

**MATLA POWER STATION MONTHLY EMISSIONS REPORT**

Atmospheric Emission License 17/4/AEL/MP312/11/14


**1 RAW MATERIALS AND PRODUCTS**

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Feb-2020
	Coal	Tons	1 475 000	926 574
	Fuel Oil	Tons	2 500	31
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Feb-2020
	Energy	GWh	2 401	1 664
	Ash	Tons	471 000	213 390
	RE PM	kg/MWh	not specified	0,511

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	19,17
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	23,03

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

Associated Unit/Stack	PM	SO <sub>2</sub>	NO
South	200	3500	1200
Unit 4	200	3500	1200
Unit 5	100	3500	1200
Unit 6	100	3500	1200

### 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-2020
South	<i>Electro Static Precipators (ESP)</i>	<i>99,659%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,084%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99,604%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,746%</i>

Note: Abatement plant does not have bypass mode operation, hence plant 100% Utilised.

### 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO	CO <sub>2</sub>	O <sub>2</sub>
South	<i>96,4</i>	<i>52,9</i>	<i>84,1</i>	<i>35,0</i>	<i>17,2</i>
Unit 4	<i>87,5</i>	<i>100,0</i>	<i>100,0</i>	<i>90,3</i>	<i>100,0</i>
Unit 5	<i>95,7</i>	<i>96,4</i>	<i>96,3</i>	<i>96,4</i>	<i>96,6</i>
Unit 6	<i>64,8</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>	<i>79,6</i>

### 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO <sub>x</sub>	NO <sub>x</sub>	CO <sub>2</sub>
Unit 1	78,3	404,4	119,4	70 953
Unit 2	105,3	678,7	210,9	112 417
Unit 3	114,3	714,1	217,2	118 624
Unit 4	333,3	3 010,0	2 139,6	207 412
Unit 5	124,7	2 579,7	837,5	283 053
Unit 6	93,8	2 997,7	1 129,9	288 413
<b>SUM</b>	<b>849,6</b>	<b>10 384,7</b>	<b>4 654,5</b>	<b>1 080 872</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> )
South	29	0	0	0	0	80,5
Unit 4	16	3	0	10	13	183,2
Unit 5	20	6	0	2	8	86,0
Unit 6	25	4	0	0	4	53,8
<b>SUM</b>	<b>90</b>	<b>13</b>	<b>0</b>	<b>12</b>	<b>25</b>	

