



Generation

Nkangala District Municipality
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Middleburg
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Attention:
Mr V Mahlangu

AND

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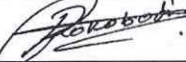
Total number of pages:
16

Total number of annexes:

MATLA POWER STATION

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


BOILER ENGINEERING MANAGER


ENVIRONMENTAL MANAGER


ENGINEERING MANAGER

25/04/2022
DATE

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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 Mar-2022
	Coal	Tons	1 475 000	969 778
	Fuel Oil	Tons	2 500	1 101

Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Mar-2022
	Energy	GWh	2 567	1 690
	Ash	Tons	471 000	279 490
	RE PM	kg/MWh	not specified	0,933

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	28,82

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 Mar-2022
South	<i>Electro Static Precipators (ESP)</i>	<i>99,289%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,145%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99,489%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,728%</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>89,6</i>	<i>100,0</i>	<i>99,7</i>	<i>100,0</i>
Unit 4	<i>87,4</i>	<i>99,7</i>	<i>100,0</i>	<i>99,5</i>
Unit 5	<i>87,7</i>	<i>96,1</i>	<i>96,3</i>	<i>100,0</i>
Unit 6	<i>100,0</i>	<i>96,5</i>	<i>96,6</i>	<i>100,0</i>

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of March-2022

Associated Unit/Stack	PM	SOx	NOx
Unit 1	295,3	3 826,2	1 556,4
Unit 2	297,9	3 932,8	1 609,7
Unit 3	273,1	3 292,8	1 311,7
Unit 4	371,9	3 547,4	1 871,2
Unit 5	222,0	2 638,9	1 178,3
Unit 6	116,4	3 083,8	1 147,6
SUM	1 576,6	20 321,9	8 674,9

Table 6.2: Operating days in compliance to PM AEL Limit - March 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	22	5	4	0	9	188,1
Unit 4	22	6	3	0	9	207,0
Unit 5	10	6	7	0	13	187,0
Unit 6	23	6	2	0	8	81,3
SUM	77	23	16	0	39	

Table 6.3: Operating days in compliance to SOx AEL Limit - March 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
South	31	0	0	0	0	2 455,6
Unit 4	31	0	0	0	0	2 059,6
Unit 5	28	0	0	0	0	2 142,3
Unit 6	31	0	0	0	0	2 167,1
SUM	121	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - March 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
South	31	0	0	0	0	998,2
Unit 4	26	0	0	5	5	1 100,2
Unit 5	28	0	0	0	0	943,1
Unit 6	31	0	0	0	0	806,8
SUM	116	0	0	5	5	

Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO₂

Table 6.5: Legend Description

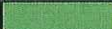



Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Matla South Stack PM Emissions - March 2022

