



Generation

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AND

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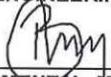
Total number of annexes:

MATLA POWER STATION

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



BOILER ENGINEERING MANAGER



ENVIRONMENTAL MANAGER



ENGINEERING MANAGER

17/05/2021

DATE

2021-05-17

DATE

2021-05-17

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	Maximum Permitted Consumption Rate	Consumption Rate Mar-2021
	Coal	Tons	1 475 000	882 830
	Fuel Oil	Tons	2 500	1 185
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Mar-2021
	Energy	GWh	2 567	1 573
	Ash	Tons	471 000	232 273
	RE PM	kg/MWh	not specified	0,413

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	26,31

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

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Mar-2021
South	<i>Electro Static Precipators (ESP)</i>	99,827%
Unit 4	<i>Electro Static Precipators (ESP)</i>	99,368%
Unit 5	<i>Electro Static Precipators (ESP)</i>	99,658%
Unit 6	<i>Electro Static Precipators (ESP)</i>	99,751%

Note: Abatement plant does not have bypass mode operation, hence plant 100% Utilised.

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
South	94,6	96,8	96,8	96,8
Unit 4	100,0	99,9	100,0	100,0
Unit 5	88,6	99,7	99,8	99,8
Unit 6	94,3	99,8	99,9	100,0

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of March-2021

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	35,8	1 932,0	463,3
Unit 2	81,1	4 175,6	1 091,3
Unit 3	28,3	1 061,6	331,5
Unit 4	259,4	3 681,6	1 307,3
Unit 5	133,0	2 429,5	1 181,6
Unit 6	112,7	2 850,5	1 226,7
SUM	650,2	16 130,7	5 601,7

Table 6.2: Operating days in compliance to PM AEL Limit - March 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm ³)
South	31	0	0	0	0	47,3
Unit 4	30	1	0	0	1	138,9
Unit 5	21	5	0	0	5	104,3
Unit 6	28	1	0	0	1	77,4
SUM	110	7	0	0	7	

Table 6.3: Operating days in compliance to SOx AEL Limit - March 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SOx (mg/Nm ³)
South	30	0	0	0	0	2 487,7
Unit 4	31	0	0	0	0	1 973,9
Unit 5	28	0	0	0	0	1 580,2
Unit 6	31	0	0	0	0	1 929,4
SUM	120	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - March 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm ³)
South	31	0	0	0	0	633,3
Unit 4	31	0	0	0	0	700,9
Unit 5	28	0	0	0	0	753,0
Unit 6	31	0	0	0	0	830,7
SUM	121	0	0	0	0	

Table 6.5: Legend Description

Condition	Colour	Description
Normal	Green	Emissions below Emission Limit Value (ELV)
Grace	Blue	Emissions above the ELV during grace period
Section 30	Orange	Emissions above ELV during a NEMA S30 incident
Contra-vention	Red	Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Matla South Stack PM Emissions - March 2021

