AUGUST 2021

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 Aug-2021
	Coal	Tons	550 000	398 989,10
	Fuel Oil	Tons	5 000	4 028,42
Production Rates	**Product / By-Product Name**	**Units**	**Maximum Production Capacity Permitted**	**Actual Production Aug-2021**
	Energy	GWh	1600	557,47
	Ash	Tons	not specified	89 852
	RE PM	kg/MWh	not specified	0,081

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	19,56	22,88
Sulphur Content	%	< 2	0,90
Ash Content	%	25 to 35	22,52

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SOx	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 Aug-2021
Unit 1	*Fabric Filter Plant (FFP)*	99,9%
Unit 2	*Fabric Filter Plant (FFP)*	99,95%
Unit 3	*Fabric Filter Plant (FFP)*	99,91%
Unit 4	*Fabric Filter Plant (FFP)*	99,88%
Unit 5	*Fabric Filter Plant (FFP)*	99,98%
Unit 6	*Fabric Filter Plant (FFP)*	99,99%
Unit 7	*Fabric Filter Plant (FFP)*	99,99%
Unit 8	*Fabric Filter Plant (FFP)*	99,99%

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	*100,0*	*99,1*	*100,0*	*0,0*	*0,0*
Stack 2	*100,0*	*100,0*	*100,0*	*0,0*	*0,0*
Stack 3	*100,0*	*53,2*	*53,9*	*0,0*	*0,0*
Stack 4	*100,0*	*98,8*	*99,3*	*0,0*	*0,0*

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of August-2021

Associated Unit/Stack	PM (tons)	SO_2 (tons)	NO_X (tons)	CO_2 (tons)
1	3,4	319	129	43 363
2	5,0	1 000	403	123 393
3	15,0	1 113	629	132 254
4	16,5	1 219	689	144 870
5	2,4	673	329	100 494
6	0,1	67	33	9 915
7	1,3	1 059	522	145 495
8	1,4	1 032	514	144 317
SUM	45,1	6 483	3 247	844 101

Table 6.2: Operating days in compliance to PM AEL Limit - August 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
Stack 1	27	0	0	0	0	9,0
Stack 2	31	0	0	0	0	23,7
Stack 3	24	0	0	0	0	4,8
Stack 4	31	0	0	0	0	1,8
SUM	**113**	**0**	**0**	**0**	**0**	

Table 6.3: Operating days in compliance to SOx AEL Limit - August 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm³)
Stack 1	29	0	0	0	0	1 478,5
Stack 2	31	0	0	0	0	1 737,8
Stack 3	27	0	0	0	0	1 219,4
Stack 4	31	0	0	0	0	1 365,9
SUM	**118**	**0**	**0**	**0**	**0**	

Table 6.4: Operating days in compliance to NOx AEL Limit - August 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Stack 1	29	0	0	0	0	594,7
Stack 2	31	0	0	0	0	982,3
Stack 3	27	0	0	0	0	596,0
Stack 4	31	0	0	0	0	671,7
SUM	**118**	**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

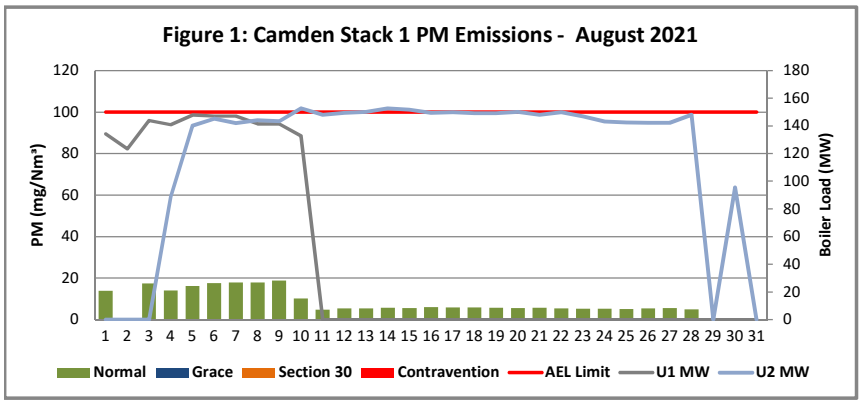
Figure 1: Camden Stack 1 PM Emissions - August 2021
PM (mg/Nm³)
Boiler Load (MW)
120
100
80
60
40
20
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW
U2 MW

