Eskom

Generation

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15

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MATLA POWER STATION

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

BOILER ENGINEERING MANAGER	30/05/2023 **DATE**
ENVIRONMENTAL MANAGER	2023-05-30 **DATE**
ENGINEERING MANAGER	**DATE**

Eskom

APRIL 2023

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 Apr-2023
	Coal	Tons	*1 475 000*	*686 819*
	Fuel Oil	Tons	*3 500*	*574*
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Production Rate Apr-2023
	Energy	GWh	*2 657*	*1 045*
	Ash	Tons	*471 000*	*189 699*
	RE PM	kg/MWh	*not specified*	*1.148*

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	*0.8-1.1*	*1.00*
Ash Content	%	*21-40*	*27.62*

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 NO_2

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Apr-2023
South	*Electro Static Precipators (ESP)*	*99,296%*
Unit 4	*Electro Static Precipators (ESP)*	*99,179%*
Unit 5	*Electro Static Precipators (ESP)*	*99,450%*
Unit 6	*Electro Static Precipators (ESP)*	

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	*99,4*	*96,1*	*96,1*	*99,4*
Unit 4	*96,1*	*95,8*	*96,1*	*96,1*
Unit 5	*96,1*	*99,1*	*99,3*	*98,9*
Unit 6				

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of April-2023

Associated Unit/Stack	PM	SOx	NOx
Unit 1	121,5	1 445,4	346,6
Unit 2	472,1	5 251,7	1 259,3
Unit 3	0,0	0,0	0,0
Unit 4	394,1	4 089,9	1 453,3
Unit 5	211,6	2 837,0	1 326,5
Unit 6	0,0	0,0	0,0
SUM	1 199,2	13 624,1	4 385,8

Table 6.2: Operating days in compliance to PM AEL Limit - April 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
South	15	5	0	10	15	217,3
Unit 4	16	9	0	5	14	209,4
Unit 5	15	9	0	4	13	164,5
Unit 6	0	0	0	0	0	
SUM	**46**	**23**	**0**	**19**	**42**	

Table 6.3: Operating days in compliance to SO_2 AEL Limit - April 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm³)
South	30	0	0	0	0	2 361,4
Unit 4	30	0	0	0	0	2 180,6
Unit 5	28	0	0	1	1	2 365,4
Unit 6	0	0	0	0	0	
SUM	**88**	**0**	**0**	**1**	**1**	

Table 6.4: Operating days in compliance to NOx AEL Limit - April 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
South	30	0	0	0	0	566,3
Unit 4	28	0	0	2	2	774,4
Unit 5	23	0	0	6	6	1 099,3
Unit 6	0	0	0	0	0	
SUM	**81**	**0**	**0**	**8**	**8**	

Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO_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
Contravention		Emissions above ELV but outside grace or S30 incident conditions

