



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 Fisheries, Forestry and Environment
Private Bag X447
PRETORIA
0001
Tel: (012) 310 3263
Fax: (012) 320 0488

Date: 2024/07/17

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

Enquiries: Lindokuhle Ngobese
☎ +27 17 612 6291

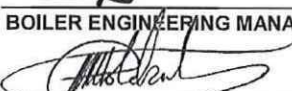
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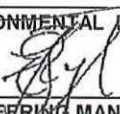
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MATLA POWER STATION

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



BOILER ENGINEERING MANAGER


ENVIRONMENTAL MANAGER
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 Oct-2023
	Coal	Tons	1 475 000	1 043 171
	Fuel Oil	Tons	3 500	1 363
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Oct-2023
	Energy	GWh	2 745	1 807
	Ash	Tons	471 000	293 966
	RE PM	kg/MWh	not specified	0.605

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	28.18

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 Oct-2023
South	<i>Electro Static Precipators (ESP)</i>	<i>99.508%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99.444%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99.722%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99.804%</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>98.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Unit 4	<i>100.0</i>	<i>7.4</i>	<i>99.7</i>	<i>99.6</i>
Unit 5	<i>100.0</i>	<i>60.8</i>	<i>39.7</i>	<i>100.0</i>
Unit 6	<i>99.3</i>	<i>48.8</i>	<i>51.9</i>	<i>100.0</i>

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	126.3	1 877.2	676.9
Unit 2	332.1	4 400.9	1 587.1
Unit 3	203.1	2 622.9	945.9
Unit 4	215.3	3 551.2	741.4
Unit 5	128.3	1 490.9	779.4
Unit 6	88.9	2 038.4	419.5
SUM	1 094.1	15 981.5	5 150.2

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	25	4	0	2	6	139.1
Unit 4	22	4	0	0	4	160.6
Unit 5	27	3	1	0	4	86.5
Unit 6	28	1	0	1	2	57.6
SUM	102	12	1	3	16	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
South	31	0	0	0	0	1 831.8
Unit 4	27	0	0	0	0	2 587.1
Unit 5	31	0	0	0	0	1 008.0
Unit 6	31	0	0	0	0	1 354.8
SUM	120	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
South	31	0	0	0	0	660.6
Unit 4	27	0	0	0	0	536.6
Unit 5	31	0	0	0	0	525.5
Unit 6	31	0	0	0	0	273.5
SUM	120	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 - October 2023

