



Generation

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Date: 2020/02/24

1050

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MATLA POWER STATION

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

BOILER ENGINEERING MANAGER

DATE

ENVIRONMENTAL MANAGER

DATE

ENGINEERING MANAGER

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 Oct-2019
	Coal	Tons	1 475 000	1 139 540
Fuel Oil	Tons	2 500	937	

Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Oct-2019
	Energy	GWh	2 567	2 047
	Ash	Tons	471 000	290 925
	RE PM	kg/MWh	not specified	0.679

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	
Sulphur Content	%	0.8-1.1	1.00
Ash Content	%	21-40	25.53

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-2019
South	<i>Electro Static Precipators (ESP)</i>	<i>99.496%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99.026%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99.485%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99.795%</i>

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

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	PM	SO ₂	NO	CO ₂	O ₂
South	<i>92.2</i>	<i>96.7</i>	<i>96.7</i>		<i>94.4</i>
Unit 4	<i>78.7</i>	<i>99.9</i>	<i>99.9</i>		<i>99.9</i>
Unit 5	<i>64.5</i>	<i>100.0</i>	<i>100.0</i>		<i>100.0</i>
Unit 6	<i>97.0</i>	<i>100.0</i>	<i>100.0</i>		<i>98.8</i>

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of October-2019

Associated Unit/Stack	PM	SO _x	NO _x	CO ₂
Unit 1	226.1	3 892.4	1 788.9	
Unit 2	220.5	3 807.5	1 748.0	
Unit 3	233.8	4 113.6	1 904.8	
Unit 4	401.7	2 464.8	1 759.5	
Unit 5	219.4	3 234.8	1 405.8	
Unit 6	88.2	3 090.1	1 157.2	
SUM	1 389.6	20 603.2	9 764.3	

Table 6.2: Operating days in compliance to PM AEL Limit - October 2019

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm ³)
South	23	4	4	0	8	134.0
Unit 4	14	2	13	0	15	235.2
Unit 5	17	7	7	0	14	128.4
Unit 6	27	2	1	0	3	46.4
SUM	81	15	25	0	40	

Table 6.3: Operating days in compliance to SOx AEL Limit - October 2019

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SOx (mg/Nm ³)
South	31	0	0	0	0	2 318.1
Unit 4	31	0	0	0	0	1 467.8
Unit 5	31	0	0	0	0	1 871.8
Unit 6	31	0	0	0	0	1 730.6
SUM	124	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - October 2019

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm ³)
South	29	2	0	0	2	1 062.6
Unit 4	31	0	0	0	0	1 047.8
Unit 5	31	0	0	0	0	797.5
Unit 6	31	0	0	0	0	643.0
SUM	122	2	0	0	2	

