

**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	Max Permitted Consumption Rate	Consumption Rate Feb-2022
	Coal	Tons	1 475 000	940 858
	Fuel Oil	Tons	3 500	478

Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Feb-2022
	Energy	GWh	2 318	1 563
	Ash	Tons	471 000	270 873
	RE PM	kg/MWh	not specified	0,985

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	19,76
Ash Content	%	21-40	28,79

### 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

Note: NO<sub>x</sub> emissions is measured as NO in PPM. Final NO<sub>x</sub> value is expressed as total NO<sub>2</sub>

### 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-2022
South	<i>Electro Static Precipators (ESP)</i>	<i>99,182%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,297%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99,702%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,613%</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>83,2</i>	<i>100,0</i>	<i>88,1</i>	<i>100,0</i>
Unit 4	<i>88,1</i>	<i>99,7</i>	<i>100,0</i>	<i>98,9</i>
Unit 5	<i>94,2</i>	<i>99,5</i>	<i>99,7</i>	<i>100,0</i>
Unit 6	<i>100,0</i>	<i>99,6</i>	<i>99,7</i>	<i>99,9</i>

### 6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of February-2022

Associated Unit/Stack	PM	SO <sub>x</sub>	NO <sub>x</sub>
Unit 1	331,3	3 522,9	1 399,4
Unit 2	298,5	3 062,1	1 265,7
Unit 3	369,1	3 952,2	1 566,4
Unit 4	243,2	2 591,2	1 285,5
Unit 5	132,6	2 759,7	1 457,7
Unit 6	164,8	2 712,4	1 063,0
SUM	1 539,6	18 600,6	8 037,7

Table 6.2: Operating days in compliance to PM AEL Limit - February 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
South	12	7	9	0	16	232,0
Unit 4	8	5	9	0	14	207,9
Unit 5	17	9	0	0	9	105,5
Unit 6	17	11	0	0	11	126,1
<b>SUM</b>	<b>54</b>	<b>32</b>	<b>18</b>	<b>0</b>	<b>50</b>	

Table 6.3: Operating days in compliance to SOx AEL Limit - February 2022


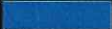


Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm³)
South	28	0	0	0	0	2 471,6
Unit 4	24	0	0	0	0	2 248,0
Unit 5	27	0	0	0	0	2 005,7
Unit 6	28	0	0	0	0	2 104,9
<b>SUM</b>	<b>107</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.4: Operating days in compliance to NOx AEL Limit - February 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
South	28	0	0	0	0	982,2
Unit 4	20	0	0	4	4	1 155,9
Unit 5	26	0	0	1	1	1 045,7
Unit 6	28	0	0	0	0	823,8
<b>SUM</b>	<b>102</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	

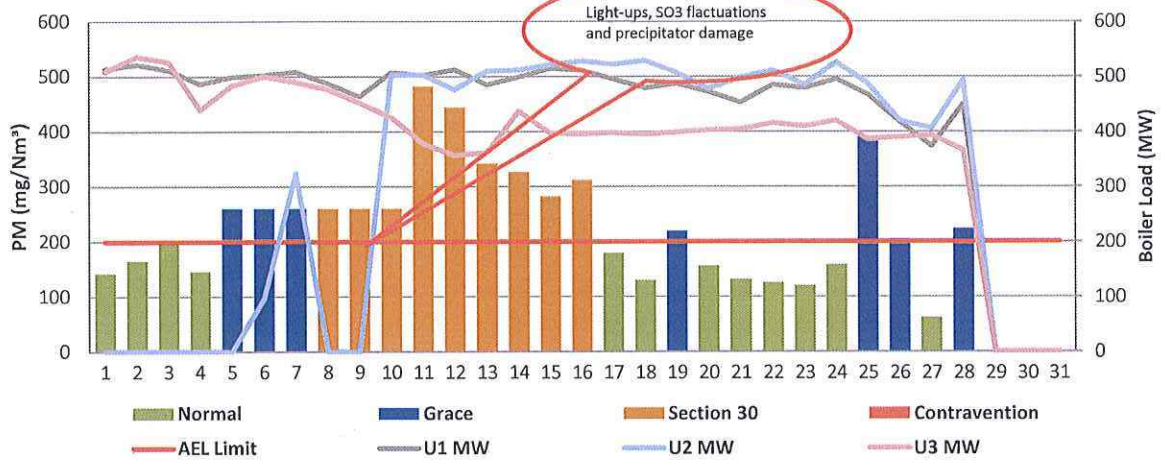
Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO<sub>2</sub>

