



Generation

Nkangala District Municipality
P O Box 437
Middleburg
1050

Attention:

Mr V Mahlangu

AND

Directorate: Air Quality Management Services
The Director:
Mr Vumile Senene
Department of Forestry Fisheries and Environmental
Private Bag X447
PRETORIA
0001
Tel: (012) 310 3263
Fax: (012) 320 0488

Date: 2024/07/15

Enquiries: Lufuno Tshidzamba-Matla Environmental
☎ +27 17 612 6269

Enquiries: Lindokuhle Ngobese
☎ +27 17 612 6291

Total number of pages:
13

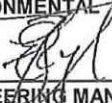
Total number of annexes:

MATLA POWER STATION

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



BOILER ENGINEERING MANAGER


ENVIRONMENTAL MANAGER
pp 

ENGINEERING MANAGER

26/07/2024

DATE
2024/07/29

DATE
2024/08/13

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 Jul-2023
	Coal	Tons	1 475 000	749 629
	Fuel Oil	Tons	3 500	1 387
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Jul-2023
	Energy	GWh	2 745	1 117
	Ash	Tons	471 000	240 181
	RE PM	kg/MWh	not specified	4.925

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	32.04

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 NO₂

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Jul-2023
South	Electro Static Precipators (ESP)	98.683%
Unit 4	Electro Static Precipators (ESP)	91.415%
Unit 5	Electro Static Precipators (ESP)	97.374%
Unit 6	Electro Static Precipators (ESP)	97.535%

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	91.1	100.0	100.0	100.0
Unit 4	43.1	100.0	100.0	100.0
Unit 5	58.2	100.0	100.0	100.0
Unit 6	26.4	100.0	100.0	100.0

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SOx	NOx
Unit 1	304.8	1 604.9	384.8
Unit 2	839.2	4 012.9	962.3
Unit 3	558.0	2 819.6	676.1
Unit 4	2 281.0	4 032.1	1 434.0
Unit 5	507.7	884.6	311.5
Unit 6	1 012.5	2 724.9	791.5
SUM	5 503.2	16 078.8	4 560.1

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	0	0	0	31	31	484.3
Unit 4	1	18	0	12	30	1 351.9
Unit 5	0	0	0	11	11	1 189.5
Unit 6	0	0	0	31	31	852.5
SUM	1	18	0	85	103	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
South	31	0	0	0	0	2 420.6
Unit 4	31	0	0	0	0	2 389.5
Unit 5	11	0	0	0	0	2 042.4
Unit 6	31	0	0	0	0	2 214.8
SUM	104	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
South	31	0	0	0	0	580.4
Unit 4	31	0	0	0	0	849.8
Unit 5	11	0	0	0	0	719.1
Unit 6	31	0	0	0	0	643.3
SUM	104	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 - July 23

