



Generation

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Date: 2022/07/20

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Total number of pages:
16

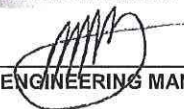
Total number of annexes:

MATLA POWER STATION

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



BOILER ENGINEERING MANAGER


ENVIRONMENTAL MANAGER


ENGINEERING MANAGER

21/07/2022
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 Jun-2022
	Coal	Tons	1 475 000	677 133
Fuel Oil	Tons	3 500	3 443	

Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Jun-2022
	Energy	GWh	2 484	1 095
Ash	Tons	471 000	195 285	
RE PM	kg/MWh	not specified	1,160	

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	28,84

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 Jun-2022
South	<i>Electro Static Precipators (ESP)</i>	<i>99,384%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,398%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>98,198%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,531%</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>91,2</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>
Unit 4	<i>83,9</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>
Unit 5	<i>67,4</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>
Unit 6	<i>98,6</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	118,9	1 643,4	394,1
Unit 2	303,0	3 154,2	756,4
Unit 3	141,7	1 853,2	444,4
Unit 4	112,8	1 326,5	462,6
Unit 5	388,2	1 890,4	813,2
Unit 6	206,0	2 465,5	1 168,8
SUM	1 270,6	12 333,2	4 039,5

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	16	9	5	0	14	223,7
Unit 4	8	4	0	0	4	278,1
Unit 5	6	6	2	0	8	487,1
Unit 6	15	5	7	0	12	172,8
SUM	45	24	14	0	38	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
South	30	0	0	0	0	2 408,9
Unit 4	15	0	0	0	0	2 178,2
Unit 5	14	0	0	0	0	2 420,9
Unit 6	28	0	0	0	0	1 963,1
SUM	87	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
South	30	0	0	0	0	577,7
Unit 4	15	0	0	0	0	824,7
Unit 5	14	0	0	0	0	1 040,1
Unit 6	28	0	0	0	0	930,7
SUM	87	0	0	0	0	

