

**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 Aug-2020
	Coal	Tons	650 000	187 175,6
	Fuel Oil	Tons	18 000	1624,72266
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Aug-2020
	Energy	GWh	833,28	288,02
	Ash	Tons	300 000	56 564
	RE PM	kg/MWh	not specified	0,06

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1.2	0,86
Ash Content	%	27 to < 32	30,22

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

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

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Aug-2020
Unit 1	<i>Fabric Filter Plant (FFP)</i>	99,962%
Unit 2	<i>Fabric Filter Plant (FFP)</i>	99,958%
Unit 3	<i>Fabric Filter Plant (FFP)</i>	99,976%
Unit 4	<i>Fabric Filter Plant (FFP)</i>	Unit Off-line
Unit 5	<i>Fabric Filter Plant (FFP)</i>	Unit Off-line
Unit 6	<i>Fabric Filter Plant (FFP)</i>	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	100,0	100,0
South					

## 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)
Unit 1	6,45	839,2	196,7
Unit 2	8,10	1 140,9	254,5
Unit 3	3,53	636,1	131,1
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>18,08</b>	<b>2 616,3</b>	<b>582,3</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	14,3
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 - August 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	1 979,6
South	0	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

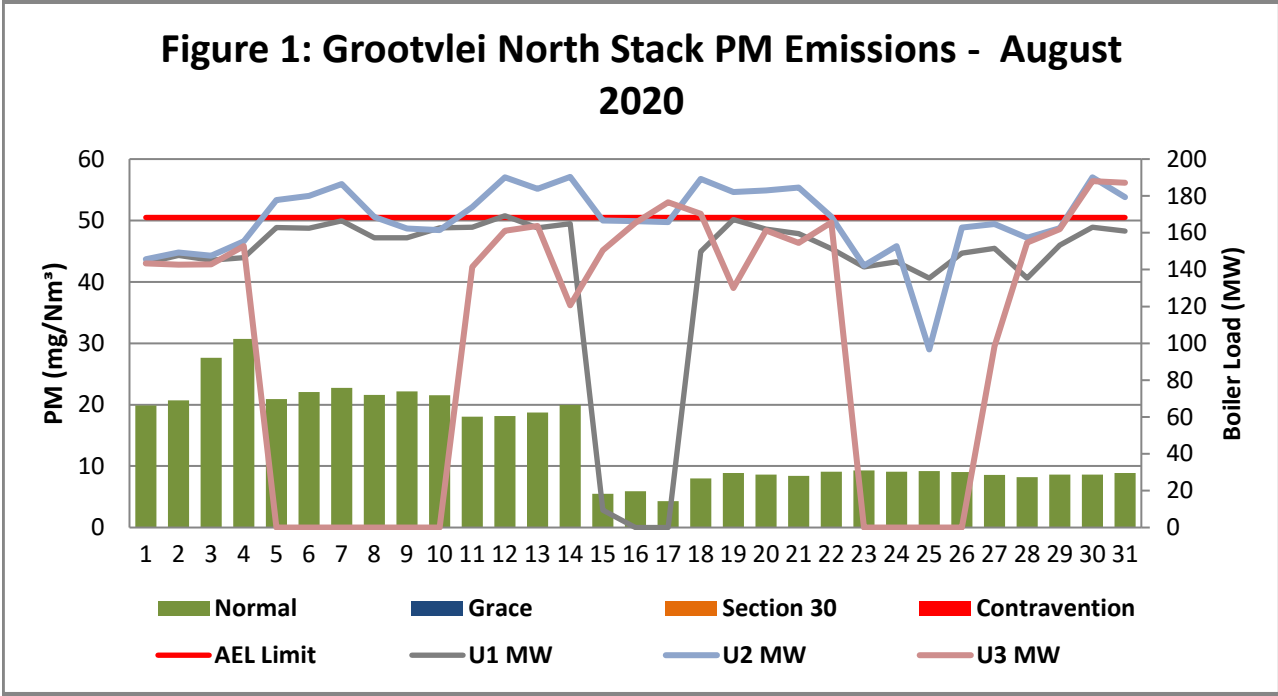
 Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - August 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
North	31	0	0	0	0	443,4
South	0	0	0	0	0	
<b>SUM</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

