

**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 Sep-2020
	Coal	Tons	1 475 000	885 574
	Fuel Oil	Tons	2 500	1 389

Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Sep-2020
	Energy	GWh	2 484	1 638
	Ash	Tons	471 000	225 290
	RE PM	kg/MWh	not specified	0,347

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	25,44

### 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 Sep-2020
South	<i>Electro Static Precipators (ESP)</i>	<i>99,725%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,795%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99,576%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,735%</i>

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

### 5 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO		O <sub>2</sub>
South	<i>100,0</i>	<i>93,3</i>	<i>93,3</i>		<i>100,0</i>
Unit 4	<i>80,3</i>	<i>99,6</i>	<i>99,6</i>		<i>99,6</i>
Unit 5	<i>92,5</i>	<i>43,7</i>	<i>43,7</i>		<i>46,7</i>
Unit 6	<i>95,5</i>	<i>29,4</i>	<i>29,4</i>		<i>100,0</i>

### 6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO <sub>x</sub>	NO <sub>x</sub>	
Unit 1	116,1	2 944,6	937,1	
Unit 2	106,4	2 694,6	834,3	
Unit 3	97,0	2 439,3	786,6	
Unit 4	83,2	4 129,1	1 543,0	
Unit 5	114,9	2 221,0	875,0	
Unit 6	50,7	1 253,1	493,5	
<b>SUM</b>	<b>568,3</b>	<b>15 681,7</b>	<b>5 469,6</b>	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
South	30	0	0	0	0	77,5
Unit 4	30	0	0	0	0	44,9
Unit 5	20	3	0	0	3	87,3
Unit 6	17	1	0	0	1	66,7
<b>SUM</b>	<b>97</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	

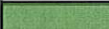



Table 6.3: Operating days in compliance to SOx AEL Limit - September 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SOx (mg/Nm <sup>3</sup> )
South	30	0	0	0	0	1 976,9
Unit 4	30	0	0	0	0	2 250,6
Unit 5	23	0	0	0	0	1 720,5
Unit 6	19	0	0	0	0	1 647,3
<b>SUM</b>	<b>102</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

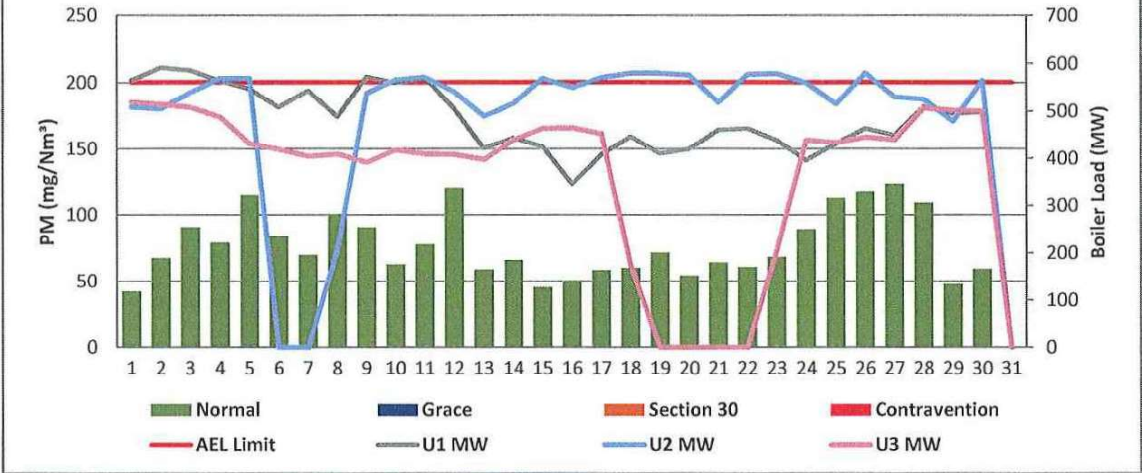
Table 6.4: Operating days in compliance to NOx AEL Limit - September 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
South	30	0	0	0	0	623,5
Unit 4	30	0	0	0	0	840,6
Unit 5	23	0	0	0	0	677,2
Unit 6	19	0	0	0	0	653,0
<b>SUM</b>	<b>102</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

