



Generation

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MATLA POWER STATION

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

BOILER ENGINEERING MANAGER

ENVIRONMENTAL MANAGER

ENGINEERING MANAGER

27/02/2024
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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 Jan-2024
	Coal	Tons	1 475 000	857 687
	Fuel Oil	Tons	3 500	1 380
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Indicative Production Rate Jan-2024
	Energy	GWh	2 745	1 452
	Ash	Tons	471 000	256 963
	RE PM	kg/MWh	not specified	0.983

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: $[3\ 690\ \text{MW}] \times 24\ \text{hrs} \times \text{days in Month}/1000$ to convert to GWh

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	29.96

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 Jan-2024
South	Electro Static Precipators (ESP)	99.446%
Unit 4	Electro Static Precipators (ESP)	98.190%
Unit 5	Electro Static Precipators (ESP)	99.826%
Unit 6	Electro Static Precipators (ESP)	99.761%

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	95.7	100.0	100.0	100.0
Unit 4	90.3	99.8	99.8	99.8
Unit 5	91.3	100.0	100.0	100.0
Unit 6	93.4	100.0	100.0	100.0

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of January-2024

Associated Unit/Stack	PM	SO ₂	NO _x
Unit 1	77.6	736.0	223.6
Unit 2	263.1	2 429.3	854.6
Unit 3	178.1	1 788.1	604.3
Unit 4	704.8	2 867.6	828.9
Unit 5	86.7	3 092.3	917.0
Unit 6	116.9	3 220.5	1 032.1
SUM	1 427.2	14 133.8	4 460.5

Table 6.2: Operating days in compliance to PM AEL Limit - January 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	20	11	0	0	11	183.9
Unit 4	11	8	0	8	16	509.1
Unit 5	29	2	0	0	2	59.7
Unit 6	26	5	0	0	5	68.4
SUM	86	26	0	8	34	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - January 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
South	31	0	0	0	0	1 741.9
Unit 4	28	0	0	0	0	1 914.5
Unit 5	31	0	0	0	0	2 140.6
Unit 6	31	0	0	0	0	1 928.5
SUM	121	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - January 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
South	31	0	0	0	0	572.9
Unit 4	28	0	0	0	0	548.9
Unit 5	31	0	0	0	0	636.4
Unit 6	31	0	0	0	0	615.4
SUM	121	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 - January 2024