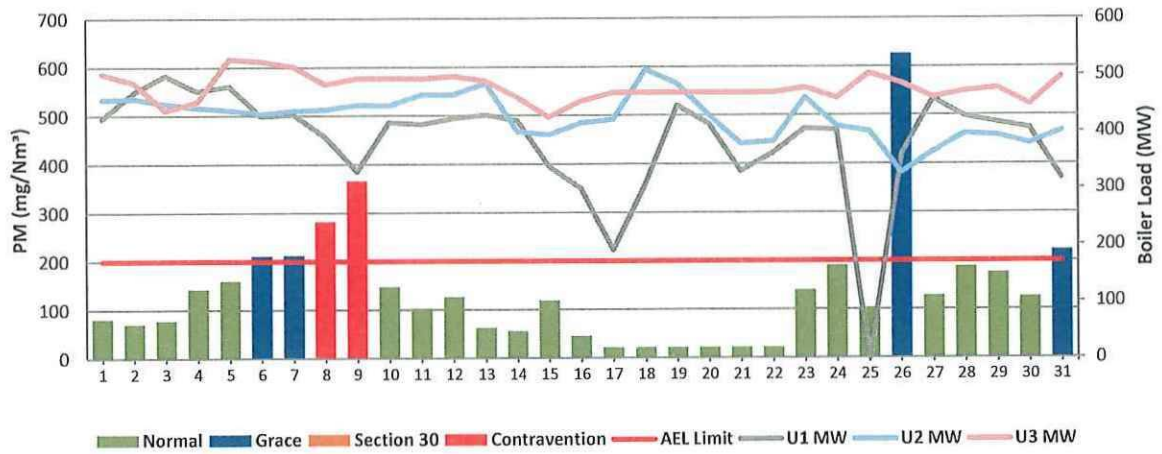


Figure 2: Matla Unit 4 PM Emissions - October 2023

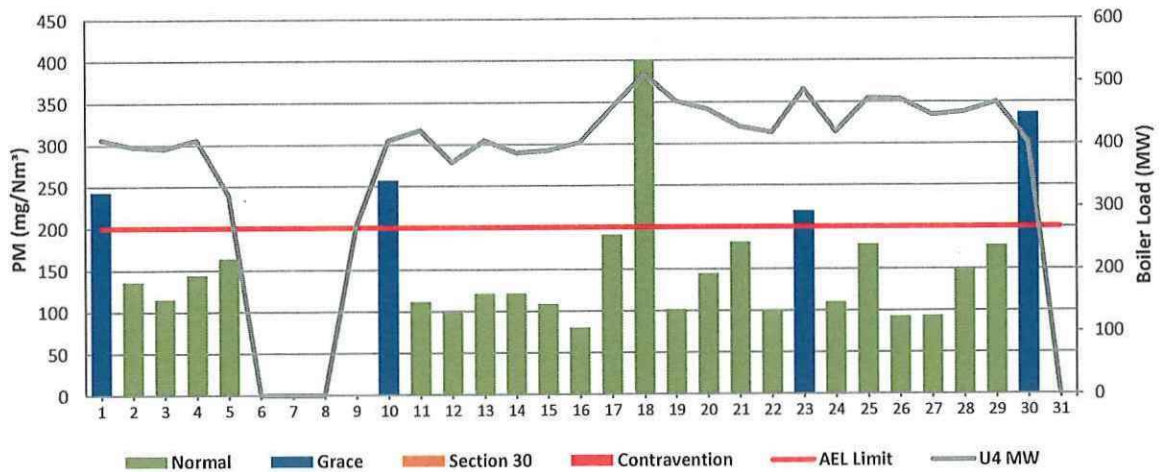


Figure 3: Matla Unit 5 PM Emissions - October 2023