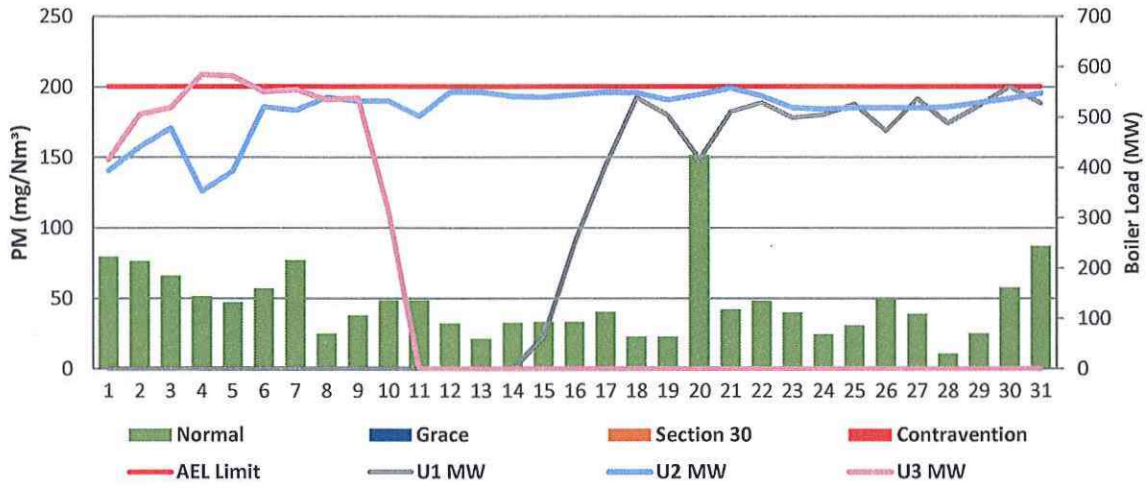


Figure 2: Matla Unit 4 PM Emissions - March 2021

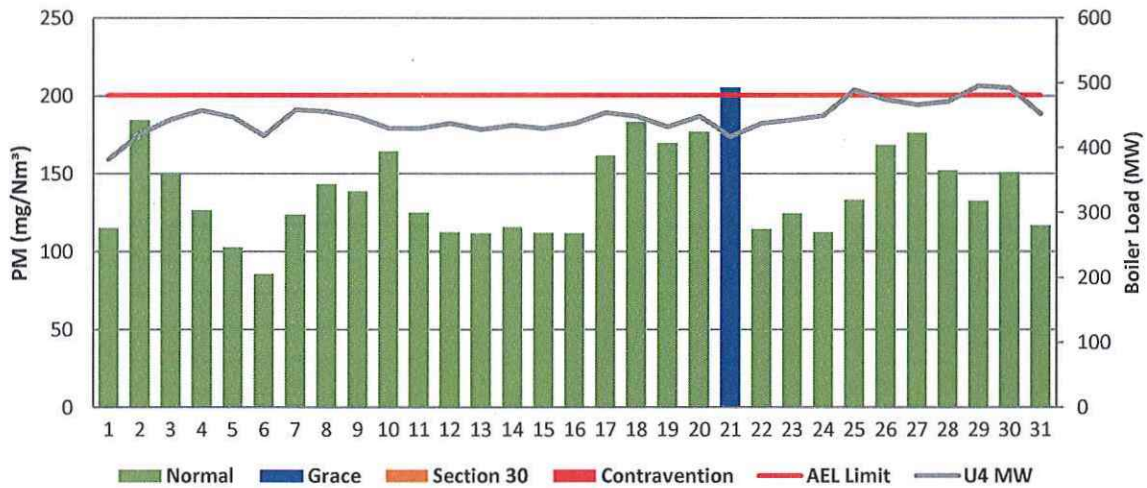


Figure 3: Matla Unit 5 PM Emissions - March 2021