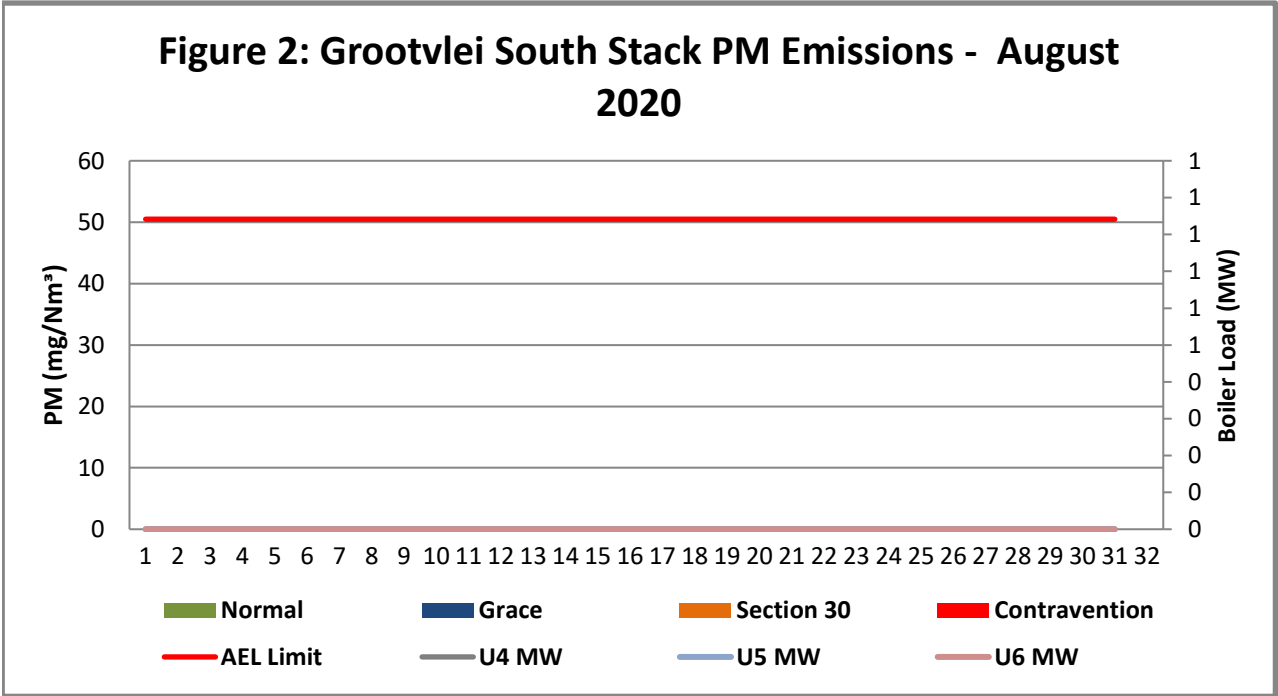
Table 6.5: Legend Description

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
Contra-vention		Emissions above ELV but outside grace or S30 incident conditions

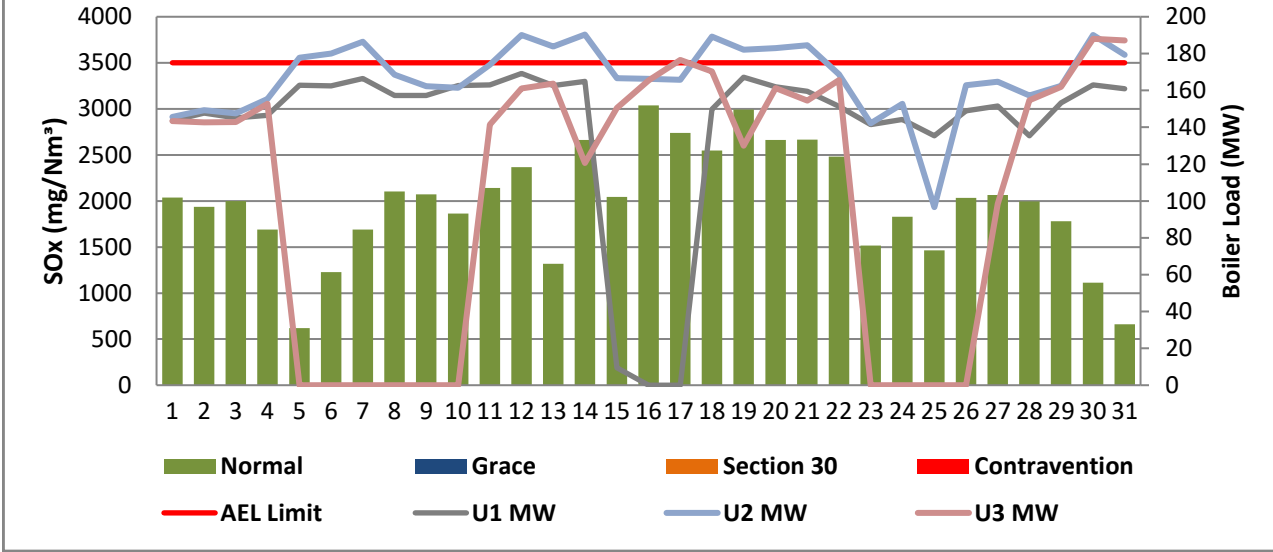
**Figure 1: Grootvlei North Stack PM Emissions - August 2020**