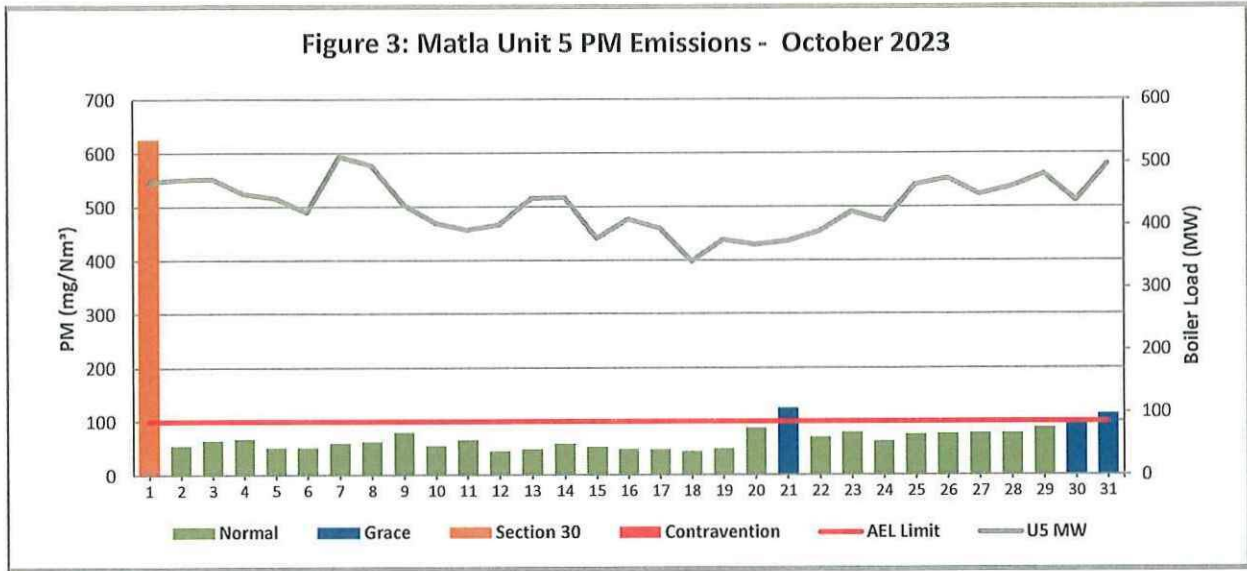


Figure 4: Matla Unit 6 PM Emissions - October 2023

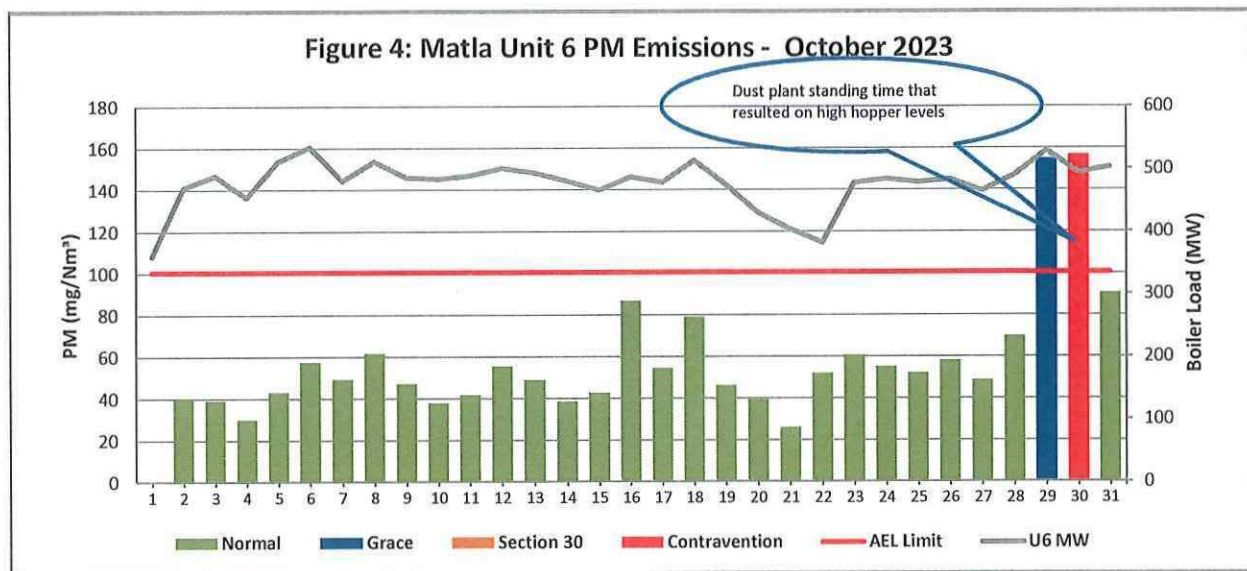


Figure 5: Matla South Stack SO₂ Emissions - October 2023

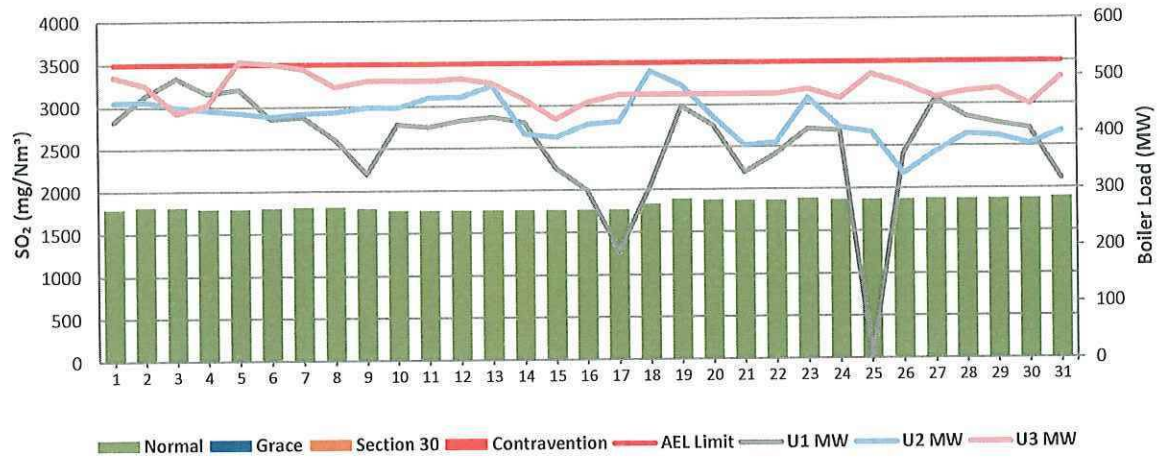


