

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 Oct-2020
	Coal	Tons	1 475 000	809 007
	Fuel Oil	Tons	2 500	414

Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Oct-2020
	Energy	GWh	2 567	1 427
	Ash	Tons	471 000	225 632
	RE PM	kg/MWh	not specified	0,580

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	27,89

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 Oct-2020
South	<i>Electro Static Precipators (ESP)</i>	<i>99,502%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,730%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>Unit off</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,722%</i>

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

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	PM	SO ₂	NO		O ₂
South	<i>92,9</i>	<i>98,4</i>	<i>98,4</i>		<i>100,0</i>
Unit 4	<i>95,1</i>	<i>99,9</i>	<i>99,9</i>		<i>99,7</i>
Unit 5	<i>0,0</i>	<i>0,0</i>	<i>0,0</i>		<i>0,0</i>
Unit 6	<i>98,2</i>	<i>46,5</i>	<i>46,5</i>		<i>46,5</i>

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of October-2020

Associated Unit/Stack	PM	SO _x	NO _x	
Unit 1	144,0	1 774,6	683,0	
Unit 2	193,7	1 860,5	694,5	
Unit 3	265,9	2 325,2	905,8	
Unit 4	118,8	3 542,4	1 292,2	
Unit 5	0,0	0,0	0,0	
Unit 6	105,4	2 637,9	1 164,9	
SUM	827,8	12 140,5	4 740,4	

Table 6.2: Operating days in compliance to PM AEL Limit - October 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm ³)
South	26	3	2	0	5	163,4
Unit 4	28	0	0	0	0	70,1
Unit 5	0	0	0	0	0	
Unit 6	22	4	1	0	5	79,3
SUM	76	7	3	0	10	

Table 6.3: Operating days in compliance to SOx AEL Limit - October 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SOx (mg/Nm ³)
South	31	0	0	0	0	1 439,5
Unit 4	29	0	0	0	0	2 094,5
Unit 5	0	0	0	0	0	
Unit 6	27	0	0	0	0	1 989,6
SUM	87	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - October 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm ³)
South	31	0	0	0	0	563,2
Unit 4	29	0	0	0	0	758,0
Unit 5	0	0	0	0	0	
Unit 6	27	0	0	0	0	876,2
SUM	87	0	0	0	0	

Table 6.5: Legend Description

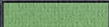



Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contra-vention		Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Matla South Stack PM Emissions - October 2020

