



Ms Nompumelelo Simelane
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1050

Date:

May 2025

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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 APRIL 2025

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 April 2025.

Hoping the above will meet your satisfaction.

Yours sincerely

Christopher Nani

GENERAL MANAGER

DATE: 29/05/2025

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 Apr-2025
	Coal	Tons	1 818 083	964 806
	Fuel Oil	Tons	5 533	2152.99
	Limestone	Tons	72 017	33826
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Indicative Production Rate Apr-2025
	Energy	GWh	3 321.216	1 508.24
	Ash	Tons	796 300	286 241.82
	Gypsum	Tons	155 100	18 942.56
	RE PM	kg/MWh	not specified	0.01
	RE SOx	kg/MWh	not specified	0.28

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: $[4\,464\text{ MW}] \times 24\text{ hrs} \times \text{days in Month}/1000$ to convert to GWh

3. Energy source characteristics

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal Sulphur	%	1.3	0.78
Ash in Coal	%	38	29.67
Fuel Oil Sulphur	%	3.5	2.84

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4. Emissions Limits (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
North Stack	50	1000	750
South Stack	50	1000	750

5. Abatement Technology (%)

Associated Unit/Stack	Technology Type	Efficiency April-2025	Technology Type	Efficiency April-2025
Unit 1	FFP	Off	FGD	Out of service
Unit 2	FFP	99.99%	FGD	99.99%
Unit 3	FFP	99.99%	FGD	99.98%
Unit 4	FFP	99.99%	FGD	99.95%
Unit 5	FFP	99.99%	FGD	99.96%

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
Unit 1	Off	Off	Off
Unit 2	100.0	80.9	58.1
Unit 3	100.0	100.0	100.0
Unit 4	100.0	100.0	100.0
Unit 5	100.0	99.6	100.0

Unit 2 NO emissions monitor valve needed adjustment and went on standby because there was no air flow.

7. Emissions Performance

Table 7.1: Monthly tonnages for the month of Apr - 2025

Associated Unit/Stack	PM	SO ₂	NO _x
Unit 1	Off	Off	Off
Unit 2	0.5	21	110
Unit 3	0.9	53	642
Unit 4	1.1	190	630
Unit 5	5.7	155	960
SUM	8.2	419	2 342

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Table 7.2: Operating days in compliance to PM AEL Limit – April 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
Unit 1	Off	Off	Off	Off	Off	Off
Unit 2	28	0	0	0	0	2.4
Unit 3	27	0	0	0	0	0.5
Unit 4	30	0	0	0	0	0.4
Unit 5	30	0	0	0	0	2.8
SUM	115	0	0	0	0	

Table 7.3: Operating days in compliance to SO₂ AEL Limit - April 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm³)
Unit 1	Off	Off	Off	Off	Off	Off
Unit 2	29	0	0	0	0	82.8
Unit 3	29	0	0	0	0	33.4
Unit 4	30	0	0	0	0	75.6
Unit 5	30	0	0	0	0	75.2
SUM	118	0	0	0	0	

