



Generation

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MATLA POWER STATION

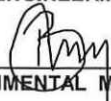
Atmospheric Emission License 17/4/AEL/MP312/11/14



BOILER ENGINEERING MANAGER

2021/03/10


DATE



ENVIRONMENTAL MANAGER

2021-03-21

DATE



ENGINEERING MANAGER

2021/03/10

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 Feb-2021
	Coal	Tons	1 475 000	902 567
	Fuel Oil	Tons	2 500	704

Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Feb-2021
	Energy	GWh	2 318	1 612
	Ash	Tons	471 000	264 452
	RE PM	kg/MWh	not specified	0,699

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	29,30

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	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-2021
South	<i>Electro Static Precipators (ESP)</i>	<i>99,644%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,349%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>98,484%</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.

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
South	<i>97,3</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>
Unit 4	<i>96,4</i>	<i>99,7</i>	<i>99,7</i>	<i>100,0</i>
Unit 5	<i>83,8</i>	<i>99,7</i>	<i>99,7</i>	<i>100,0</i>
Unit 6	<i>98,0</i>	<i>99,7</i>	<i>99,5</i>	<i>100,0</i>

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	126,9	2 812,1	708,9
Unit 2	173,2	3 541,3	888,9
Unit 3	101,7	2 229,0	534,5
Unit 4	255,8	3 169,4	1 301,0
Unit 5	366,5	2 947,7	1 471,3
Unit 6	103,2	2 572,1	1 217,2
SUM	1 127,3	17 271,6	6 121,8

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm³)
South	26	2	0	0	2	119,3
Unit 4	25	3	0	0	3	148,4
Unit 5	14	5	1	8	14	203,7
Unit 6	26	2	0	0	2	75,5
SUM	91	12	1	8	21	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SOx (mg/Nm³)
South	28	0	0	0	0	2 389,2
Unit 4	28	0	0	0	0	1 842,8
Unit 5	28	0	0	0	0	1 663,5
Unit 6	28	0	0	0	0	1 906,5
SUM	112	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm³)
South	28	0	0	0	0	600,9
Unit 4	28	0	0	0	0	756,0
Unit 5	28	0	0	0	0	825,3
Unit 6	28	0	0	0	0	903,0
SUM	112	0	0	0	0	

