



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: 2024/07/17

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

Enquiries: Lindokuhle Ngobese
☎ +27 17 612 6291

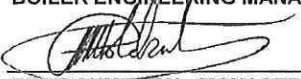
Total number of pages:
13

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 Sep-2023
	Coal	Tons	1 475 000	646 265
	Fuel Oil	Tons	3 500	2 562
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Sep-2023
	Energy	GWh	2 657	1 096
	Ash	Tons	471 000	188 322
	RE PM	kg/MWh	not specified	1.302

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	29.14

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 Sep-2023
South	Electro Static Precipators (ESP)	99.279%
Unit 4	Electro Static Precipators (ESP)	98.655%
Unit 5	Electro Static Precipators (ESP)	99.437%
Unit 6	Electro Static Precipators (ESP)	99.203%

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	100.0	100.0	100.0	100.0
Unit 4	89.5	99.5	99.5	99.5
Unit 5	99.7	100.0	100.0	100.0
Unit 6	72.3	100.0	100.0	100.0

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	92.3	1 322.4	317.1
Unit 2	297.9	3 027.6	726.0
Unit 3	204.9	2 511.7	602.3
Unit 4	458.2	3 079.3	1 095.1
Unit 5	118.5	1 212.1	426.8
Unit 6	254.4	2 341.6	644.7
SUM	1 426.1	13 494.6	3 812.0

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
South	15	4	0	8	12	194.0
Unit 4	14	6	0	5	11	376.7
Unit 5	4	5	0	4	9	205.9
Unit 6	15	6	0	3	9	419.7
SUM	48	21	0	20	41	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm³)
South	28	0	0	0	0	2 407.1
Unit 4	26	0	0	0	0	2 309.8
Unit 5	14	0	0	0	0	2 015.3
Unit 6	26	0	0	0	0	2 402.2
SUM	94	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm³)
South	28	0	0	0	0	577.2
Unit 4	26	0	0	0	0	821.5
Unit 5	16	0	0	0	0	765.1
Unit 6	26	0	0	0	0	661.4
SUM	96	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

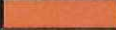
Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Matla South Stack PM Emissions - September 2023

