



**Ms Nompumelelo Simelane**  
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PO Box 437  
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Date:  
*June 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 MAY 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 May 2025.

Hoping the above will meet your satisfaction.

Yours sincerely

Christopher Nani  
**GENERAL MANAGER**

**DATE:** *27/06/2025*

## 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 May-2025           |
|----------------------------|---------------------------|--------|-----------------------------------|-------------------------------------|
|                            | Coal                      | Tons   | 1 818 083                         | 751 530                             |
|                            | Fuel Oil                  | Tons   | 5 533                             | 2790.21                             |
|                            | Limestone                 | Tons   | 72 017                            | 32316                               |
| Production Rates           | Product / By-Product Name | Units  | Max Production Capacity Permitted | Indicative Production Rate May-2025 |
|                            | Energy                    | GWh    | 3 321.216                         | 1 470.57                            |
|                            | Ash                       | Tons   | 796 300                           | 231 396.12                          |
|                            | Gypsum                    | Tons   | 155 100                           | 18 095.84                           |
|                            | RE PM                     | kg/MWh | not specified                     | 0.01                                |
|                            | RE SOx                    | kg/MWh | not specified                     | 0.52                                |

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: [4 464 MW] x 24 hrs x days in Month/1000 to convert to GWh

## 3. Energy source characteristics

| Fuel Characteristic | Units | Stipulated Range | Monthly Average Content |
|---------------------|-------|------------------|-------------------------|
| Coal Sulphur        | %     | 1.3              | 0.67                    |
| Ash in Coal         | %     | 38               | 30.79                   |
| Fuel Oil Sulphur    | %     | 3.5              | 2.84                    |

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

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

**5. Abatement Technology (%)**

| Associated Unit/Stack | Technology Type | Efficiency May-2025 | Technology Type | Efficiency May-2025 |
|-----------------------|-----------------|---------------------|-----------------|---------------------|
| Unit 1                | FFP             | Off                 | FGD             | Off                 |
| Unit 2                | FFP             | 99.99%              | FGD             | 99.91%              |
| Unit 3                | FFP             | 99.99%              | FGD             | 99.87%              |
| Unit 4                | FFP             | 99.99%              | FGD             | 99.94%              |
| Unit 5                | FFP             | 99.99%              | FGD             | 99.94%              |

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    |
|-----------------------|--------|-----------------|-------|
| Unit 1                | Exempt | 100             | 100   |
| Unit 2                | 100.0  | 99.6            | 90.8  |
| Unit 3                | 100.0  | 100.0           | 99.8  |
| Unit 4                | 100.0  | 99.7            | 100.0 |
| Unit 5                | 100.0  | 99.3            | 100.0 |

Note: Unit 1 on 30/05/2025 operated for 7.1 hours and on 31/05/2025 operated for 5.4 hours. Reporting of emissions is exempt during this period because reporting of emissions commences 24 hours after unit synchronization.

**7. Emissions Performance**

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

| Associated Unit/Stack | PM          | SO <sub>2</sub> | NO <sub>x</sub> |
|-----------------------|-------------|-----------------|-----------------|
| Unit 1                | Exempt      | 1               | 6               |
| Unit 2                | 2.8         | 229             | 645             |
| Unit 3                | 4.1         | 237             | 724             |
| Unit 4                | 7.8         | 137             | 542             |
| Unit 5                | 5.4         | 154             | 766             |
| <b>SUM</b>            | <b>20.1</b> | <b>759</b>      | <b>2 682</b>    |

Note: Unit 1 on 30/05/2025 operated for 7.1 hours and on 31/05/2025 operated for 5.4 hours. Reporting of emissions is exempt during this period because reporting of emissions commences 24 hours after unit synchronization.