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 - February 2021

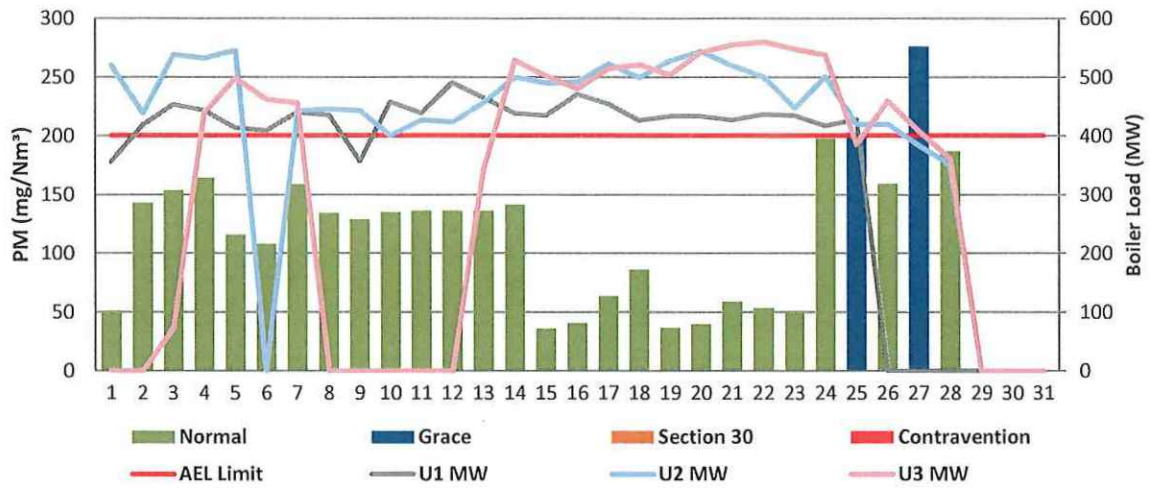


Figure 2: Matla Unit 4 PM Emissions - February 2021

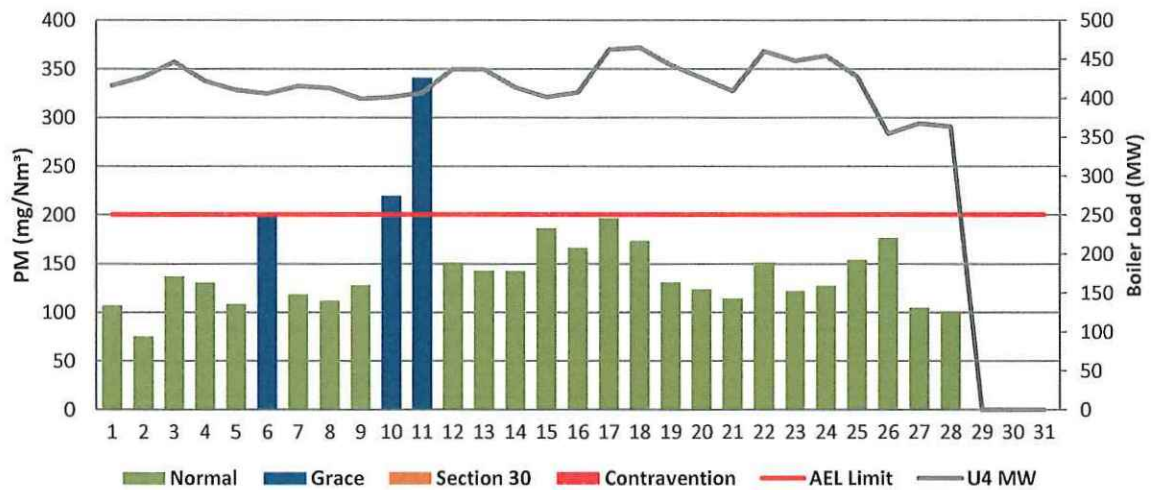