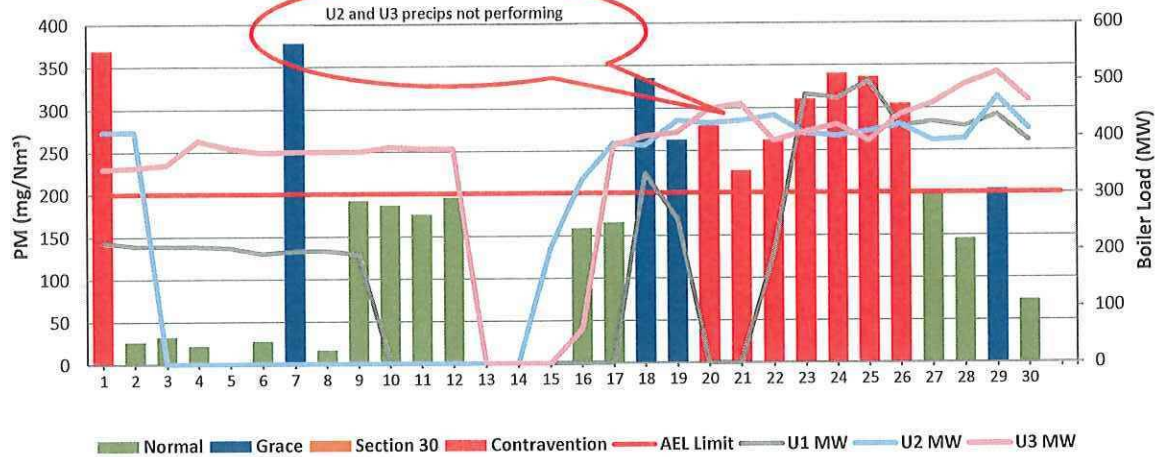


Figure 2: Matla Unit 4 PM Emissions - September 2023

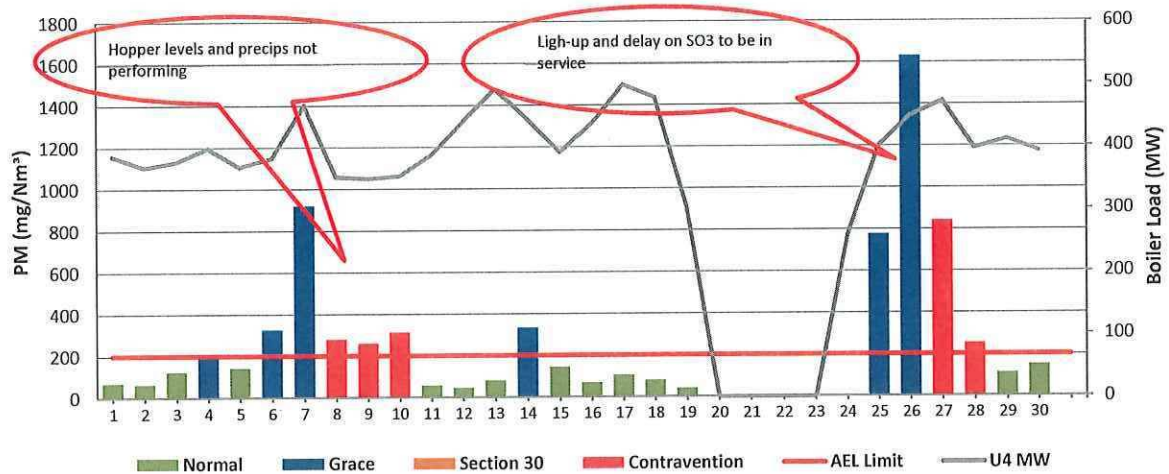


Figure 3: Matla Unit 5 PM Emissions - September 2023

