

**Ms Mpho Nembilwi**  
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Date:  
13 July 2021

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Ref: Kusile Power Station AEL (17/04/AEL/MP311/12/01)

Dear Ms. Nembilwi

**KUSILE POWER STATION'S MONTHLY EMISSIONS REPORT FOR APRIL 2021**

This serves as the monthly report required in terms of Section 7.6 in Kusile Power Station's Atmospheric Emission License: 17/04/AEL/MP311/12/01. The emissions are for the month of April 2021.

Hoping the above will meet your satisfaction.

Yours sincerely



Justice Bore  
**GENERAL MANAGER: KUSILE**  
Date: 13 JULY 2021

# KUSILE POWER STATION MONTHLY EMISSIONS REPORT FOR APRIL 2021

Atmospheric Emission License 17/04/AEL/MP311/12/01



## 1. RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Apr-2021
	Coal	Tons	1 818 083	252 767
	Fuel Oil	Tons	5 533	2015.76
	Limestone	Tons	72 917	17629
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Apr-2021
	Energy	GWh	3214.08	339.11
	Ash	Tons	663 583	72 013.4
	Gypsum	Tons	129 250	9 872.2
	RE PM	kg/MWh	<i>not specified</i>	0.040
	RE SOx	kg/MWh	<i>not specified</i>	1.015

## 2. ENERGY SOURCE CHARACTERISTICS

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal CV	MJ/kg	<i>not specified</i>	21.740
Coal Sulphur	%	1.3	0.790
Ash in Coal	%	38	28.490
Fuel Oil (FO) CV	MJ/kg	<i>not specified</i>	
Fuel Oil Sulphur	%	3	
Ash in FO	%	0.02	

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

Associated Unit/Stack	PM	SO <sub>x</sub>	NO <sub>x</sub>
North	50	500	750
South	50	500	750

## 4. ABATEMET TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Apr-2021	Technology Type	Efficiency Apr-2021
Unit 1	FFP	99.978%	FGD	90.538%
Unit 2	FFP	99.981%	FGD	90.213%
Unit 3	FFP		FGD	
Unit 4	FFP		FGD	
Unit 5	FFP		FGD	
Unit 6	FFP		FGD	

Note: Both the FFP and FGD 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>
Unit 1	84.3	96.4	99.9	96.8	99.7
Unit 2	99.7	97.5	97.0	78.1	96.3
Unit 3					
Unit 4					
Unit 5					
Unit 6					

## 6. EMISSION PERFORMANCE

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

Associated Unit/Stack	PM	SO <sub>x</sub>	NO <sub>x</sub>	CO <sub>2</sub>
Unit 1	9.2	217	1 080	438 590
Unit 2	4.4	128	370	94 034
Unit 3	0.0	0	0	0
Unit 4	0.0	0	0	0
Unit 5	0.0	0	0	0
Unit 6	0.0	0	0	0
<b>SUM</b>	<b>13.6</b>	<b>344</b>	<b>1 450</b>	<b>532 624</b>

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
Unit 1	30	0	0	0	0	4.2
Unit 2	15	0	0	0	0	7.5
Unit 3	0	0	0	0	0	
Unit 4	0	0	0	0	0	
Unit 5	0	0	0	0	0	
Unit 6	0	0	0	0	0	
<b>SUM</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.3: Operating days in compliance to SO<sub>x</sub> AEL Limit - April 2021

