



**Generation**

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14

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**MATLA POWER STATION**


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

  
BOILER ENGINEERING MANAGER

21/10/2021  
DATE

  
ENVIRONMENTAL MANAGER

21/10/2021  
DATE

  
ENGINEERING MANAGER

21/10/2021  
DATE

**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-2021
	Coal	Tons	1 475 000	847 324
	Fuel Oil	Tons	2 500	817
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Sep-2021
	Energy	GWh	2 484	1 504
	Ash	Tons	471 000	258 434
	RE PM	kg/MWh	not specified	0,318

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	30,50

### 3 EMISSION LIMITS (mg/Nm³)

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-2021
South	<i>Electro Static Precipators (ESP)</i>	<i>99,872%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,593%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99,787%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,858%</i>

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

### 5 DATA RELIABILITY (%)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO	O <sub>2</sub>
South	<i>96,6</i>	<i>99,4</i>	<i>99,4</i>	<i>81,1</i>
Unit 4	<i>82,6</i>	<i>83,3</i>	<i>83,3</i>	<i>83,3</i>
Unit 5	<i>98,1</i>	<i>100,0</i>	<i>100,0</i>	<i>99,7</i>
Unit 6	<i>98,4</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>

### 6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of September-2021

Associated Unit/Stack	PM	SO <sub>x</sub>	NO <sub>x</sub>
Unit 1	35,5	1 577,7	800,9
Unit 2	18,8	1 094,1	619,7
Unit 3	68,2	2 800,8	1 529,4
Unit 4	199,1	3 520,3	1 077,9
Unit 5	97,7	3 224,6	1 916,1
Unit 6	59,4	2 414,0	1 068,3
<b>SUM</b>	<b>478,8</b>	<b>14 631,4</b>	<b>7 012,2</b>

Table 6.2: Operating days in compliance to PM AEL Limit - September 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
South	30	0	0	0	0	43,7
Unit 4	30	0	0	0	0	107,5
Unit 5	28	2	0	0	2	55,0
Unit 6	30	0	0	0	0	47,3
<b>SUM</b>	<b>118</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	





Table 6.3: Operating days in compliance to SOx AEL Limit - September 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm³)
South	30	0	0	0	0	1 882,6
Unit 4	30	0	0	0	0	1 915,1
Unit 5	30	0	0	0	0	1 827,8
Unit 6	30	0	0	0	0	1 865,1
<b>SUM</b>	<b>120</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

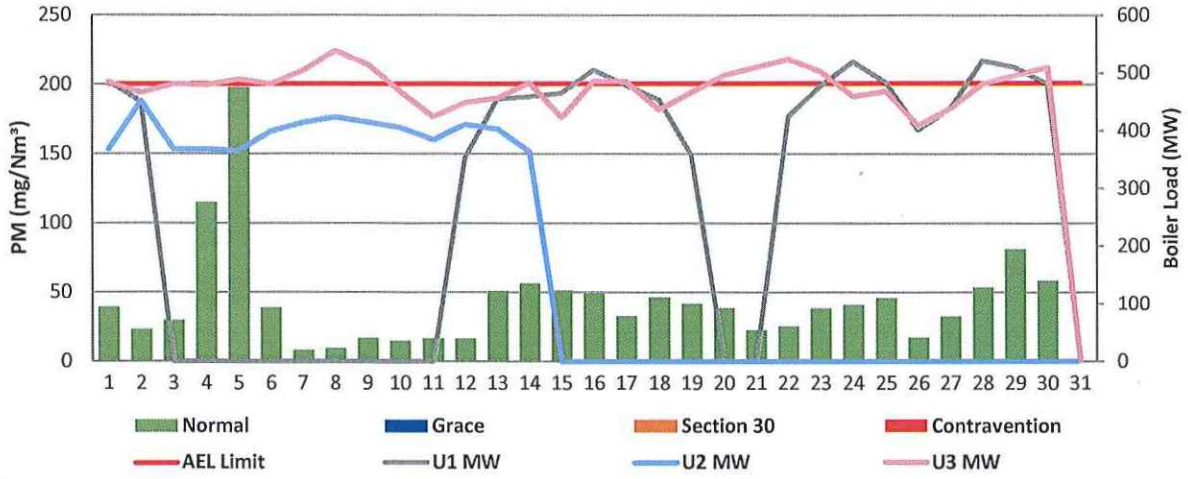
Table 6.4: Operating days in compliance to NOx AEL Limit - September 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
South	25	0	0	5	5	1 009,8
Unit 4	30	0	0	0	0	586,4
Unit 5	30	0	0	0	0	1 085,2
Unit 6	30	0	0	0	0	822,7
<b>SUM</b>	<b>115</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</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: Matla South Stack PM Emissions - September 2021**