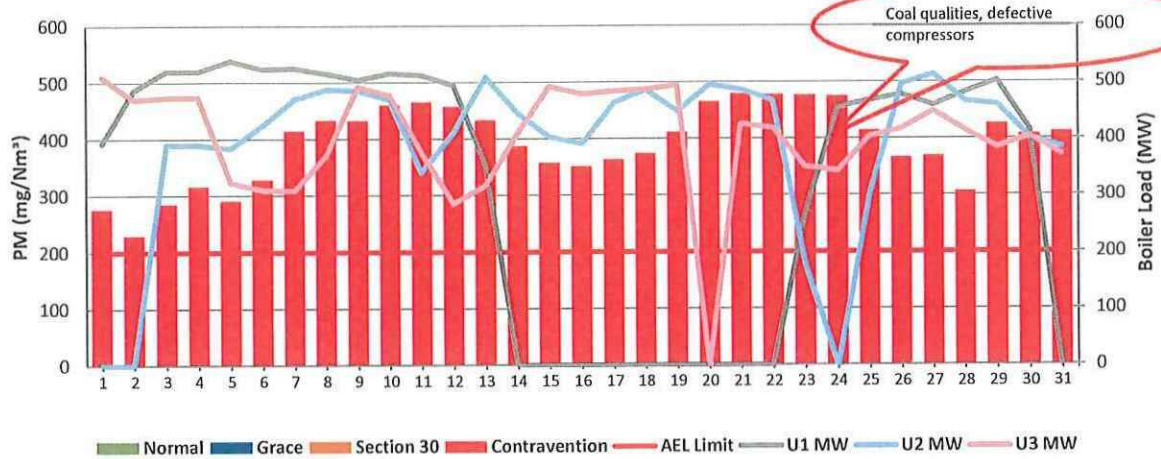


Figure 2: Matla Unit 4 PM Emissions - July 23

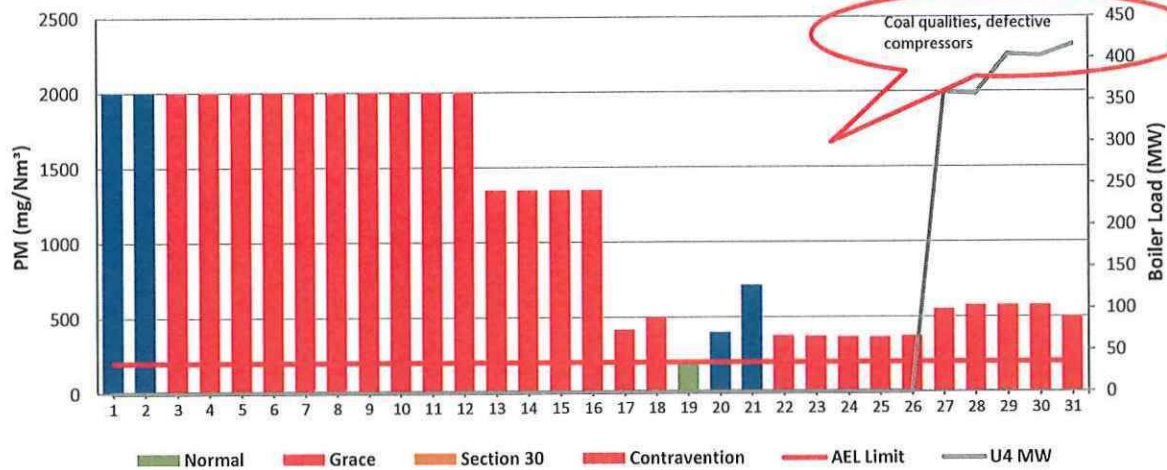


Figure 3: Matla Unit 5 PM Emissions - July 2023

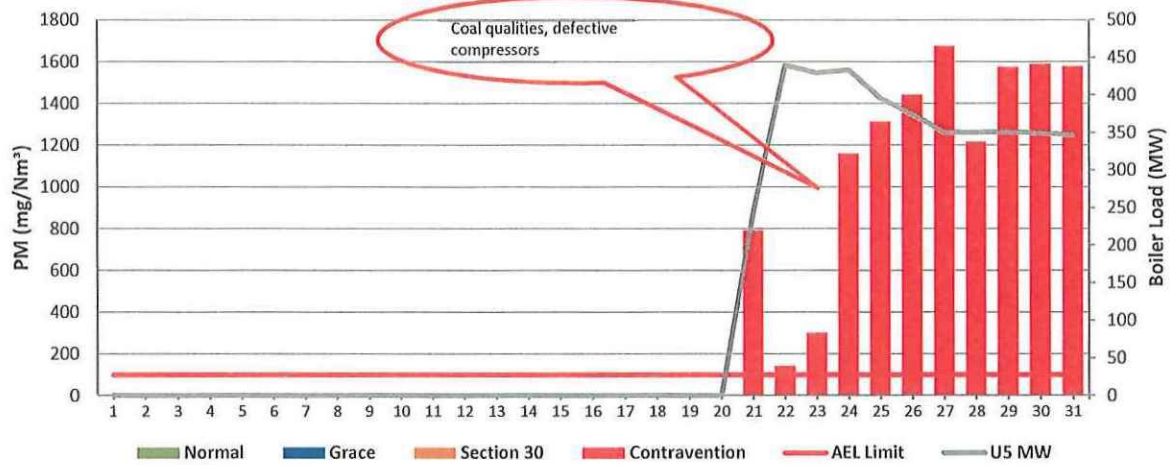