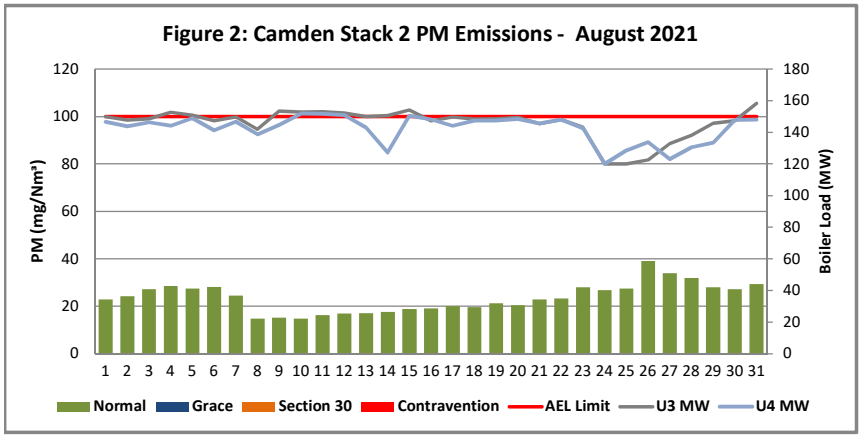
Figure 2: Camden Stack 2 PM Emissions - August 2021
PM (mg/Nm³)
Boiler Load (MW)
120
100
80
60
40
20
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW
U4 MW

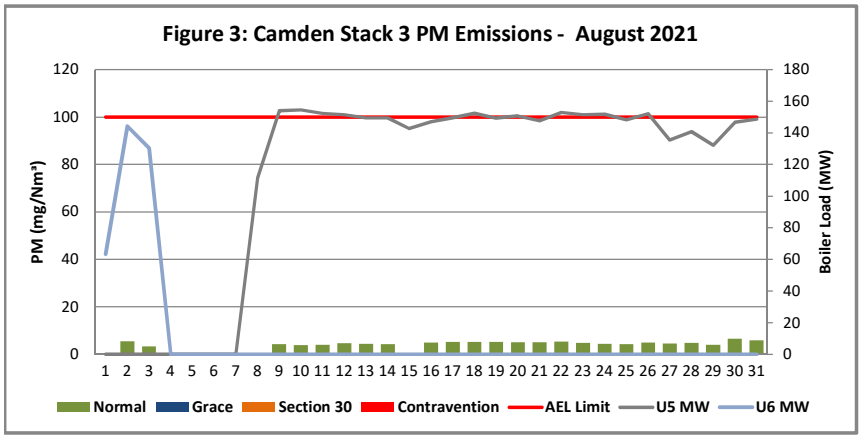
Figure 3: Camden Stack 3 PM Emissions - August 2021
PM (mg/Nm³)
Boiler Load (MW)
120
100
80
60
40
20
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW
U6 MW

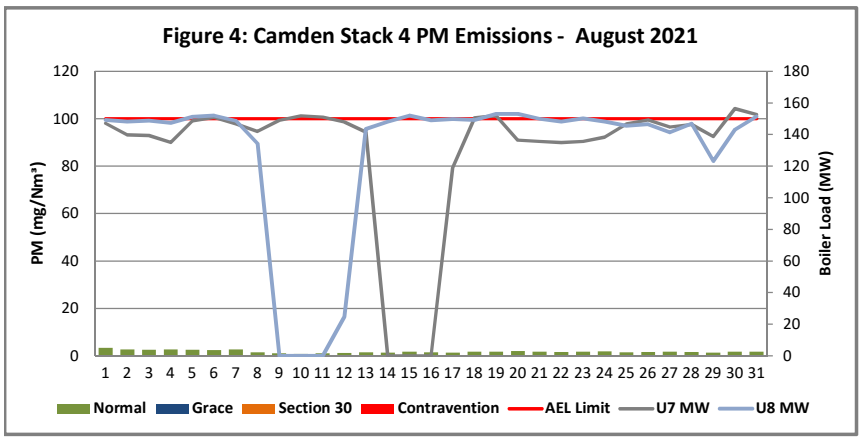
Figure 4: Camden Stack 4 PM Emissions - August 2021
PM (mg/Nm³)
Boiler Load (MW)
120
100
80
60
40
20
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U7 MW
U8 MW