**Figure 2: Matla Unit 4 PM Emissions - September 2021**

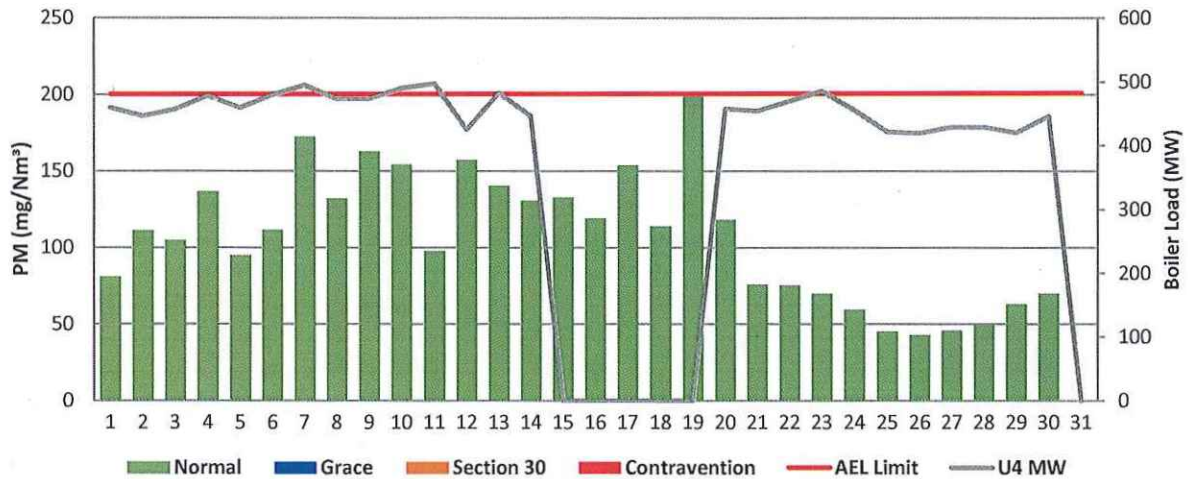


Figure 3: Matla Unit 5 PM Emissions - September 2021

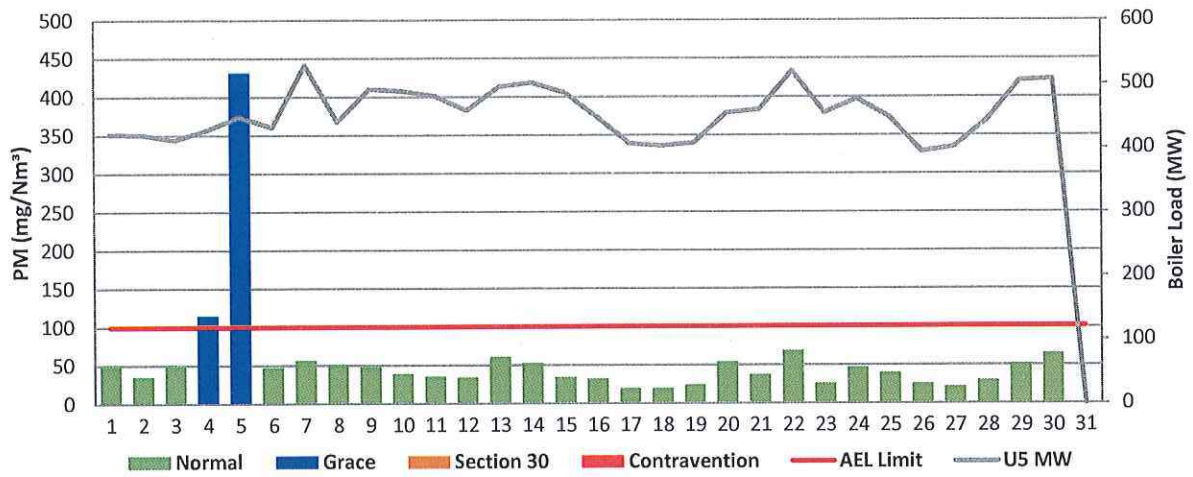
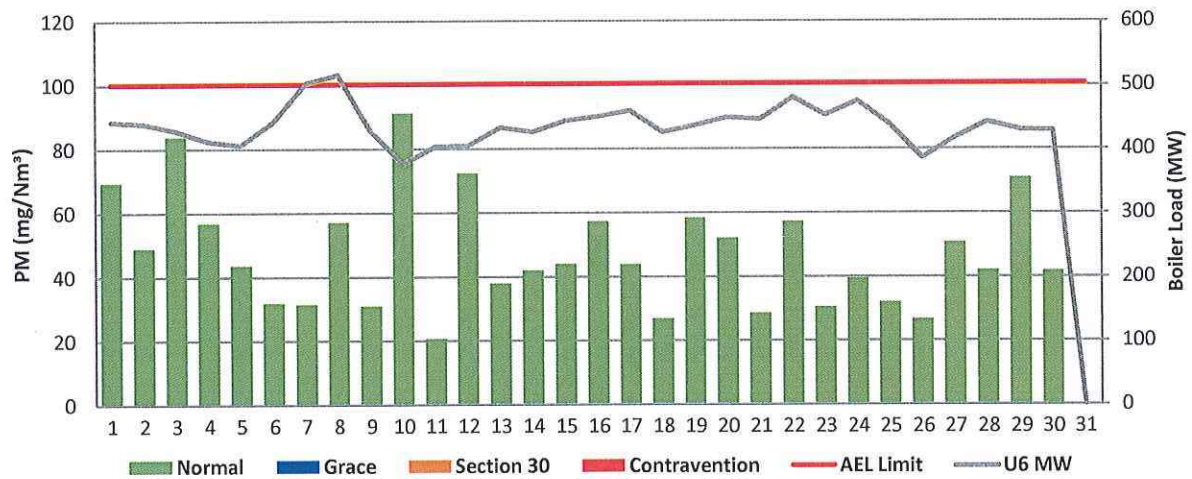
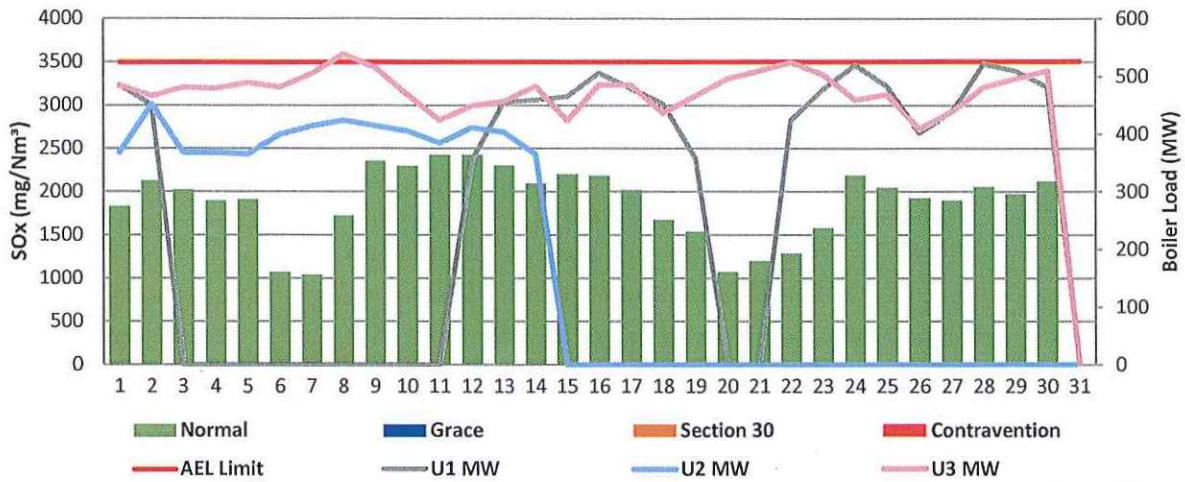