Figure 3: Matla Unit 5 PM Emissions - February 2021

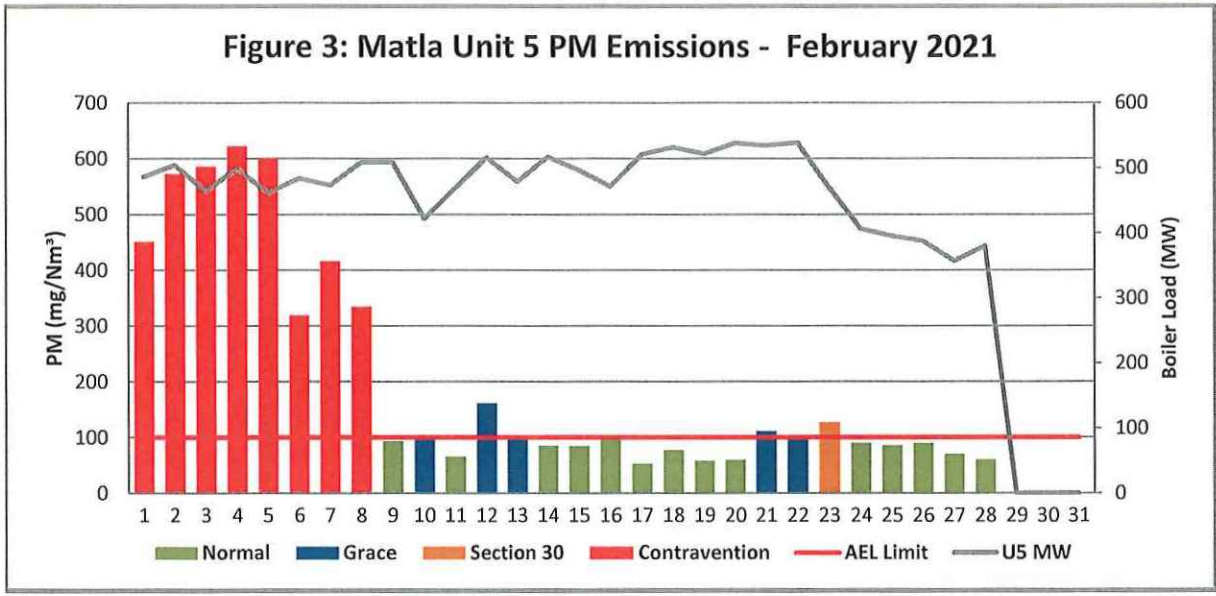


Figure 4: Matla Unit 6 PM Emissions - February 2021

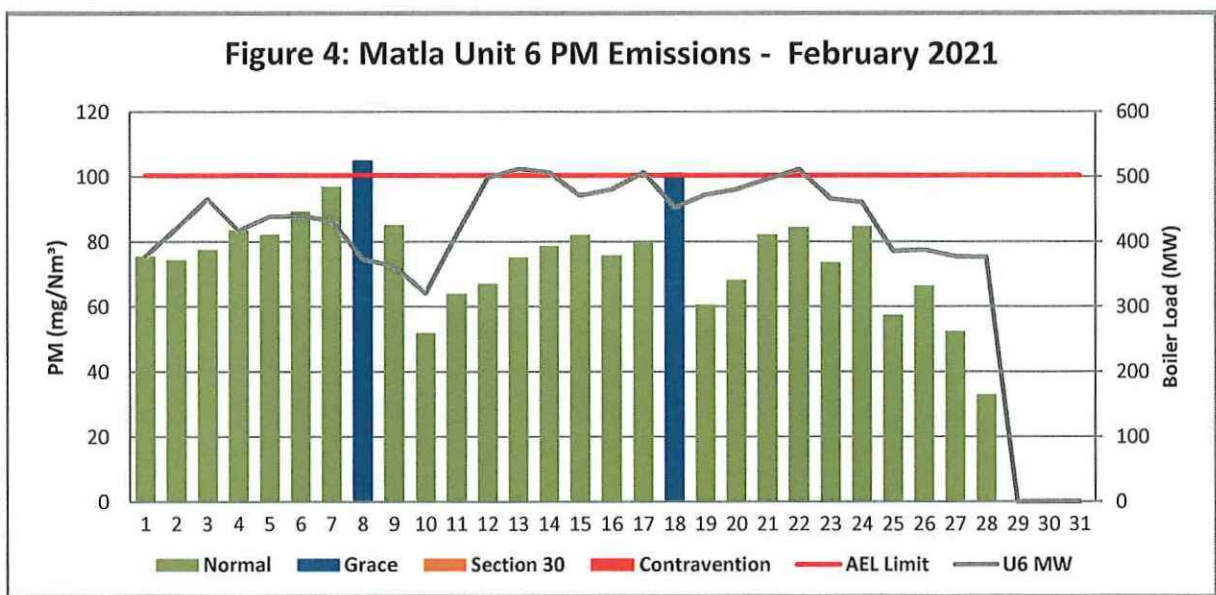


Figure 5: Matla South Stack SOx Emissions - February 2021