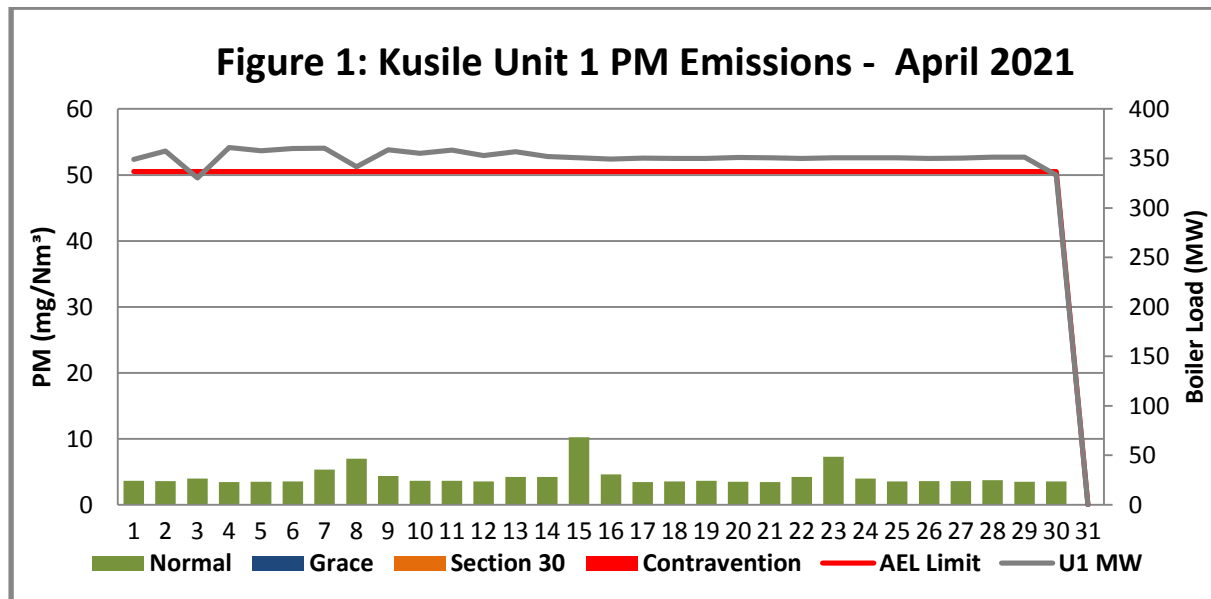
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>x</sub> (mg/Nm <sup>3</sup> )
Unit 1	30	0	0	0	0	99.9
Unit 2	17	0	0	0	0	165.2
Unit 3	0	0	0	0	0	
Unit 4	0	0	0	0	0	
Unit 5	0	0	0	0	0	
Unit 6	0	0	0	0	0	
<b>SUM</b>	<b>47</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