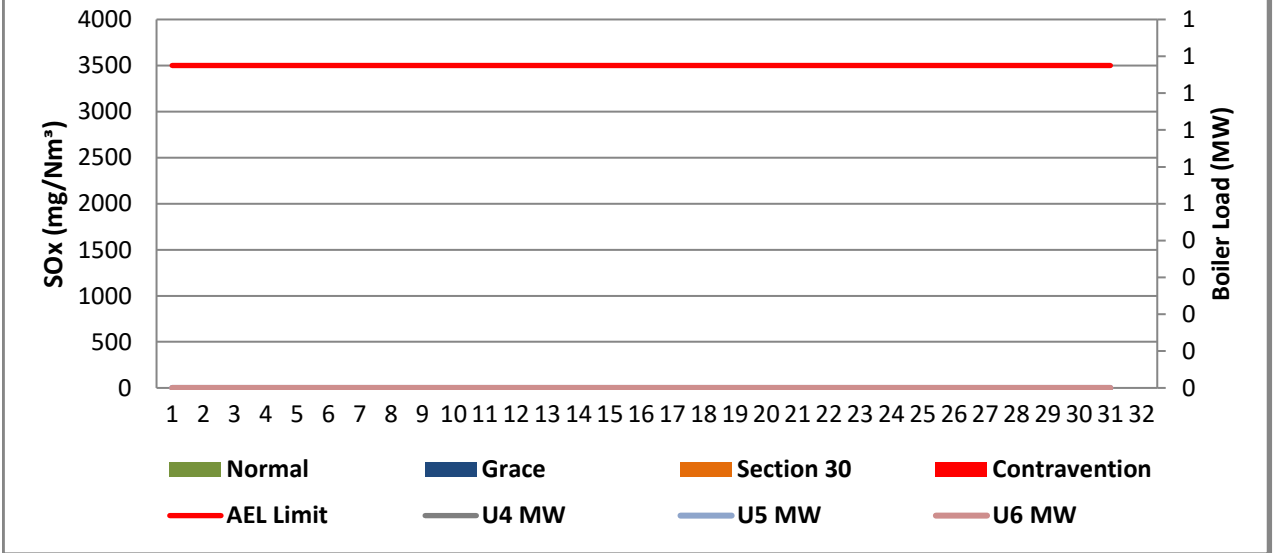
**Figure 2: Grootvlei South Stack PM Emissions - August 2020**



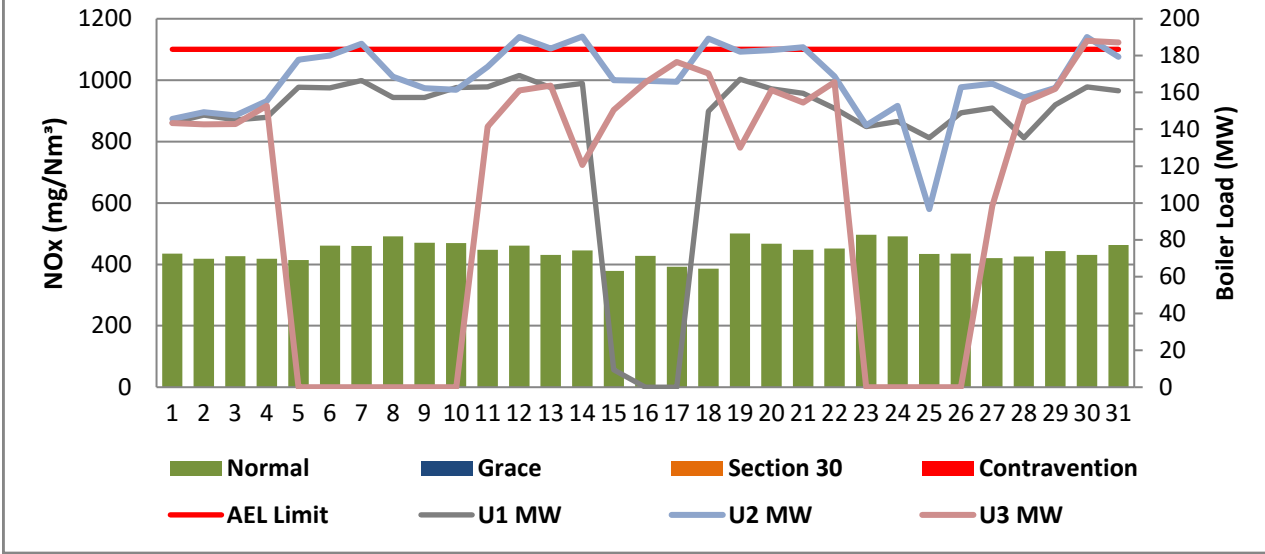
**Figure 3: Grootvlei North Stack SOx Emissions - August 2020**



