JANUARY 2023

CAMDEN POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License CPS/0012/2019/F03

1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption	Actual Consumption Jan-2023
	Coal	Tons	550 000	259 947.86
	Fuel Oil	Tons	5 000	3 947.90
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Actual Production Jan-2023
	Energy	GWh	1600	516.75
	Ash	Tons	not specified	57 267
	RE PM	kg/MWh	not specified	0.374

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	19.56	23.17
Sulphur Content	%	< 2	0.90
Ash Content	%	25 to 35	22.03

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO_2	NOx
Stack 1	*100*	*3500*	*1100*
Stack 2	*100*	*3500*	*1100*
Stack 3	*100*	*3500*	*1100*
Stack 4	*100*	*3500*	*1100*

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Jan-2023
Unit 1	*Fabric Filter Plant (FFP)*	99.992%
Unit 2	*Fabric Filter Plant (FFP)*	99.996%
Unit 3	*Fabric Filter Plant (FFP)*	99.995%
Unit 4	*Fabric Filter Plant (FFP)*	99.994%
Unit 5	*Fabric Filter Plant (FFP)*	99.999%
Unit 6	*Fabric Filter Plant (FFP)*	99.999%
Unit 7	*Fabric Filter Plant (FFP)*	100.000%
Unit 8	*Fabric Filter Plant (FFP)*	Unit Off-line

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

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO_2	NO	CO_2	O_2
Stack 1	*93.3*	*98.0*	*98.0*	*0.0*	*0.0*
Stack 2	*100.0*	*98.3*	*98.3*	*0.0*	*0.0*
Stack 3	*100.0*	*98.8*	*74.8*	*0.0*	*0.0*
Stack 4	*100.0*	*93.1*	*91.7*	*0.0*	*0.0*

Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO_2

6 EMISSION PERFORMANCE

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

Associated Unit/Stack	PM (tons)	SO_2 (tons)	NO_X (tons)
1	37.7	787	395
2	37.3	964	491
3	50.3	886	558
4	45.7	836	529
5	11.1	833	200
6	11.0	930	191
7	0.2	208	79
8	0.0	0	0
SUM	193.2	5 445	2 445

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
Stack 1	28	2	0	0	2	61.9
Stack 2	26	5	0	0	5	77.0
Stack 3	31	0	0	0	0	15.5
Stack 4	6	0	0	0	0	1.3
SUM	**91**	**7**	**0**	**0**	**7**	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm³)
Stack 1	31	0	0	0	0	1 356.6
Stack 2	31	0	0	0	0	1 392.1
Stack 3	31	0	0	0	0	1 252.9
Stack 4	6	0	0	0	0	1 401.5
SUM	**99**	**0**	**0**	**0**	**0**	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Stack 1	31	0	0	0	0	663.4
Stack 2	31	0	0	0	0	863.0
Stack 3	31	0	0	0	0	290.1
Stack 4	6	0	0	0	0	535.4
SUM	**99**	**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
Contravention		Emissions above ELV but outside grace or S30 incident conditions

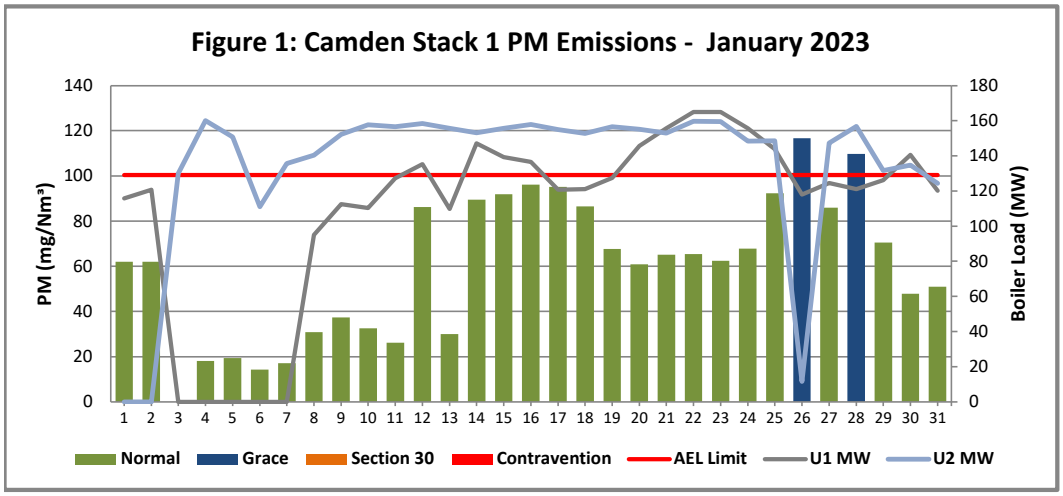
Figure 1: Camden Stack 1 PM Emissions - January 2023
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW
U2 MW