Figure 4: Matla Unit 6 PM Emissions - July 2023

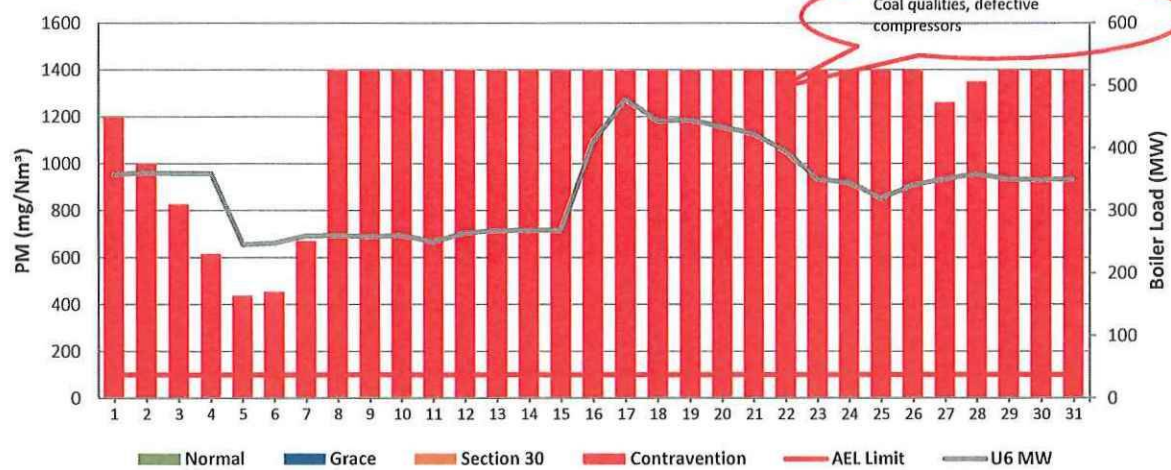


Figure 5: Matla South Stack SO₂ Emissions - July 2023

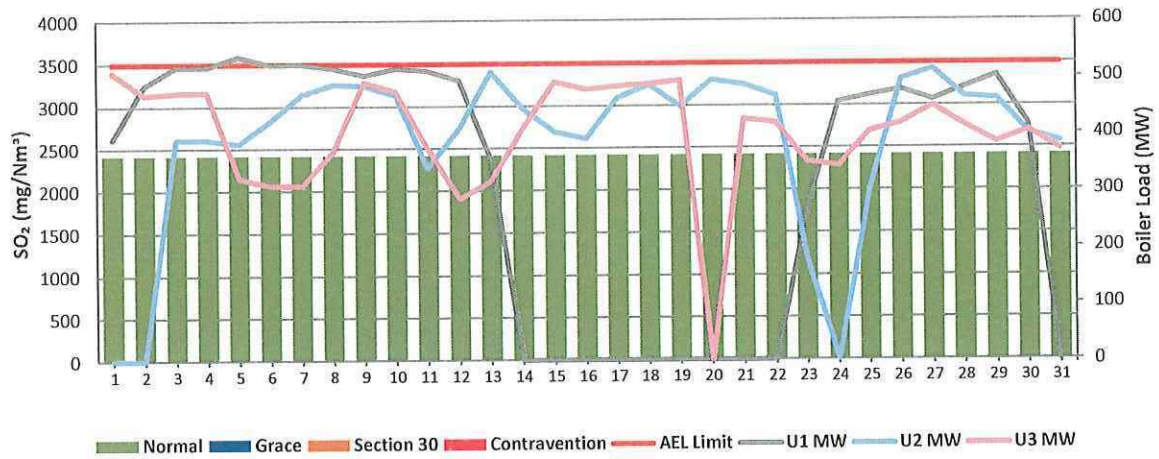