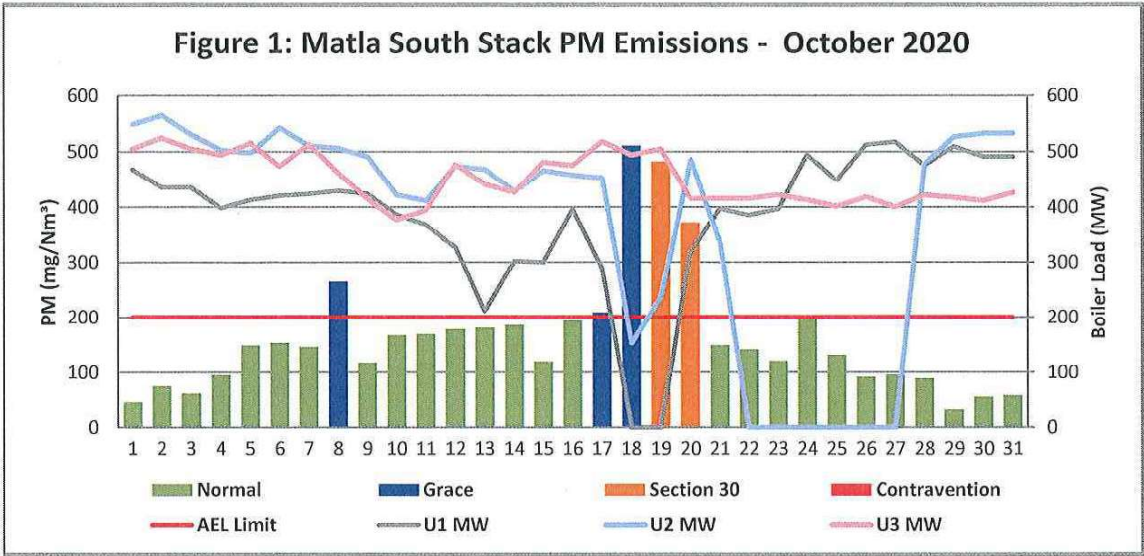


Figure 2: Matla Unit 4 PM Emissions - October 2020

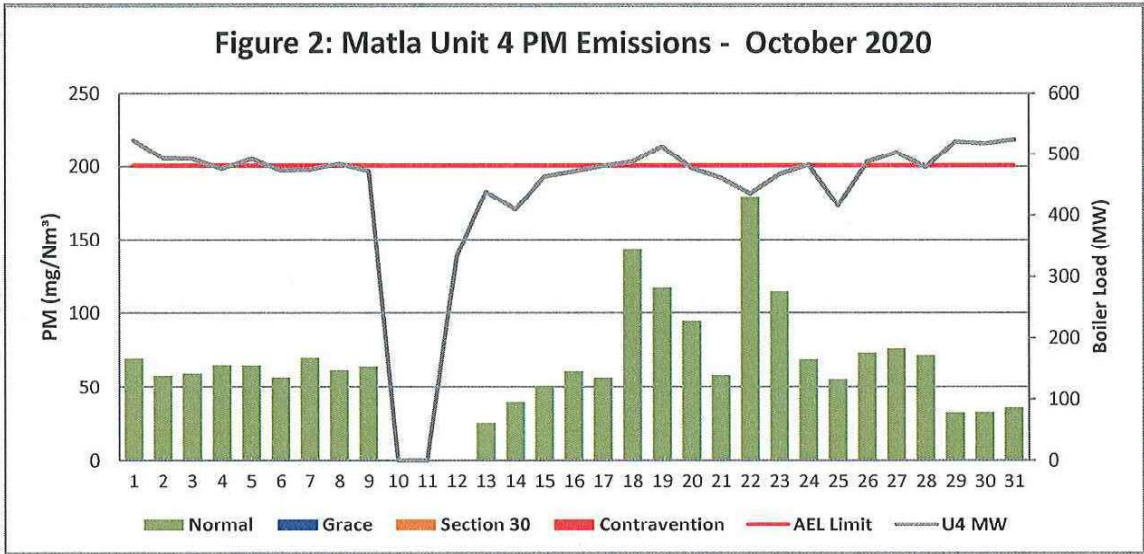


Figure 3: Matla Unit 5 PM Emissions - October 2020

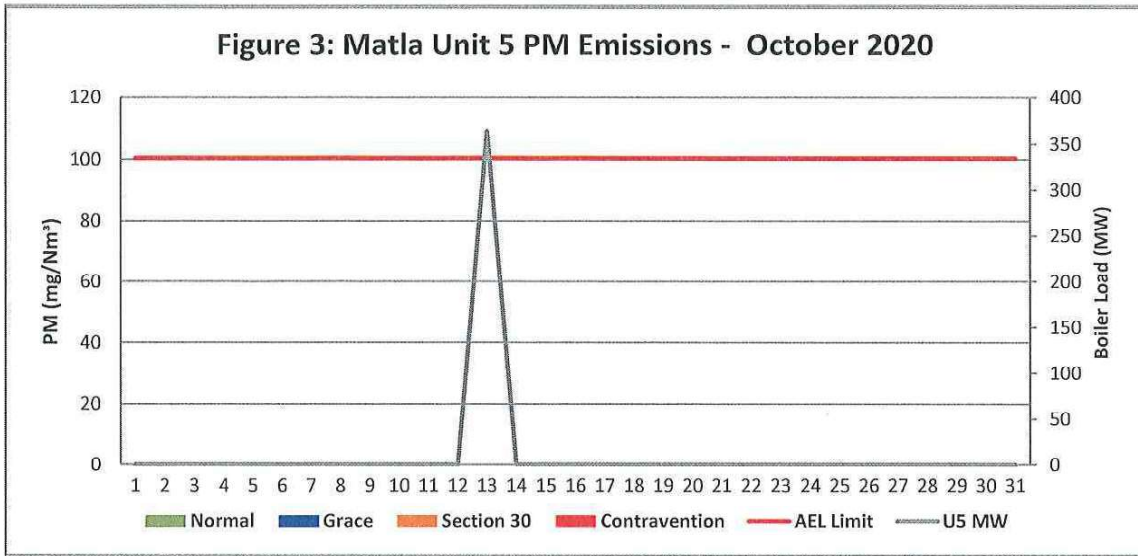


Figure 4: Matla Unit 6 PM Emissions - October 2020

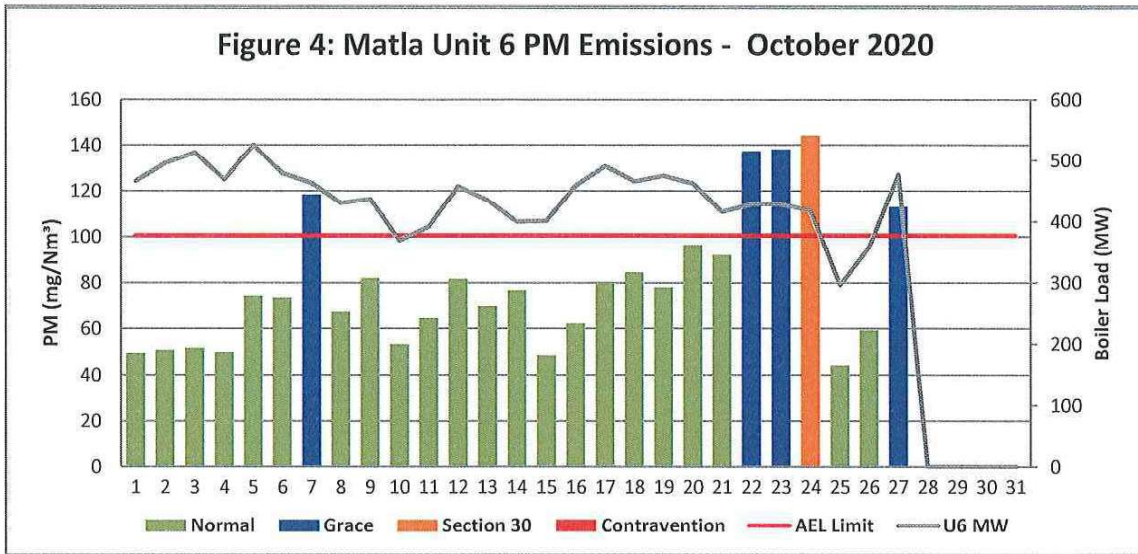


Figure 5: Matla South Stack SOx Emissions - October 2020

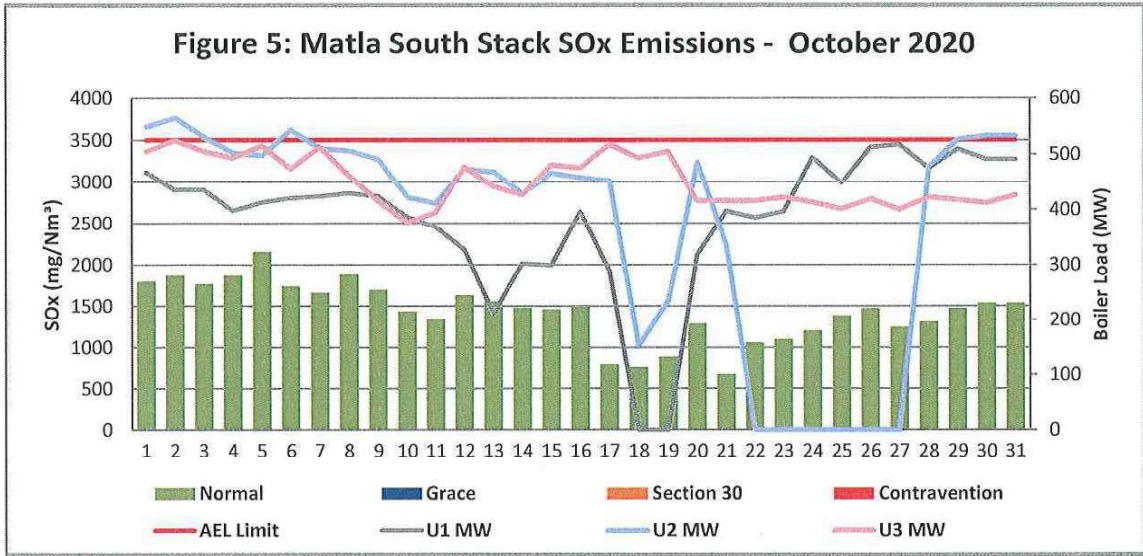


Figure 6: Matla Unit 4 SOx Emissions - October 2020

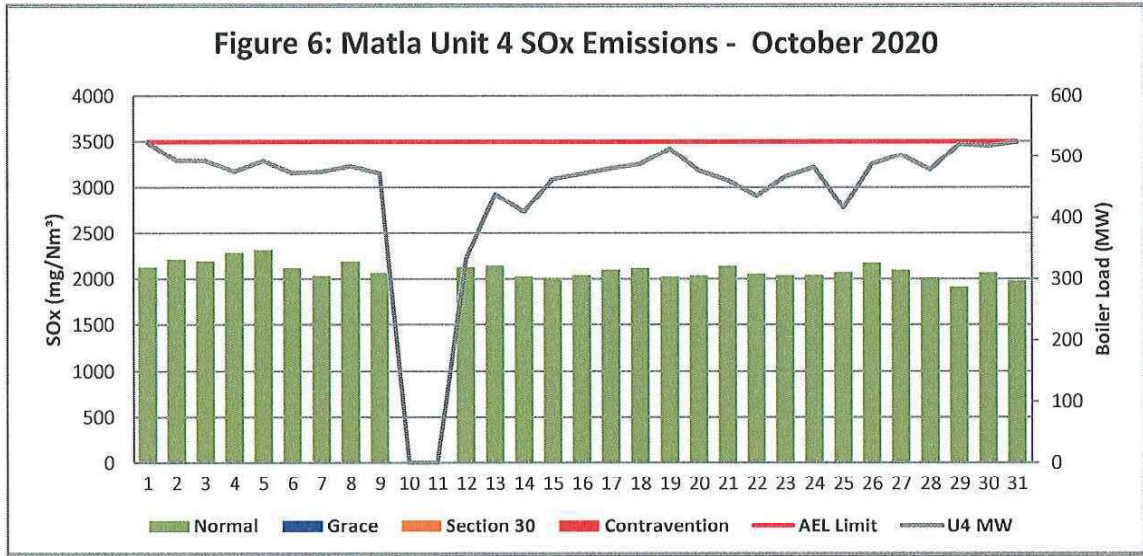