Table 6.5: Legend Description

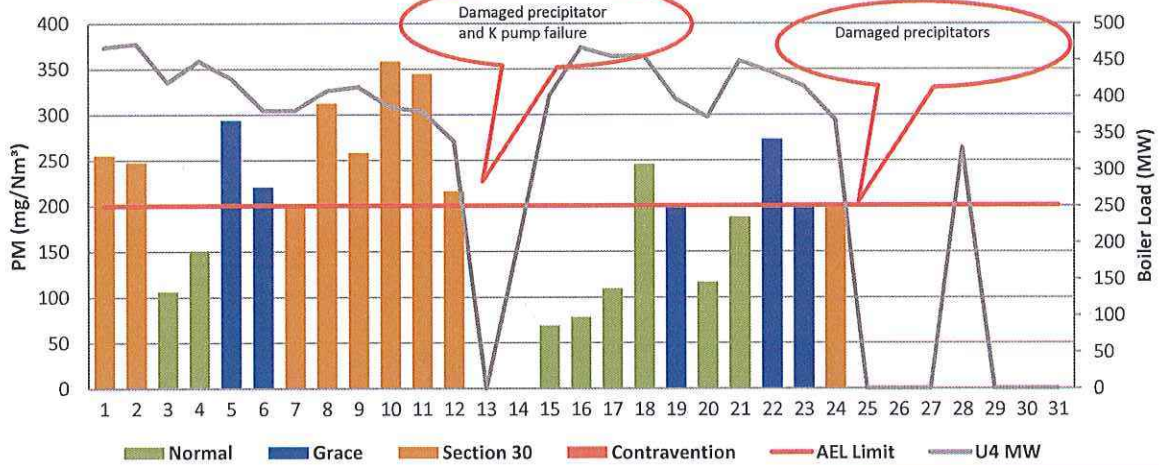
Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions



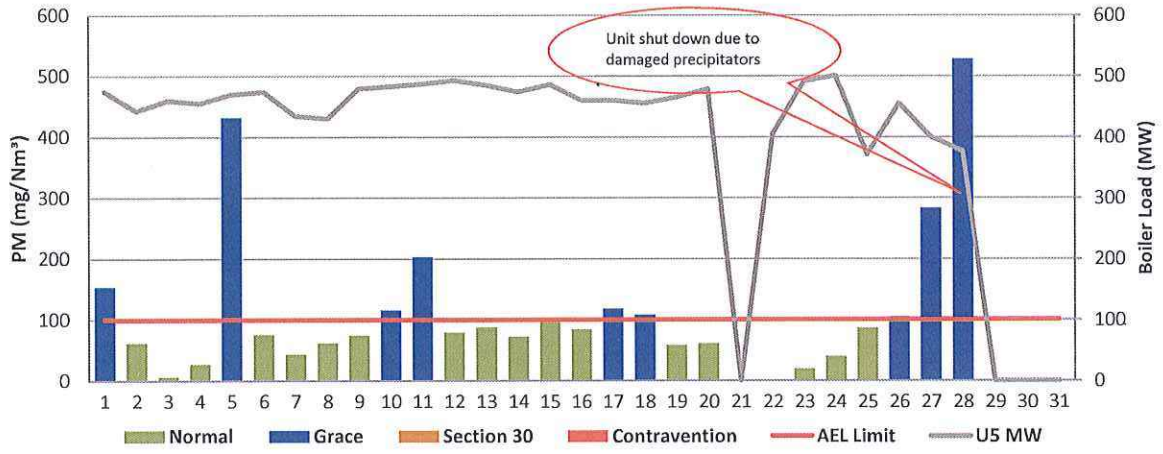
**Figure 1: Matla South Stack PM Emissions - February 2022**



