

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

**Attention:**  
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AND

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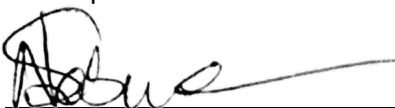
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**Total number of pages:**  
**10**

**Total number of annexes:**

## GROOTVLEI POWER STATION

Atmospheric Emission License GPS/0015/2015/F02

  
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**BOILER ENGINEERING MANAGER**

2024/07/03

\_\_\_\_\_  
**DATE**

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

2024/07/31

\_\_\_\_\_  
**DATE**

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

2024/07/31

\_\_\_\_\_  
**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 Jun-2024
	Coal	Tons	650 000	135 190.0
	Fuel Oil	Tons	20 000	1692.4
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Indicative Production Rate Jun-2024
	Energy	GWh	806.4	225.86
	Ash	Tons	300 000	35 231
	RE PM	kg/MWh	not specified	0.08

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	20.43
Sulphur Content	%	0.6 to < 1.2	0.68
Ash Content	%	27 to < 32	26.06

## 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)	99.941%
Unit 2	Fabric Filter Plant (FFP)	99.954%
Unit 3	Fabric Filter Plant (FFP)	99.585%
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	97.1	99.9	98.2
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 June-2024

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	7.71	849.2	240.0
Unit 2	8.40	965.9	273.8
Unit 3	1.04	91.8	27.7
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>17.15</b>	<b>1 906.9</b>	<b>541.5</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	30	0	0	0	13.2
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 - June 2024





Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
North	30	0	0	0	1 484.1
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 - June 2024

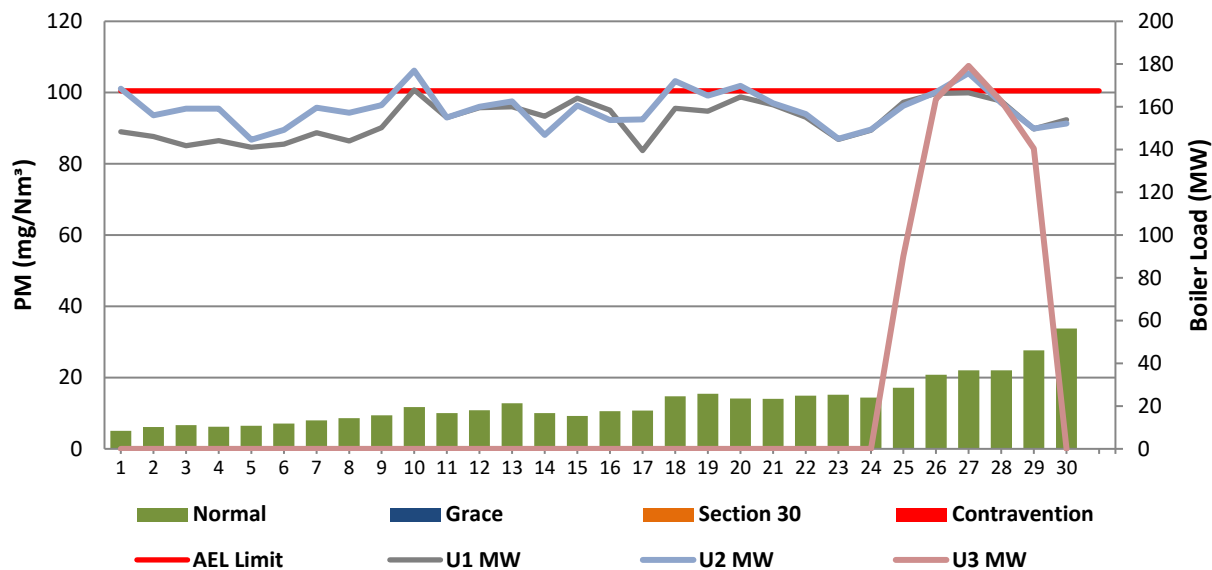
Associated Unit/Stack	Normal	Grace	Section 30	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	30	0	0	0	419.7
South	0	0	0	0	
<b>SUM</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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>

