



**Ms Nompumelelo Simelane**  
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Date:

*March 2024*

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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 AUGUST 2023 REV 02**

Resubmission of monthly emissions report for August 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 Aug-2023
	Coal	Tons	1 818 083	179 322
	Fuel Oil	Tons	5 533	226.432
	Limestone	Tons	72 917	5965
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Indicative Production Rate Aug-2023
	Energy	GWh	3 321.216	370.126
	Ash	Tons	663 583	53 617.245
	Gypsum	Tons	129 250	3 340.400
	RE PM	kg/MWh	not specified	0.019
	RE SO <sub>2</sub>	kg/MWh	not specified	0.421

## 3 Energy source characteristics

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal Sulphur	%	1.3	0.740
Ash in Coal	%	38	29.900
Ash in FO	%	0.02	0.020
FO Sulphur	%	3.5	2.51

#### 4 Emissions Limits (mg/Nm<sup>3</sup>)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO <sub>x</sub>
East	50	3500	750
West	50	1000	750

#### 5 Abatement Technology (%)

Associated Unit/Stack	Technology Type	Efficiency Aug-2023	Utilisation Aug - 2023	Technology Type	Efficiency Aug-2023	Utilisation Aug - 2023
Unit 1	FFP	Off	Off	FGD	Out of service	Out of service
Unit 2	FFP	Off	Off	FGD	Out of service	Out of service
Unit 3	FFP	Off	Off	FGD	Out of service	Out of service
Unit 4	FFP	99.986%	100%	FGD	99.935%	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 <sub>2</sub>	NO
Unit 1	Off	Off	Off
Unit 2	Off	Off	Off
Unit 3	Off	Off	Off
Unit 4	93.5	90.5	90.9

#### 7. Emissions Performance

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

Associated Unit/Stack	PM	SO <sub>2</sub>	NO <sub>x</sub>
Unit 1	Off	Off	Off
Unit 2	Off	Off	Off
Unit 3	Off	Off	Off
Unit 4	7.0	156	888
SUM	7.0	156	888



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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
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	29	0	0	0	0	4.0
<b>SUM</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 7.3: Operating days in compliance to SO<sub>2</sub> AEL Limit – August 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
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	29	0	0	0	0	88.8
<b>SUM</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 7.4: Operating days in compliance to NO<sub>x</sub> AEL Limit – August 2023

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
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	29	0	0	0	0	481.1
<b>SUM</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