Table 6.3: Operating days in compliance to SOx AEL Limit - February 2020

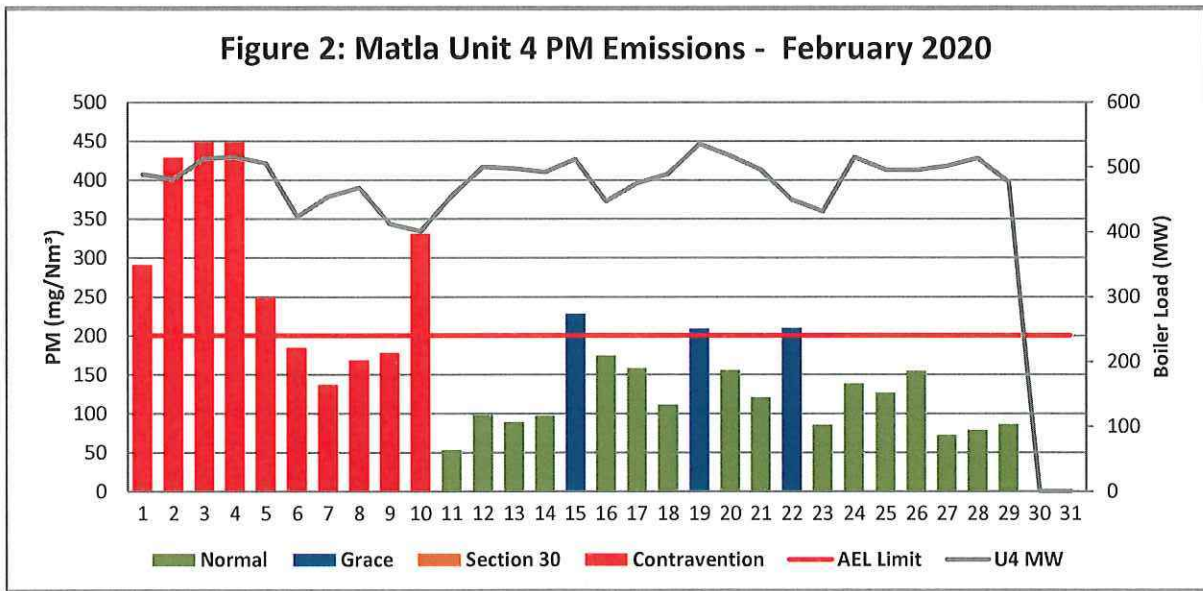
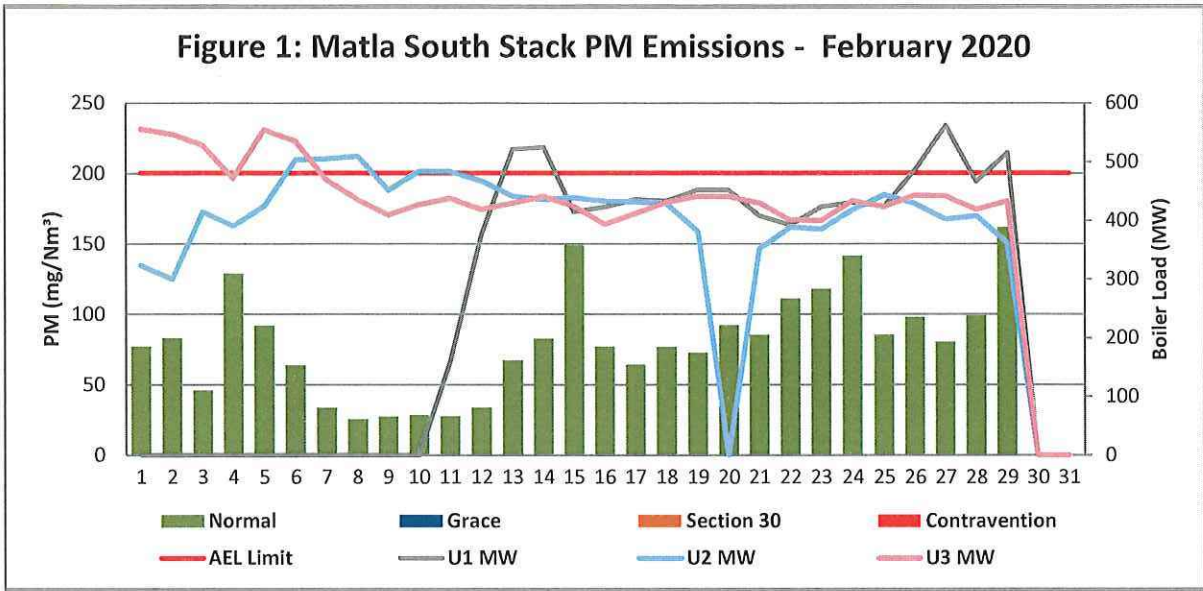
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
South	29	0	0	0	0	491,0
Unit 4	29	0	0	0	0	1 666,0
Unit 5	29	0	0	0	0	1 815,3
Unit 6	29	0	0	0	0	1 725,6
<b>SUM</b>	<b>116</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.4: Operating days in compliance to NOx AEL Limit - February 2020

