



Generation

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MATLA POWER STATION

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



BOILER ENGINEERING MANAGER

24/02/2022

DATE



ENVIRONMENTAL MANAGER

24/02/2022

DATE



ENGINEERING MANAGER

24/02/2022

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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 Jan-2022
	Coal	Tons	1 475 000	#VALUE!
	Fuel Oil	Tons	2 500	478

Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Jan-2022
	Energy	GWh	2 567	1 477
	Ash	Tons	471 000	#VALUE!
	RE PM	kg/MWh	not specified	0,686

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.8-1.1	1,00
Ash Content	%	21-40	27,50

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

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Jan-2022
South	<i>Electro Static Precipators (ESP)</i>	<i>99,490%</i>
Unit 4	<i>Electro Static Precipators (ESP)</i>	<i>99,364%</i>
Unit 5	<i>Electro Static Precipators (ESP)</i>	<i>99,735%</i>
Unit 6	<i>Electro Static Precipators (ESP)</i>	<i>99,644%</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>99,6</i>	<i>100,0</i>	<i>100,0</i>	<i>100,0</i>
Unit 4	<i>90,9</i>	<i>99,9</i>	<i>100,0</i>	<i>100,0</i>
Unit 5	<i>84,2</i>	<i>96,6</i>	<i>96,6</i>	<i>100,0</i>
Unit 6	<i>100,0</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 January-2022

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	233,2	3 920,7	940,2
Unit 2	0,0	0,0	0,0
Unit 3	256,8	4 395,5	1 054,0
Unit 4	280,6	3 982,4	2 010,8
Unit 5	131,1	4 063,8	1 887,1
Unit 6	111,9	1 586,0	751,9
SUM	1 013,5	17 948,3	6 643,9

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
South	29	2	0	0	2	143,8
Unit 4	26	2	3	0	5	157,9
Unit 5	26	4	1	0	5	70,5
Unit 6	11	12	0	0	12	174,1
SUM	92	20	4	0	24	

Table 6.3: Operating days in compliance to SO_x AEL Limit - January 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO _x (mg/Nm ³)
South	31	0	0	0	0	2 466,9
Unit 4	31	0	0	0	0	2 290,2
Unit 5	31	0	0	0	0	2 205,8
Unit 6	26	0	0	0	0	1 985,3
SUM	119	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - January 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
South	31	0	0	0	0	591,5
Unit 4	22	0	0	9	9	1 157,4
Unit 5	31	0	0	0	0	1 018,1
Unit 6	26	0	0	0	0	941,2
SUM	110	0	0	9	9	

Note: NO_x emissions is measured as NO in PPM. Final NO_x 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 - January 2022