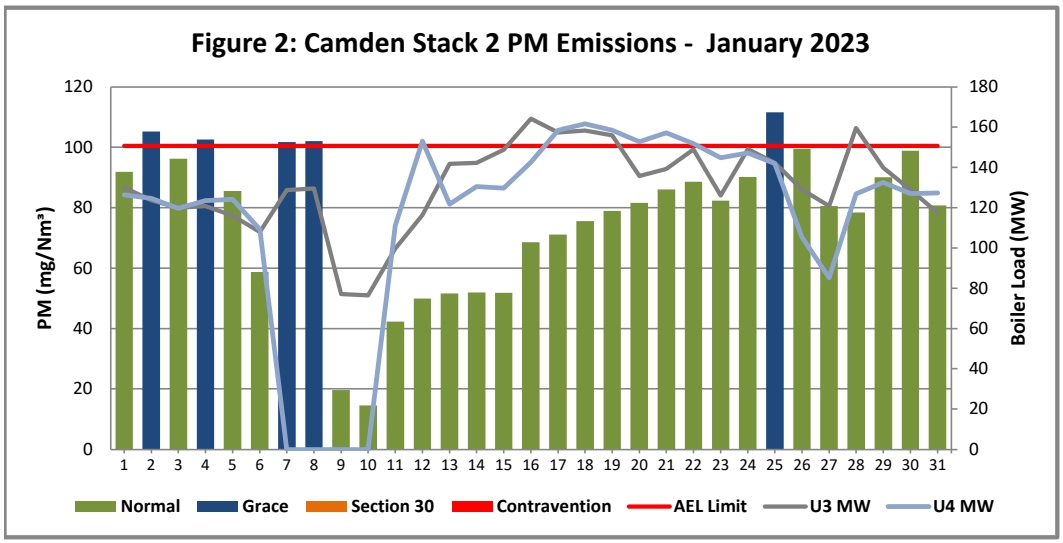
Figure 2: Camden Stack 2 PM Emissions - January 2023
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW
U4 MW

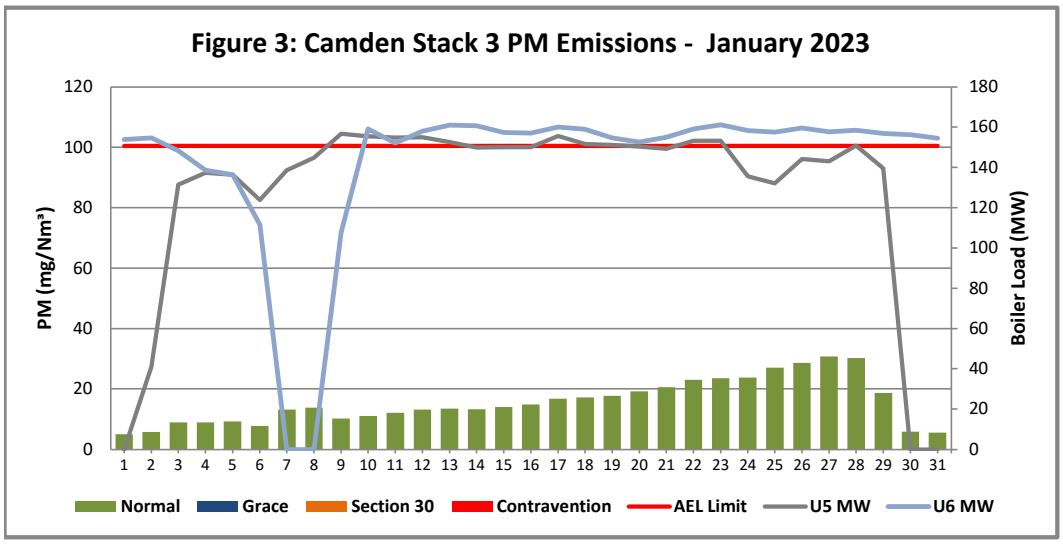
Figure 3: Camden Stack 3 PM Emissions - January 2023
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW
U6 MW

