



Generation

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AND

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MATLA POWER STATION

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



BOILER ENGINEERING MANAGER

17/10/2022


DATE



ENVIRONMENTAL MANAGER

14/10/2022

DATE



ENGINEERING MANAGER

18.10.2022

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	Max Permitted Consumption Rate	Consumption Rate Sep-2022
	Coal	Tons	1 475 000	769 407
	Fuel Oil	Tons	3 500	490

Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Sep-2022
	Energy	GWh	2 657	1 316
	Ash	Tons	471 000	228 437
	RE PM	kg/MWh	not specified	0.402

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	29.69

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

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Sep-2022
South	<i>Electro Static Precipators (ESP)</i>	<i>99.711%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99.839%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99.748%</i>

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

5 DATA RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
South	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Unit 4				
Unit 5	<i>100.0</i>	<i>100.0</i>	<i>99.9</i>	<i>100.0</i>
Unit 6	<i>99.7</i>	<i>95.0</i>	<i>92.6</i>	<i>100.0</i>

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	125.6	3 313.3	794.5
Unit 2	77.6	2 366.8	567.6
Unit 3	157.7	4 378.4	1 049.9
Unit 4	0.0	0.0	0.0
Unit 5	60.8	2 491.6	1 019.0
Unit 6	107.9	2 875.2	721.0
SUM	529.5	15 425.3	4 152.0

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	28	2	0	0	2	87.7
Unit 4	0	0	0	0	0	
Unit 5	18	6	0	0	6	54.9
Unit 6	25	5	0	0	5	76.6
SUM	71	13	0	0	13	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - September 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
South	30	0	0	0	0	2 423.7
Unit 4	0	0	0	0	0	
Unit 5	24	0	0	0	0	2 486.1
Unit 6	30	0	0	0	0	2 080.5
SUM	84	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - September 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
South	30	0	0	0	0	581.2
Unit 4	0	0	0	0	0	
Unit 5	24	0	0	0	0	1 012.3
Unit 6	30	0	0	0	0	521.4
SUM	84	0	0	0	0	

