

**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 Dec-2022
	Coal	Tons	550 000	399 708.00
	Fuel Oil	Tons	5 000	4 549.77

Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Actual Production Dec-2022
	Energy	GWh	1600	571.97
	Ash	Tons	not specified	88 256
	RE PM	kg/MWh	not specified	0.411

**2 ENERGY SOURCE CHARACTERISTICS**

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	19.56	22.58
Sulphur Content	%	< 2	0.90
Ash Content	%	25 to 35	22.08

### 3 EMISSION LIMITS (mg/Nm<sup>3</sup>)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO <sub>x</sub>
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 Dec-2022
Unit 1	Fabric Filter Plant (FFP)	99.995%
Unit 2	Fabric Filter Plant (FFP)	99.995%
Unit 3	Fabric Filter Plant (FFP)	99.996%
Unit 4	Fabric Filter Plant (FFP)	99.995%
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)	100.000%

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

### 5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO	CO <sub>2</sub>	O <sub>2</sub>
Stack 1	66.7	99.9	99.9	0.0	0.0
Stack 2	100.0	96.2	97.4	0.0	0.0
Stack 3	100.0	75.1	56.5	0.0	0.0
Stack 4	100.0	97.6	95.8	0.0	0.0

Note: NO<sub>x</sub> emissions is measured as NO in PPM. Final NO<sub>x</sub> value is expressed as total NO<sub>2</sub>

### 6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of December-2022

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
1	46.7	996	422
2	46.8	1 003	426
3	50.4	1 028	579
4	70.1	1 362	766
5	10.2	949	359
6	8.3	993	391
7	0.6	374	204
8	2.1	503	276
SUM	235.2	7 208	3 424

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
Stack 1	30	0	0	0	0	76.5
Stack 2	26	5	0	0	5	90.9
Stack 3	31	0	0	0	0	14.9
Stack 4	22	0	0	0	0	4.2
<b>SUM</b>	<b>109</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	

Table 6.3: Operating days in compliance to SO<sub>2</sub> AEL Limit - December 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
Stack 1	31	0	0	0	0	1 546.2
Stack 2	31	0	0	0	0	1 767.3
Stack 3	31	0	0	0	0	1 477.8
Stack 4	24	0	0	0	0	1 130.4
<b>SUM</b>	<b>117</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

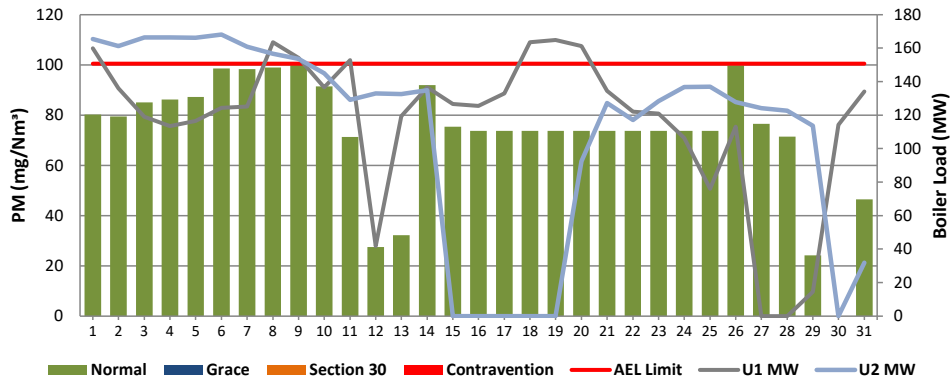
Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - December 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
Stack 1	31	0	0	0	0	662.7
Stack 2	27	0	0	4	4	992.8
Stack 3	31	0	0	0	0	615.9
Stack 4	24	0	0	0	0	610.3
<b>SUM</b>	<b>113</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	