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 - June 2022

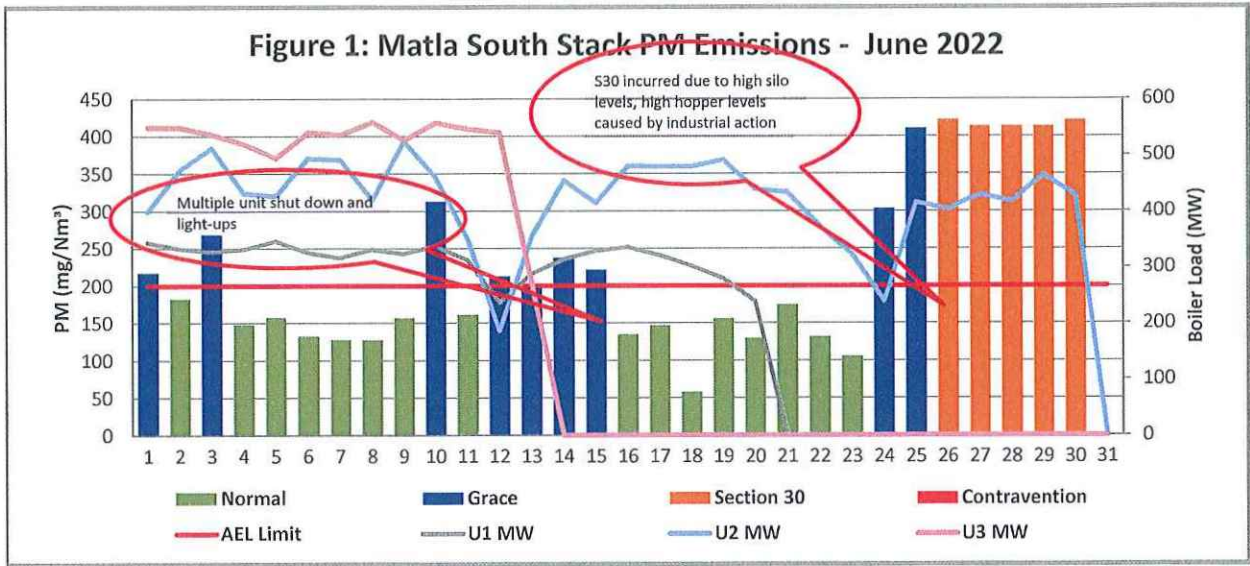


Figure 2: Matla Unit 4 PM Emissions - June 2022

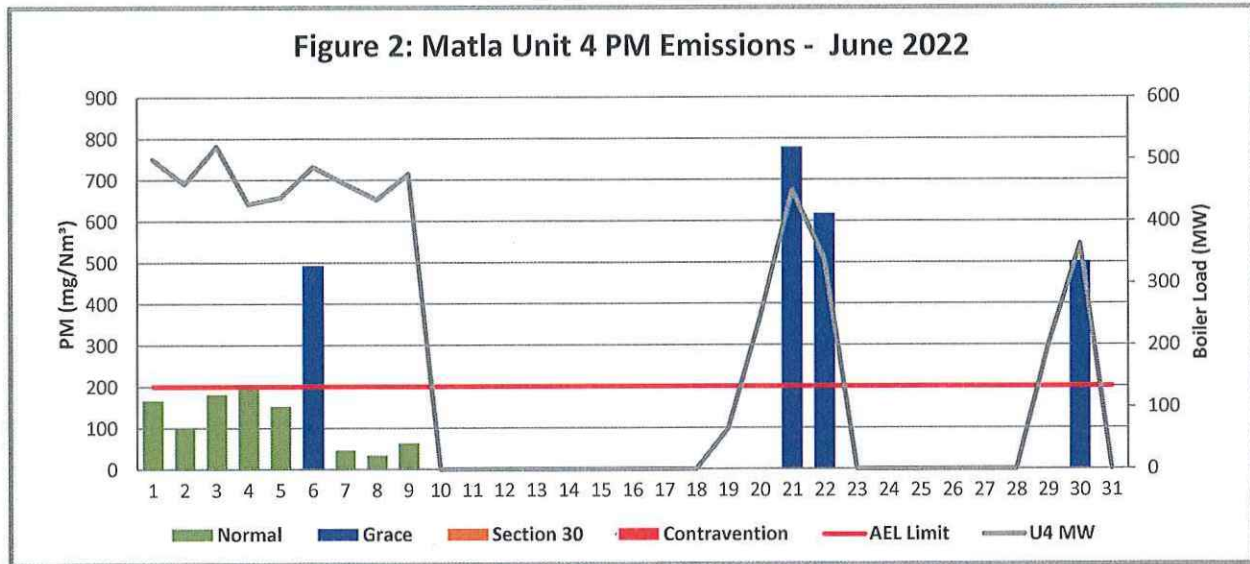