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂

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 2022

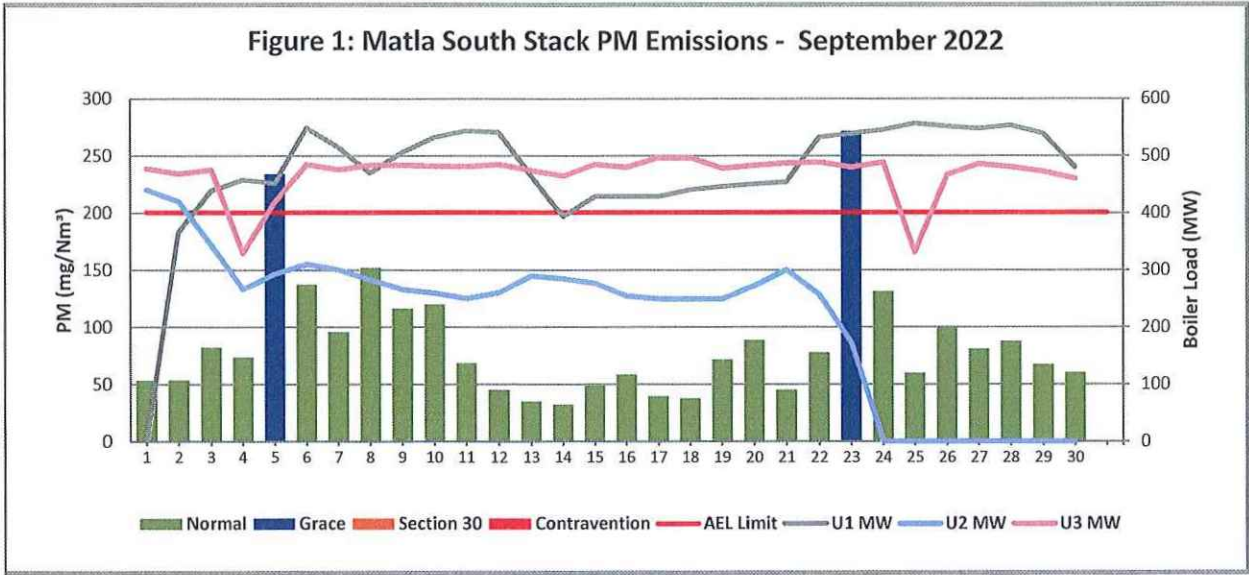


Figure 2: Matla Unit 4 PM Emissions - September 2022