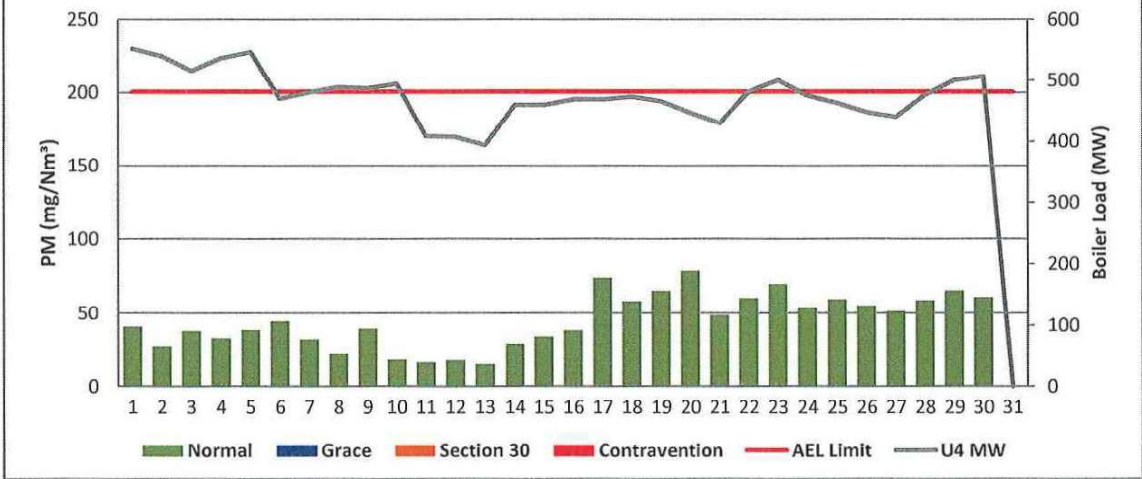
Table 6.5: Legend Description

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

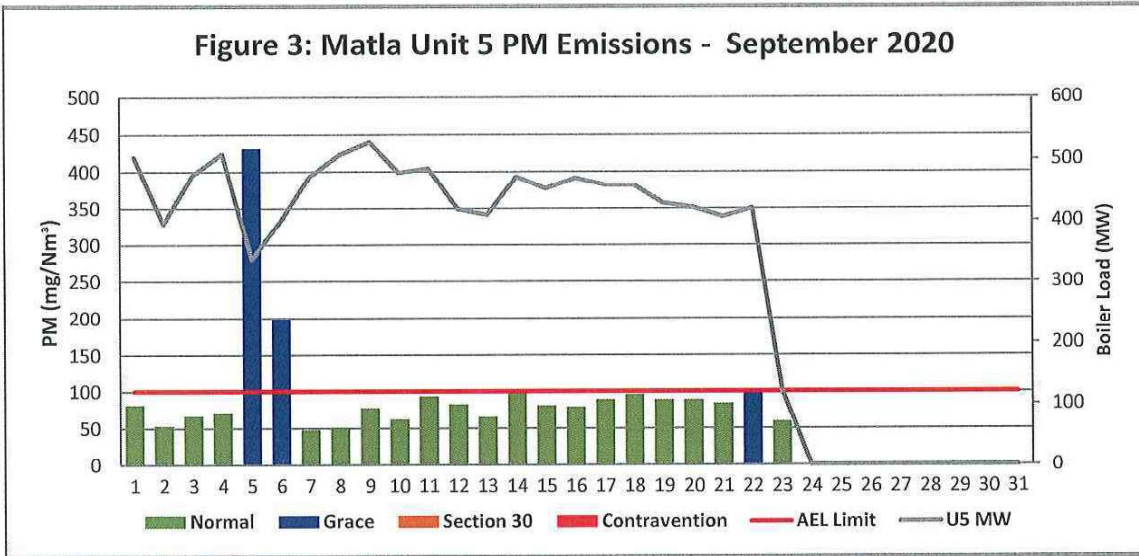
**Figure 1: Matla South Stack PM Emissions - September 2020**