Figure 3: Matla Unit 5 PM Emissions - June 2022

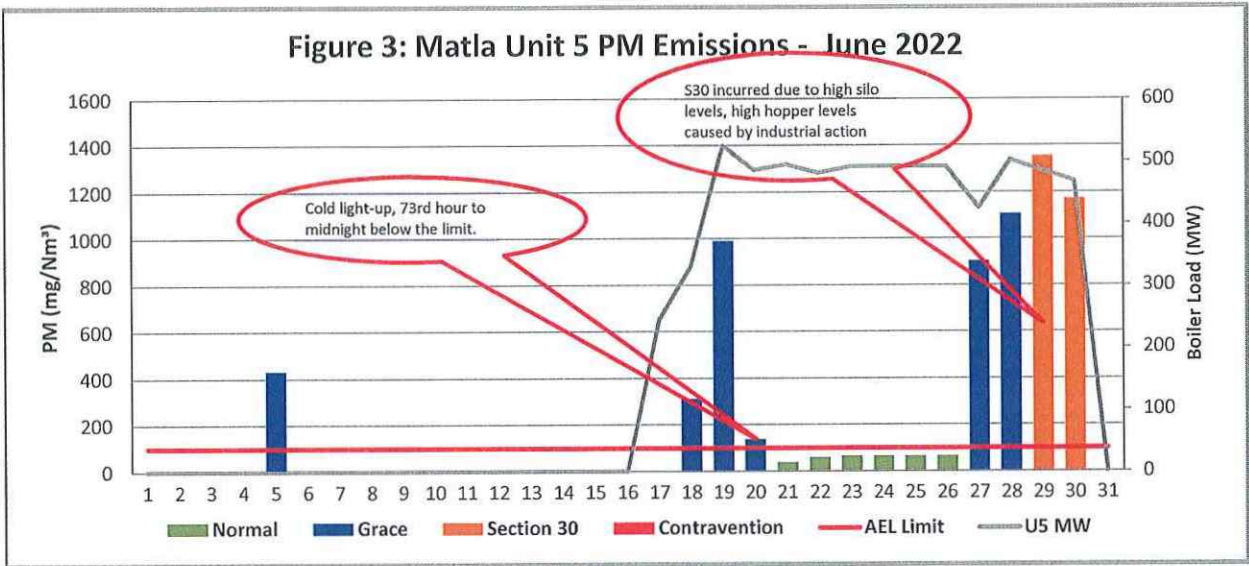


Figure 4: Matla Unit 6 PM Emissions - June 2022