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

| Associated Unit/Stack | Normal     | Grace    | Section 30 | Contravention | Total Exceedance | Average PM (mg/Nm³) |
|-----------------------|------------|----------|------------|---------------|------------------|---------------------|
| Unit 1                | Exempt     | Exempt   | Exempt     | Exempt        | Exempt           | Exempt              |
| Unit 2                | 31         | 0        | 0          | 0             | 0                | 2.4                 |
| Unit 3                | 24         | 0        | 0          | 0             | 0                | 2.8                 |
| Unit 4                | 31         | 0        | 0          | 0             | 0                | 3.3                 |
| Unit 5                | 31         | 0        | 0          | 0             | 0                | 3.0                 |
| <b>SUM</b>            | <b>117</b> | <b>0</b> | <b>0</b>   | <b>0</b>      | <b>0</b>         |                     |

Table 7.3: Operating days in compliance to SO<sub>2</sub> AEL Limit - May 2025

| Associated Unit/Stack | Normal     | Grace    | Section 30 | Contravention | Total Exceedance | Average SO <sub>2</sub> (mg/Nm³) |
|-----------------------|------------|----------|------------|---------------|------------------|----------------------------------|
| Unit 1                | 2          | 0        | 0          | 0             | 0                | 39.4                             |
| Unit 2                | 31         | 0        | 0          | 0             | 0                | 171.3                            |
| Unit 3                | 25         | 0        | 0          | 0             | 0                | 170.2                            |
| Unit 4                | 31         | 0        | 0          | 0             | 0                | 57.6                             |
| Unit 5                | 31         | 0        | 0          | 0             | 0                | 77.6                             |
| <b>SUM</b>            | <b>120</b> | <b>0</b> | <b>0</b>   | <b>0</b>      | <b>0</b>         |                                  |

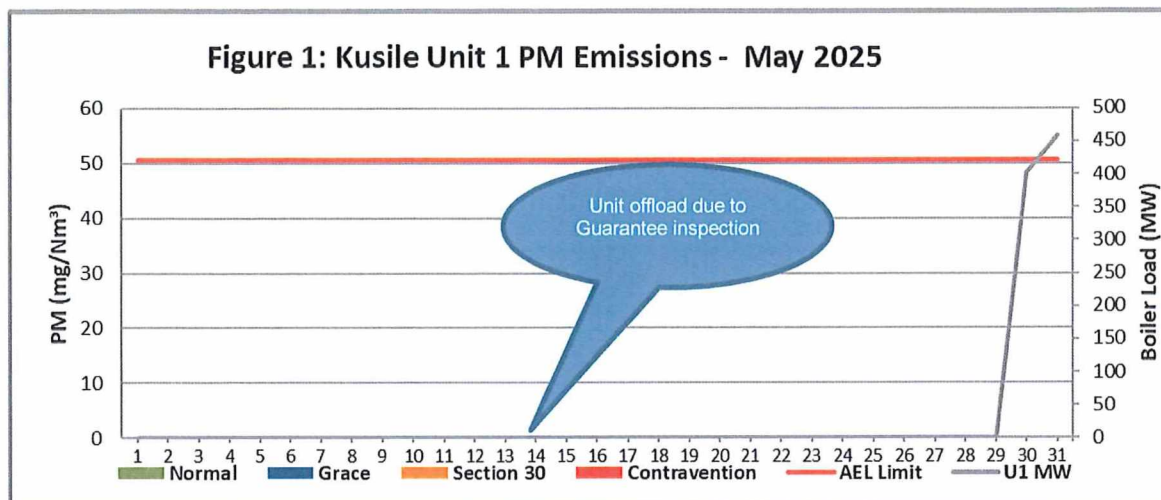
Table 7.4: Operating days in compliance to NO<sub>x</sub> AEL Limit – May 2025

| Associated Unit/Stack | Normal     | Grace    | Section 30 | Contravention | Total Exceedance | Average NO <sub>x</sub> (mg/Nm³) |
|-----------------------|------------|----------|------------|---------------|------------------|----------------------------------|
| Unit 1                | 2          | 0        | 0          | 0             | 0                | 351.6                            |
| Unit 2                | 31         | 0        | 0          | 0             | 0                | 496.1                            |
| Unit 3                | 25         | 0        | 0          | 0             | 0                | 499.2                            |
| Unit 4                | 31         | 0        | 0          | 0             | 0                | 228.5                            |
| Unit 5                | 31         | 0        | 0          | 0             | 0                | 389.4                            |
| <b>SUM</b>            | <b>120</b> | <b>0</b> | <b>0</b>   | <b>0</b>      | <b>0</b>         |                                  |