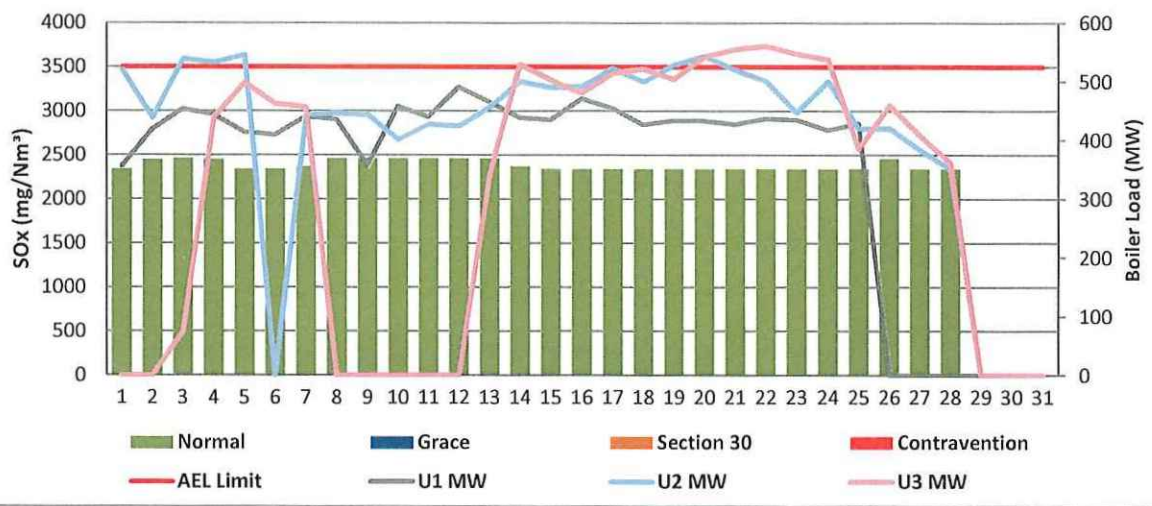


Figure 6: Matla Unit 4 SOx Emissions - February 2021

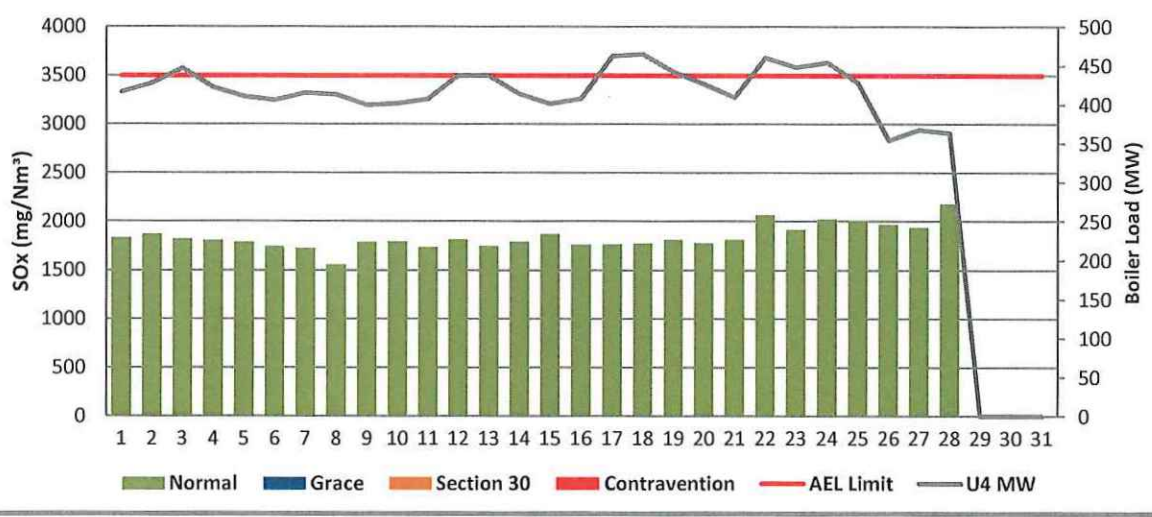


Figure 7: Matla Unit 5 SOx Emissions - February 2021

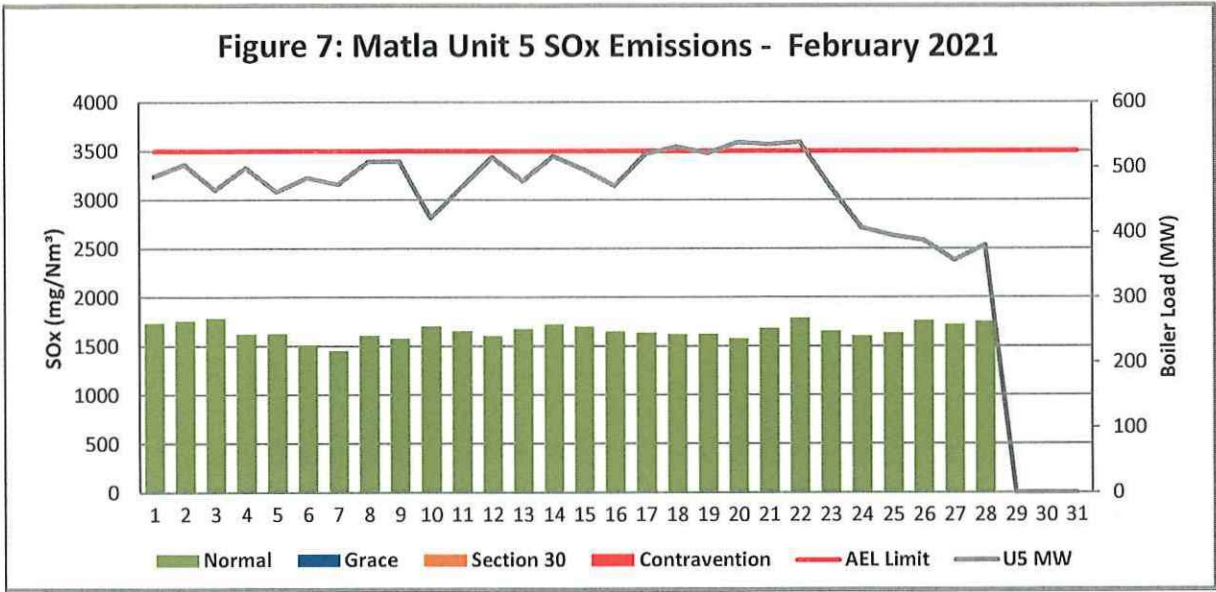