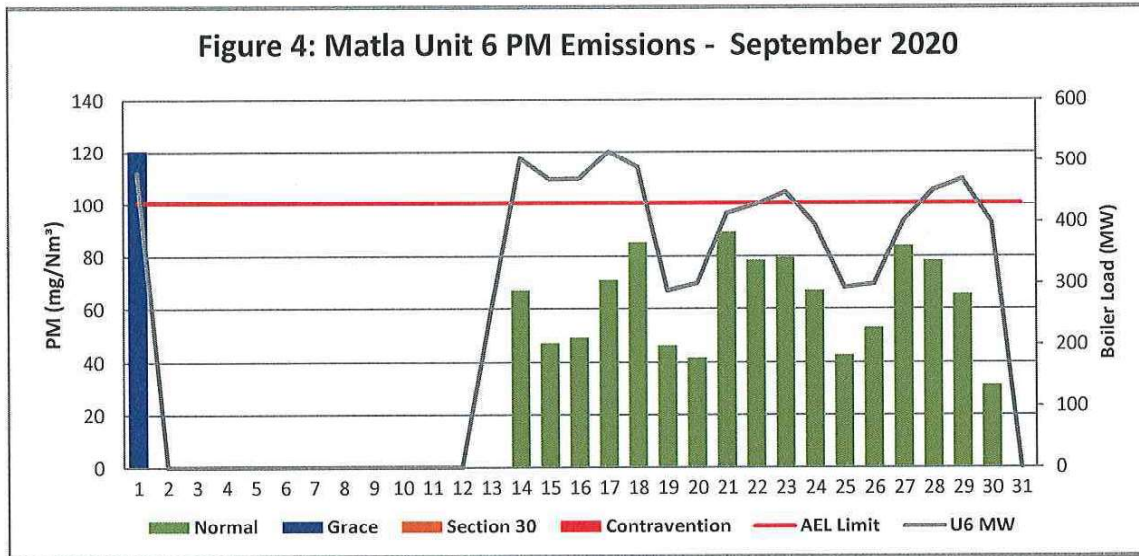
**Figure 2: Matla Unit 4 PM Emissions - September 2020**



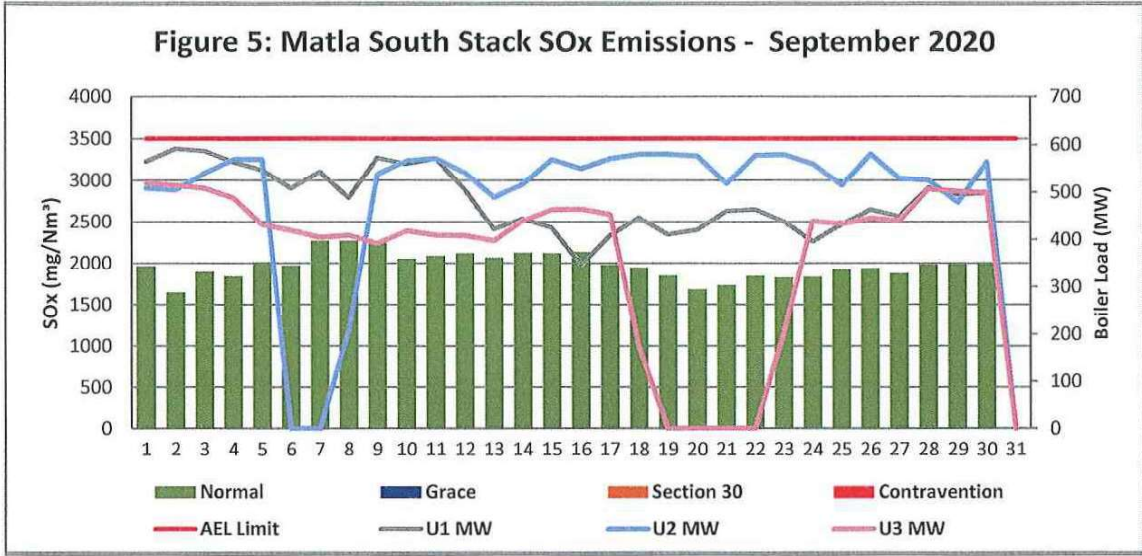
**Figure 3: Matla Unit 5 PM Emissions - September 2020**