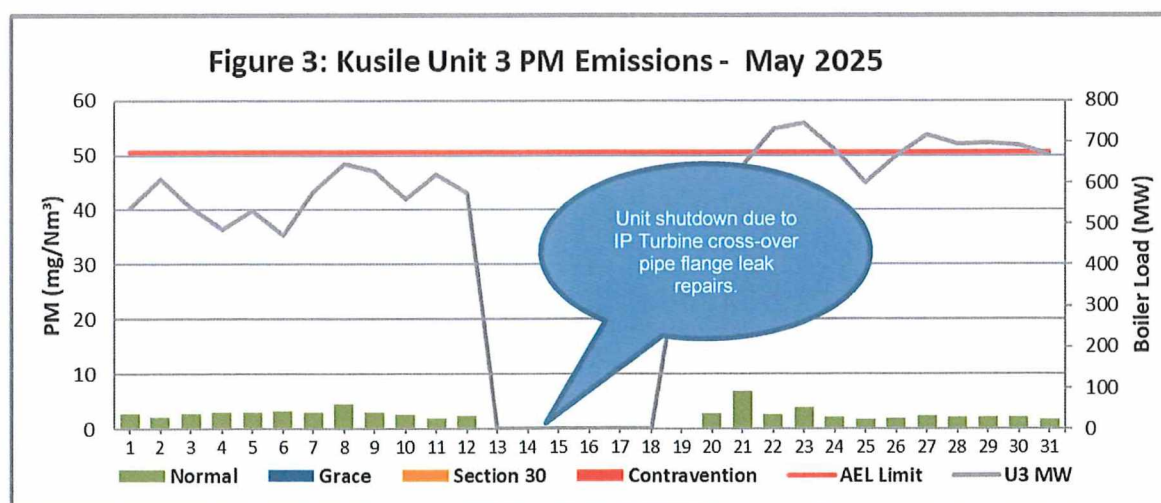
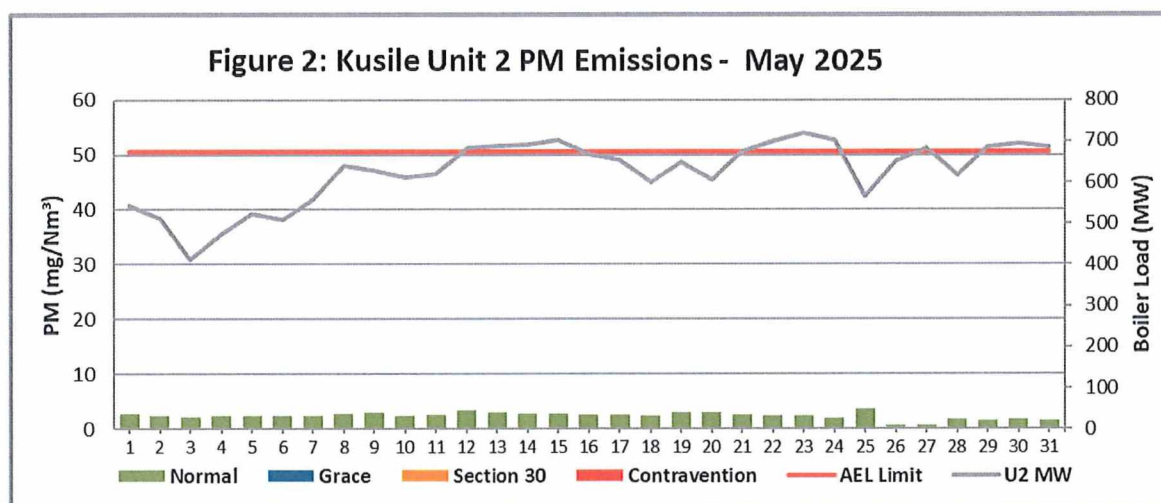
Note: NO<sub>x</sub> emissions is measured as NO in PPM. Final NO<sub>x</sub> value is expressed as total NO<sub>2</sub>