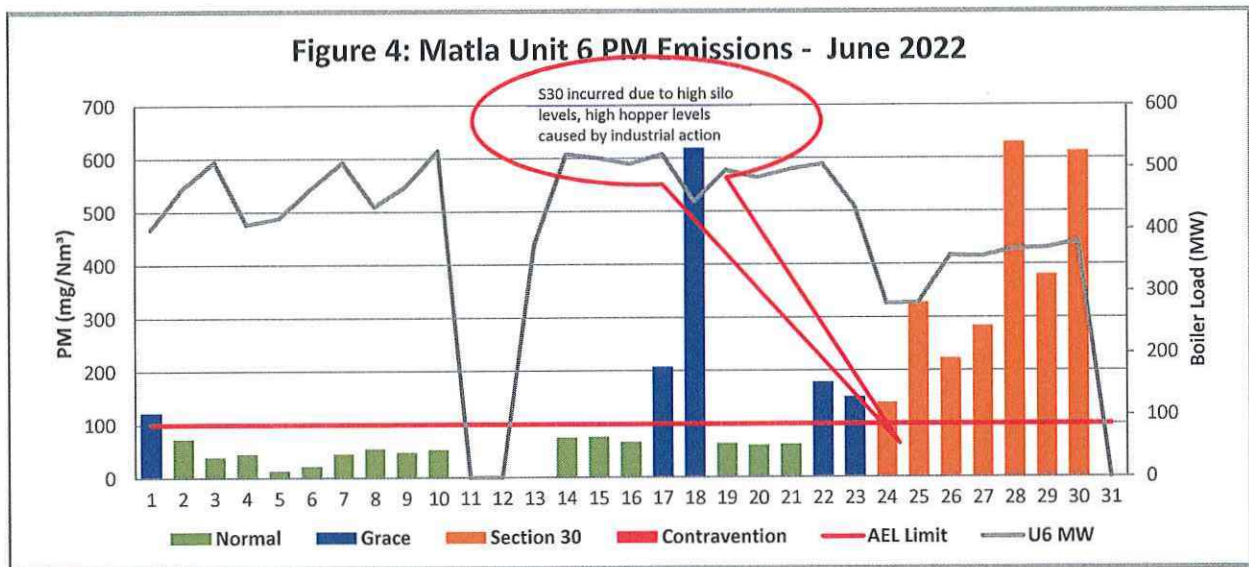


Figure 5: Matla South Stack SOx Emissions - June 22

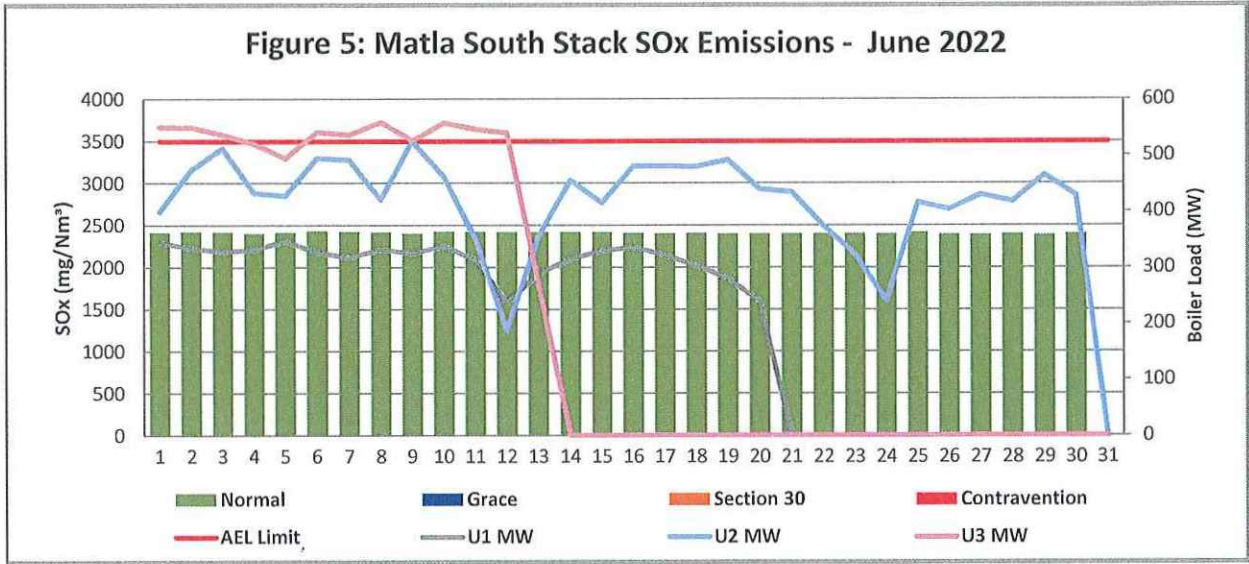


Figure 6: Matla Unit 4 SOx Emissions - June 2022