**Figure 2: Matla Unit 4 PM Emissions - February 2022**



**Figure 3: Matla Unit 5 PM Emissions - February 2022**



**Figure 4: Matla Unit 6 PM Emissions - February 2022**

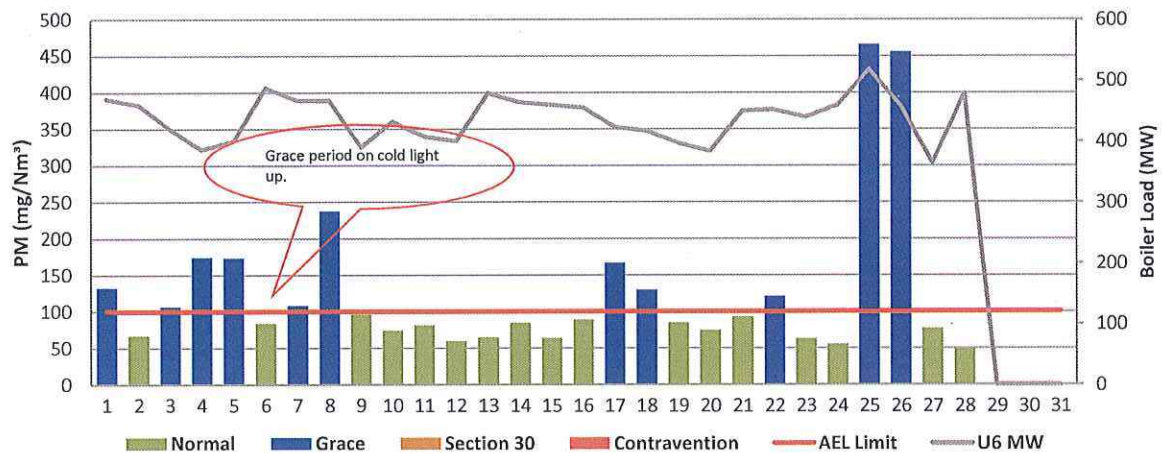