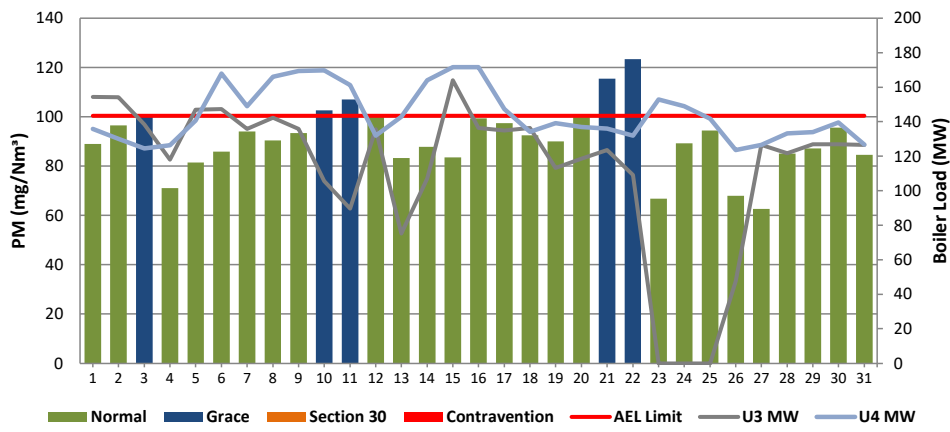
Table 6.5: Legend Description

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

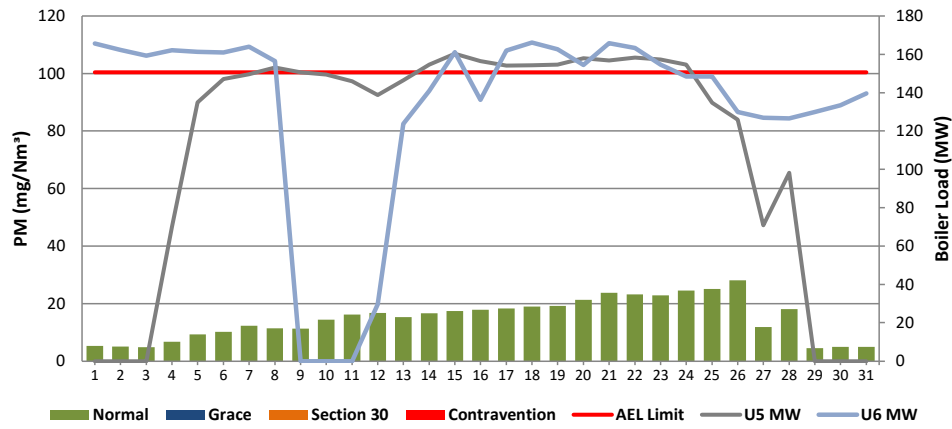
**Figure 1: Camden Stack 1 PM Emissions - December 2022**