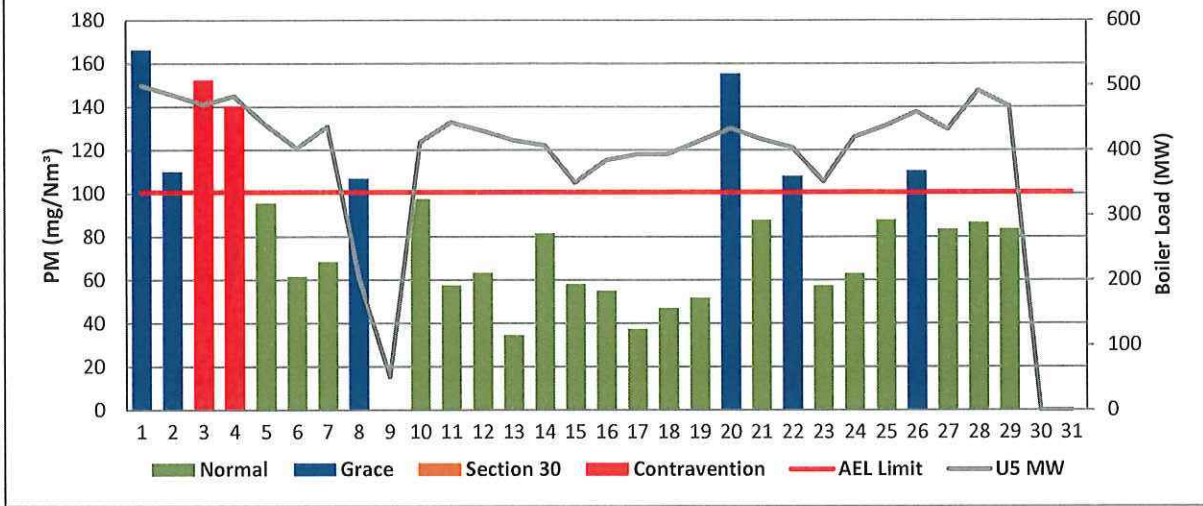
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
South	29	0	0	0	0	149,7
Unit 4	20	0	0	9	9	1 184,2
Unit 5	29	0	0	0	0	575,8
Unit 6	29	0	0	0	0	650,4
<b>SUM</b>	<b>107</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	

Table 6.5: Legend Description

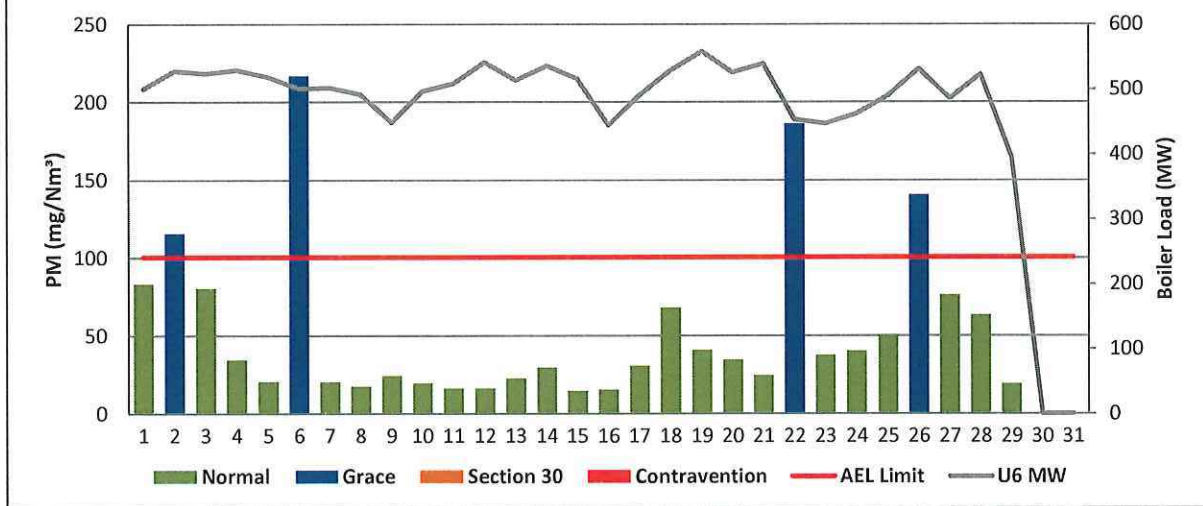
Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions