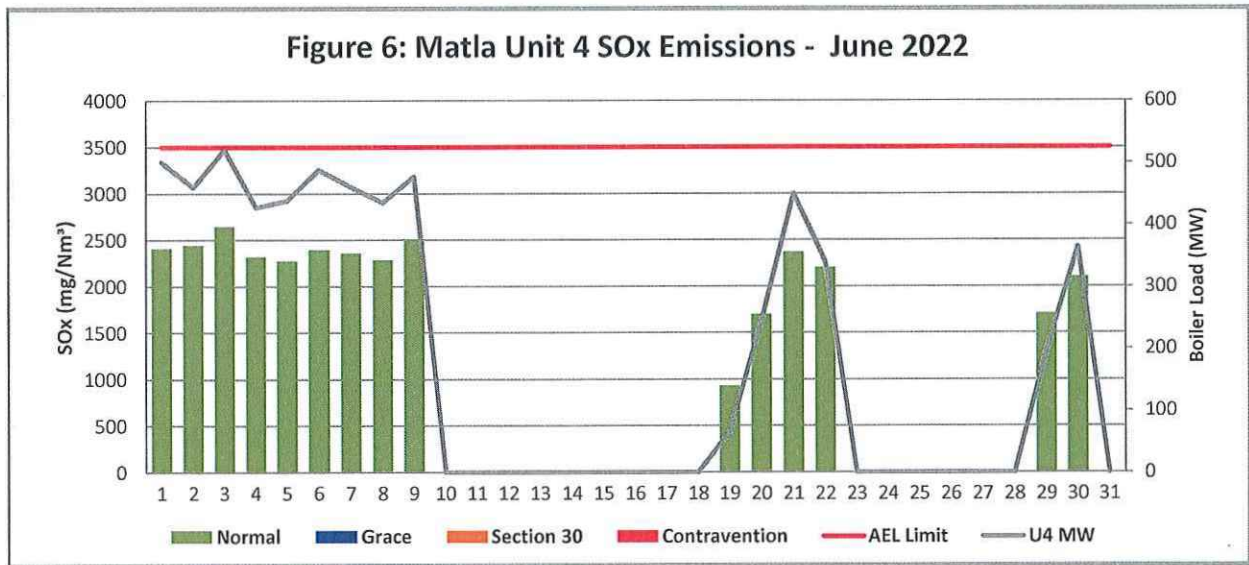


Figure 7: Matla Unit 5 SOx Emissions - June 2022

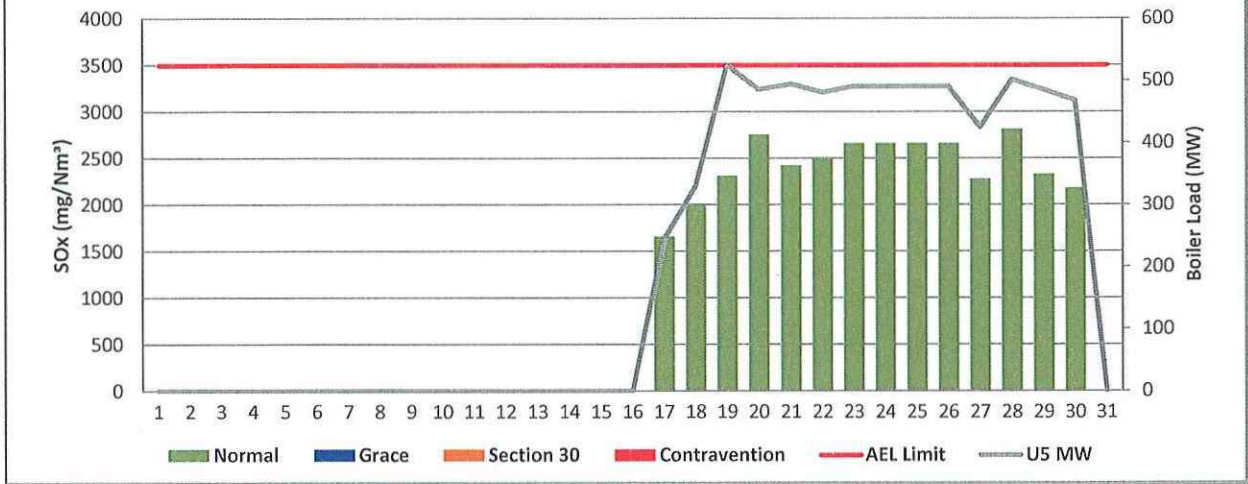


Figure 8: Matla Unit 6 SOx Emissions - June 2022