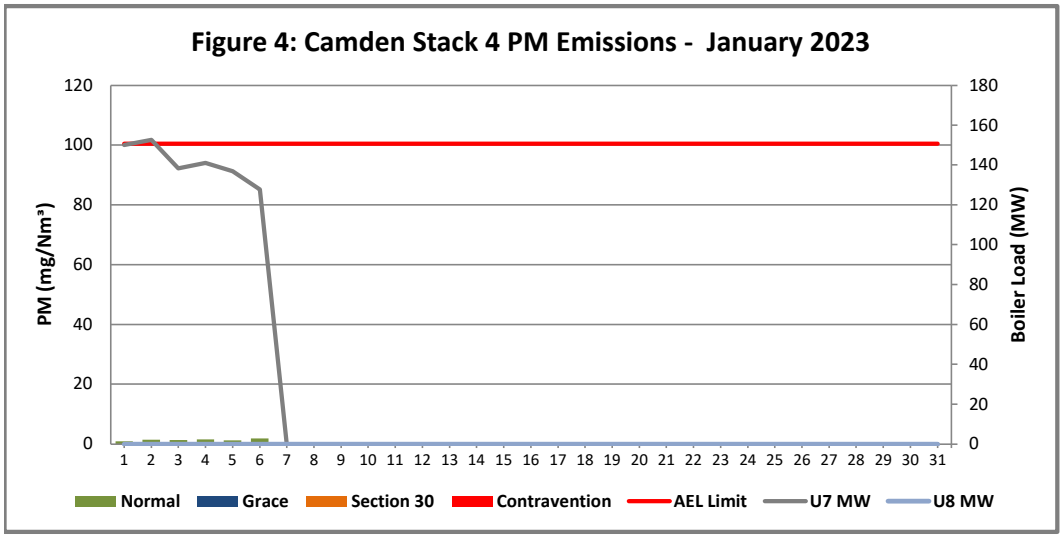
Figure 4: Camden Stack 4 PM Emissions - January 2023
PM (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U7 MW
U8 MW

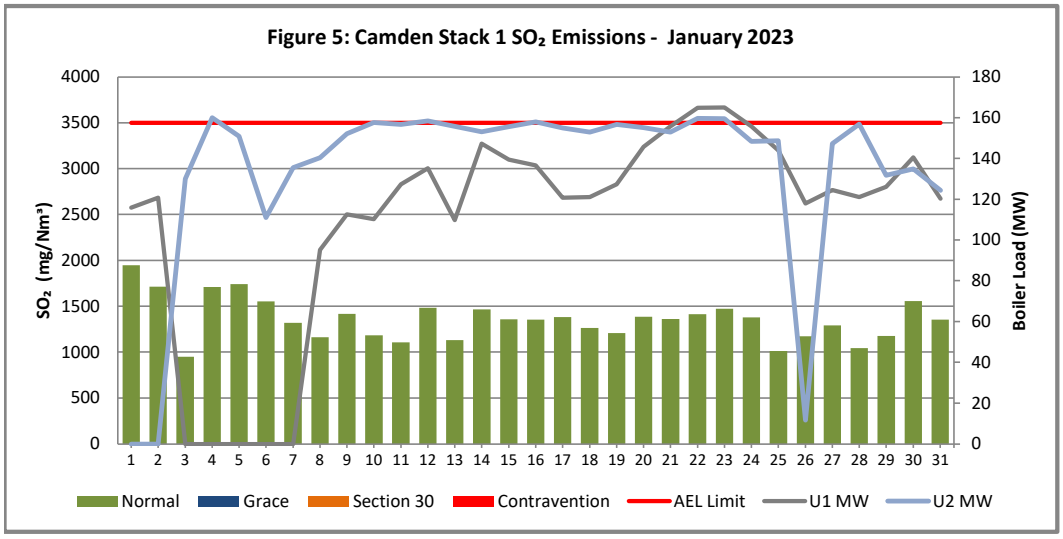
Figure 5: Camden Stack 1 SO₂ Emissions - January 2023
SO₂ (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW
U2 MW