**Figure 2: Camden Stack 2 PM Emissions - December 2022**



**Figure 3: Camden Stack 3 PM Emissions - December 2022**



**Figure 4: Camden Stack 4 PM Emissions - December 2022**

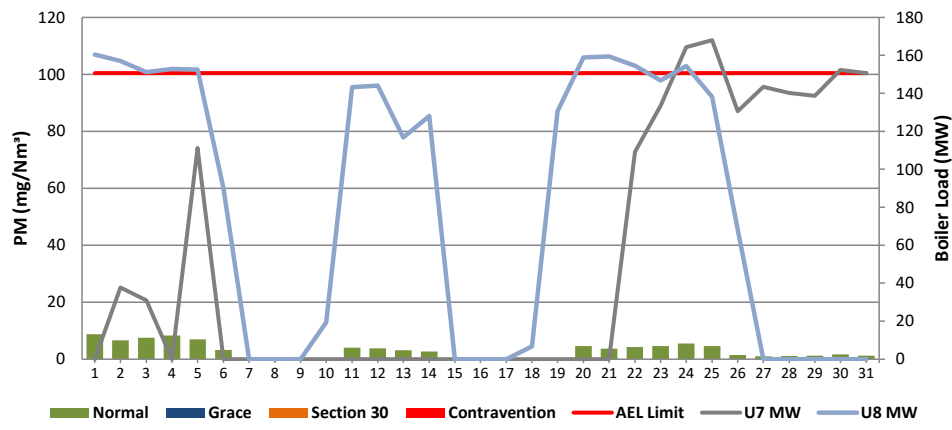


Figure 5: Camden Stack 1 SO<sub>2</sub> Emissions - December 2022

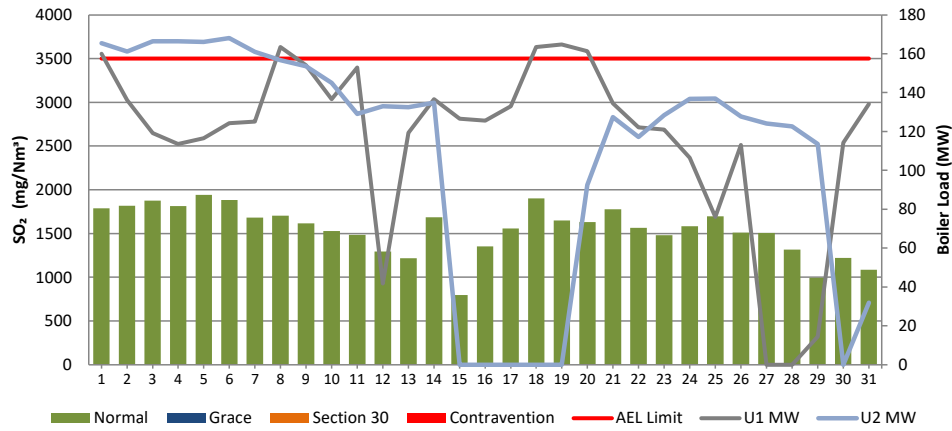
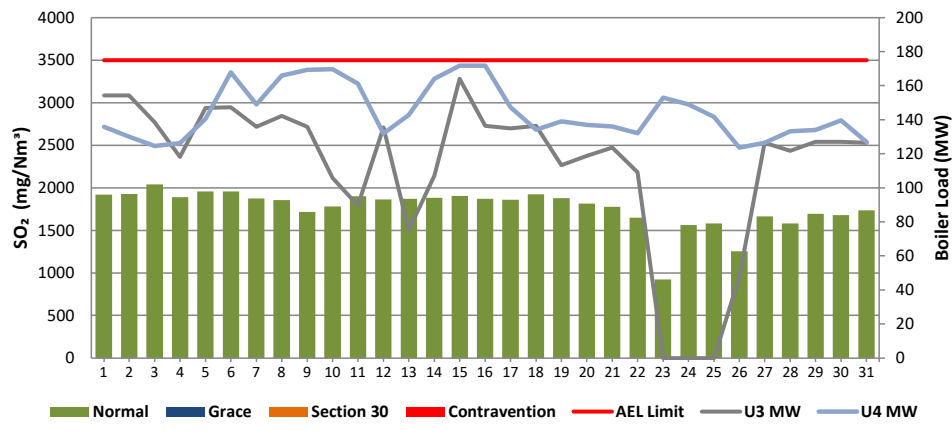
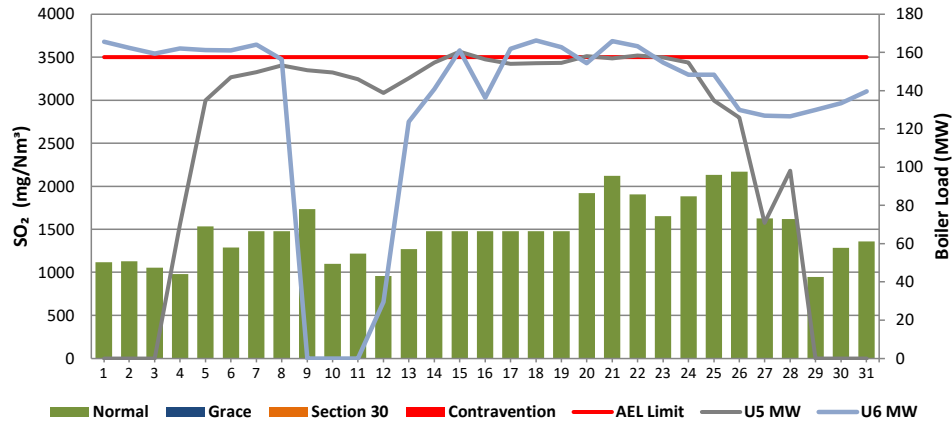