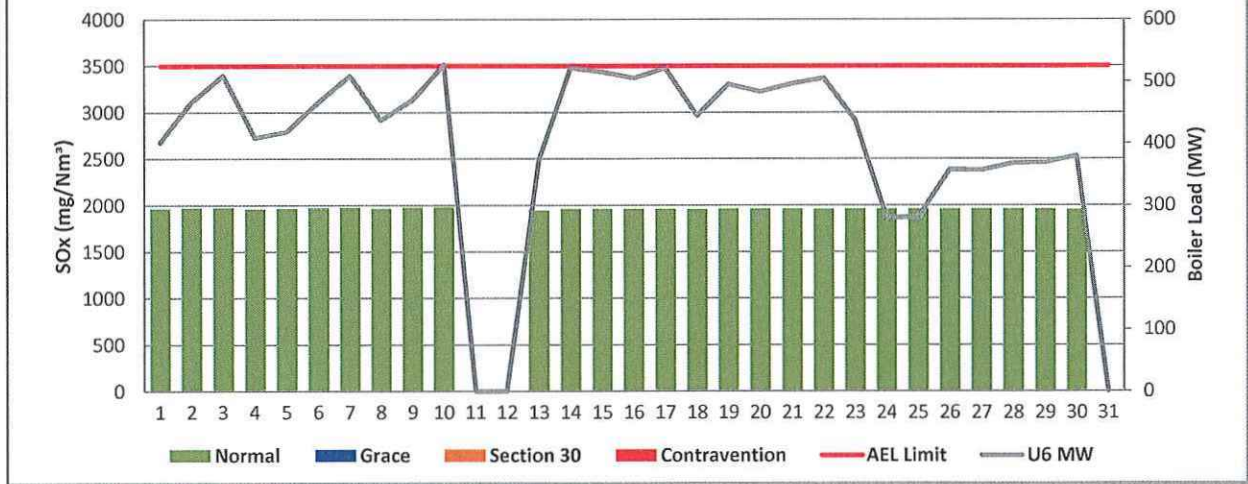


Figure 9: Matla South Stack NOx Emissions - June 2022

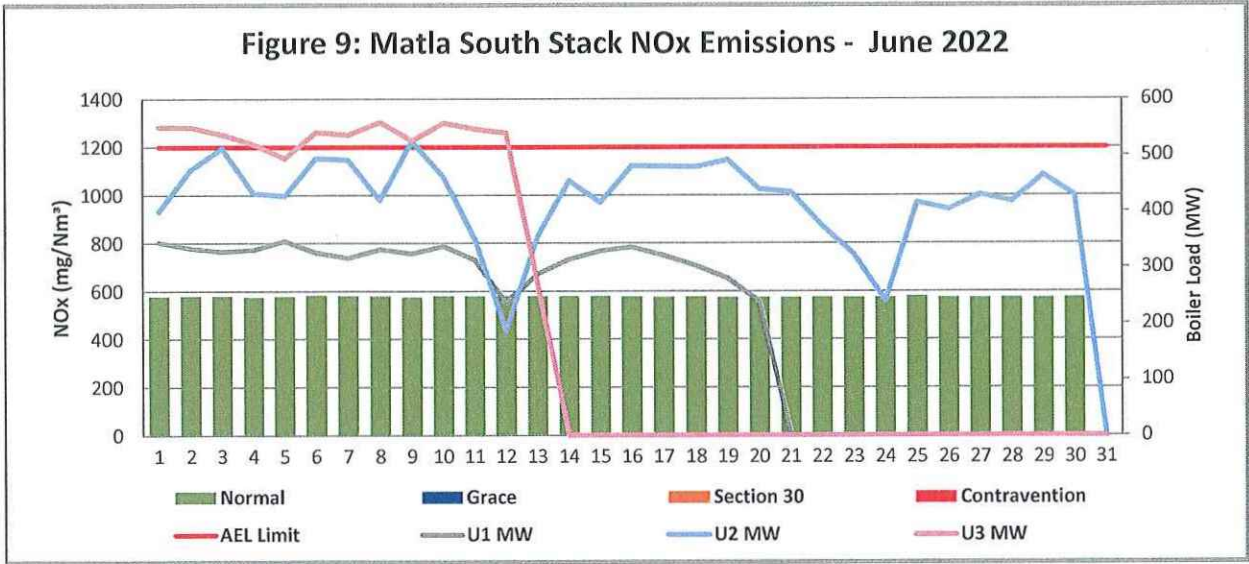


Figure 10: Matla Unit 4 NOx Emissions - June 2022