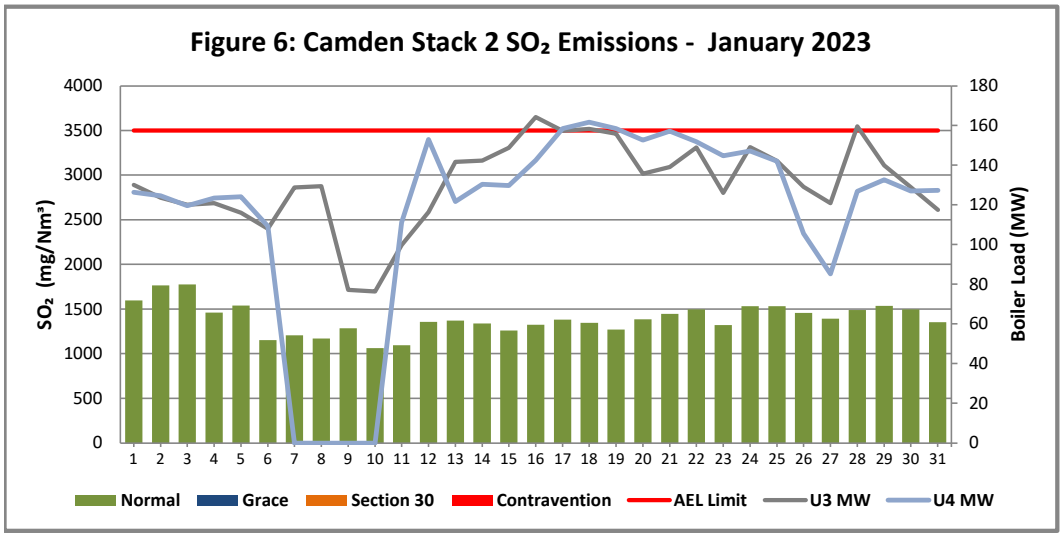
Figure 6: Camden Stack 2 SO₂ Emissions - January 2023
SO₂ (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW
U4 MW

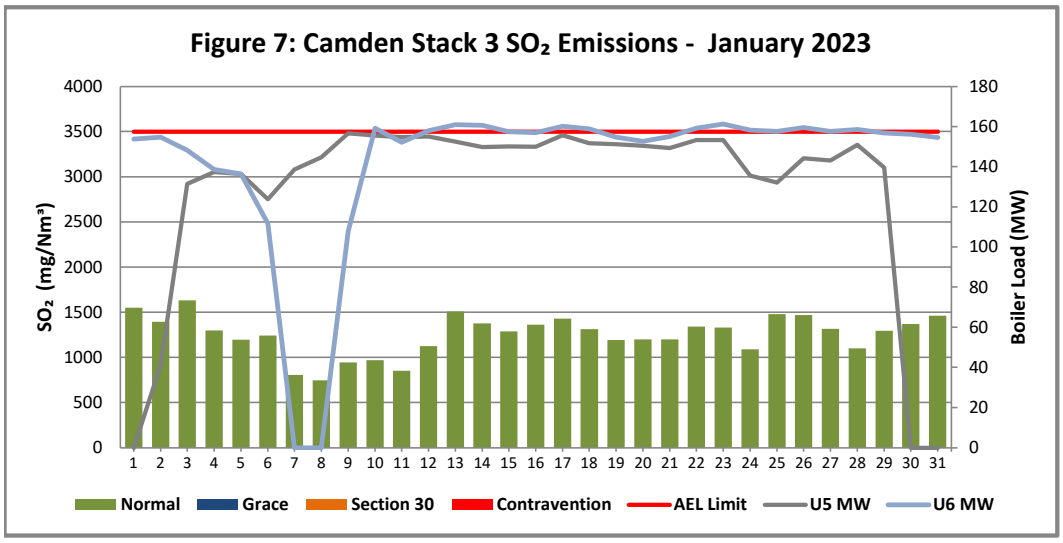
Figure 7: Camden Stack 3 SO_2 Emissions - January 2023
SO_2 (mg/Nm³)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW
U6 MW