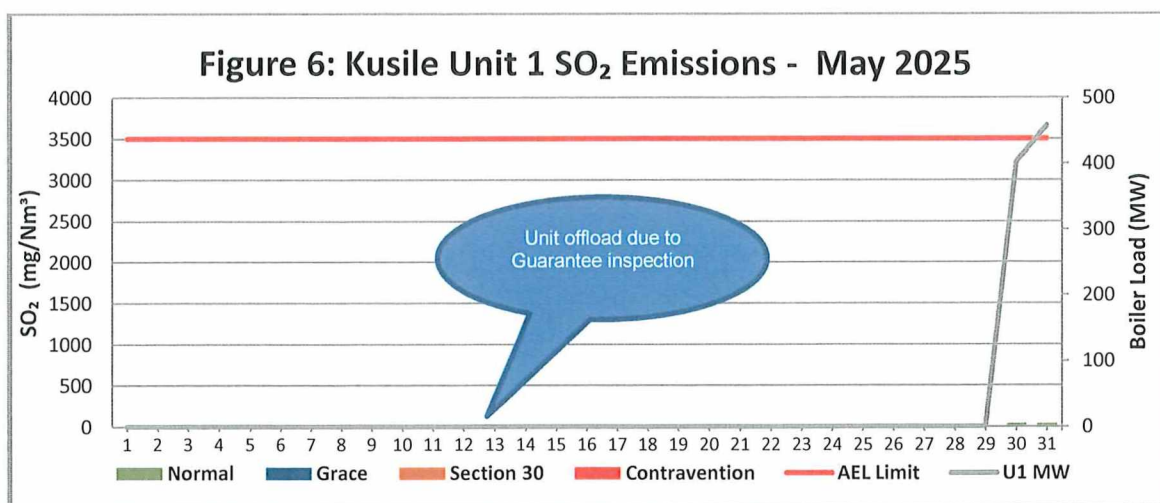
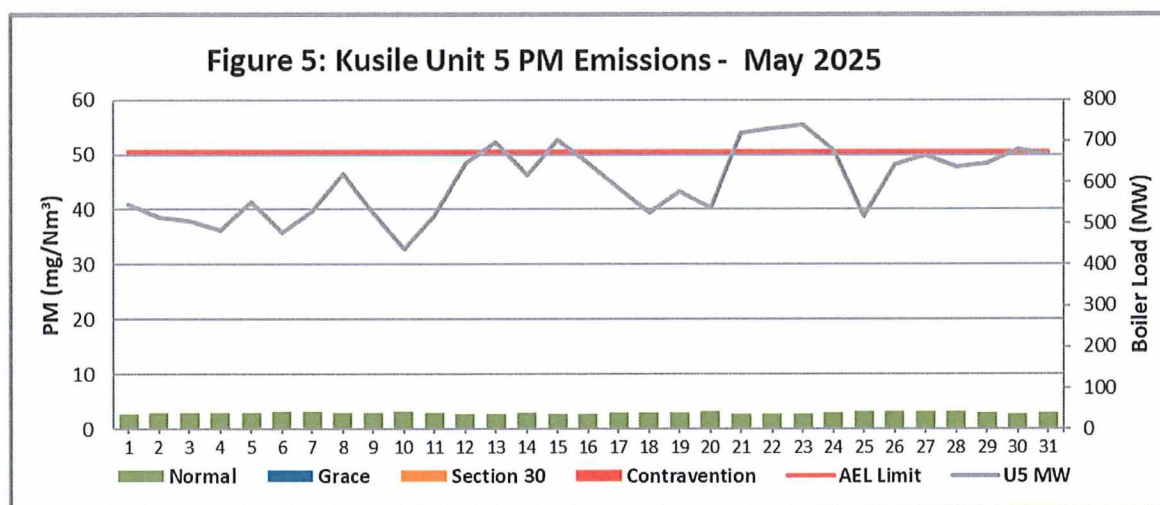