Figure 6: Matla Unit 4 SO₂ Emissions - October 2023

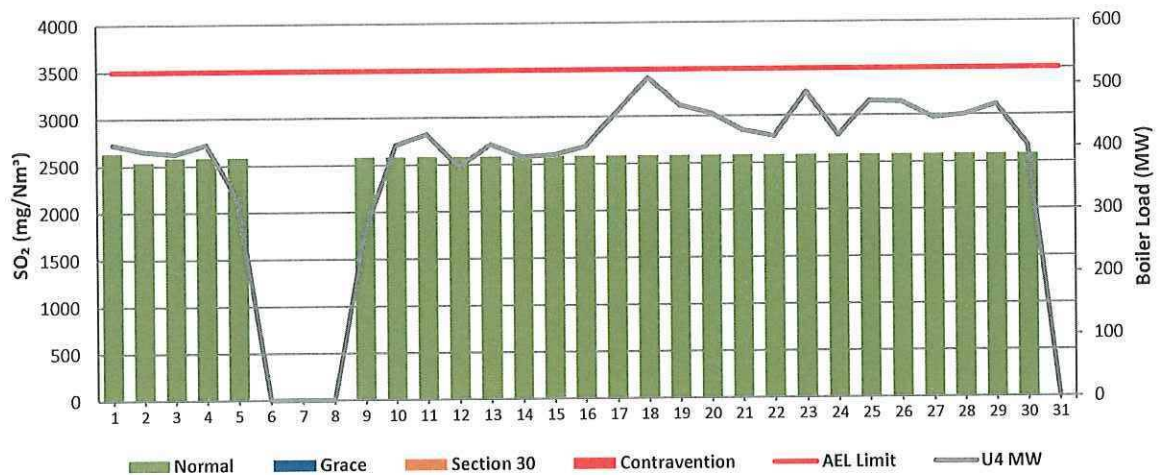


Figure 7: Matla Unit 5 SO₂ Emissions - October 2023

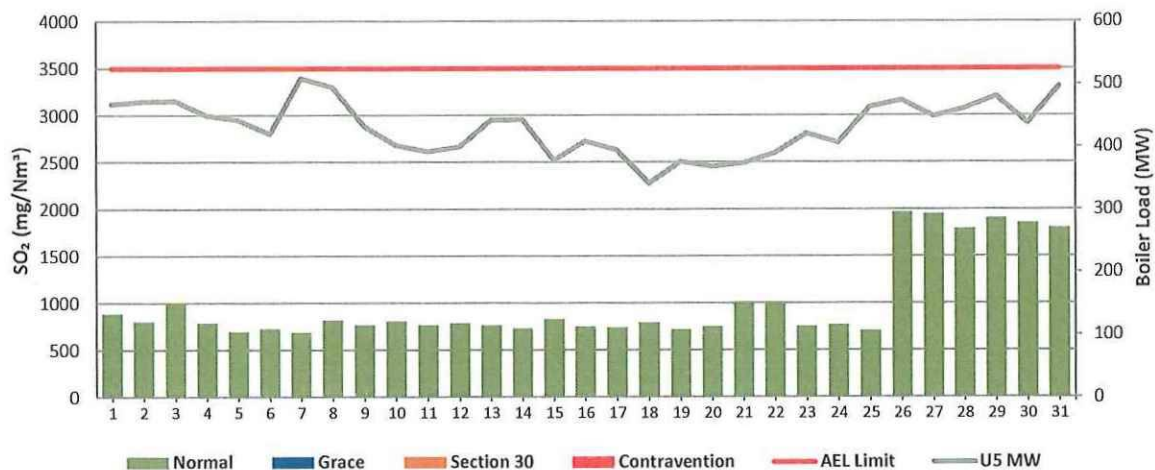


