



Generation

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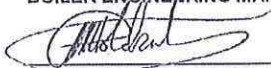
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MATLA POWER STATION

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



BOILER ENGINEERING MANAGER


ENVIRONMENTAL MANAGER


ENGINEERING MANAGER

29/09/2023
DATE

2023.09.28
DATE

2023.09.29
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 Aug-2023
	Coal	Tons	1 475 000	832 342
	Fuel Oil	Tons	3 500	196

Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Aug-2023
	Energy	GWh	2 745	1 339
	Ash	Tons	471 000	261 189
	RE PM	kg/MWh	not specified	2.896

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	31.38

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 Aug-2023
South	<i>Electro Static Precipators (ESP)</i>	<i>98.717%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>98.670%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>96.067%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99.117%</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>87.4</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Unit 4	<i>89.4</i>	<i>100.0</i>	<i>93.3</i>	<i>93.1</i>
Unit 5	<i>55.2</i>	<i>100.0</i>	<i>99.8</i>	<i>100.0</i>
Unit 6	<i>86.2</i>	<i>93.9</i>	<i>93.3</i>	<i>100.0</i>

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of August-2023

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	173.4	1 072.8	257.3
Unit 2	738.6	4 690.2	1 124.7
Unit 3	527.6	3 177.1	761.9
Unit 4	615.7	2 895.4	942.8
Unit 5	1 478.9	2 262.2	758.4
Unit 6	343.6	2 471.6	771.0
SUM	3 877.8	16 569.3	4 616.1

Table 6.2: Operating days in compliance to PM AEL Limit - August 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	1	2	0	28	30	400.2
Unit 4	9	5	0	15	20	377.5
Unit 5	0	0	0	25	25	1 430.0
Unit 6	3	7	0	15	22	314.7
SUM	13	14	0	83	97	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - August 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
South	31	0	0	0	0	2 414.0
Unit 4	30	0	0	0	0	1 780.0
Unit 5	25	0	0	0	0	2 154.9
Unit 6	26	0	0	0	0	2 195.8
SUM	112	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - August 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
South	31	0	0	0	0	578.9
Unit 4	30	0	0	0	0	574.3
Unit 5	25	0	0	0	0	721.8
Unit 6	26	0	0	0	0	672.1
SUM	112	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



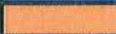

Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Matla South Stack PM Emissions - August 2023

