



Generation

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

**Attention:**

Mr D Hlanyane

AND

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10

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**GROOTVLEI POWER STATION**

Atmospheric Emission License GPS/0015/2015/F02

  
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BOILER ENGINEERING MANAGER

  
\_\_\_\_\_  
DATE

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

  
\_\_\_\_\_  
DATE

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

  
\_\_\_\_\_  
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 Feb-2020
	Coal	Tons	650 000	113 280.7
	Fuel Oil	Tons	18 000	3425.19111
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Feb-2020
	Energy	GWh	779.52	157.11
	Ash	Tons	300 000	37 086
	RE PM	kg/MWh	not specified	0.04

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	
Sulphur Content	%	0.6 to < 1.2	0.91
Ash Content	%	27 to < 32	32.74

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

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

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-2020
Unit 1	Fabric Filter Plant (FFP)	99.982%
Unit 2	Fabric Filter Plant (FFP)	Unit Off-line
Unit 3	Fabric Filter Plant (FFP)	99.975%
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	CO <sub>2</sub>	O <sub>2</sub>
North	100.0	100.0	100.0		99.9
South					

## 6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of February-2020

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)	CO <sub>2</sub> (tons)
Unit 1	3.91	941.8	237.1	
Unit 2	0.00	0.0	0.0	
Unit 3	2.92	747.4	191.4	
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>6.83</b>	<b>1 689.2</b>	<b>428.5</b>	

Table 6.2: Operating days in compliance to PM AEL Limit - February 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	9.6
South	0	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

 Table 6.3: Operating days in compliance to SO<sub>x</sub> AEL Limit - February 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	2 394.8
South	0	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

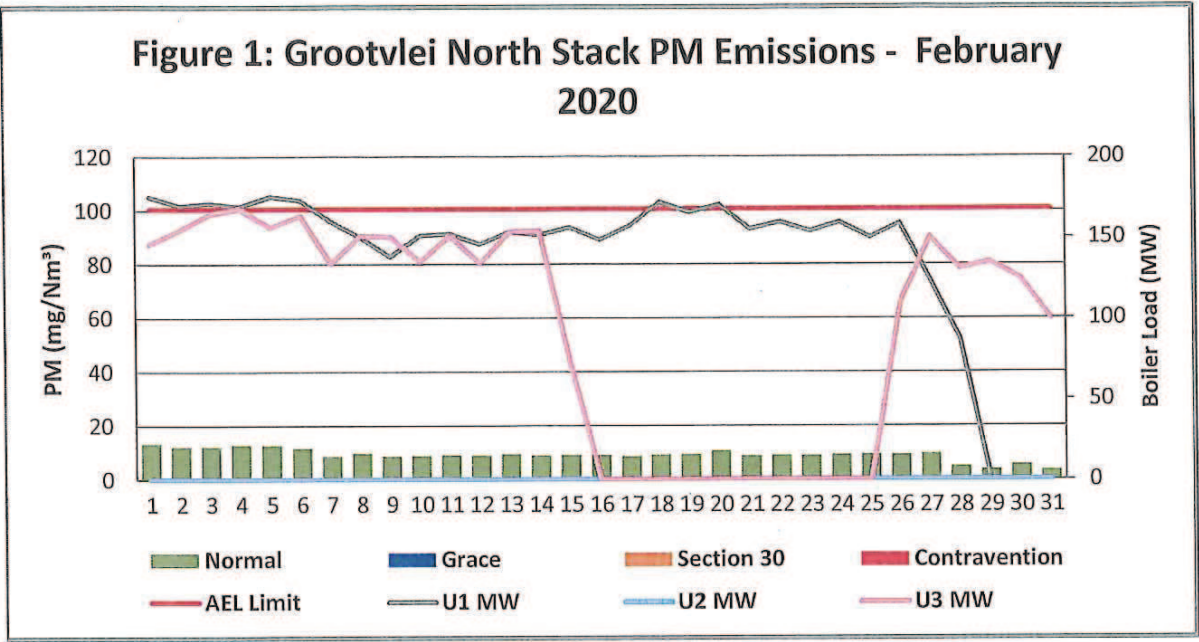
 Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - February 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	612.6
South	0	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