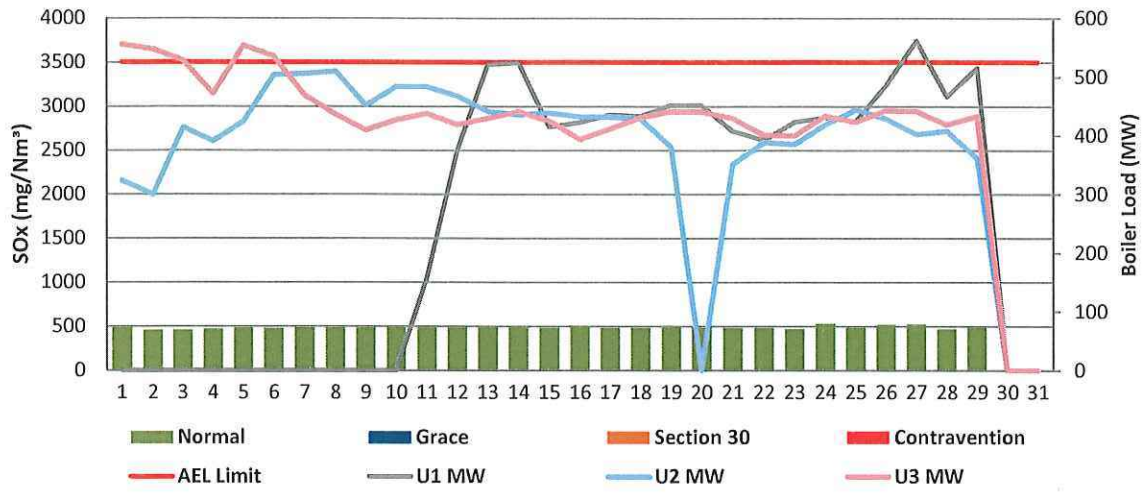
**Figure 3: Matla Unit 5 PM Emissions - February 2020**



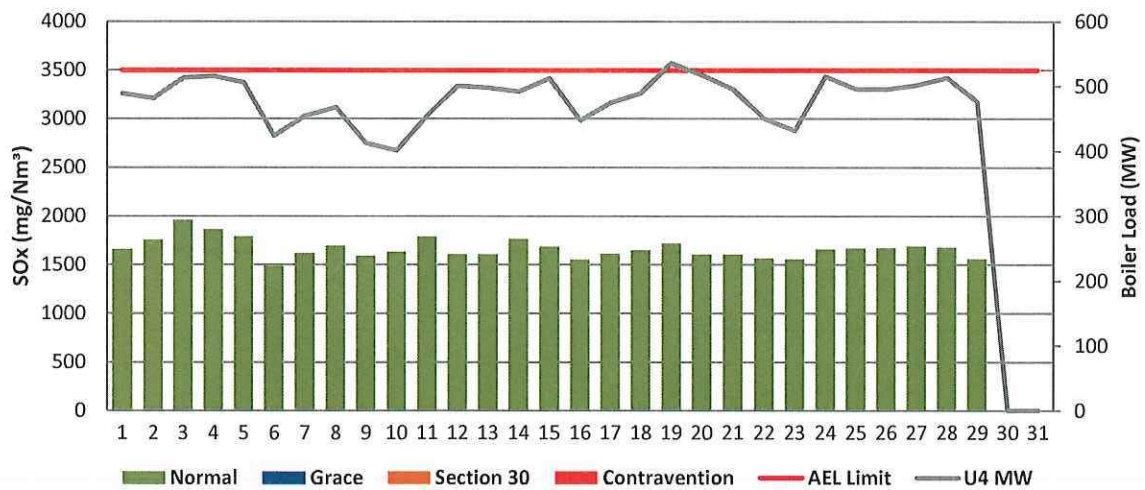
**Figure 4: Matla Unit 6 PM Emissions - February 2020**