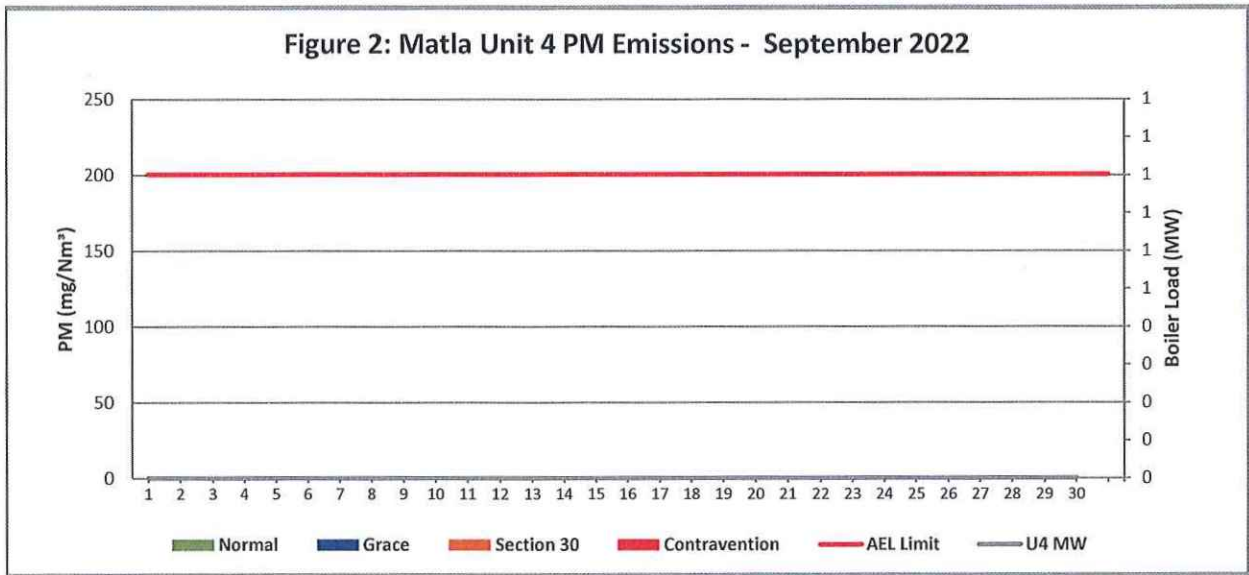


Figure 3: Matla Unit 5 PM Emissions - September 2022

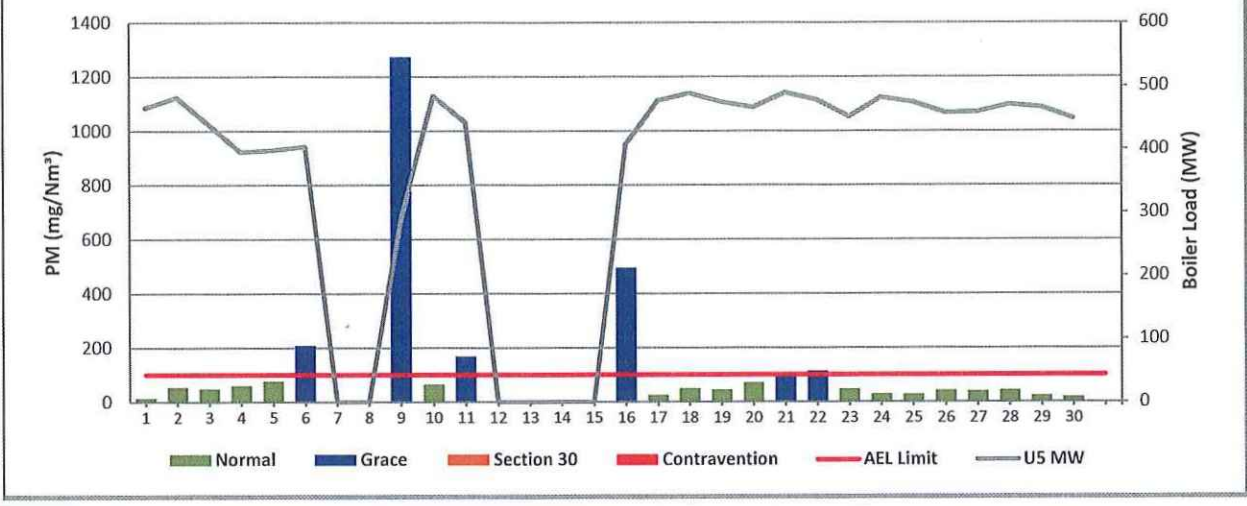


Figure 4: Matla Unit 6 PM Emissions - September 2022