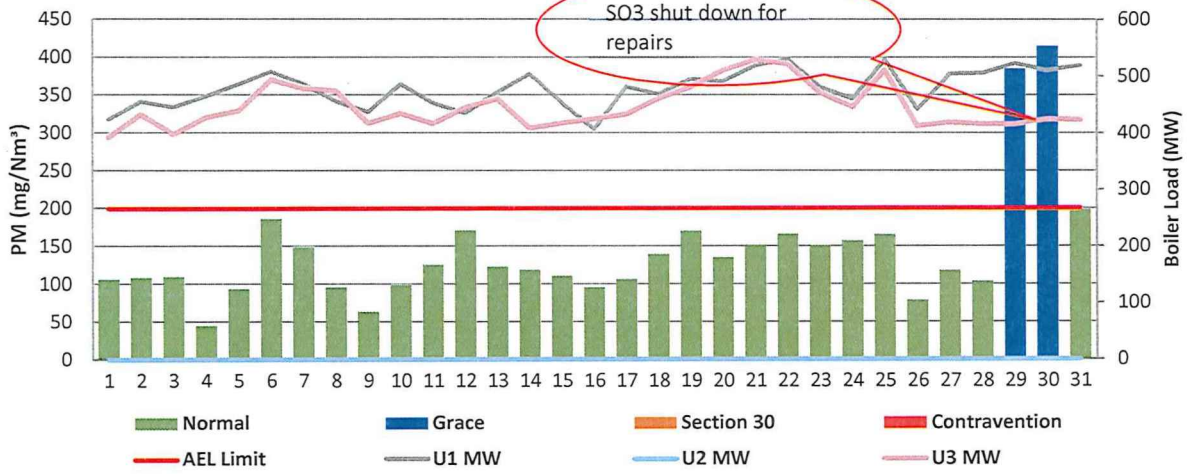


Figure 2: Matla Unit 4 PM Emissions - January 2022

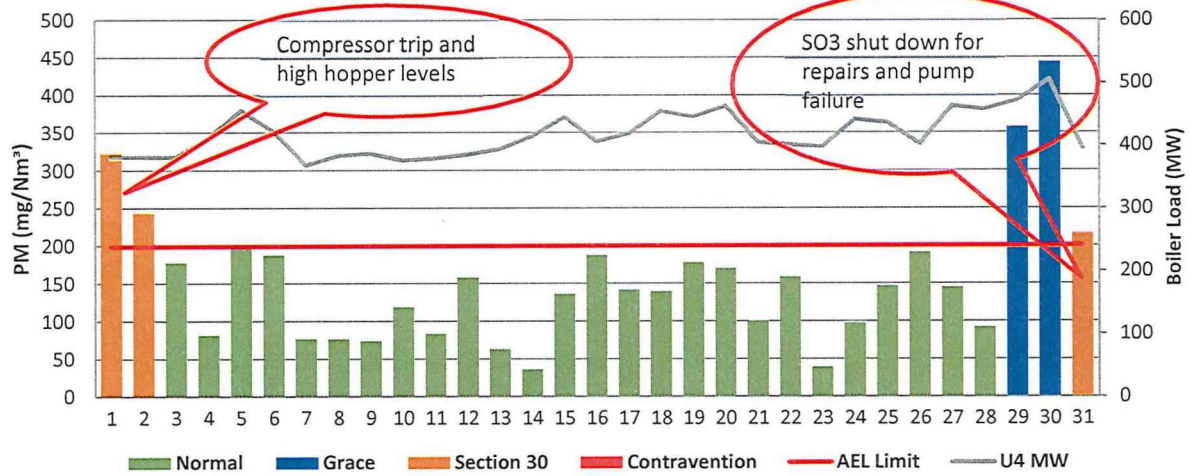


Figure 3: Matla Unit 5 PM Emissions - January 2022