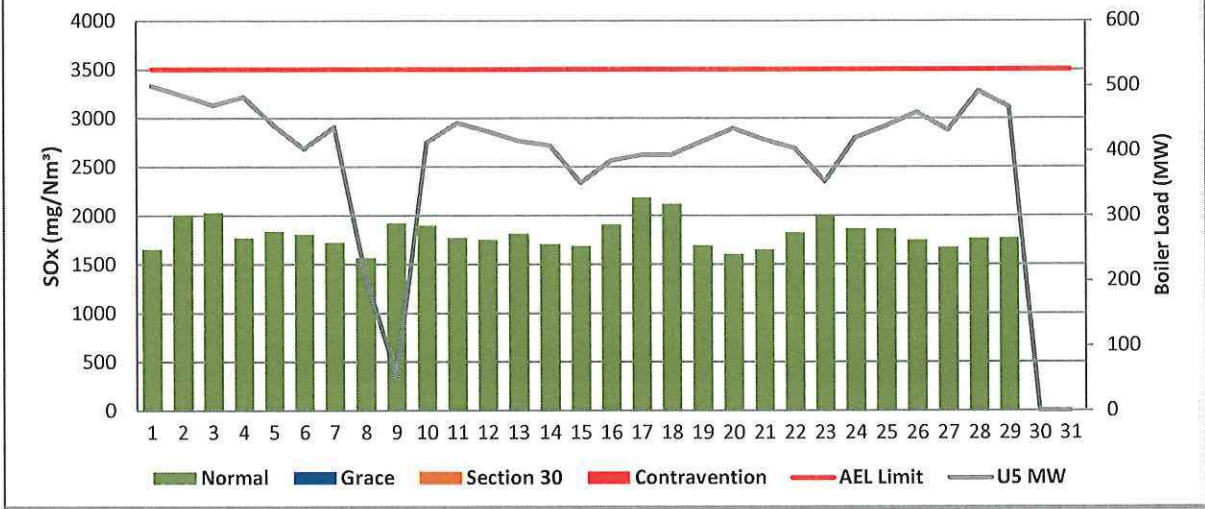
**Figure 5: Matla South Stack SOx Emissions - February 2020**



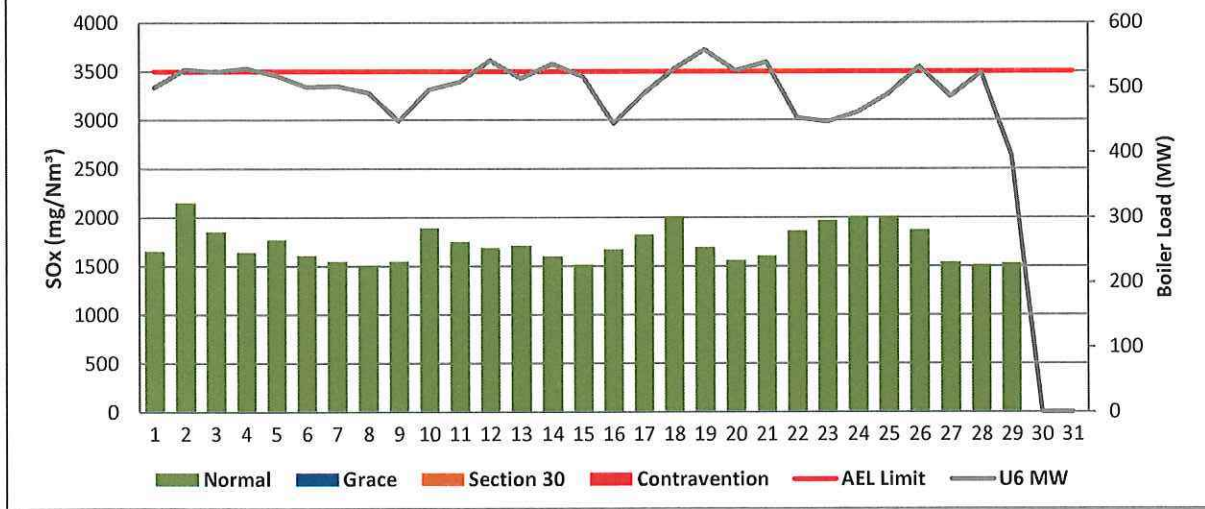
**Figure 6: Matla Unit 4 SOx Emissions - February 2020**