Figure 5: Matla South Stack SOx Emissions - February 2022

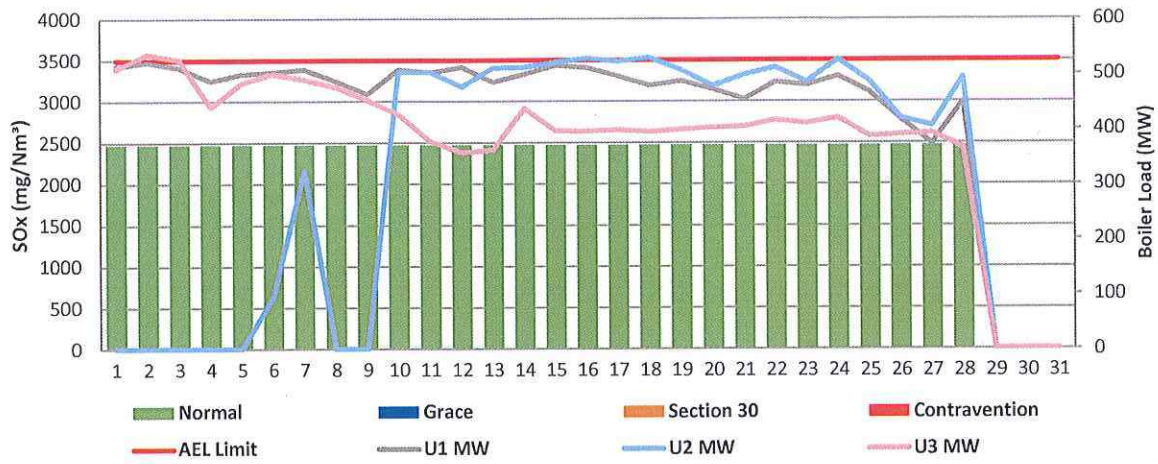


Figure 6: Matla Unit 4 SOx Emissions - February 2022

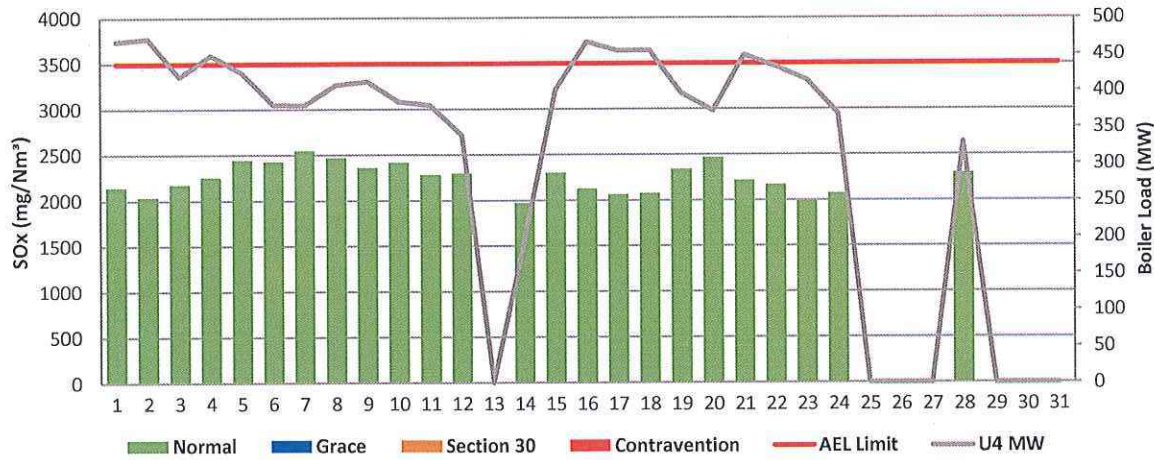




Figure 7: Matla Unit 5 SOx Emissions - February 2022

