



Generation

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Date: 2023/03/16

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MATLA POWER STATION

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



BOILER ENGINEERING MANAGER

20/03/2023

DATE



ENVIRONMENTAL MANAGER

2023-03-27

DATE



ENGINEERING MANAGER

27.03.2023

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 Feb-2023
	Coal	Tons	1 475 000	751 104
	Fuel Oil	Tons	3 500	1 087
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Feb-2023
	Energy	GWh	2 480	1 011
	Ash	Tons	471 000	231 115
	RE PM	kg/MWh	not specified	1.919

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	30.77

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 Feb-2023
South	<i>Electro Static Precipators (ESP)</i>	<i>99.255%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>97.858%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99.603%</i>
Unit 6	<i>Electro Static Precipators (ESP)</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>99.4</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Unit 4	<i>62.4</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Unit 5	<i>99.4</i>	<i>96.3</i>	<i>91.8</i>	<i>99.3</i>
Unit 6				

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	294.1	2 284.3	547.8
Unit 2	690.9	5 424.6	1 300.8
Unit 3	0.0	0.0	0.0
Unit 4	803.8	2 825.1	1 058.4
Unit 5	152.0	2 770.9	1 095.3
Unit 6	0.0	0.0	0.0
SUM	1 940.8	13 305.0	4 002.2

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	4	5	0	19	24	309.9
Unit 4	4	7	0	17	24	570.9
Unit 5	11	8	0	9	17	120.2
Unit 6	0	0	0	0	0	
SUM	19	20	0	45	65	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
South	28	0	0	0	0	2 441.5
Unit 4	28	0	0	0	0	1 990.8
Unit 5	28	0	0	0	0	2 203.6
Unit 6	0	0	0	0	0	
SUM	84	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
South	28	0	0	0	0	585.5
Unit 4	28	0	0	0	0	745.8
Unit 5	28	0	0	0	0	869.0
Unit 6	0	0	0	0	0	
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 - February 2023