Figure 7: Matla Unit 5 SOx Emissions - October 2020

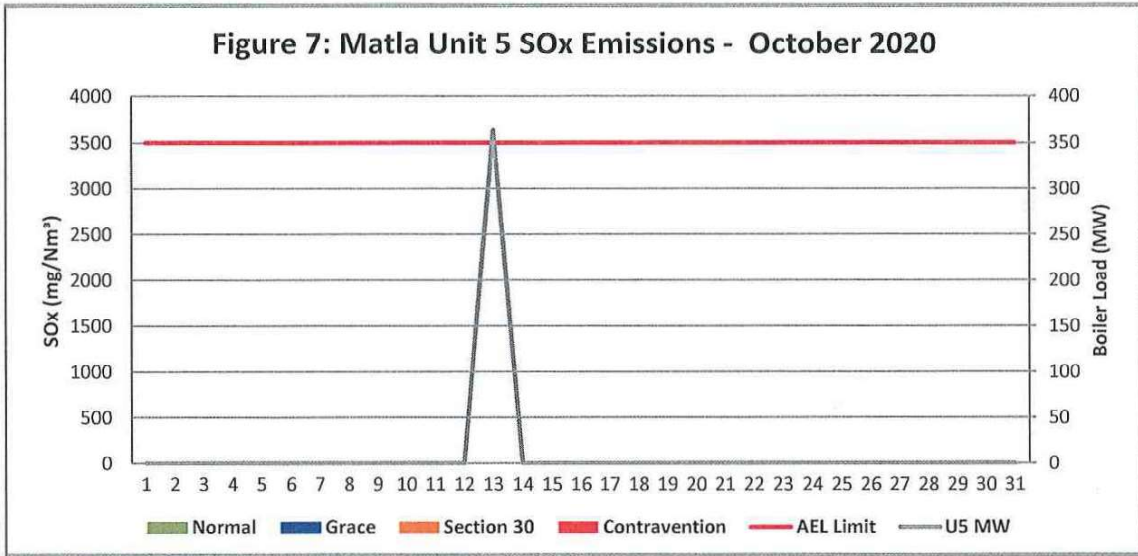


Figure 8: Matla Unit 6 SOx Emissions - October 2020

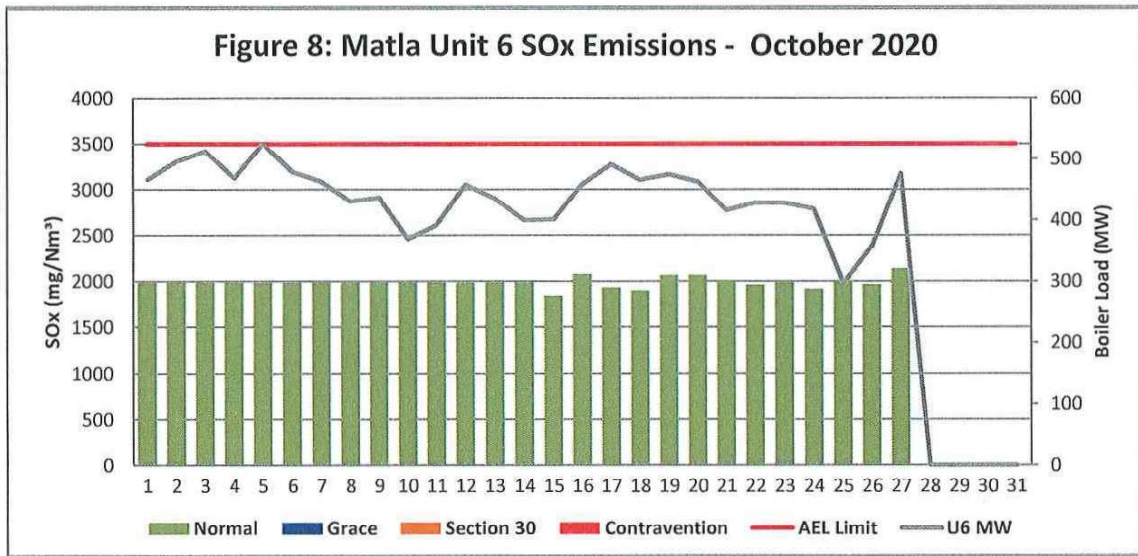


Figure 9: Matla South Stack NOx Emissions - October 2020

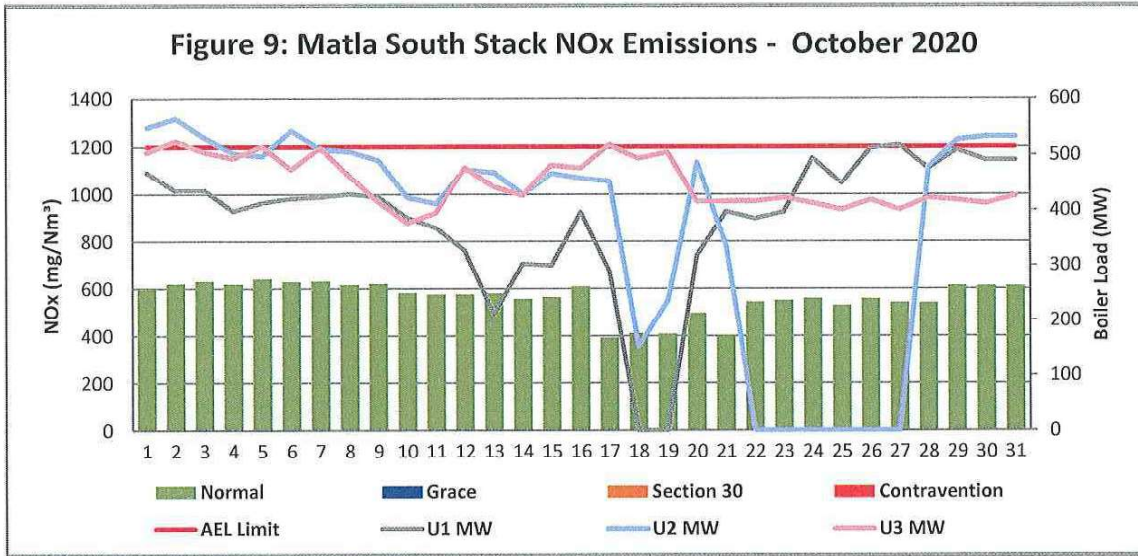


Figure 10: Matla Unit 4 NOx Emissions - October 2020

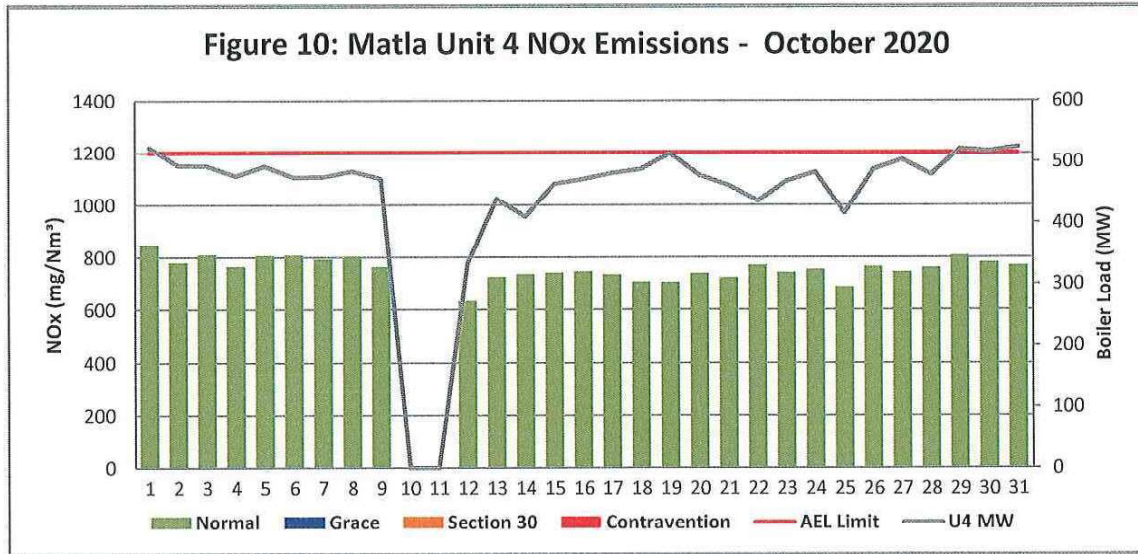


Figure 11: Matla Unit 5 NOx Emissions - October 2020

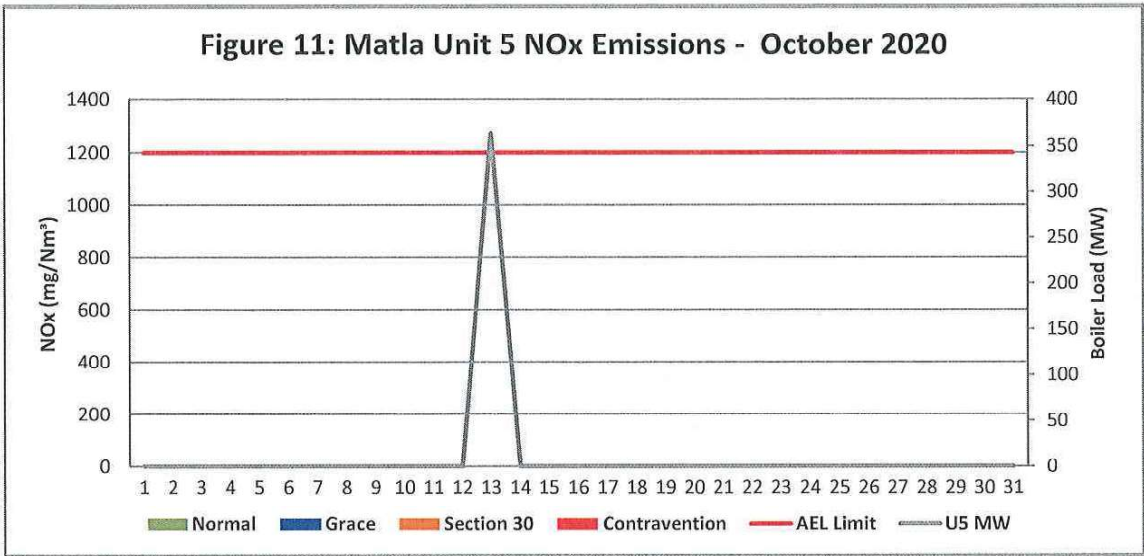
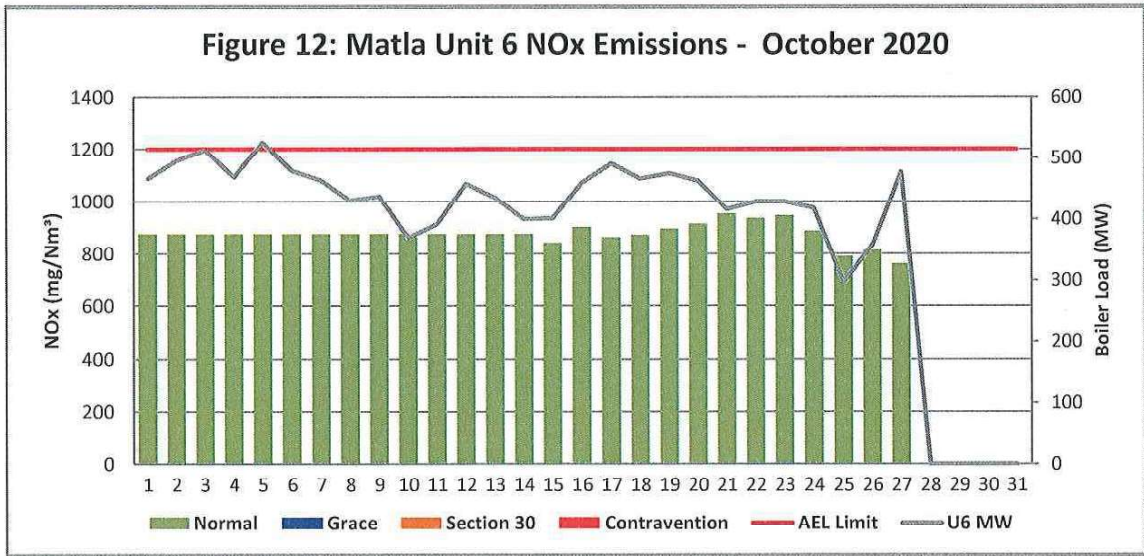


Figure 12: Matla Unit 6 NOx Emissions - October 2020