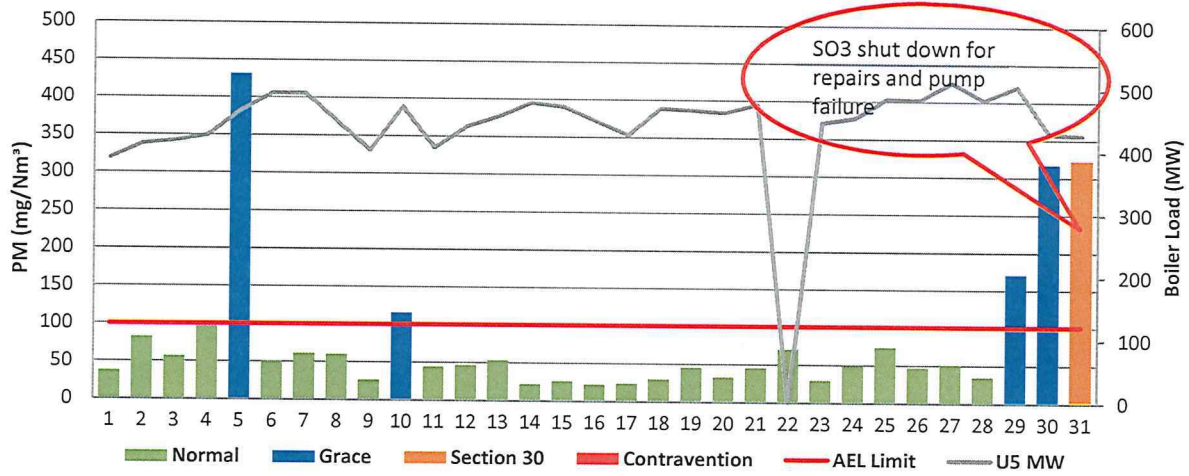


Figure 4: Matla Unit 6 PM Emissions - January 2022

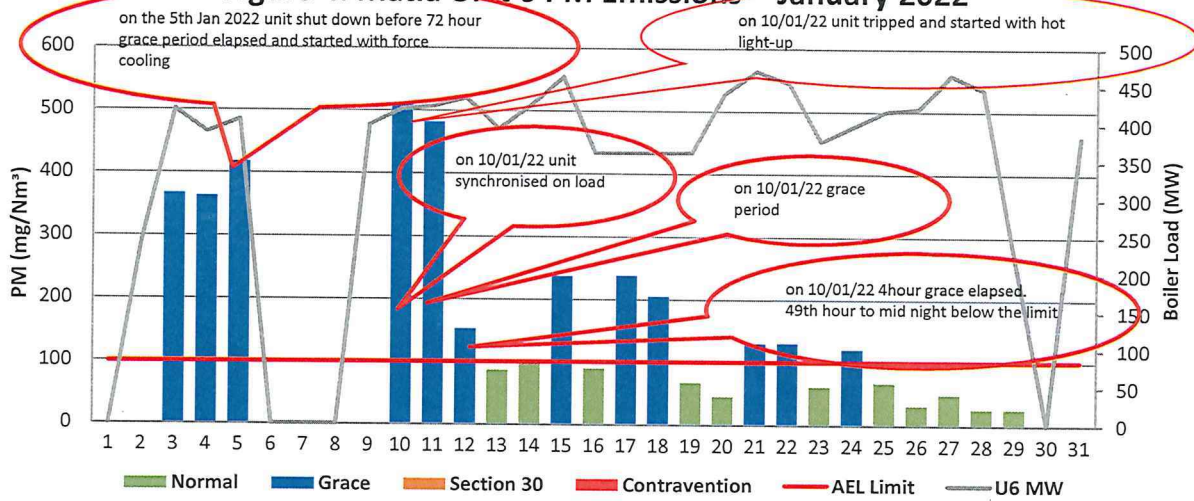


Figure 5: Matla South Stack SOx Emissions - January 2022

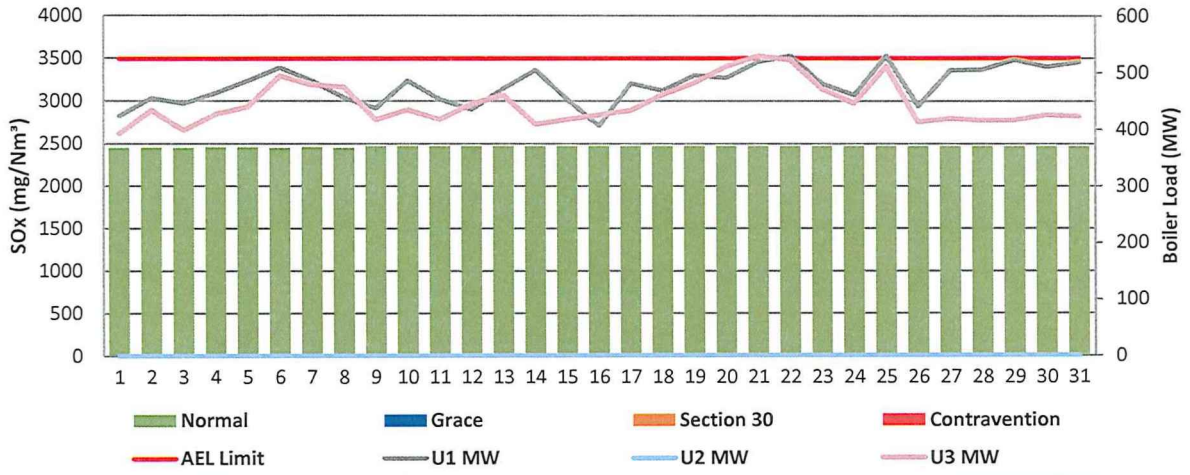