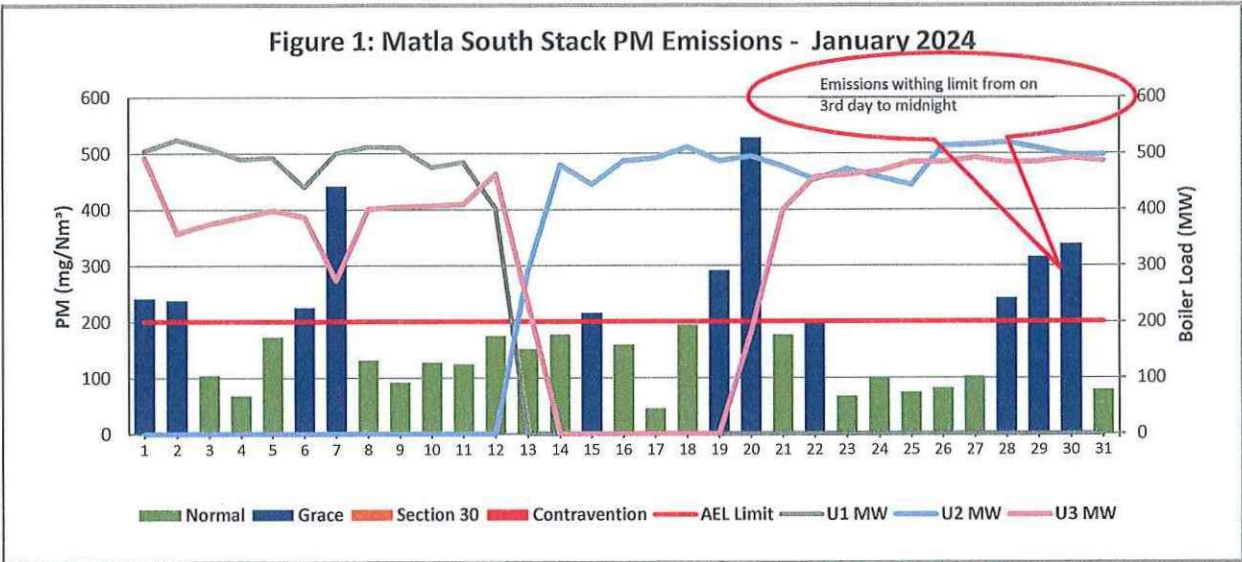


Figure 2: Matla Unit 4 PM Emissions - January 2024

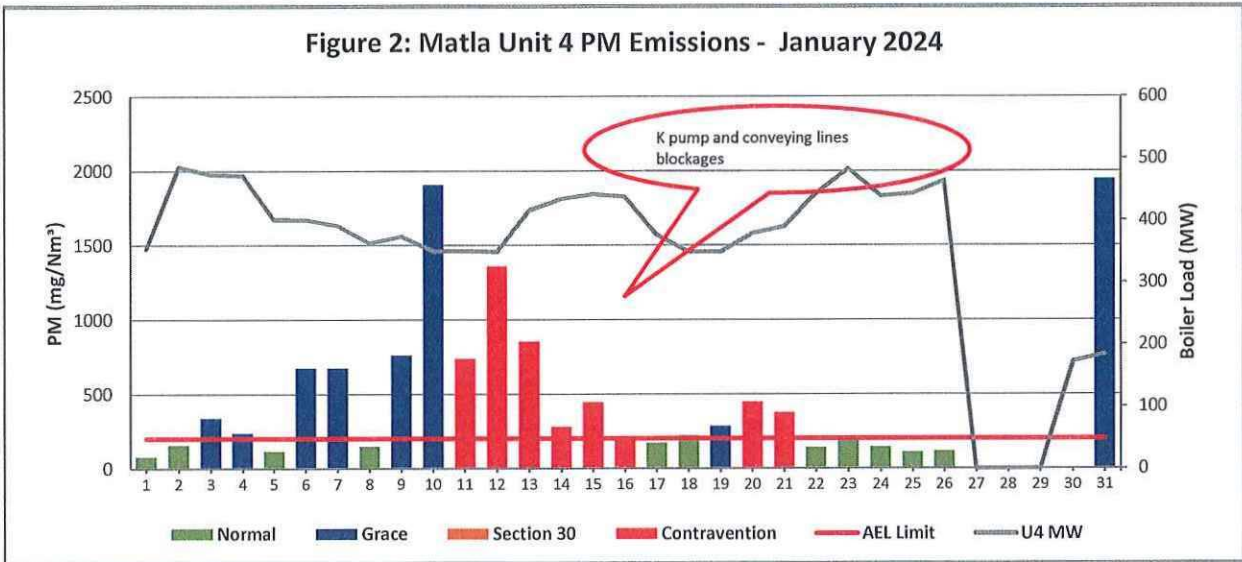


Figure 3: Matla Unit 5 PM Emissions - January 2024

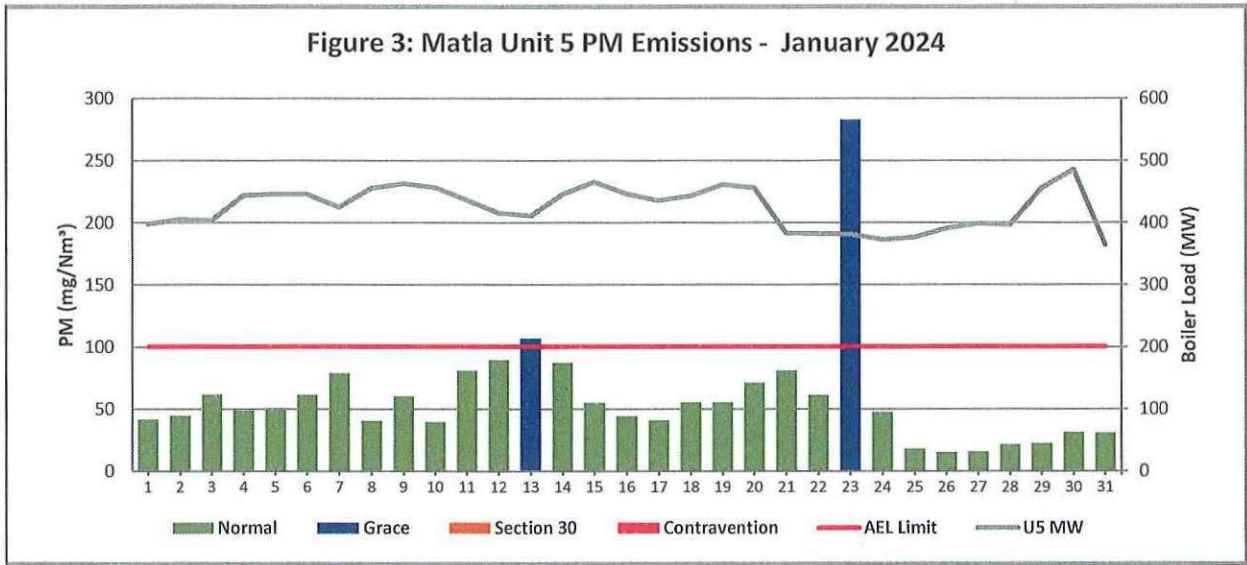


Figure 4: Matla Unit 6 PM Emissions - January 2024

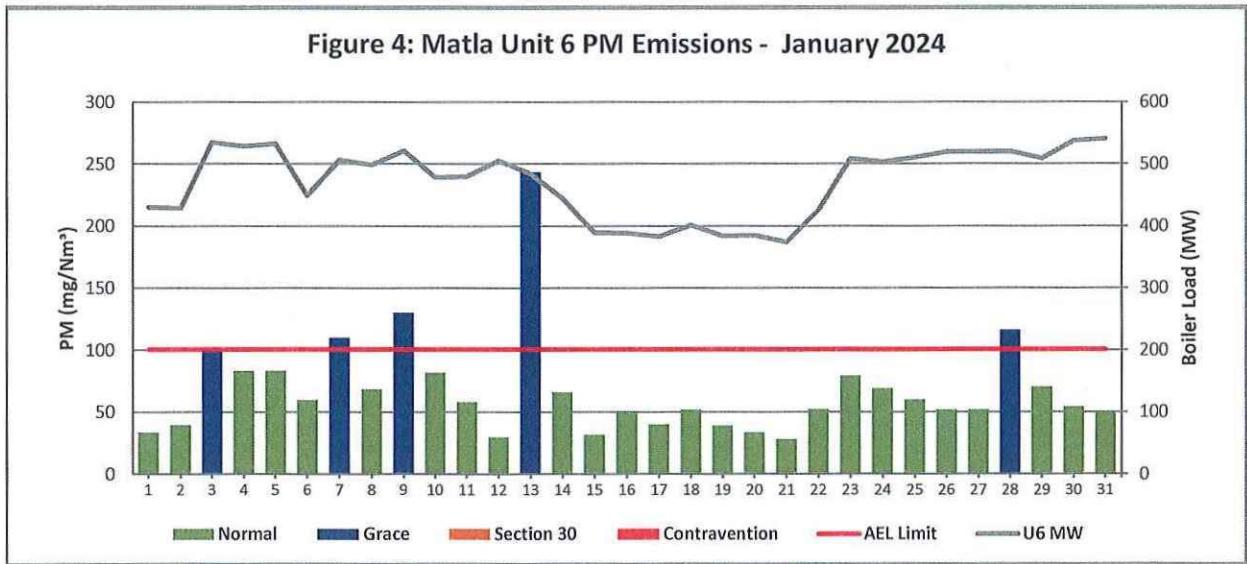


Figure 5: Matla South Stack SO₂ Emissions - January 2024

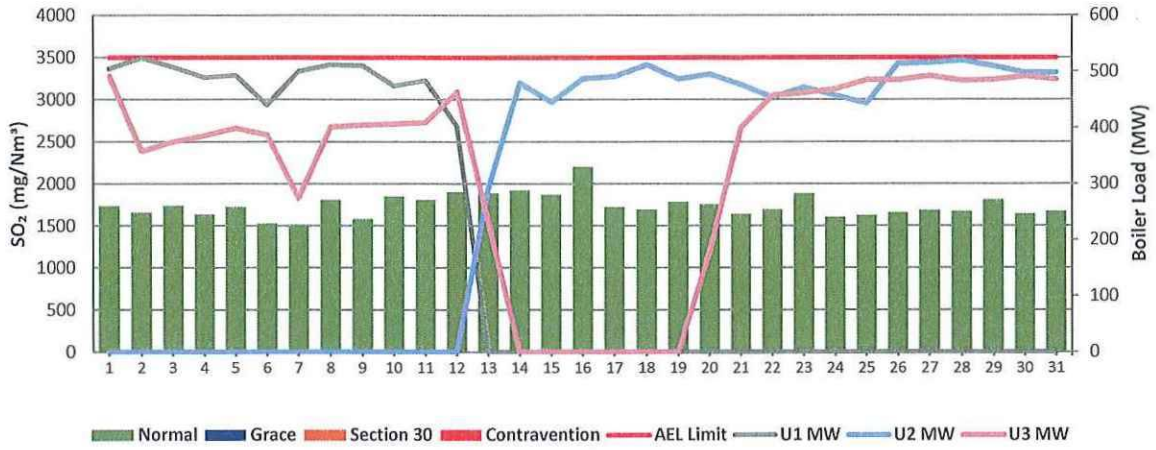


Figure 6: Matla Unit 4 SO₂ Emissions - January 2024

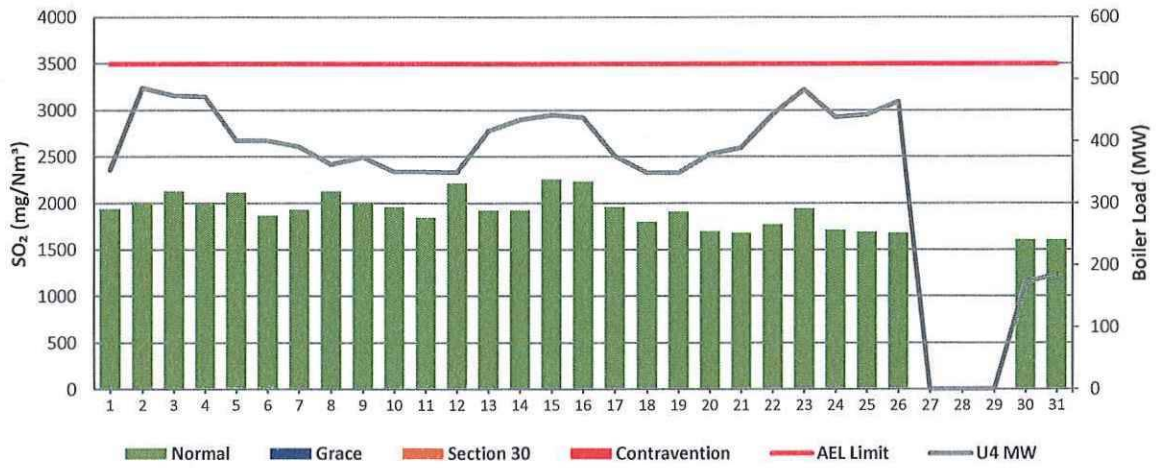