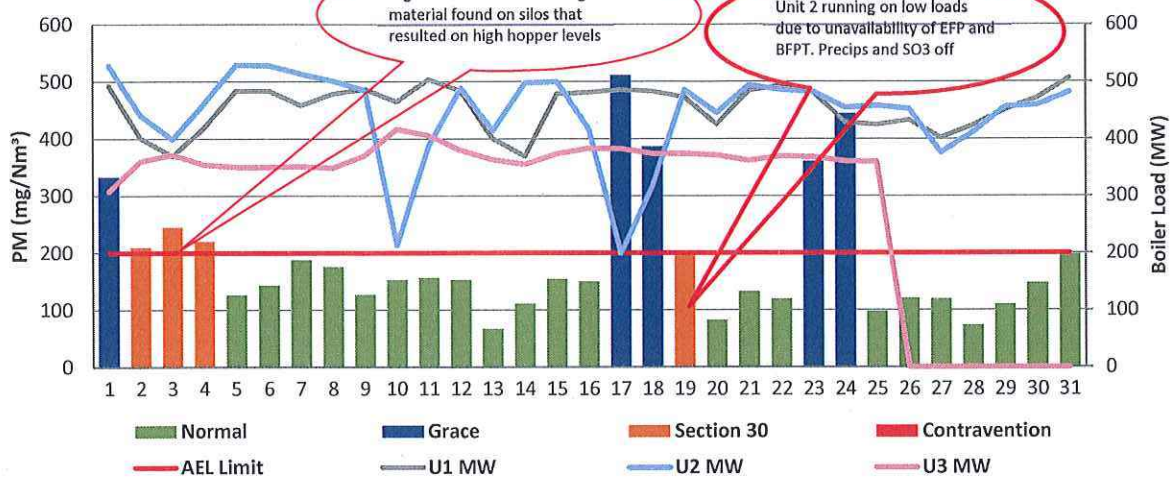


Figure 2: Matla Unit 4 PM Emissions - March 2022

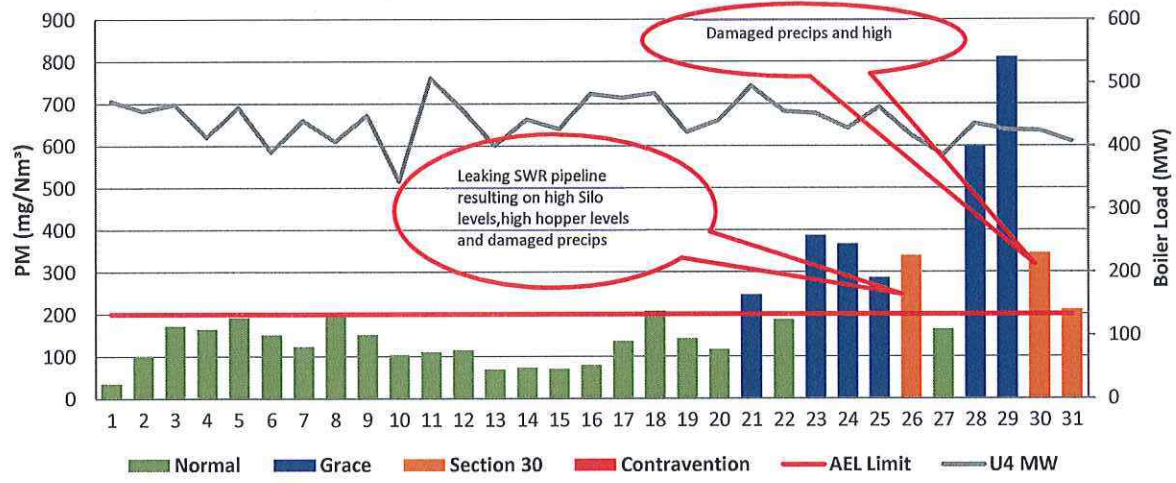


Figure 3: Matla Unit 5 PM Emissions - March 2022

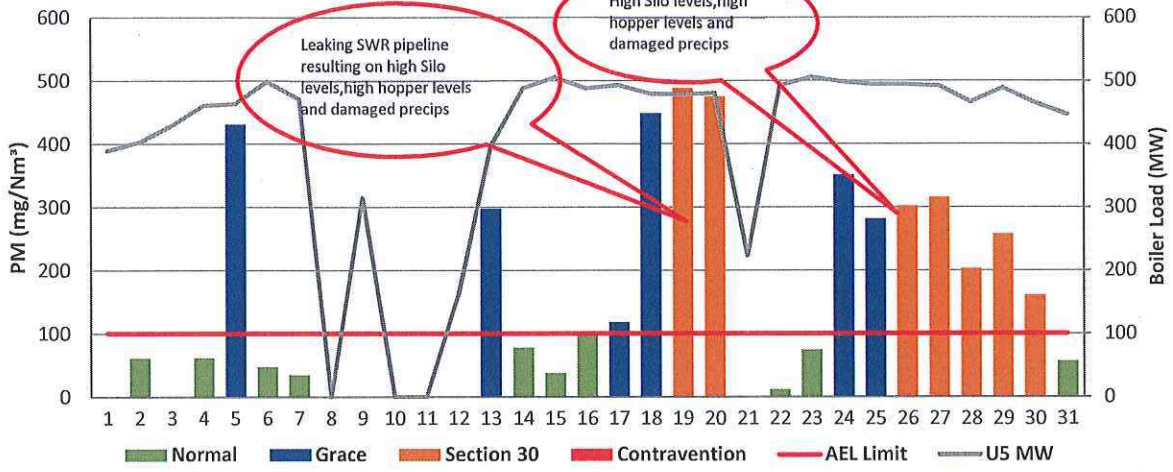


Figure 4: Matla Unit 6 PM Emissions - March 2022

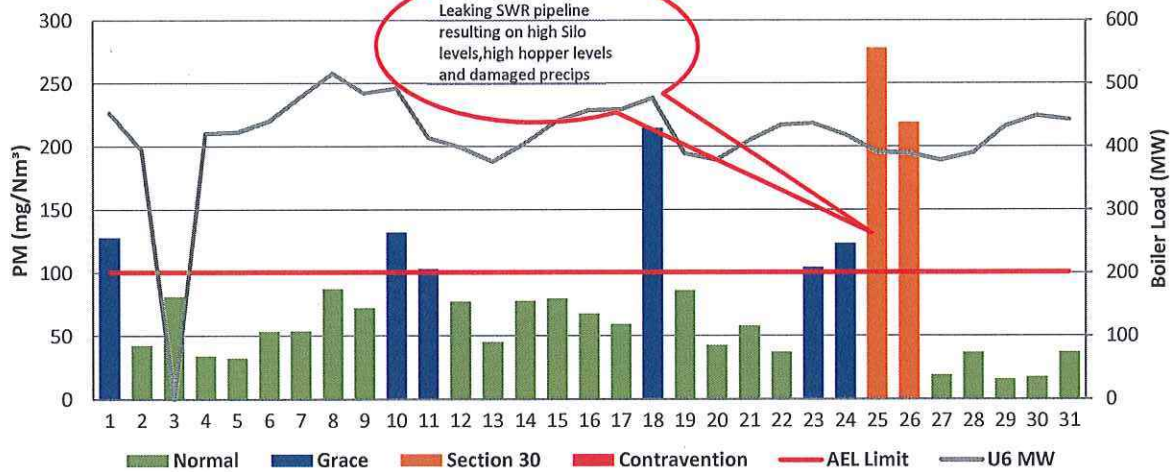


Figure 5: Matla South Stack SOx Emissions - March 2022

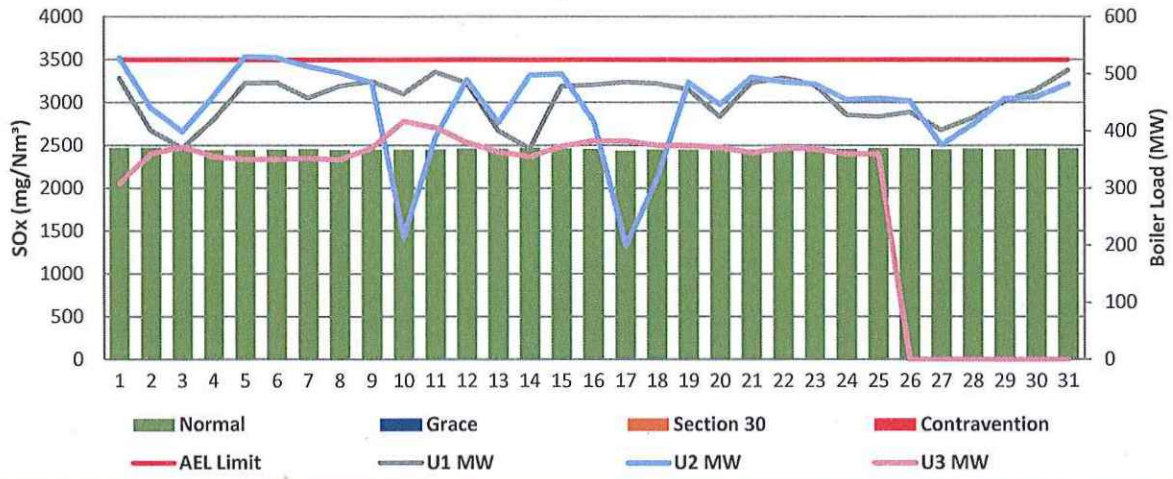