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of October-2020

South Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>Unit 1</i>		<i>Unit 2</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)	<i>9:50 PM</i>	<i>2020/10/12</i>	<i>BO previously</i>	<i>BO previously</i>				
Draught Group (DG) Shut Down (SD)	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>	<i>n/a</i>	<i>n/a</i>				
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	<i>9:50 PM</i>	<i>2020/10/12</i>	<i>6:15 PM</i>	<i>2020/10/27</i>				
Synch. to Grid (or BC)	<i>8:50 AM</i>	<i>2020/10/13</i>	<i>12:20 AM</i>	<i>2020/10/28</i>				
Fires in to BC (duration)	<i>00:11:00</i>	DD:HH:MM	<i>00:06:05</i>	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>	<i>12:00 PM</i>	<i>2020/10/21</i>				
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM	<i>#####</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)	10:25 PM	2020/10/09						
Draught Group (DG) Shut Down (SD)	10:25 PM	2020/10/09						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	8:15 PM	2020/10/11						
Synch. to Grid (or BC)	4:35 AM	2020/10/12						
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)								
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)	3:55 PM	2020/10/27						
Draught Group (DG) Shut Down (SD)	3:55 PM	2020/10/27						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	3:20 AM	2020/11/01						
Synch. to Grid (or BC)	11:20 PM	2020/11/01						
Fires in to BC (duration)	00:20:00	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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of October-2020 in mg/Nm³

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

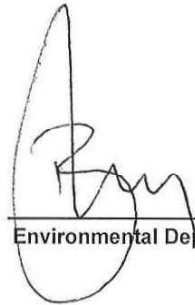
Remember to add attachments here; see ReportAddendum Tab


Reserved for Addendum XXXX

11 General

South Stack gases defective and QAUL 2 averages used for reporting. Unit 6 gases defective up to the 15-10-2020 and this caused reliability to be less than 80%.


Boiler Engineering 29/01/2021
Date


Environmental Department 2021-01-19
Date


General Manager 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

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

