



Ms Mpho Nembilwi
Nkangala District Municipality
PO Box 437
Middleburg
1050

Date:
August 2021

Enquiries: Lesiba Kgobe
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Ref: *Kusile Power Station AEL (17/4/AEL/MP312/11/12)*

Dear Ms. Nembilwi

KUSILE POWER STATION'S MONTHLY EMISSIONS REPORT FOR MAY 2021

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 May 2021.

Hoping the above will meet your satisfaction.

Yours sincerely

Justice Bore
GENERAL MANAGER: KUSILE POWER STATION
DATE: *31/08/2021*

1. KUSILE POWER STATION MONTHLY EMISSIONS REPORT: Atmospheric Emission License 17/4/AEL/MP312/11/12



2 Raw Materials and Products

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate May-2021
	Coal	Tons	1 818 083	425 727
	Fuel Oil	Tons	5 533	3809,2
	Limestone	Tons	72 917	10238

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate May-2021
	Energy	GWh	3321,216	621,33
	Ash	Tons	663 583	121 332,3
	Gypsum	Tons	129 250	6 040,4
	RE PM	kg/MWh	not specified	0,038
	RE SO ₂	kg/MWh	not specified	1,220

3 Energy source characteristics

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal CV	MJ/kg	not specified	21,590
Coal Sulphur	%	1,3	0,780
Ash in Coal	%	38	28,500

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4 Emissions Limits (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
North	50	500	750
South	50	500	750

5 Abatement Technology (%)

Associated Unit/Stack	Technology Type	Efficiency May-2021	Technology Type	Efficiency May-2021
Unit 1	FFP	99,981%	FGD	87,858%
Unit 2	FFP	99,977%	FGD	87,027%
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.

6. Monitoring reliability (%)

Associated Unit/Stack	PM	SO ₂	NO	CO ₂	O ₂
Unit 1	30,3	54,6	53,9	84,9	55,8
Unit 2	99,8	99,5	99,5	83,1	98,9
Unit 3					
Unit 4					
Unit 5					
Unit 6					

7. Emissions Performance

Table 7.1: Monthly tonnages for the month of May-2021

Associated Unit/Stack	PM	SO ₂	NO _x	CO ₂
Unit 1	7,1	253	1 137	425 027
Unit 2	16,7	505	1 293	376 312
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
SUM	23,8	758	2 430	801 339

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Table 7.2: Operating days in compliance to PM AEL Limit - May 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	27	0	0	0	0	4,4
Unit 2	28	0	0	0	0	6,6
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	
SUM	55	0	0	0	0	

Table 7.3: Operating days in compliance to SO₂ AEL Limit - May 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	31	0	0	0	0	115,1
Unit 2	31	0	0	0	0	178,6
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	
SUM	62	0	0	0	0	