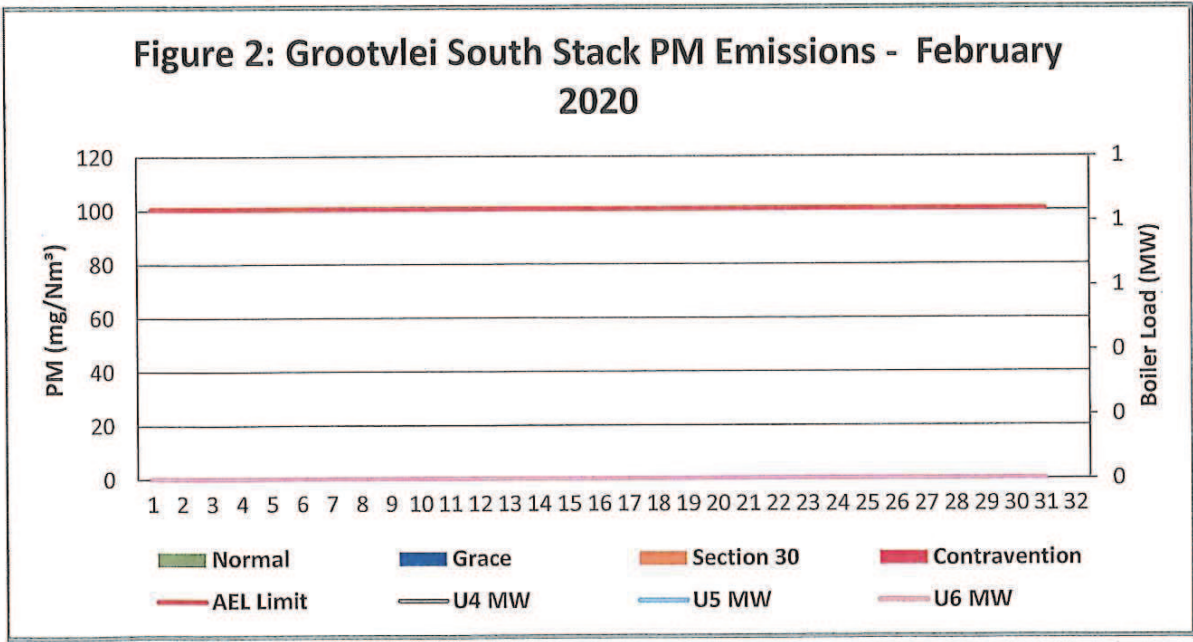
Table 6.5: Legend Description

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		Emissions above ELV but outside grace or S30 incident conditions

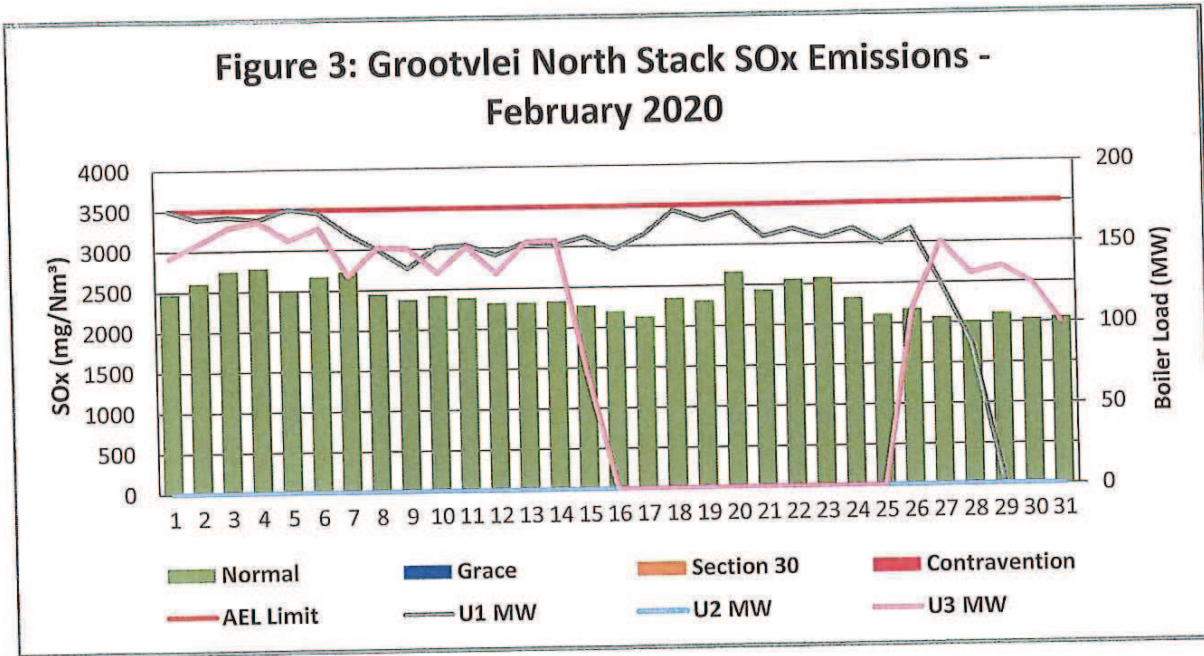
**Figure 1: Grootvlei North Stack PM Emissions - February 2020**