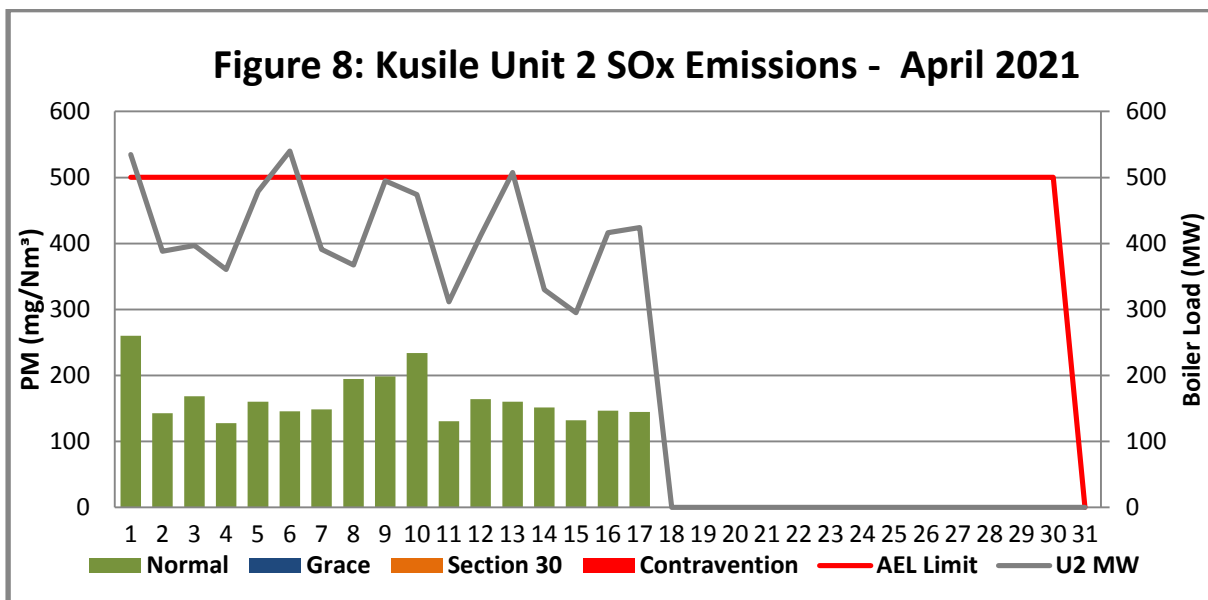
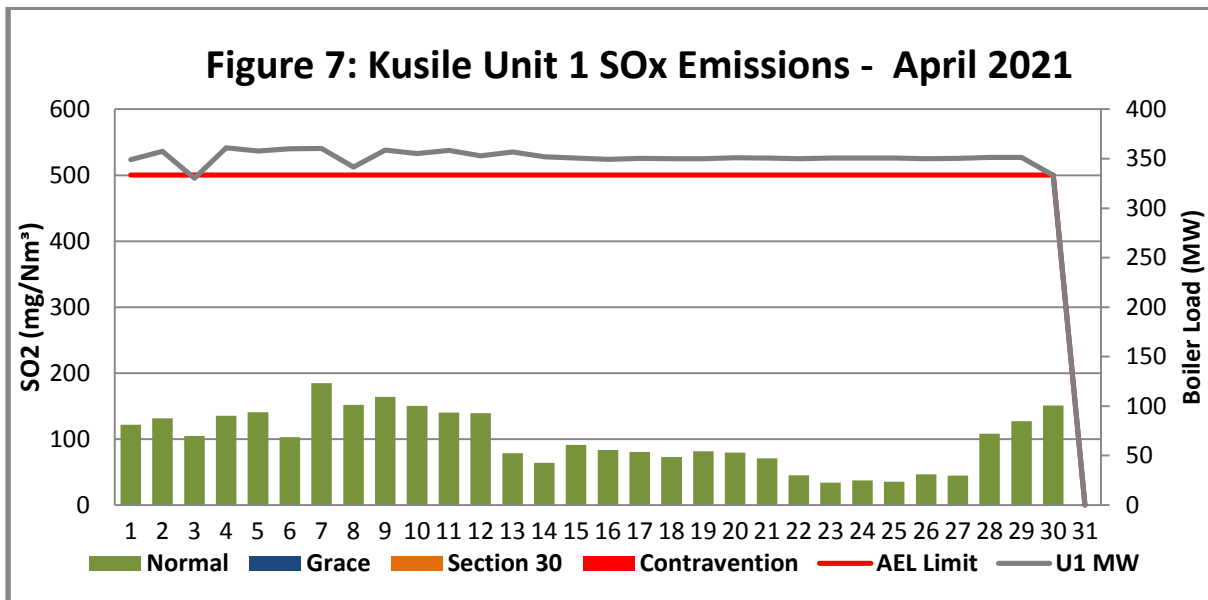
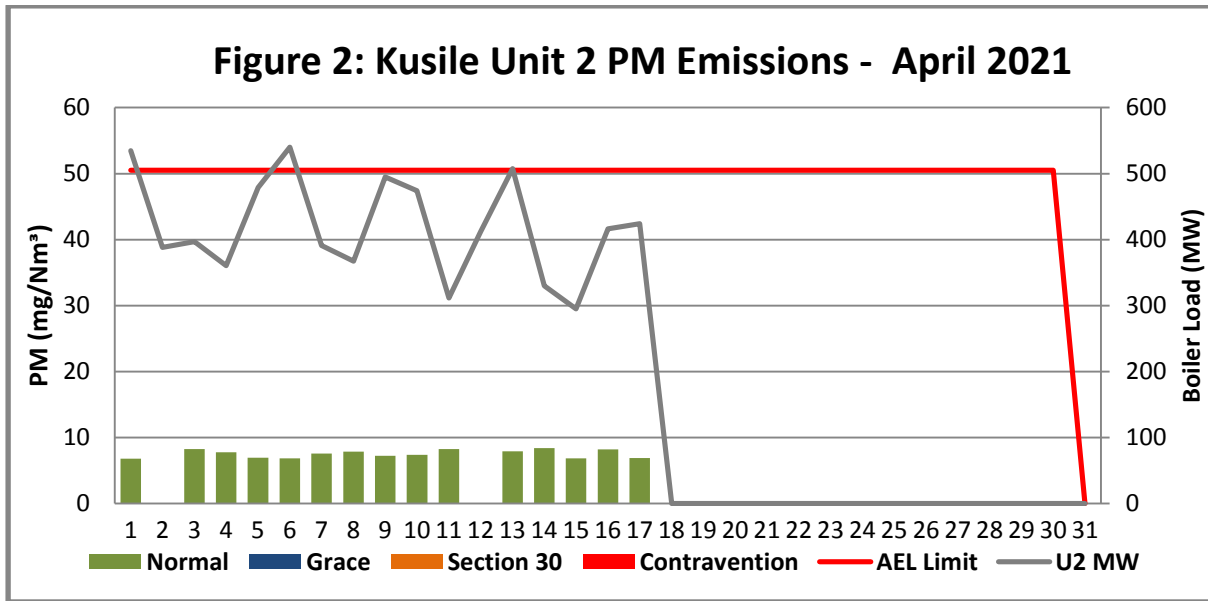
Table 6.4: Operating days in compliance to NOx AEL Limit - April 2021