Figure 8: Matla Unit 6 SOx Emissions - February 2021

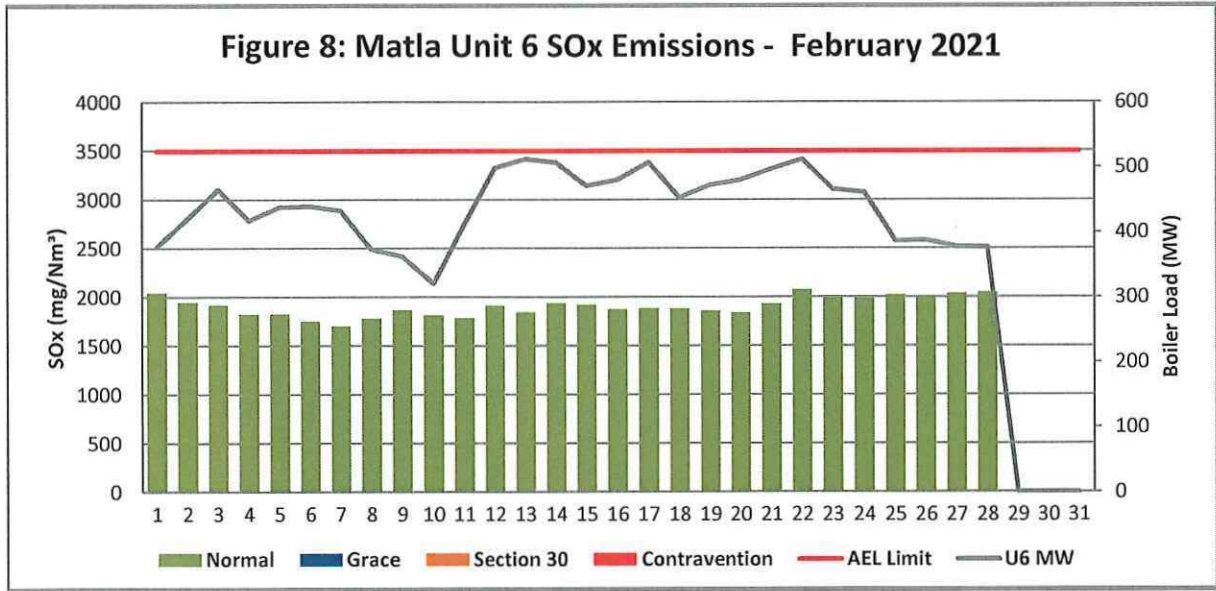


Figure 9: Matla South Stack NOx Emissions - February 2021

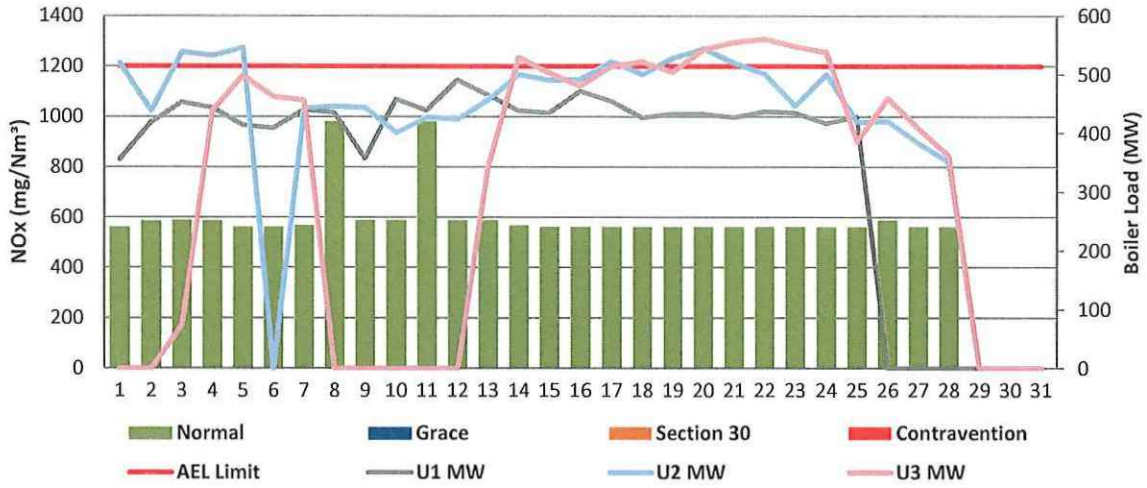