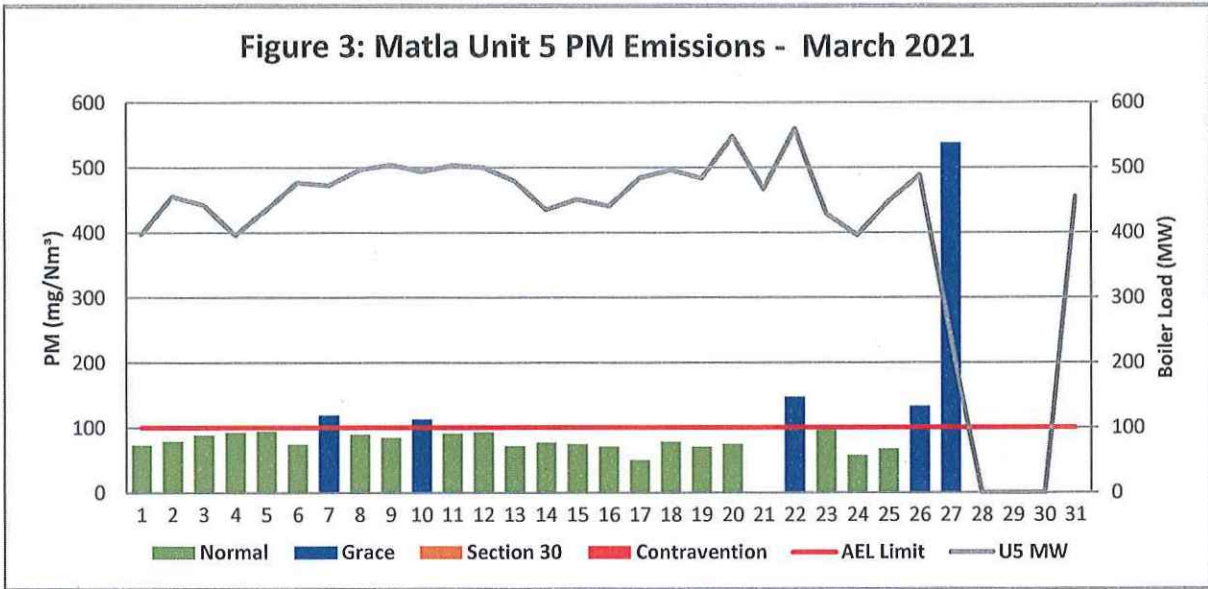


Figure 4: Matla Unit 6 PM Emissions - March 2021

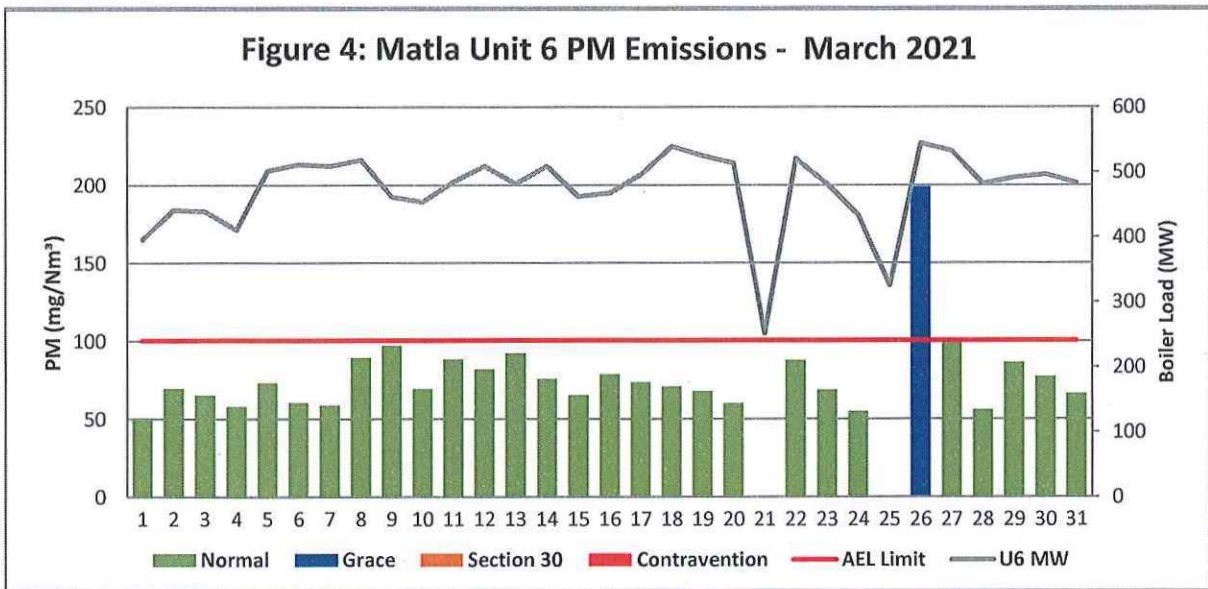