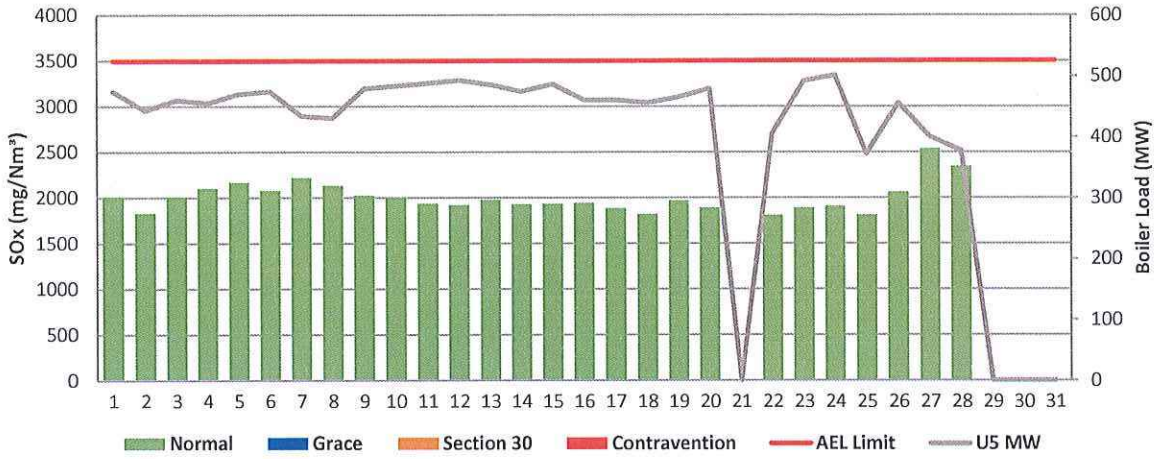


Figure 8: Matla Unit 6 SOx Emissions - February 2022

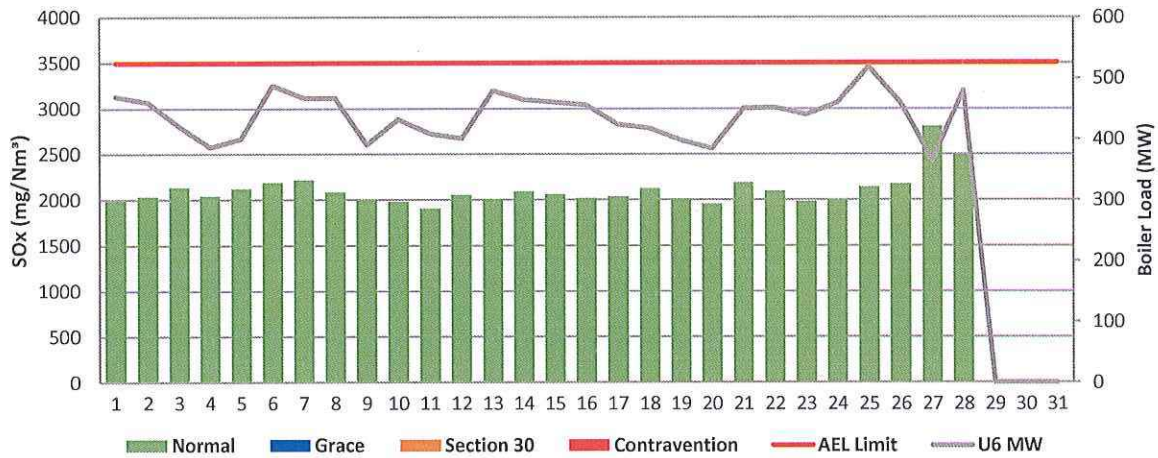


Figure 9: Matla South Stack NOx Emissions - February 2022

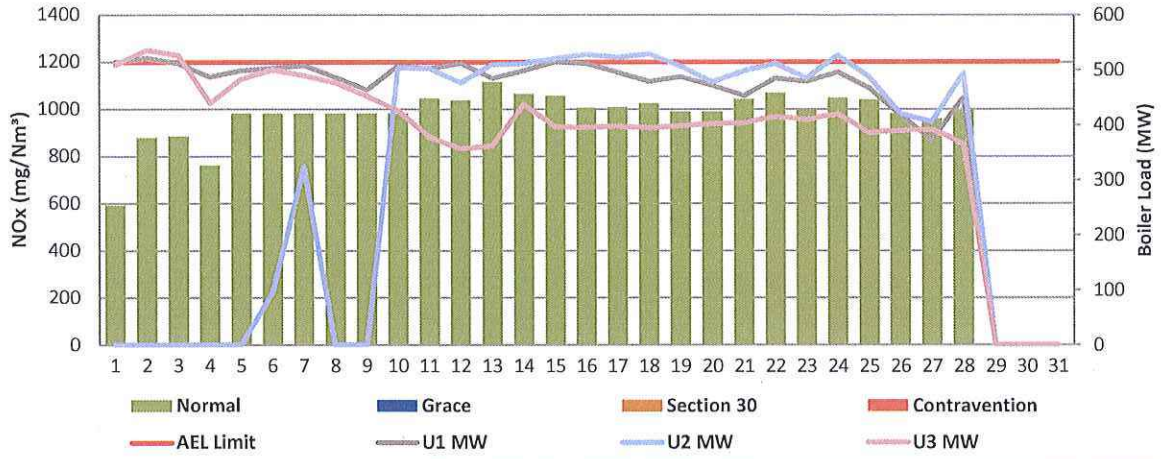