Figure 6: Matla Unit 4 SO₂ Emissions - July 2023

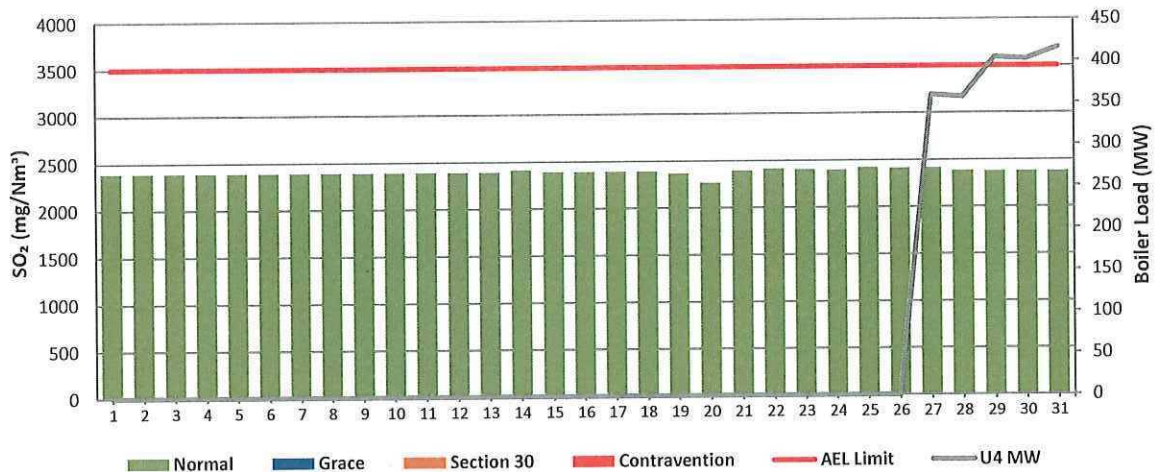


Figure 7: Matla Unit 5 SO₂ Emissions - July 2023

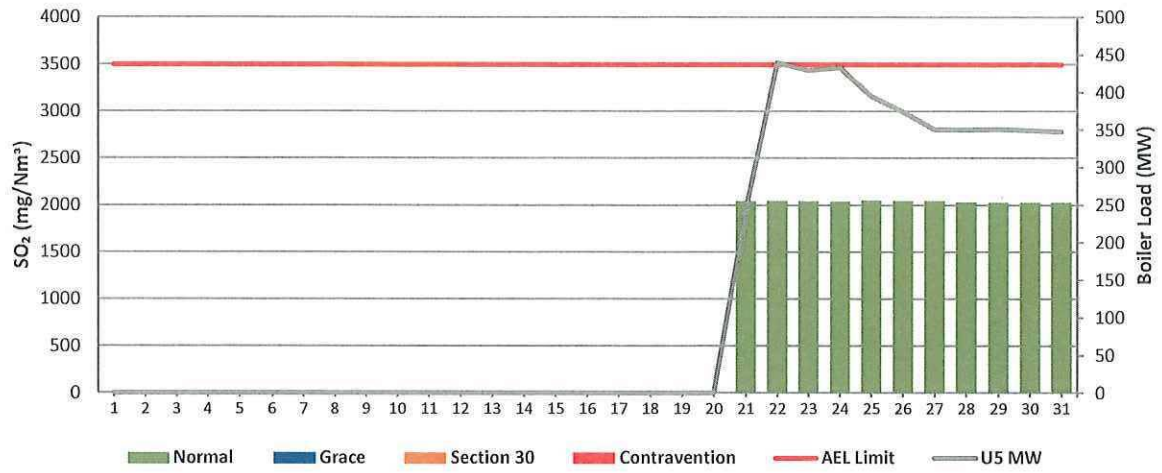