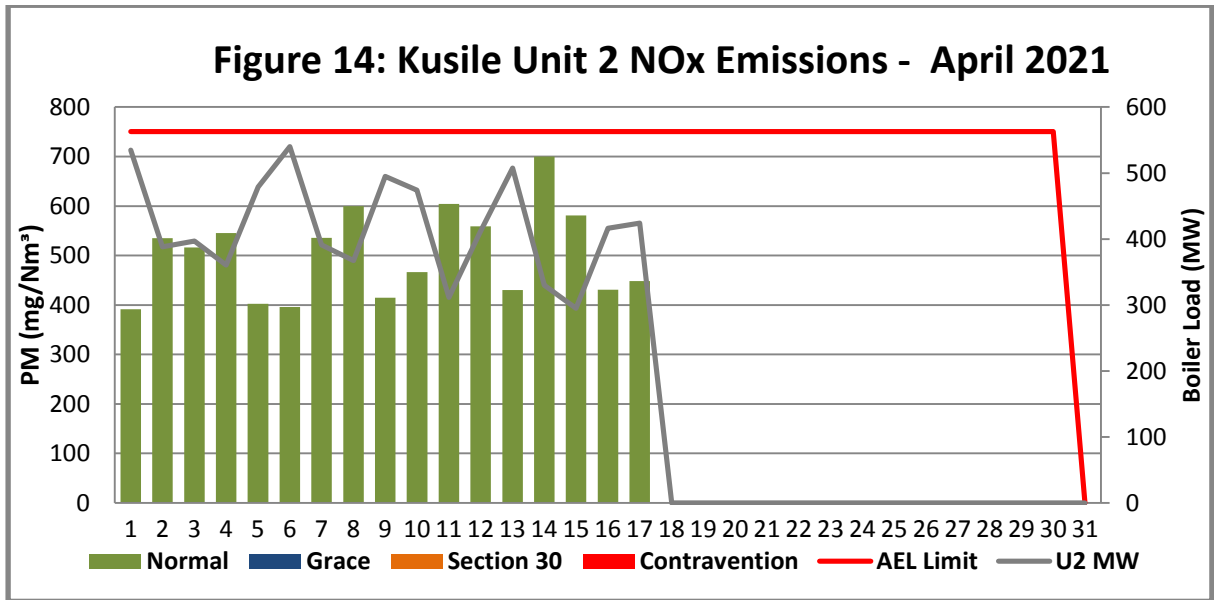
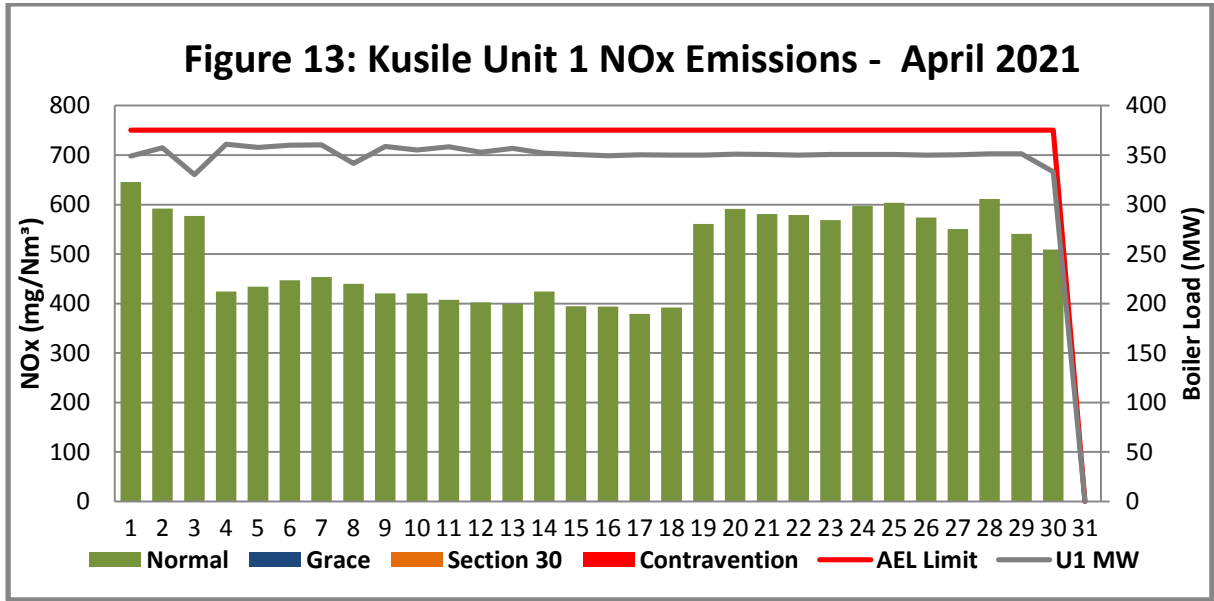
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm <sup>3</sup> )
Unit 1	30	0	0	0	0	497.2
Unit 2	17	0	0	0	0	503.4
Unit 3	0	0	0	0	0	
Unit 4	0	0	0	0	0	
Unit 5	0	0	0	0	0	
Unit 6	0	0	0	0	0	
<b>SUM</b>	<b>47</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.5: Legend Description

