Eskom

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MATLA POWER STATION

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

BOILER ENGINEERING MANAGER	26/03/2024 DATE
ENVIRONMENTAL MANAGER	26/03/2024 DATE
ENGINEERING MANAGER	26/03/2024 DATE

FEBRUARY 2024

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-2024
	Coal	Tons	*1 475 000*	*844 860*
	Fuel Oil	Tons	*3 500*	*436*
Production Rates	**Product / By-Product Name**	**Units**	**Max Production Capacity Permitted**	**Indicative Production Rate Feb-2024**
	Energy	GWh	*2 568*	*1 504*
	Ash	Tons	*471 000*	*241 377*
	RE PM	kg/MWh	*not specified*	*1.032*

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: [3 690 MW] x 24 hrs x 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*	*28.57*

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: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO_2

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-2024
South	*Electro Static Precipators (ESP)*	*99.582%*
Unit 4	*Electro Static Precipators (ESP)*	*99.261%*
Unit 5	*Electro Static Precipators (ESP)*	*99.867%*
Unit 6	*Electro Static Precipators (ESP)*	*97.784%*

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	*97.8*	*100.0*	*100.0*	*100.0*
Unit 4	*99.7*	*99.2*	*99.2*	*99.0*
Unit 5	*99.6*	*100.0*	*100.0*	*99.9*
Unit 6	*63.4*	*100.0*	*100.0*	*99.8*

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO_2	NOx
Unit 1	Exempt	0.0	0.0
Unit 2	244.8	4 070.0	1 502.9
Unit 3	154.8	2 594.3	957.1
Unit 4	326.9	2 877.1	828.8
Unit 5	56.6	2 617.6	815.8
Unit 6	769.6	2 074.4	738.2
SUM	1 552.7	14 233.4	4 842.8

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
South	27	2	0	0	2	104.4
Unit 4	15	3	0	9	12	215.6
Unit 5	28	1	0	0	1	41.7
Unit 6	14	3	8	0	11	706.6
SUM	**84**	**9**	**8**	**9**	**26**	

Table 6.3: Operating days in compliance to SO_2 AEL Limit - February 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm³)
South	29	0	0	0	0	1 736.3
Unit 4	28	0	0	0	0	1 766.1
Unit 5	29	0	0	0	0	1 975.6
Unit 6	27	0	0	0	0	1 798.2
SUM	**113**	**0**	**0**	**0**	**0**	

Table 6.4: Operating days in compliance to NOx AEL Limit - February 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
South	29	0	0	0	0	640.8
Unit 4	28	0	0	0	0	508.4
Unit 5	29	0	0	0	0	617.4
Unit 6	27	0	0	0	0	625.0
SUM	**113**	**0**	**0**	**0**	**0**	

Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO_2

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 2024

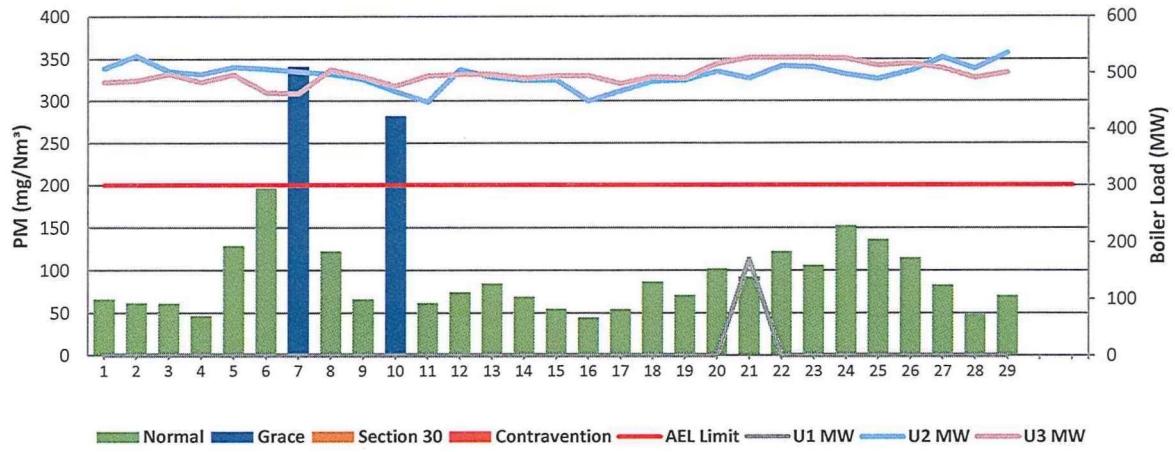


Figure 2: Matla Unit 4 PM Emissions - February 2024

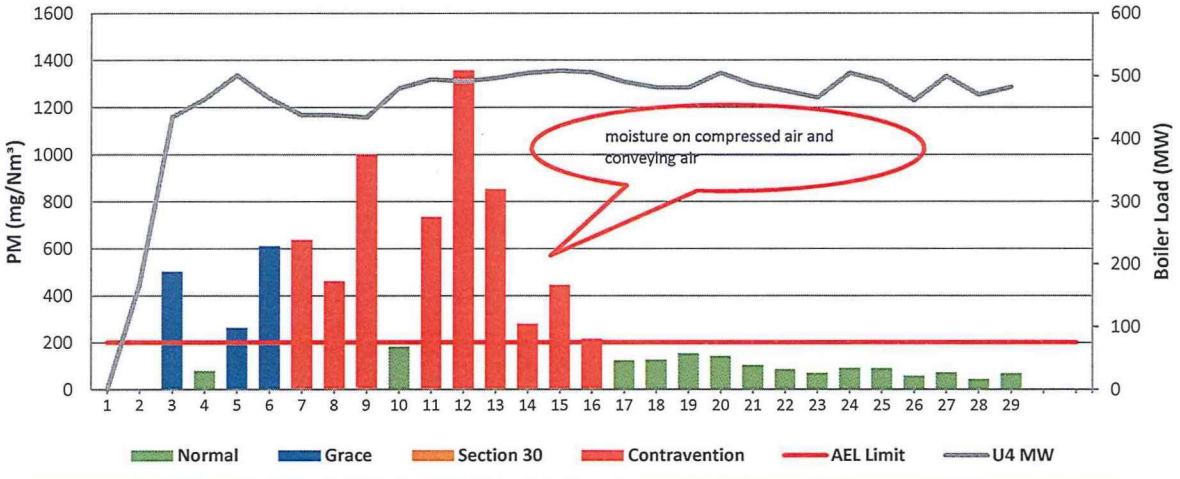


Figure 3: Matla Unit 5 PM Emissions - February 2024

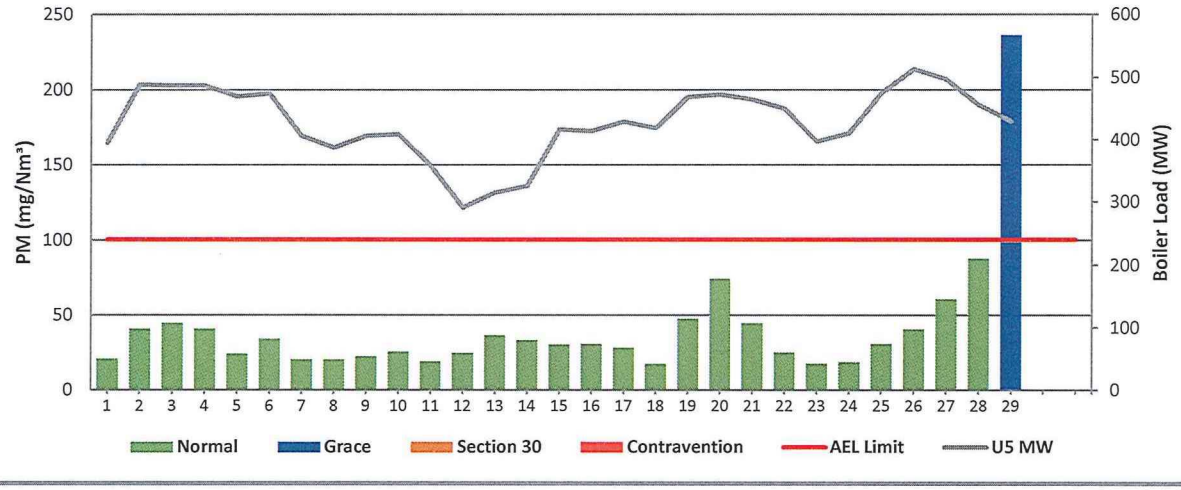


Figure 4: Matla Unit 6 PM Emissions - February 2024

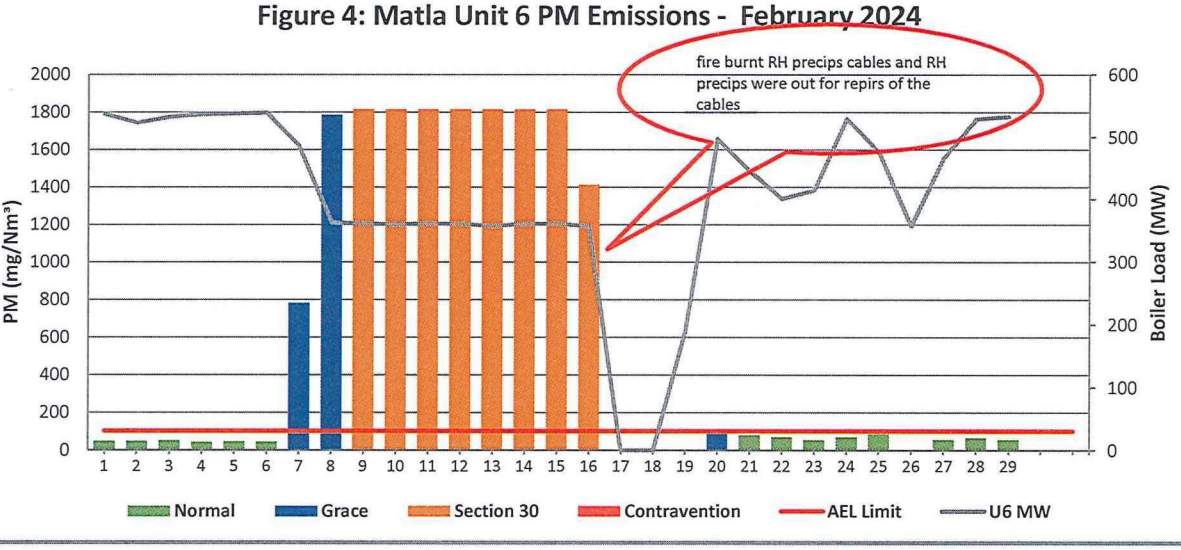


Figure 5: Matla South Stack SO_2 Emissions - February 2024

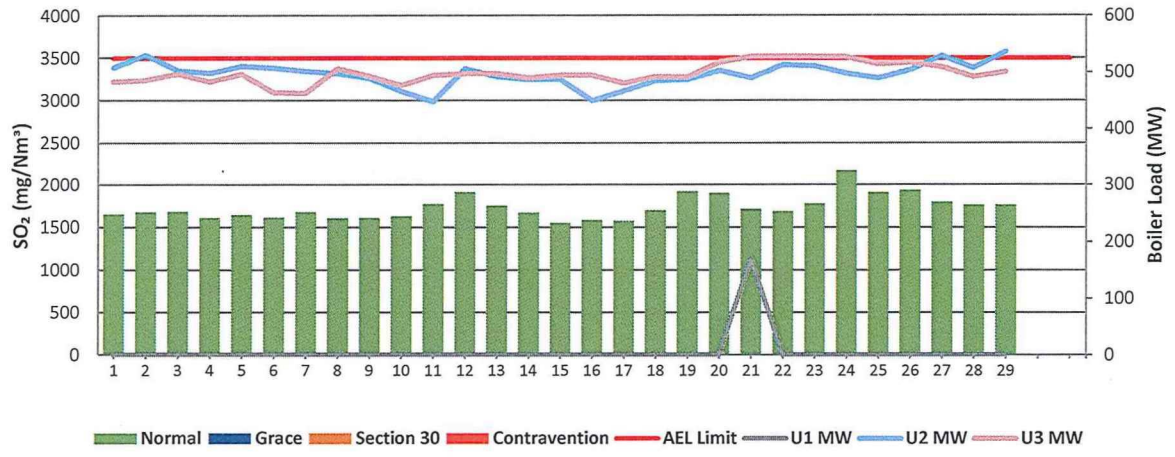