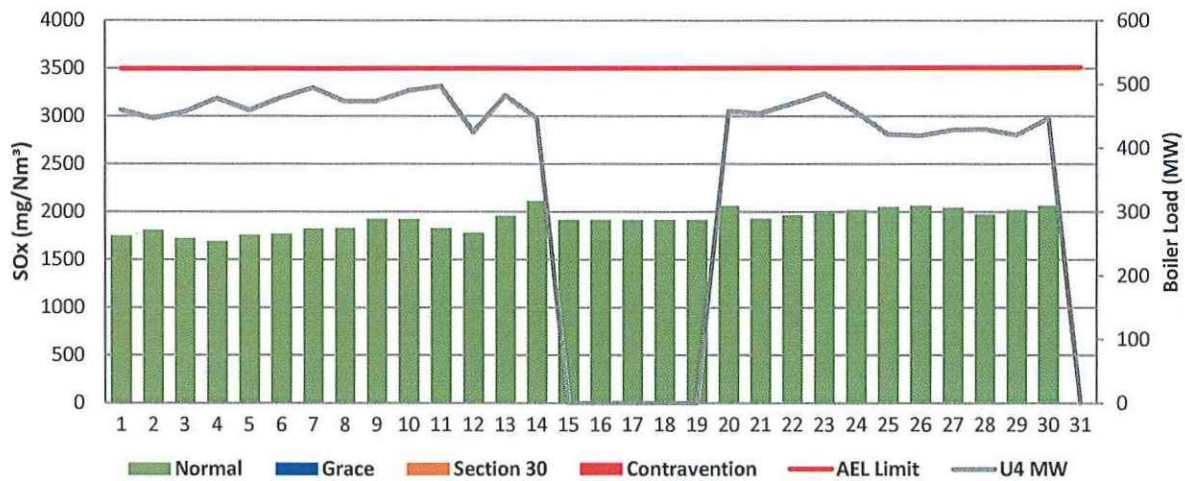
Figure 4: Matla Unit 6 PM Emissions - September 2021



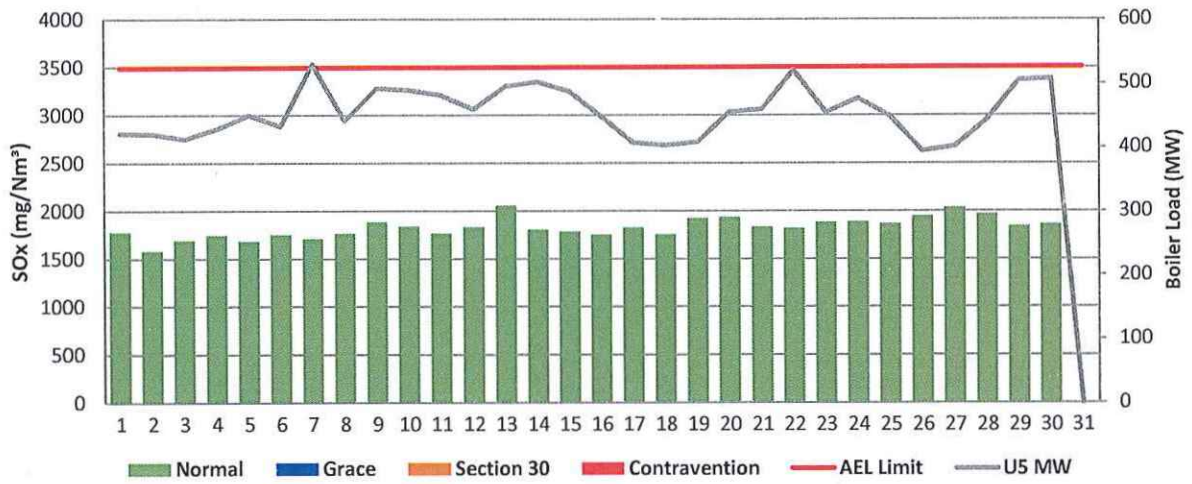
**Figure 5: Matla South Stack SOx Emissions - September 2021**