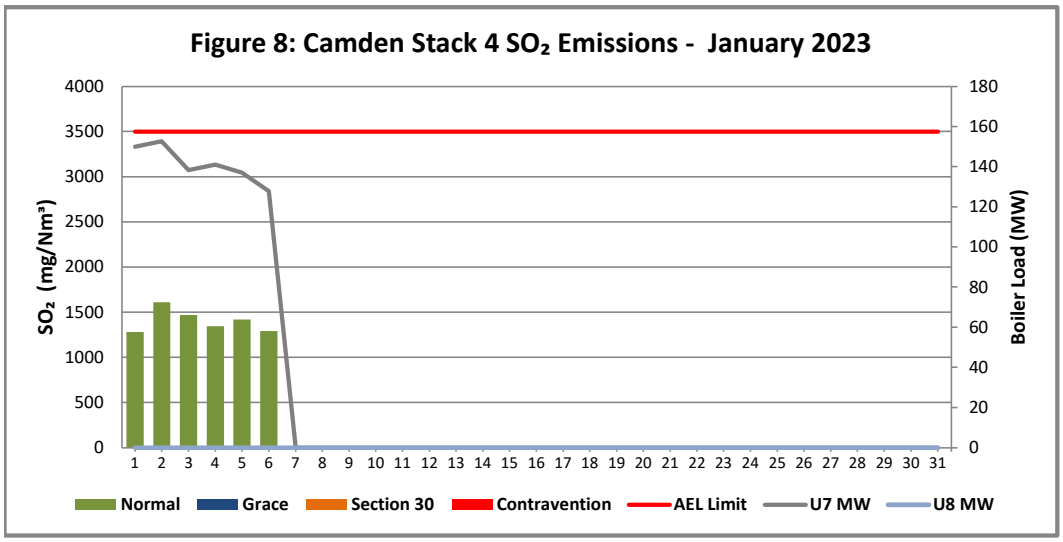
Figure 8: Camden Stack 4 SO_2 Emissions - January 2023
SO_2 (mg/Nm³)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U7 MW
U8 MW

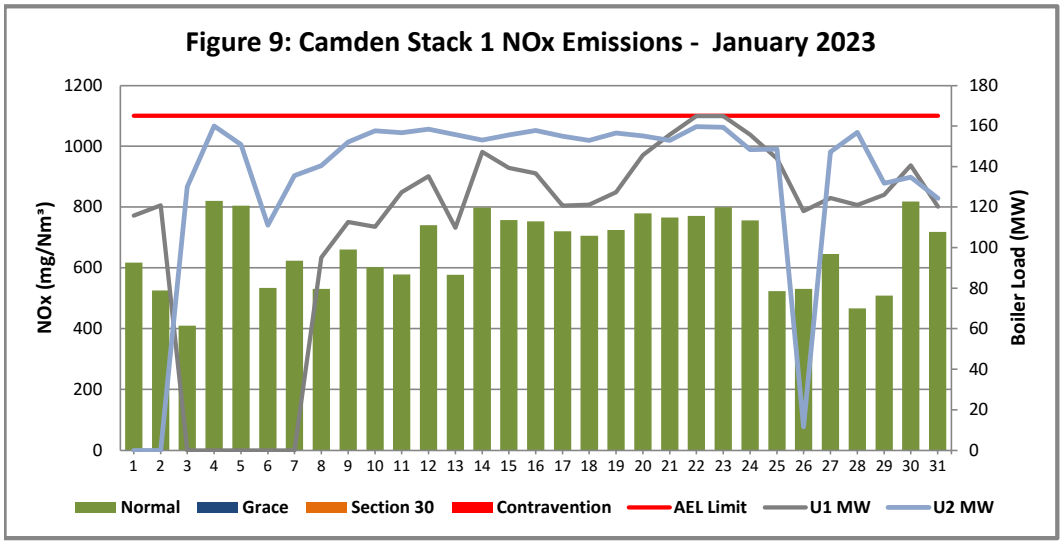
Figure 9: Camden Stack 1 NOx Emissions - January 2023
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW
U2 MW