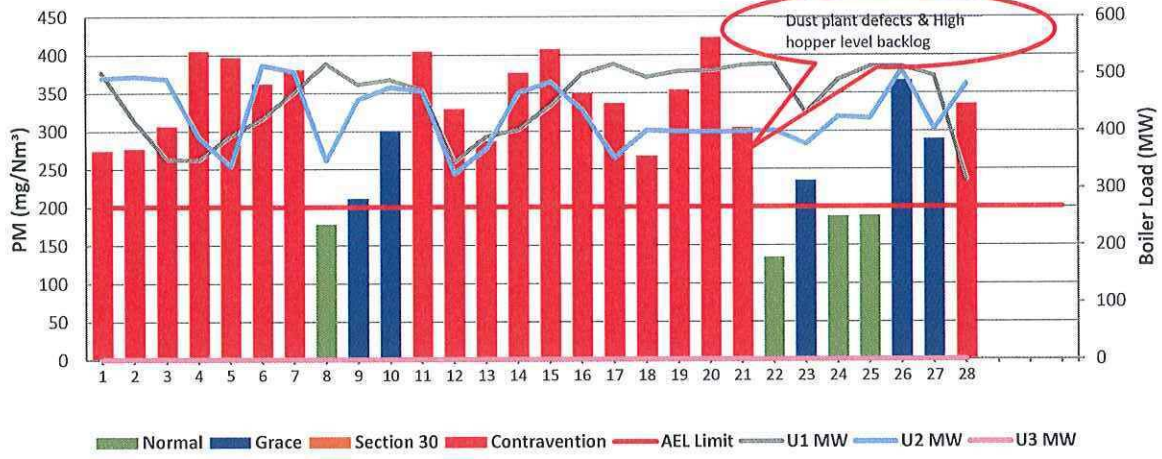


Figure 2: Matla Unit 4 PM Emissions - February 2023

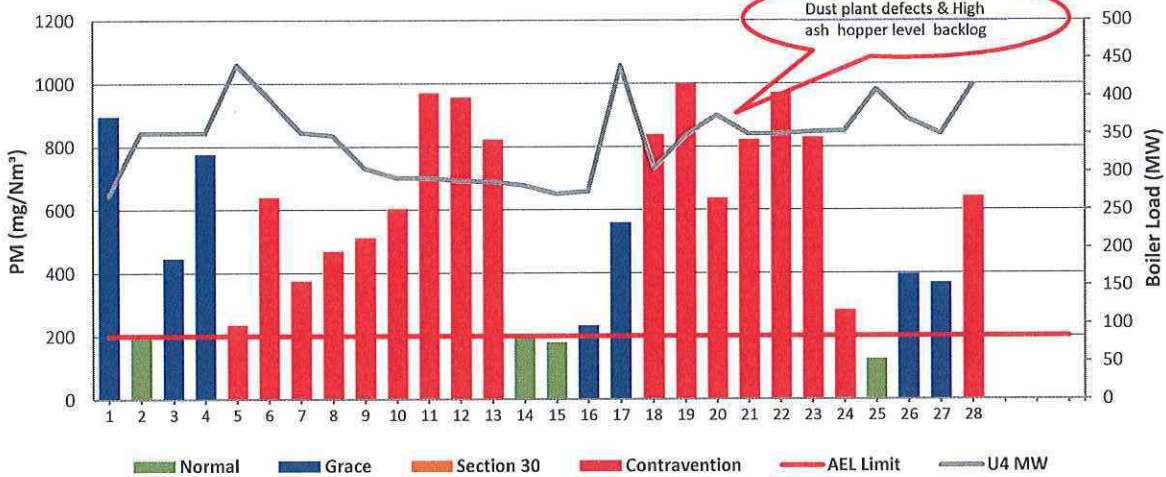


Figure 3: Matla Unit 5 PM Emissions - February 2023

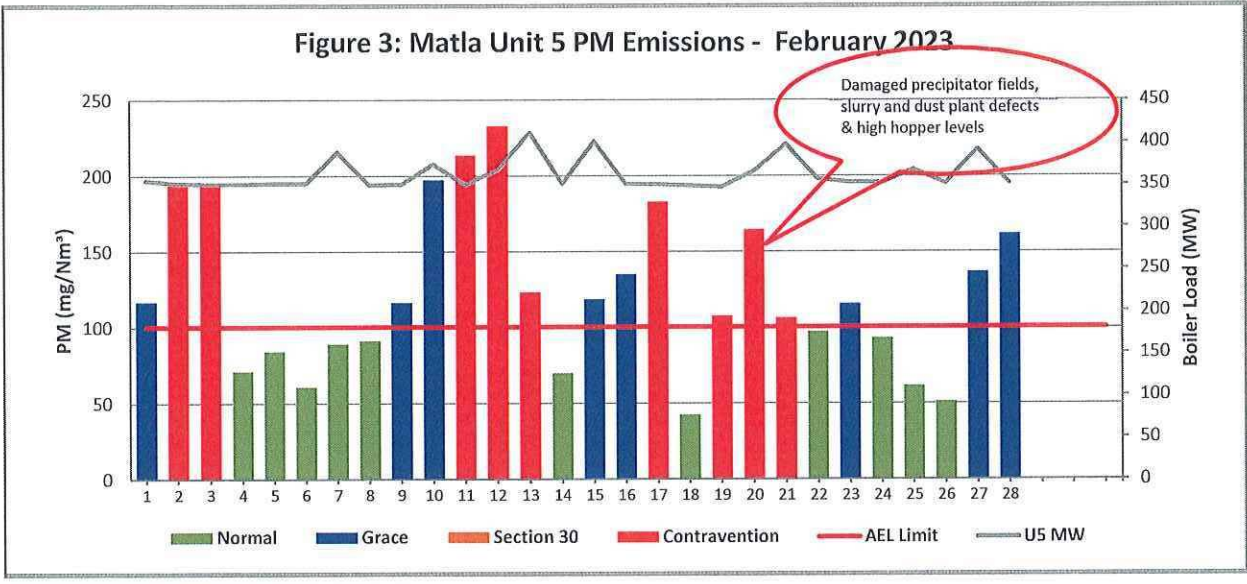


Figure 4: Matla Unit 6 PM Emissions - February 2023

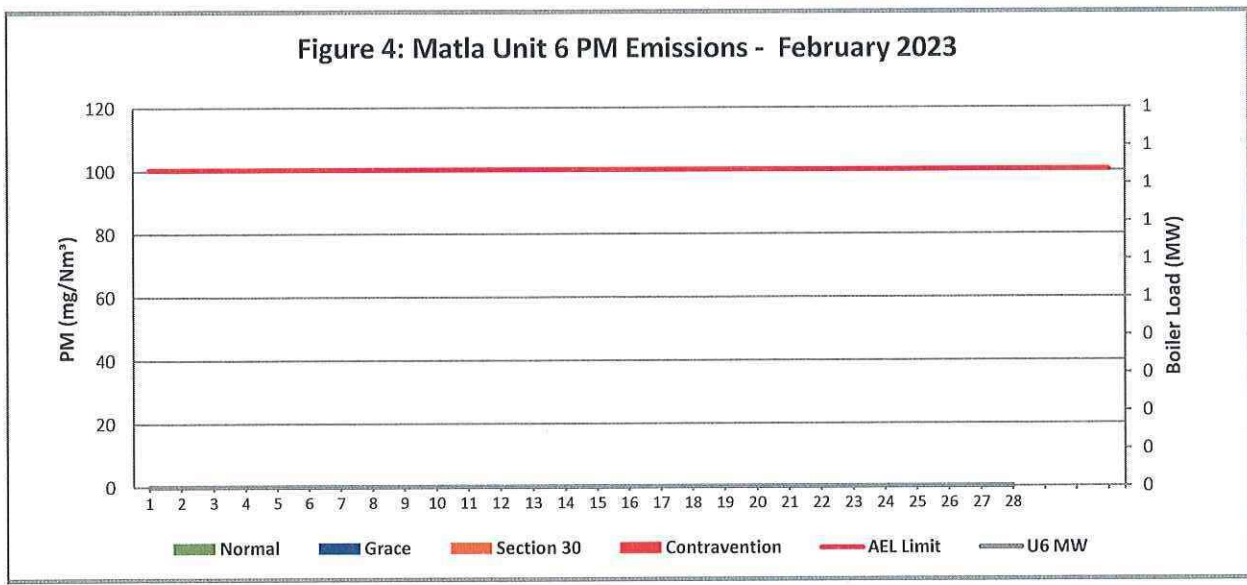


Figure 5: Matla South Stack SO₂ Emissions - February 2023

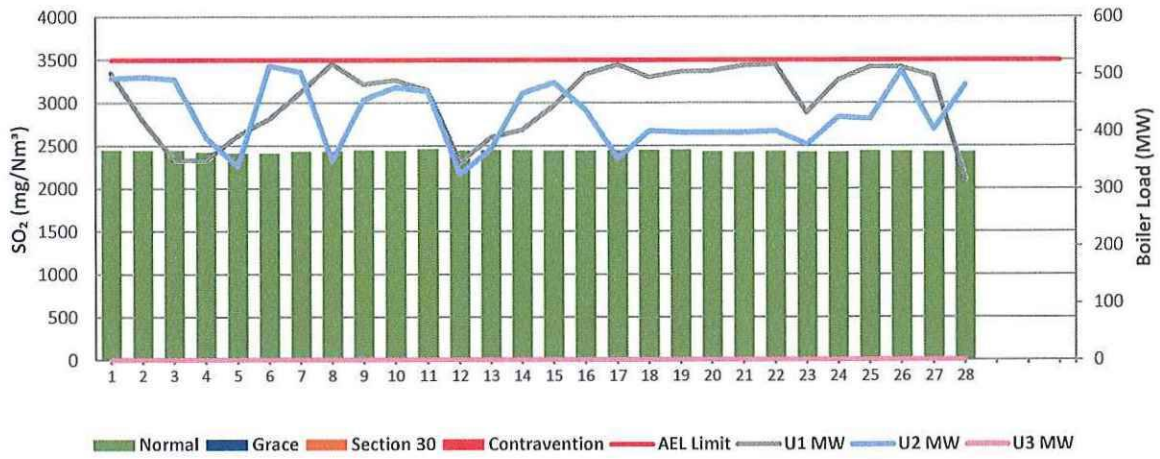


Figure 6: Matla Unit 4 SO₂ Emissions - February 2023