Figure 7: Matla Unit 5 SO₂ Emissions - January 2024

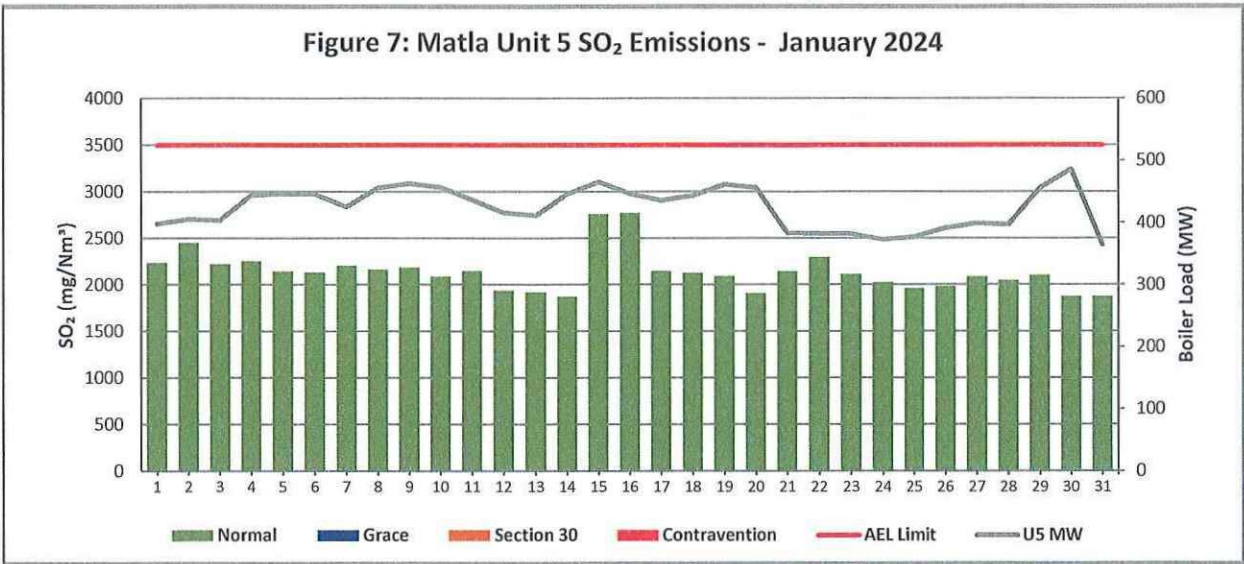


Figure 8: Matla Unit 6 SO₂ Emissions - January 2024

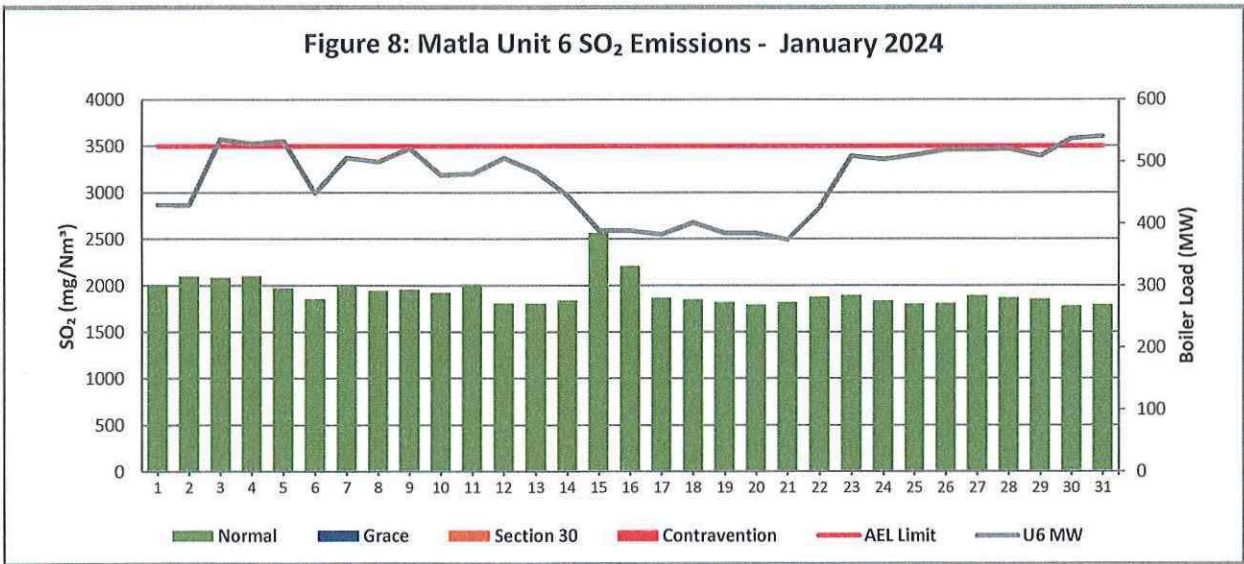


Figure 9: Matla South Stack NOx Emissions - January 2024

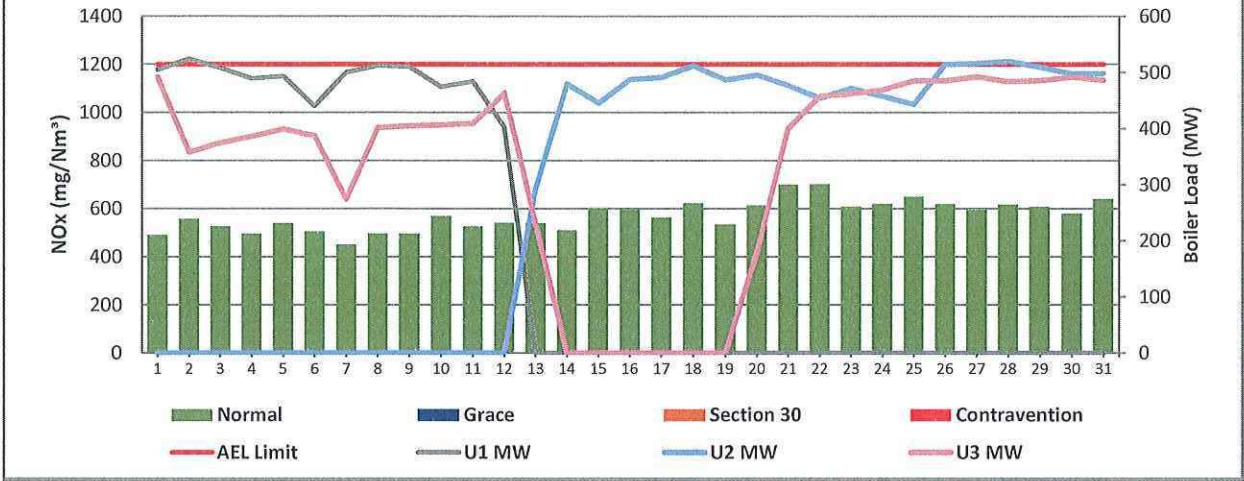


Figure 10: Matla Unit 4 NOx Emissions - January 2024

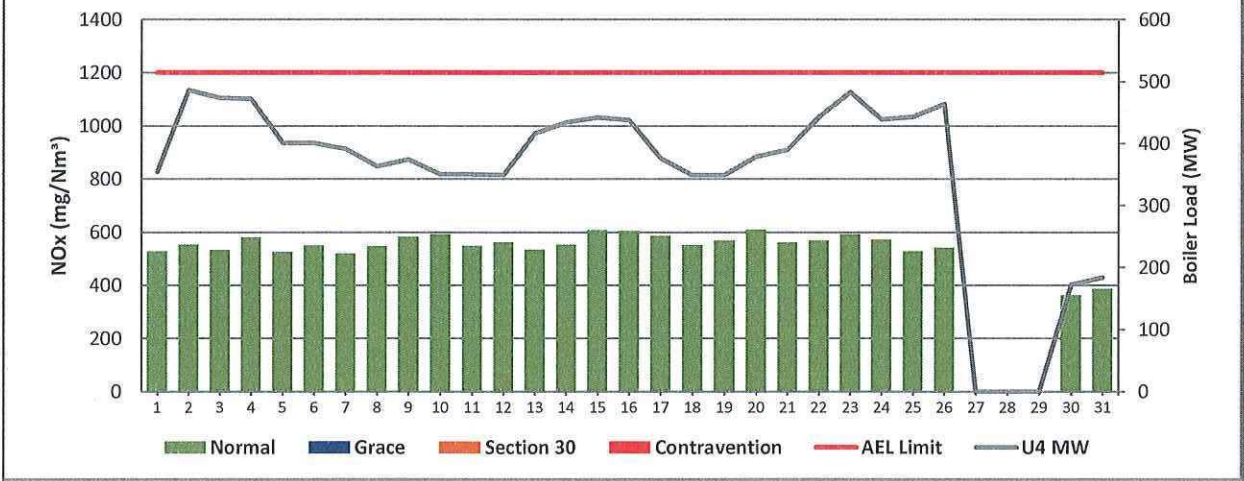


Figure 11: Matla Unit 5 NOx Emissions - January 2024

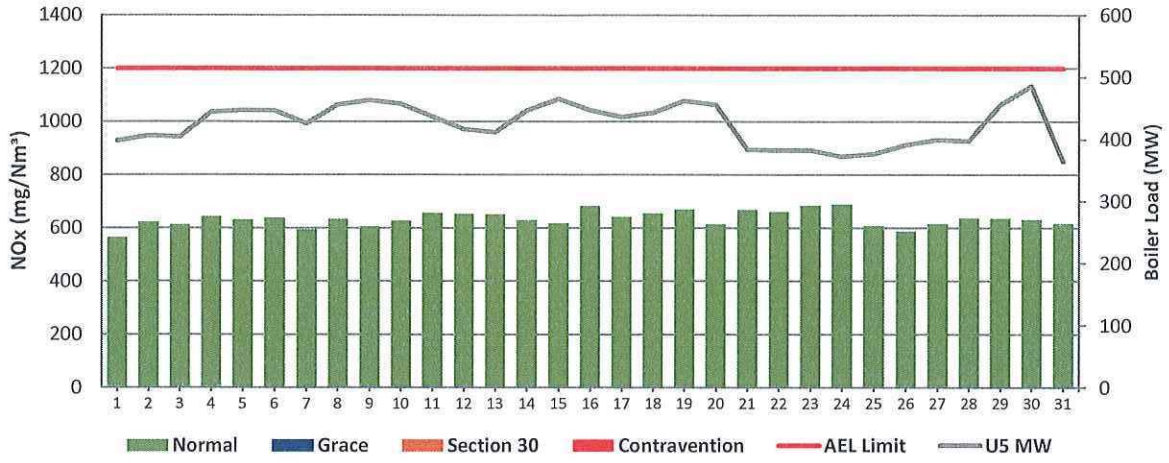
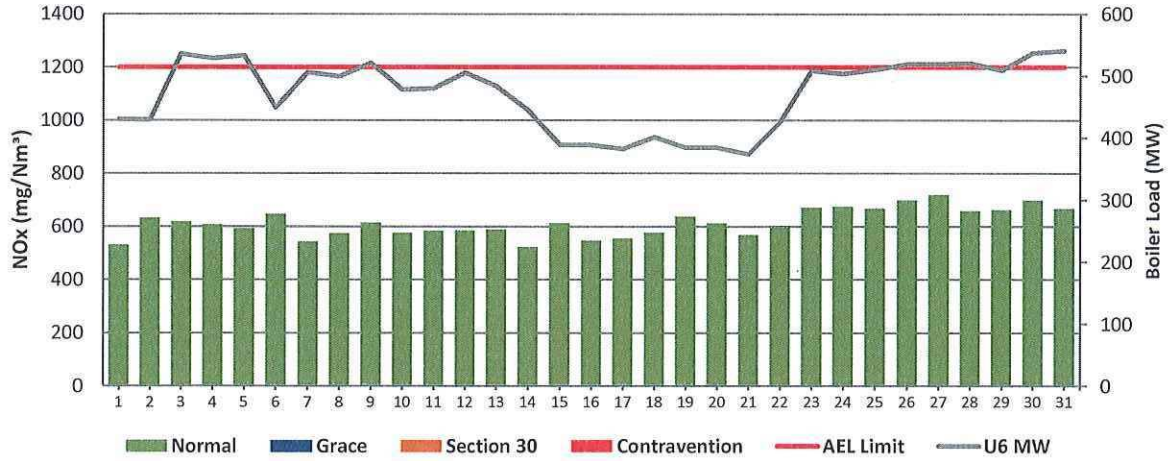


Figure 12: Matla Unit 6 NOx Emissions - January 2024