Figure 8: Matla Unit 6 SO₂ Emissions - October 2023

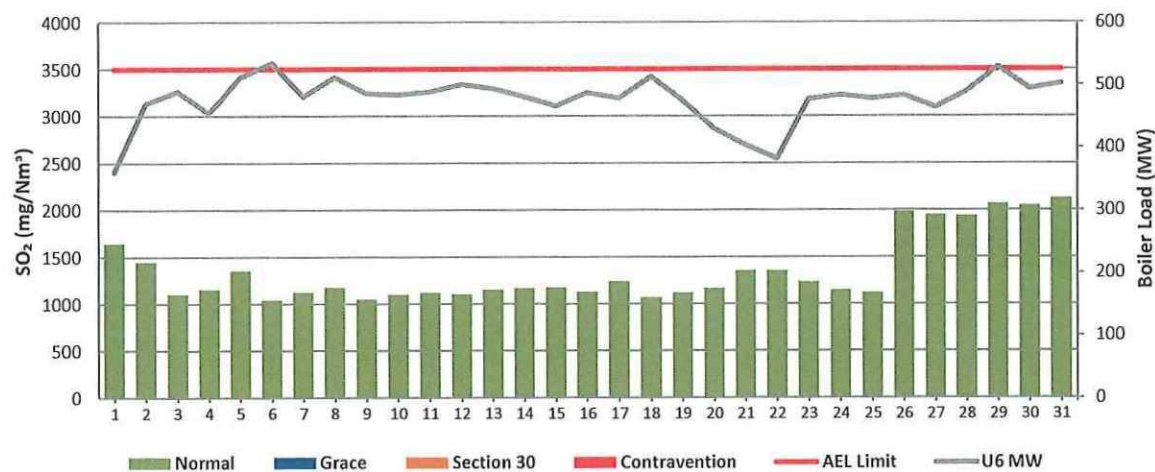


Figure 9: Matla South Stack NOx Emissions - October 2023

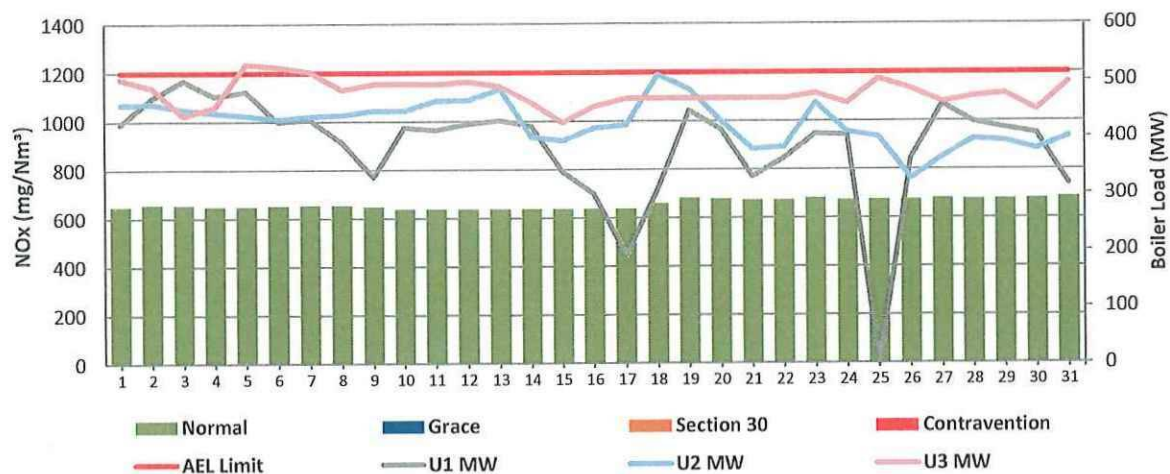