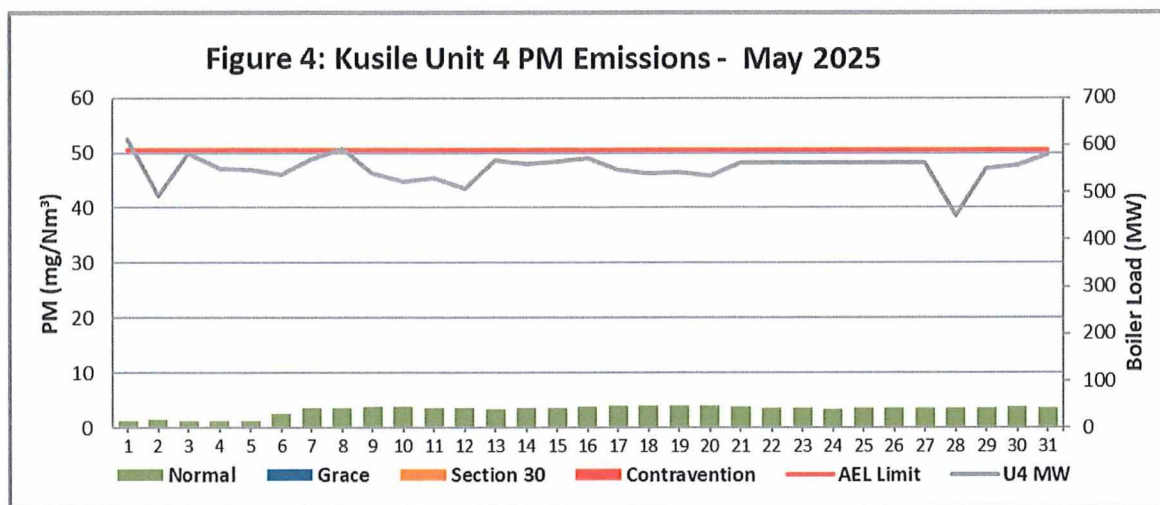
Table 7.5: Legend Description