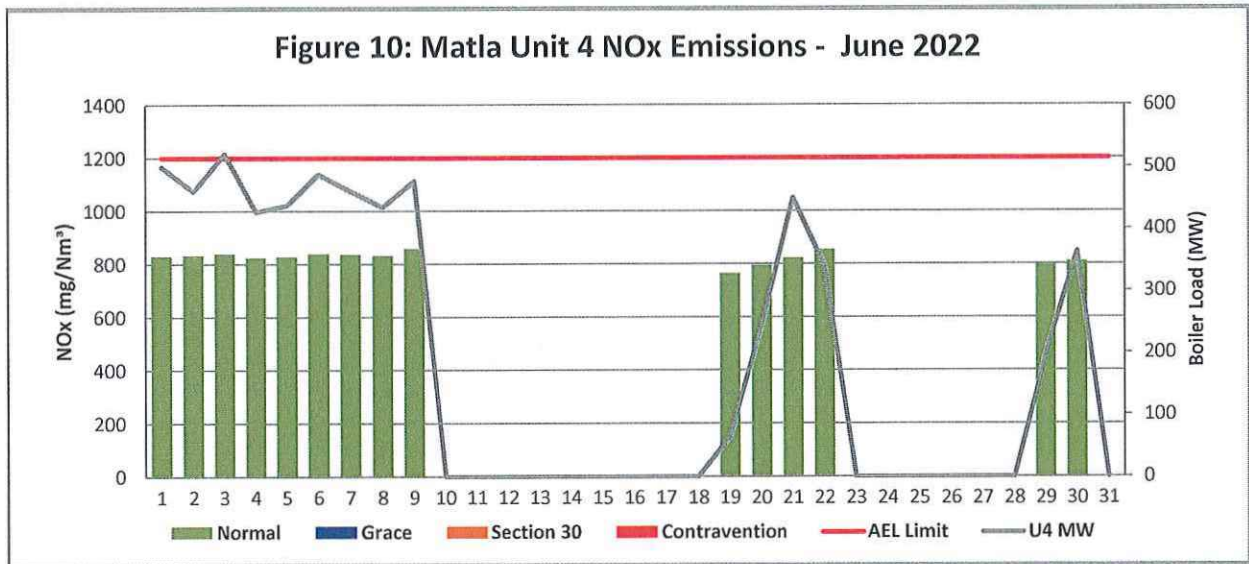


Figure 11: Matla Unit 5 NOx Emissions - June 2022

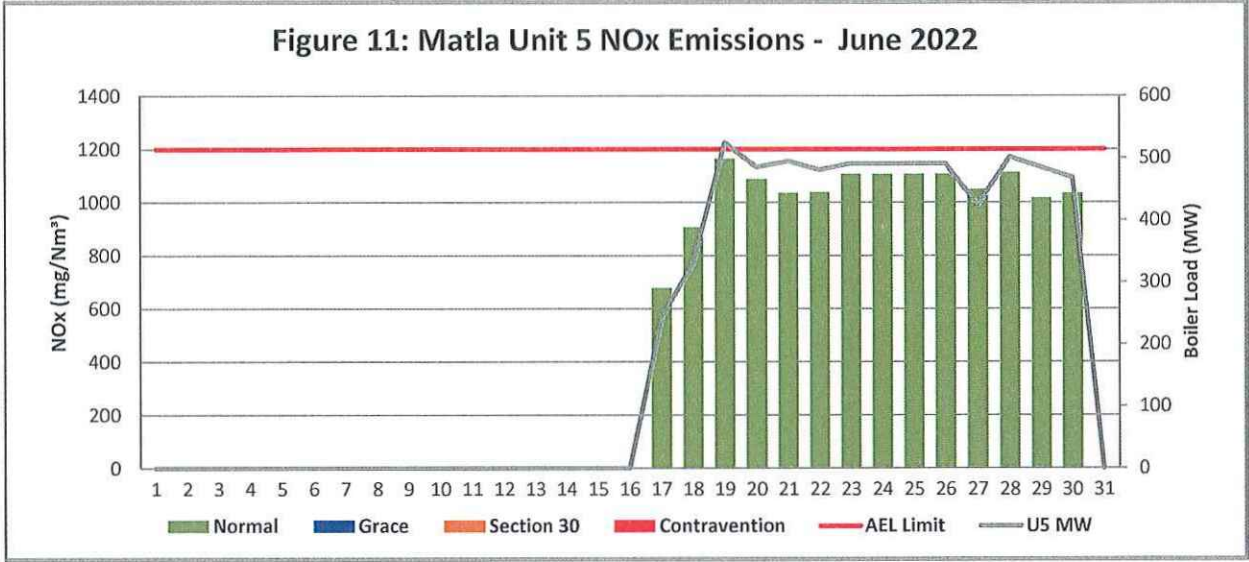
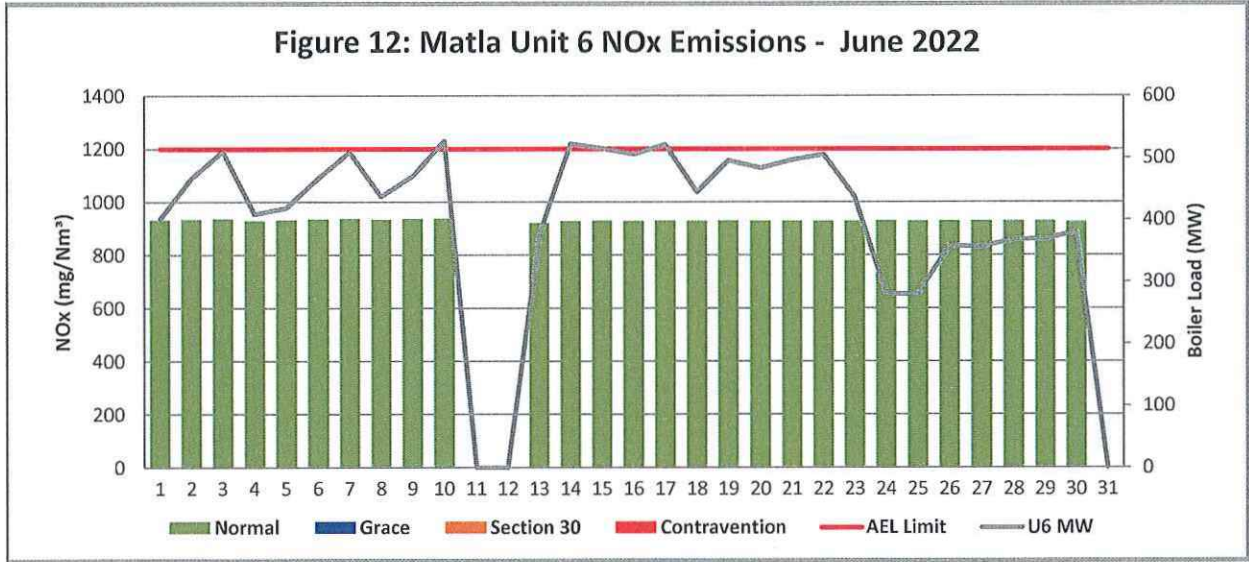