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 2019

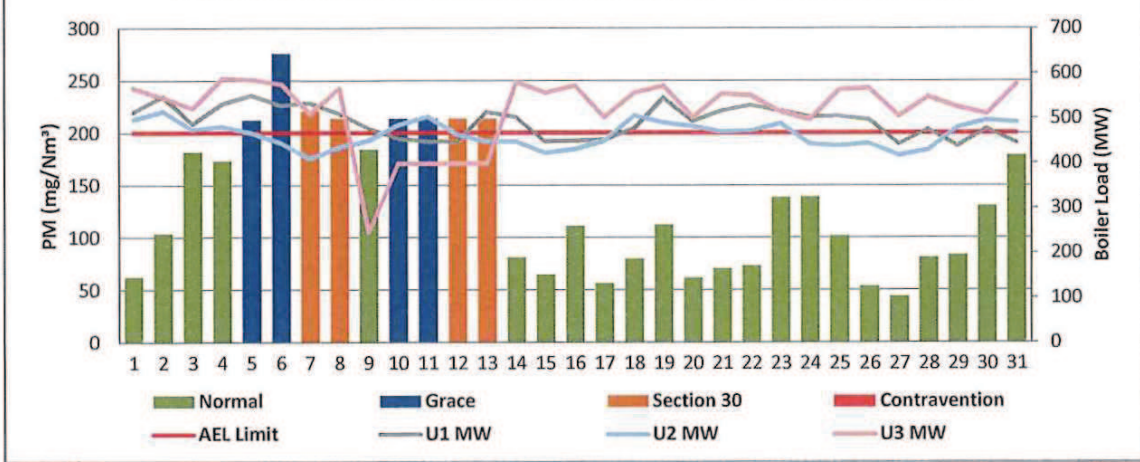


Figure 2: Matla Unit 4 PM Emissions - October 2019

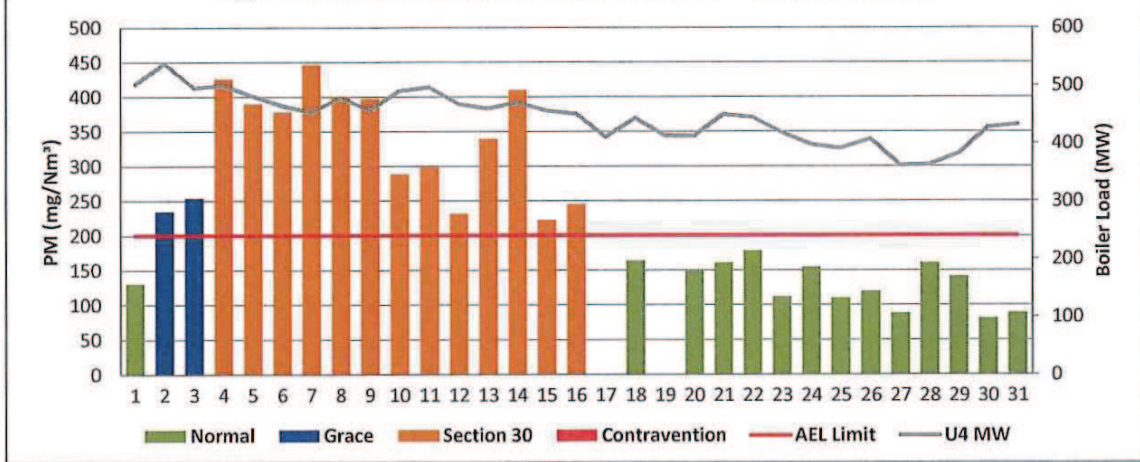


Figure 3: Matla Unit 5 PM Emissions - October 2019

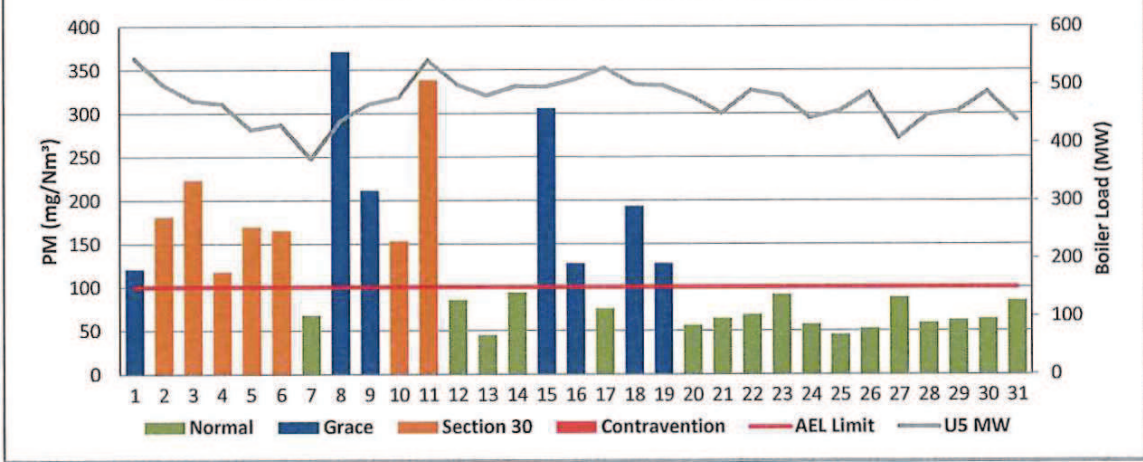


Figure 4: Matla Unit 6 PM Emissions - October 2019

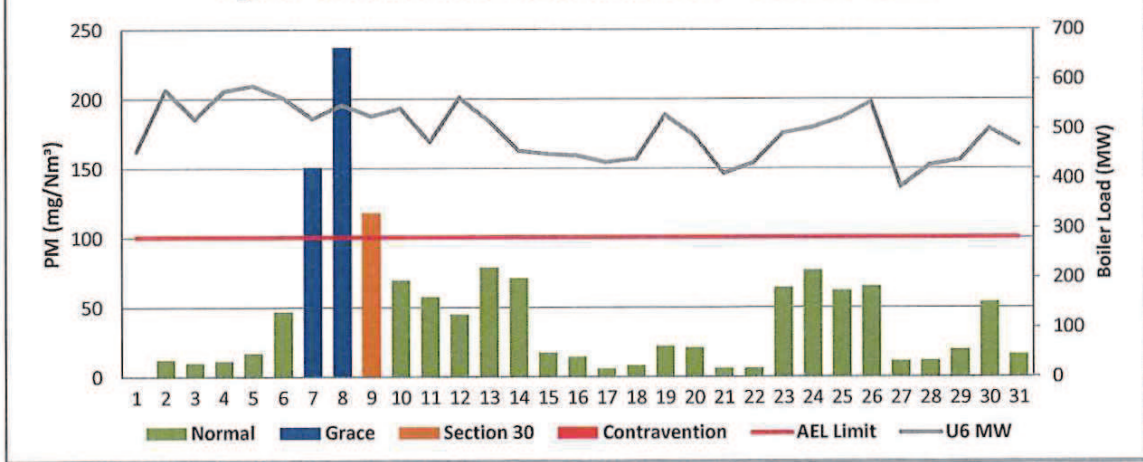


Figure 5: Matla South Stack SOx Emissions - October 2019

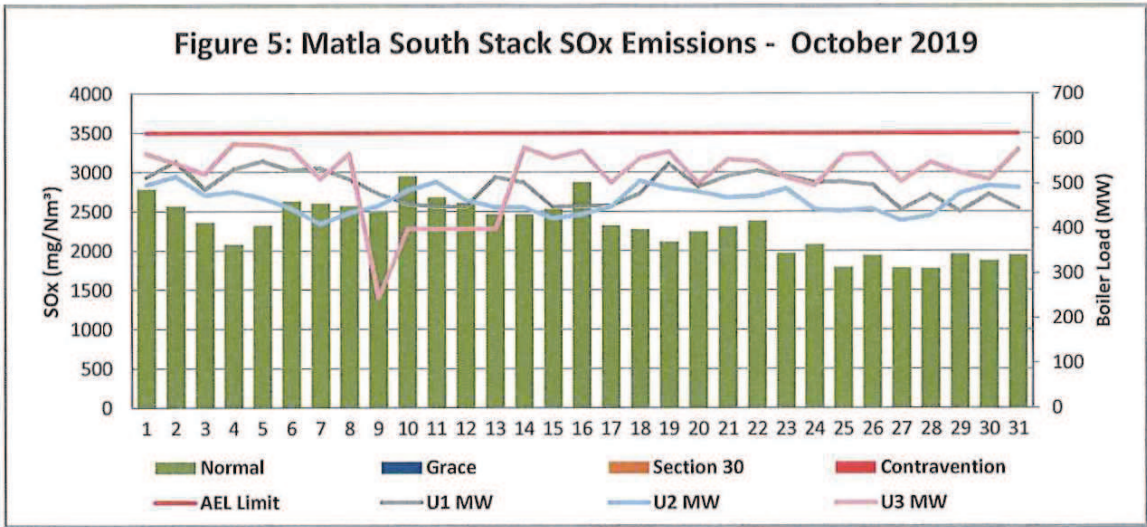


Figure 6: Matla Unit 4 SOx Emissions - October 2019

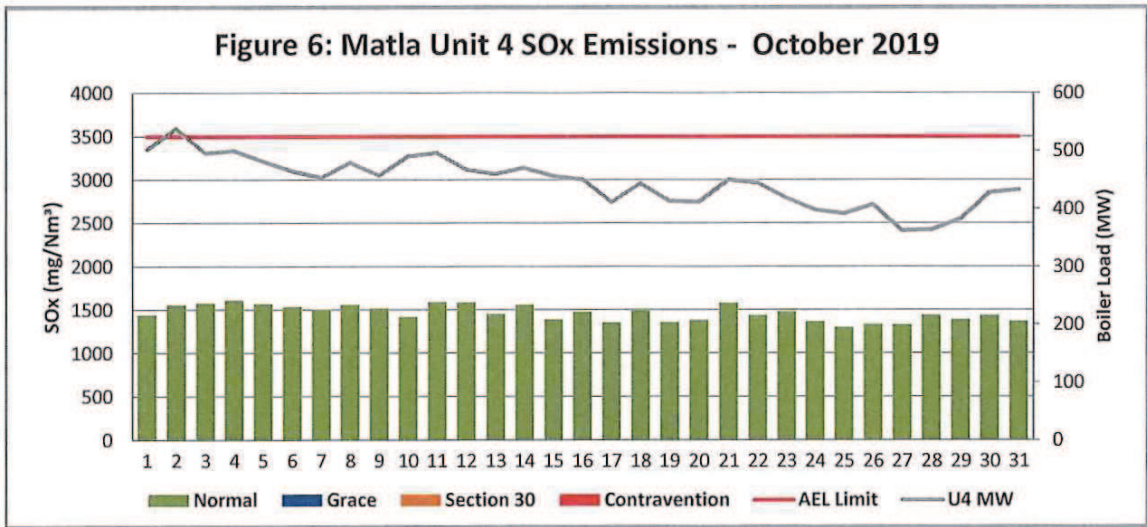