Figure 5: Matla South Stack SOx Emissions - March 2021

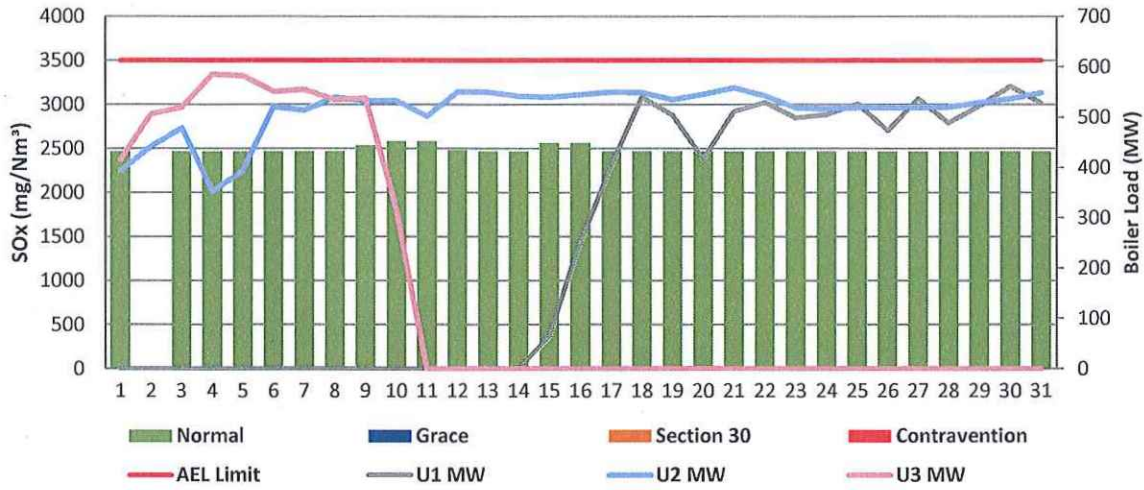


Figure 6: Matla Unit 4 SOx Emissions - March 2021

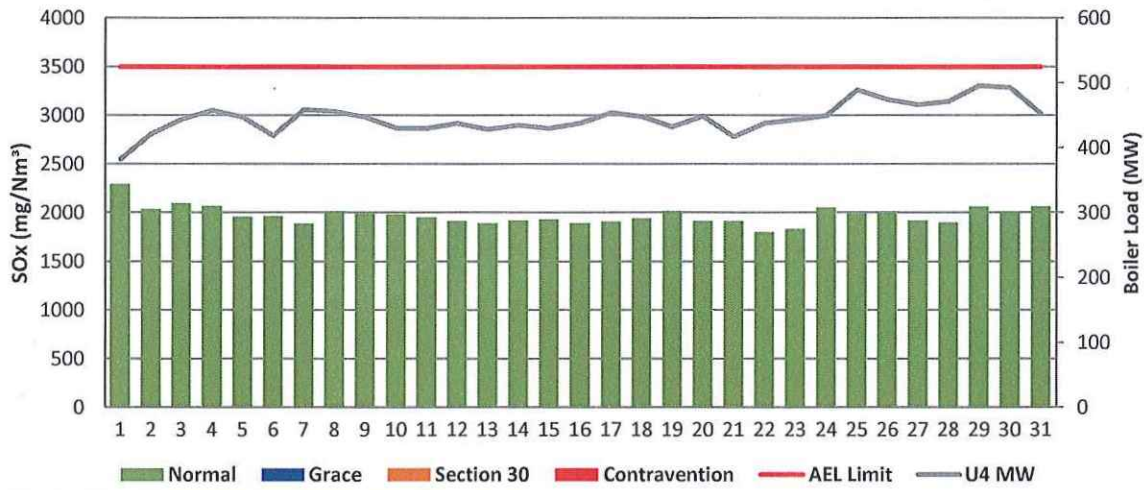