Figure 6: Matla Unit 4 SOx Emissions - January 2022

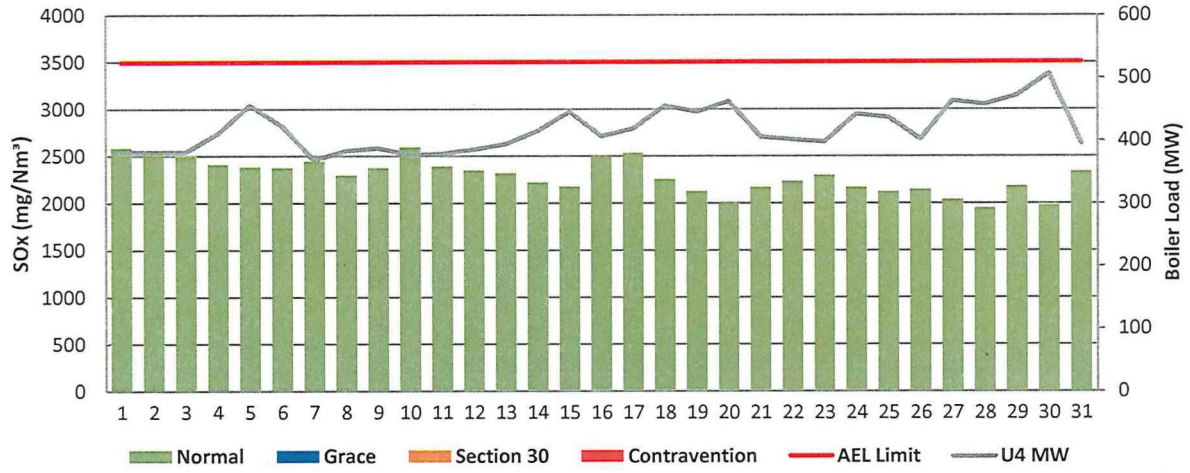


Figure 7: Matla Unit 5 SOx Emissions - January 2022

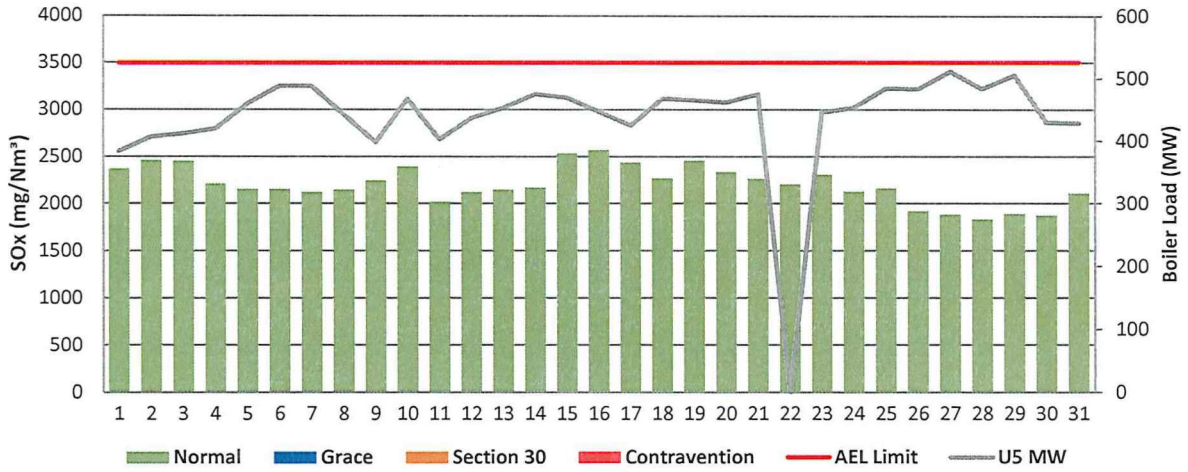