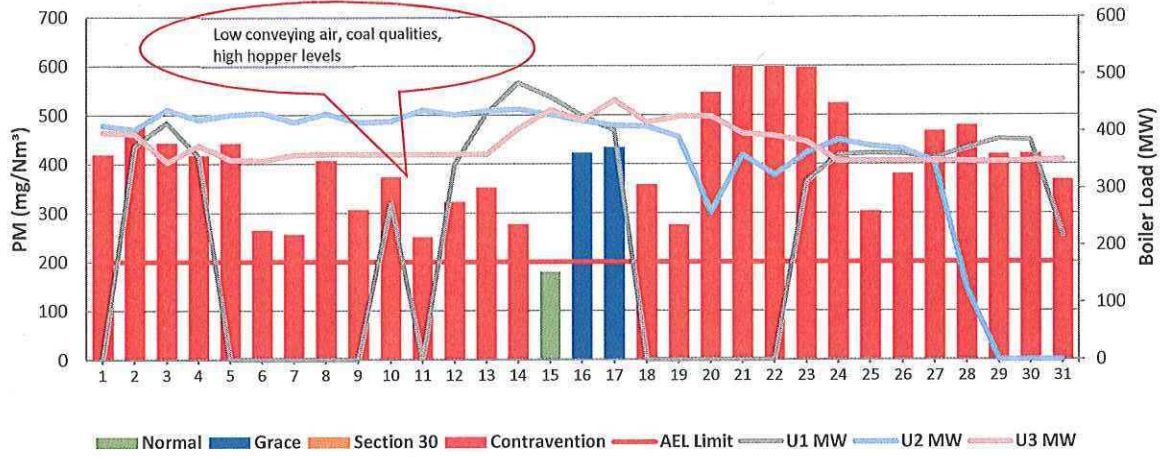


Figure 2: Matla Unit 4 PM Emissions - August 2023

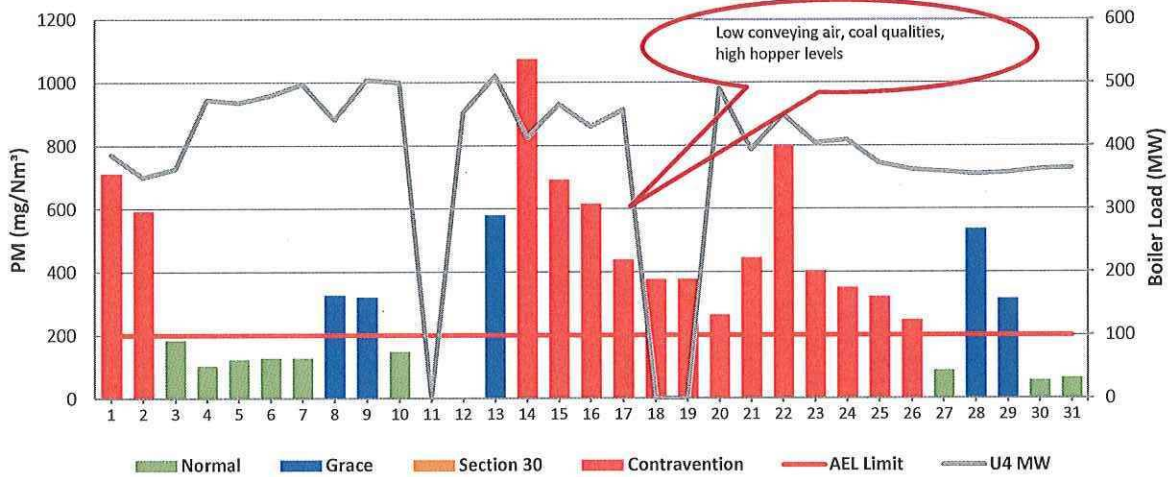


Figure 3: Matla Unit 5 PM Emissions - August 2023