Figure 6: Matla Unit 4 SO_2 Emissions - February 2024

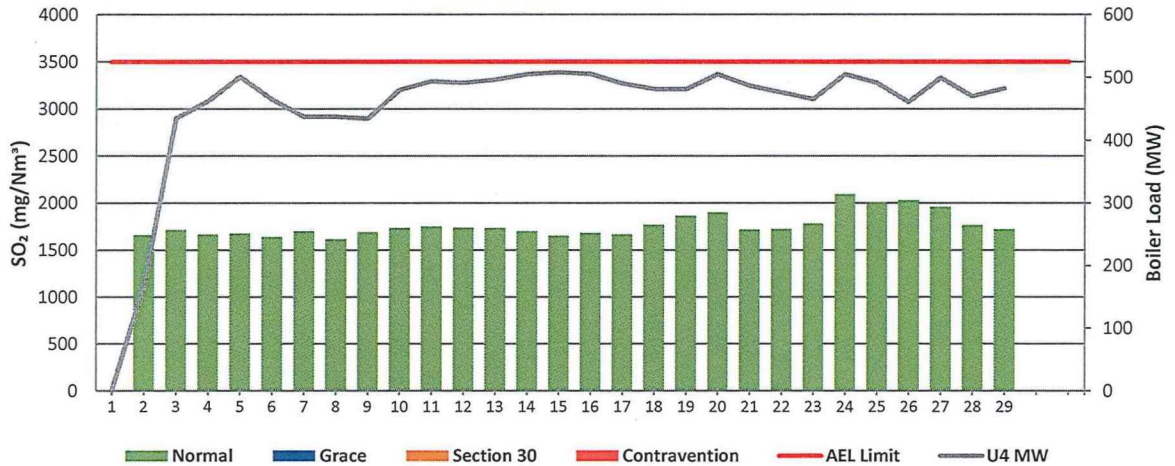


Figure 7: Matla Unit 5 SO_2 Emissions - February 2024

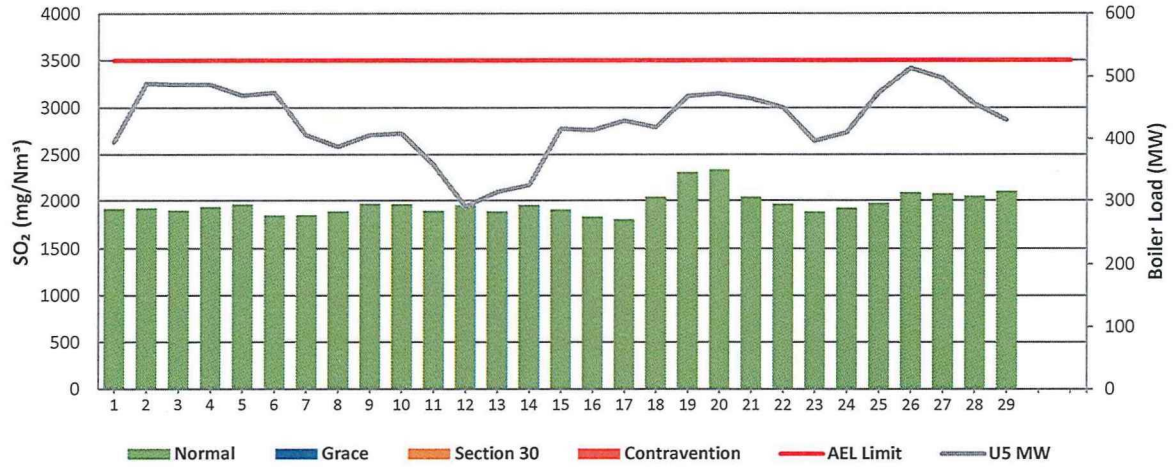


Figure 8: Matla Unit 6 SO_2 Emissions - February 2024

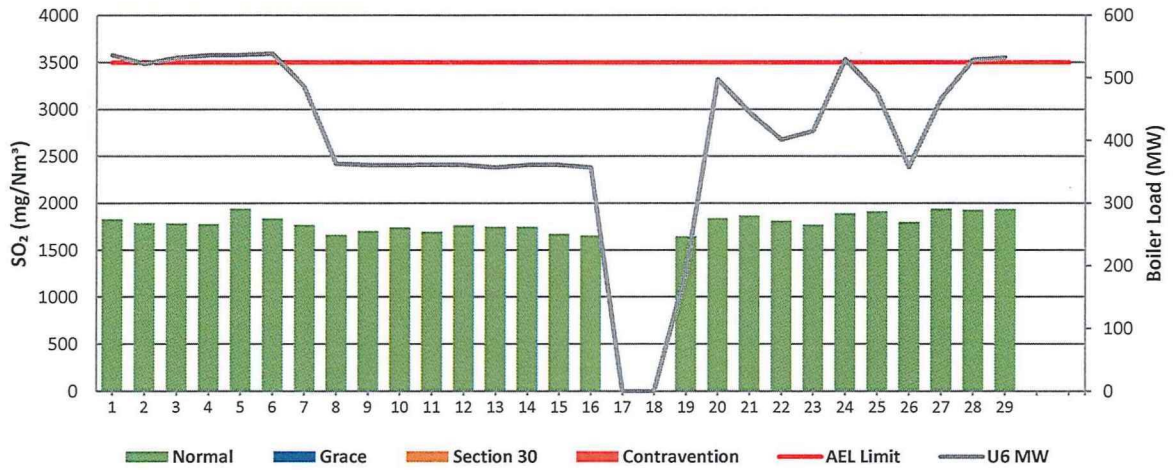


Figure 9: Matla South Stack NOx Emissions - February 2024

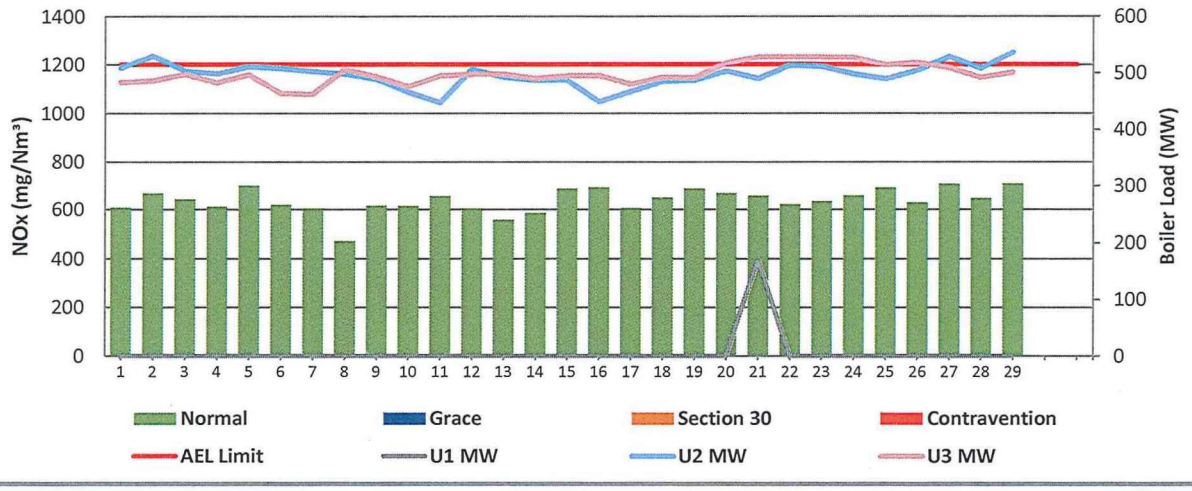


Figure 10: Matla Unit 4 NOx Emissions - February 2024

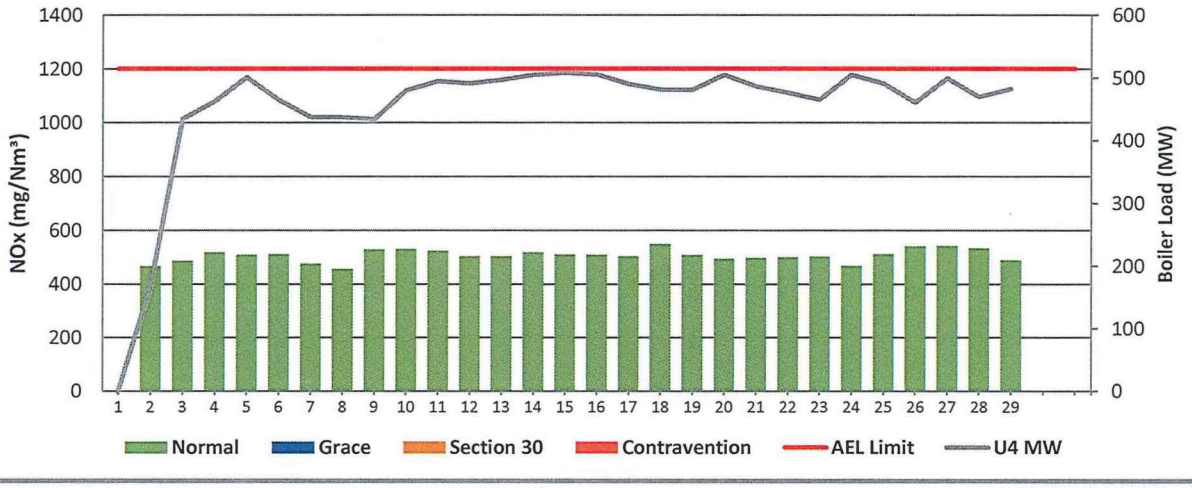


Figure 11: Matla Unit 5 NOx Emissions - February 2024

