



Ms Nompumelelo Simelane
Nkangala District Municipality
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Middleburg
1050

Date:

March 2024

Enquiries: Lesiba Kgobe
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Ref: *Kusile Power Station AEL (17/4/AEL/MP311/12/01)*

Dear Ms. Simelane

KUSILE POWER STATION'S MONTHLY EMISSIONS REPORT FOR MAY 2023 REV 02

Resubmission of monthly emissions report for May 2023. Please take note that Unit 1,2 and 3 were off due to flue gas duct collapse incident that occurred in Oct 2022.

Hoping the above will meet your satisfaction.

Yours sincerely

Christopher Nani
ACTING GENERAL MANAGER
DATE: 3/4/2024

1. KUSILE POWER STATION MONTHLY EMISSIONS REPORT: Atmospheric Emission License 17/4/AEL/MP311/12/01



2 Raw Materials and Products

Raw Materials and Products	Raw Material Type	Units	Max Permitted Consumption Rate	Consumption Rate May-2023
	Coal	Tons	1 818 083	192 104
	Fuel Oil	Tons	5 533	148.535
	Limestone	Tons	72 917	8331
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Indicative Production Rate May-2023
	Energy	GWh	3 321.216	374.562
	Ash	Tons	663 583	58 207.421
	Gypsum	Tons	129 250	4 665.000
	RE PM	kg/MWh	not specified	0.020
	RE SO ₂	kg/MWh	not specified	0.300

3 Energy source characteristics

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal Sulphur	%	1.3	1.000
Ash in Coal	%	38	30.300
Fuel Oil Sulphur	%	3.5	2.490

4 Emissions Limits (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
East	50	500	750
West	50	500	750

5 Abatement Technology (%)

Associated Unit/Stack	Technology Type	Efficiency May-2023	Utilisation May - 2023	Technology Type	Efficiency May-2023	Utilisation May - 2023
Unit 1	FFP	Off	Off	FGD	Out of service	Off
Unit 2	FFP	Off	Off	FGD	Out of service	Off
Unit 3	FFP	Off	Off	FGD	Out of service	Off
Unit 4	FFP	99.986%	100%	FGD	99.967%	100%

Note: Both the FFP and FGD does not have bypass mode operation, hence plant 100% Utilised.

6. Monitoring reliability (%)

Associated Unit/Stack	PM	SO ₂	NO
Unit 1	Off	Off	Off
Unit 2	Off	Off	Off
Unit 3	Off	Off	Off
Unit 4	80.6	99.6	99.6

7. Emissions Performance

Table 7.1: Monthly tonnages for the month of May - 2023

Associated Unit/Stack	PM	SO ₂	NO _x
Unit 1	Off	Off	Off
Unit 2	Off	Off	Off
Unit 3	Off	Off	Off
Unit 4	7.3	113	852
SUM	7.3	113	852

Table 7.2: Operating days in compliance to PM AEL Limit - May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	Off	Off	Off	Off	Off	Off
Unit 2	Off	Off	Off	Off	Off	Off
Unit 3	Off	Off	Off	Off	Off	Off
Unit 4	30	0	0	0	0	4.0
SUM	30	0	0	0	0	

Table 7.3: Operating days in compliance to SO₂ AEL Limit - May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	Off	Off	Off	Off	Off	Off
Unit 2	Off	Off	Off	Off	Off	Off
Unit 3	Off	Off	Off	Off	Off	Off
Unit 4	31	0	0	0	0	57.5
SUM	31	0	0	0	0	

Table 7.4: Operating days in compliance to NO_x AEL Limit – May 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	Off	Off	Off	Off	Off	Off
Unit 2	Off	Off	Off	Off	Off	Off
Unit 3	Off	Off	Off	Off	Off	Off
Unit 4	31	0	0	0	0	442.2
SUM	31	0	0	0	0	

Table 7.5: 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 4: Kusile Unit 4 PM Emissions - May 2023