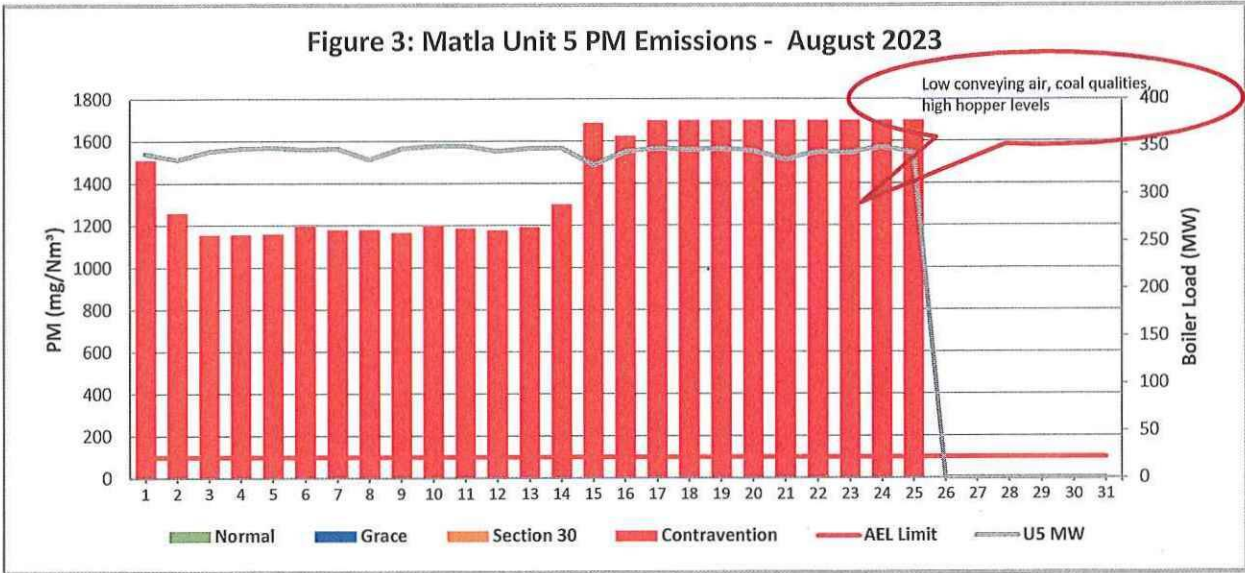


Figure 4: Matla Unit 6 PM Emissions - August 2023

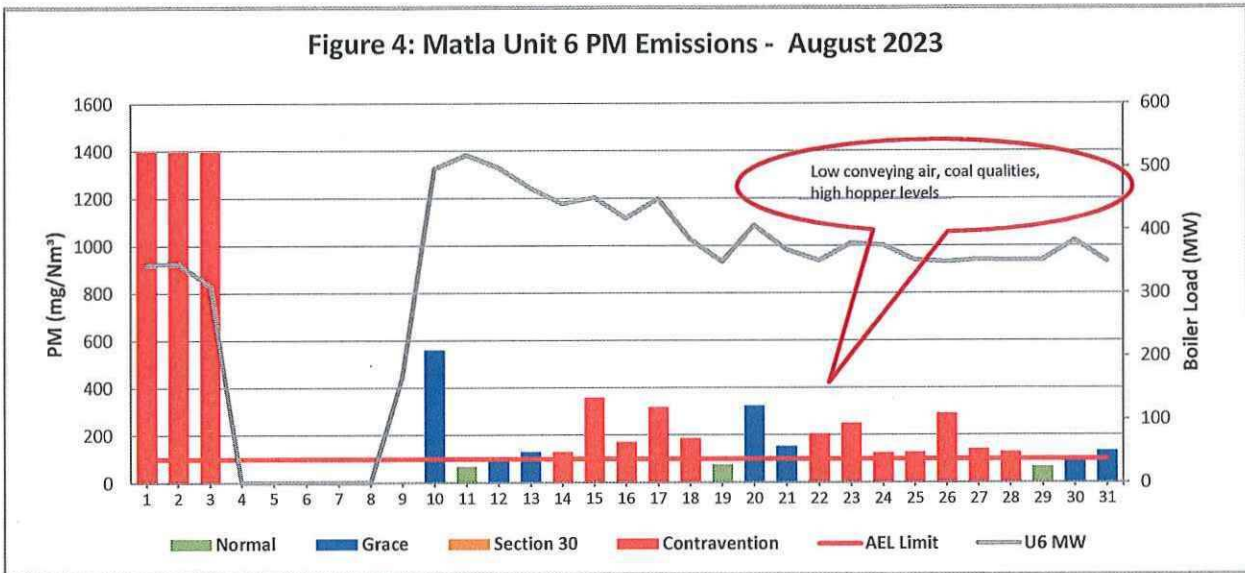


Figure 5: Matla South Stack SO₂ Emissions - August 2023

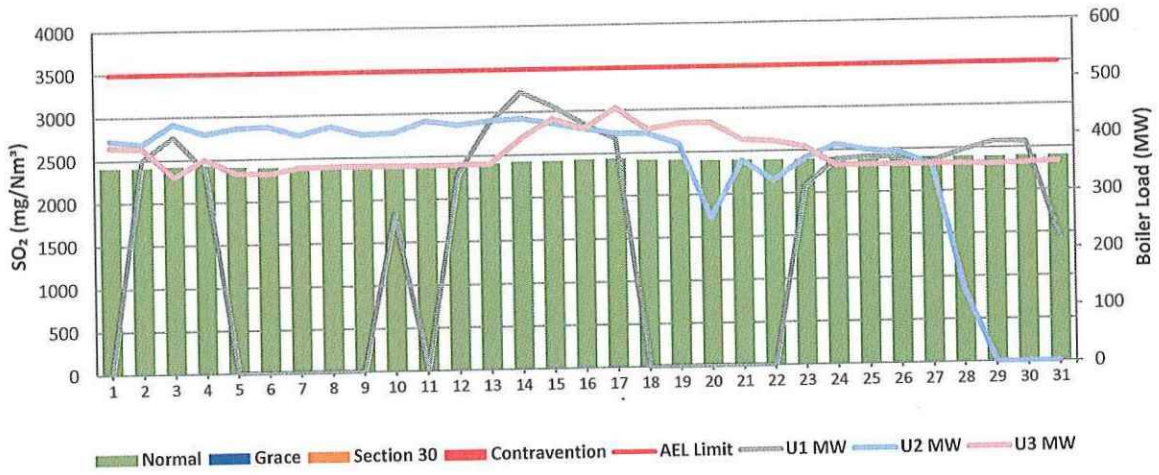


