



Ms Mpho Nembilwi
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PO Box 437
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Date:
August 2021

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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 JUNE 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 June 2021. Please take note that Unit 01 is on IR outage from 12 June 2021.

Hoping the above will meet your satisfaction.

Yours sincerely

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

KUSILE POWER STATION'S MONTHLY EMISSIONS REPORT FOR JUNE 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 Jun-2021
	Coal	Tons	1 818 083	253 702
	Fuel Oil	Tons	5 533	1579,75
	Limestone	Tons	72 917	16667

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jun-2021
	Energy	GWh	3214,08	332,06
	Ash	Tons	663 583	73 319,8
	Gypsum	Tons	129 250	9 833,5
	RE PM	kg/MWh	not specified	0,036
	RE SO ₂	kg/MWh	not specified	1,290

3 Energy source characteristics

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal CV	MJ/kg	not specified	22,850
Coal Sulphur	%	1,3	0,710
Ash in Coal	%	38	28,900

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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 Jun-2021	Technology Type	Efficiency Jun-2021
Unit 1	FFP	100,000%	FGD	100,000%
Unit 2	FFP	99,980%	FGD	85,448%
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	0,0	0,0	0,0	99,1	0,0
Unit 2	100,0	94,9	99,7	99,0	99,7
Unit 3					
Unit 4					
Unit 5					
Unit 6					

The PM, SO₂, NO and O₂ for Unit 01 were defective and they are repaired during Unit 01 IR outage.

7. Emissions Performance

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

Associated Unit/Stack	PM	SO ₂	NO _x	CO ₂
Unit 1	0,0	0	0	0
Unit 2	12,0	428	976	312 684
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	12,0	428	976	312 684

KUSILE POWER STATION'S MONTHLY EMISSIONS REPORT FOR JUNE 2021

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	0	0	0	0	0	
Unit 2	26	0	0	0	0	6,7
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	26	0	0	0	0	

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	0	0	0	0	0	
Unit 2	27	0	0	0	0	196,0
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	27	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL-Limit - June 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	0	0	0	0	0	
Unit 2	27	0	0	0	0	467,1
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	27	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