Figure 12: Matla Unit 6 NOx Emissions - June 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

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

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		no event		Unit 2		Unit 2	
Breaker Open (BO)	9:15 AM	2022/06/11	1:50 AM	2022/06/20	9:00 AM	2022/06/11	7:20 AM	2022/06/14
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	10:30 AM	2022/06/21	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	n/a	DD:HH:MM	01:08:40	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM
Fires in time	9:15 AM	2022/06/11			9:00 AM	2022/06/11	7:20 AM	2022/06/14
Synch. to Grid (or BC)	4:00 PM	2022/06/12			5:05 AM	2022/06/13	12:15 AM	2022/06/15
Fires in to BC (duration)	01:06:45	DD:HH:MM		DD:HH:MM	01:20:05	DD:HH:MM	00:16:55	DD:HH:MM
Emissions below limit from BC (end date)	12:00 AM	2022/06/16			12:00 AM	2022/06/16	12:00 AM	2022/06/16
Emissions below limit from BC (duration)	03:08:00	DD:HH:MM		DD:HH:MM	02:18:55	DD:HH:MM	00:23:45	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)	7:50 AM	2022/06/22	1:35 AM	2022/06/13	7:50 AM	2022/06/22		
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	12:50 PM	2022/06/13	DG did not trip or SD	DG did not trip or SD		
BO to DG SD (duration)	n/a	DD:HH:MM	00:11:15	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM
Fires in time	7:50 AM	2022/06/22	7:50 AM	2022/06/22				
Synch. to Grid (or BC)	5:20 PM	2022/06/22	5:20 PM	2022/06/22				
Fires in to BC (duration)	00:09:30	DD:HH:MM	00:09:30	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)	8:30 PM	2022/06/09	3:15 AM	2022/06/22				
Draught Group (DG) Shut Down (SD)	7:25 PM	2022/06/10	2:35 PM	2022/06/23				
BO to DG SD (duration)	00:22:55	DD:HH:MM	01:11:20	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	9:50 AM	2022/06/20	1:15 PM	2022/06/28				
Synch. to Grid (or BC)	3:25 PM	2022/06/20	2:10 PM	2022/06/29				
Fires in to BC (duration)	00:05:35	DD:HH:MM	01:00:55	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. 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	2:40 PM	2022/06/16						
Synch. to Grid (or BC)	12:10 PM	2022/06/17						
Fires in to BC (duration)	00:21:30	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)	11:10 PM	2022/06/10						
Draught Group (DG) Shut Down (SD)	11:10 PM	2022/06/10						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	11:10 PM	2022/06/10						
Synch. to Grid (or BC)	1:30 PM	2022/06/13						
Fires in to BC (duration)	02:14:20	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	12:00 AM	2022/06/19						
Emissions below limit from BC (duration)	05:10:30	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 June-2022 in mg/Nm³

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

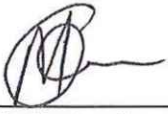
Remember to add attachments here; see ReportAddendum Tab

Reserved for Addendum XXXX

11 General

Unit PM monitor reliability less than 80% and this due high emissions experienced during industrial action. Gases are reported using parallel test averages.

South stack, unit 4 and unit 6 PM correlation curves expired and the station has placed an order to perform these correlation on south stack and unit 6. Unit 4 will be done after the precipitator upgrade.



20-07-2022

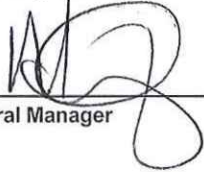
Boiler Engineering

Date



Environmental Department

Date



General Manager

26/07/2022
Date

Compiled by: Boiler Engineering Department

For: Department of Environmental Affairs and Tourism

Copies: Eskom Environmental Management

Group Technology Engineering

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ESP & SO₃ System Engineer

Chief Air Pollution Control Officer

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R Rampiar
E. Patel

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