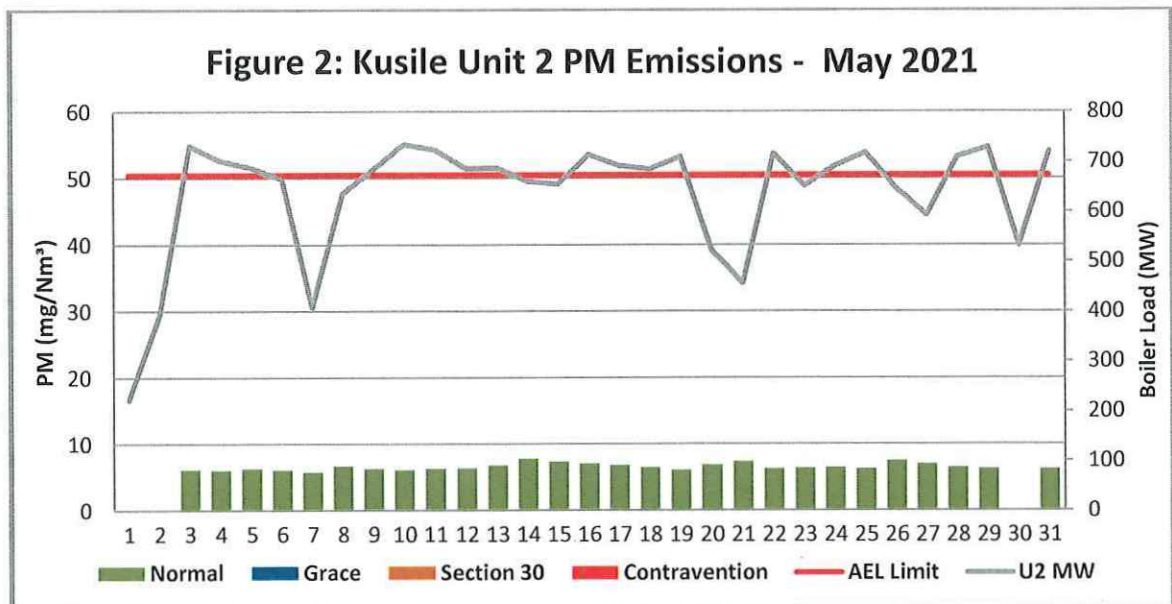
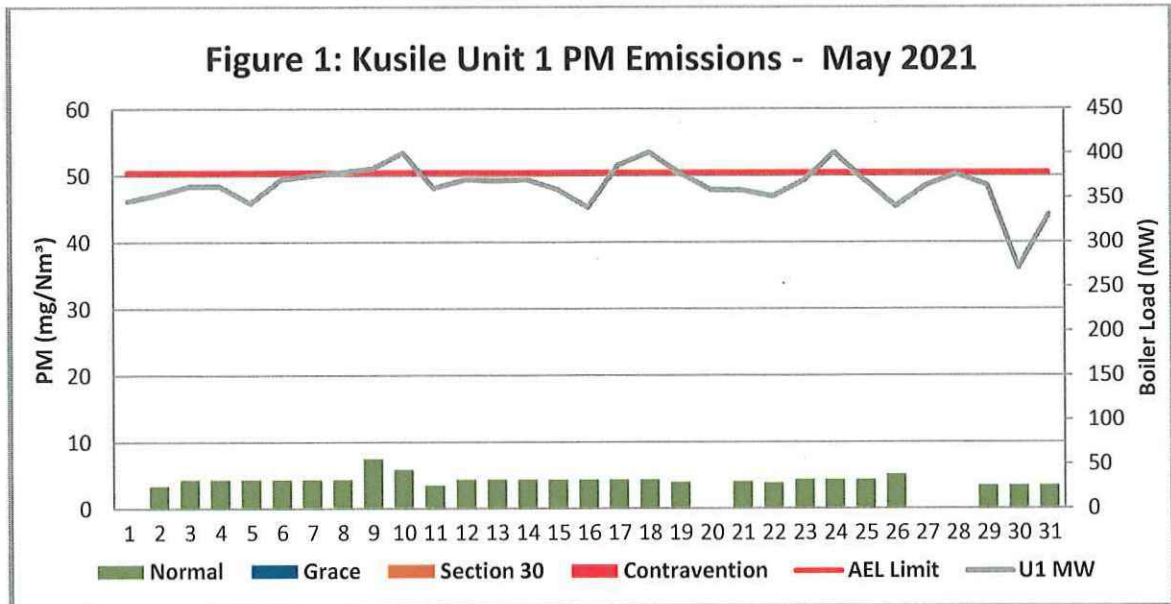
Table 7.4: Operating days in compliance to NO_x AEL Limit - May 2021