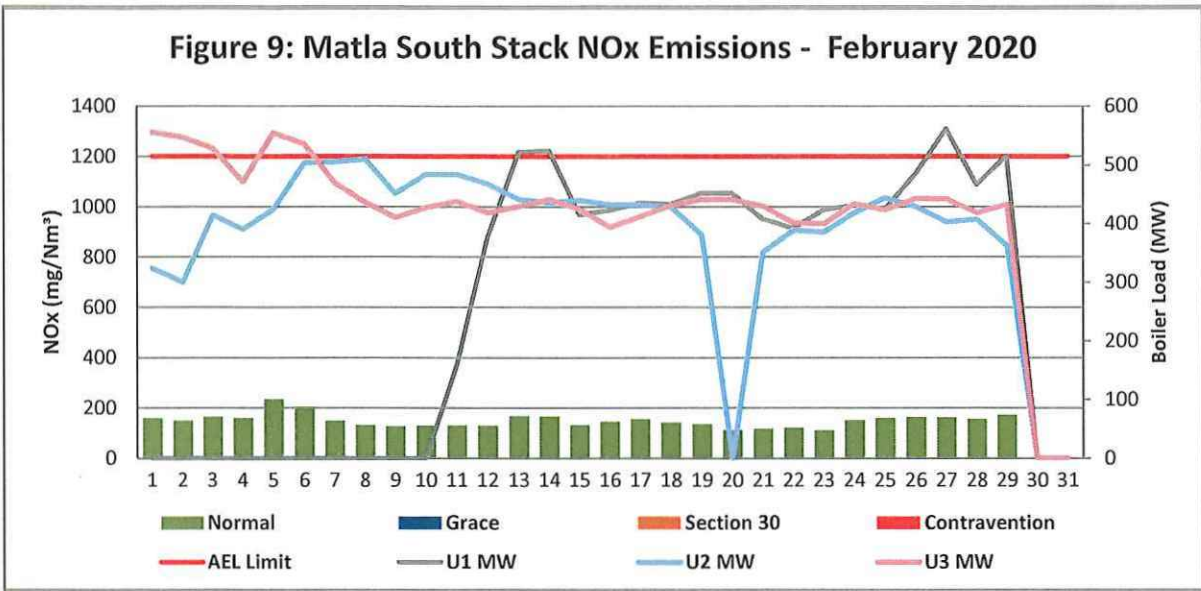
**Figure 7: Matla Unit 5 SOx Emissions - February 2020**