Figure 10: Matla Unit 4 NOx Emissions - October 2023

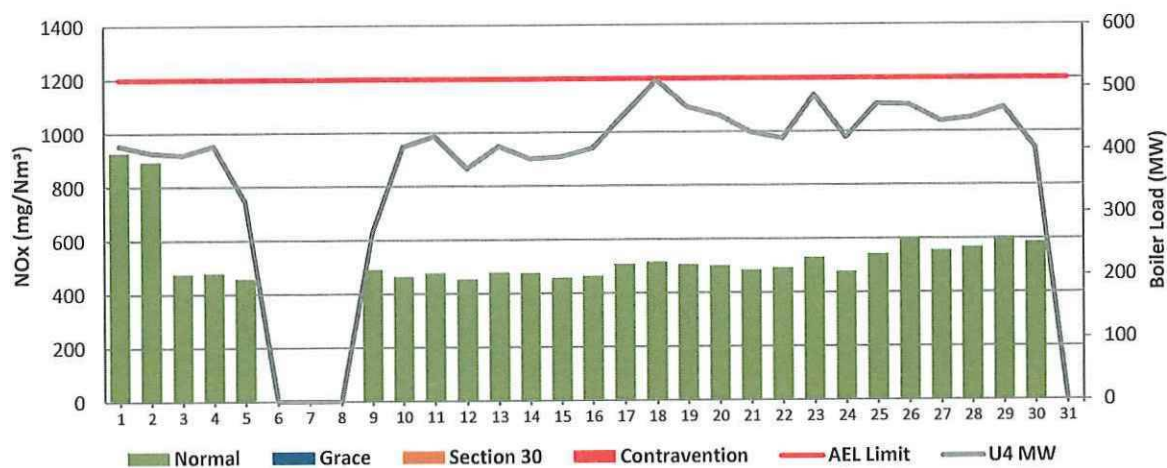


Figure 11: Matla Unit 5 NOx Emissions - October 2023

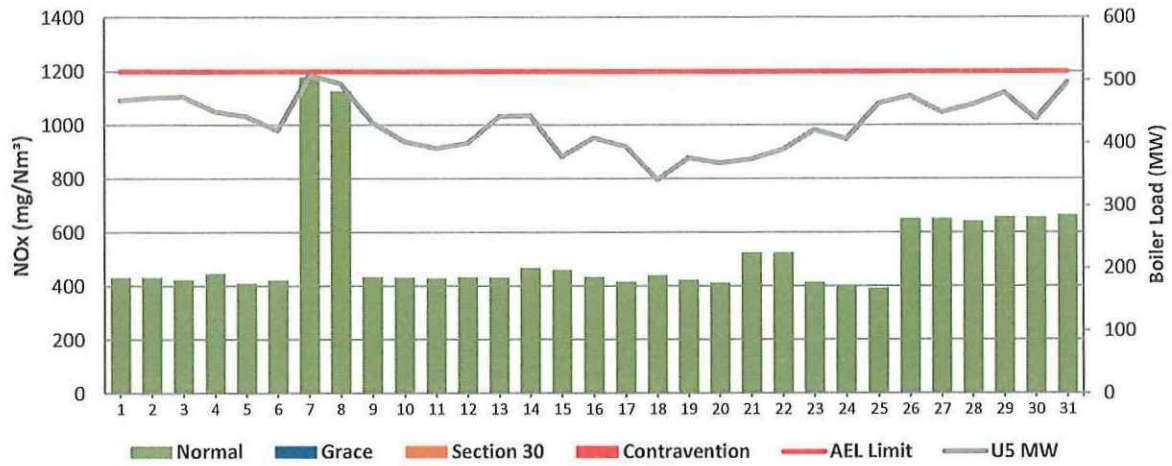
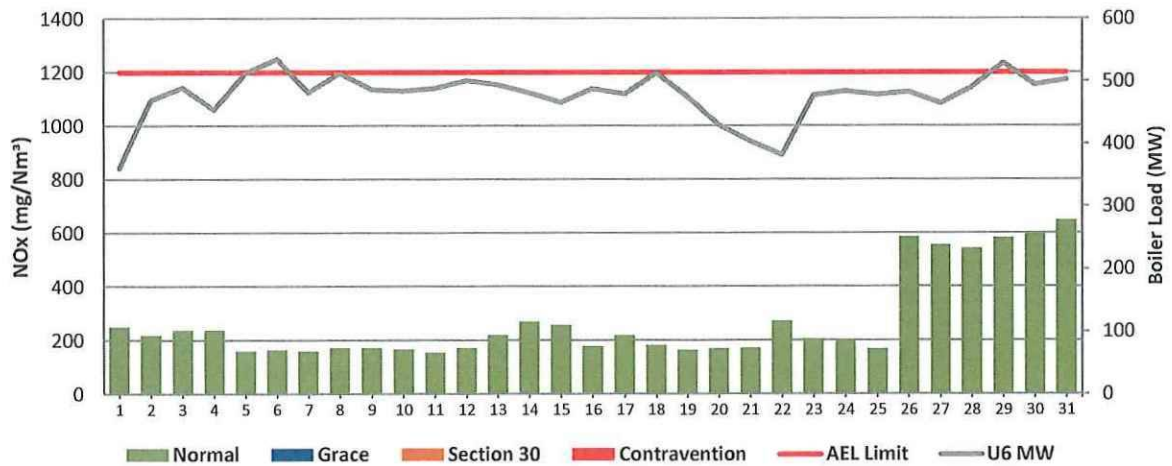