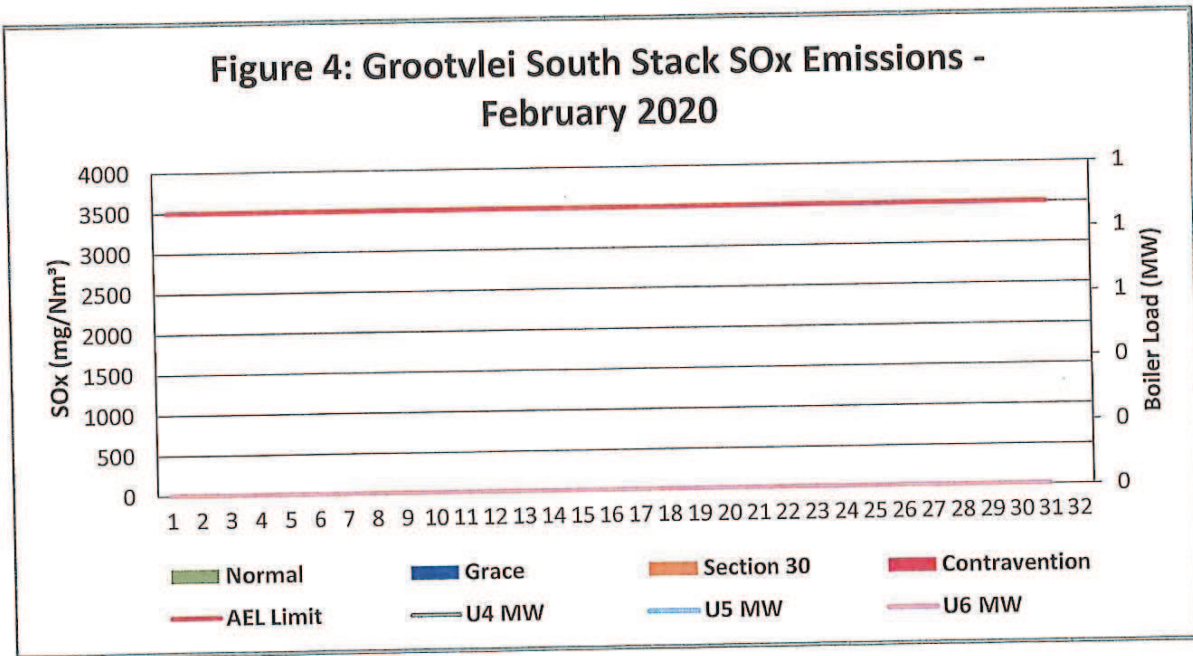
**Figure 2: Grootvlei South Stack PM Emissions - February 2020**



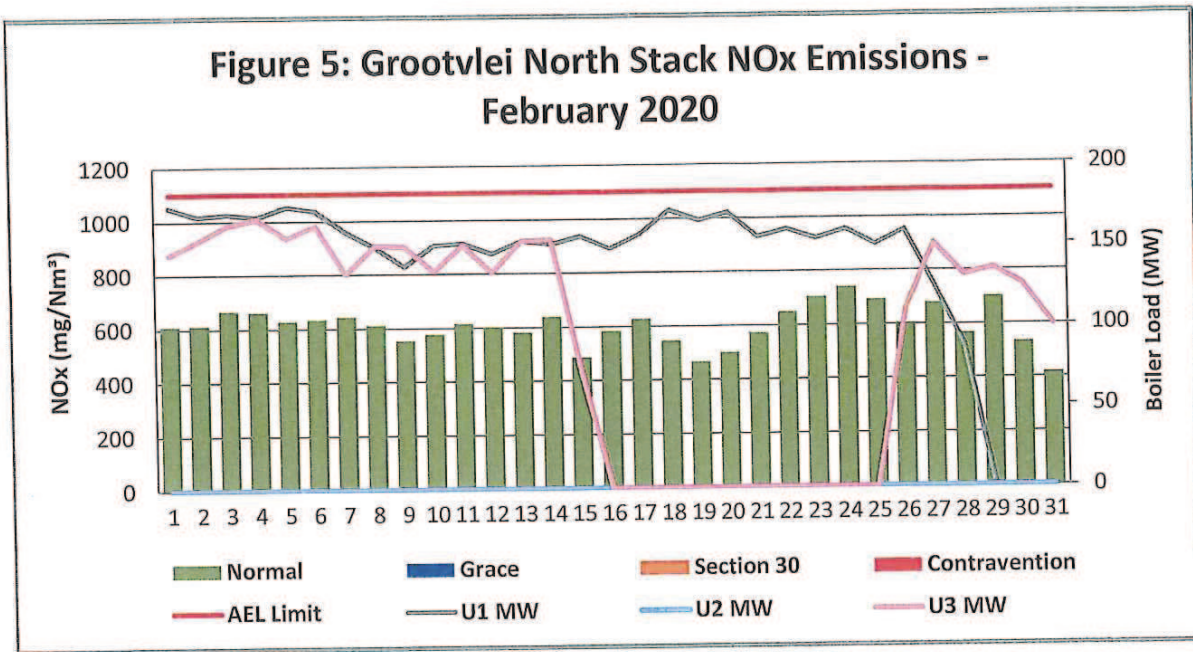
**Figure 3: Grootvlei North Stack SOx Emissions - February 2020**