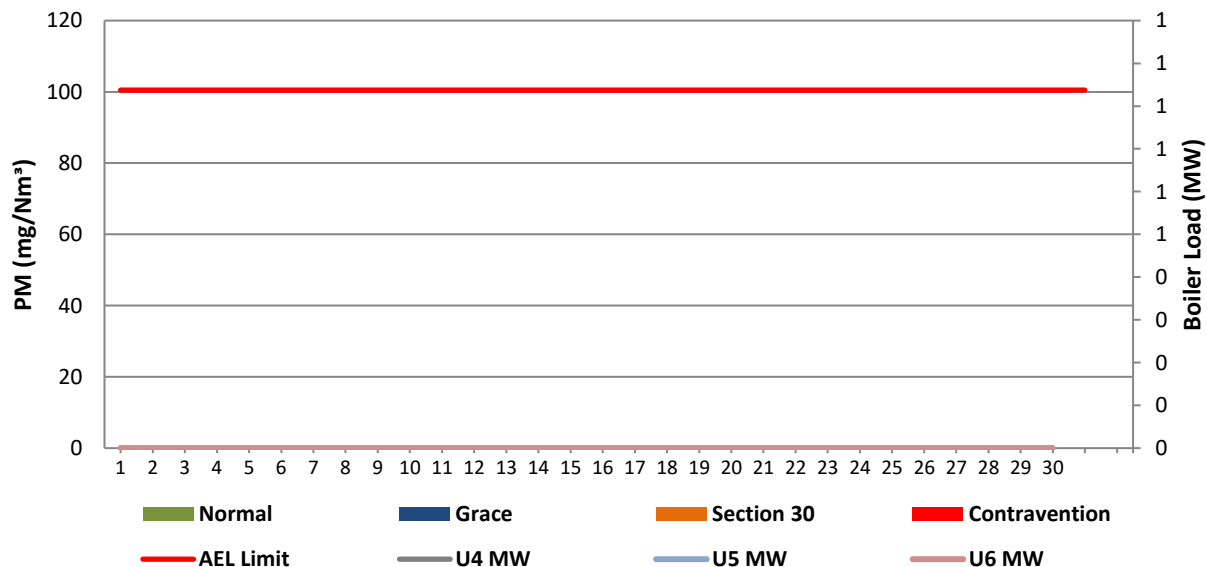
Table 6.5: Legend Description

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		

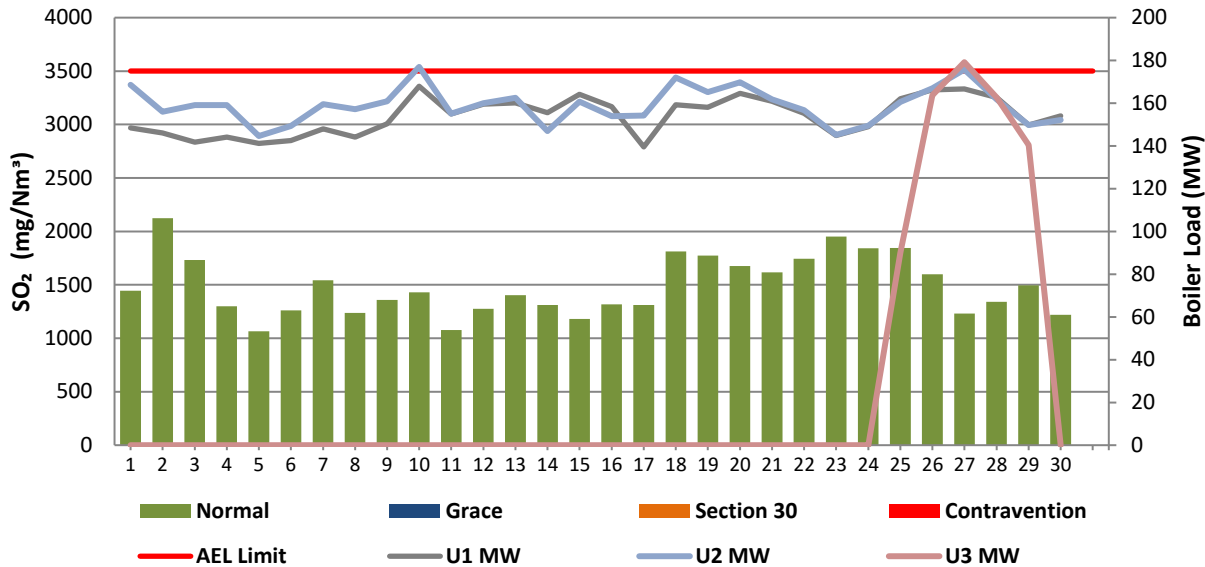
**Figure 1: Grootvlei North St. PM Emissions - June 2024**