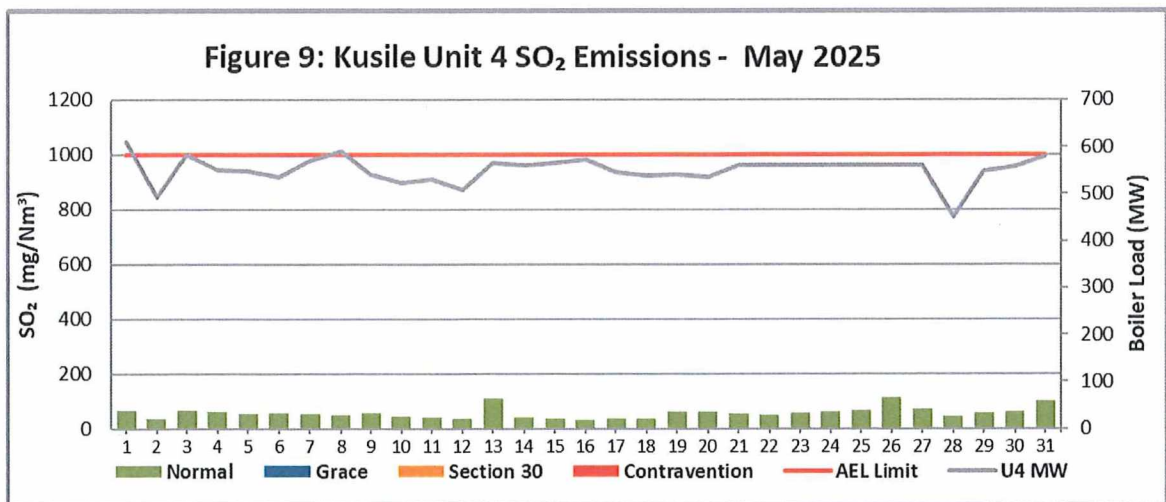
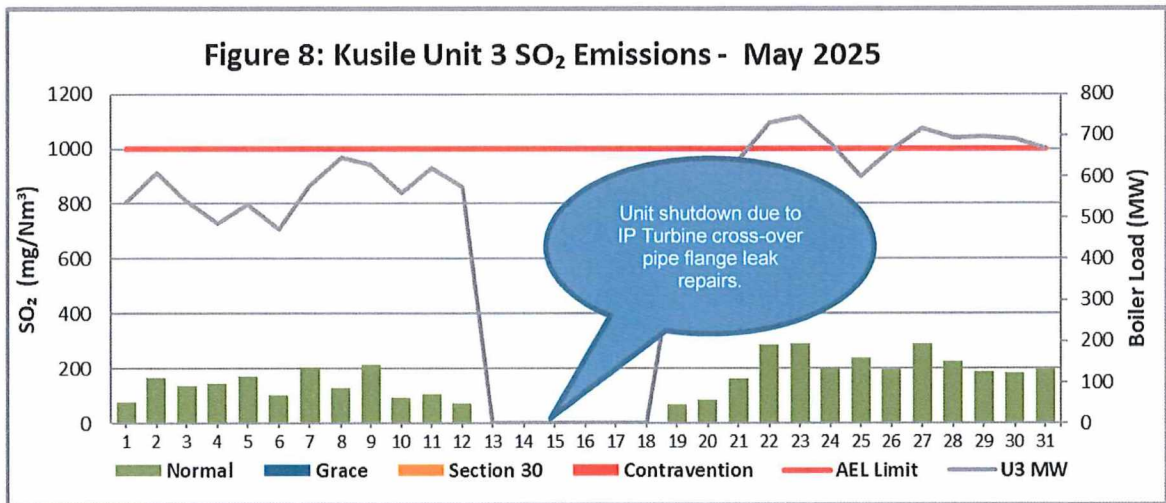
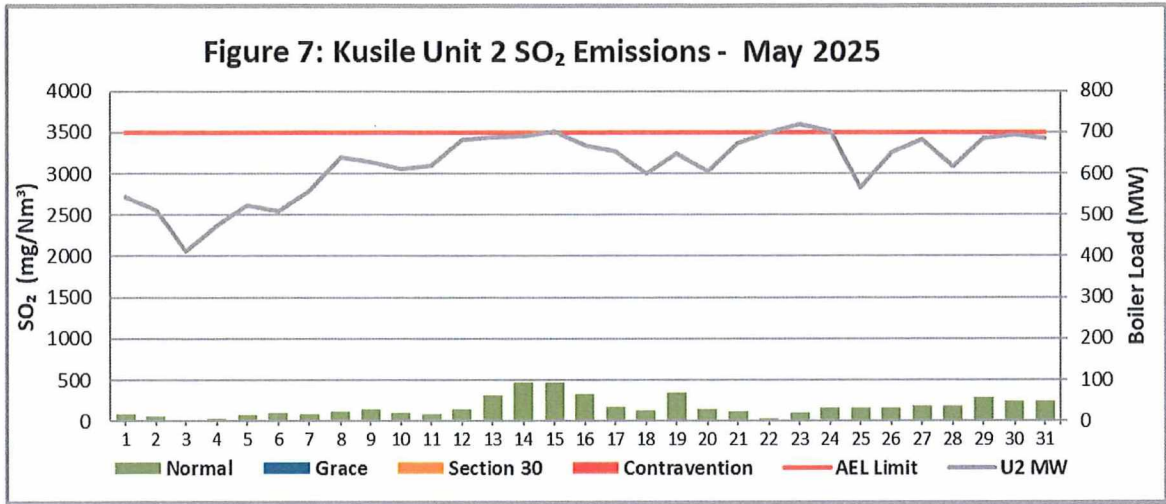
| Condition     | Colour | Description                                                      |
|---------------|--------|------------------------------------------------------------------|
| Normal        |        | Emissions below Emission Limit Value (ELV)                       |
| Grace         |        | 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 |