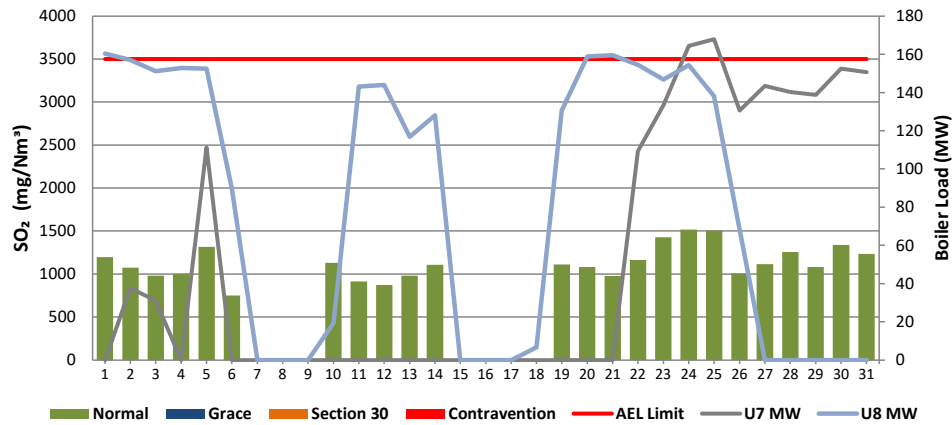
Figure 6: Camden Stack 2 SO<sub>2</sub> Emissions - December 2022



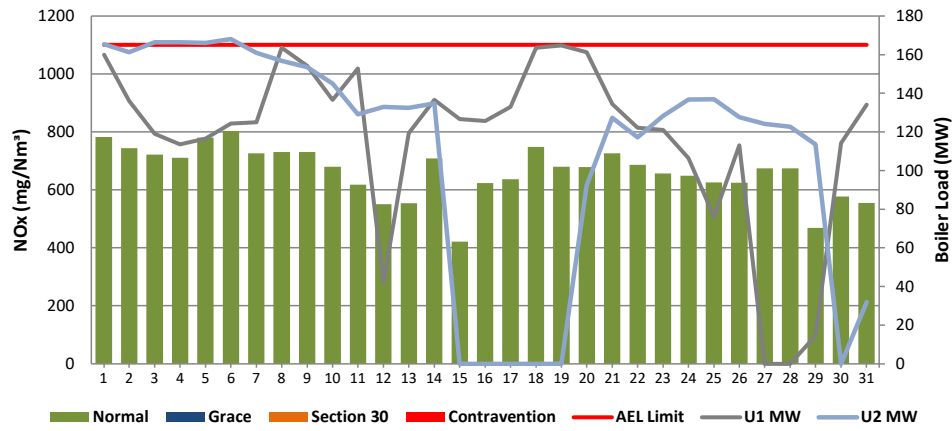
**Figure 7: Camden Stack 3 SO<sub>2</sub> Emissions - December 2022**



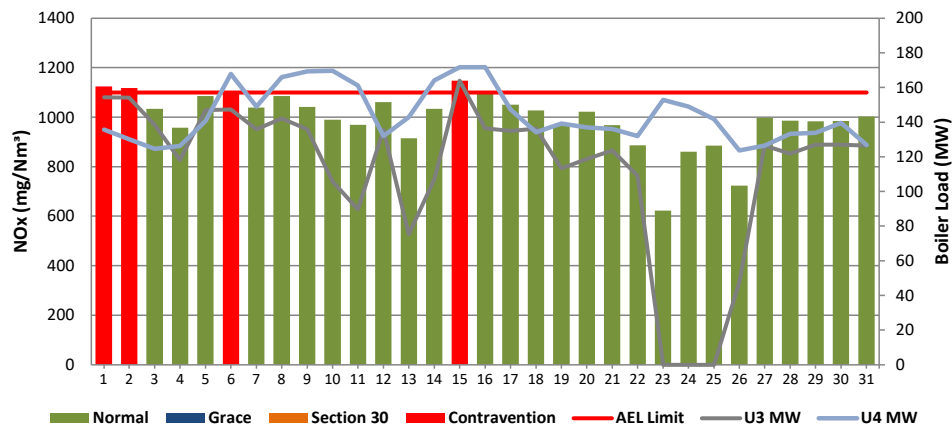
**Figure 8: Camden Stack 4 SO<sub>2</sub> Emissions - December 2022**