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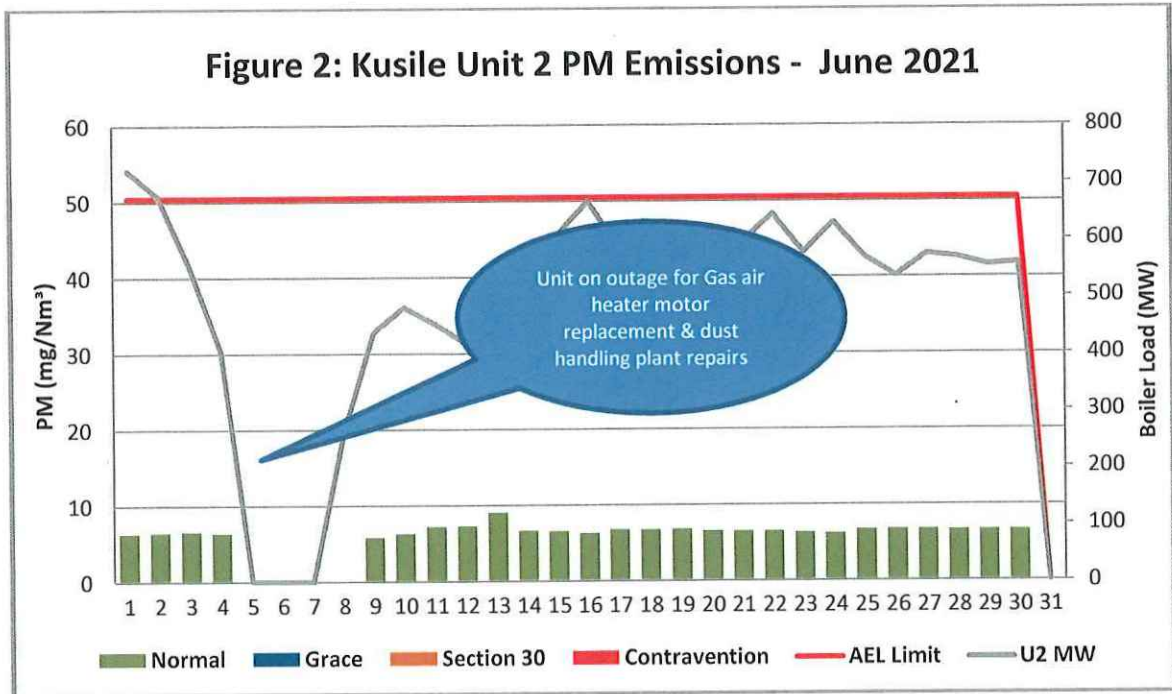
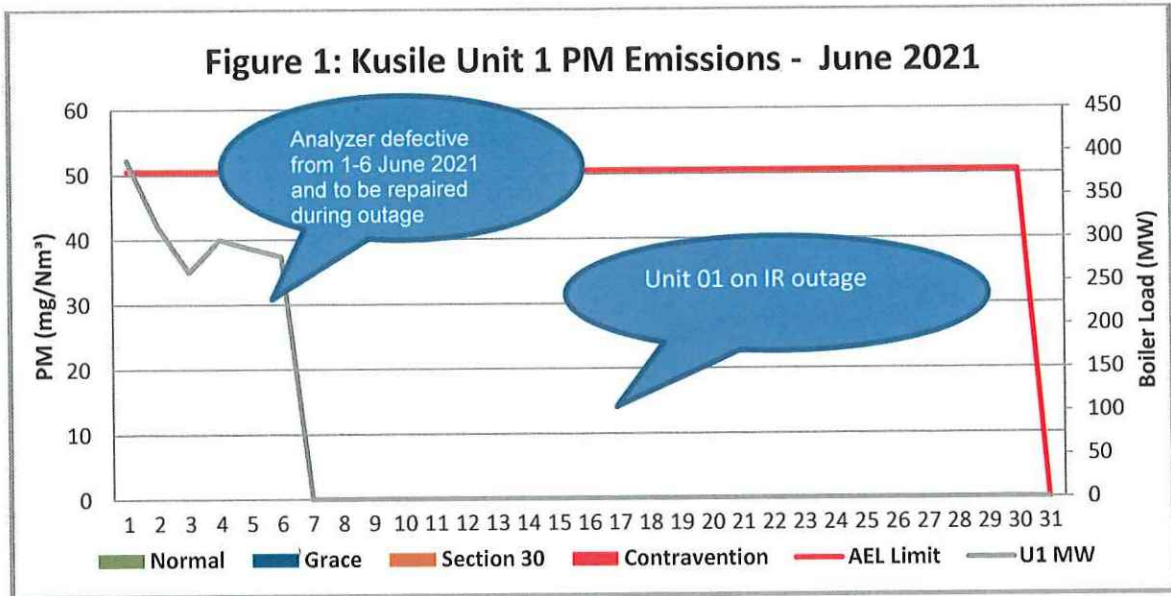