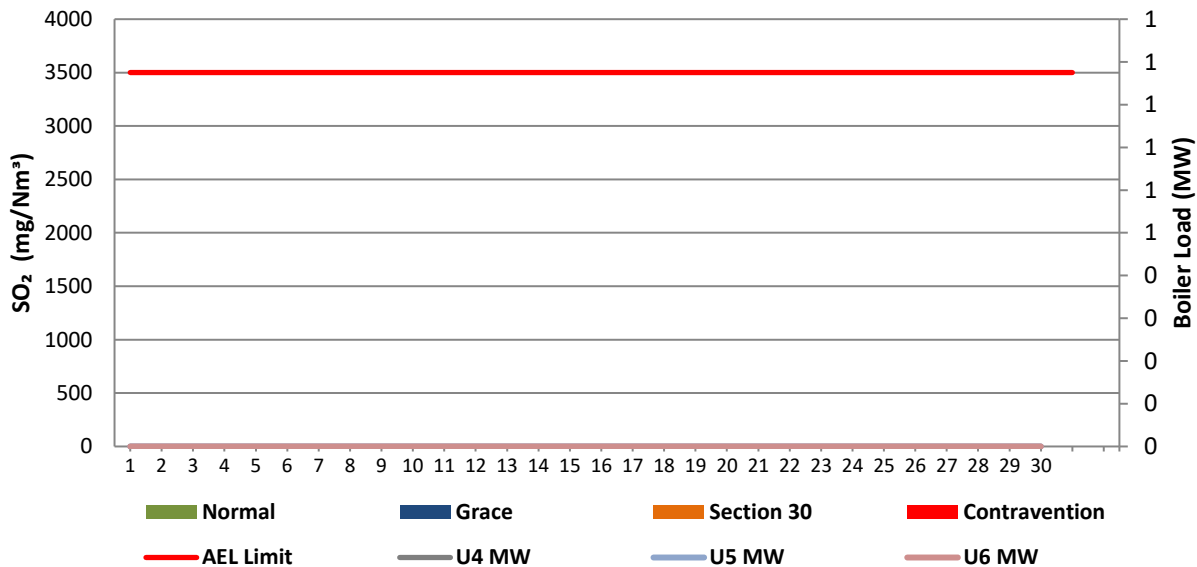
**Figure 2: Grootvlei South St. PM Emissions - June 2024**



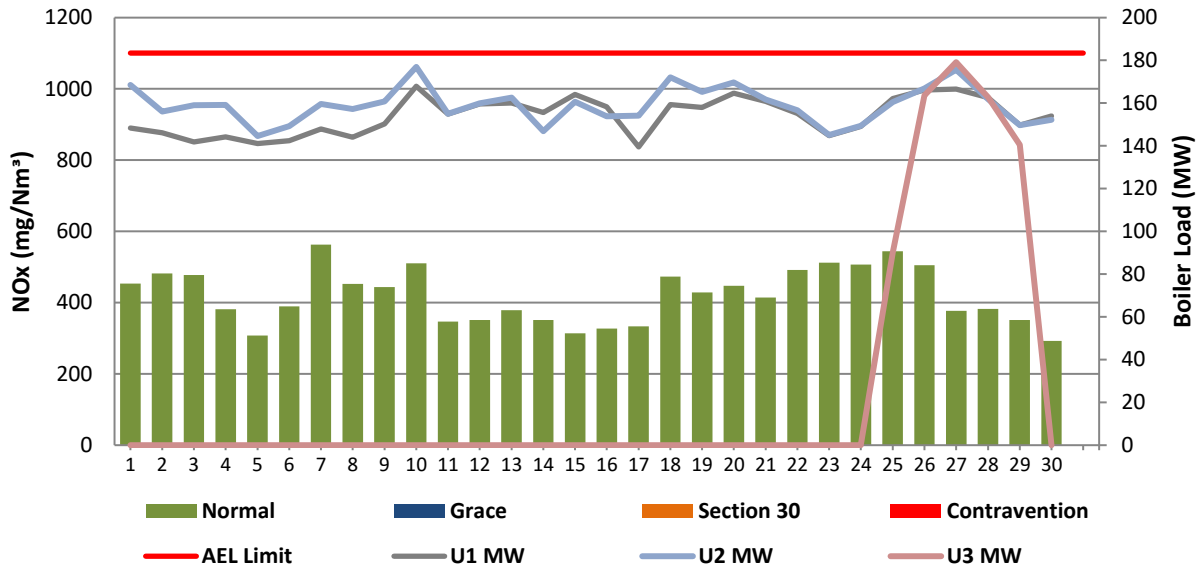
**Figure 3: Grootvlei North St. SO<sub>2</sub> Emissions - June 2024**