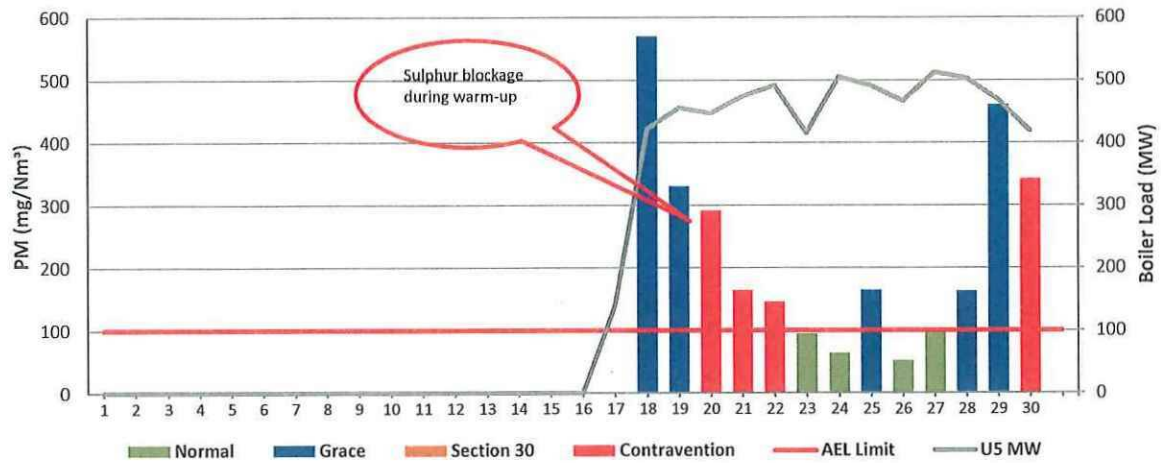


Figure 4: Matla Unit 6 PM Emissions - September 2023

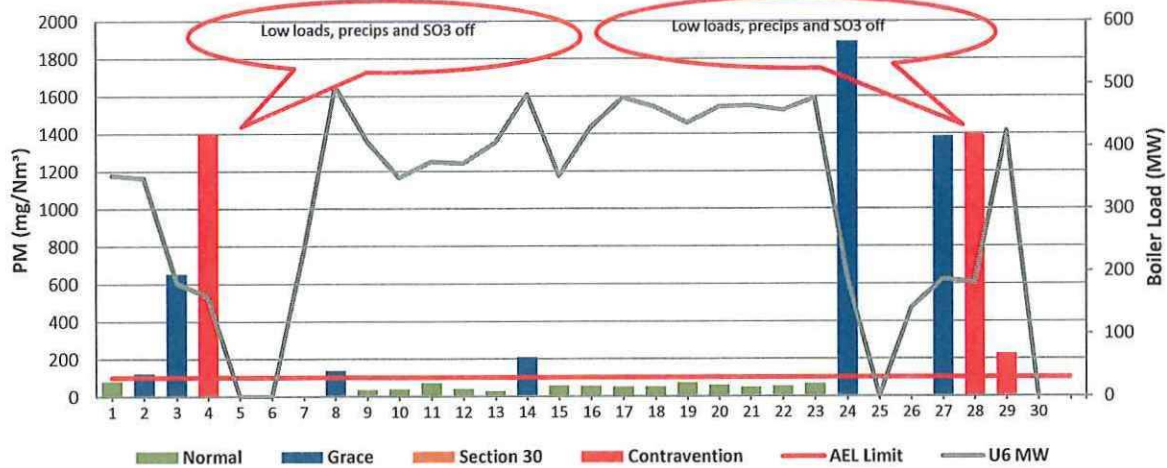


Figure 5: Matla South Stack SO₂ Emissions - September 2023

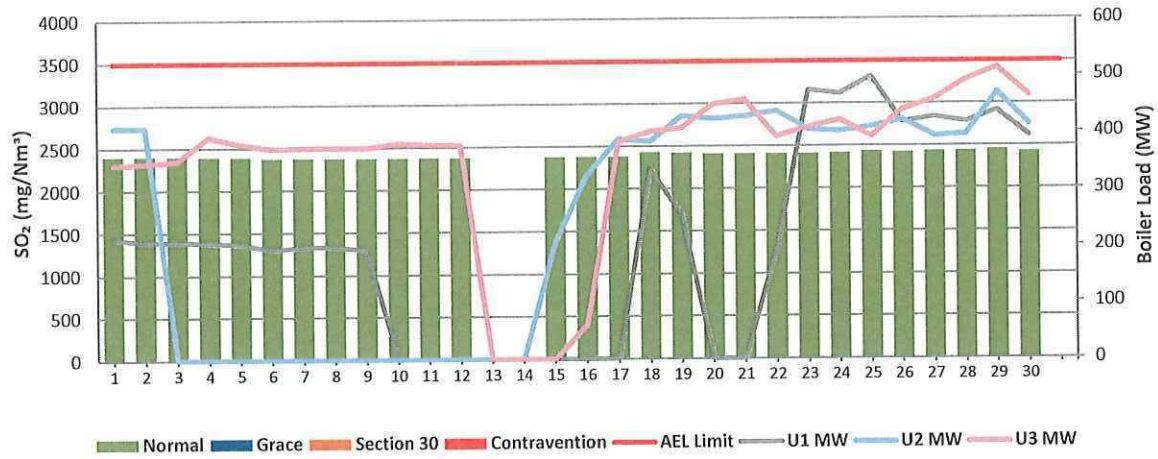