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



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



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

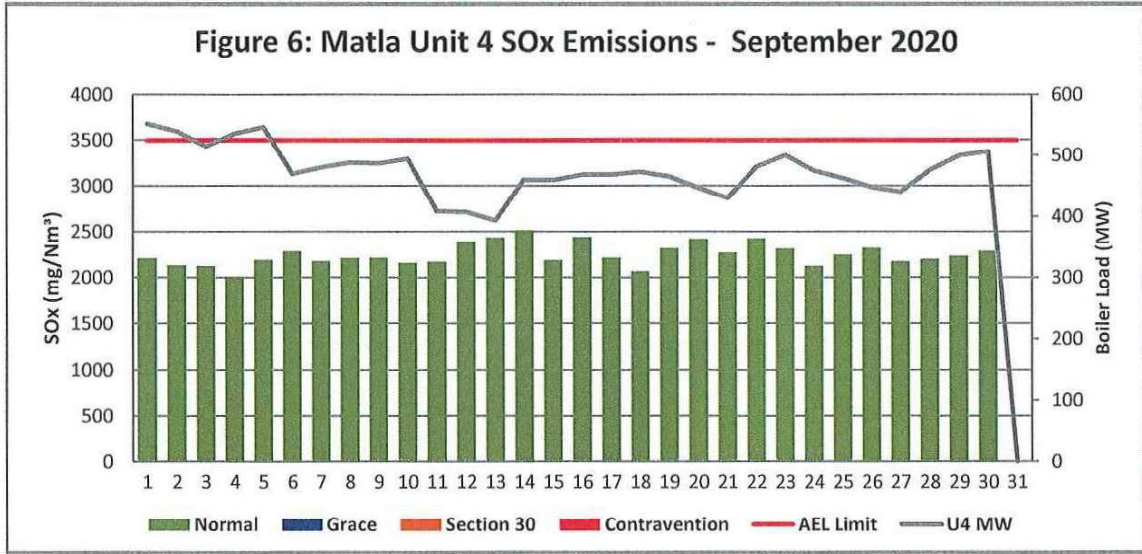