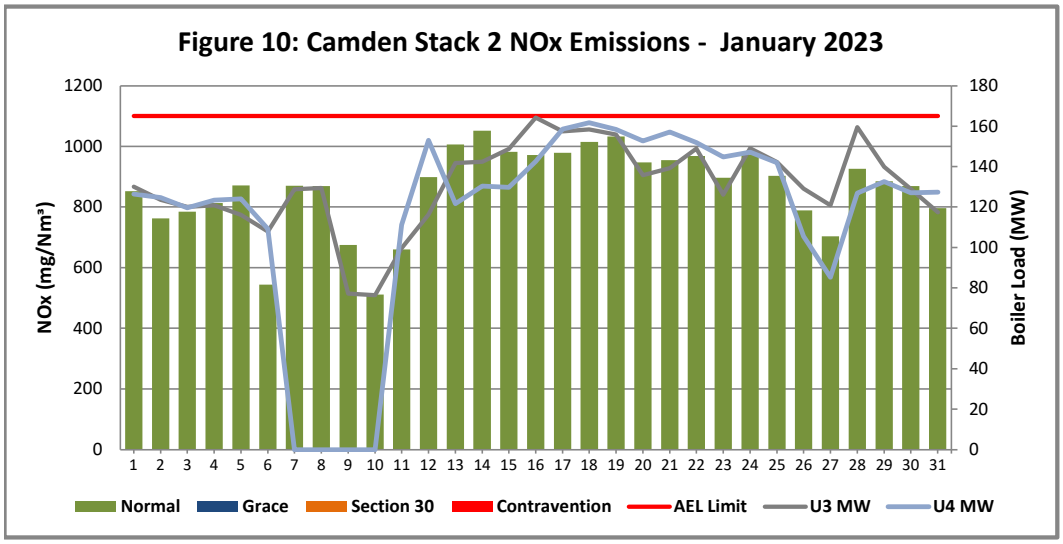
Figure 10: Camden Stack 2 NOx Emissions - January 2023
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW
U4 MW

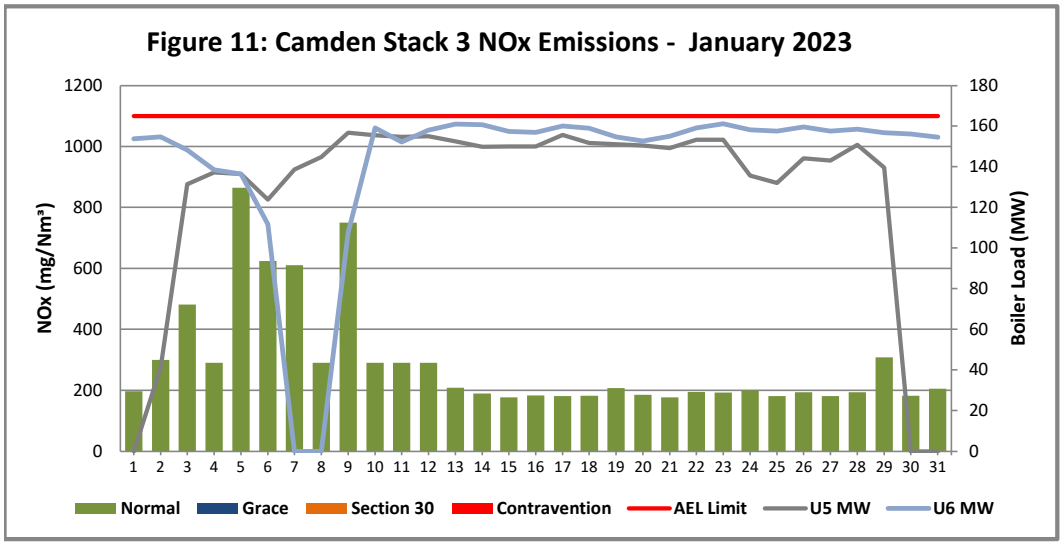
Figure 11: Camden Stack 3 NOx Emissions - January 2023
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW
U6 MW