**Figure 9: Camden Stack 1 NOx Emissions - December 2022**

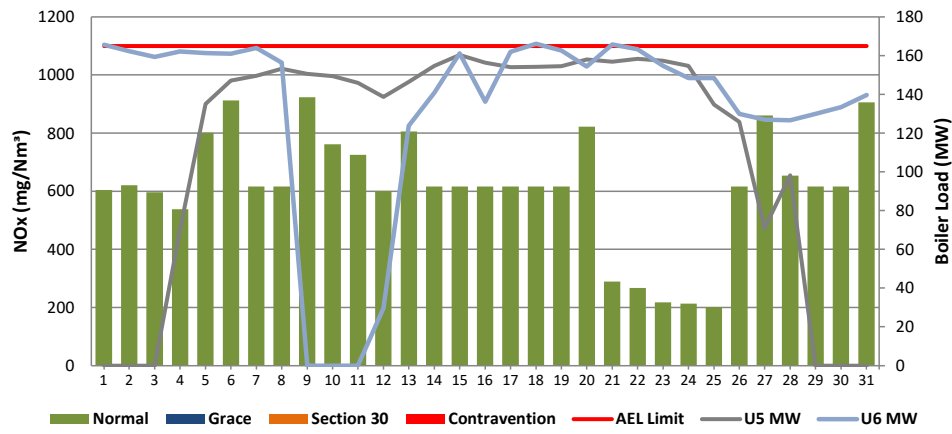


**Figure 10: Camden Stack 2 NOx Emissions - December 2022**

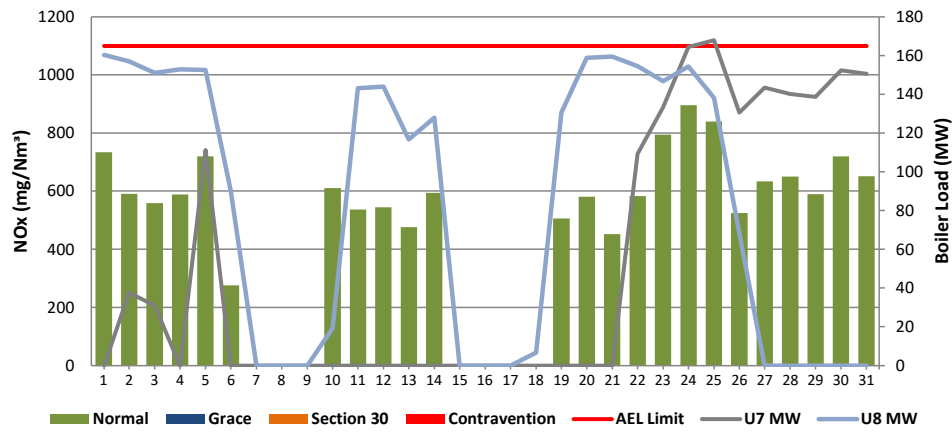




**Figure 11: Camden Stack 3 NOx Emissions - December 2022**



**Figure 12: Camden Stack 4 NOx Emissions - December 2022**



**10 GENERAL / ABNORMALITIES**

**Unit 1:**

None

**Unit 2:**

Unit off from 15th - 20th December 2022

**Unit 3:**

None

**Unit 4:**

None

**Unit 5:**

None

**Unit 6:**

None

**Unit 7:**

None

**Unit 8:**

None

**Comments on Use of averages for O2 and CO2 from QAL2 tests as per previous months**

Stack 2 experienced high NOx reading for the month of December 2022, Camden busy finalizing the investigation and will provide feedback soon.

Stack 1 Dust monitor failure resulting in reliability issues from the 16th - 25th December 2022

Stack 3 gas monitor malfunctioned resulting in reliability issues from the 13th - 20th December 2022

Stack 3 gas monitor malfunctioned contributing to low reliability (< 80%) for Stack 3 gases (SO2 and NO)

 <hr style="width: 100%;"/> <p>Engineering Manager</p>	<p>24/01/2023</p> <hr style="width: 100%;"/> <p>Date</p>	 <hr style="width: 100%;"/> <p>Environmental Manager</p>	<p>24/01/2023</p> <hr style="width: 100%;"/> <p>Date</p>
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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