Table 7.4: Operating days in compliance to NO_x AEL Limit – April 2025

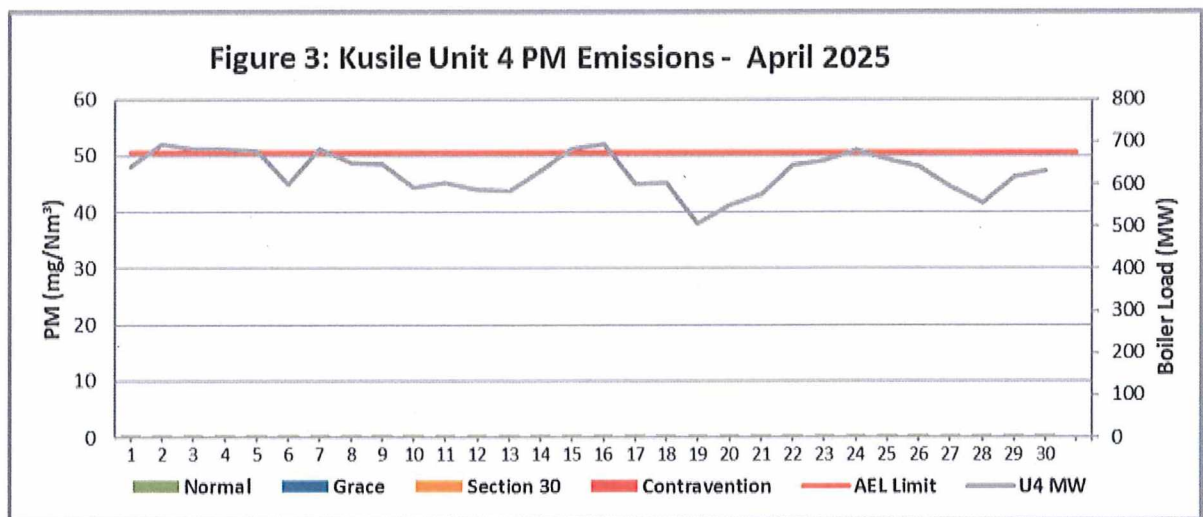
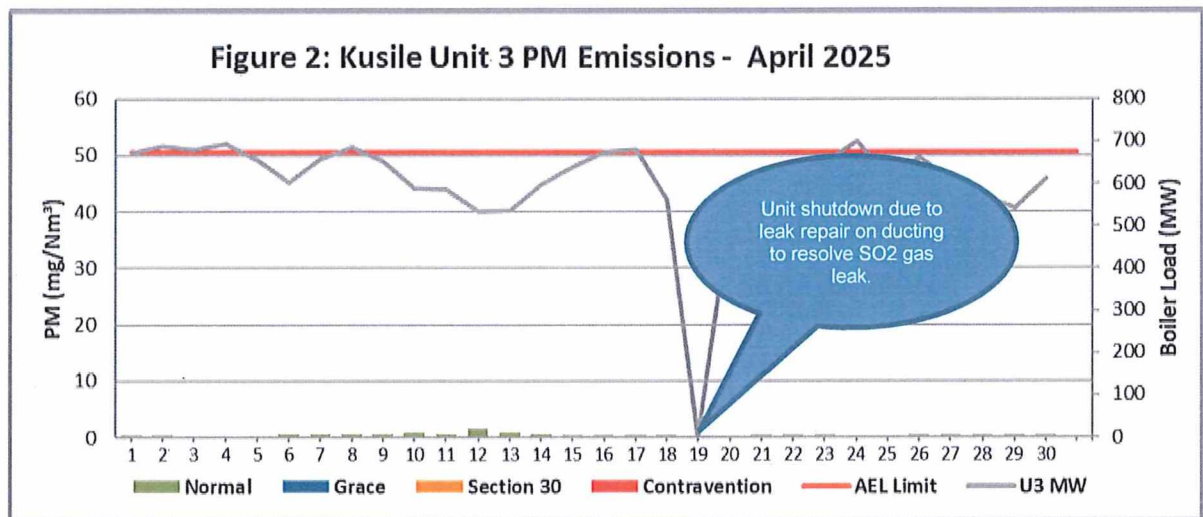
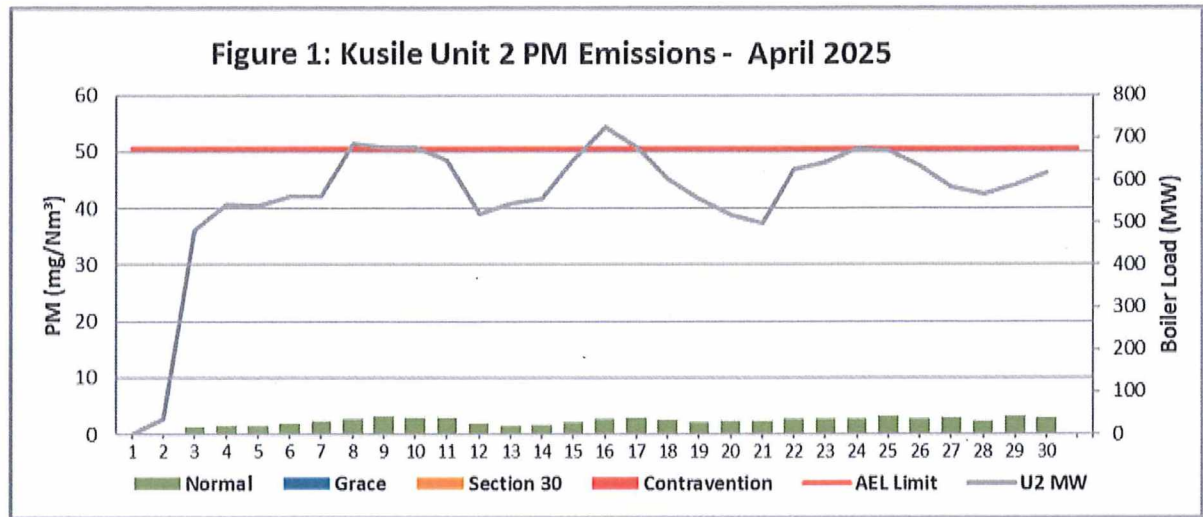
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm³)
Unit 1	Off	Off	Off	Off	Off	Off
Unit 2	29	0	0	0	0	446.3
Unit 3	29	0	0	0	0	342.3
Unit 4	30	0	0	0	0	250.4
Unit 5	30	0	0	0	0	469.7
SUM	118	0	0	0	0	