Figure 7: Matla Unit 5 SOx Emissions - March 2021

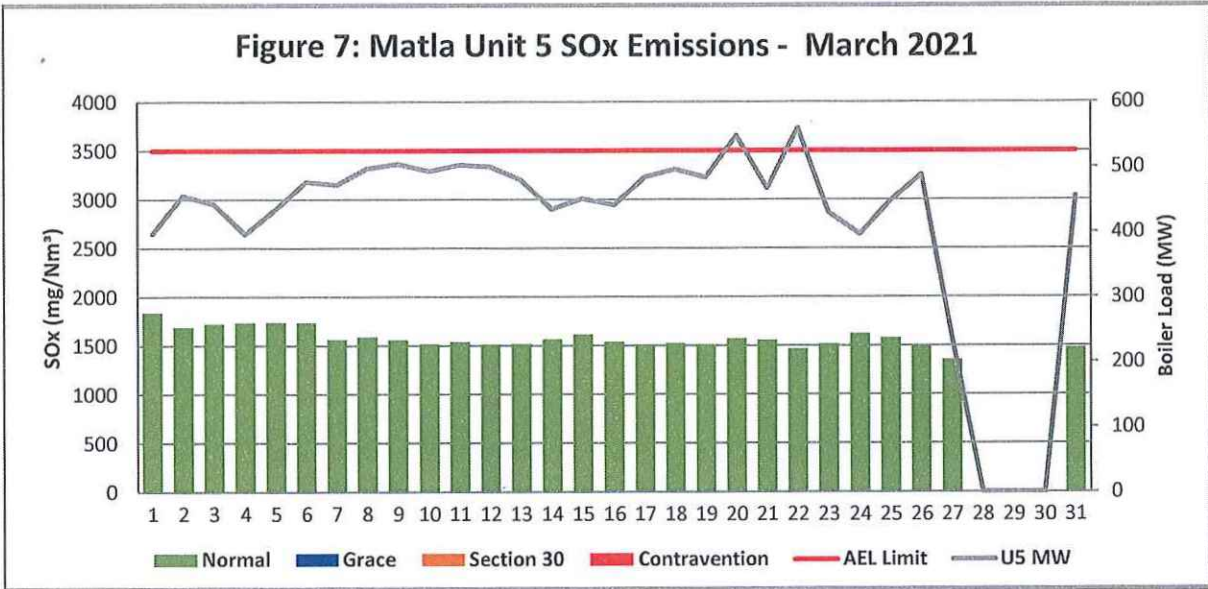


Figure 8: Matla Unit 6 SOx Emissions - March 2021

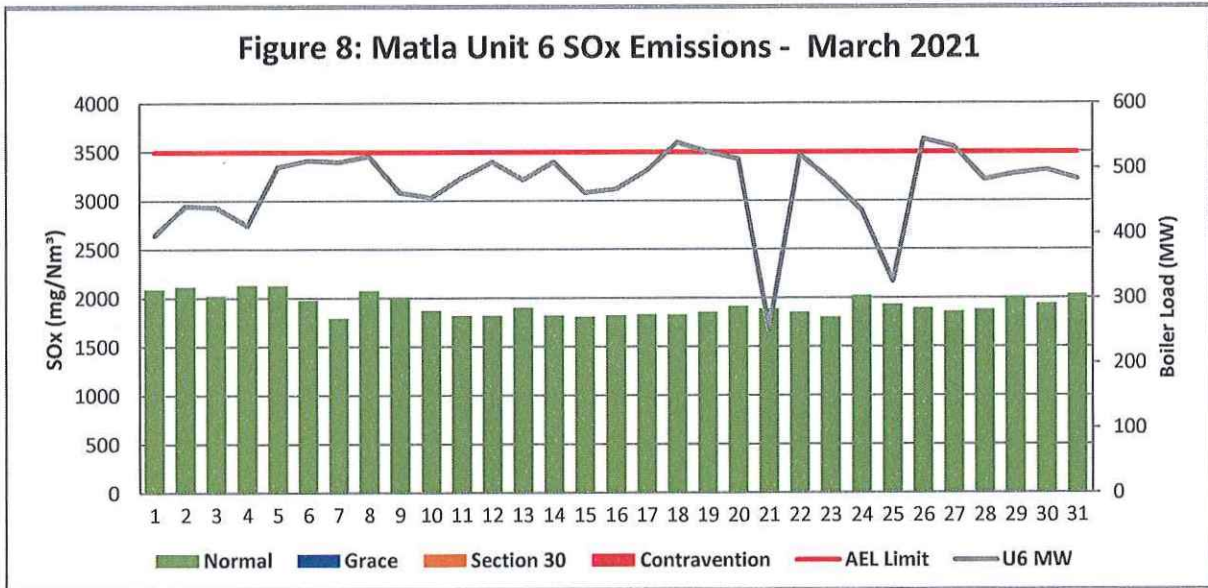