Condition	Colour	Description
Normal	Green	Emissions below Emission Limit Value (ELV)
Grace	Blue	Emissions above the ELV during grace period
Section 30	Orange	Emissions above ELV during a NEMA S30 incident
Contravention	Red	Emissions above ELV but outside grace or S30 incident conditions







## 7. SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1. PM Start-up information for the month of April-2021

Unit No. 1	Event 1		Event 2		Event 3		Event 4	
<b>Breaker Open (BO)</b>	8:25 PM	2021/04/30						
<b>Draught Group (DG) Shut Down (SD)</b>	DG did not trip or SD	DG did not trip or SD						
<b>BO to DG SD (duration)</b>	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
<b>Fires in time</b>	11:55 PM	2021/04/30						
<b>Synch. to Grid (or BC)</b>	4:25 AM	2021/05/01						
<b>Fires in to BC (duration)</b>	00:04:30	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
<b>Emissions below limit from BC (end date)</b>	not > limit	not > limit						
<b>Emissions below limit from BC (duration)</b>	n/a	DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

Unit No. 2	Event 1		Event 2		Event 3		Event 4	
<b>Breaker Open (BO)</b>	3:15 AM	2021/04/01	4:45 AM	2021/04/11	2:15 AM	2021/04/15	5:35 AM	2021/04/07
<b>Draught Group (DG) Shut Down (SD)</b>	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD
<b>BO to DG SD (duration)</b>	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM
<b>Fires in time</b>	2:40 AM	2021/04/02	9:50 AM	2021/04/11	5:50 AM	2021/04/15	10:45 AM	2021/04/07
<b>Synch. to Grid (or BC)</b>	11:50 AM	2021/04/02	2:30 PM	2021/04/12	6:50 PM	2021/04/15	6:40 PM	2021/04/07
<b>Fires in to BC (duration)</b>	00:09:10	DD:HH:MM	01:04:40	DD:HH:MM	00:13:00	DD:HH:MM	00:07:55	DD:HH:MM
<b>Emissions below limit from BC (end date)</b>	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit
<b>Emissions below limit from BC (duration)</b>	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

## 8. Complaints

No complaints received during the month of April 2021.