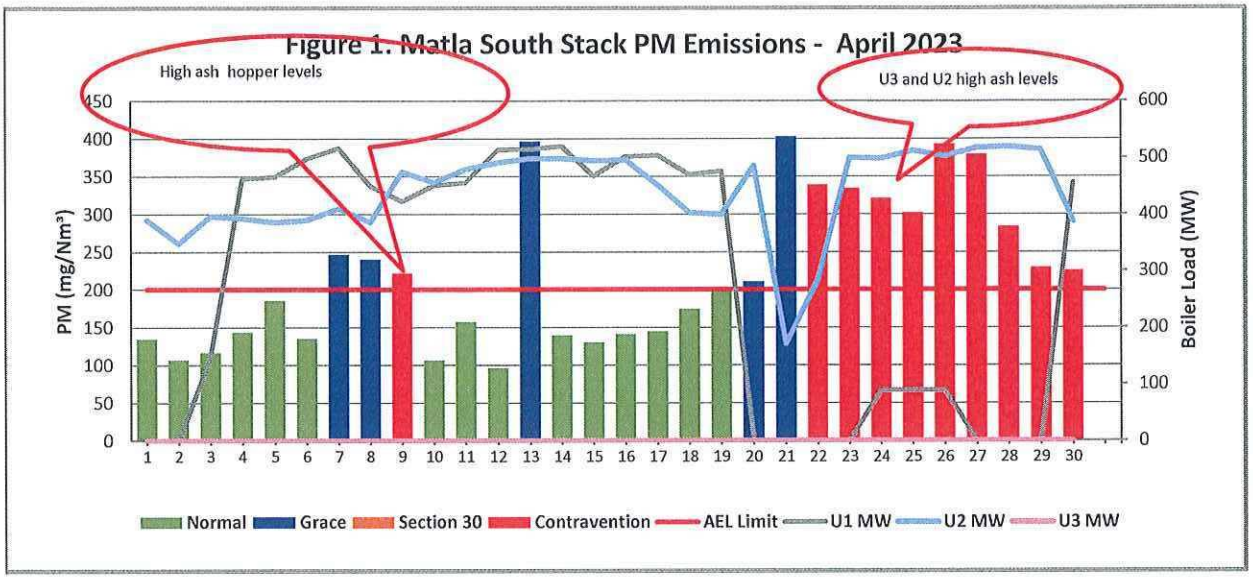


Figure 1: Matla South Stack PM Emissions - April 2023
High ash hopper levels
U3 and U2 high ash levels
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW
U2 MW
U3 MW

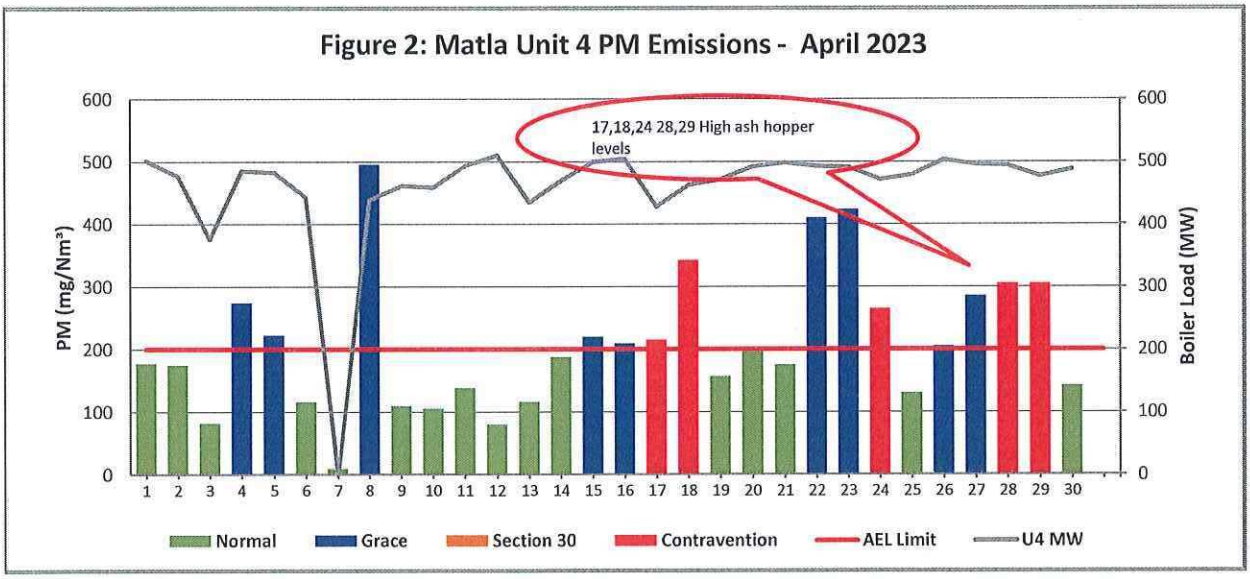


Figure 2: Matla Unit 4 PM Emissions - April 2023
17,18,24 28,29 High ash hopper levels
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U4 MW