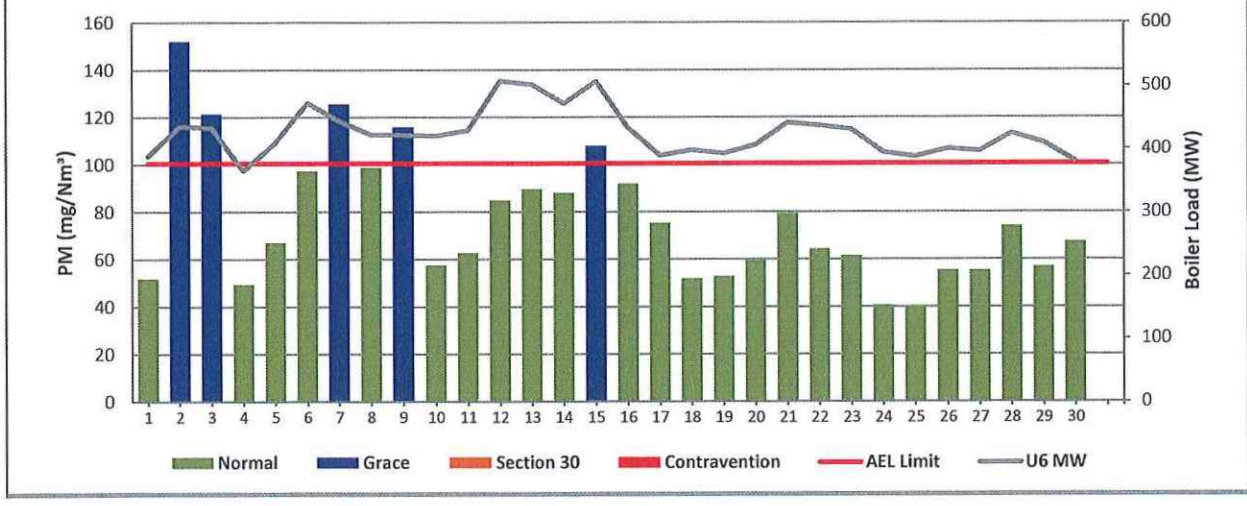


Figure 5: Matla South Stack SO₂ Emissions - September 2022

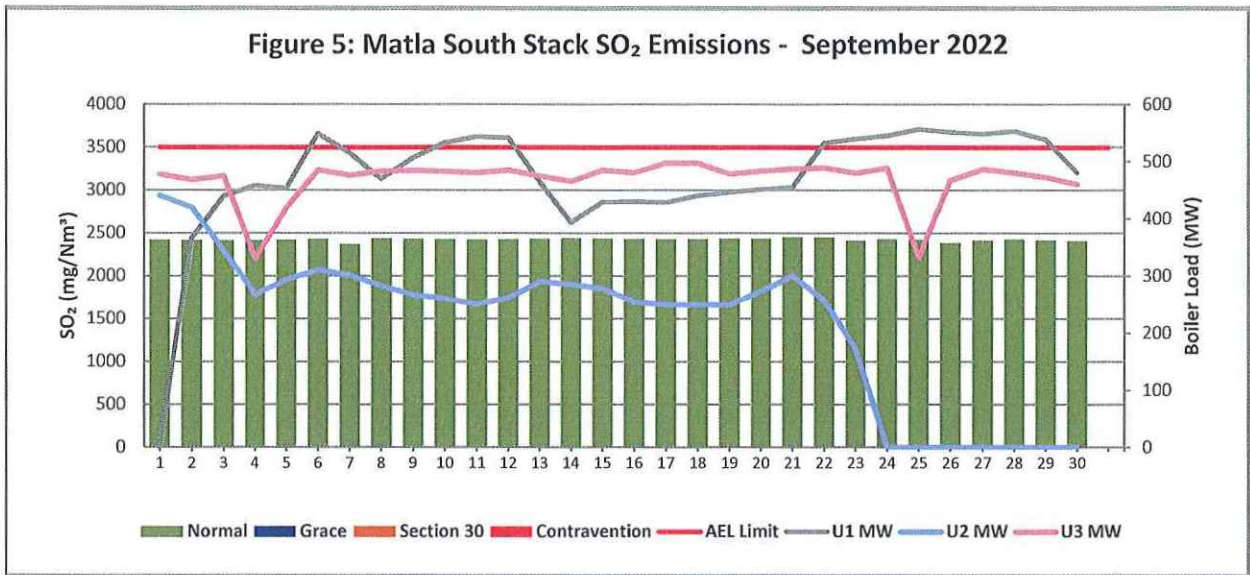


Figure 6: Matla Unit 4 SO₂ Emissions - September 2022