Figure 7: Matla Unit 5 SOx Emissions - September 2020

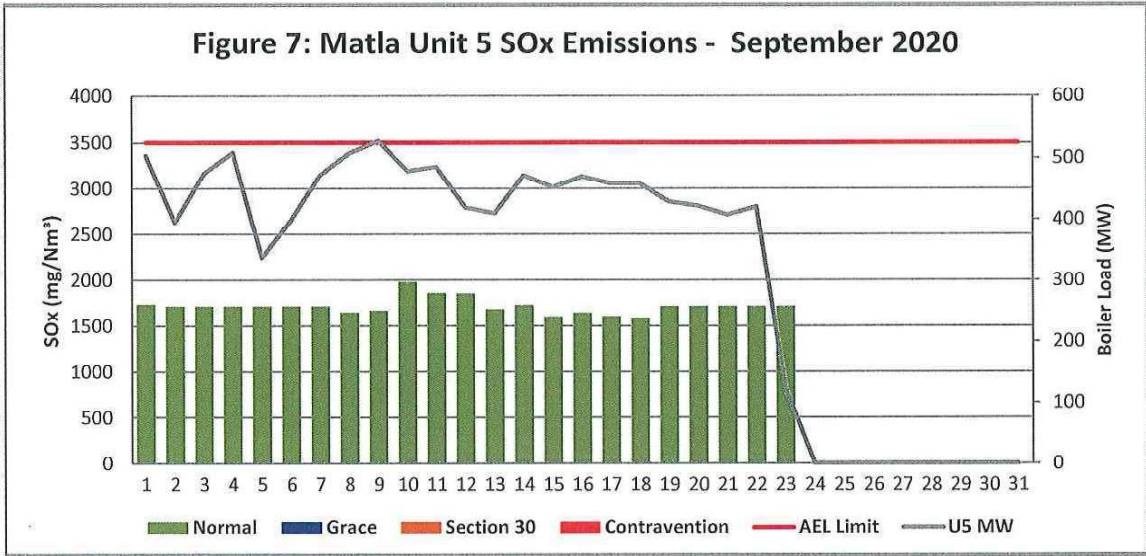
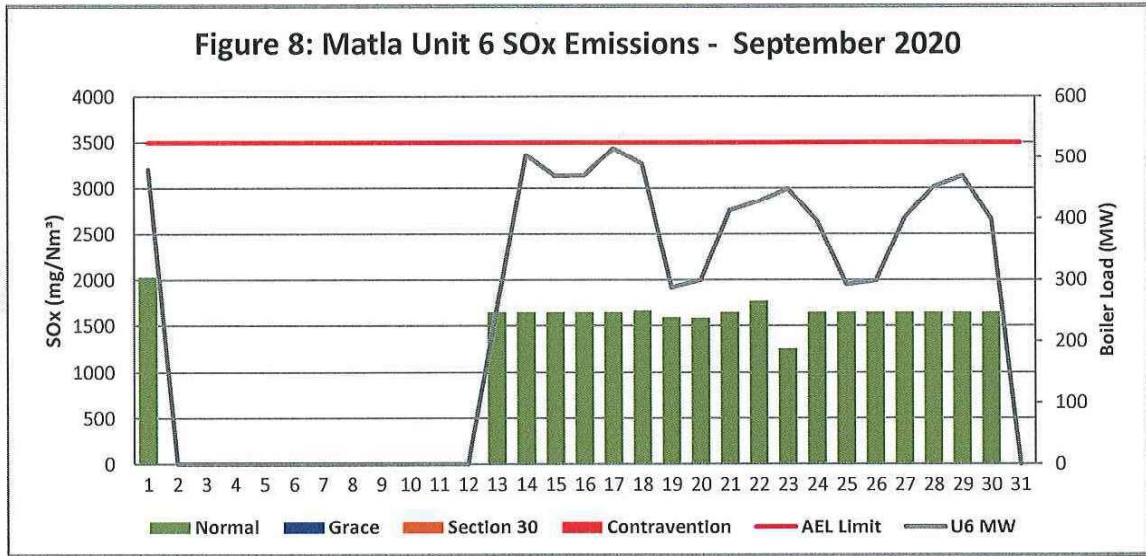
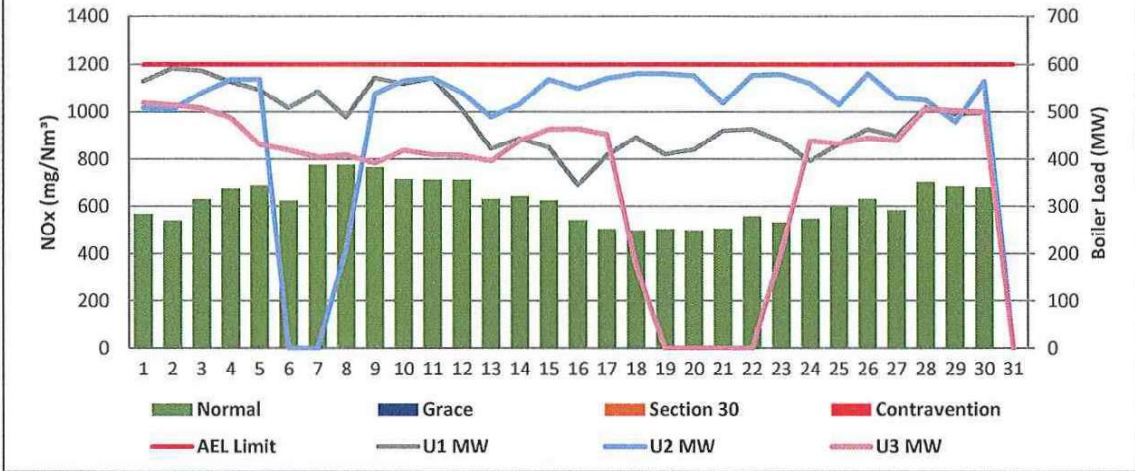


