



**Ms Nompumelelo Simelane**  
Nkangala District Municipality  
PO Box 437  
Middleburg  
1050

Date:

*October 2023*

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 SEPTEMBER 2023**

This serves as the monthly report required in terms of Section 7.6 in Kusile Power Station's Atmospheric Emission License: 17/4/AEL/MP311/12/01. The emissions are for the month of September 2023. Please take note that Unit 1, 2 and 3 were off due to the 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: 25/10/2023**

**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	Maximum Permitted Consumption Rate	Consumption Rate Sep-2023
	Coal	Tons	1 818 083	87 519
	Fuel Oil	Tons	5 533	45.017
	Limestone	Tons	72 917	3776

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Sep-2023
	Energy	GWh	3321.216	175.10
	Ash	Tons	663 583	26 168.2
	Gypsum	Tons	129 250	2 114.6
	RE PM	kg/MWh	<i>not specified</i>	0.012
	RE SOx	kg/MWh	<i>not specified</i>	0.577

**3 Energy source characteristics**

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal CV	MJ/kg	<i>not specified</i>	20.250
Coal Sulphur	%	1.3	1.020
Ash in Coal	%	38	28.900
Fuel Oil (FO) CV	MJ/kg	<i>not specified</i>	44.100
Fuel Oil Sulphur	%	3	2.290
Ash in FO	%	0.02	0.012

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

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

#### 5 Abatement Technology (%)

Associated Unit/Stack	Technology Type	Efficiency Sep-2023	Technology Type	Efficiency Sep-2023
Unit 1	Unit on outage			
Unit 2	Unit on outage			
Unit 3	Unit on outage			
Unit 4	FFP	99.991	FGD	99.913

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	O <sub>2</sub>
Unit 1	Unit on outage			
Unit 2	Unit on outage			
Unit 3	Unit on outage			
Unit 4	100	94.6	100	100

#### 7. Emissions Performance

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

Associated Unit/Stack	PM	SO <sub>2</sub>	NO <sub>x</sub>
Unit 1	Unit on outage		
Unit 2	Unit on outage		
Unit 3	Unit on outage		
Unit 4	2.1	101	257
<b>SUM</b>	2.1	101	257

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
Unit 1	Unit on outage					
Unit 2	Unit on outage					
Unit 3	Unit on outage					
Unit 4	13					4.3
<b>SUM</b>	<b>13</b>					

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
Unit 1	Unit on outage					
Unit 2	Unit on outage					
Unit 3	Unit on outage					
Unit 4	14					164.5
<b>SUM</b>	<b>14</b>					

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
Unit 1	Unit on outage					
Unit 2	Unit on outage					
Unit 3	Unit on outage					
Unit 4	14					440.0
<b>SUM</b>	<b>14</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 - September 2023