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of January-2024

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	no event		no event		Unit 2		no event	
Breaker Open (BO)	11:25 am	2024/01/12	1:05 am	2024/01/13	BO previously	BO previously		
Draught Group (DG) Shut Down (SD)	9:05 am	2024/01/14	5:10 am	2024/01/14	n/a	n/a		
BO to DG SD (duration)	01:21:40	DD:HH:MM	01:04:05	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM
Fires in time					10:45 pm	2024/01/12		
Synch. to Grid (or BC)					3:40 pm	2024/01/13		
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM	00:16:55	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		DD:HH:MM	n/a	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)	3:35 pm	2024/01/26	11:05 pm	2024/01/31				
Draught Group (DG) Shut Down (SD)	4:00 pm	2024/01/26	11:05 pm	2024/02/01				
BO to DG SD (duration)	00:00:25	DD:HH:MM	01:00:00	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	8:30 pm	2024/01/29	11:30 am	2024/02/02				
Synch. to Grid (or BC)	4:55 am	2024/01/30	8:00 pm	2024/02/02				
Fires in to BC (duration)	00:08:25	DD:HH:MM	00:08:30	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. 5	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	8:20 am	2024/01/31						
Draught Group (DG) Shut Down (SD)	8:20 am	2024/01/31						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	8:20 am	2024/01/31						
Synch. to Grid (or BC)	1:00 pm	2024/01/31						
Fires in to BC (duration)	00:04:40	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 January-2024 in mg/Nm³

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

11 General

Unit 5 and 6 correlation expired. Both units are scheduled for March 2024.



27/02/2024

Boiler Engineering

Date



Environmental Department

Date



28/02/2024

General Manager

Date

Compiled by: Boiler Engineering Department

ESP & SO₂ System Engineer

For: Department of Environmental Affairs and Tourism

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Engineering Manager
Operating Manager
Maintenance Manager
Unit Production Manager
Boiler Engineering Manager
System Engineer
Environmental Officer
Performance and Test
Production Manager