Figure 6: Matla Unit 4 SO₂ Emissions - August 2023

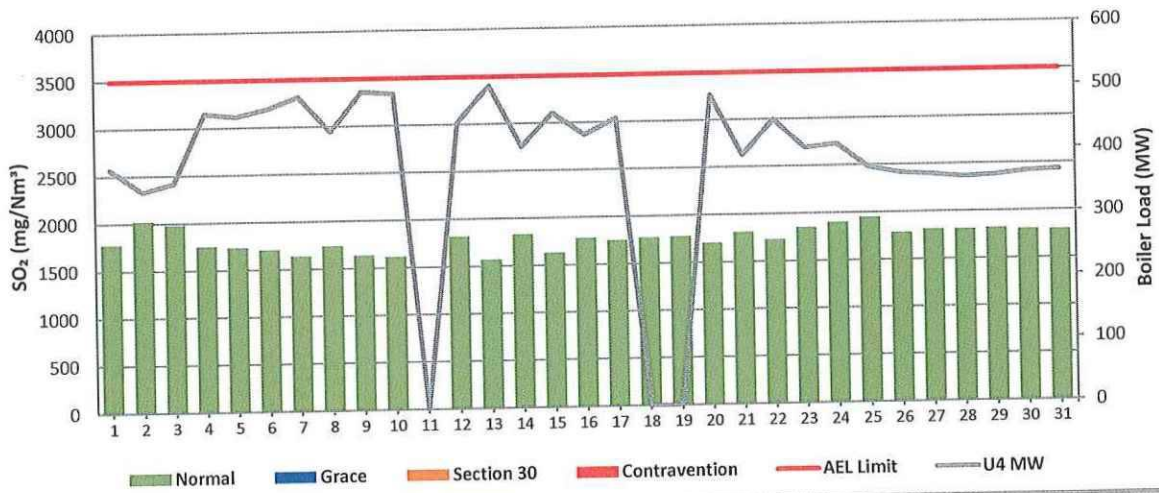


Figure 7: Matla Unit 5 SO₂ Emissions - August 2023

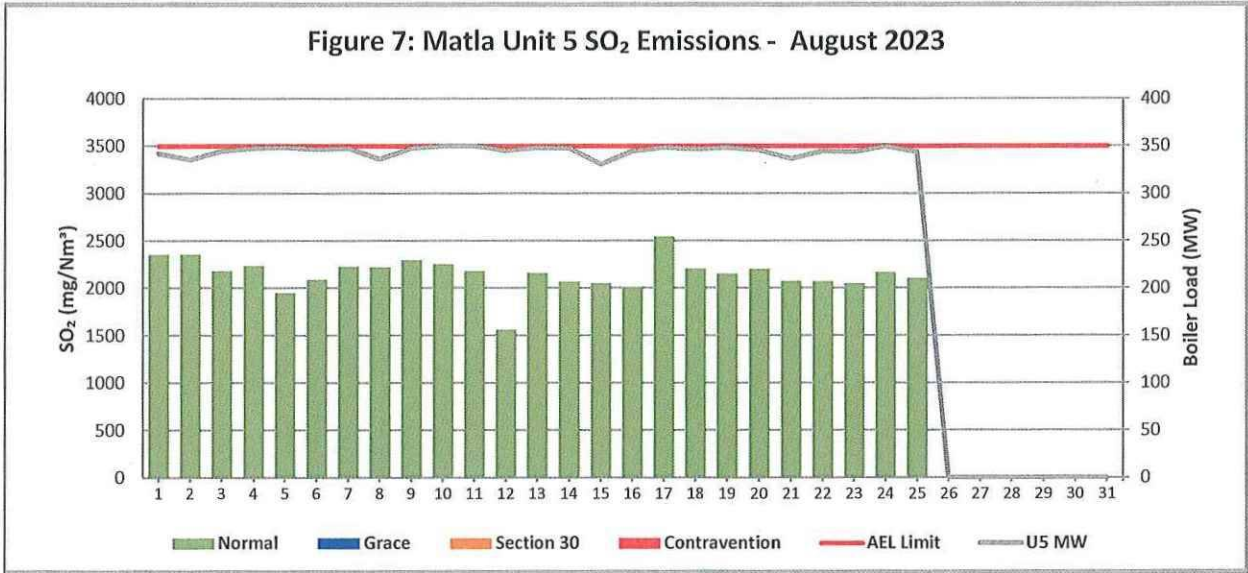