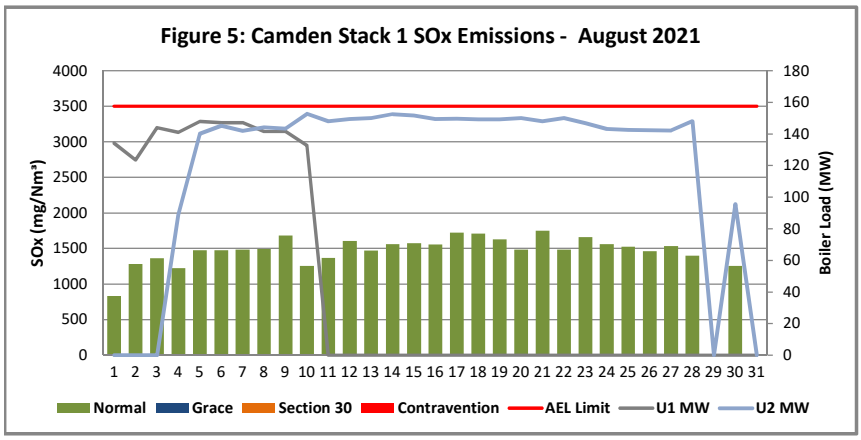
Figure 5: Camden Stack 1 SOx Emissions - August 2021
SOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW
U2 MW

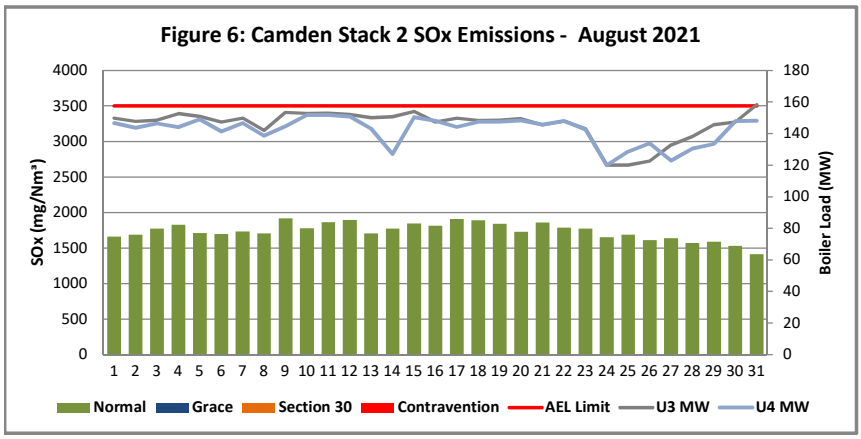
Figure 6: Camden Stack 2 SOx Emissions - August 2021
SOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW
U4 MW