Figure 8: Matla Unit 6 SO₂ Emissions - July 2023

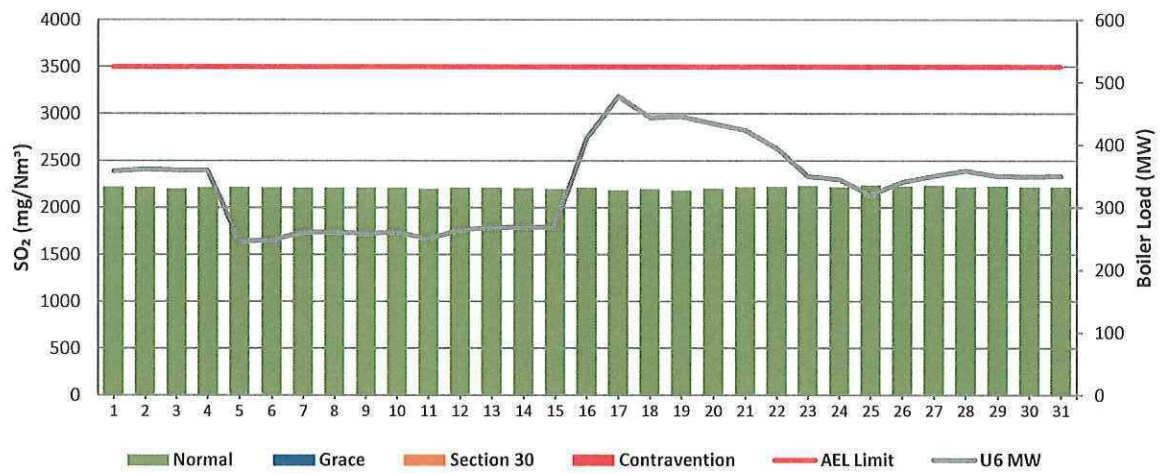


Figure 9: Matla South Stack NOx Emissions - July 2023

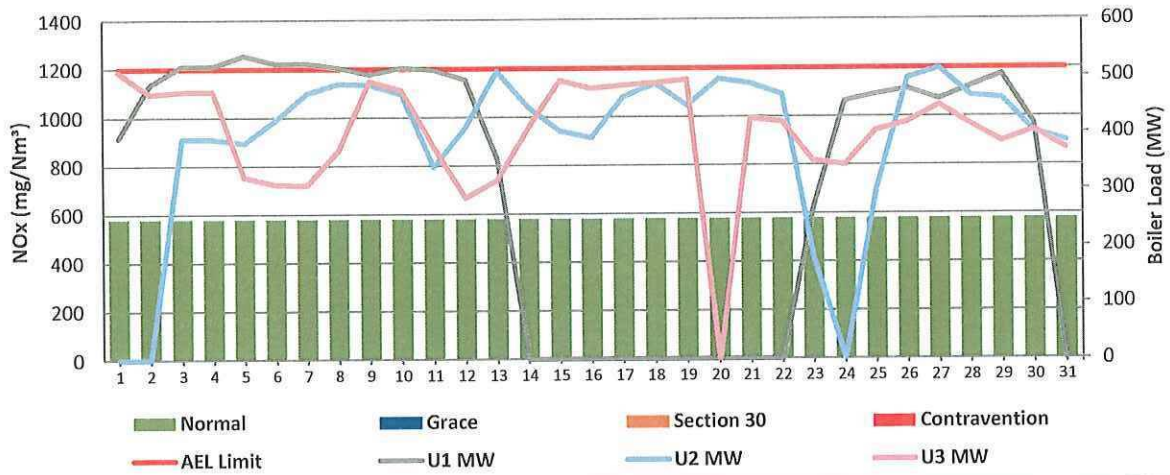