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂

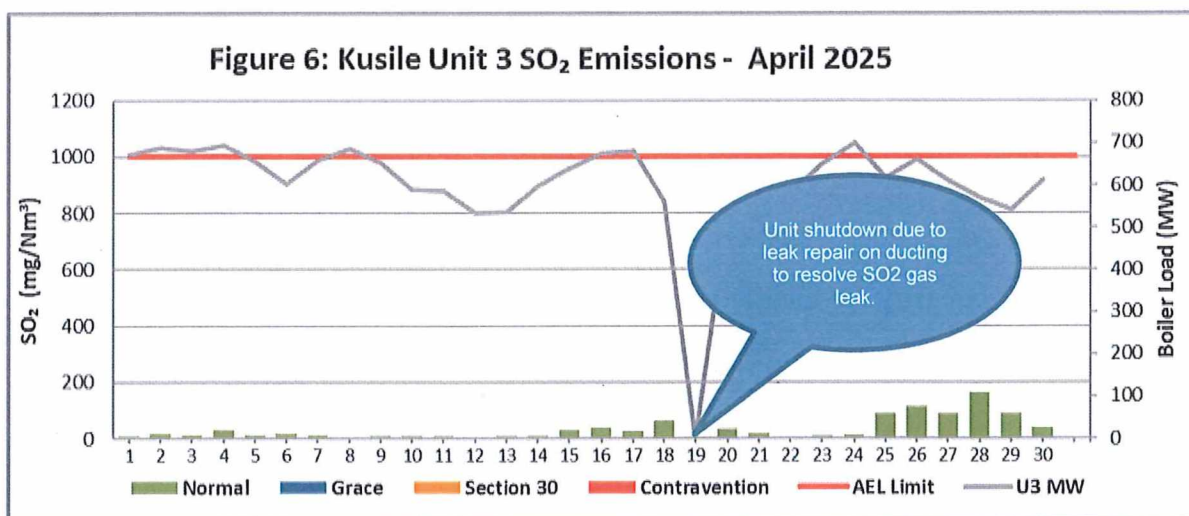
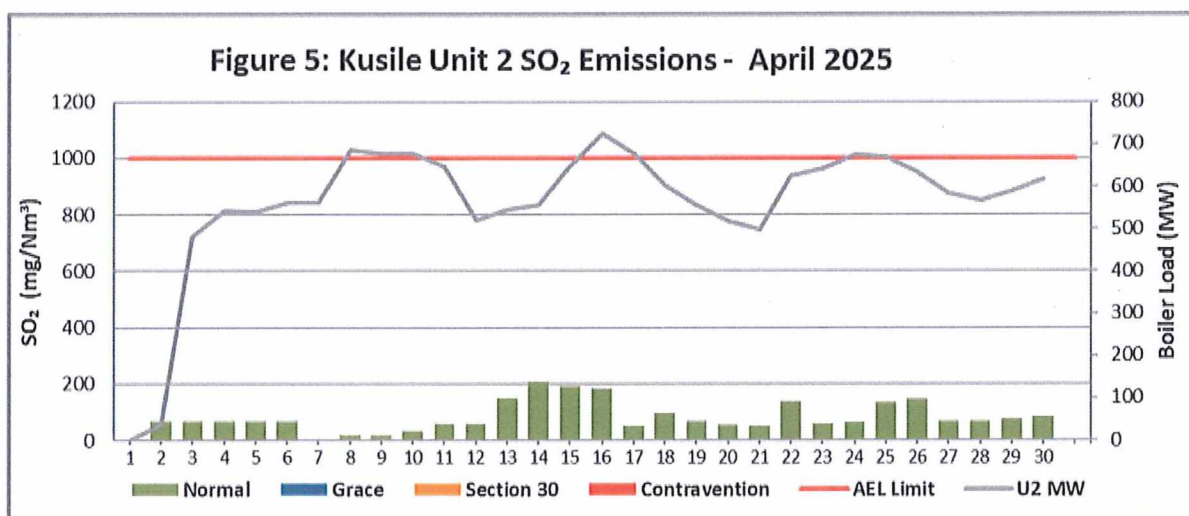
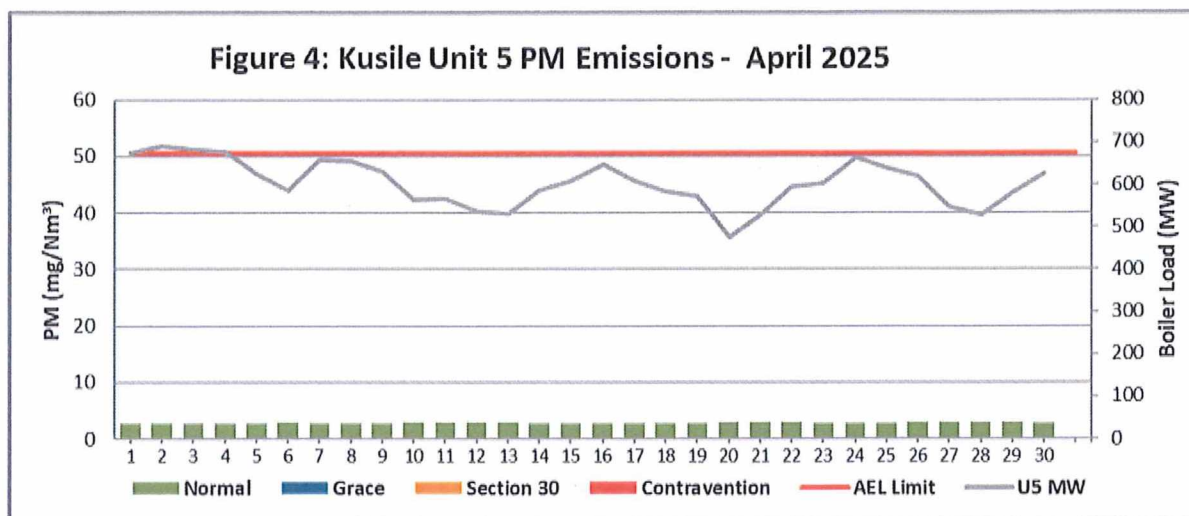
Table 7.5: Legend Description