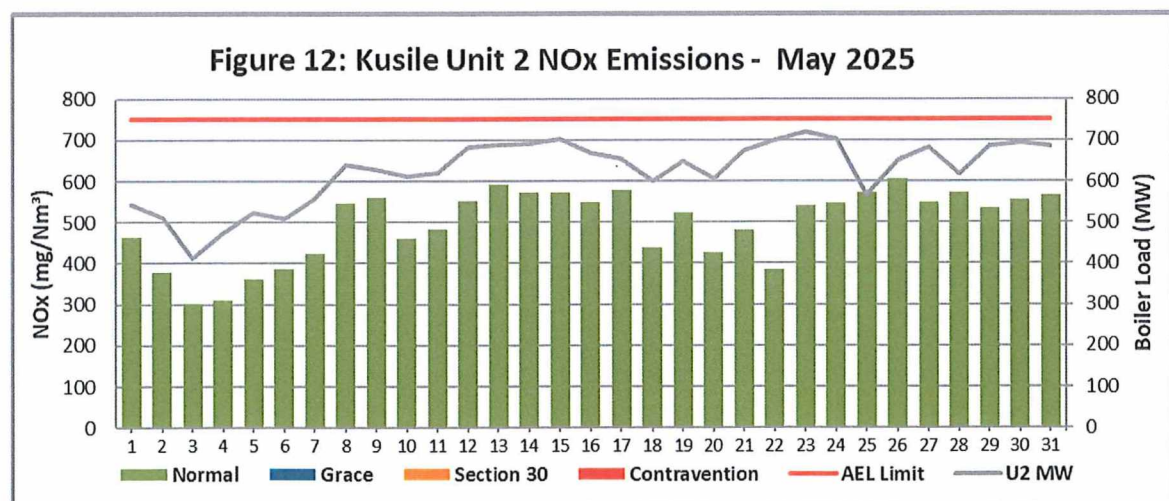
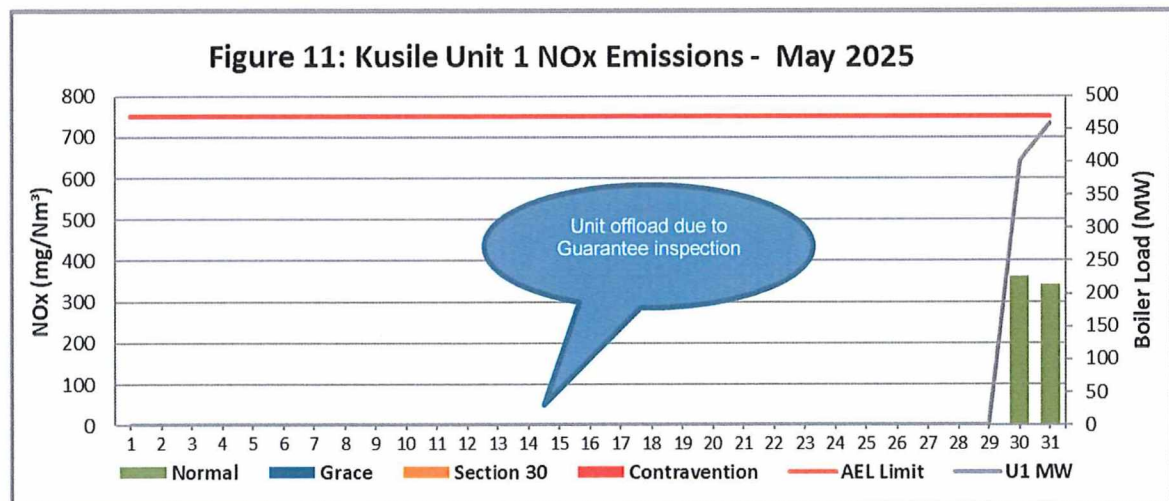
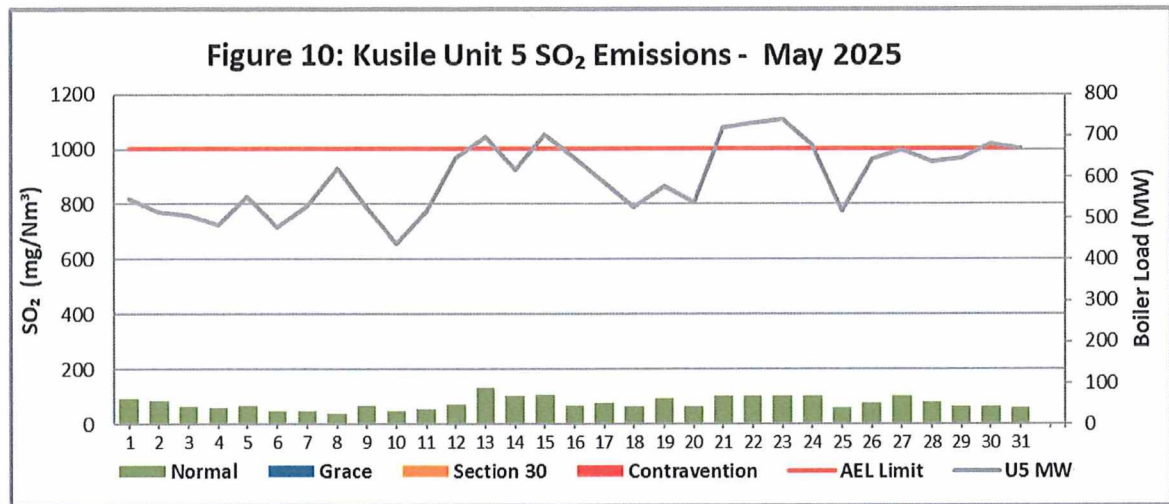