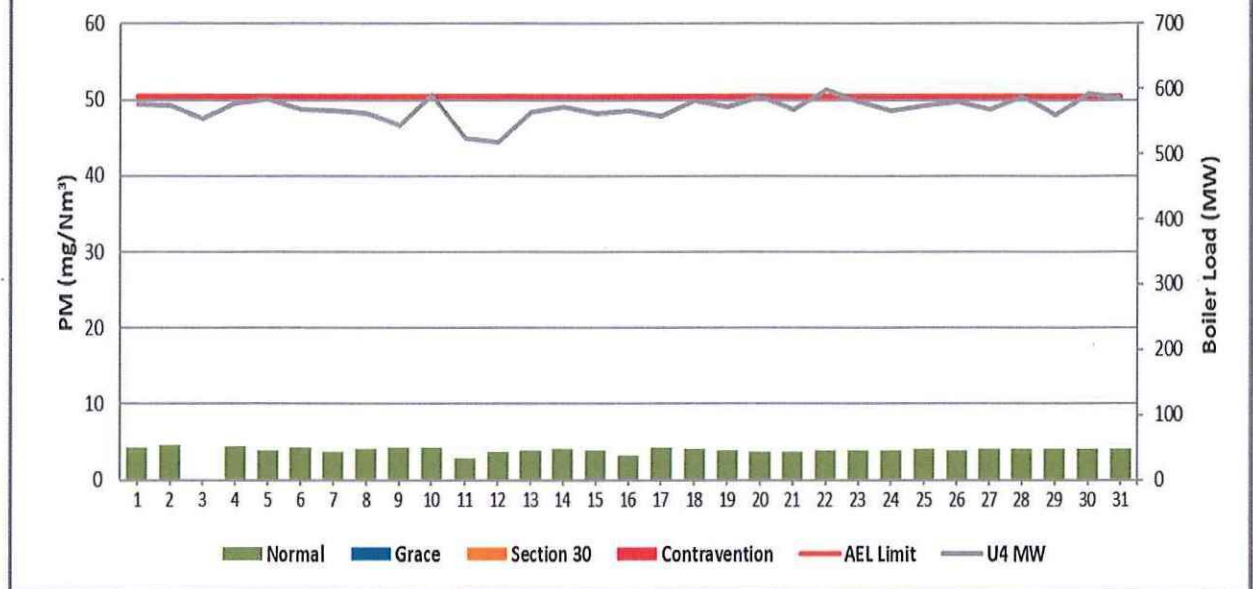
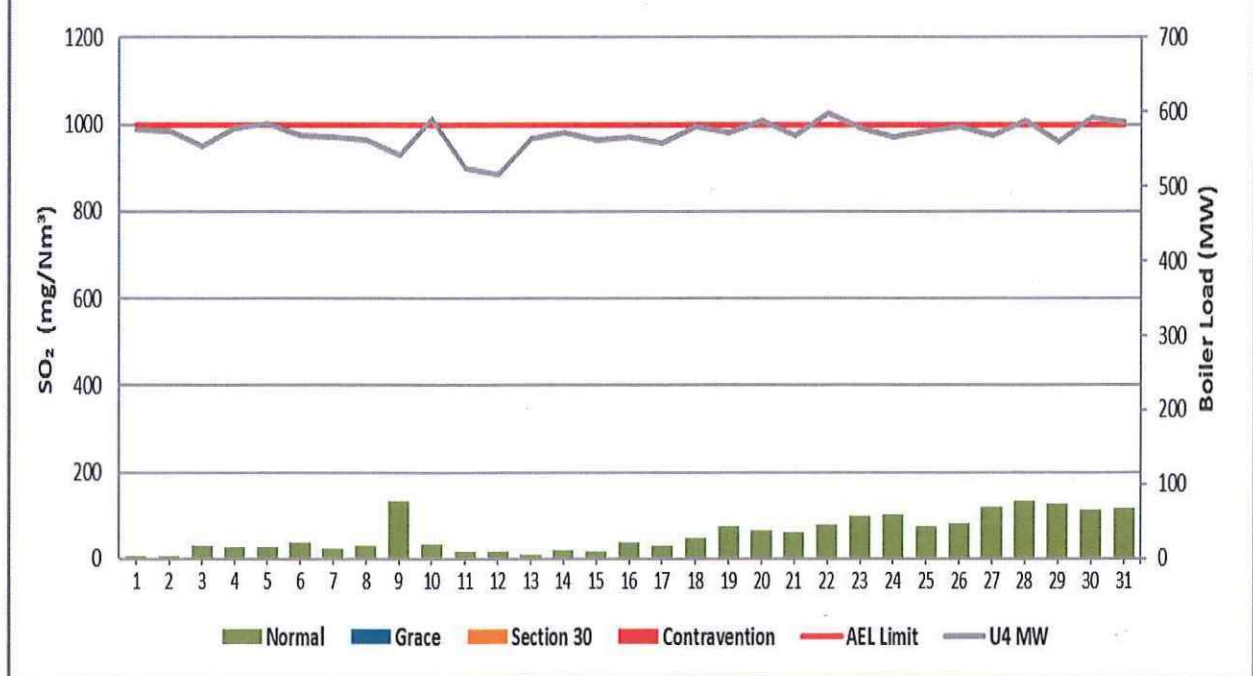
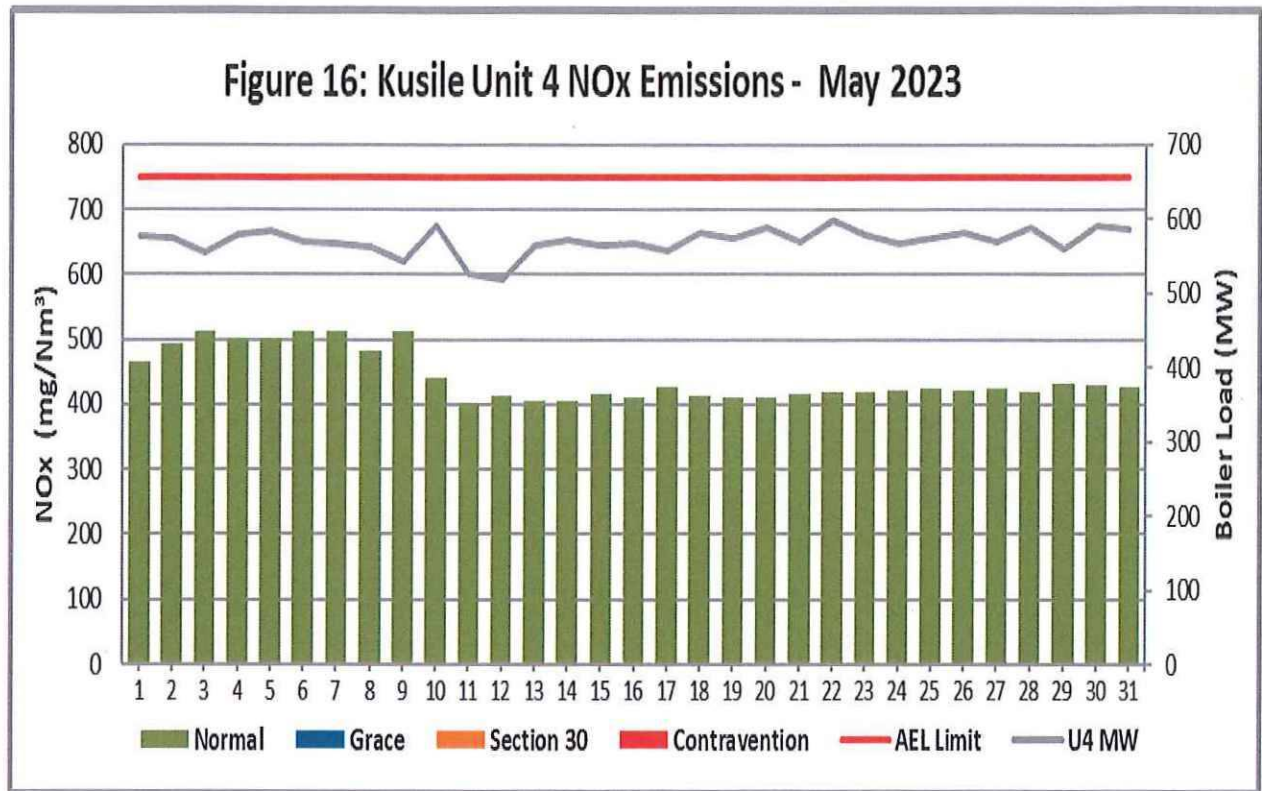


Figure 10: Kusile Unit 4 SO₂ Emissions - May 2023





8. Shut down and Light up information

Unit No. 4	Event 1		Event 2		Event 3	
Breaker Open (BO)	BO previously	BO previously	5:40 pm	2023/05/02	11:35 am	2023/05/09
Draught Group (DG) Shut Down (SD)	n/a	n/a	5:40 pm	2023/05/02	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	n/a	DD:HH:MM	00:00:00	DD:HH:MM	n/a	DD:HH:MM
Fires in time			6:05 pm	2023/05/02	1:50 pm	2023/05/09
Synch. to Grid (or BC)			11:55 pm	2023/05/02	3:40 pm	2023/05/09
Fires in to BC (duration)		DD:HH:MM	00:05:50	DD:HH:MM	00:01:50	DD:HH:MM
Emissions below limit from BC (end date)			not > limit	not > limit	not > limit	not > limit
Emissions below limit from BC (duration)		DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

Date and time complaint was received	Complaint received	Source code name	Root cause analysis	Calculation of impact/emissions associated with incidents and dispersion modelling of pollutants where applicable.	Measures implemented or to be implemented to prevent recurrence	Date by which measures will be implemented
No complaints reported for the month of May 2023						