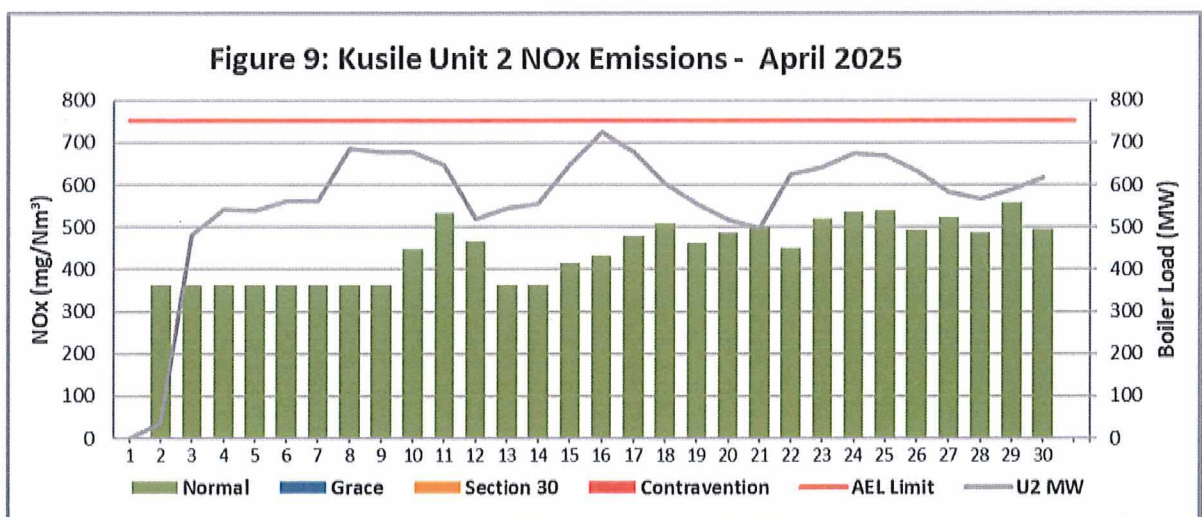
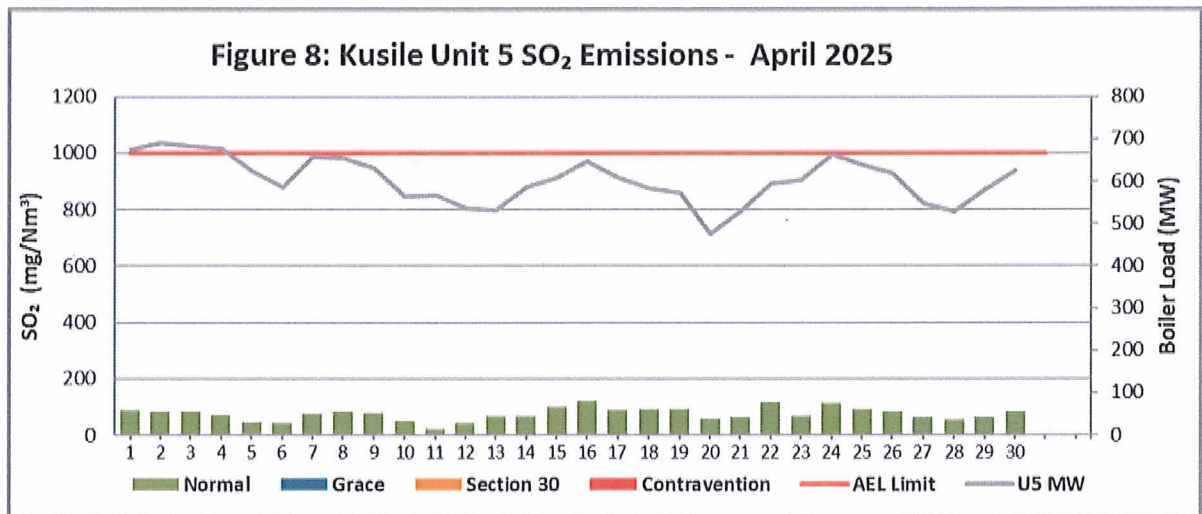
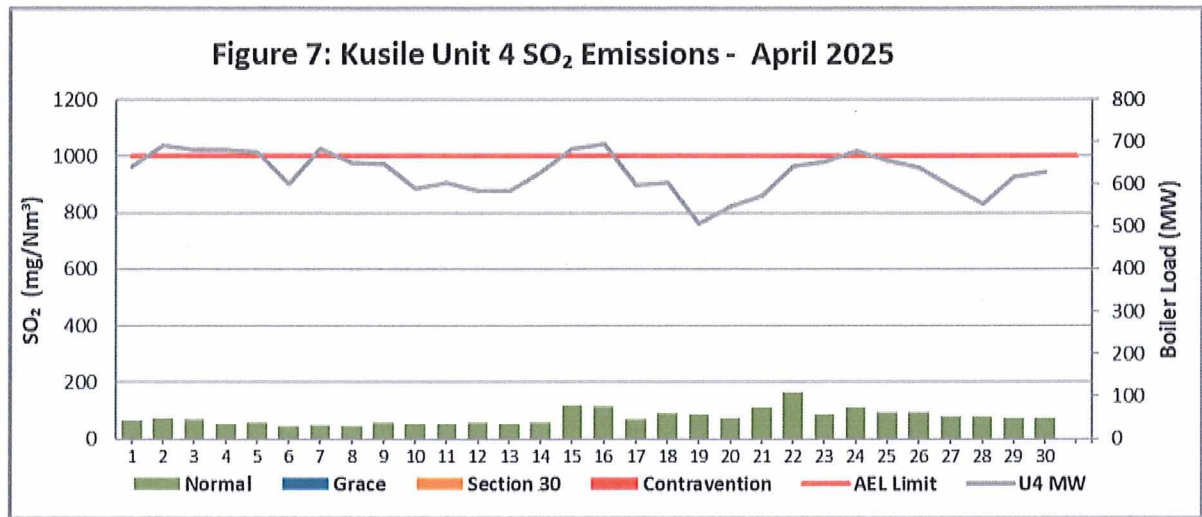
Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions