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 - August 2023

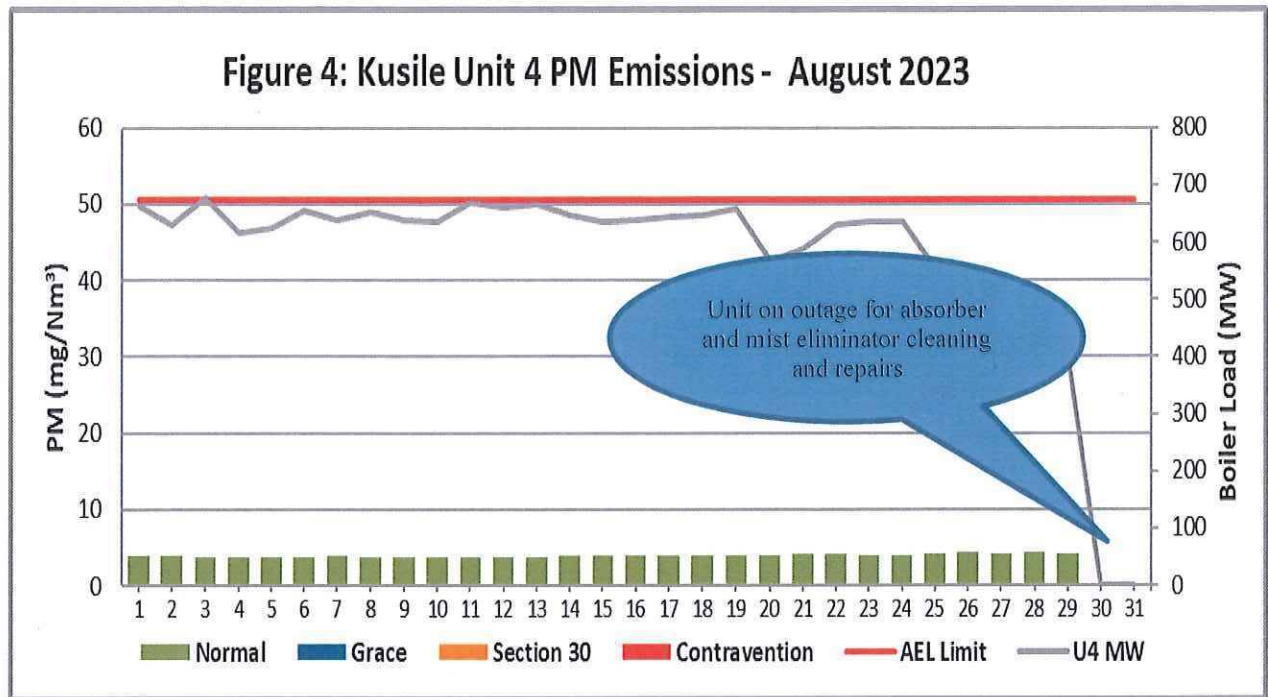
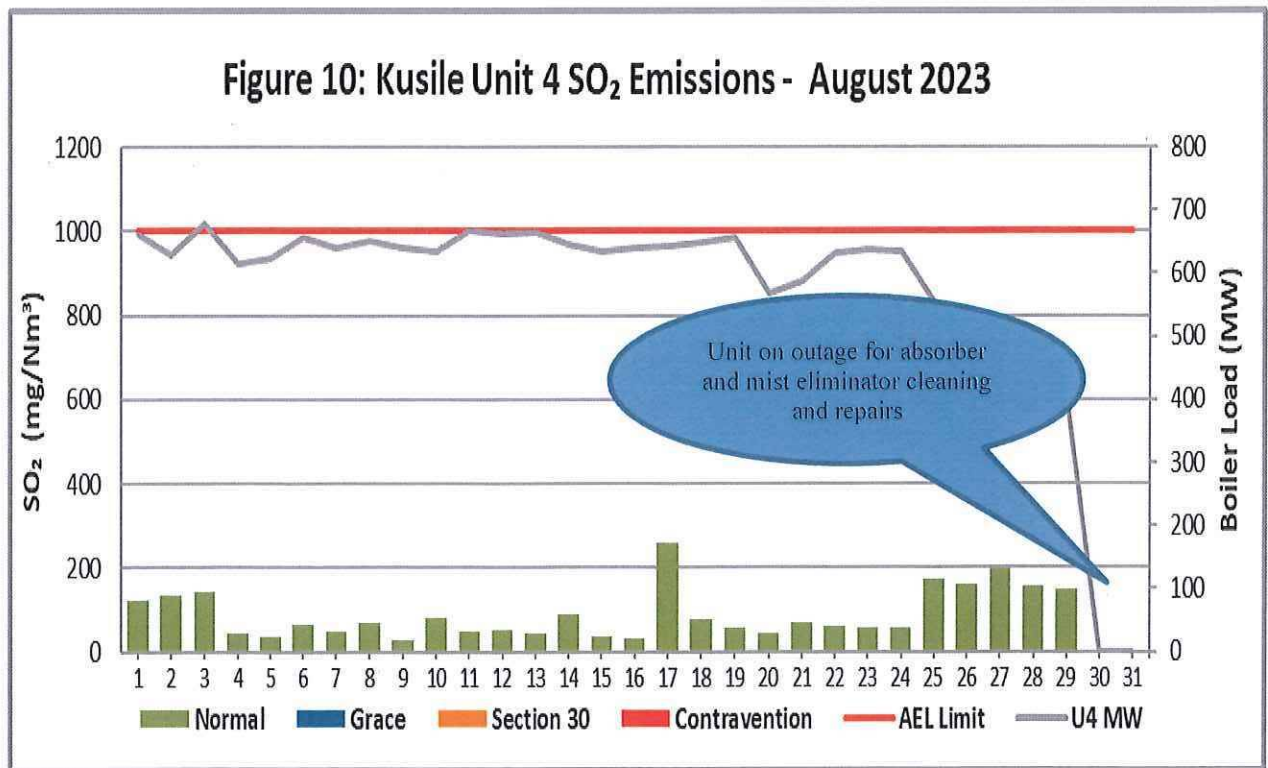
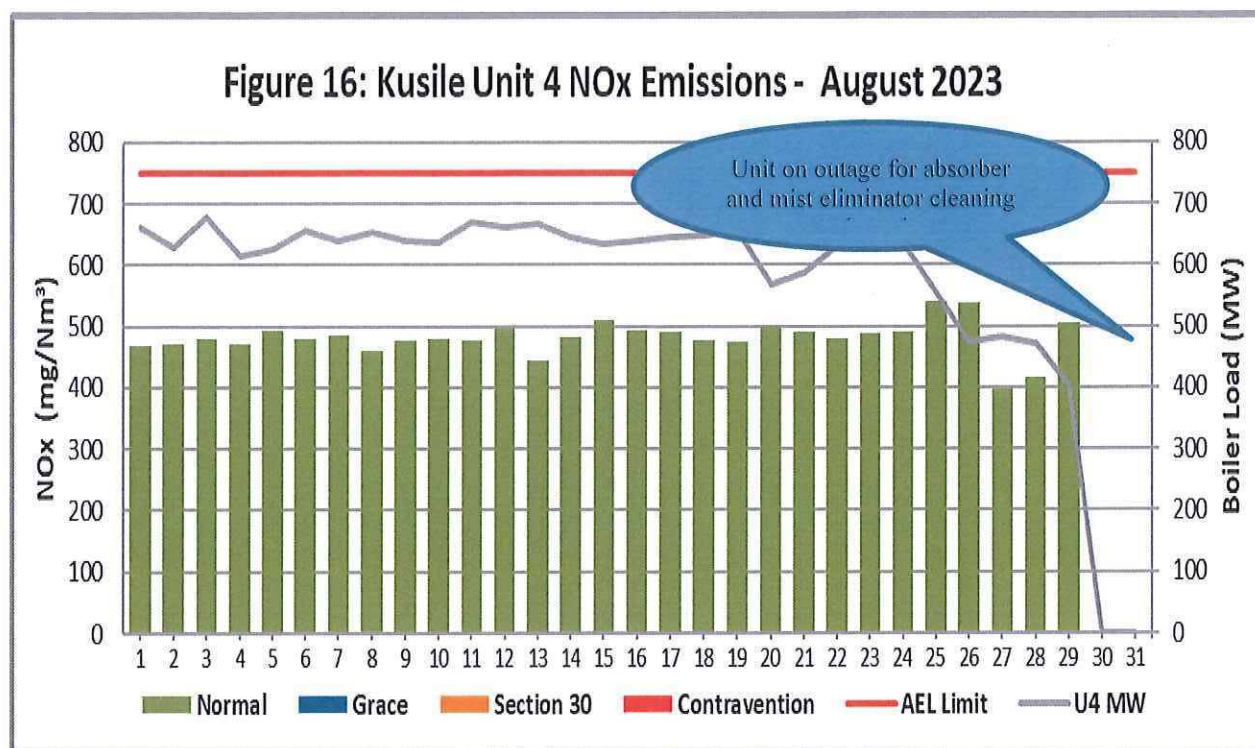


Figure 10: Kusile Unit 4  $\text{SO}_2$  Emissions - August 2023





## 8. Shut down and Light up information

Unit No. 4	Event 1		Event 2		Event 3	
Breaker Open (BO)	4:55 pm	2023/08/01	7:45 pm	2023/08/20	1:35 am	2023/08/29
Draught Group (DG) Shut Down (SD)	4:55 pm	2023/08/01	DG did not trip or SD	DG did not trip or SD	10:40 pm	2023/08/29
BO to DG SD (duration)	00:00:00	DD:HH:MM	n/a	DD:HH:MM	00:21:05	DD:HH:MM
Fires in time	5:30 pm	2023/08/01	7:45 pm	2023/08/20		
Synch. to Grid (or BC)	11:15 am	2023/08/02	9:20 pm	2023/08/20		
Fires in to BC (duration)	00:17:45	DD:HH:MM	00:01:35	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit		
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM



## 9. Complaints

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 August 2023						