Figure 10: Matla Unit 4 NOx Emissions - February 2021

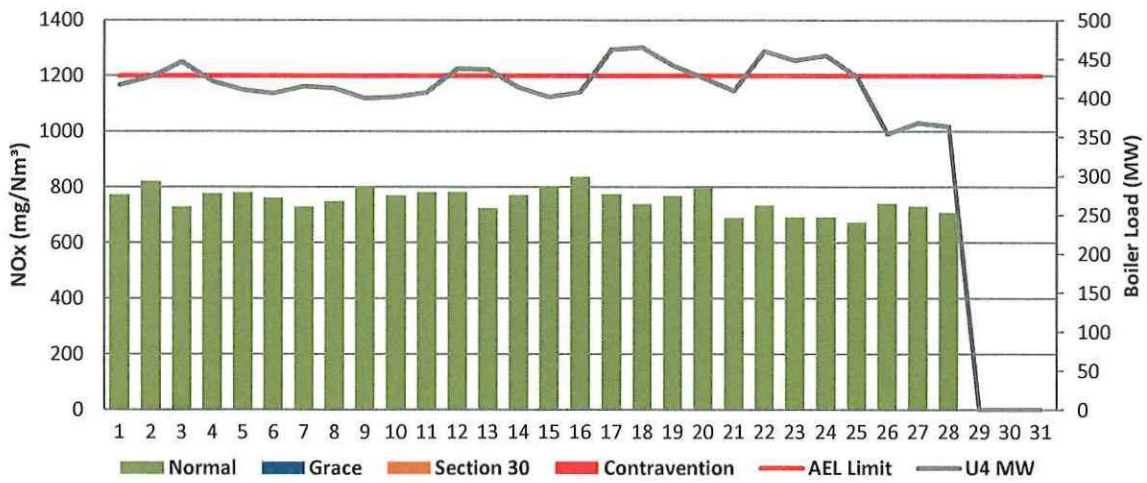


Figure 11: Matla Unit 5 NOx Emissions - February 2021

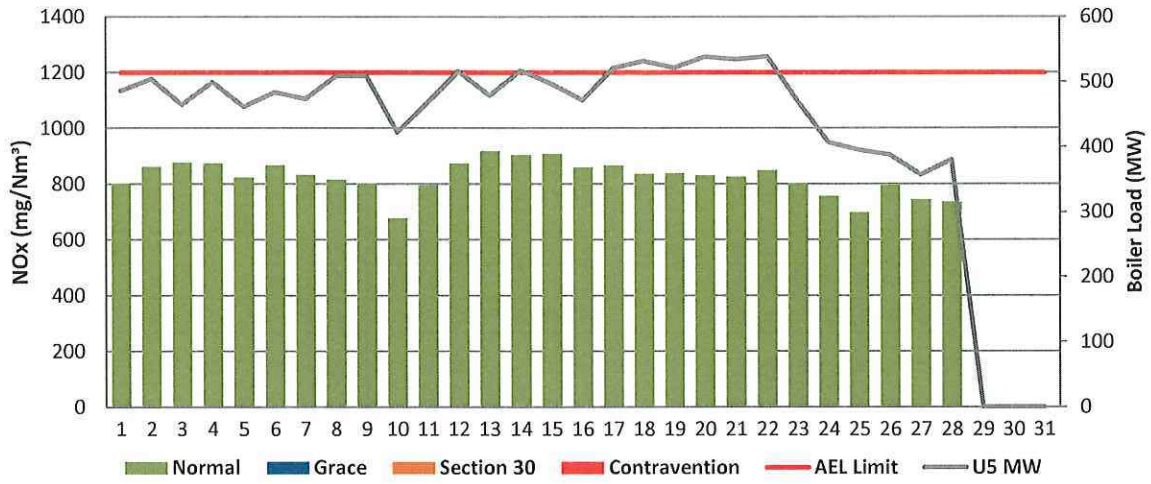
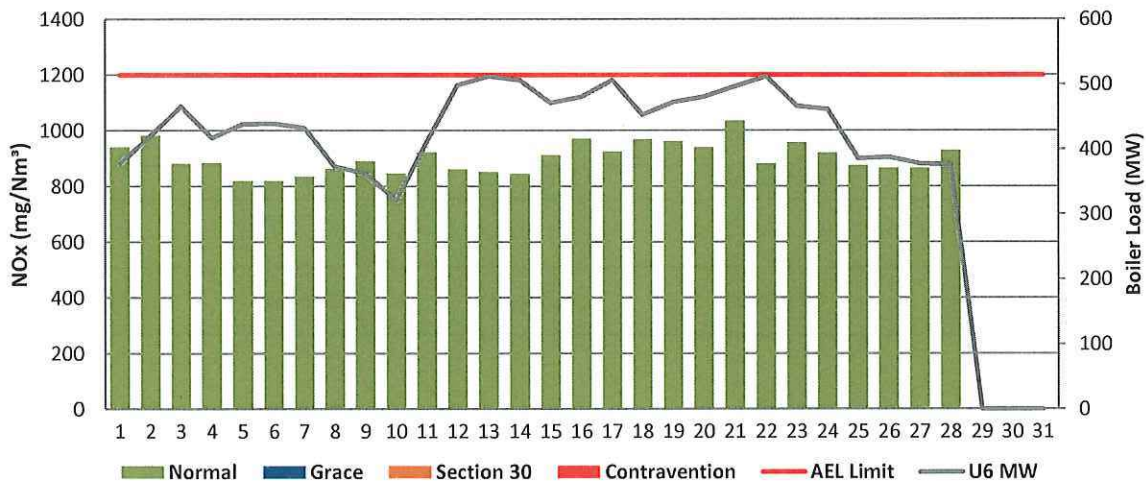