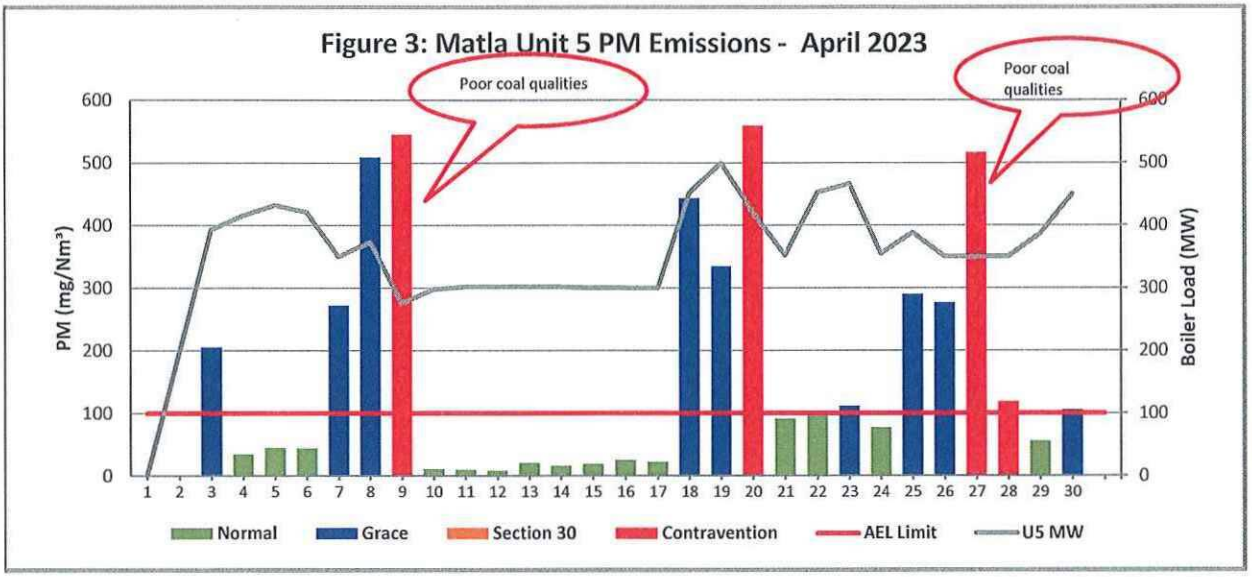


Figure 3: Matla Unit 5 PM Emissions - April 2023
Poor coal qualities
Poor coal qualities
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW

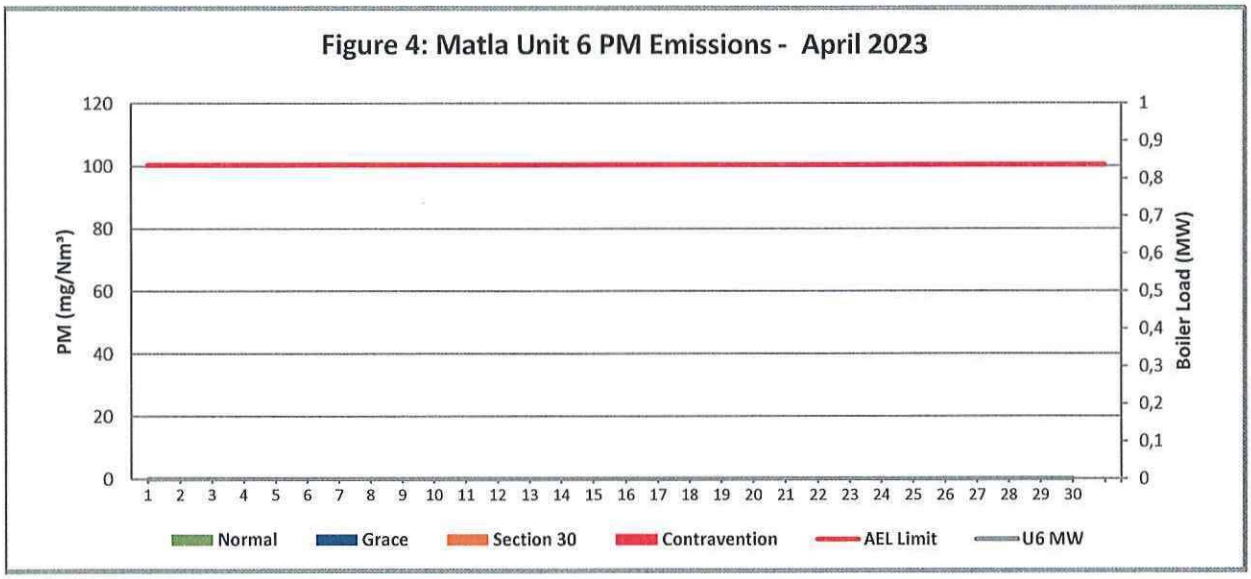


Figure 4: Matla Unit 6 PM Emissions - April 2023
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U6 MW