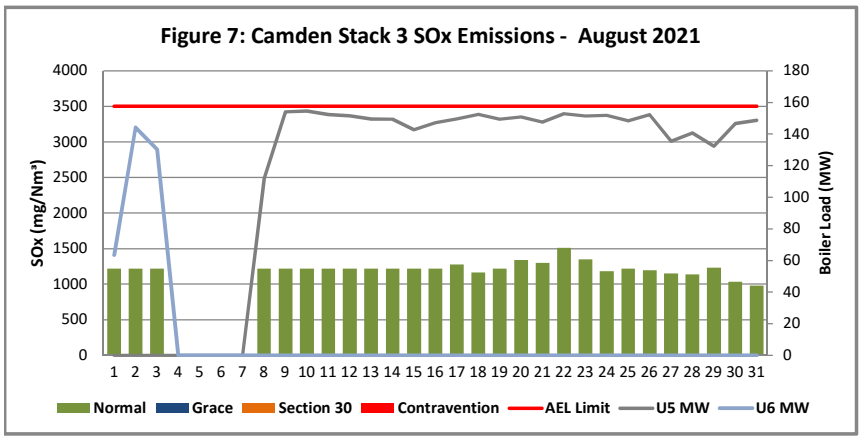
Figure 7: Camden Stack 3 SOx Emissions - August 2021
SOx (mg/Nm³)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW
U6 MW

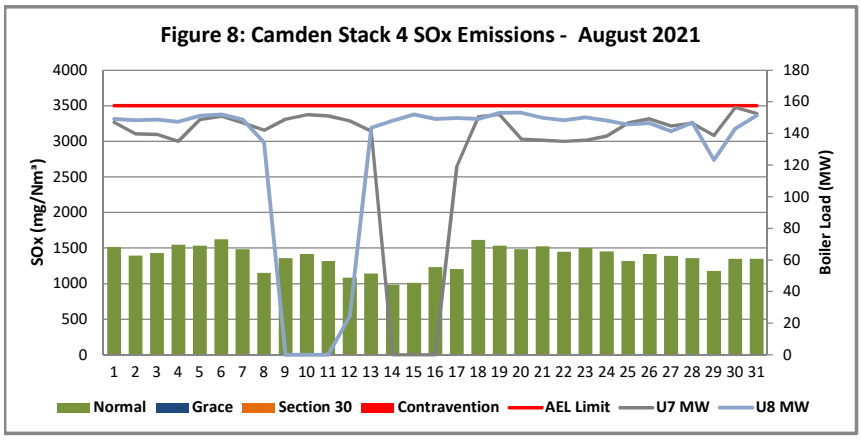
Figure 8: Camden Stack 4 SOx Emissions - August 2021
SOx (mg/Nm³)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U7 MW
U8 MW

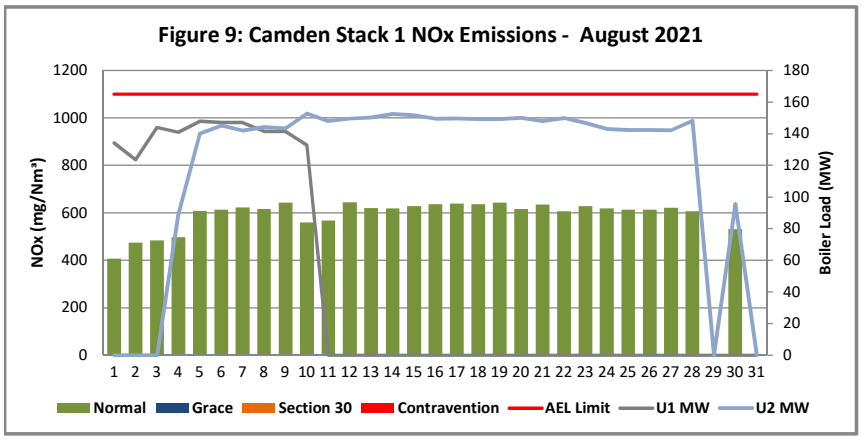
Figure 9: Camden Stack 1 NOx Emissions - August 2021
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW
U2 MW