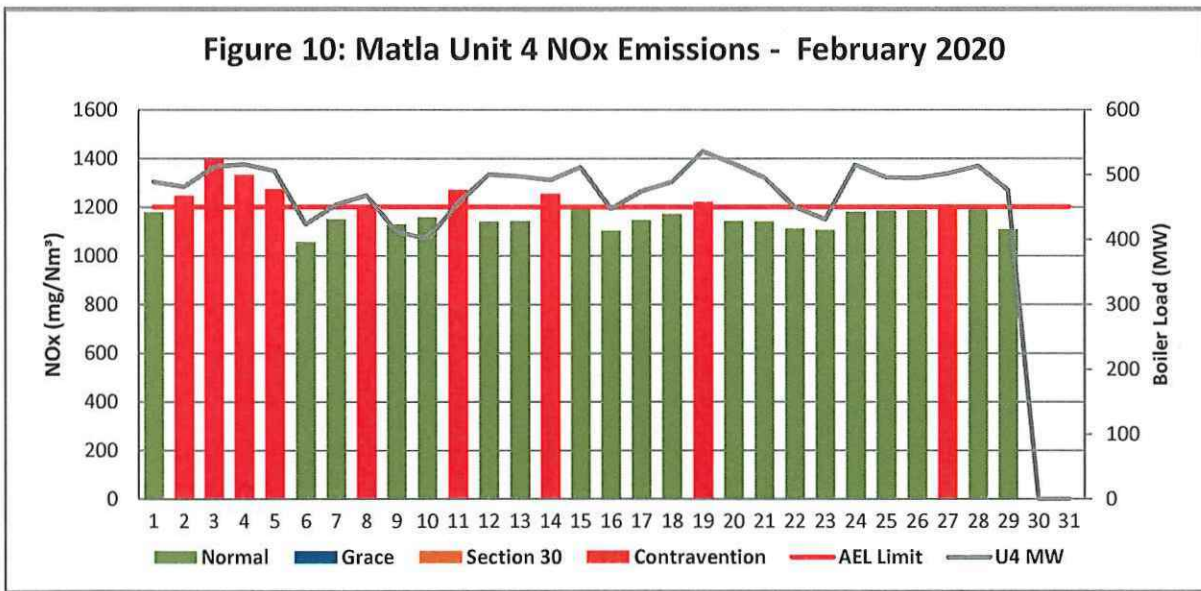
**Figure 8: Matla Unit 6 SOx Emissions - February 2020**