Figure 9: Matla South Stack NOx Emissions - March 2021

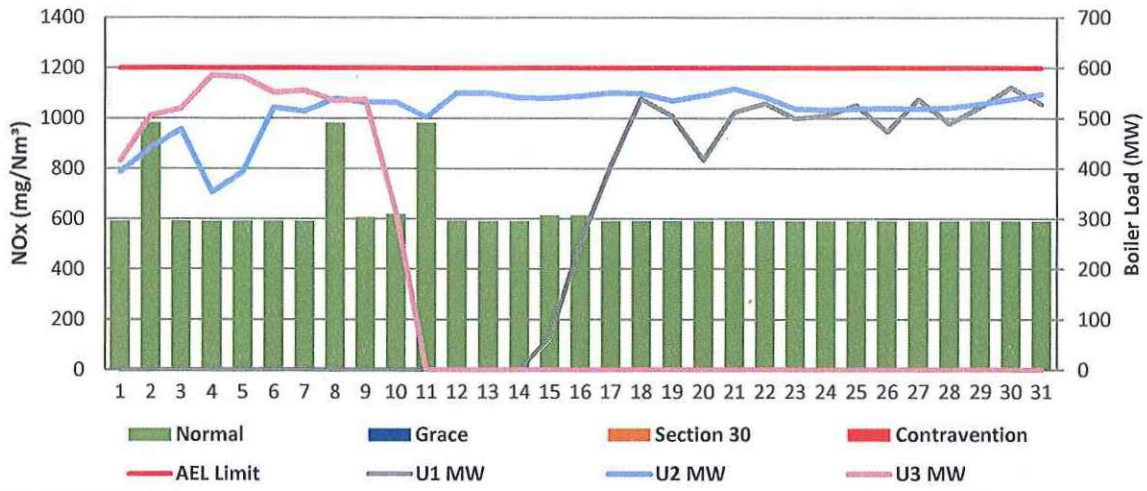


Figure 10: Matla Unit 4 NOx Emissions - March 2021