Figure 6: Matla Unit 4 SOx Emissions - March 2022

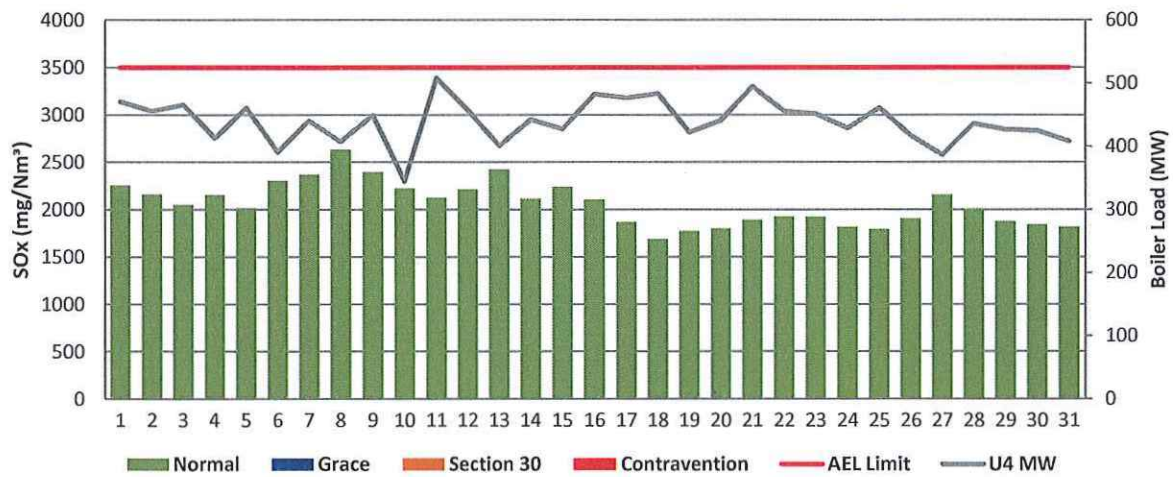


Figure 7: Matla Unit 5 SOx Emissions - March 2022

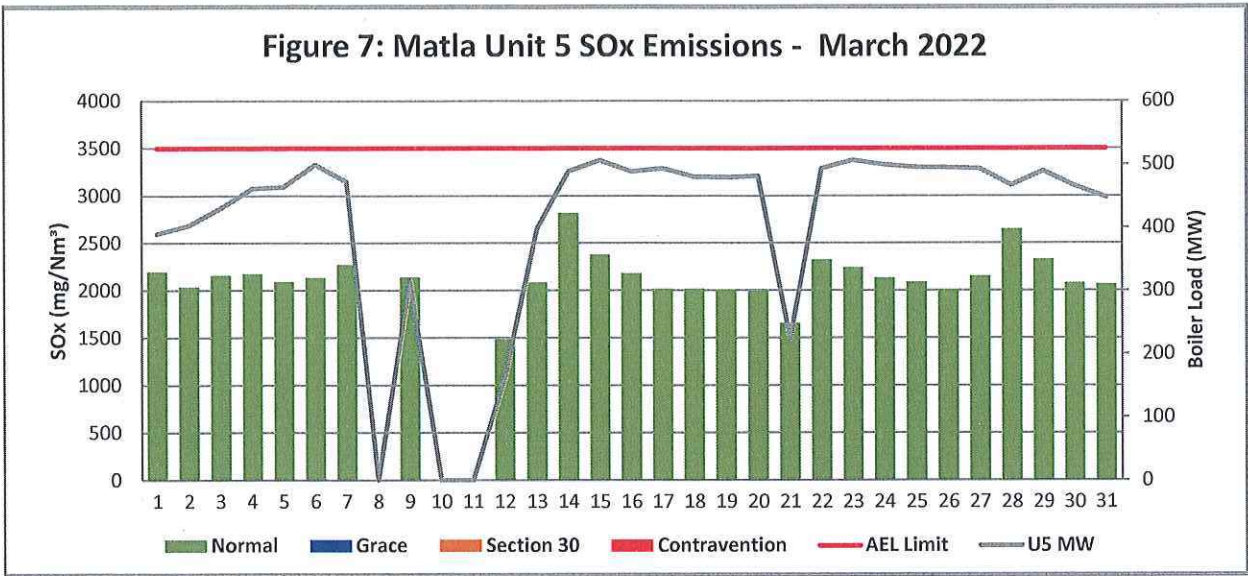


Figure 8: Matla Unit 6 SOx Emissions - March 2022

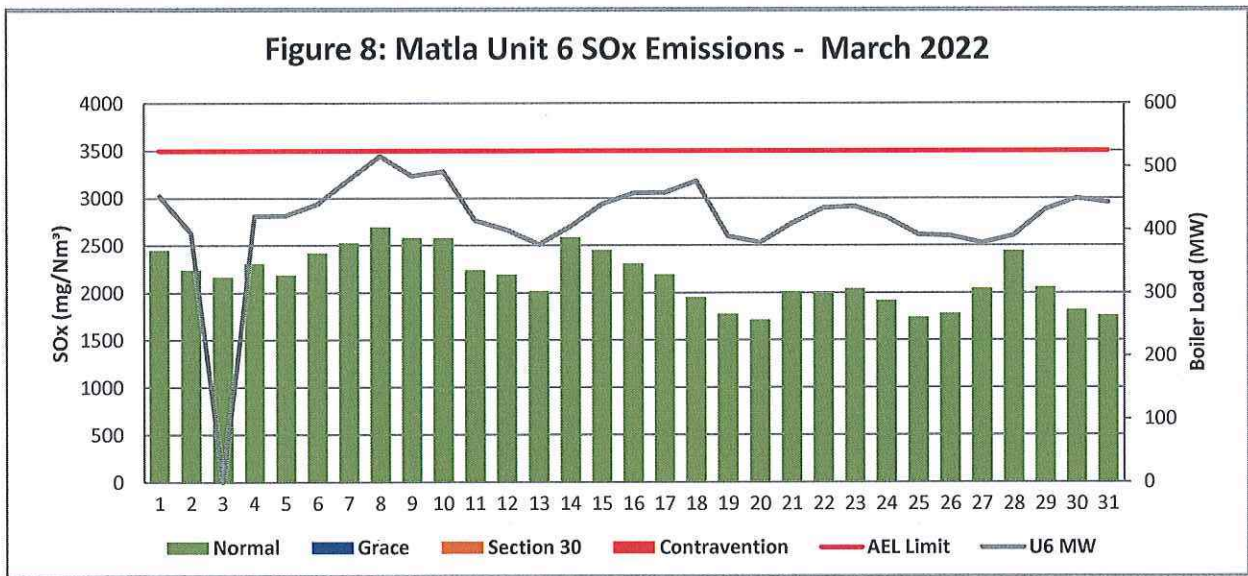


Figure 9: Matla South Stack NOx Emissions - March 2022

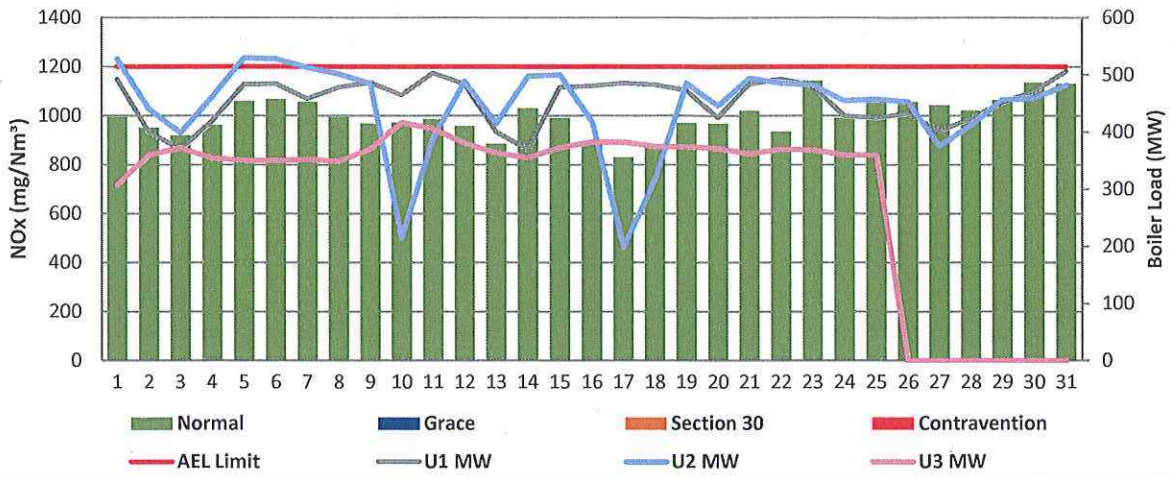


Figure 10: Matla Unit 4 NOx Emissions - March 2022