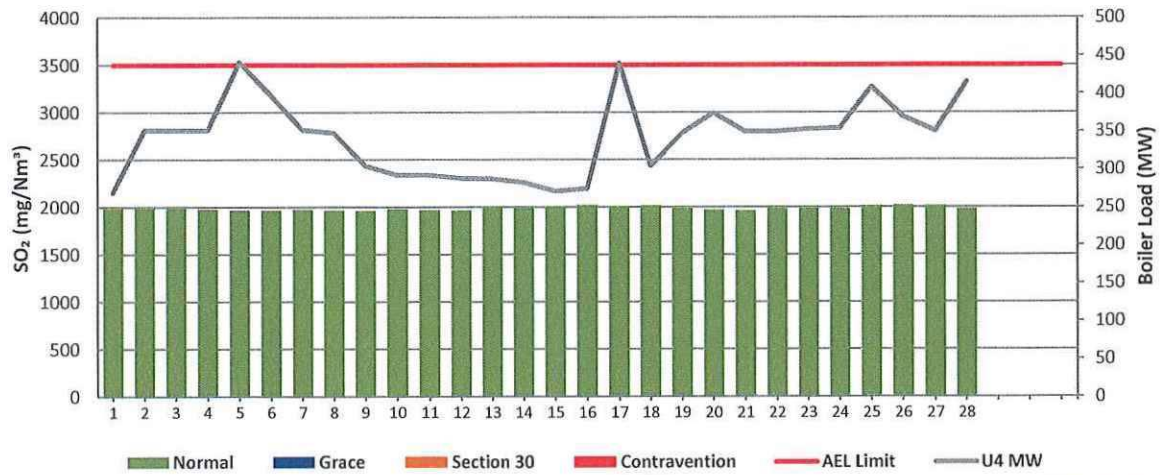


Figure 7: Matla Unit 5 SO₂ Emissions - February 2023

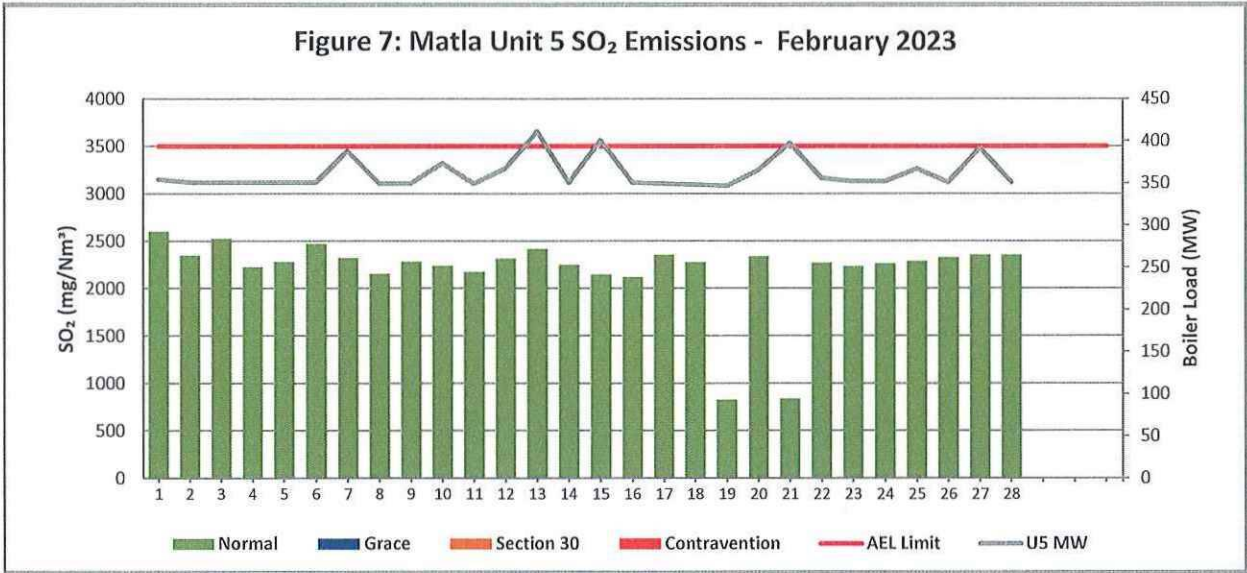


Figure 8: Matla Unit 6 SO₂ Emissions - February 2023

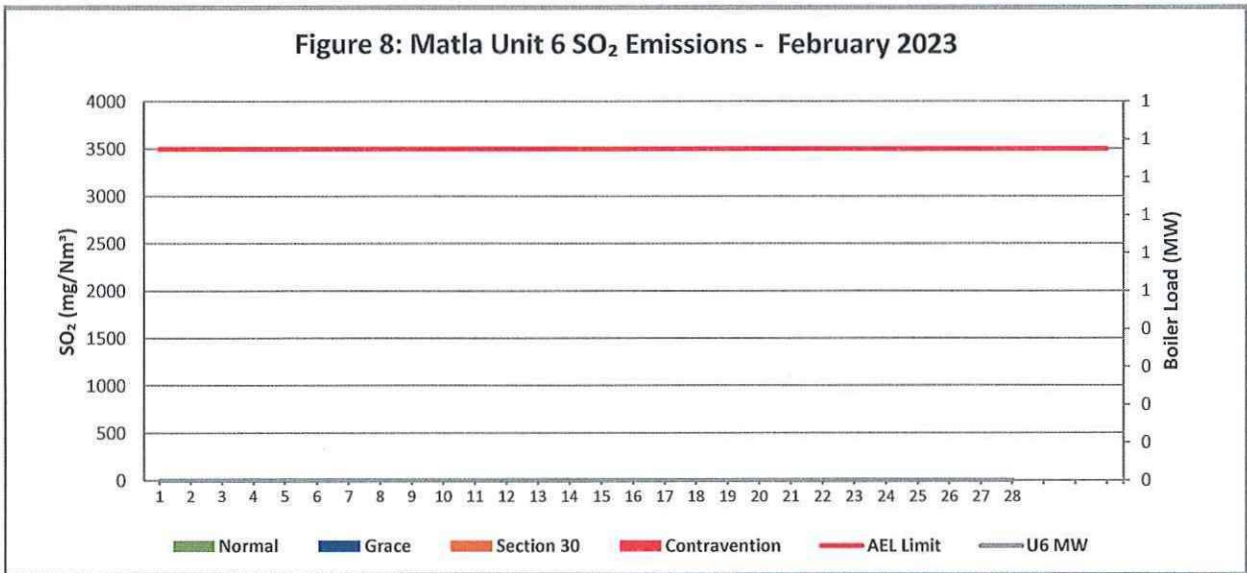


Figure 9: Matla South Stack NOx Emissions - February 2023

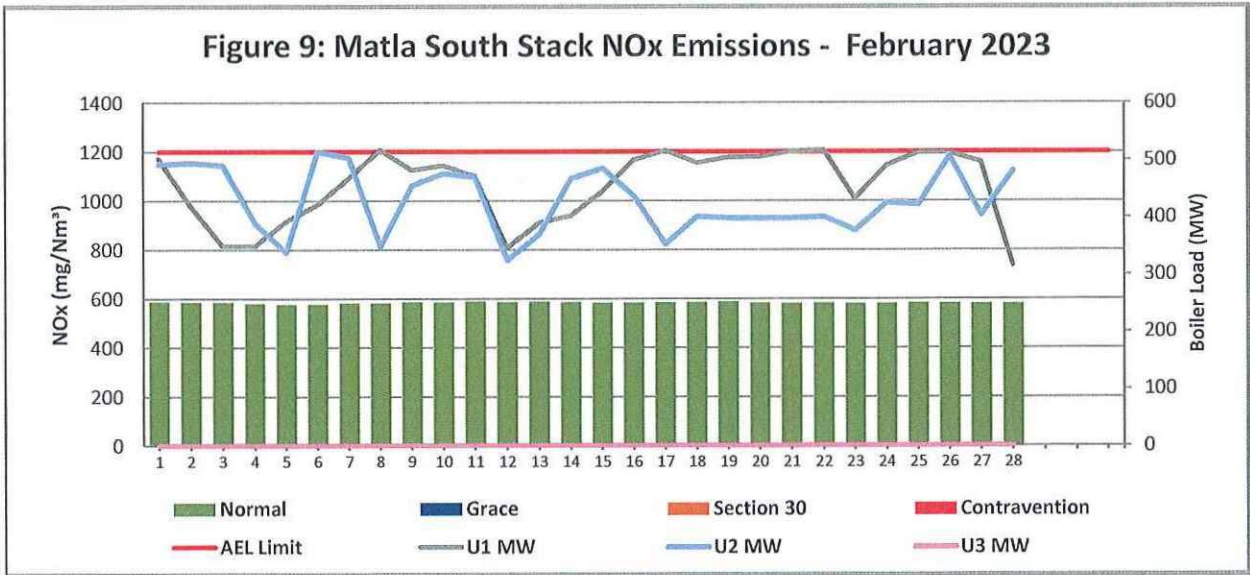


Figure 10: Matla Unit 4 NOx Emissions - February 2023

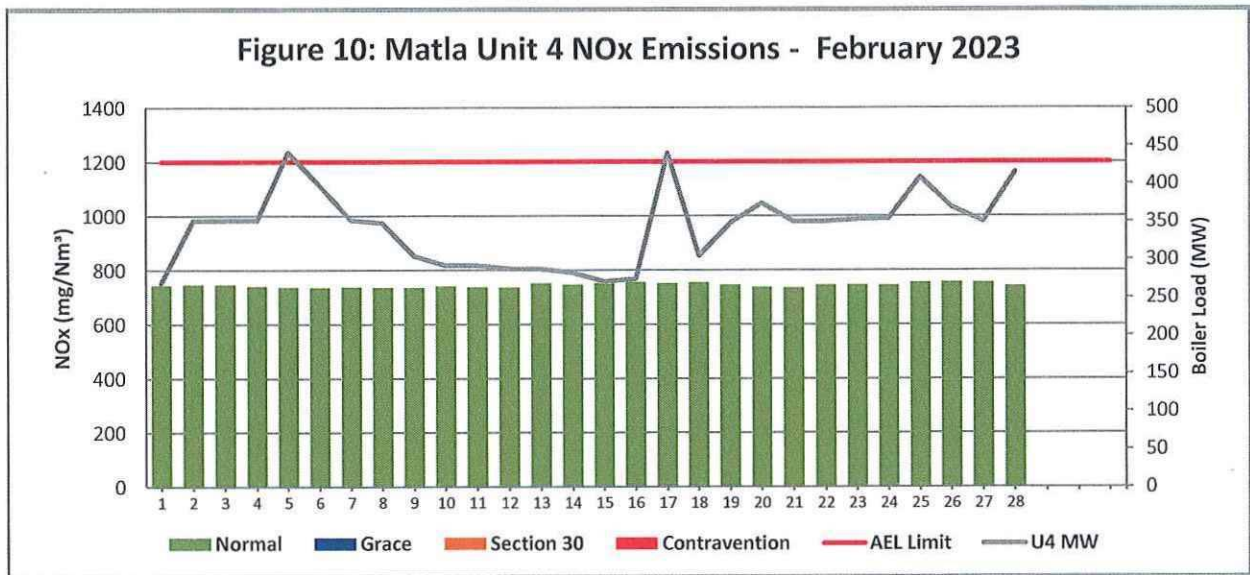


Figure 11: Matla Unit 5 NOx Emissions - February 2023