Figure 8: Matla Unit 6 SO₂ Emissions - August 2023

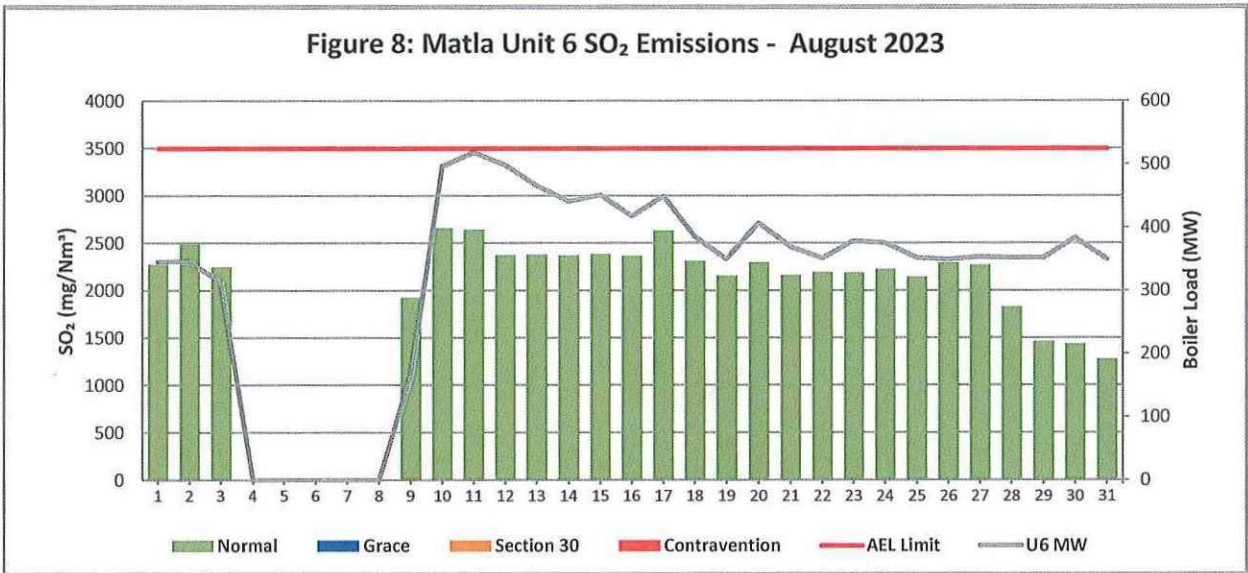


Figure 9: Matla South Stack NOx Emissions - August 2023

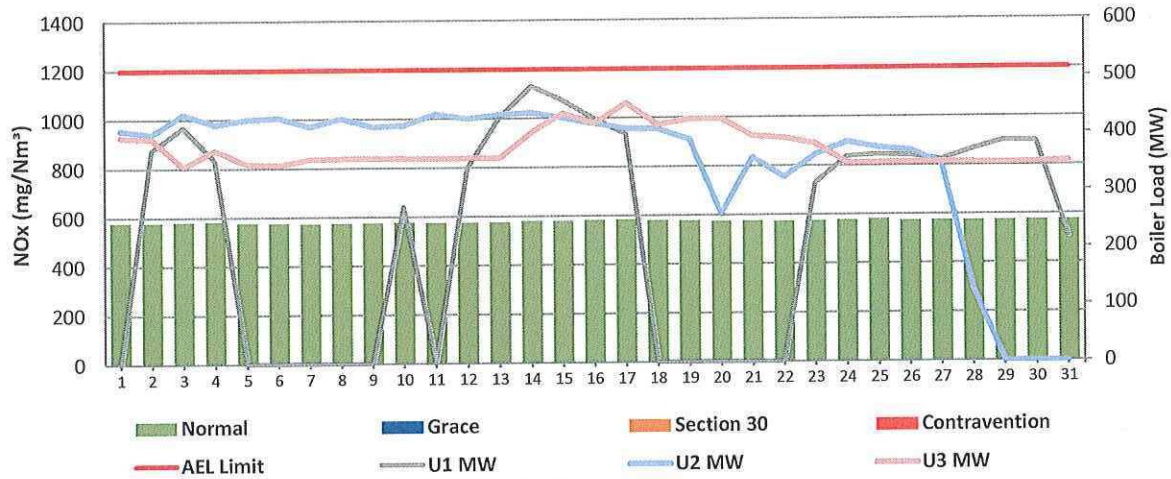