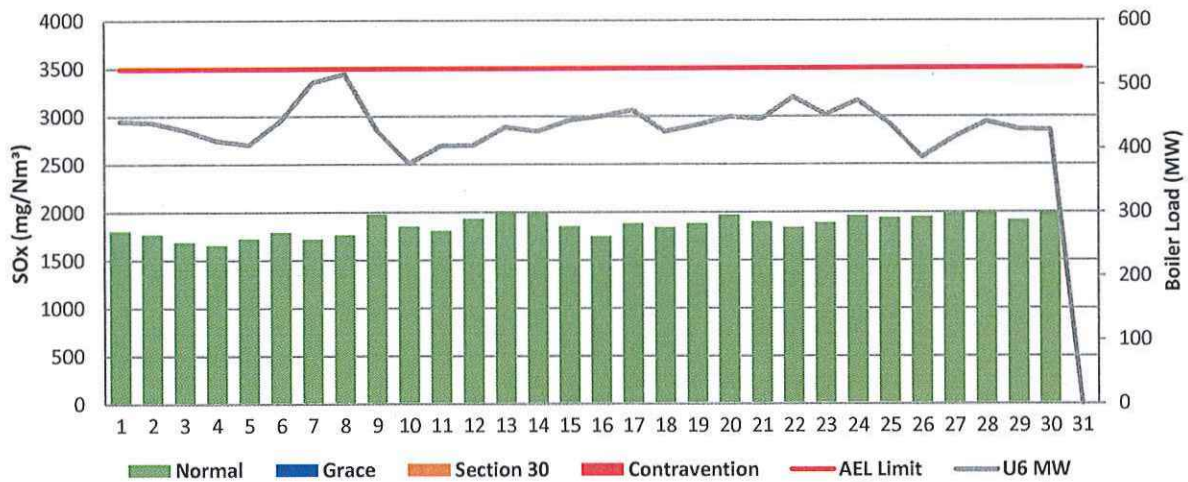
**Figure 6: Matla Unit 4 SOx Emissions - September 2021**