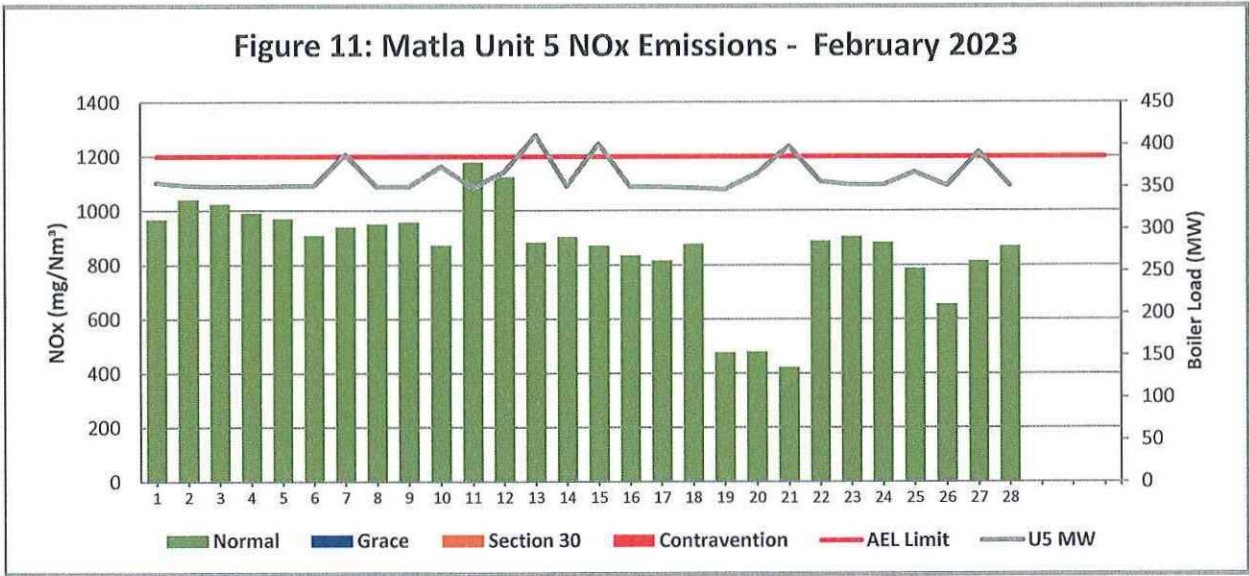
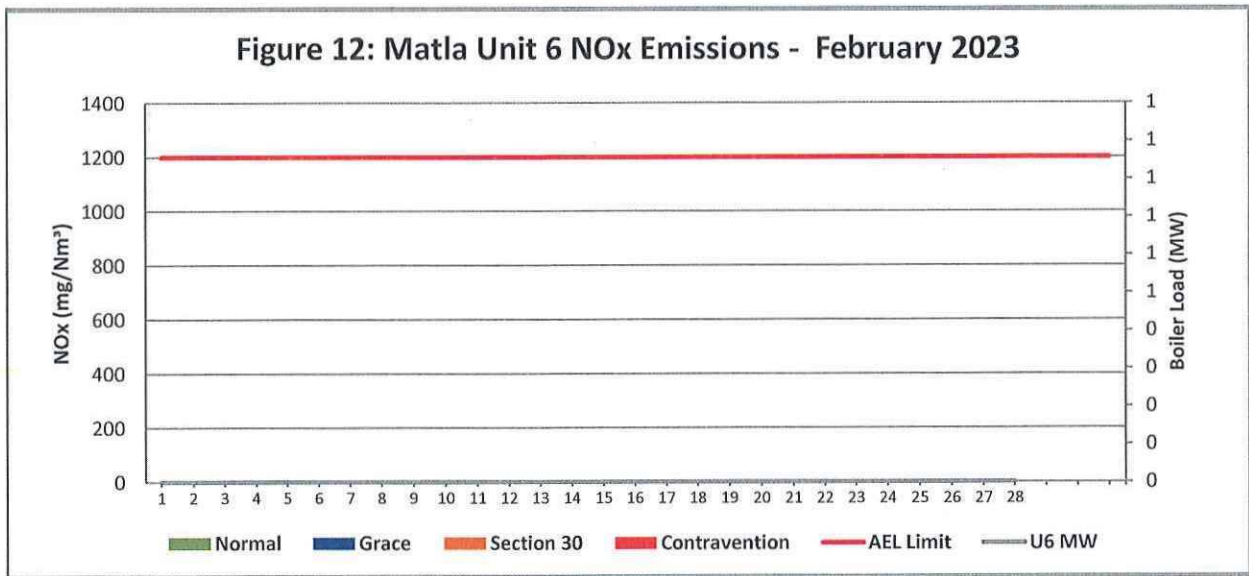


Figure 12: Matla Unit 6 NOx Emissions - February 2023



7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 1</i>		<i>Unit 1</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>9:50 AM</i>	<i>2023/02/23</i>	<i>3:40 PM</i>	<i>2023/02/27</i>				
Draught Group (DG) Shut Down (SD)	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>8:25 PM</i>	<i>2023/02/27</i>				