Figure 7: Matla Unit 5 SOx Emissions - October 2019

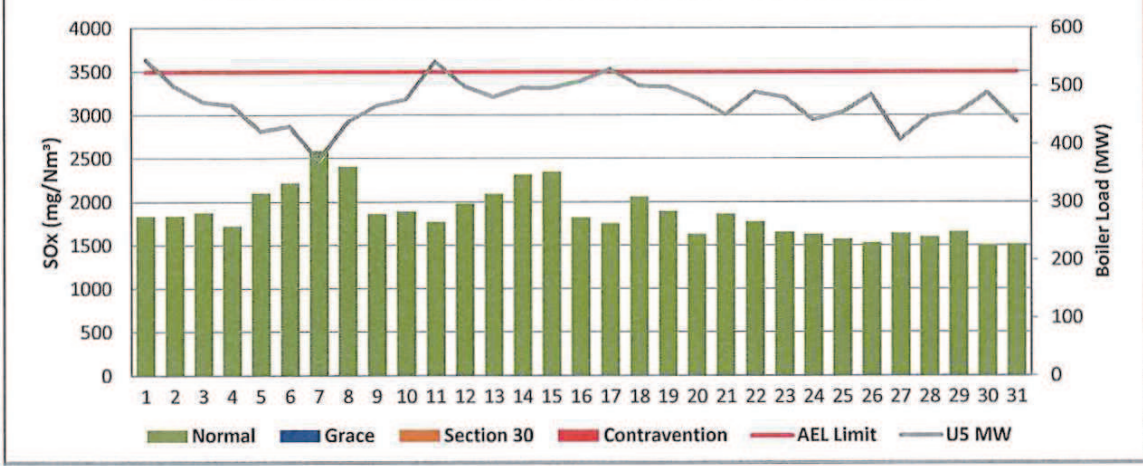


Figure 8: Matla Unit 6 SOx Emissions - October 2019

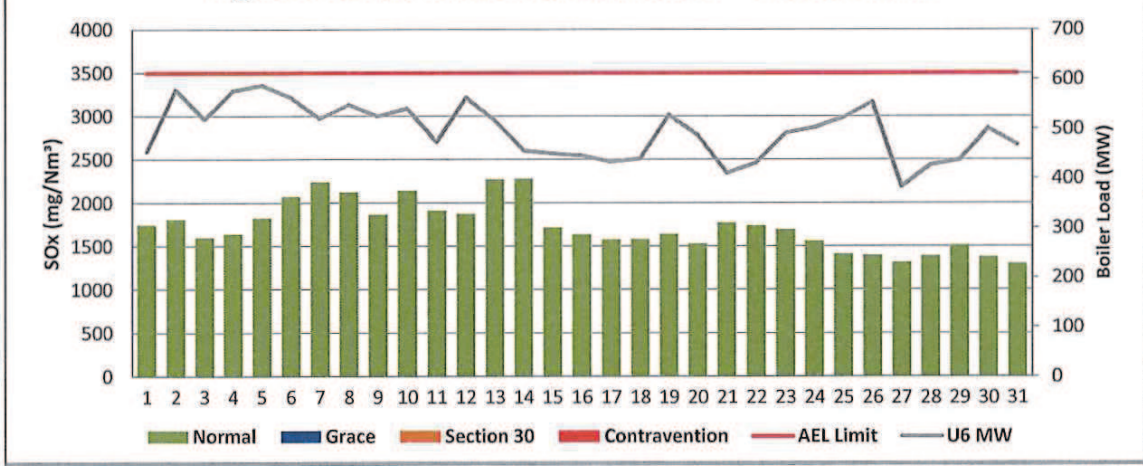


Figure 9: Matla South Stack NOx Emissions - October 2019

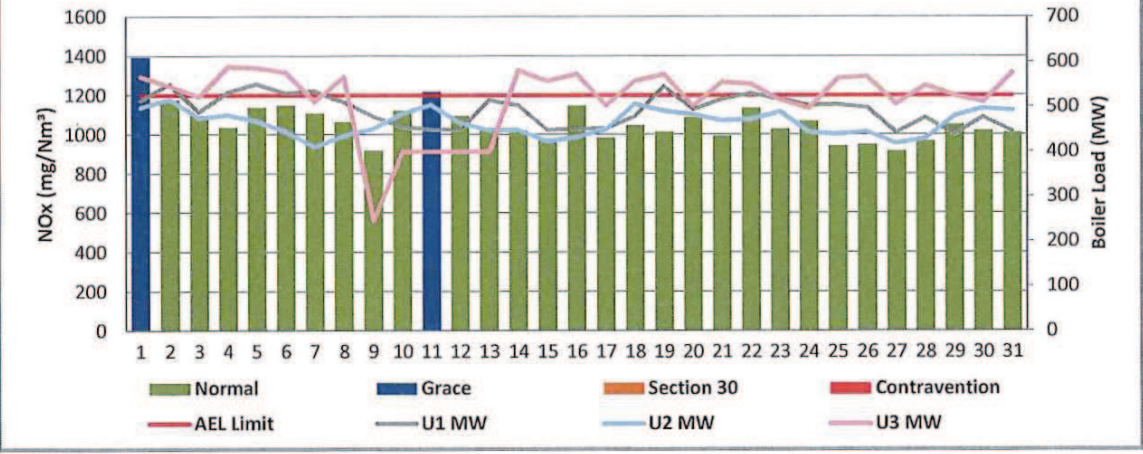


Figure 10: Matla Unit 4 NOx Emissions - October 2019

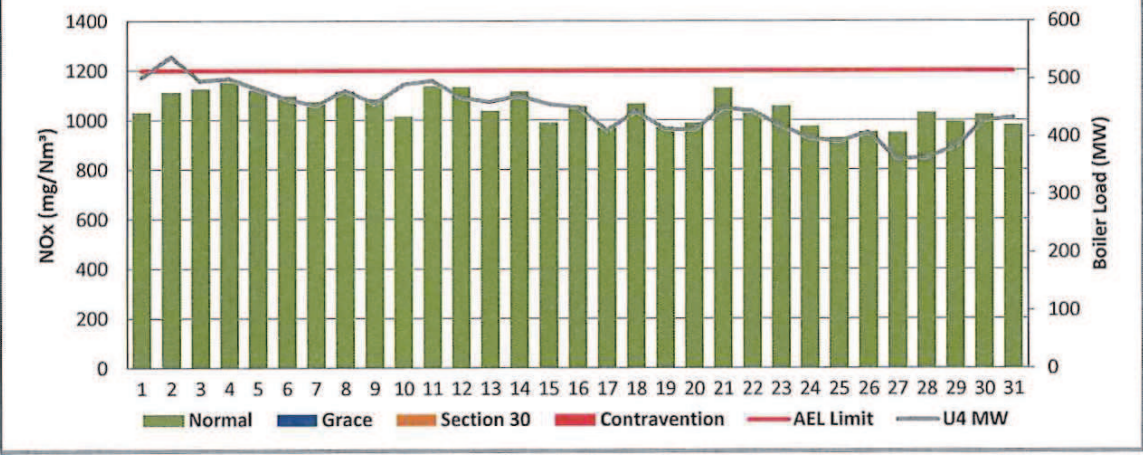


Figure 11: Matla Unit 5 NOx Emissions - October 2019

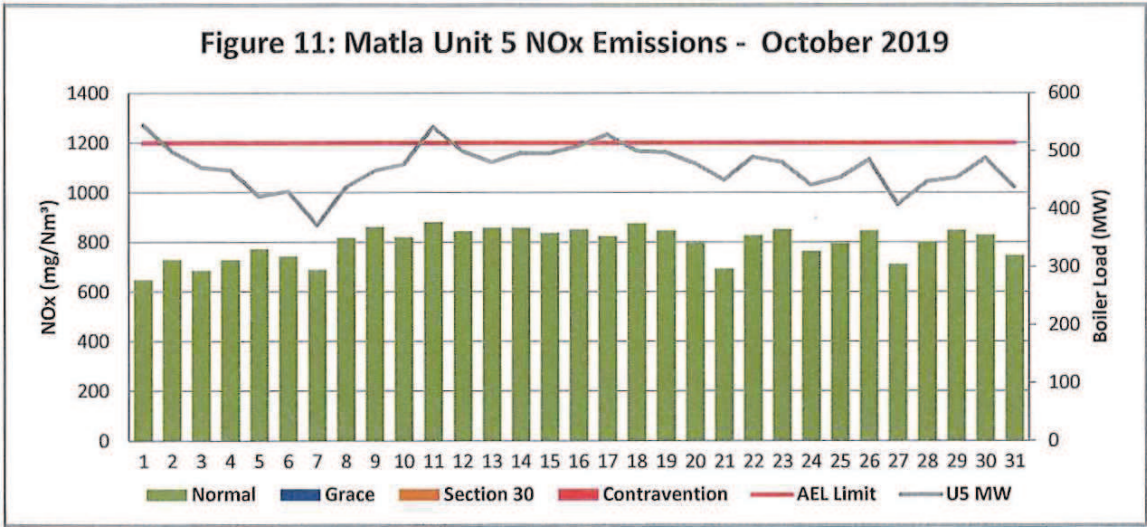
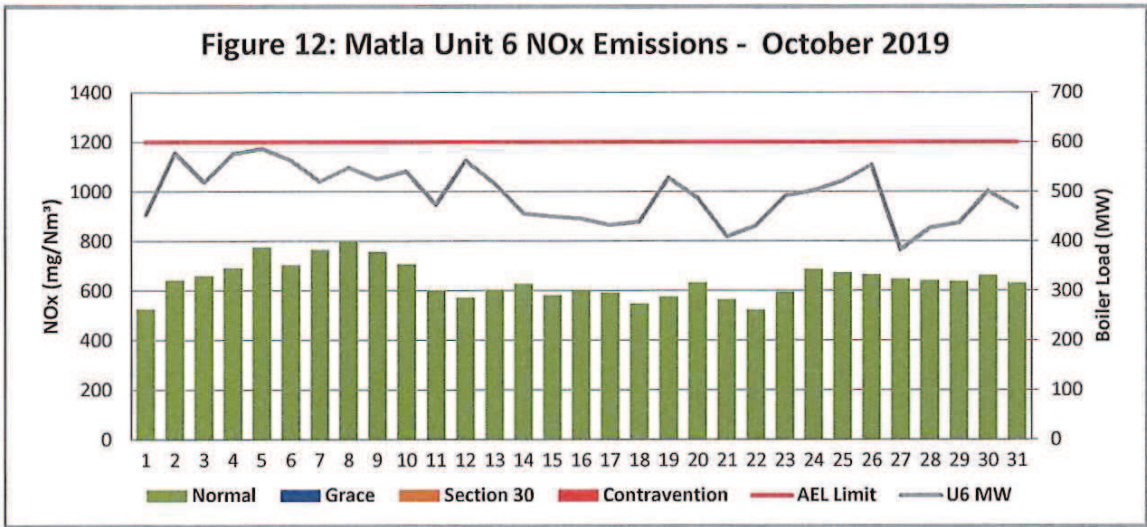


Figure 12: Matla Unit 6 NOx Emissions - October 2019