Figure 6: Matla Unit 4 SO₂ Emissions - September 2023

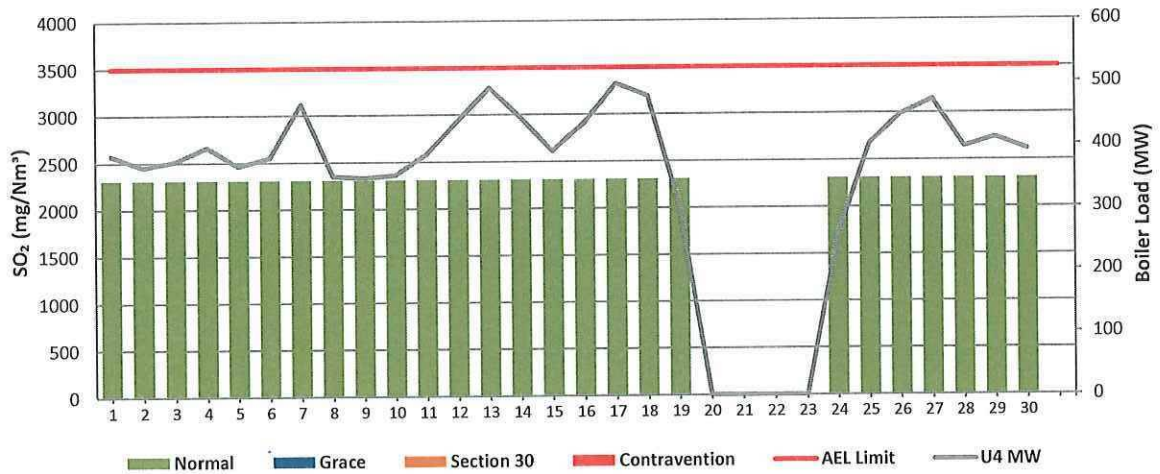


Figure 7: Matla Unit 5 SO₂ Emissions - September 2023

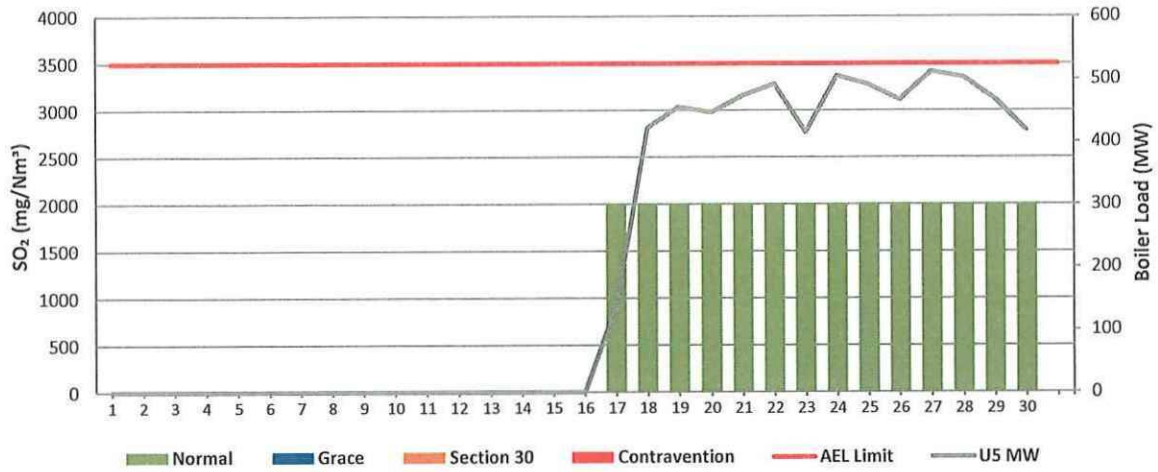