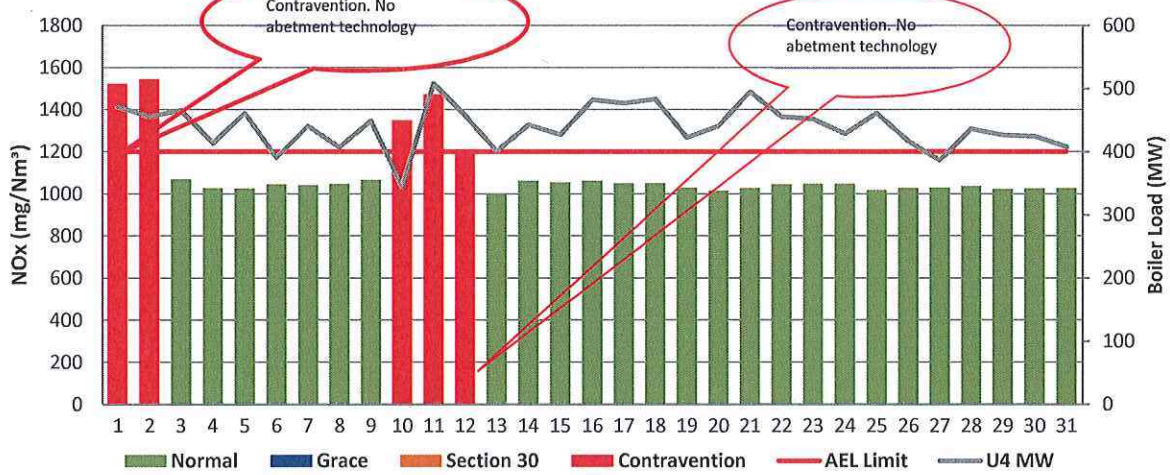


Figure 11: Matla Unit 5 NOx Emissions - March 2022

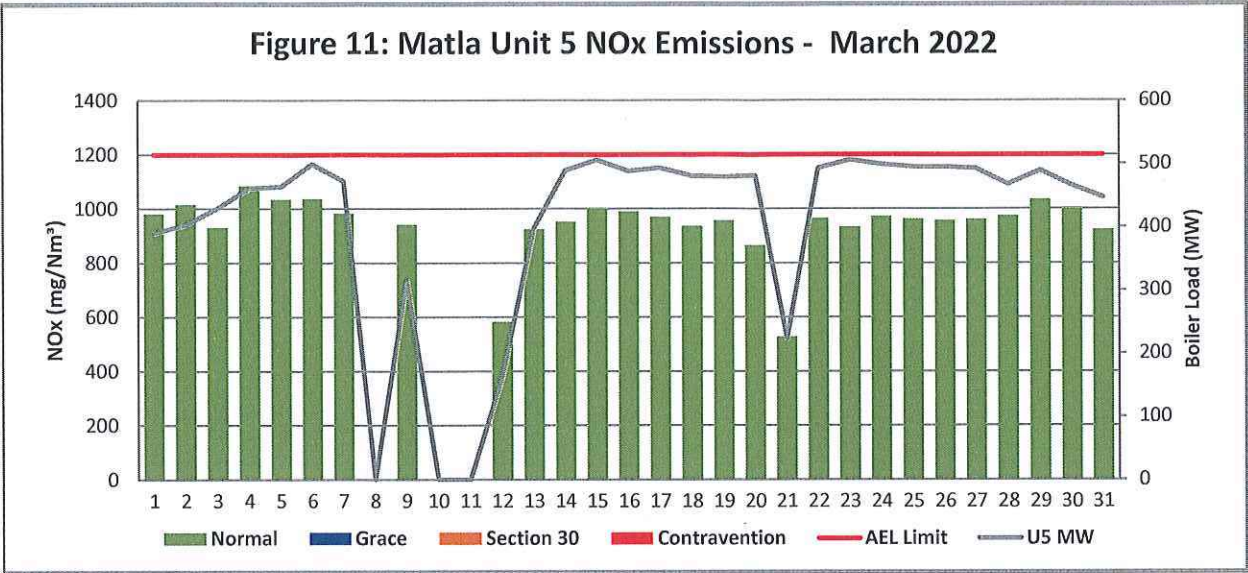
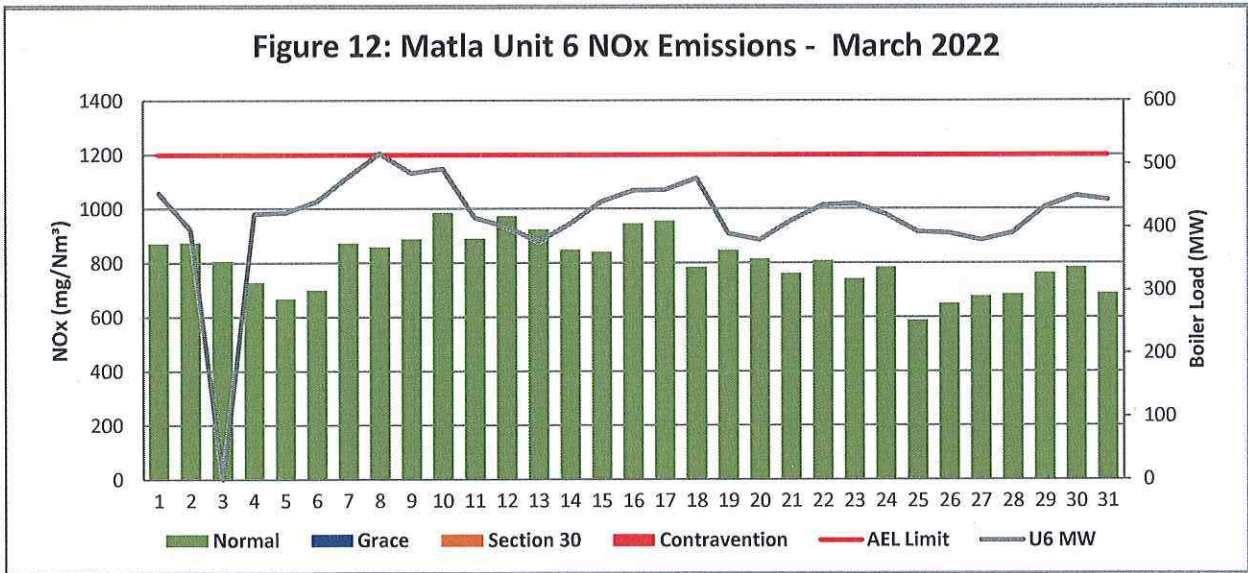


Figure 12: Matla Unit 6 NOx Emissions - March 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of March-2022

South Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 2</i>		<i>no event</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>1:05 