Figure 5: Matla South Stack SO_2 Emissions - April 2023

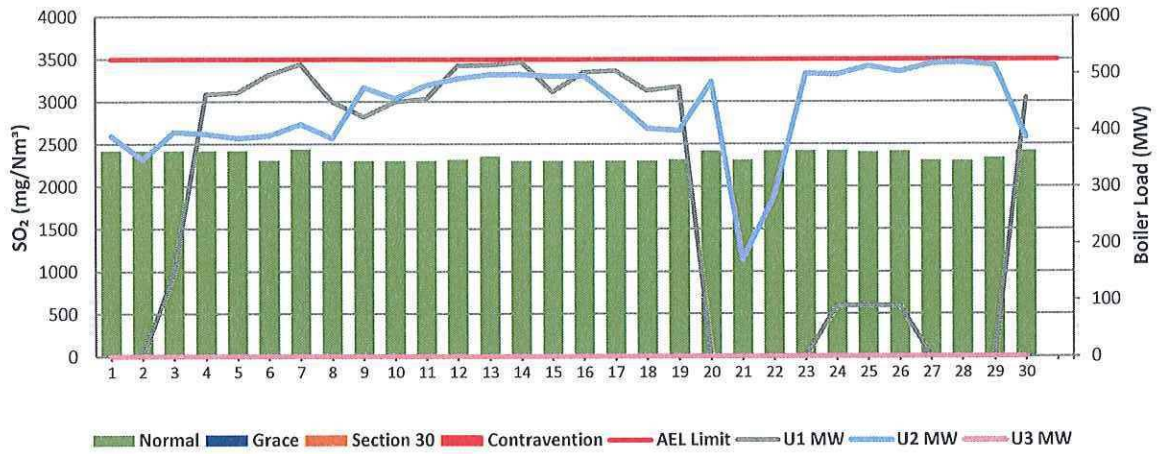


Figure 6: Matla Unit 4 SO_2 Emissions - April 2023

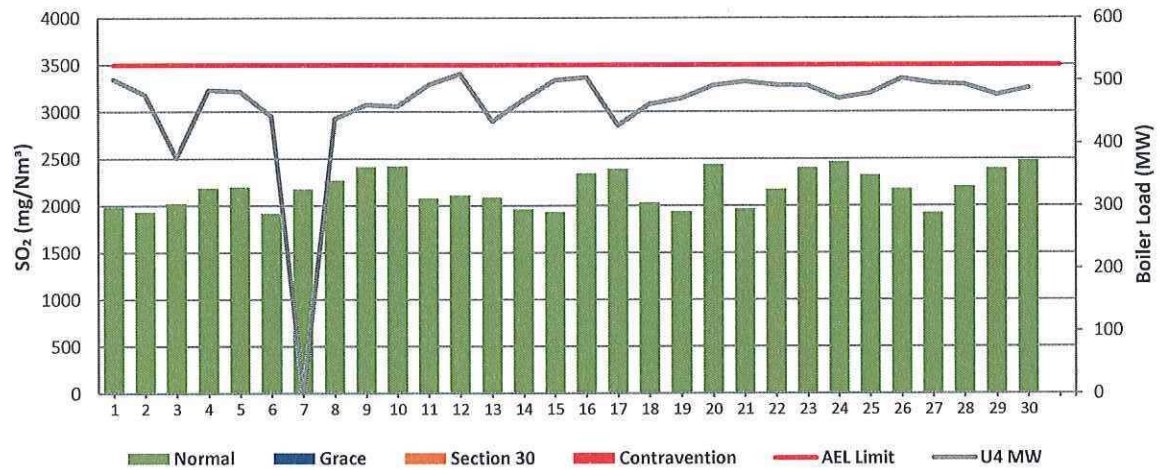


Figure 7: Matla Unit 5 SO_2 Emissions - April 2023