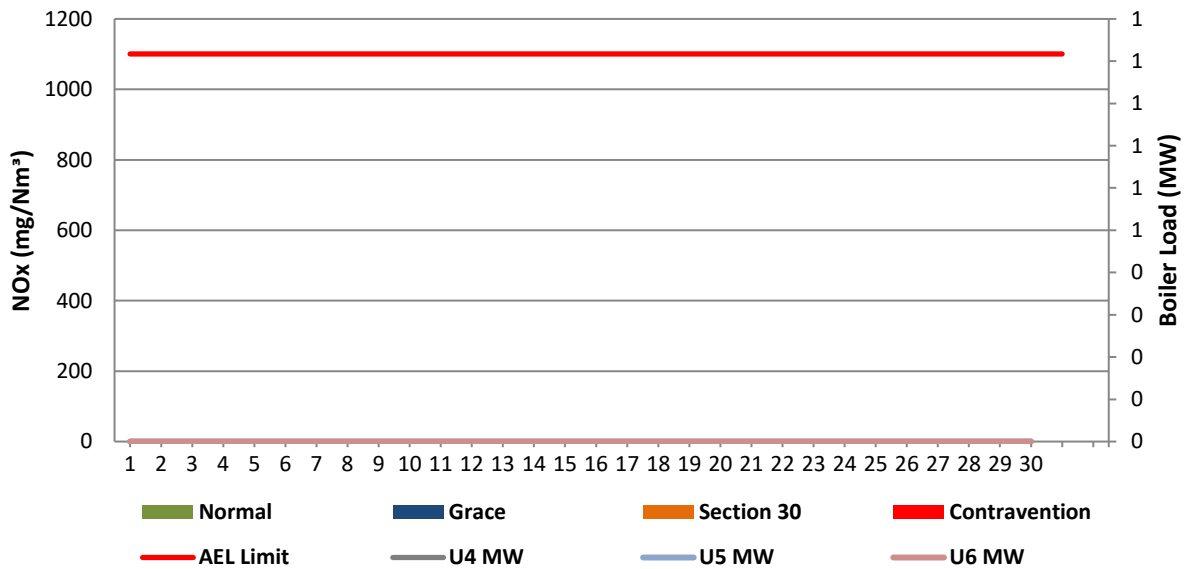
**Figure 4: Grootvlei South St. SO<sub>2</sub> Emissions - June 2024**



**Figure 5: Grootvlei North St. NOx Emissions - June 2024**



**Figure 6: Grootvlei South St. NOx Emissions - June 2024**



## 7 SHUT DOWN AND LIGHT UP INFORMATION

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

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 2		Unit 3		no event		no event	
Breaker Open (BO)	1:55 am	2024/06/14	BO previously	BO previously				
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	n/a	n/a				
BO to DG SD (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			2:55 pm	2024/06/21				
Synch. to Grid (or BC)			3:45 pm	2024/06/25				
Fires in to BC (duration)		DD:HH:MM	04:00:50	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)		DD:HH:MM	n/a	DD:HH:MM		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: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: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.	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

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

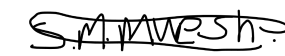
To be completed in the case of a S30 incident or a legal contravention:


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.

## 11 General

South Stack off. The monthly averages are: PM is 13.20 mg/Nm<sup>3</sup>, SO<sub>2</sub> is 1484 mg/Nm<sup>3</sup>, and NO<sub>x</sub> is 420 mg/Nm<sup>3</sup>, all below the AEL limits of 100, 3500, and 1100 mg/Nm<sup>3</sup>, respectively. There were no issues with leaking bags or monitor reliability.

 2024/07/22  
Environmental Department Date

 2024/07/22  
Boiler Engineering Date

 2024/08/01  
General Manager (Acting) 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