AM</i>	<i>2022/03/10</i>	<i>9:45 PM</i>	<i>2022/03/25</i>	<i>4:45 AM</i>	<i>2022/04/02</i>	<i>11:20 AM</i>	<i>2022/04/02</i>
Draught Group (DG) Shut Down (SD)	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>11:35 PM</i>	<i>2022/03/26</i>	<i>4:55 PM</i>	<i>2022/04/03</i>	<i>8:40 AM</i>	<i>2022/04/03</i>
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>01:01:50</i>	DD:HH:MM	<i>01:12:10</i>	DD:HH:MM	<i>00:21:20</i>	DD:HH:MM
Fires in time	<i>1:05 AM</i>	<i>2022/03/10</i>						
Synch. to Grid (or BC)	<i>8:45 AM</i>	<i>2022/03/11</i>						
Fires in to BC (duration)	<i>01:07:40</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>						
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM		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	1:35 AM	2022/03/10				
Draught Group (DG) Shut Down (SD)	n/a	n/a	12:00 AM	1900/01/00				
BO to DG SD (duration)	n/a	DD:HH:MM	#####	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			1:35 AM	2022/03/10				
Synch. to Grid (or BC)			1:35 PM	2022/03/10				
Fires in to BC (duration)		DD:HH:MM	00:12:00	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)			12:00 AM	2022/03/11				
Emissions below limit from BC (duration)		DD:HH:MM	00:10:25	DD:HH:MM		DD:HH:MM		DD:HH:MM