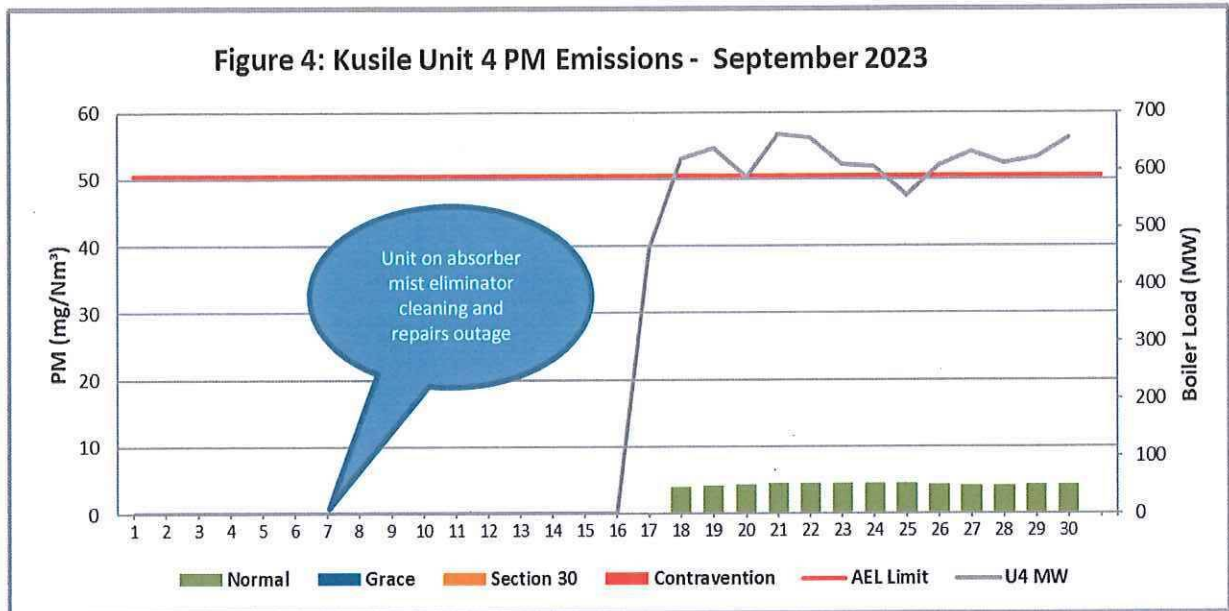
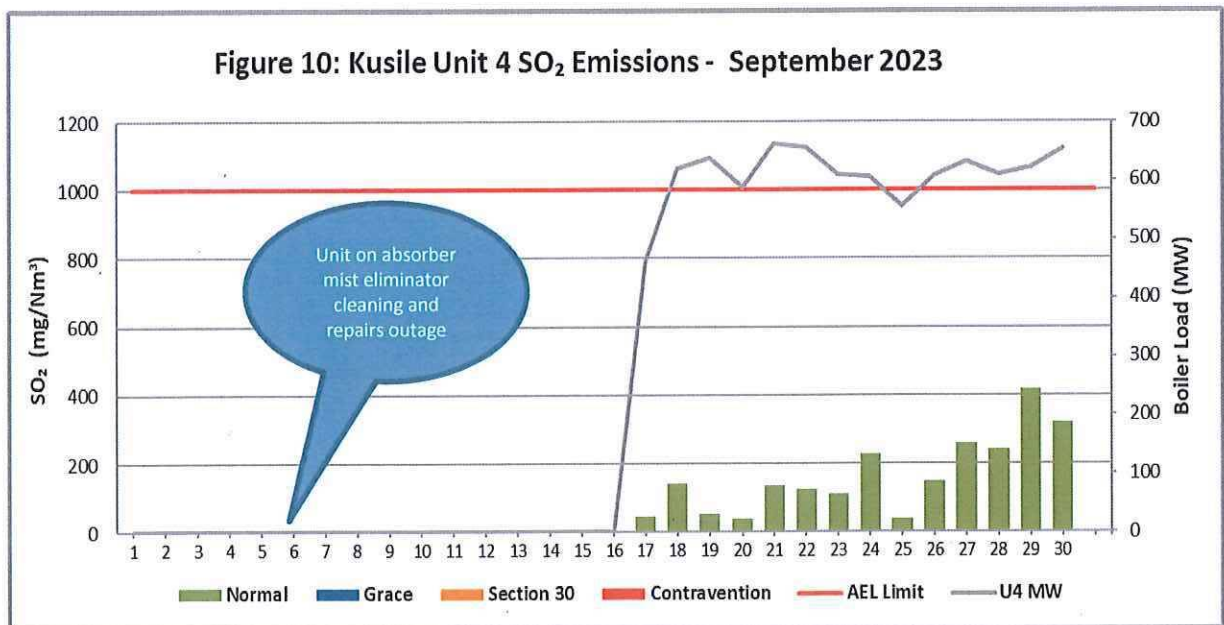
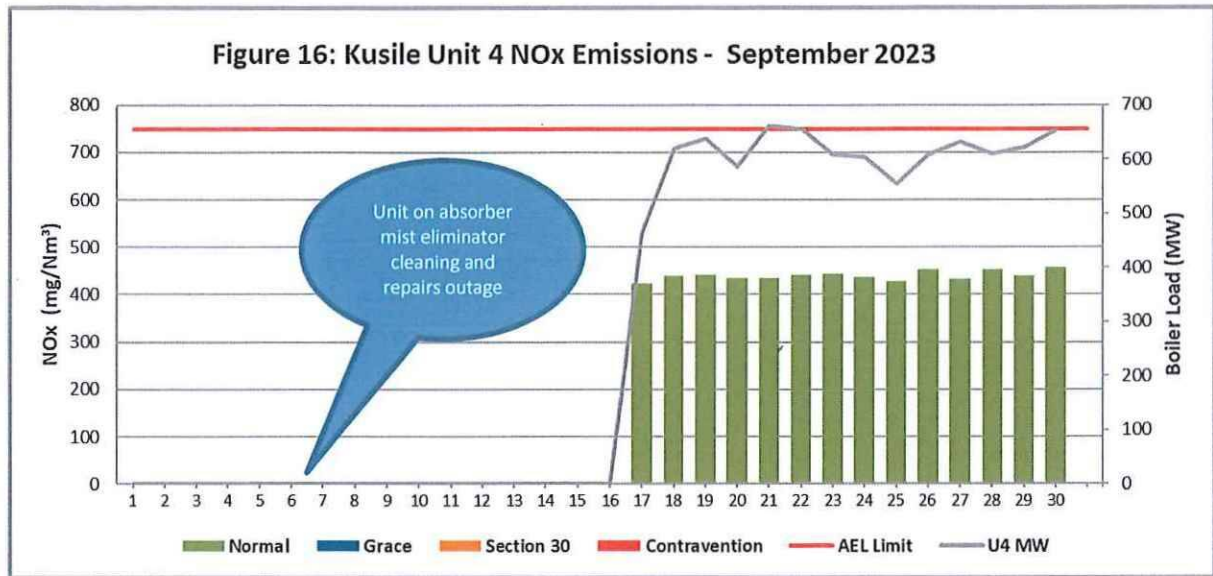


Figure 10: Kusile Unit 4 SO<sub>2</sub> Emissions - September 2023





### 8. Shut down and Light up information

Unit No. 4	Event 1		Event 2	
Breaker Open (BO)	BO previously	BO previously	12:25 am	2023/09/19
Draught Group (DG) Shut Down (SD)	n/a	n/a	5:05 am	2023/09/19
BO to DG SD (duration)	n/a	DD:HH:MM	00:04:40	DD:HH:MM
Fires in time	4:52 am	2023/09/17	5:30 am	2023/09/19
Synch. to Grid (or BC)	9:40 am	2023/09/17	5:35 am	2023/09/19
Fires in to BC (duration)	00:04:47	DD:HH:MM	00:00:05	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

**9. Complaints**

No complaints reported for the month of September 2023

<b>Date and time complaint was received</b>	<b>Complaint received</b>	<b>Source code name</b>	<b>Root cause analysis</b>	<b>Calculation of impact/emissions associated with incidents and dispersion modelling of pollutants where applicable.</b>	<b>Measures implemented or to be implemented to prevent recurrence</b>	<b>Date by which measures will be implemented</b>
N/A						