Figure 10: Matla Unit 4 NOx Emissions - February 2022

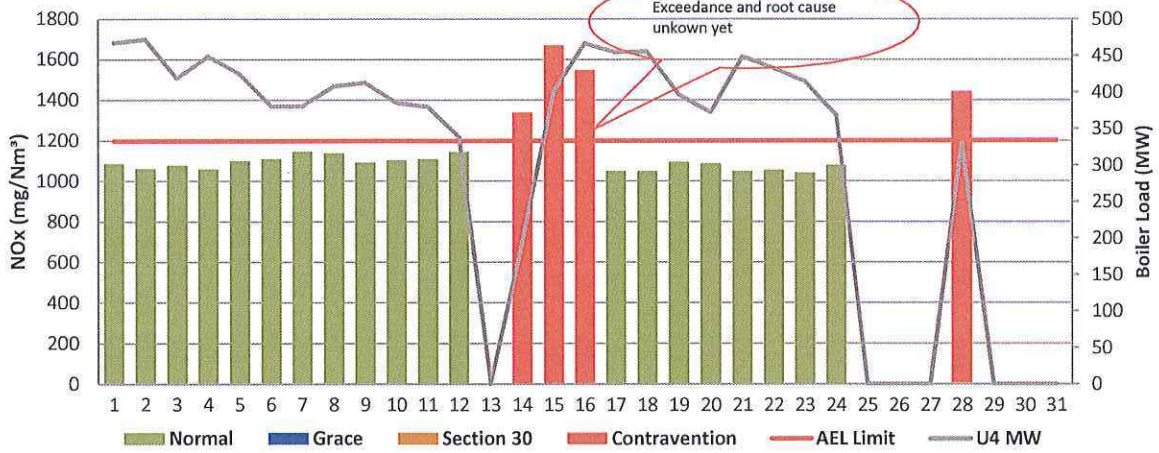




Figure 11: Matla Unit 5 NOx Emissions - February 2022

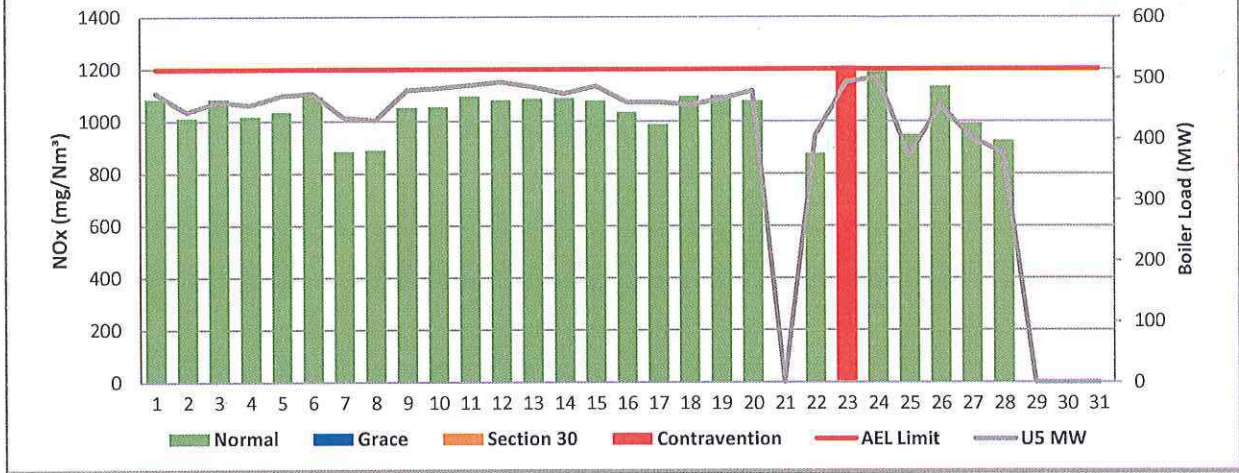
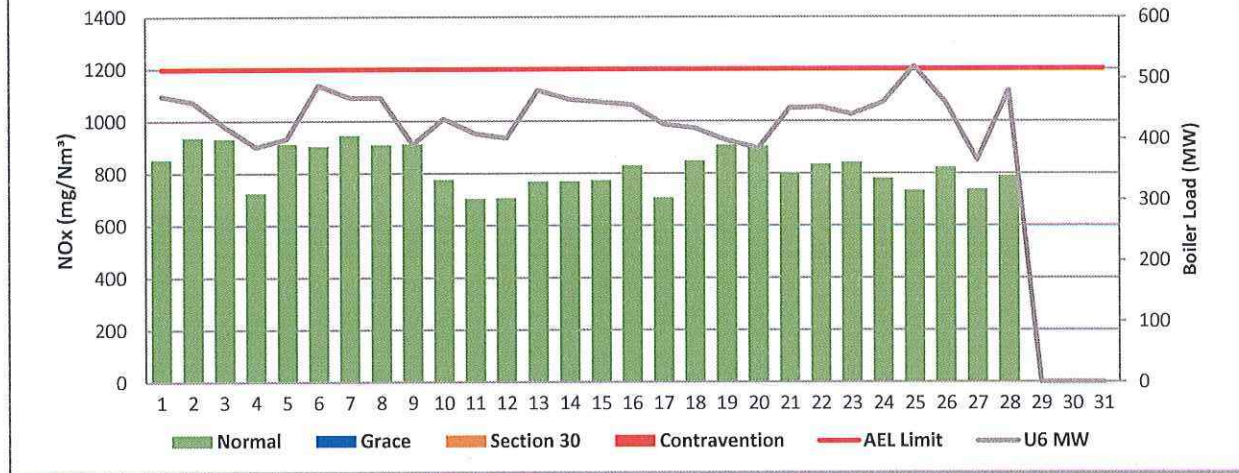