Figure 8: Matla Unit 6 SO₂ Emissions - September 2023

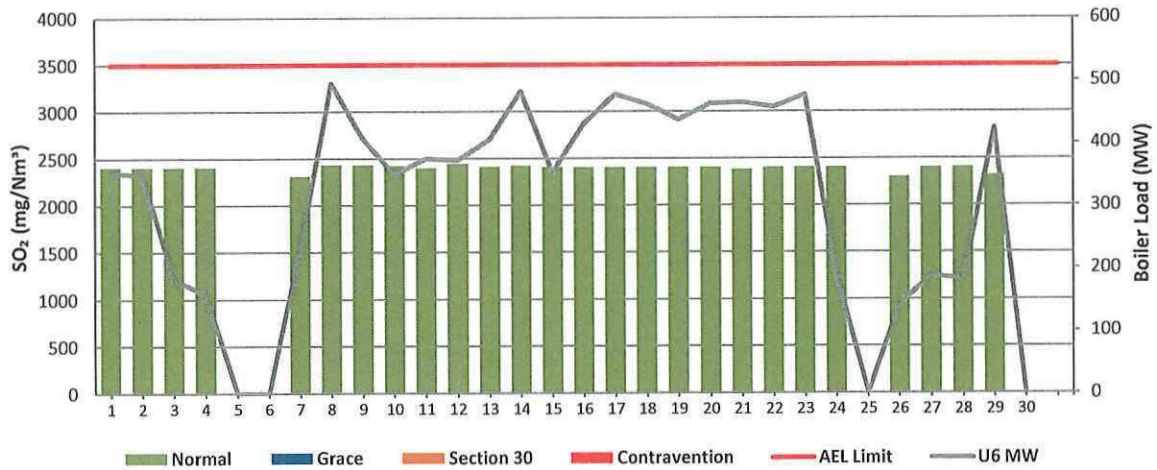


Figure 9: Matla South Stack NOx Emissions - September 2023

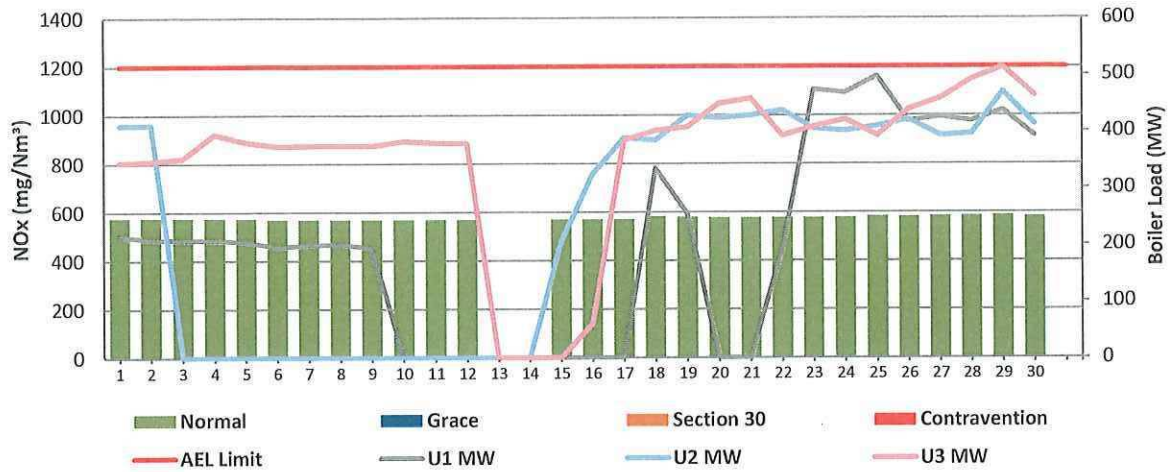