Figure 12: Matla Unit 6 NOx Emissions - October 2023



7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		no event		no event		no event	
Breaker Open (BO)	6:50 pm	2023/10/24	12:15 pm	2023/11/02				
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	6:10 am	2023/11/03				
BO to DG SD (duration)	n/a	DD:HH:MM	00:17:55	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	6:50 pm	2023/10/24						
Synch. to Grid (or BC)	3:00 pm	2023/10/26						
Fires in to BC (duration)	01:20:10	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

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	5:40 pm	2023/10/05	11:10 am	2023/10/30		
Draught Group (DG) Shut Down (SD)	n/a	n/a	4:15 am	2023/10/07	2:40 am	2023/10/31		
BO to DG SD (duration)	n/a	DD:HH:MM	01:10:35	DD:HH:MM	00:15:30	DD:HH:MM		DD:HH:MM
Fires in time			2:15 am	2023/10/09				
Synch. to Grid (or BC)			2:05 pm	2023/10/09				
Fires in to BC (duration)		DD:HH:MM	00:11:50	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)		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)								
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 October-2023 in mg/Nm³

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

8 EMERGENCY GENERATION

Table 8. Emergency Generation per unit for the month of October 2023

9 COMPLAINTS REGISTER

Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date measure will be implemented
<i>(Insert name of affected source)</i>	<i>(Insert root cause for incident)</i>	<i>(Insert emissions associated with incident)</i>	<i>(Insert dispersion model information where applicable)</i>	<i>(Insert mitigation measures taken)</i>	<i>(Insert date of implementation of</i>

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

[illegible]

11 General

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Mzwandile Gcaleka



19/07/2024

Boiler Engineering

Date

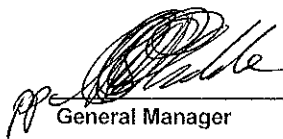
Lutendo Murovhi



19/07/2024

Environmental Department

Date



General Manager

2024/08/27

Date

Compiled by Boiler Engineering Department

For Department of Fisheries, Forestry and Environment

Copies Eskom Environmental Management

Group Technology Engineering

Matla Power Station

ESP & SO₂ System Engineer

Chief Air Pollution Control Officer

D Herbst
B Mccourt

R Rampiar
E Patel

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