Figure 10: Matla Unit 4 NOx Emissions - August 2023

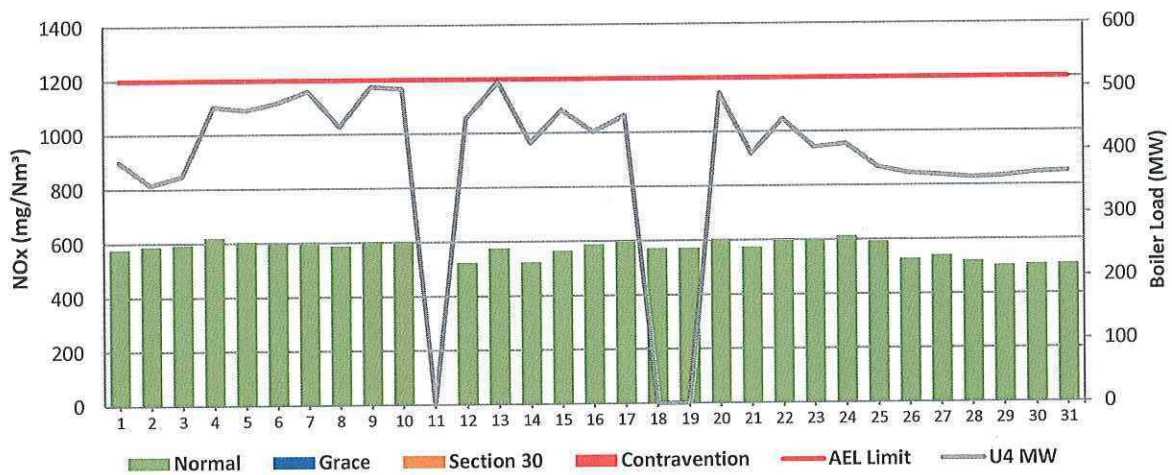


Figure 11: Matla Unit 5 NOx Emissions - August 2023

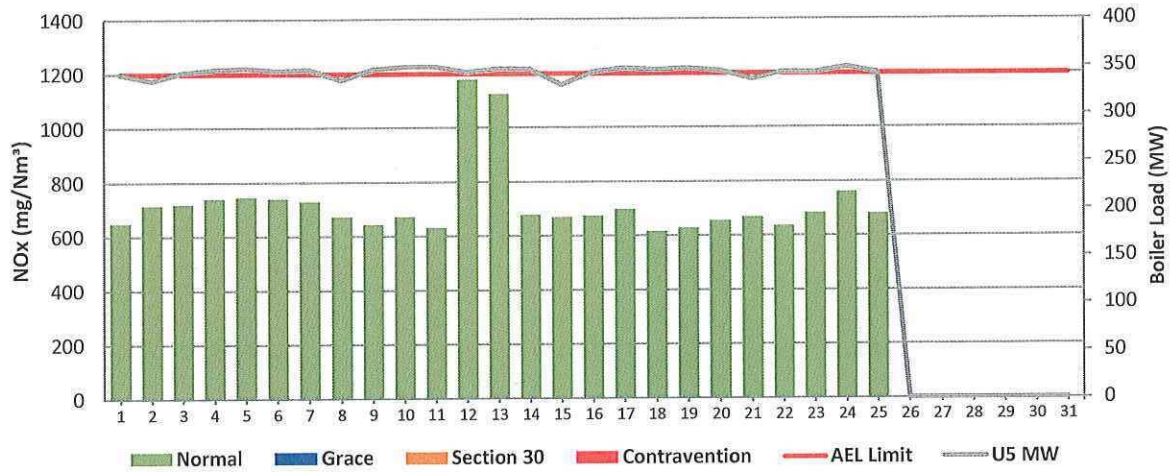
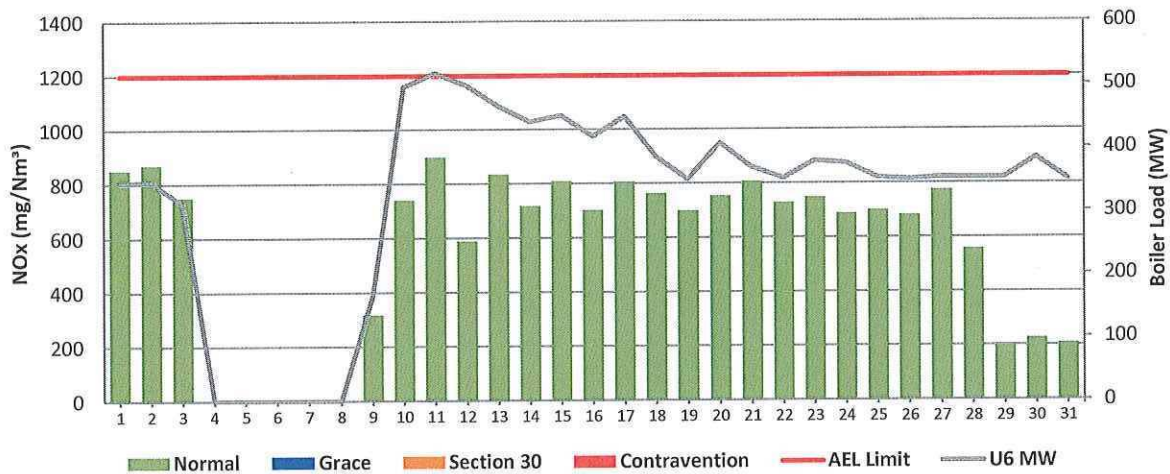