**Figure 7: Matla Unit 5 SOx Emissions - September 2021**

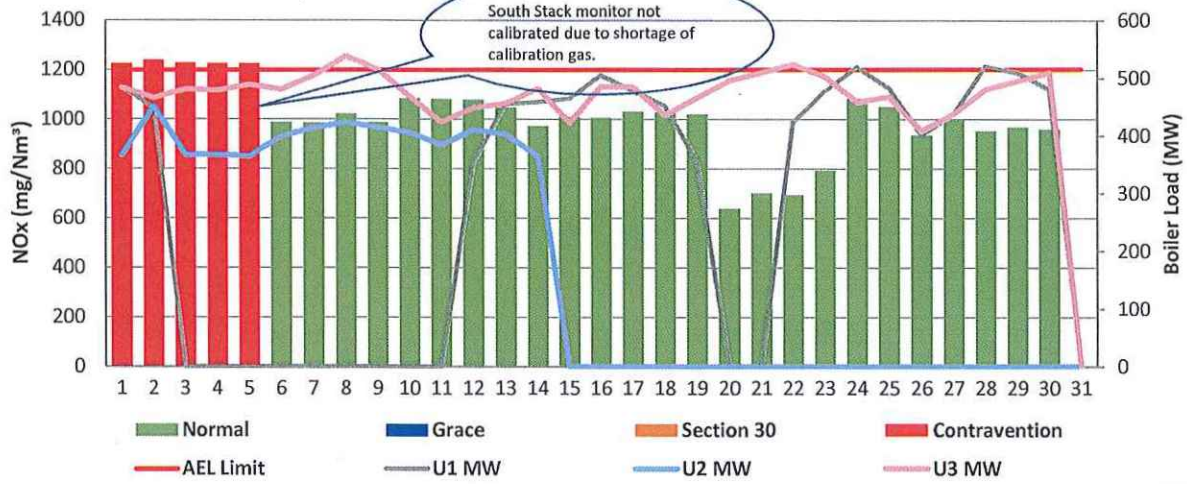


**Figure 8: Matla Unit 6 SOx Emissions - September 2021**





**Figure 9: Matla South Stack NOx Emissions - September 2021**



**Figure 