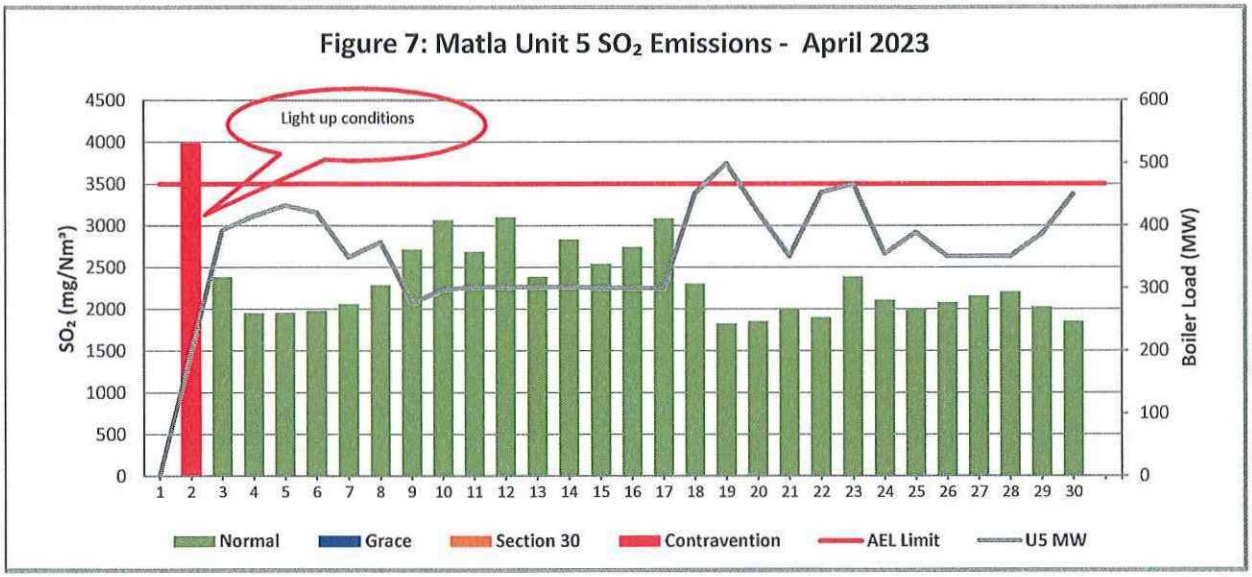


Figure 8: Matla Unit 6 SO_2 Emissions - April 2023

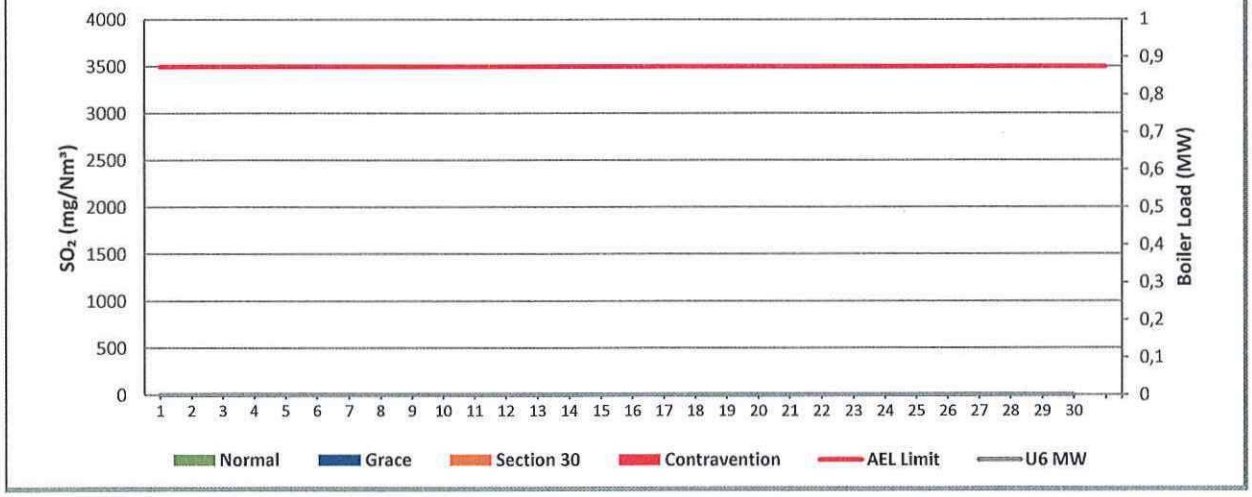


Figure 9: Matla South Stack NOx Emissions - April 2023

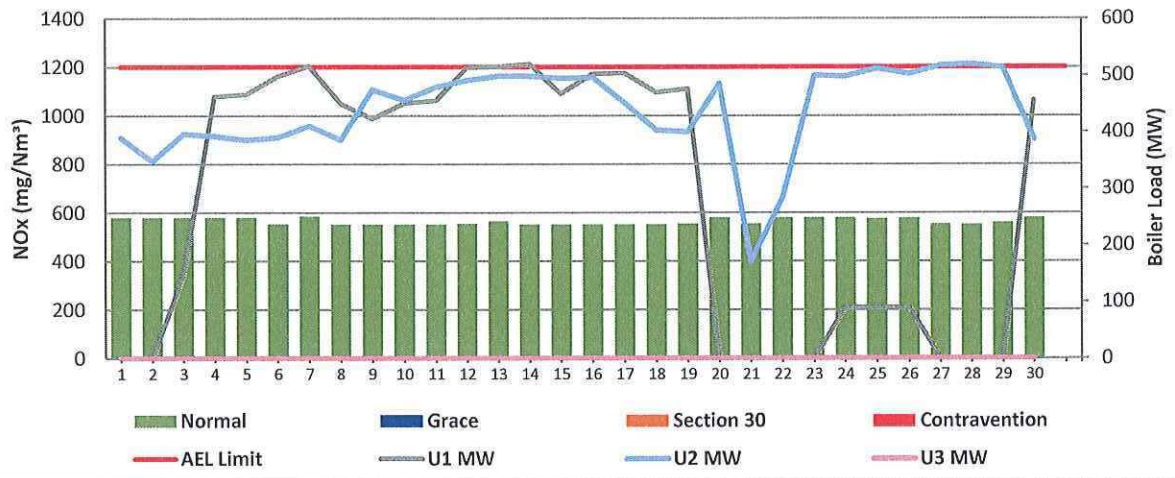