Figure 10: Matla Unit 4 NOx Emissions - July 2023

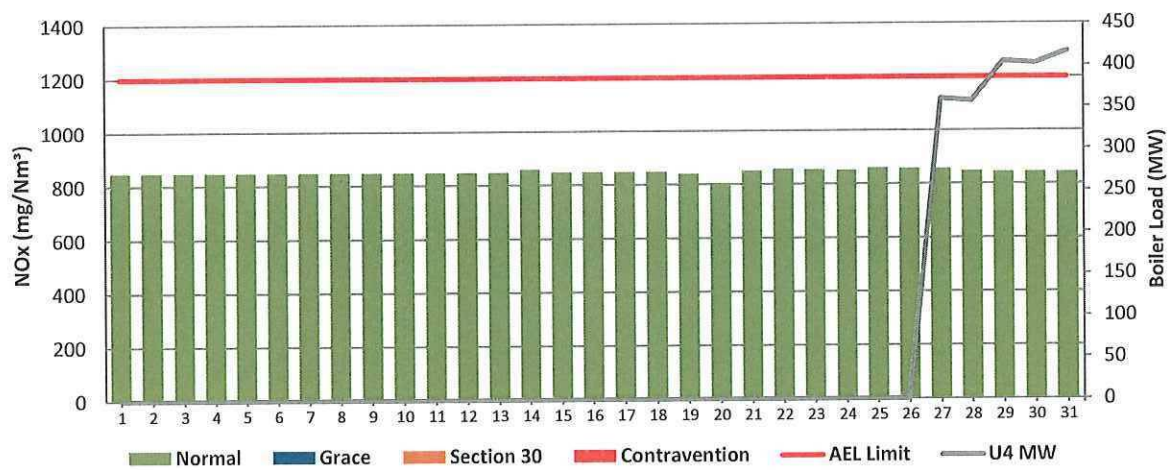


Figure 11: Matla Unit 5 NOx Emissions - July 2023

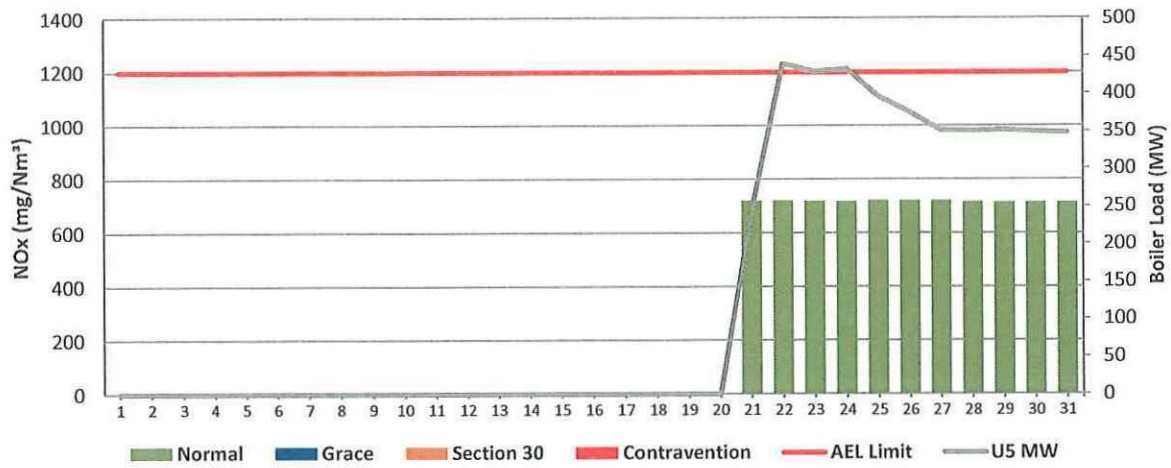
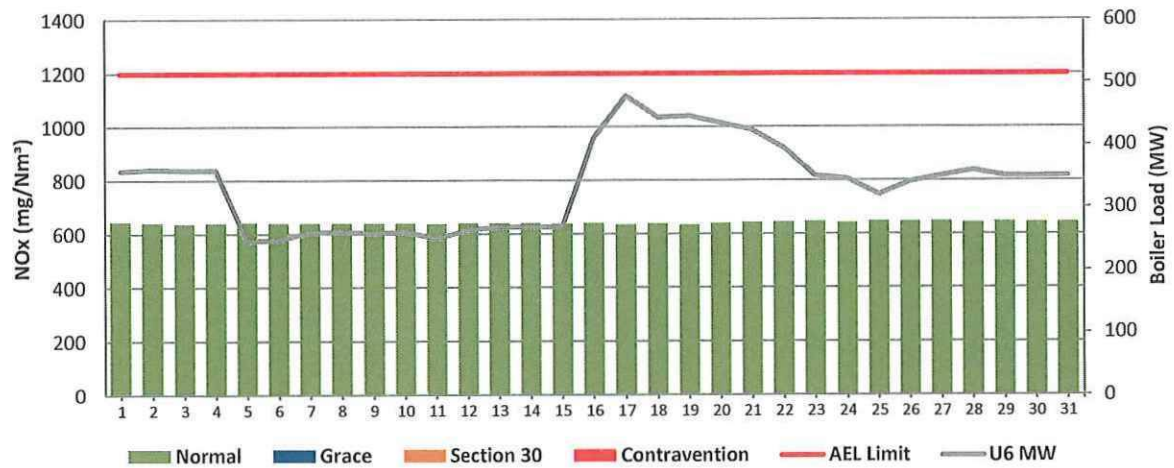