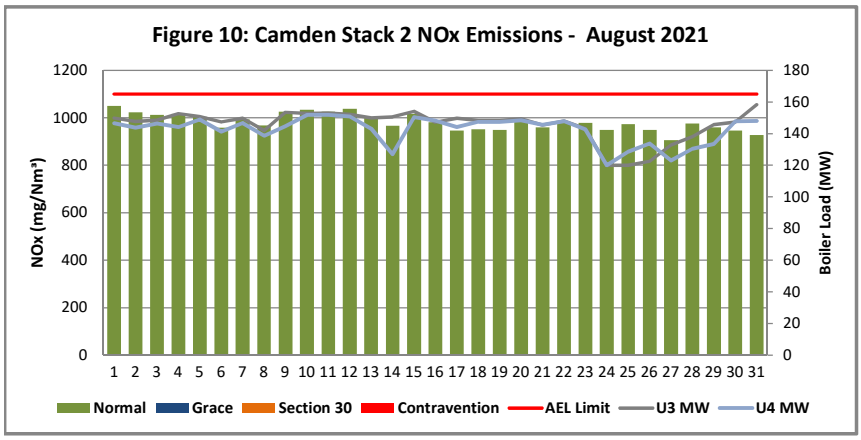
Figure 10: Camden Stack 2 NOx Emissions - August 2021
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW
U4 MW

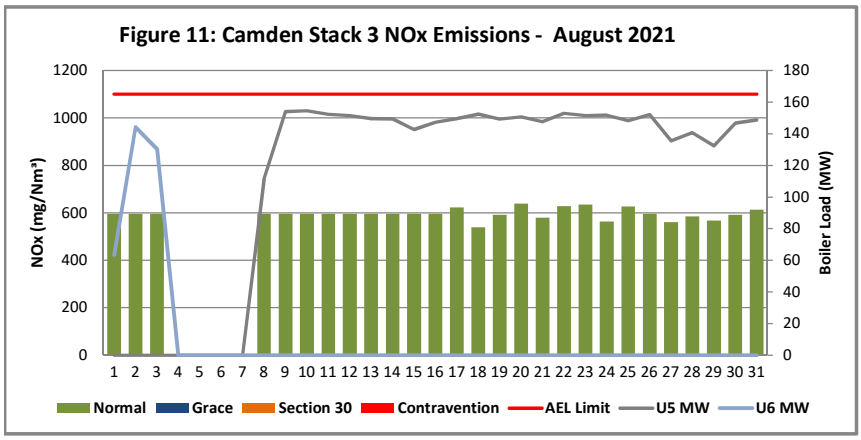
Figure 11: Camden Stack 3 NOx Emissions - August 2021
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW
U6 MW

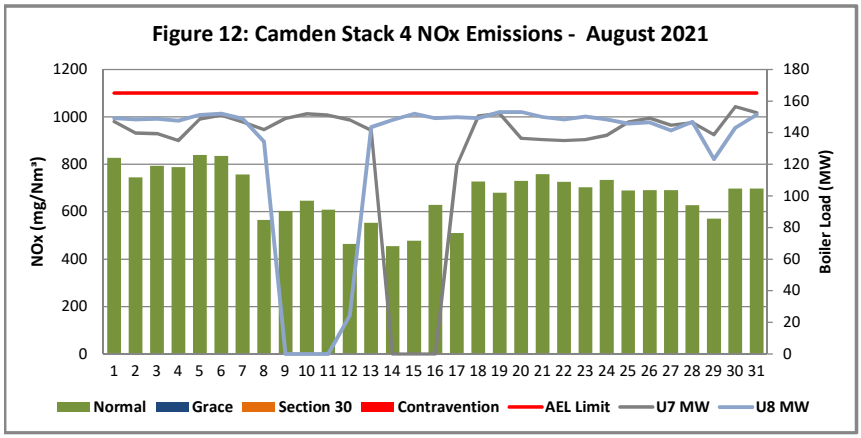
Figure 12: Camden Stack 4 NOx Emissions - August 2021
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U7 MW
U8 MW

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

General

As previously communicated, average values for the Stack 1-4 O_2 and CO_2 from the QAL2 tests were used for the Month of August 2021, hence the low reliability Stack 3 CODELGCEM 4000 Gaseous Monitor and MRU Oxygen analyser were not functioning between the 27th July 2021 and 17 August 2021.

Engineering Manager	16/09/2021 **Date**	**Environmental Manager**	16/09/2021 **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