Unit No. 5	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)			5:15 PM	2022/03/02	5:00 AM	2022/03/07	1:45 AM	2022/03/20
Draught Group (DG) Shut Down (SD)			12:00 AM	1900/01/00	10:15 AM	2022/03/08	12:00 AM	1900/01/00
BO to DG SD (duration)		DD:HH:MM	#####	DD:HH:MM	01:05:15	DD:HH:MM	#####	DD:HH:MM
Fires in time			5:15 PM	2022/03/02	9:40 PM	2022/03/11	1:45 AM	2022/03/20
Synch. to Grid (or BC)			2:50 AM	2022/03/03	7:55 PM	2022/03/12	7:45 PM	2022/03/21
Fires in to BC (duration)		DD:HH:MM	00:09:35	DD:HH:MM	00:22:15	DD:HH:MM	01:18:00	DD:HH:MM
Emissions below limit from BC (end date)			12:00 AM	2022/03/04	7:00 AM	2022/03/14	12:00 AM	2022/03/22
Emissions below limit from BC (duration)		DD:HH:MM	00:21:10	DD:HH:MM	01:11:05	DD:HH:MM	00:04:15	DD:HH:MM

Unit No. 6	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	8:55 AM	2022/03/31						
Draught Group (DG) Shut Down (SD)	7:40 AM	2022/04/01						
BO to DG SD (duration)	00:22:45	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 March-2022 in mg/Nm³

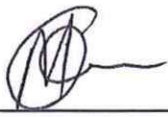
[Include reference to once off test showing typical emissions rates during fires in and SD]

Remember to add attachments here; see ReportAddendum Tab

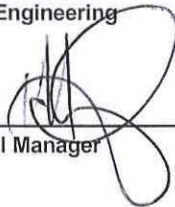
Reserved for Addendum XXXX

11 General

On Gases, QAL 2 averages used where data is not available or unreliable. NOx has no abatement technology therefore unit 4 gases incurred contravention. Unit 4 and Unit 6 correlation curves have expired. The station has experienced challenges that resulted in delays for correlation testing.


25-04-2022
Boiler Engineering Date


25.04.2022
Environmental Department Date


26/04/2022
General Manager Date

Compiled by: Boiler Engineering Department

ESP & SO₂ 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

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 March 2022

	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 March 2022

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/units)</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.
South Stack	02/03/2022	04/03/2022	High silo levels due to foreign material found on silos that resulted on high hopper levels. Failed K-pump and conveying lines blockages	Removed the foreign material, repaired K pump and cleared hopper levels	Yes				Final report submitted
South stack	19/03/2022	31/01/2022	Unit 2 running on low loads due to unavailability of EFP and BFPT. Unit 2 Precips and SO3 off during low loads and Unit 3 SO3 fluctuations.	EFP repaired and load increased, put precipitators and SO3 in service	Yes				Final report submitted
4	31/01/2022	02/01/2022	SWR pipe leaks, high silo,high hopper levels and damaged precipitators	Repaired SWR pipes and clear hopper levels	Yes				Final report submitted
4	07/01/2022	15/01/2022	Damaged precipitators and high hopper levels	Clear hopper levels	Yes				Final report submitted
5	19/03/2022	20/03/2022	SWR pipe leaks, high silo,high hopper levels and damaged precipitators	Repaired SWR pipes and clear hopper levels					Final report submitted
5	26/03/2022	30/03/2022	SWR pipe leaks, high silo,high hopper levels and damaged precipitators	Repaired SWR pipes and clear hopper levels	Yes				Final report submitted
6	25/03/2022	26/03/2022	SWR pipe leaks, high silo,high hopper levels and damaged precipitators	Repaired SWR pipes and clear hopper levels	Yes				Final report submitted