Figure 12: Matla Unit 6 NOx Emissions - July 2023



7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		no event		Unit 2		Unit 2	
Breaker Open (BO)	3:55 am	2023/07/12	7:45 am	2023/07/29			2:40 am	2023/07/10
Draught Group (DG) Shut Down (SD)	8:10 pm	2023/07/12	2:40 am	2023/07/30			DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	00:16:15	DD:HH:MM	00:18:55	DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM
Fires in time	4:00 am	2023/07/21			6:10 pm	2023/07/02	2:40 am	2023/07/10
Synch. to Grid (or BC)	6:15 pm	2023/07/22			4:15 am	2023/07/03	2:35 am	2023/07/11
Fires in to BC (duration)	01:14:15	DD:HH:MM		DD:HH:MM	00:10:05	DD:HH:MM	00:23:55	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		DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

South Stack ...cont.	Event 5		Event 6		Event 7		Event 8	
Unit No.	Unit 2		Unit 3		no event		no event	
Breaker Open (BO)	1:00 am	2023/07/22	8:55 pm	2023/07/18				
Draught Group (DG) Shut Down (SD)	8:30 am	2023/07/23	8:55 pm	2023/07/18				
BO to DG SD (duration)	01:07:30	DD:HH:MM	00:00:00	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	2:15 am	2023/07/24	7:15 pm	2023/07/19				
Synch. to Grid (or BC)	2:40 pm	2023/07/24	5:55 am	2023/07/24				
Fires in to BC (duration)	00:12:25	DD:HH:MM	04:10:40	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. 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)								
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	11:10 pm	2023/07/19						
Synch. to Grid (or BC)	5:20 pm	2023/07/20						
Fires in to BC (duration)	00:18:10	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)	4:40 pm	2023/07/03						
Draught Group (DG) Shut Down (SD)	4:41 pm	2023/07/03						
BO to DG SD (duration)	00:00:01	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	4:41 pm	2023/07/03						
Synch. to Grid (or BC)	12:15 am	2023/07/04						
Fires in to BC (duration)	00:07:34	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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of July-2023 in mg/Nm³

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

Emergency Generation *[This is only required for stations that are requested to report on this information]*

Table 6. Emergency Generation per unit for the month of July 2020

[illegible]

Table 9. Complaints for the month of July 2023

--	--	--	--	--	--

To be completed in the case of a S30 incident or a legal contravention:

[illegible]

11 General

PM reliability on unit 5 and unit 6 below 80% due emissions at maxing out
Unit 6 PM curve expired
Gases inaccurate and are reported using QAL 2 averages
South stack and unit 6 QAL 2 curves expired

Mzwandile Gcaleka  19/07/2024
Boiler Engineering Date

Lutendo Murovhi  19/07/2024
Environmental Department Date

 2024/08/27
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