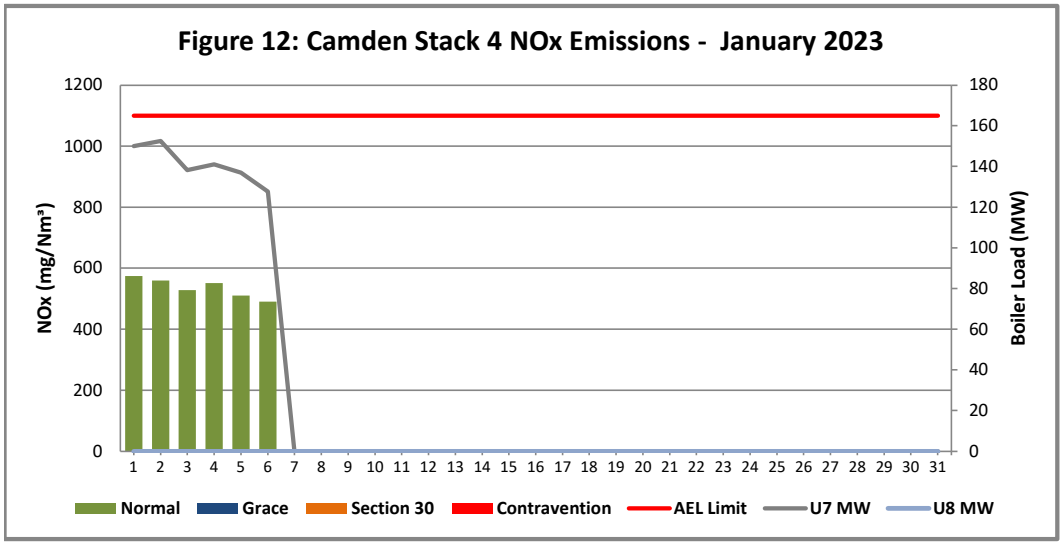
Figure 12: Camden Stack 4 NOx Emissions - January 2023
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U7 MW
U8 MW

10 GENERAL / ABNORMALITIES

Unit 1:
None
Unit 2:
None
Unit 3:
None
Unit 4:
None
Unit 5:
None
Unit 6:
None
Unit 7:
None
Unit 8:
None

Comments on Use of avarages for O2 and CO2 from QAL2 tests as per previous months
Stack 1 Dust monitor failure resulting in reliability issues from the 01-03 January 2023
Stack 3 & 4 low relability (<80%) fro SO2 and Nox
Stack 3 gas monitor malfuncitoned contributing to low NOx readings

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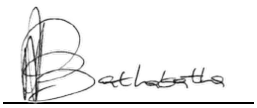
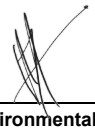


Engineering Manager

16/02/2023
Date



Environmental Manager

16/04/2023
Date

Compiled by:	Environmental Department&verified by Boiler Eng	Env. Practitioner & System Eng
For:	Department of Environment, Forestry & Fisheries	Chief Air Pollution Control Officer
Copies:	Eskom Environmental Management	D Herbst B Mccourt
	Gx Compliance Management Gx Asset Management	R Rampiar E Patel
	Camden Power Station:	Engineering Manager Operating Manager Maintenance Manager Production Managers Boiler Engineering Manager System Engineer Environmental Manager Environmental Officer P&T and Process Engineering Manager