Figure 10: Matla Unit 4 NOx Emissions - April 2023

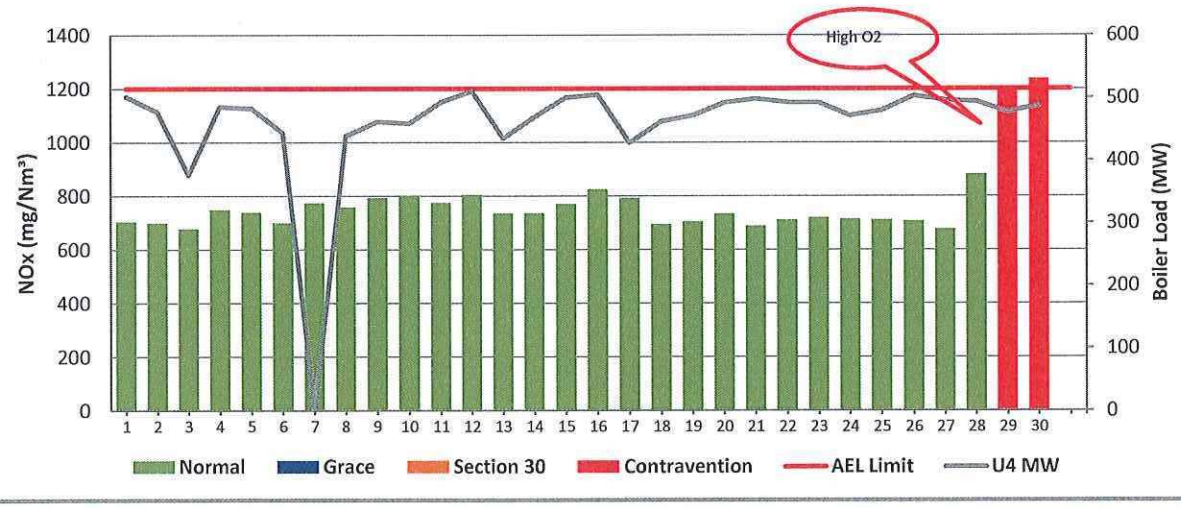


Figure 11: Matla Unit 5 NOx Emissions - April 2023

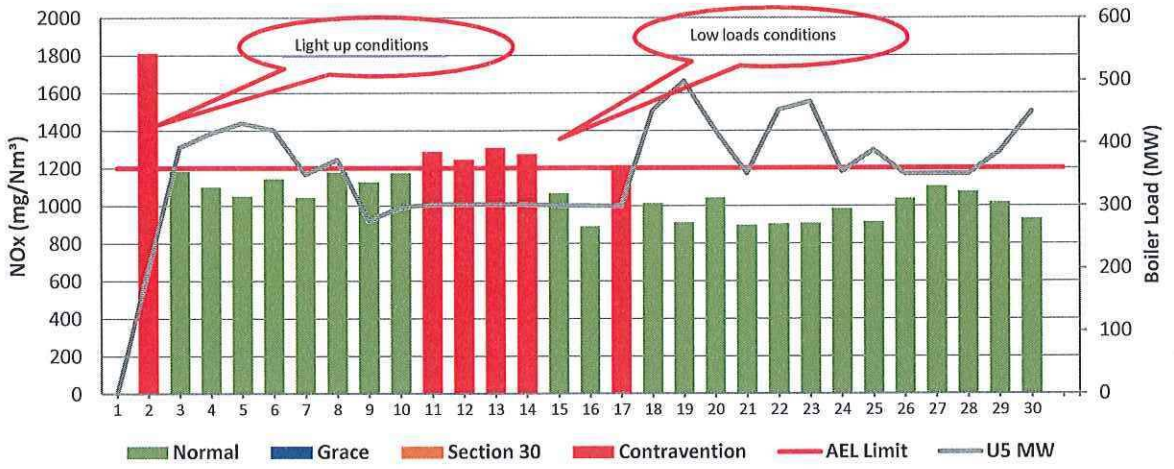
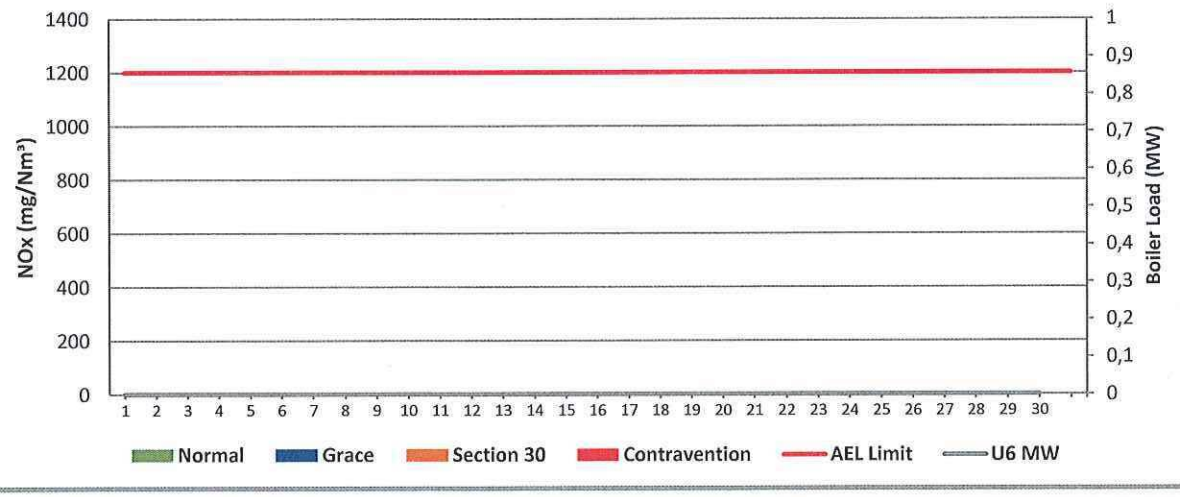