10: Matla Unit 4 NOx Emissions - September 2021**

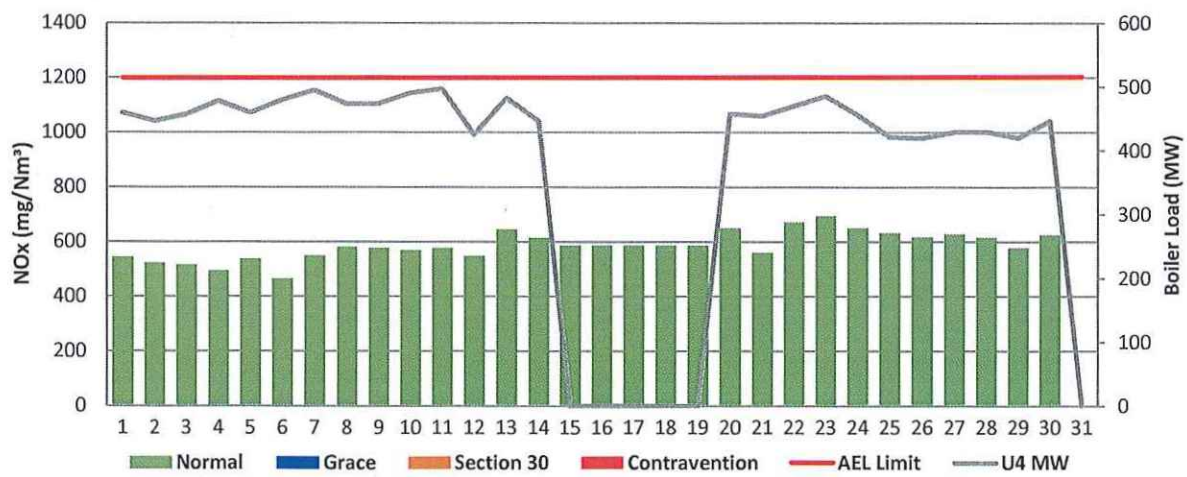


Figure 11: Matla Unit 5 NOx Emissions - September 2021

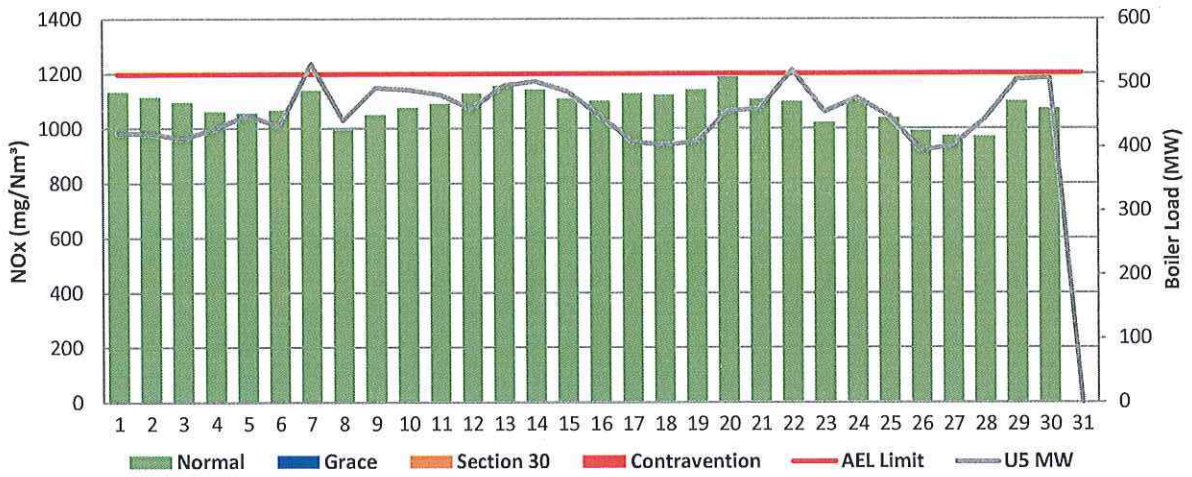
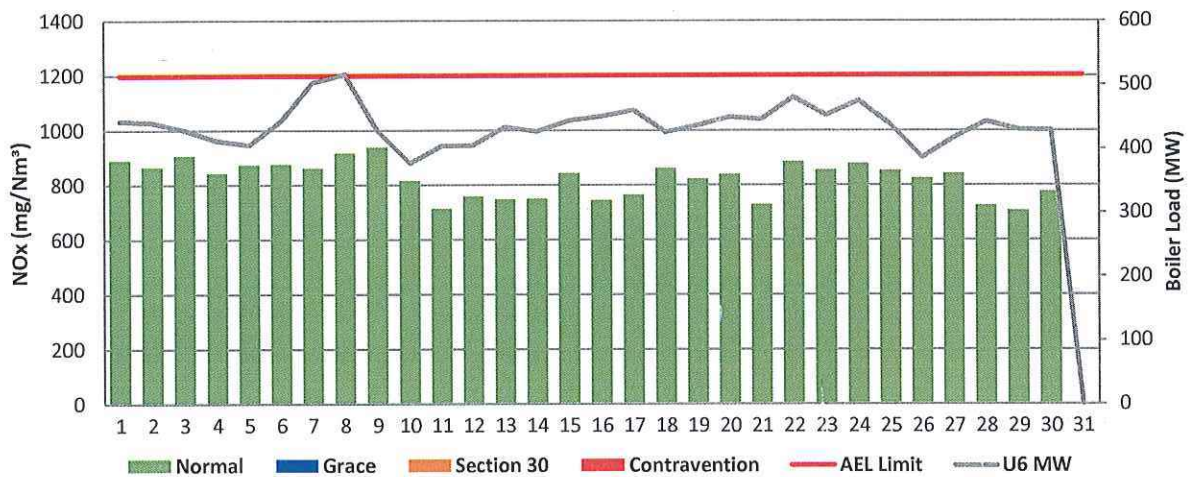