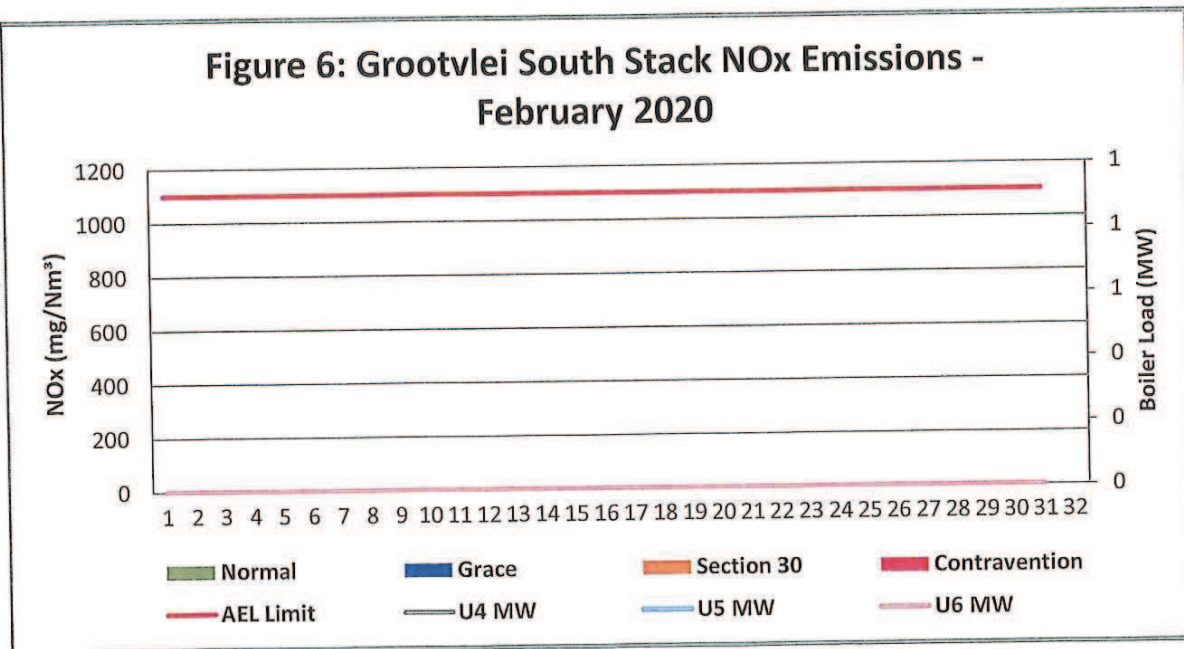
**Figure 4: Grootvlei South Stack SOx Emissions - February 2020**



**Figure 5: Grootvlei North Stack NOx Emissions - February 2020**



**Figure 6: Grootvlei South Stack NOx Emissions - February 2020**



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of February-2020

North Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>Unit 3</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>01:05 AM</i>	<i>2020/02/28</i>	<i>01:25 AM</i>	<i>2020/02/15</i>				
Draught Group (DG) Shut Down (SD)	<i>05:40 PM</i>	<i>2020/02/28</i>	<i>02:25 AM</i>	<i>2020/02/15</i>				
BO to DG SD (duration)	<i>00:16:35</i>	DD:HH:MM	<i>00:01:00</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			<i>01:25 PM</i>	<i>2020/02/25</i>				
Synch. to Grid (or BC)			<i>05:00 AM</i>	<i>2020/02/26</i>				
Fires in to BC (duration)		DD:HH:MM	<i>00:15:35</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)			<i>not &gt; limit</i>	<i>not &gt; limit</i>				
Emissions below limit from BC (duration)		DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM

North Stack ...Cont.	<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	<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 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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of February-2020 in mg/Nm<sup>3</sup>

[Include reference to once off test showing typical emissions rates during fires in and SD]


Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX

11 General

South Stack off-line.

  
Environmental Department      2020/03/05  
Date

  
Boiler Engineering      2020/03/05  
Date

  
General Manager      2020/03/06  
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