**Figure 9: Matla South Stack NOx Emissions - February 2020**

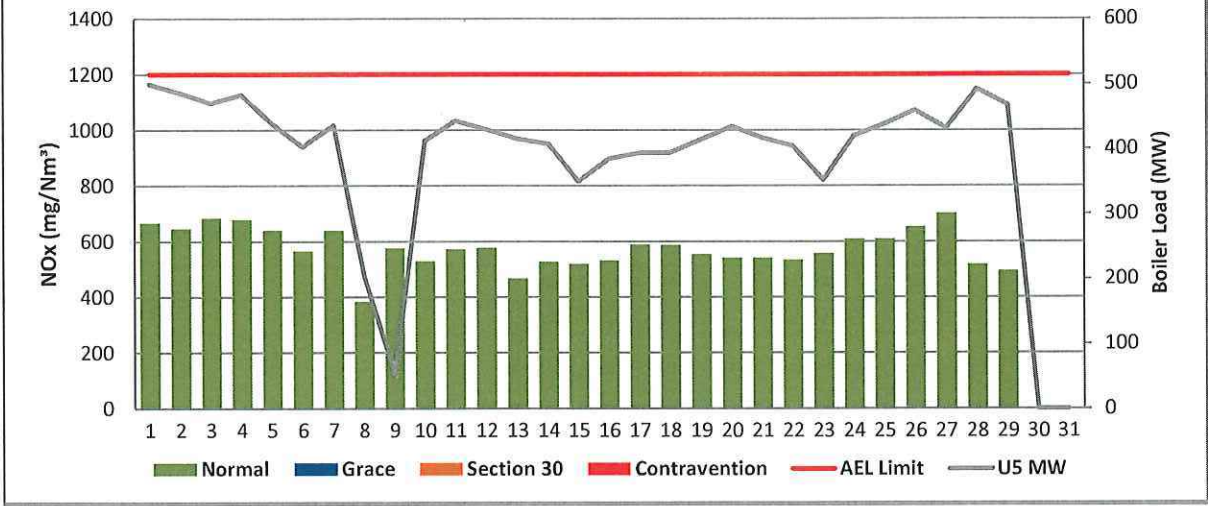


**Figure 10: Matla Unit 4 NOx Emissions - February 2020**

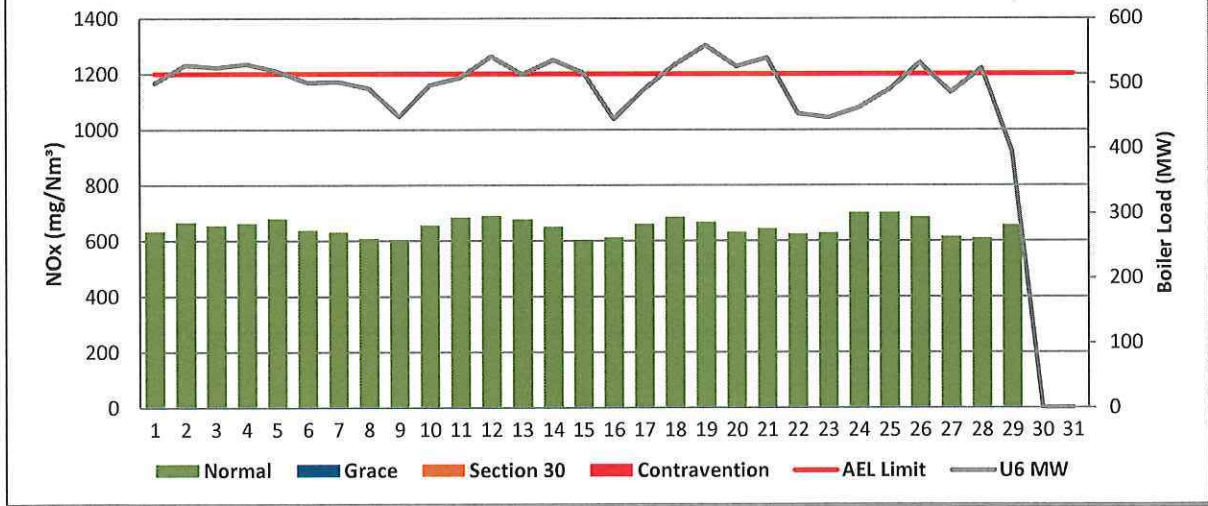




**Figure 11: Matla Unit 5 NOx Emissions - February 2020**



**Figure 12: Matla Unit 6 NOx Emissions - February 2020**



## 7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 2		no event		no event	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	11:50 PM	2020/02/19	12:00 AM	2020/02/04	11:05 AM	2020/02/15
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	4:35 AM	2020/02/20	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	00:04:45	DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM
Fires in time	4:00 AM	2020/02/10	9:45 PM	2020/02/20				
Synch. to Grid (or BC)	5:10 PM	2020/02/11	7:20 AM	2020/02/21				
Fires in to BC (duration)	01:13:10	DD:HH:MM	00:09:35	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>	<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		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)	9:35 AM	2020/02/29						
Draught Group (DG) Shut Down (SD)	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>						
BO to DG SD (duration)	<i>n/a</i>	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

Unit No. 4	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	9:55 AM	2020/02/29						
Draught Group (DG) Shut Down (SD)	9:55 AM	2020/02/29						
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

Unit No. 5	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	12:40 AM	2020/02/08						
Draught Group (DG) Shut Down (SD)	12:40 AM	2020/02/08						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	1:50 PM	2020/02/09						
Synch. to Grid (or BC)	11:40 PM	2020/02/09						
Fires in to BC (duration)	00:09:50	DD:HH:MM		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)	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

Unit No. 6	Event 1		Event 2		Event 3		Event 4	
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]

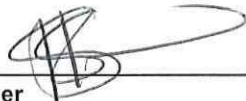
Remember to add attachments here; see ReportAddendum Tab

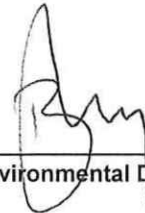
Reserved for Addendum XXXX



11 General

 13/03/2020  
Boiler Engineering Date

  
General Manager Date

 2020-03-23  
Environmental Department Date

Compiled by Boiler Engineering Department

For: Department of Environmental Affairs and Tourism

Copies: Eskom Environmental Management

Group Technology Engineering

Matla Power Station:

ESP & SO<sub>2</sub> System Engineer

Chief Air Pollution Control Officer

D Herbst  
B Mccourt

R Rampiar  
E. Patel

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