Figure 12: Matla Unit 6 NOx Emissions - September 2021



## 7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of September-2021

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 2		Unit 2	
Breaker Open (BO)	10:15 PM	2021/09/02	5:30 AM	2021/09/19	12:00 AM	2021/09/05	9:25 AM	2021/09/11
Draught Group (DG) Shut Down (SD)	8:20 AM	2021/09/04	1:25 AM	2021/09/20	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	01:10:05	DD:HH:MM	00:19:55	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM
Fires in time	4:40 AM	2021/09/11	5:25 AM	2021/09/22	12:00 AM	2021/09/05	3:50 AM	2021/09/11
Synch. to Grid (or BC)	7:15 AM	2021/09/12	4:30 PM	2021/09/22	2:45 AM	2021/09/05	3:00 PM	2021/09/11
Fires in to BC (duration)	01:02:35	DD:HH:MM	00:11:05	DD:HH:MM	00:02:45	DD:HH:MM	00:11:10	DD:HH:MM
Emissions below limit from BC (end date)	12:00 AM	2021/09/13	not > limit	not > limit	5:00 PM	2021/09/05	12:00 AM	2021/09/13
Emissions below limit from BC (duration)	00:16:45	DD:HH:MM	n/a	DD:HH:MM	00:14:15	DD:HH:MM	01:09:00	DD:HH:MM

South Stack ...cont.	Event 5		Event 6		Event 7		Event 8	
Unit No.	Unit 3		Unit 3		no event		no event	
Breaker Open (BO)	3:10 PM	2021/09/10	3:30 PM	2021/09/15				
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD				
BO to DG SD (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	3:10 PM	2021/09/10	3:30 PM	2021/09/15				
Synch. to Grid (or BC)	1:45 AM	2021/09/11	9:25 PM	2021/09/15				
Fires in to BC (duration)	00:10:35	DD:HH:MM	00:05:55	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	12:00 AM	2021/09/13	3:00 AM	2021/09/16				
Emissions below limit from BC (duration)	01:22:15	DD:HH:MM	00:05:35	DD:HH:MM		DD:HH:MM		DD:HH:MM

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)								
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. 6	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	12:40 AM	2021/09/10						
Draught Group (DG) Shut Down (SD)	12:40 AM	2021/09/10						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	12:40 AM	2021/09/10						
Synch. to Grid (or BC)	3:45 AM	2021/09/10						
Fires in to BC (duration)	00:03:05	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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of September-2021 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

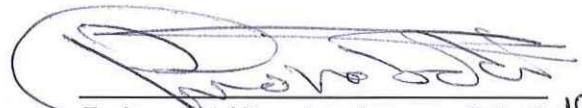
Reserved for Addendum XXXX



11 General

  
Boiler Engineering  
Date 21/10/2021

  
General Manager  
Date 21/10/2021

  
Environmental Department  
Date 21.10.2021

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>3</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