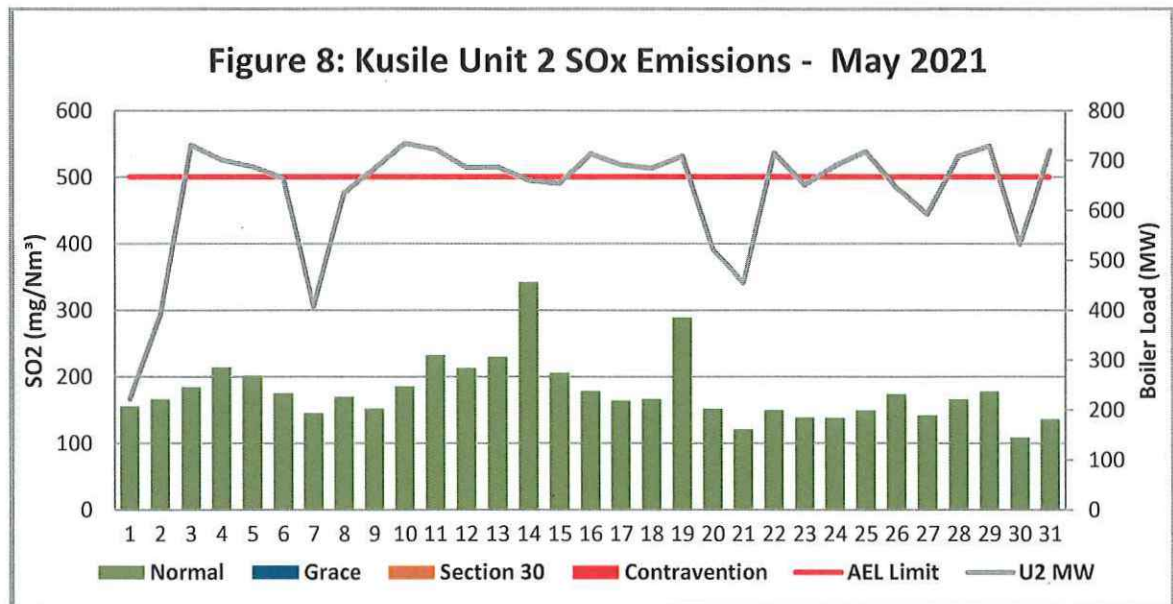
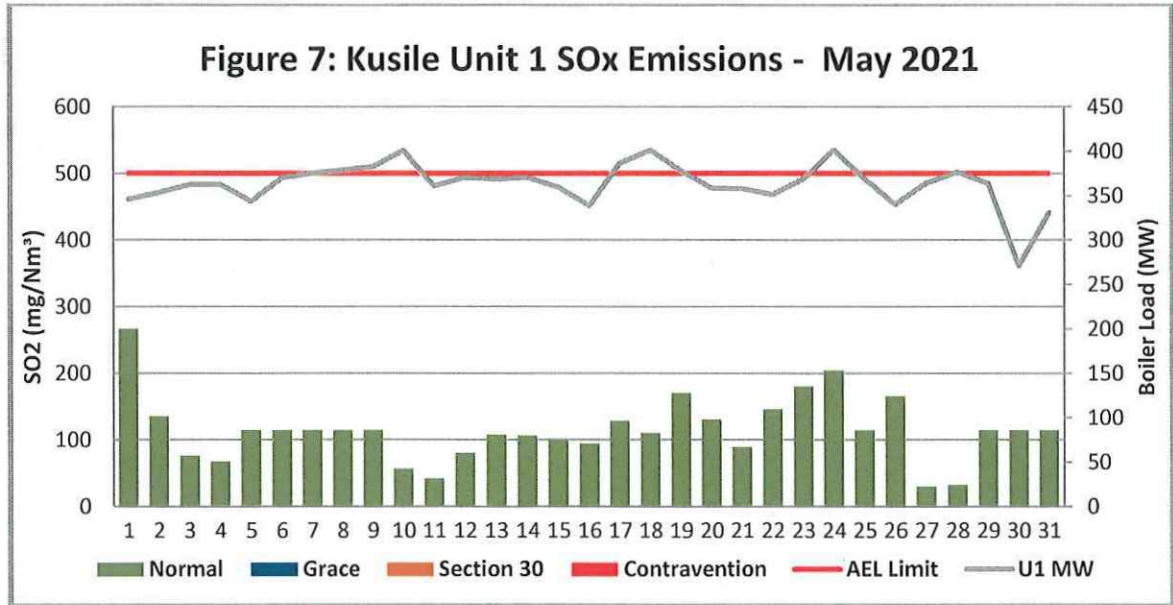
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	31	0	0	0	0	528,6
Unit 2	31	0	0	0	0	469,0
Unit 3	0	0	0	0	0	
Unit 4	0	0	0	0	0	
Unit 5	0	0	0	0	0	
Unit 6	0	0	0	0	0	
SUM	62	0	0	0	0	

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Table 7.5: 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





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Figure 13: Kusile Unit 1 NOx Emissions - May 2021