Figure 10: Matla Unit 4 NOx Emissions - September 2023

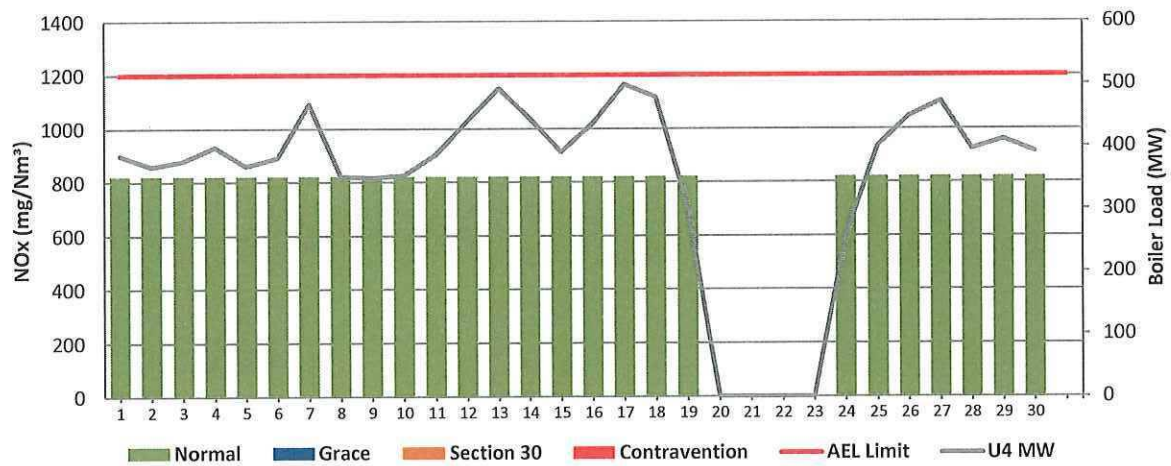


Figure 11: Matla Unit 5 NOx Emissions - September 2023

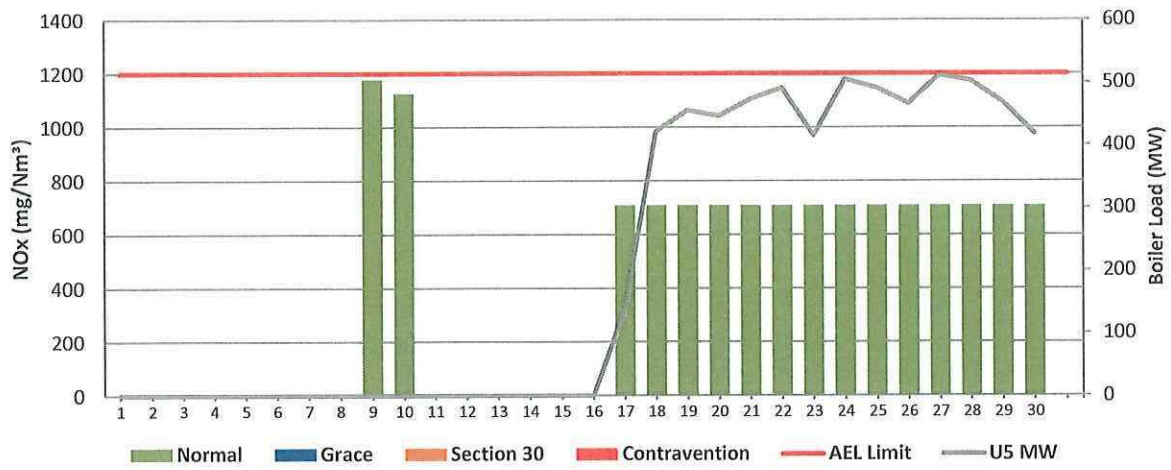
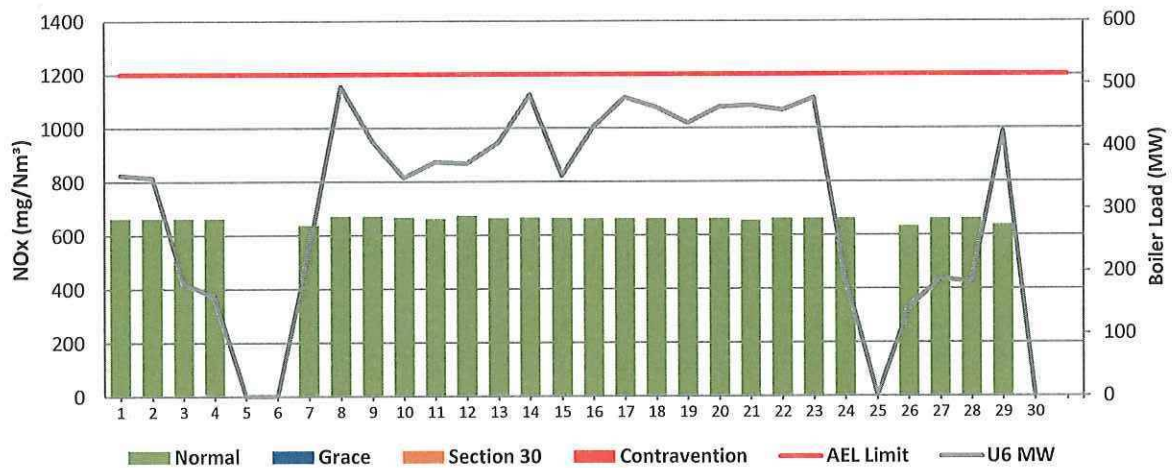