Figure 8: Matla Unit 6 SOx Emissions - January 2022

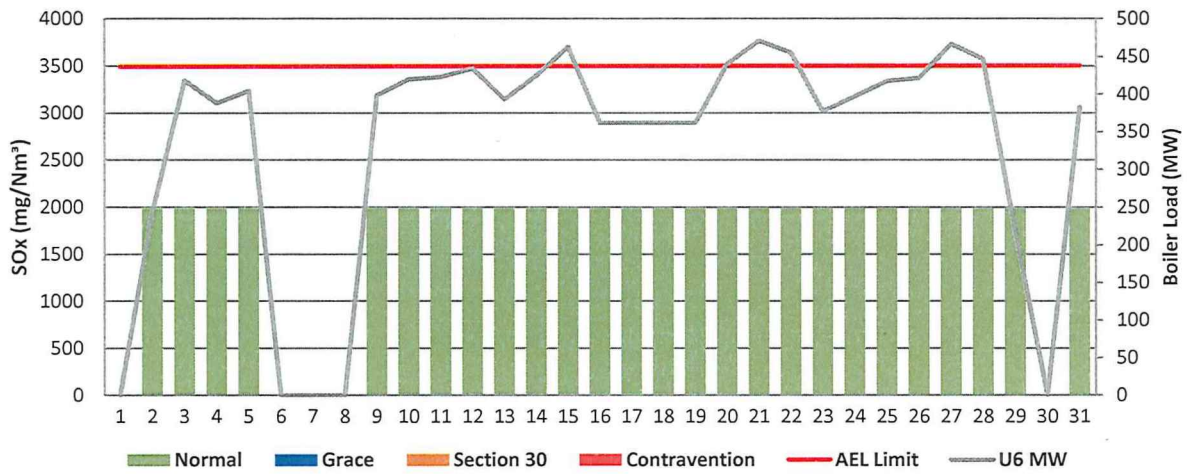


Figure 9: Matla South Stack NOx Emissions - January 2022

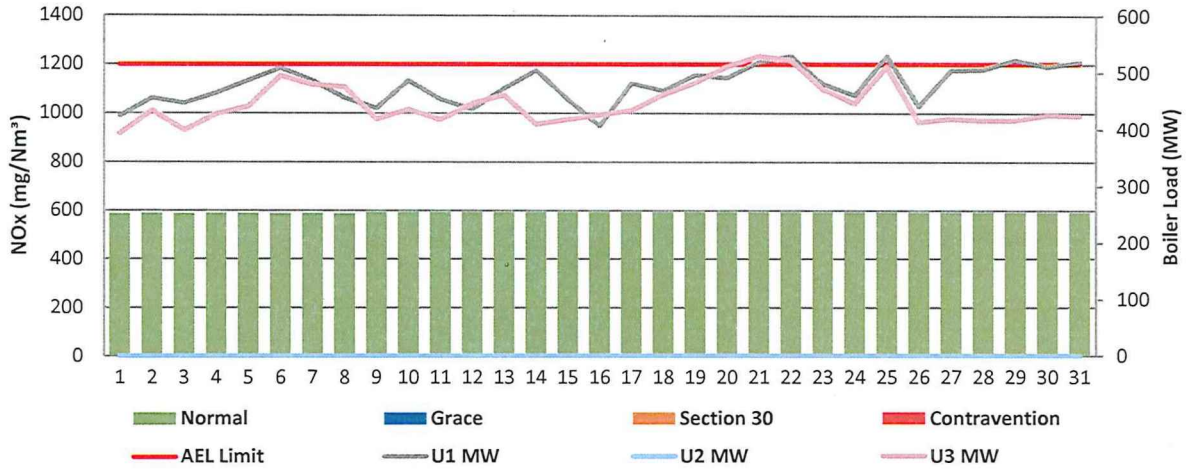