Figure 12: Matla Unit 6 NOx Emissions - April 2023



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of April-2023

South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 1		Unit 1		Unit 1		Unit 2	
Breaker Open (BO)			9:25 PM	2023/04/19	10:35 PM	2023/04/26	12:00 PM	2023/04/21
Draught Group (DG) Shut Down (SD)			12:00 AM	2023/04/21	10:35 PM	2023/04/26	1:45 AM	2023/04/22
BO to DG SD (duration)		DD:HH:MM	01:02:35	DD:HH:MM	00:00:00	DD:HH:MM	00:13:45	DD:HH:MM
Fires in time	12:05 AM	2023/04/03	5:55 PM	2023/04/23	5:20 PM	2023/04/29	8:10 AM	2023/04/22
Synch. to Grid (or BC)	9:15 PM	2023/04/03	8:00 AM	2023/04/24	2:10 AM	2023/04/30	6:05 PM	2023/04/22
Fires in to BC (duration)	00:21:10	DD:HH:MM	00:14:05	DD:HH:MM	00:08:50	DD:HH:MM	00:09:55	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

South Stack ...cont.	Event 5		Event 6		Event 7		Event 8	
Unit No.	no event		no event		no event		no event	
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)								
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	9:50 AM	2023/04/01						
Synch. to Grid (or BC)	5:20 AM	2023/04/02						
Fires in to BC (duration)	00:19:30	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)								
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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of April-2023 in mg/Nm³

ADDENDUM TO MONTHLY EMISSIONS REPORT

8 EMERGENCY GENERATION

Emergency Generation *[This is only required for stations that are requested to report on this information]*
Table 8. Emergency Generation per unit for the month of April 2023

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Emergency Generation hours declared by national Control						
Emergency Hours declared including hours after stand down						
Hours over the Limit during Emergency Generation						

9 COMPLAINTS REGISTER

Table 9. Complaints for the month of April 2023

Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence	Date measure will be implemented
(Insert name of affected	*(Insert root cause for incident)*	*(Insert emissions associated with incident)*	*(Insert dispersion model information where applicable)*	*(Insert mitigation measures taken)*	*(Insert date of implementation of*

10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

To be completed in the case of a S30 incident or a legal contravention:

Unit no	Incident Start Date	Incident End Date	Incident Cause	Remedial action	S30 initial notification sent	Date S30 investigation report sent	Date DEA Acknowledg-ment	Date DEA Acceptabe	Comments / Reference No.
SS	09-04-20223 22-04-2023	09-04-2023 30-05-2023	U2 and U3 high ash hopper levels	Clear hopper levels and precipitator repairs	No				Legal contravention
4	17-04-2023 24-04-2023 28-04-2023	17-04-2023 24-04-2023 29-04-2023	High hopper levels	Clear hopper levels.	No				Legal contravention
5	09-04-2023 20-04-2023 27-04-2023	09-04-2023 20-05-2023 28-05-2023	Poor coal qualities	improve station coal supply	No				Legal contravention

11 General

South stack gases are reported using QAL 2 avaerages.
Unit 4 correlation testing completed however still awaiting for the report.
Unit 6 correlation curve expired and testing is scheddulled.

30/05/2023
Boiler Engineering Date

30.05.2023
Environmental Department Date

2023/05/30
General Manager Date

Compiled by:	Boiler Engineering Department	ESP & SO_3 System Engineer
For:	Department of Environmental Affairs and Tourism	Chief Air Pollution Control Officer
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	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