Figure 12: Matla Unit 6 NOx Emissions - September 2023



7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		no event		Unit 2		Unit 3	
Breaker Open (BO)	2:55 am	2023/09/09			12:00 am	2023/09/03	1:40 am	2023/09/12
Draught Group (DG) Shut Down (SD)	6:10 am	2023/09/10			12:00 am	2023/09/03	3:15 pm	2023/09/12
BO to DG SD (duration)	01:03:15	DD:HH:MM		DD:HH:MM	00:00:00	DD:HH:MM	00:13:35	DD:HH:MM
Fires in time	12:10 pm	2023/09/22			1:45 am	2023/09/15	2:10 pm	2023/09/16
Synch. to Grid (or BC)	8:30 pm	2023/09/22			2:05 pm	2023/09/15	11:15 pm	2023/09/16
Fires in to BC (duration)	00:08:20	DD:HH:MM		DD:HH:MM	00:12:20	DD:HH:MM	00:09:05	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.	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)	2:00 am	2023/09/19						
Draught Group (DG) Shut Down (SD)	12:10 am	2023/09/20						
BO to DG SD (duration)	00:22:10	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	9:45 am	2023/09/24						
Synch. to Grid (or BC)	6:05 pm	2023/09/24						
Fires in to BC (duration)	00:08:20	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. 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	9:30 am	2023/09/17						
Synch. to Grid (or BC)	10:00 pm	2023/09/17						
Fires in to BC (duration)	00:12:30	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)	11:35 pm	2023/09/04	2:15 pm	2023/09/24	6:35 pm	2023/09/29		
Draught Group (DG) Shut Down (SD)	3:55 am	2023/09/06	2:15 pm	2023/09/24	6:35 pm	2023/09/29		
BO to DG SD (duration)	01:04:20	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	7:00 am	2023/09/07	8:15 pm	2023/09/24	6:35 pm	2023/09/29		
Synch. to Grid (or BC)	5:05 pm	2023/09/07	8:10 pm	2023/09/26	9:15 am	2023/10/01		
Fires in to BC (duration)	00:10:05	DD:HH:MM	01:23:55	DD:HH:MM	01:14:40	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 September-2023 in mg/Nm³

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

ADDENDUM TO MONTHLY EMISSIONS REPORT

8 EMERGENCY GENERATION

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

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

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Emergency Generation hours declared by national Control						
Emergency Hours declared including hours after stand down						
Hours over the Limit during Emergency Generation						

9 COMPLAINTS REGISTER

Table 9. Complaints for the month of May 2023

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)</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>

10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

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

Unit no	Incident Start Date	Incident End Date	Incident Cause	Remedial action	S30 initial notification sent	Date S30 investigation report sent	Date DEA Acknowledgment	Date DEA Acceptable	Comments / Reference No.
SS	01/05/2023	31/05/2023	High hopper levels, low instrment and conveying air	Hired additional compressors	No				Legal contravention
4	02/05/2023 20/05/2023	06/05/2023 31/05/2023	High hopper levels, low instrment and conveying air	Hired additional compressors	No				Legal contravention
5	10/05/2023 17/05/2023 25/05/2023	13/05/2023 20/05/2023 31/05/2023	High hopper levels, low instrment and conveying air	Hired additional compressors	No				Legal contravention
6	19/05/2023	31/05/2023	High hopper levels, low instrment and conveying air	Hired additional compressors	No				Legal contravention

11 General

--

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 & SO₂ System Engineer

For Department of Forestry Fisheries and Environmental

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