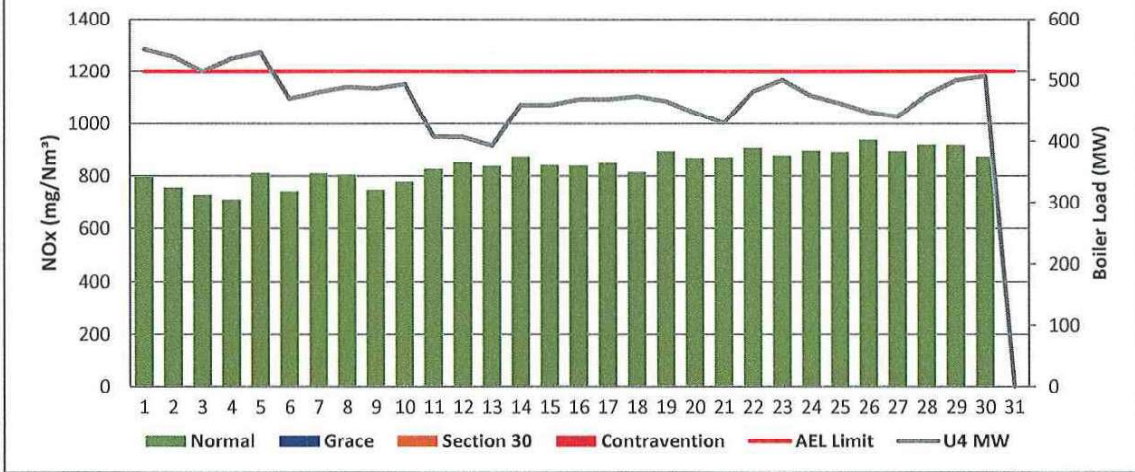
Figure 8: Matla Unit 6 SOx Emissions - September 2020