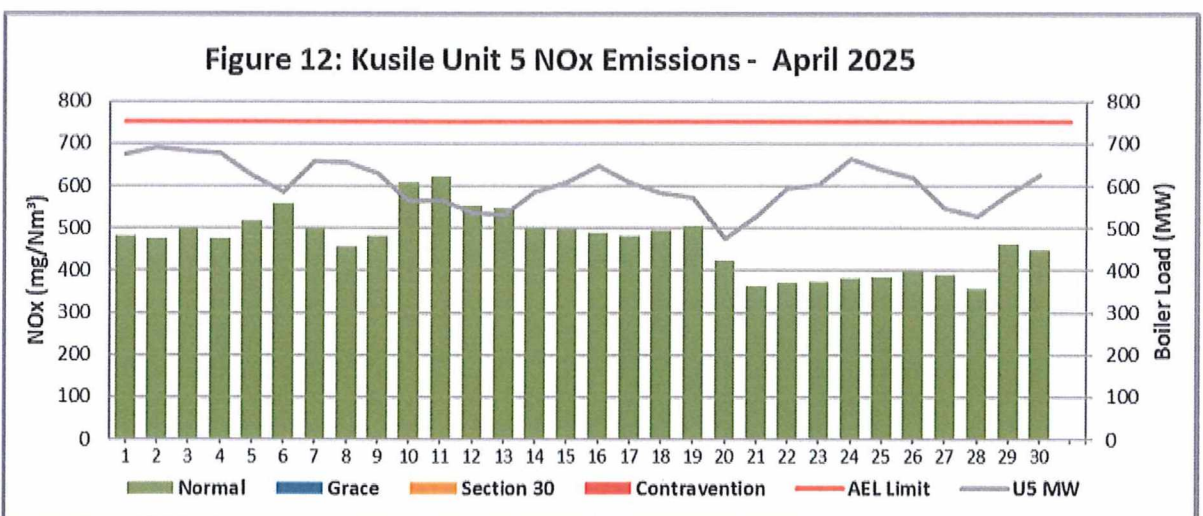
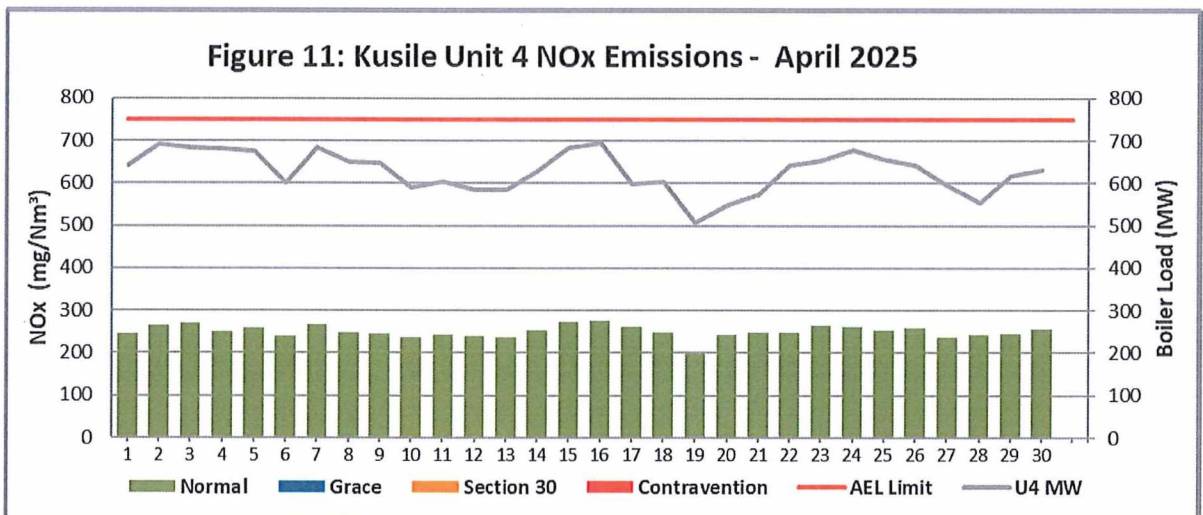
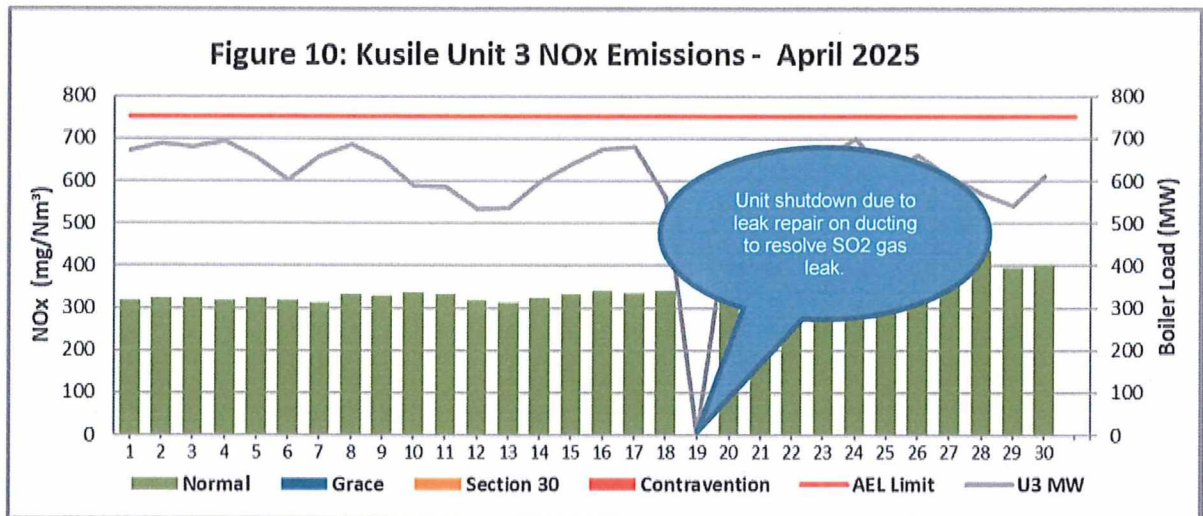
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8. Correlation and Parallel test status