Figure 7: Kusile Unit 1 SO2 Emissions - June 2021

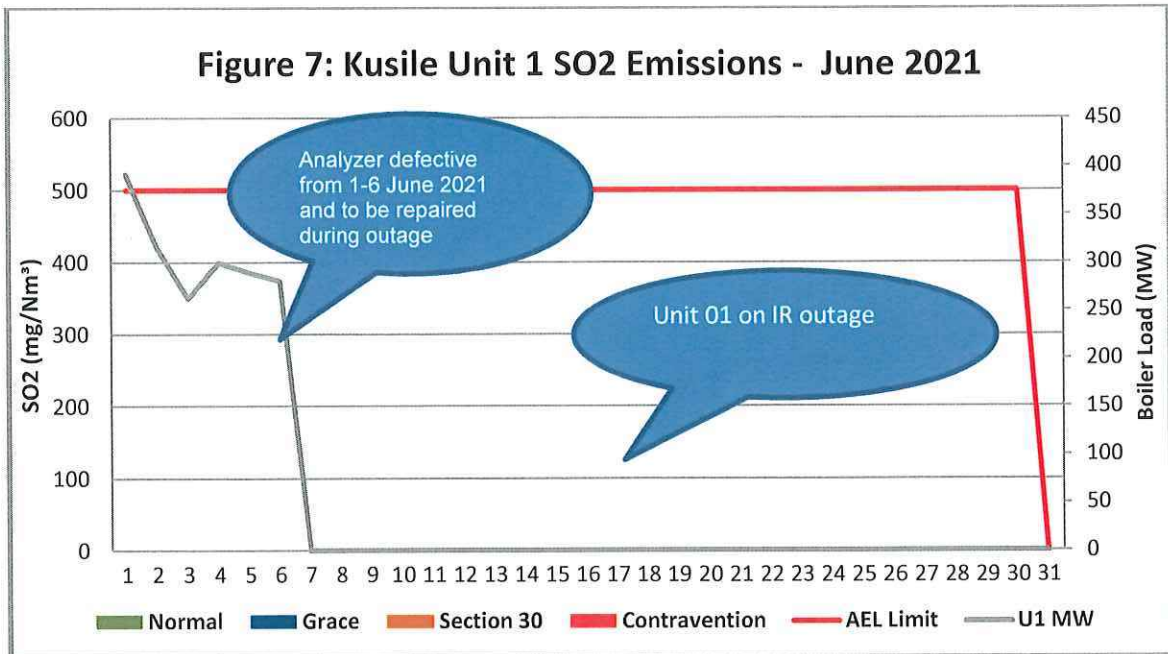


Figure 8: Kusile Unit 2 SO2 Emissions - June 2021

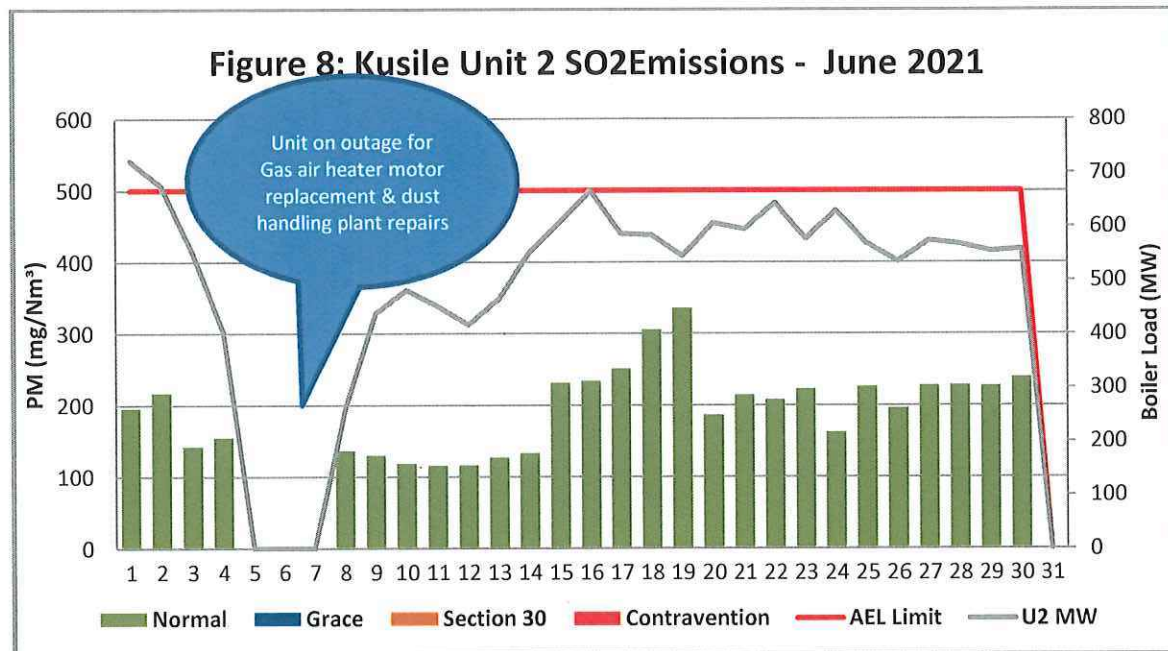


Figure 13: Kusile Unit 1 NOx Emissions - June 2021

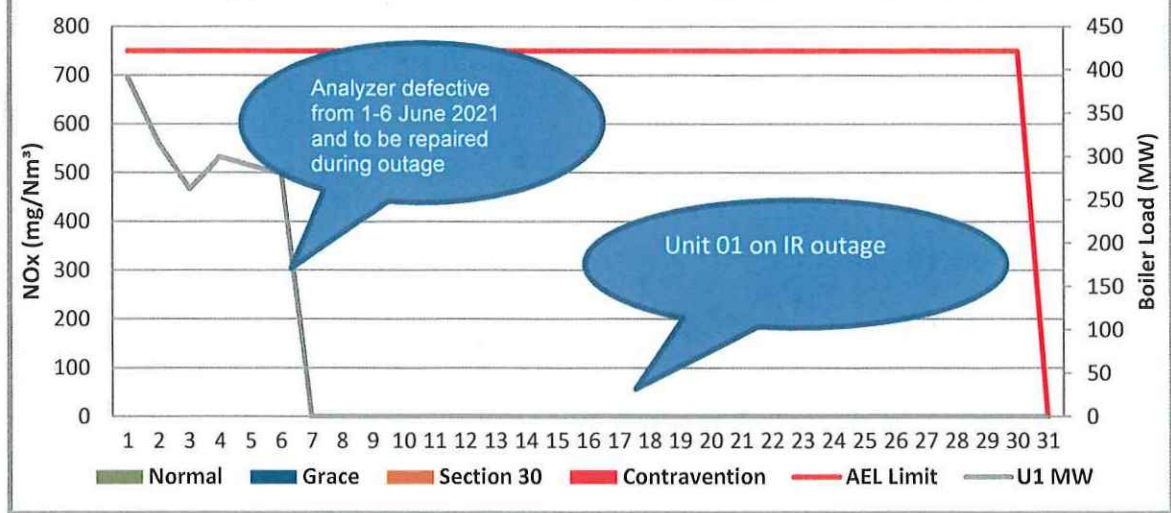
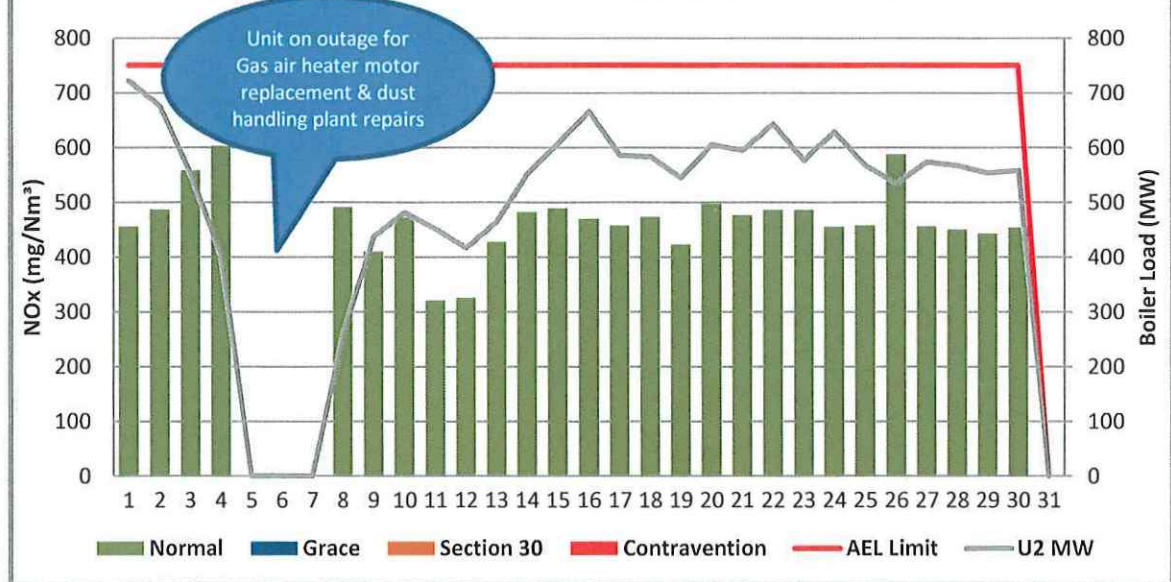


Figure 14: Kusile Unit 2 NOx Emissions - June 2021



8. Shut down and Light up information

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

Unit No. 1	Event 1		Event 2	
Breaker Open (BO)	9:50 am	2021/06/02	12:55 pm	2021/06/06
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	1:45 pm	2021/06/06
BO to DG SD (duration)	n/a	DD:HH:MM	00:00:50	DD:HH:MM
Fires in time	1:55 pm	2021/06/02		
Synch. to Grid (or BC)	4:30 pm	2021/06/02		
Fires in to BC (duration)	00:02:35	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit		
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM

Unit No. 2	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	12:40 am	2021/06/04	6:10 pm	2021/06/09	2:15 am	2021/06/13	12:05 pm	2021/06/23
Draught Group (DG) Shut Down (SD)	10:45 am	2021/06/04	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
BO to DG SD (duration)	00:10:05	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM
Fires in time	1:25 pm	2021/06/08	8:10 pm	2021/06/09	6:25 am	2021/06/13		
Synch. to Grid (or BC)	5:35 pm	2021/06/08	11:30 pm	2021/06/09	9:45 am	2021/06/13		
Fires in to BC (duration)	00:04:10	DD:HH:MM	00:03:20	DD:HH:MM	00:03:20	DD:HH:MM		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		DD:HH:MM

9. Complaints

No complaints received during the month of June- 2021