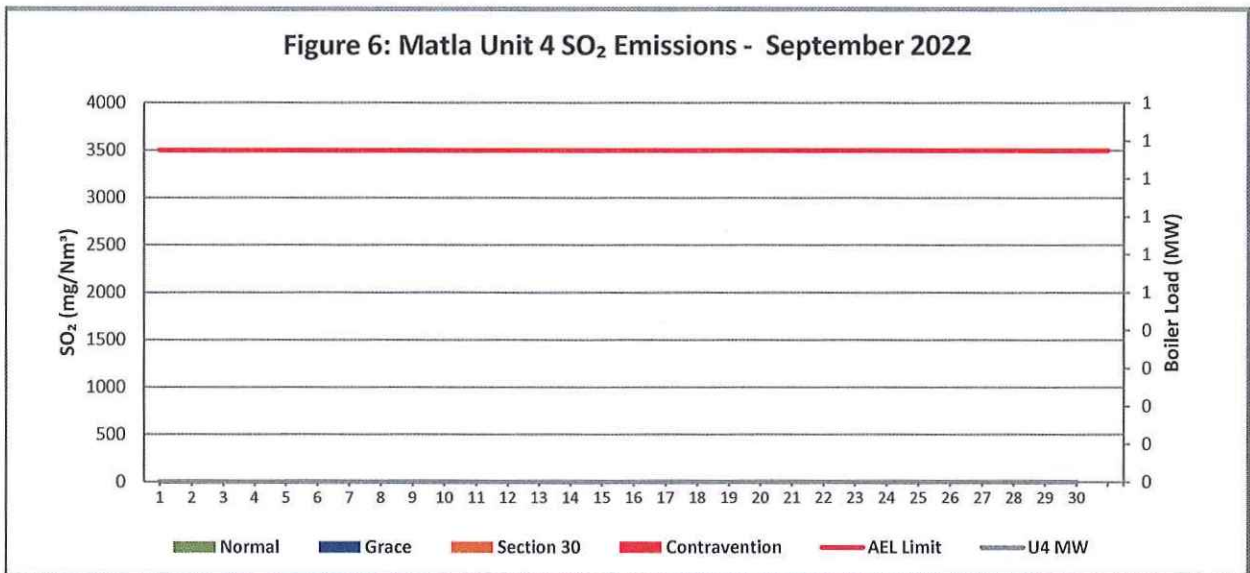


Figure 7: Matla Unit 5 SO₂ Emissions - September 2022

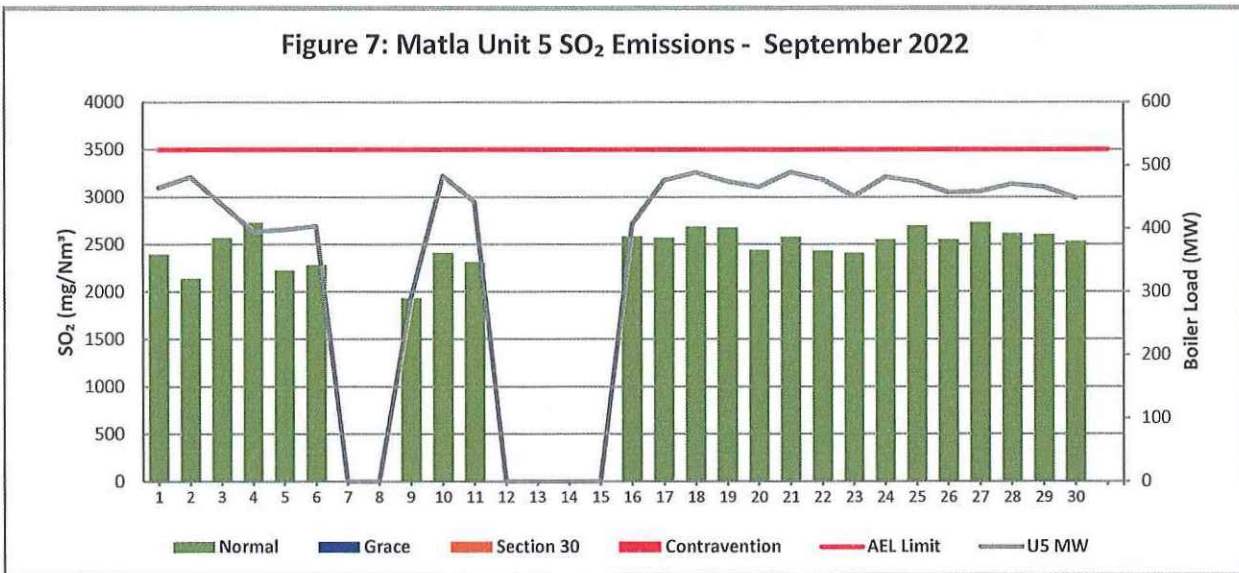


Figure 8: Matla Unit 6 SO₂ Emissions - September 2022