Unit 1:

- Unit was shut down on 31 March 2025 for Inspection (IN) outage and to connect the unit to the main stack with FGD. The particulate matter and gaseous emissions parallel tests will be planned and conducted once the unit is back in service from the outage.

Unit 2:

- The unit is operating with unity curves for particulate matter and gaseous emissions. The particulate matter and gaseous emissions parallel tests are planned to be conducted once the unit has stabilised since it was coming from outage.

Unit 3

- The unit is operating with unity curves for particulate matter and gaseous emissions. The full PM emissions correlation test was completed on the 8th of April 2025. Correlation test report received and under review. The gaseous emissions parallel test is planned to be conducted

Unit 4:

- Unit 4 is operating with unity curve, PM correlation curve expired on the 07th of May 2025. The new full PM emissions correlation test was completed on the 15th of April 2025 and awaiting report from service provider.
- The unit is operated with valid parallel factors for gaseous emissions.

Unit 5

- Unit 5 is operating with valid correlation curves and parallel factors.

9. Shut down and Light up information

Unit No. 2	Event 1		Event 2		Event 3	
Breaker Open (BO)	BO previously	BO previously	2:10 am	2025/04/04	10:20 am	2025/04/10
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	11:55 pm	2025/04/01	8:30 am	2025/04/04	11:45 am	2025/04/10
Synch. to Grid (or BC)	11:20 pm	2025/04/02	11:25 am	2025/04/04	7:20 pm	2025/04/10
Fires in to BC (duration)	00:23:25	DD:HH:MM	00:02:55	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
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM

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Unit No. 3	Event 1		Event 2		Event 3	
Breaker Open (BO)	4:05 am	2025/04/16	11:40 am	2025/04/18	6:55 pm	2025/04/24
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	1:25 pm	2025/04/18	DG did not trip or SD	DG did not trip or SD
BO to DG SD (duration)	n/a	DD:HH:MM	00:01:45	DD:HH:MM	n/a	DD:HH:MM
Fires in time	4:45 am	2025/04/16	11:20 pm	2025/04/19	12:20 am	2025/04/25
Synch. to Grid (or BC)	7:05 am	2025/04/16	5:35 am	2025/04/20	1:55 am	2025/04/25
Fires in to BC (duration)	00:02:20	DD:HH:MM	00:06:15	DD:HH:MM	00:01:35	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

10.Complaints

No complaints reported for the month of April 2025.

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 April 2025.						