Figure 12: Matla Unit 6 NOx Emissions - August 2023



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of August-2023

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 1		Unit 2	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	2:10 PM	2023/08/04	12:00 PM	2023/08/17	10:25 PM	2023/08/21
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	6:30 AM	2023/08/05	6:55 AM	2023/08/18	10:25 PM	2023/08/21
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	00:16:20	DD:HH:MM	00:18:55	DD:HH:MM	00:00:00	DD:HH:MM
Fires in time	4:50 PM	2023/08/01	5:00 AM	2023/08/12	12:00 AM	2023/08/23	8:55 AM	2023/08/22
Synch. to Grid (or BC)	3:40 AM	2023/08/02	7:30 AM	2023/08/13	10:20 AM	2023/08/23	3:35 PM	2023/08/22
Fires in to BC (duration)	00:10:50	DD:HH:MM	01:02:30	DD:HH:MM	00:10:20	DD:HH:MM	00:06:40	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>	<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	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM

South Stack ...cont.	Event 5		Event 6		Event 7		Event 8	
Unit No.	Unit 2		no event		no event		no event	
Breaker Open (BO)	7:50 AM	2023/08/27						
Draught Group (DG) Shut Down (SD)	2:30 PM	2023/08/28						
BO to DG SD (duration)	01:06:40	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	11:25 PM	2023/08/27						
Synch. to Grid (or BC)	9:15 AM	2023/08/28						
Fires in to BC (duration)	00:09:50	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>						
Emissions below limit from BC (duration)	<i>n/a</i>	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)	9:25 PM	2023/08/10						
Draught Group (DG) Shut Down (SD)	12:50 AM	2023/08/11						
BO to DG SD (duration)	00:03:25	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	3:55 PM	2023/08/11						
Synch. to Grid (or BC)	4:45 AM	2023/08/12						
Fires in to BC (duration)	00:12:50	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

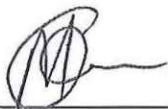
Unit No. 5	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	4:20 PM	2023/08/15	9:20 PM	2023/08/25				
Draught Group (DG) Shut Down (SD)	4:20 PM	2023/08/15	8:35 PM	2023/08/26				
BO to DG SD (duration)		DD:HH:MM	00:23:15	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	4:20 PM	2023/08/15						
Synch. to Grid (or BC)	9:30 PM	2023/08/15						
Fires in to BC (duration)	00:05:10	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

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 August-2023 in mg/Nm³

11 General

Gas are reported using parallel tests averages.
Unit 5 reliability below 80% due to high emissions.
Unit 6 correlation expired and awaiting for report.
South stack parallel test curves expired and testing scheduled for 16/10/2023.


28/09/2023
Boiler Engineering Date


28/09/2023
Environmental Department Date


08/10/2023
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