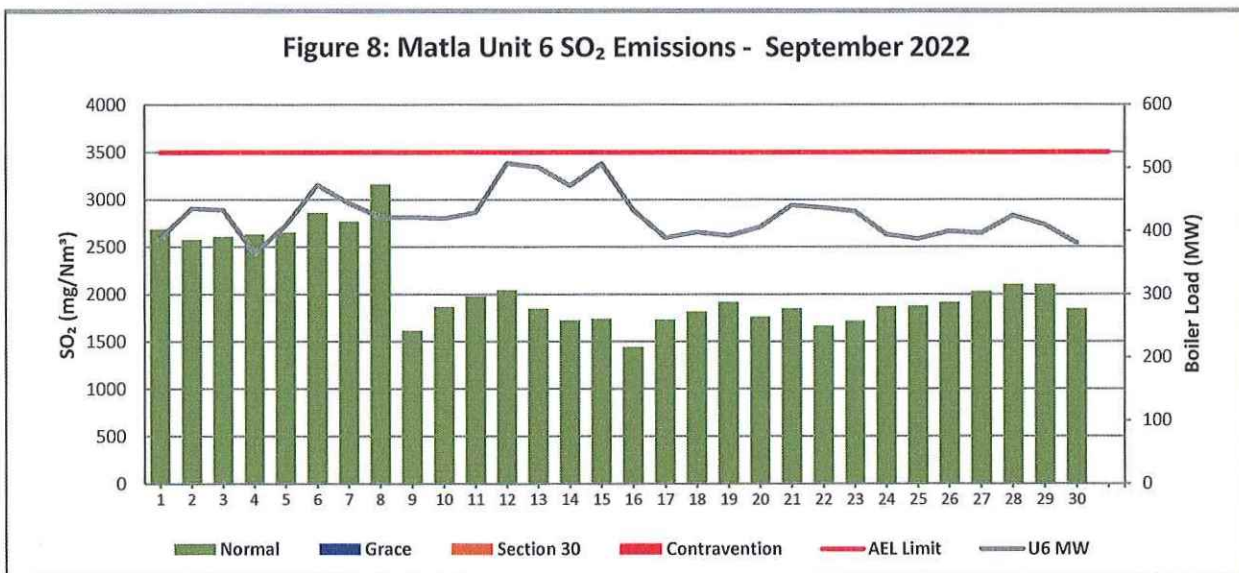


Figure 9: Matla South Stack NOx Emissions - September 2022

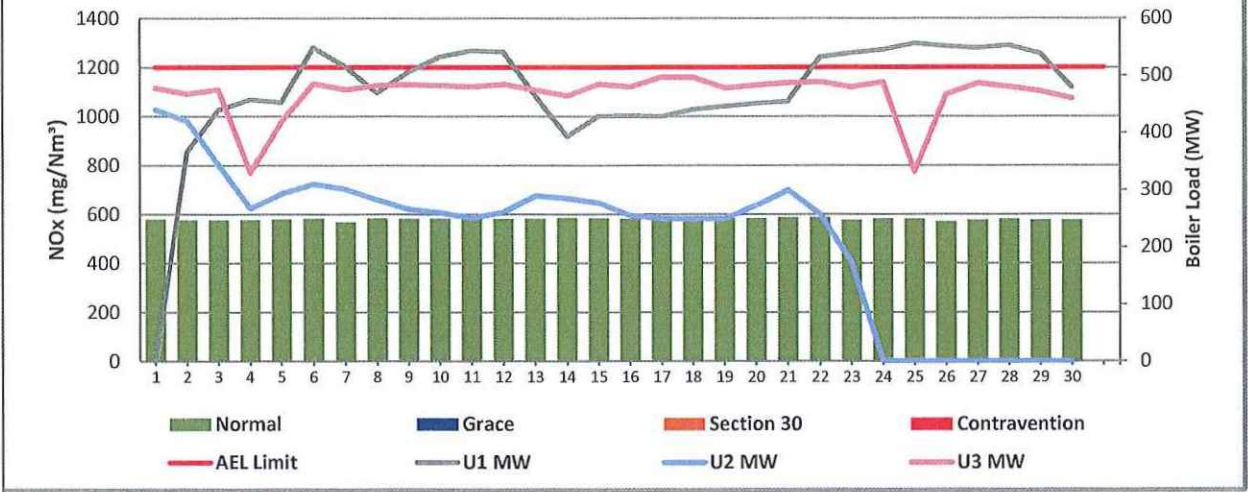


Figure 10: Matla Unit 4 NOx Emissions - September 2022