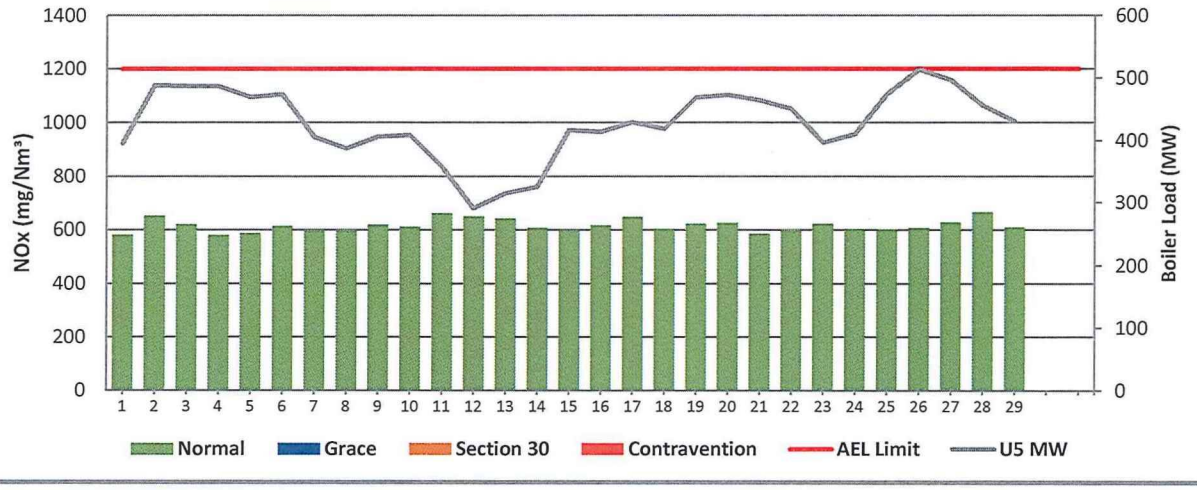
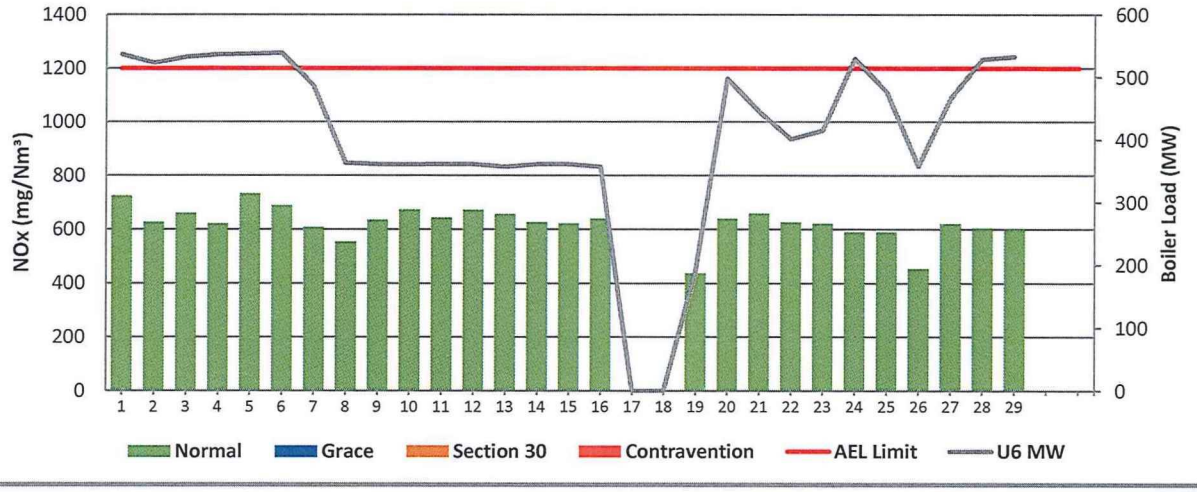


Figure 12: Matla Unit 6 NOx Emissions - February 2024



7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	no event		no event		no event		no event	
Breaker Open (BO)	1:20 AM	2024/03/02						
Draught Group (DG) Shut Down (SD)	5:30 AM	2024/03/02						
BO to DG SD (duration)	00:04:10	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

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)	BO previously	BO previously	BO previously	BO previously				