Figure 10: Matla Unit 4 NOx Emissions - January 2022

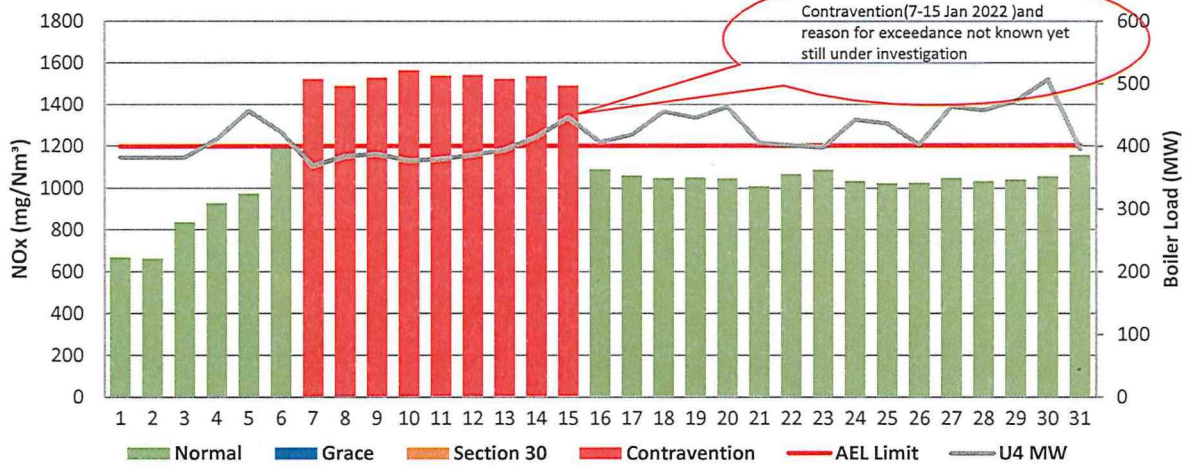


Figure 11: Matla Unit 5 NOx Emissions - January 2022

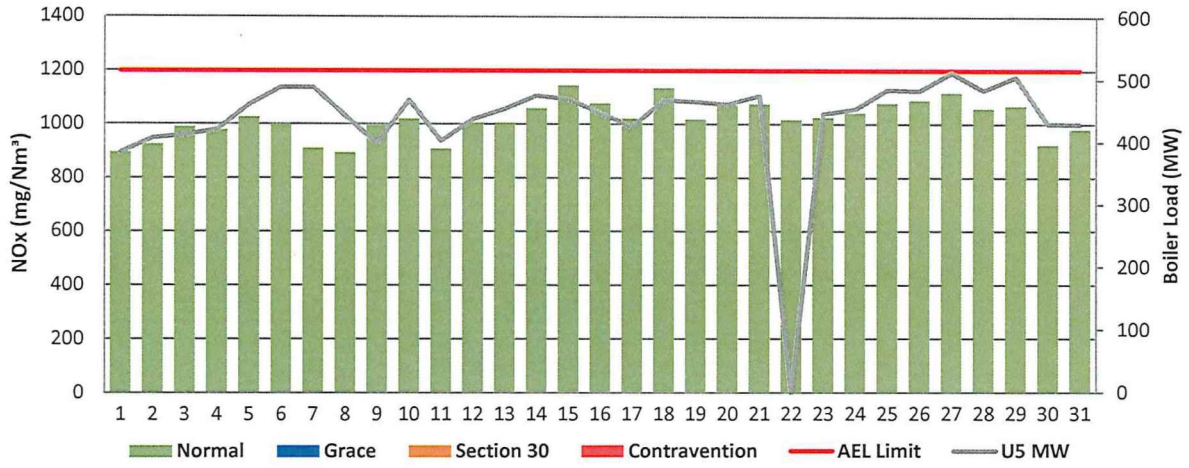
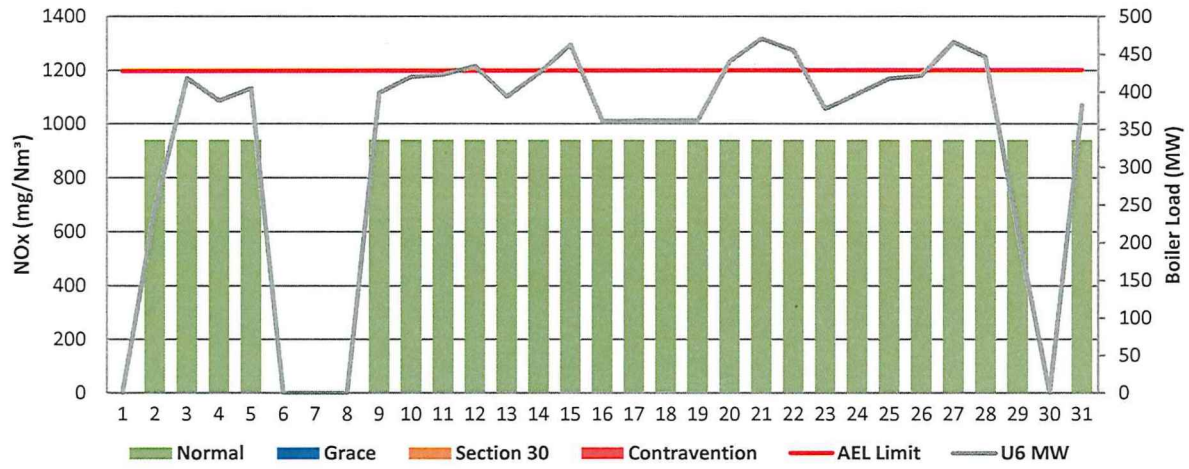