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>00:04:45</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>4:15 PM</i>	<i>2023/02/23</i>	<i>2:50 AM</i>	<i>2023/02/28</i>				
Synch. to Grid (or BC)	<i>8:40 PM</i>	<i>2023/02/23</i>	<i>1:00 PM</i>	<i>2023/02/28</i>				
Fires in to BC (duration)	<i>00:04:25</i>	DD:HH:MM	<i>00:10:10</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.	<i>Event 5</i>		<i>Event 6</i>		<i>Event 7</i>		<i>Event 8</i>	
Unit No.	<i>no event</i>		<i>no event</i>		<i>no event</i>		<i>no event</i>	
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						
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. 5	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. 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-2023 in mg/Nm³

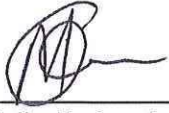
[Include reference to once off test showing typical emissions rates during fires in and SD]

Remember to add attachments here; see ReportAddendum Tab


Reserved for Addendum XXXX

11 General

Gases monitors are not accurate and are reported using parallel tests averages.
Unit 4 PM correlation curve expired and there was abatement technology upgrade. Unit 4 will be arranged after short outage opportunity and currently monitoring defects.
Unit 4 PM reliability below 80% due to high dust emission experience throughout the month of February.


16-03-2023
Boiler Engineering Date


17.03.2023
Environmental Department Date


27/03/2023
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