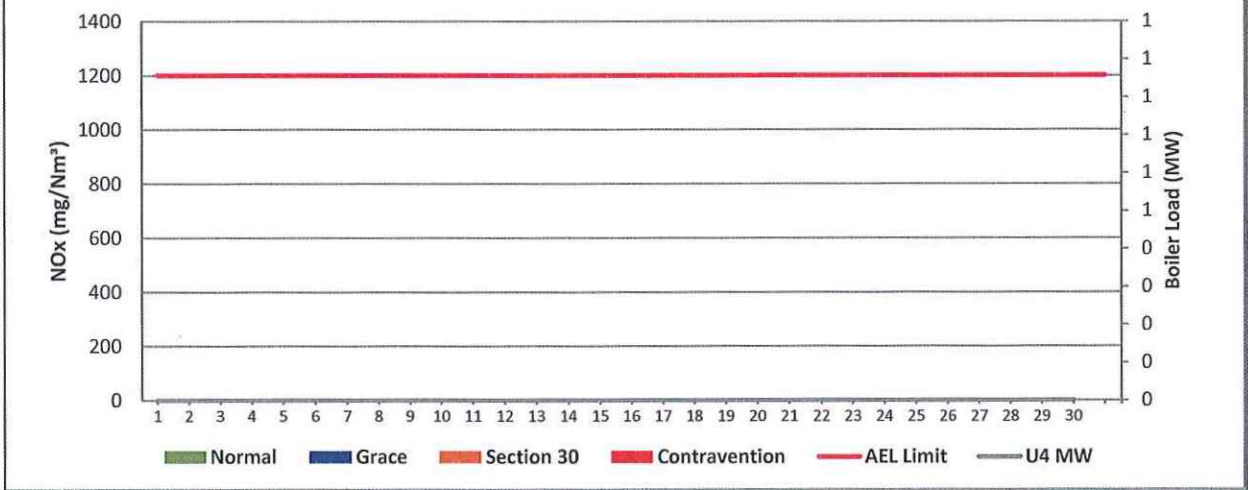


Figure 11: Matla Unit 5 NOx Emissions - September 2022

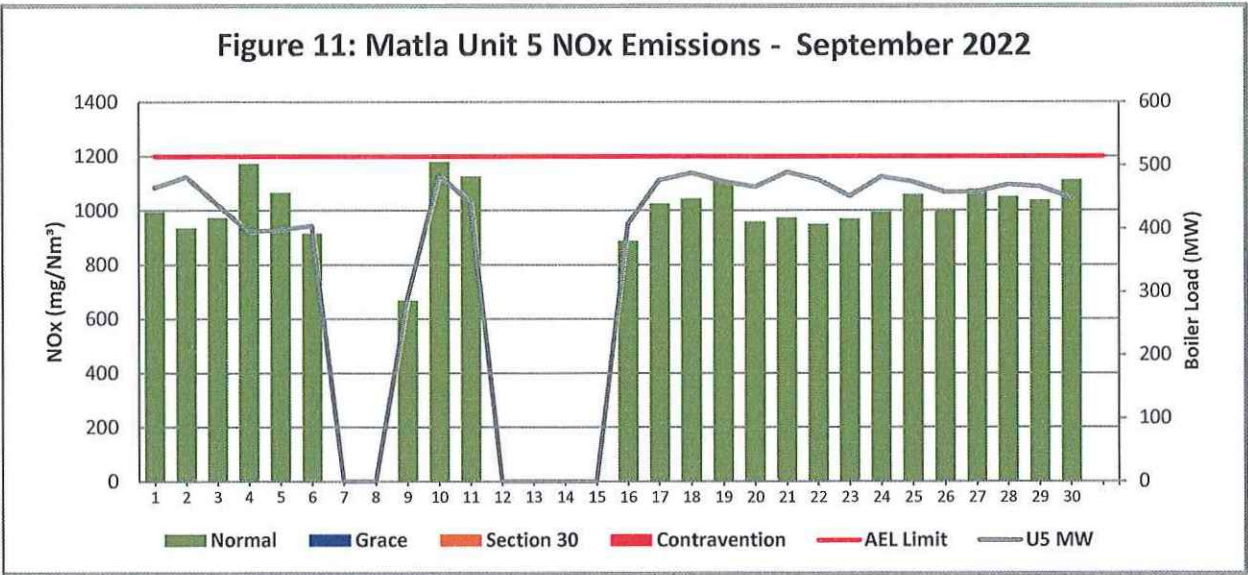
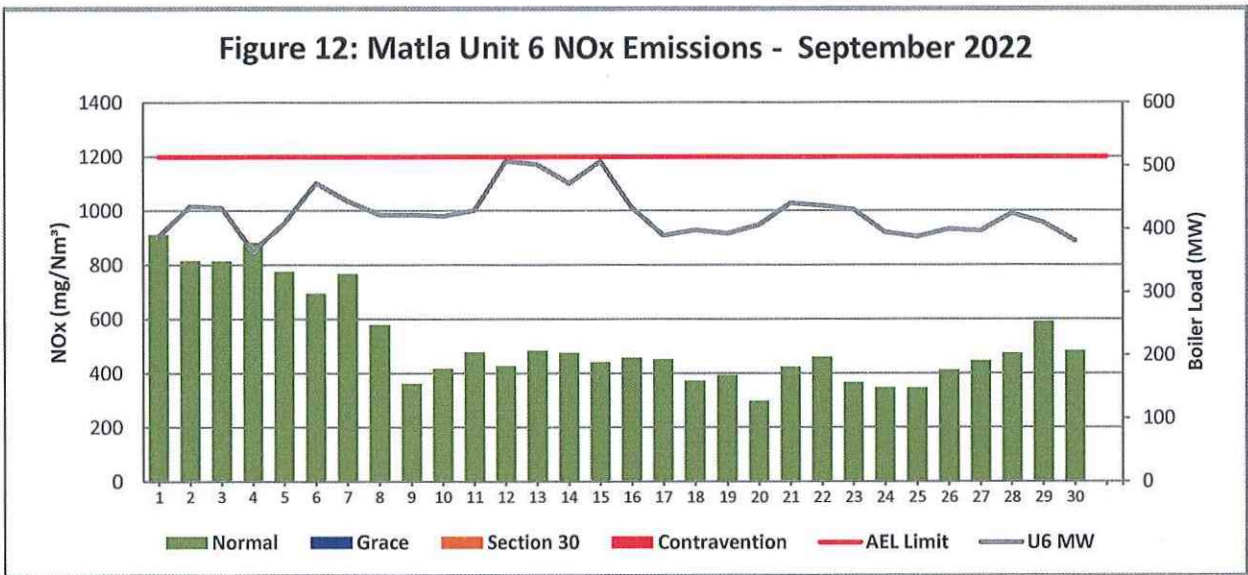