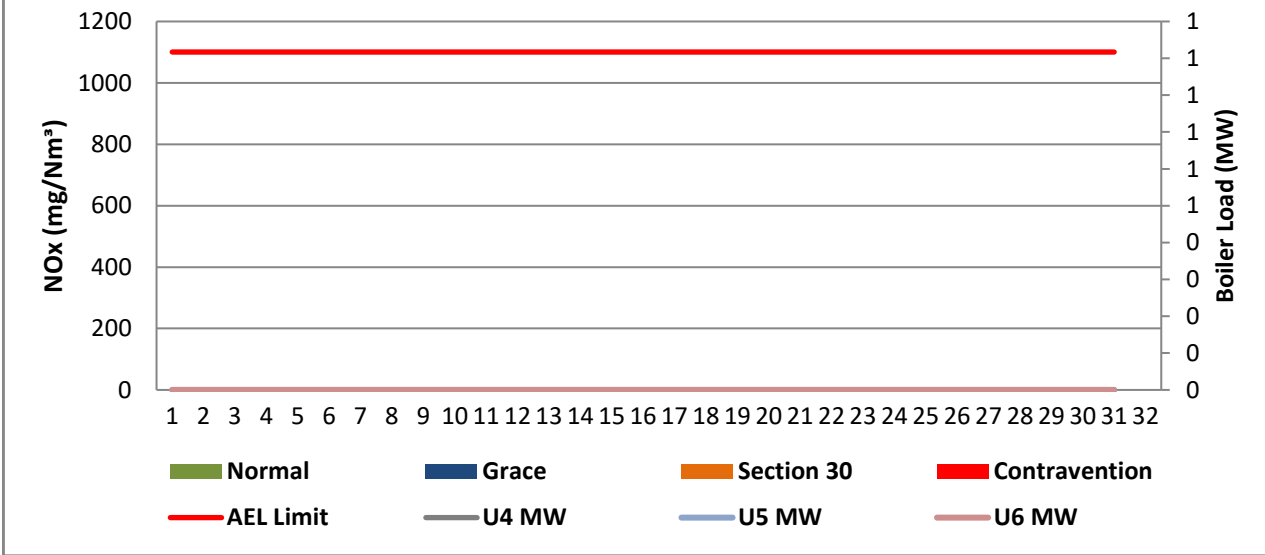
**Figure 4: Grootvlei South Stack SOx Emissions - August 2020**



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



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



**7 SHUT DOWN AND LIGHT UP INFORMATION**

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

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 3</i>		<i>Unit 3</i>	
Breaker Open (BO)	<i>12:05 AM</i>	<i>2020/08/15</i>	<i>5:05 PM</i>	<i>2020/08/28</i>	<i>11:40 PM</i>	<i>2020/08/04</i>	<i>8:05 PM</i>	<i>2020/08/22</i>
Draught Group (DG) Shut Down (SD)	<i>6:10 PM</i>	<i>2020/08/15</i>	<i>5:05 PM</i>	<i>2020/08/28</i>	<i>8:45 AM</i>	<i>2020/08/05</i>	<i>10:40 AM</i>	<i>2020/08/23</i>
BO to DG SD (duration)	<i>00:18:05</i>	DD:HH:MM		DD:HH:MM	<i>00:09:05</i>	DD:HH:MM	<i>00:14:35</i>	DD:HH:MM
Fires in time	<i>11:45 AM</i>	<i>2020/08/17</i>	<i>5:05 PM</i>	<i>2020/08/28</i>	<i>9:50 AM</i>	<i>2020/08/10</i>	<i>7:55 PM</i>	<i>2020/08/26</i>
Synch. to Grid (or BC)	<i>4:15 AM</i>	<i>2020/08/18</i>	<i>8:30 PM</i>	<i>2020/08/28</i>	<i>12:05 AM</i>	<i>2020/08/11</i>	<i>11:15 AM</i>	<i>2020/08/27</i>
Fires in to BC (duration)	<i>00:16:30</i>	DD:HH:MM	<i>00:03:25</i>	DD:HH:MM	<i>00:14:15</i>	DD:HH:MM	<i>00:15:20</i>	DD:HH:MM
Emissions below limit from BC (end date)	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	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 August-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



2020/09/08

Environmental Department

Date



07-09-2020

Boiler Engineering

Date



2020/09/08

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