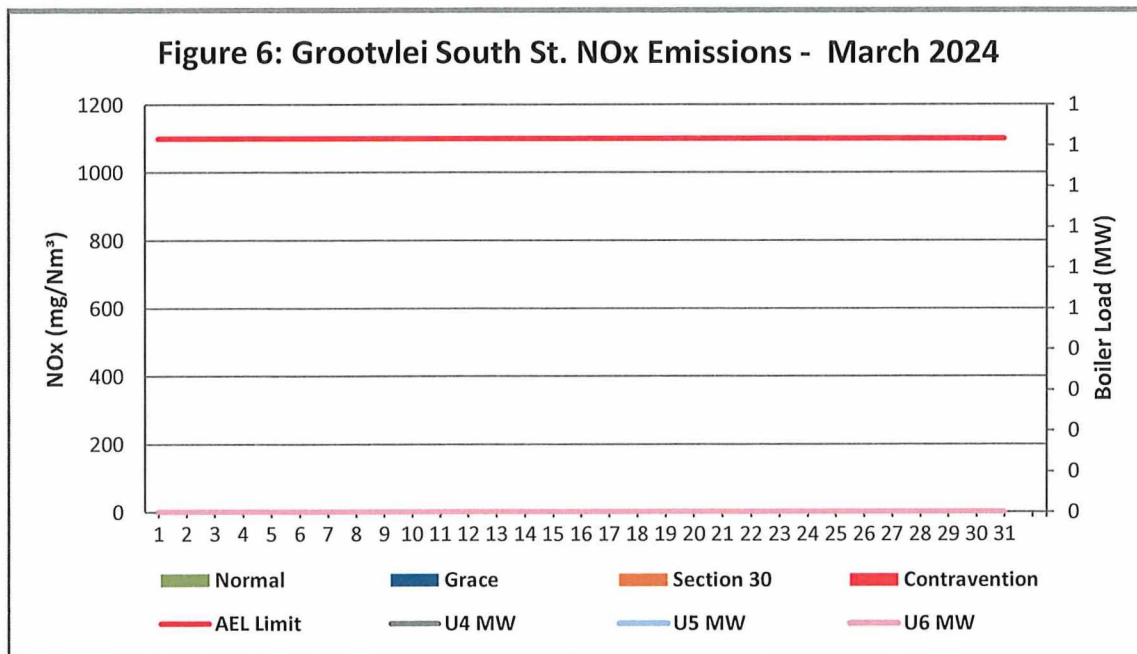


Figure 6: Grootvlei South St. NOx Emissions - March 2024



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of March-2024

North Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 1</i>		<i>Unit 1</i>		<i>Unit 1</i>		<i>no event</i>	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	<i>10:20 pm</i>	<i>2024/03/11</i>	<i>1:50 am</i>	<i>2024/03/16</i>		
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>12:45 am</i>	<i>2024/03/17</i>		
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>00:22:55</i>	DD:HH:MM		DD:HH:MM
Fires in time					<i>8:40 am</i>	<i>2024/03/19</i>		
Synch. to Grid (or BC)					<i>2:25 am</i>	<i>2024/03/20</i>		
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM	<i>00:17:45</i>	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)					<i>not > limit</i>	<i>not > limit</i>		
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM

North 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

South Stack	Event 1		Event 2		Event 3		Event 4	
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:M M		DD:HH:MM
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:M M		DD:HH:MM
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:M M		DD:HH:MM

South 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:M M		DD:HH:MM
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:M M		DD:HH:MM
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:M M		DD:HH:MM

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of March-2024 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 March-2024

	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-2024

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.

South Stack off. We're temporarily using substitute values (QAL2) for gas reporting until we receive the corresponding test report from the supplier. During the entire month, Unit 3 was offline, resulting in only Units 1 and 2 being operational. Reliability is recorded as zero due to the utilization of these substitute values. There were complications with gas analyzer readings, and on March 14th, a leak was detected in the AVU's rotameter, leading to a sudden decrease in gas readings. The issue was promptly addressed with repairs to the rotameter and calibration of the gas analyzer, stabilizing the readings. Additionally, on March 20th at around 21:25, gas signals were lost due to a tripped main breaker, which was reinstated the following day around 09:00. Furthermore, on the same day at approximately 21:46, power was lost due to another breaker tripping, also restored the next day. These incidents likely impacted the reliability of the gas analyzer.

S.M. Wesh 2024-04-03
Boiler Engineering Date

General Manager (ACTING) Date 2024/04/15

FFP System Engineer

Copies: Eskom Environmental Management

Group Technology Engineering

Grootvlie Power Station:

Engineering Manager
Operating Manager
Maintenance Manager
Unit Production Manager
Boiler Engineering Manager
System Engineer
Environmental Officer
Performance and Test
Production Manager

 Eskom	Delegation of Authority Letter	Document Identifier	240-139241745	Rev	3
		Effective Date	01 December 2023		
		Review Date	01 December 2025		

Thabo Mahlangu
Boiler Engineering Manager
Unique no: 4071387

Date: 05 April 2024

For enquiries: Notemba Sobuwa
+27 17 779 8667

Dear Thabo,

TEMPORARY DELEGATION OF AUTHORITY

In terms of the powers, duties and authorities delegated and attached to my position, I **Notemba Sobuwa** in my capacity as **Boiler Engineering Manager: Grootvlei** of Eskom Holdings SOC Ltd **Generation Division**, hereby delegate you as the **Acting Boiler Engineering Manager: Grootvlei** all powers, duties and authorities attached to the position of **Engineering Manager: Grootvlei**.

This appointment is in accordance with the Eskom Delegation of Authority Policy (Eskom DOA) (240-62072907).

This delegation is effective from **08 April 2024** until the **12 April 2024** as **Boiler Engineering Manager: Grootvlei** as set out in the DOA and/or **Generation Division DOA** on the following cost centres:

COST CENTRE NAME/PROJECT	COST CENTRE NUMBER
Boiler Engineering Manager	326401

The Delegation shall be exercised subject to the following conditions and limitations:

- lawfully;
- within the scope and powers of the delegated powers and authorities;
- subject to and in compliance with any limitations, conditions, policies and/or directives that may be developed and implemented by the Board, or by Exco at the behest of the Board; and
- in accordance with the provisions of the Public Finance Management Act No 1 of 1999, as amended.

Public

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