Figure 12: Matla Unit 6 NOx Emissions - February 2021



7 SHUT DOWN AND LIGHT UP INFORMATION

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

South 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>6:05 PM</i>	<i>2021/02/08</i>	<i>11:20 PM</i>	<i>2021/02/25</i>	<i>BO previously</i>	<i>BO previously</i>	<i>3:30 PM</i>	<i>2021/02/07</i>
Draught Group (DG) Shut Down (SD)	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>11:30 PM</i>	<i>2021/02/26</i>	<i>n/a</i>	<i>n/a</i>	<i>9:05 PM</i>	<i>2021/02/07</i>
BO to DG SD (duration)	<i>n/a</i>	<i>DD:HH:MM</i>	<i>01:00:10</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>	<i>00:05:35</i>	<i>DD:HH:MM</i>
Fires in time	<i>6:05 PM</i>	<i>2021/02/08</i>			<i>2:50 AM</i>	<i>2021/02/02</i>	<i>11:55 PM</i>	<i>2021/02/07</i>
Synch. to Grid (or BC)	<i>3:50 AM</i>	<i>2021/02/09</i>			<i>10:30 PM</i>	<i>2021/02/03</i>	<i>6:10 AM</i>	<i>2021/02/13</i>
Fires in to BC (duration)	<i>00:09:45</i>	<i>DD:HH:MM</i>		<i>DD:HH:MM</i>	<i>01:19:40</i>	<i>DD:HH:MM</i>	<i>05:06:15</i>	<i>DD:HH:MM</i>
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>			<i>not > limit</i>	<i>not > limit</i>	<i>not > limit</i>	<i>not > limit</i>
Emissions below limit from BC (duration)	<i>n/a</i>	<i>DD:HH:MM</i>		<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>	<i>n/a</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)								
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)	1:40 PM	2021/02/10						
Draught Group (DG) Shut Down (SD)	1:40 PM	2021/02/10						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	1:40 PM	2021/02/10						
Synch. to Grid (or BC)	6:45 PM	2021/02/10						
Fires in to BC (duration)	00:05:05	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 February-2021 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

South Stack gases not working therefore reliability fell below 80% and QAL2 averages used. Unit 5 maxed out on the 04-02-2021 and this affected monitor reliability. Unit 5 legal has a legal contravention from previous month

 10/03/2021
Boiler Engineering Date
 11/03/2021
General Manager Date

 2021-03-10
Environmental Department Date

Compiled by: Boiler Engineering Department

ESP & SO₃ 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