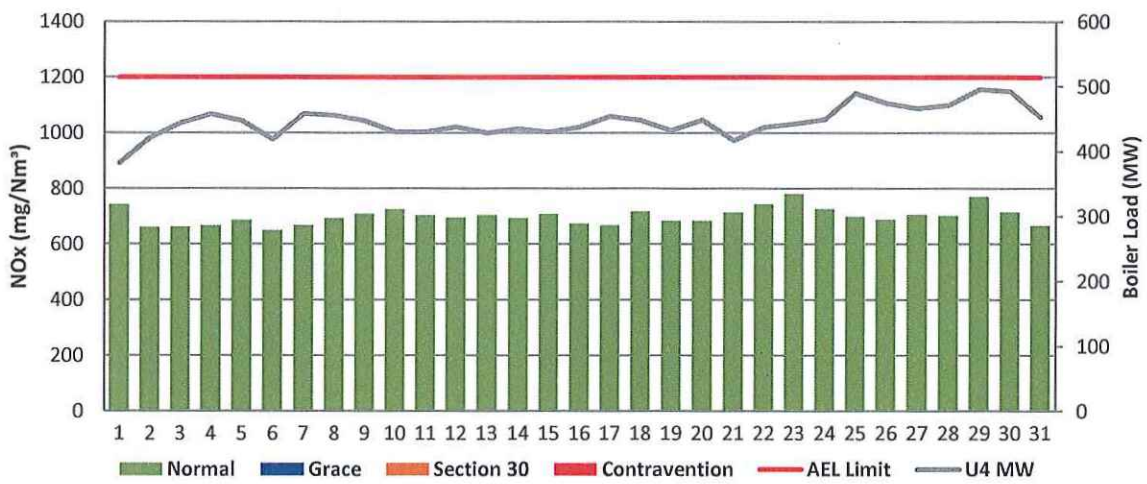


Figure 11: Matla Unit 5 NOx Emissions - March 2021

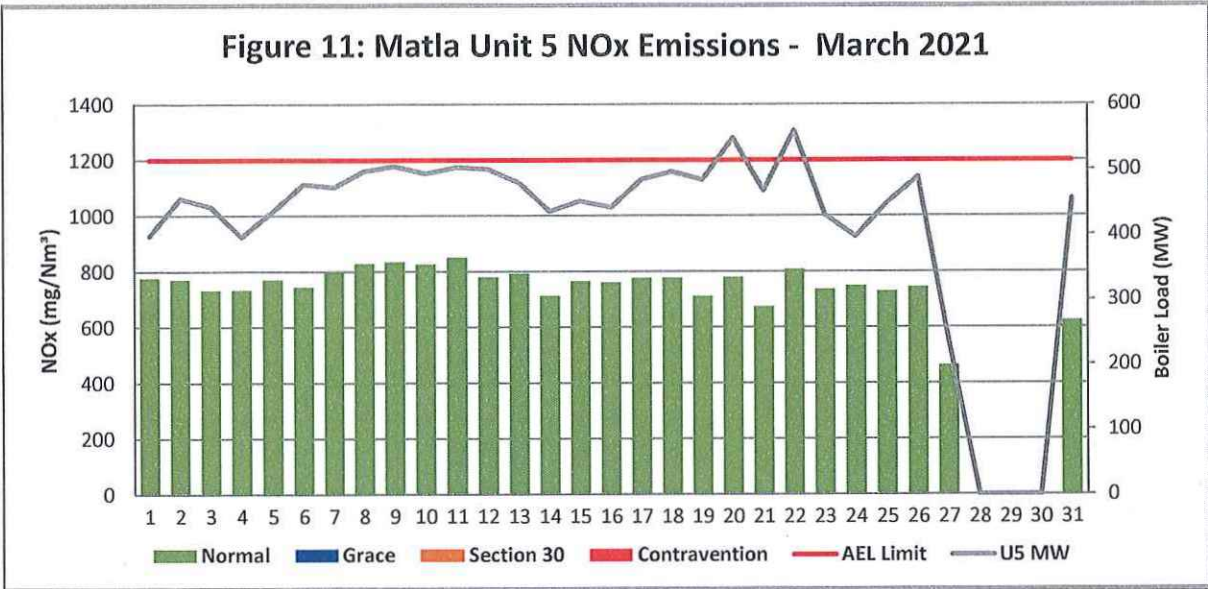
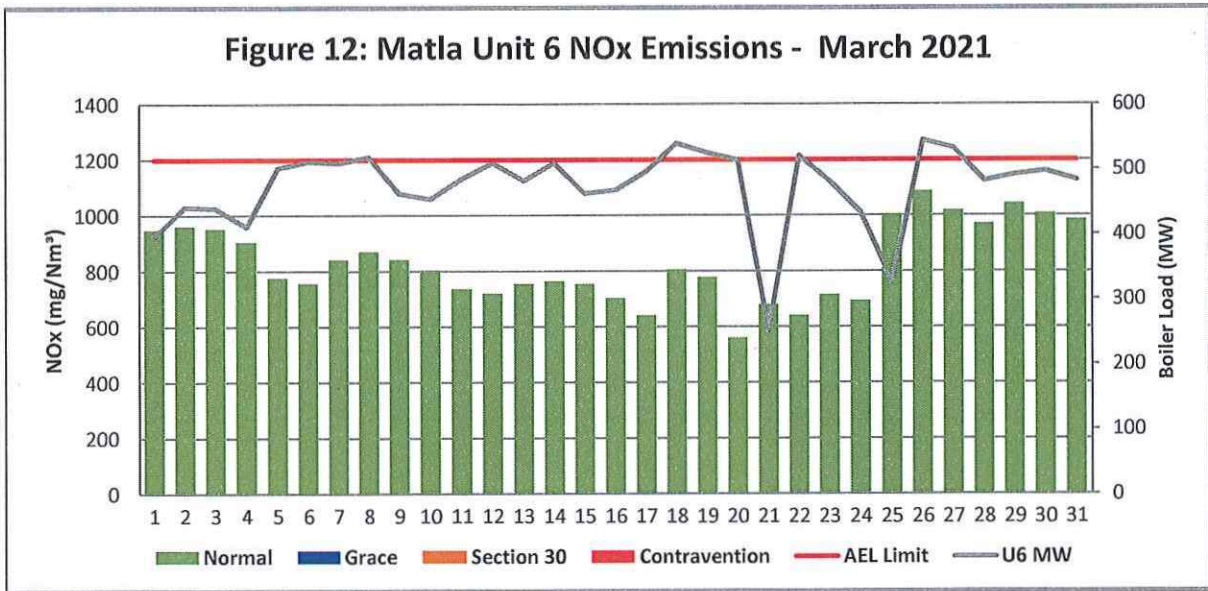