Figure 12: Matla Unit 6 NOx Emissions - September 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

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

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>	<i>7:55 PM</i>	<i>2022/09/03</i>	<i>1:10 AM</i>	<i>2022/09/23</i>		
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</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>	<i>DG did not trip or SD</i>		
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM
Fires in time	<i>2:45 AM</i>	<i>2022/09/02</i>	<i>7:55 PM</i>	<i>2022/09/03</i>				
Synch. to Grid (or BC)	<i>3:10 PM</i>	<i>2022/09/02</i>	<i>4:15 AM</i>	<i>2022/09/04</i>				
Fires in to BC (duration)	<i>00:12:25</i>	DD:HH:MM	<i>00:08:20</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<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>	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)								
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)								
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)	10:10 PM	2022/09/06	6:20 PM	2022/09/11				
Draught Group (DG) Shut Down (SD)	10:15 PM	2022/09/07	7:50 PM	2022/09/12				
BO to DG SD (duration)	01:00:05	DD:HH:MM	01:01:30	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	4:05 AM	2022/09/07	4:15 AM	2022/09/16				
Synch. to Grid (or BC)	4:40 PM	2022/09/09	12:35 PM	2022/09/16				
Fires in to BC (duration)	02:12:35	DD:HH:MM	00:08:20	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit				
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	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 September-2022 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 are reported using parallel tests averages. South stack correlation completed and awaiting for the report. Unit 4 scheduled to be completed after the outage in January 2023. Unit 6 correlation scheduled for 24-10-2022.

13-10-2022

Boiler Engineering

Date

13.10.2022

Environmental Department

Date

18/10/2022

General Manager

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