Figure 12: Matla Unit 6 NOx Emissions - January 2022



7 SHUT DOWN AND LIGHT UP INFORMATION

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

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)								
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

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)	3:30 AM	2022/01/11						
Draught Group (DG) Shut Down (SD)	12:00 AM	1900/01/00						
BO to DG SD (duration)	#####	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time	3:30 AM	2022/01/11						
Synch. to Grid (or BC)	10:00 AM	2022/01/11						
Fires in to BC (duration)	00:06:30	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)	BO previously	BO previously	11:20 AM	2022/01/05	1:55 PM	2022/01/10	1:15 AM	2022/01/14
Draught Group (DG) Shut Down (SD)	n/a	n/a	11:21 AM	2022/01/05	12:00 AM	1900/01/00	12:00 AM	1900/01/00
BO to DG SD (duration)	n/a	DD:HH:MM	00:00:01	DD:HH:MM	#####	DD:HH:MM	#####	DD:HH:MM
Fires in time	4:15 AM	2022/01/02	9:40 AM	2022/01/09	1:55 PM	2022/01/10	1:15 AM	2022/01/14
Synch. to Grid (or BC)	4:40 PM	2022/01/02	9:05 AM	2022/01/09	8:45 PM	2022/01/10	7:10 AM	2022/01/14
Fires in to BC (duration)	00:12:25	DD:HH:MM	#####	DD:HH:MM	00:06:50	DD:HH:MM	00:05:55	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

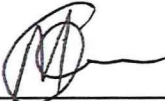
7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of January-2022 in mg/Nm³

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


11 General

Gases on South Stack and unit 6 used QAL2 averages. These two monitors had data lower than expected. Unit 4 NOx incurred legal contravention from the 7-15 Jan 2022, investigation underway.

Unit 4 and Unit 6 correlation certificate has expired. Station experience breakdowns of the plant and procurement challenges that resulted on the delays of correlation testing. Station has scheduled unit 6 correlation testing will be done on 01-03-2022 and unit 4 on the 08-03-2022


24-02-2022
Boiler Engineering Date


Environmental Department Date : 24.02.2022


03/03/2022
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