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

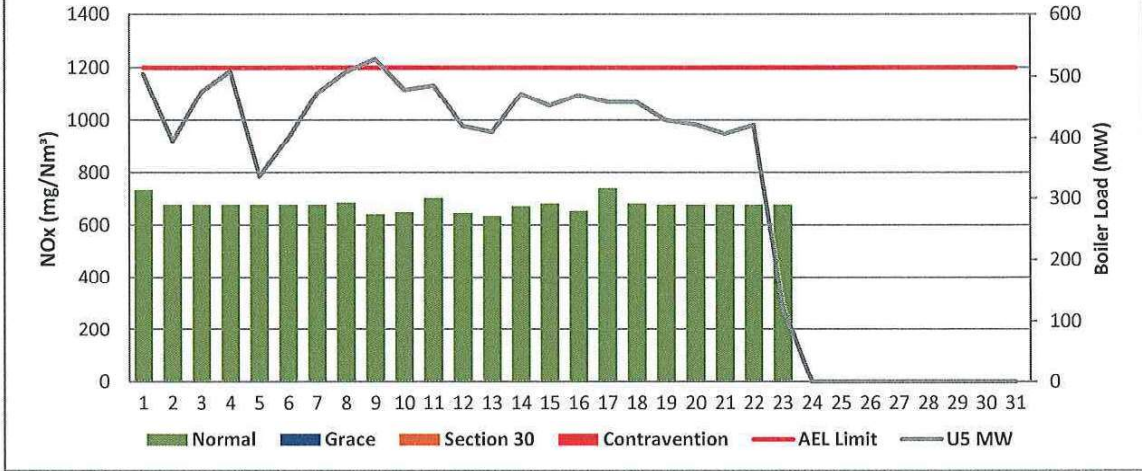


**Figure 10: Matla Unit 4 NOx Emissions - September 2020**

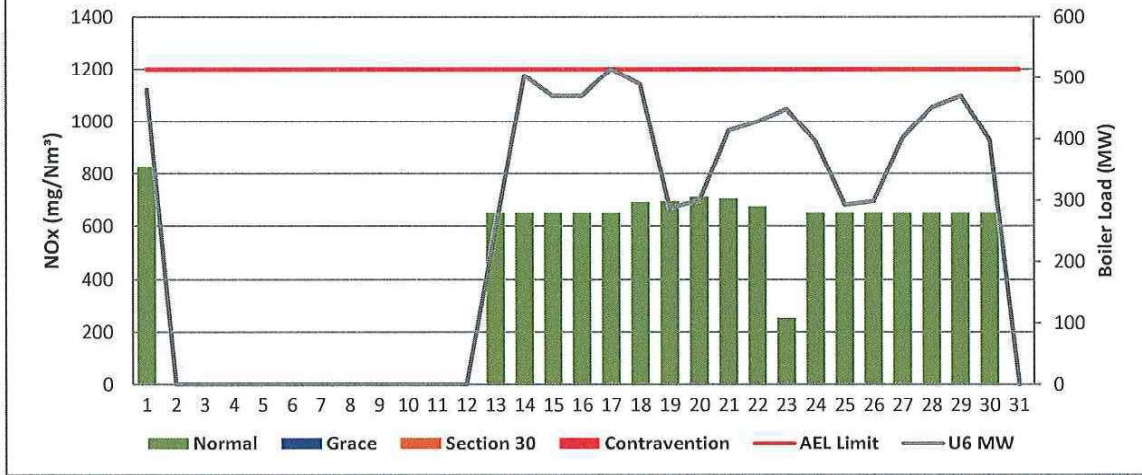




**Figure 11: Matla Unit 5 NOx Emissions - September 2020**



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



## 7 SHUT DOWN AND LIGHT UP INFORMATION

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

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>Unit 2</i>		<i>Unit 2</i>		<i>Unit 3</i>	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	<i>12:20 PM</i>	<i>2020/09/05</i>	<i>11:25 AM</i>	<i>2020/09/29</i>	<i>12:35 AM</i>	<i>2020/09/18</i>
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	<i>6:15 PM</i>	<i>2020/09/05</i>	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>5:05 AM</i>	<i>2020/09/19</i>
BO to DG SD (duration)	<i>n/a</i>	<i>DD:HH:MM</i>	<i>00:05:55</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>	<i>01:04:30</i>	<i>DD:HH:MM</i>
Fires in time			<i>4:45 PM</i>	<i>2020/09/07</i>	<i>11:25 AM</i>	<i>2020/09/29</i>	<i>3:00 AM</i>	<i>2020/09/23</i>
Synch. to Grid (or BC)			<i>8:25 PM</i>	<i>2020/09/08</i>	<i>4:40 PM</i>	<i>2020/09/29</i>	<i>3:25 PM</i>	<i>2020/09/23</i>
Fires in to BC (duration)		<i>DD:HH:MM</i>	<i>01:03:40</i>	<i>DD:HH:MM</i>	<i>00:05:15</i>	<i>DD:HH:MM</i>	<i>00:12:25</i>	<i>DD:HH:MM</i>
Emissions below limit from BC (end date)			<i>7:00 AM</i>	<i>2020/09/09</i>	<i>not &gt; limit</i>	<i>not &gt; limit</i>	<i>12:00 AM</i>	<i>2020/09/24</i>
Emissions below limit from BC (duration)		<i>DD:HH:MM</i>	<i>00:10:35</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>	<i>00:08:35</i>	<i>DD:HH:MM</i>

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

Unit No. 4	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

Unit No. 5	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	12:45 PM	2020/09/02						
Draught Group (DG) Shut Down (SD)	12:45 PM	2020/09/02						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	12:45 PM	2020/09/02						
Synch. to Grid (or BC)	9:35 PM	2020/09/02						
Fires in to BC (duration)	00:08:50	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	12:00 AM	2020/09/04						
Emissions below limit from BC (duration)	01:02:25	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)	6:50 AM	2020/09/01						
Draught Group (DG) Shut Down (SD)	6:50 AM	2020/09/01						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	9:55 AM	2020/09/12						
Synch. to Grid (or BC)	10:55 AM	2020/09/13						
Fires in to BC (duration)	01:01:00	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	12:00 AM	2020/09/14						
Emissions below limit from BC (duration)	00:13:05	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 September-2020 in mg/Nm³


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

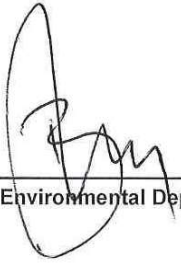
Remember to add attachments here; see ReportAddendum Tab


Reserved for Addendum XXXX

11 General

Unit 5 and unit 6 gas monitor availability is below 80% this is due defects on the monitor.

  
Boiler Engineering                      20/01/2021  
Date

  
Environmental Department                      2021-01-19  
Date

  
General Manager                      Date

Compiled by: Boiler Engineering Department

ESP & SO<sub>3</sub> System Engineer

For: Department of Environmental Affairs and Tourism

Chief Air Pollution Control Officer

Copies: Eskom Environmental Management

D Herbst  
B Mccourt

Group Technology Engineering

R Rampiar  
E. Patel

Matla Power Station:

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