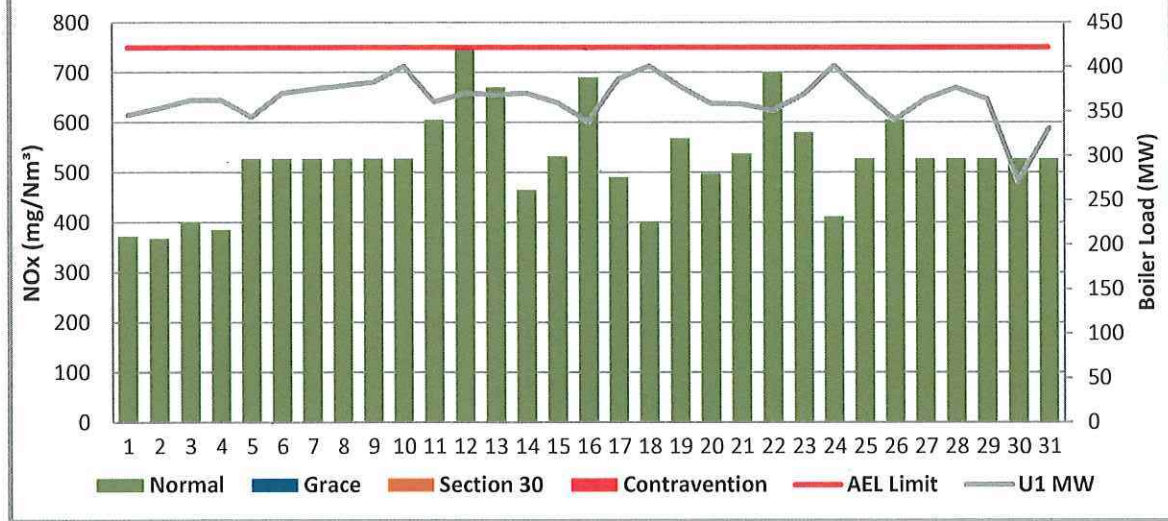
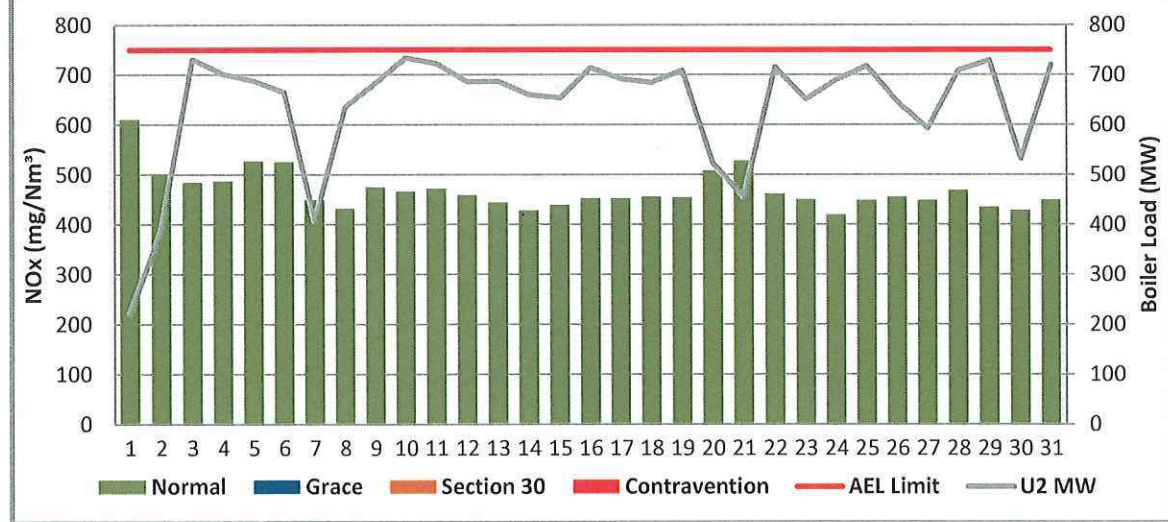


Figure 14: Kusile Unit 2 NOx Emissions - May 2021



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8. Shut down and Light up information

Table 8.1. PM Start-up information for the month of May-2021

Unit No. 1	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	BO previously	BO previously	9:00 am	2021/05/11	4:20 pm	2021/05/19	9:15 am	2021/05/22
Draught Group (DG) Shut Down (SD)	n/a	n/a	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	9:15 am	2021/05/22
BO to DG SD (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	22:09:15	DD:HH:MM
Fires in time	12:15 am	2021/05/01	11:35 am	2021/05/11	11:45 am	2021/05/19	10:50 am	2021/05/22
Synch. to Grid (or BC)	4:25 am	2021/05/01	6:40 pm	2021/05/11	2:55 pm	2021/05/20	6:25 pm	2021/05/22
Fires in to BC (duration)	00:04:10	DD:HH:MM	00:07:05	DD:HH:MM	01:03:10	DD:HH:MM	00:07:35	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

Unit No. 2	Event 1		Event 2		Event 3	
Breaker Open (BO)	BO previously	BO previously	2:05 pm	2021/05/06	4:25 pm	2021/05/29
Draught Group (DG) Shut Down (SD)	n/a	n/a	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM
Fires in time	10:45 am	2021/05/01	3:50 pm	2021/05/06	6:15 am	2021/05/30
Synch. to Grid (or BC)	5:30 pm	2021/05/01	10:45 pm	2021/05/06	11:05 am	2021/05/30
Fires in to BC (duration)	00:06:45	DD:HH:MM	00:06:55	DD:HH:MM	00:04:50	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

9. Complaints

No complaints received during the month of May- 2021