Figure 12: Matla Unit 6 NOx Emissions - March 2021



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of March-2021

South Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 3</i>		<i>Unit 2</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>10:00 AM</i>	<i>2021/03/09</i>	<i>BO previously</i>	<i>BO previously</i>				
Draught Group (DG) Shut Down (SD)	<i>2:50 AM</i>	<i>2021/03/12</i>	<i>n/a</i>	<i>n/a</i>				
BO to DG SD (duration)	<i>02:16:50</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time			<i>3:40 AM</i>	<i>2021/03/15</i>				
Synch. to Grid (or BC)			<i>7:45 PM</i>	<i>2021/03/15</i>				
Fires in to BC (duration)		DD:HH:MM	<i>00:16:05</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)			<i>12:00 AM</i>	<i>2021/03/17</i>				
Emissions below limit from BC (duration)		DD:HH:MM	<i>01:04:15</i>	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)								
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)	7:00 PM	2021/03/20	12:50 AM	2021/03/27				
Draught Group (DG) Shut Down (SD)	7:00 PM	2021/03/20	12:50 AM	2021/03/27				
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	5:25 AM	2021/03/21						
Synch. to Grid (or BC)	8:45 AM	2021/03/21						
Fires in to BC (duration)	00:03:20	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	11:00 PM	2021/03/23						
Emissions below limit from BC (duration)	02:14:15	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)	12:55 PM	2021/03/20	12:30 PM	2021/03/24	12:00 AM	2021/04/01		
Draught Group (DG) Shut Down (SD)	12:55 PM	2021/03/20	12:30 PM	2021/03/24	12:00 AM	2021/04/01		
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	12:55 PM	2021/03/20	11:50 AM	2021/03/25				
Synch. to Grid (or BC)	12:25 AM	2021/03/21	2:10 PM	2021/03/25				
Fires in to BC (duration)	00:11:30	DD:HH:MM	00:02:20	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	8:00 AM	2021/03/22	11:00 PM	2021/03/27				
Emissions below limit from BC (duration)	01:07:35	DD:HH:MM	02:08:50	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-2021 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

South Stack gases defective and QAL 2 averages used for reporting. Reliability of these South Stack gases are below 80% for the month of March 2021.

Unit 5 dust monitor maxed out on the 27-03-2021. This was during unit shut down and force cooling of the boiler plant.


Boiler Engineering
05-05-2021
Date


General Manager
17/05/2021
Date


Environmental Department
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

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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