Draught Group (DG) Shut Down (SD)	n/a	n/a	n/a	n/a				
BO to DG SD (duration)	n/a	DD:HH:MM	n/a	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)	BO previously	BO previously						
Draught Group (DG) Shut Down (SD)	n/a	n/a						
BO to DG SD (duration)	n/a	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)	11:15 PM	2024/02/16	5:30 PM	2024/02/25	6:00 PM	2024/02/29		
Draught Group (DG) Shut Down (SD)	4:55 PM	2024/02/18	5:30 PM	2024/02/25	6:00 PM	2024/02/29		
BO to DG SD (duration)	01:17:40	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	5:10 PM	2024/02/18	7:15 PM	2024/02/25	6:00 PM	2024/02/29		
Synch. to Grid (or BC)	5:00 PM	2024/02/19	5:10 PM	2024/02/26	8:10 AM	2024/03/01		
Fires in to BC (duration)	00:23:50	DD:HH:MM	00:21:55	DD:HH:MM	00:14:10	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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of February-2024 in mg/Nm³

11 General

Unit 6 PM reliability below 80% due to high emissions during RH precipitator cable repairs.
Unit 5 PM correlation expired and target date to complete testing is 26 April 2024
Unit 6 PM correlation expired and target date to complete testing is 26 April 2024

Boiler Engineering	26/03/2024 Date	**Environmental Department**	Date
General Manager	26/03/2024 Date		

Compiled by:	Boiler Engineering Department	ESP & SO_3 System Engineer
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	Matla Power Station:	Engineering Manager Operating Manager Maintenance Manager Unit Production Manager Boiler Engineering Manager System Engineer Environmental Officer Performance and Test Production Manager