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of October-2019

South Stack	<i>Event 1</i>		<i>Event 2</i>		<i>Event 3</i>		<i>Event 4</i>	
Unit No.	<i>no event</i>		<i>no event</i>		<i>no event</i>		<i>no event</i>	
Breaker Open (BO)			<i>BO previously</i>	<i>BO previously</i>	<i>03:15 PM</i>	<i>2019/10/09</i>		
Draught Group (DG) Shut Down (SD)			<i>n/a</i>	<i>n/a</i>	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>		
BO to DG SD (duration)		DD:HH:MM	<i>n/a</i>	DD:HH:MM	<i>n/a</i>	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

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)	06:20 PM	2019/10/16	05:55 PM	2019/10/18				
Draught Group (DG) Shut Down (SD)	06:20 PM	2019/10/16	05:55 PM	2019/10/18				
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	06:20 PM	2019/10/16	05:55 PM	2019/10/18				
Synch. to Grid (or BC)	01:10 AM	2019/10/17	12:50 AM	2019/10/19				
Fires in to BC (duration)	00:06:50	DD:HH:MM	00:06:55	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)	09:40 AM	2019/10/07						
Draught Group (DG) Shut Down (SD)	09:40 AM	2019/10/07						
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	09:40 AM	2019/10/07						
Synch. to Grid (or BC)	04:45 PM	2019/10/07						
Fires in to BC (duration)	00:07:05	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)	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								
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 October-2019 in mg/Nm³

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

11 General

Boiler Engineering // / / Date

Environmental Department Date

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

Group Technology Engineering

Matla Power Station:

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