Figure 12: Matla Unit 6 NOx Emissions - February 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of February-2022

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	no event		Unit 1		no event		no event	
Breaker Open (BO)	6:50 PM	2022/02/04	9:45 PM	2022/02/08				
Draught Group (DG) Shut Down (SD)	3:15 AM	2022/02/11	DG did not trip or SD	DG did not trip or SD				
BO to DG SD (duration)	06:08:25	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			9:45 PM	2022/02/08				
Synch. to Grid (or BC)			2:45 AM	2022/02/09				
Fires in to BC (duration)		DD:HH:MM	00:05:00	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)		DD:HH:MM	n/a	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)								
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. 4	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	4:10 AM	2022/02/12	9:30 PM	2022/02/24				
Draught Group (DG) Shut Down (SD)	12:00 AM	1900/01/00	12:00 AM	1900/01/00				
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)	5:30 PM	2022/02/02	5:50 AM	2022/02/20	5:50 AM	2022/02/25	5:15 AM	2022/02/28
Draught Group (DG) Shut Down (SD)	12:00 AM	1900/01/00	12:00 AM	1900/01/00	12:00 AM	1900/01/00	12:00 AM	1900/01/00
BO to DG SD (duration)	#####	DD:HH:MM	#####	DD:HH:MM	#####	DD:HH:MM	#####	DD:HH:MM
Fires in time	5:30 PM	2022/02/02	5:50 AM	2022/02/20	5:50 AM	2022/02/25		
Synch. to Grid (or BC)	10:45 PM	2022/02/02	12:15 AM	2022/02/22	4:25 PM	2022/02/25		
Fires in to BC (duration)	00:05:15	DD:HH:MM	01:18:25	DD:HH:MM	00:10:35	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit		
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	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-2022 in mg/Nm<sup>3</sup>

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

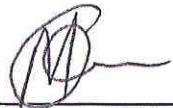


Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX

## 11 General

Gases on South Stack and unit 6 used QAL2 averages. These two monitors had data lower than expected. Unit 4 NOx incurred legal contravention and root cause unknown yet investigation underway. Unit 4 and 6 correlation Certificates have expired. The station has experienced challenges that resulted in delays for correlation testing.



12-04-2022

Boiler Engineering

Date



12.04.2022

Environmental Department

Date



20/04/2022

General Manager

Date

Compiled by: Boiler Engineering Department

ESP & SO<sub>2</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







**Generation**

Nkangala District Municipality  
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1050

**Date: 2022/03/30**

Enquiries: Refilwe mokobodi -Matla Environmental  
☎ +27 17 612 6263

**Attention:**

Mr V Mahlangu

Enquiries: Lindokuhle Ngobese

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AND

Directorate: Air Quality Management Services  
The Director:  
Mr Vumile Senene  
Department of Environmental Affairs  
Private Bag X447  
PRETORIA  
0001  
Tel: (012) 310 3263  
Fax: (012) 320 0488


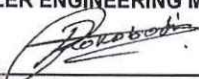

**Total number of pages:**

**16**

**Total number of annexes:**

**MATLA POWER STATION**

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

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**BOILER ENGINEERING MANAGER**  
  
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**ENVIRONMENTAL MANAGER**  
  
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**ENGINEERING MANAGER**

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