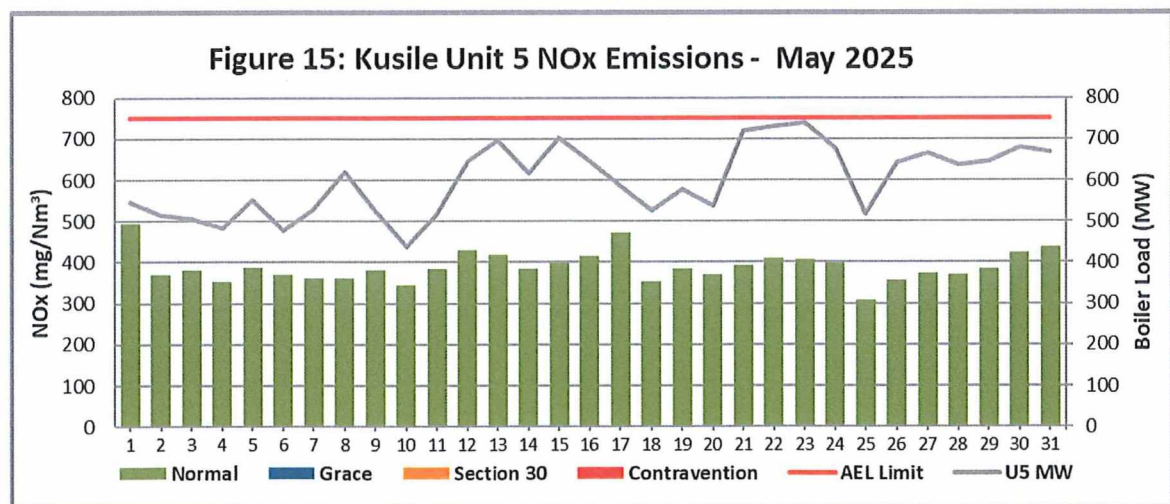
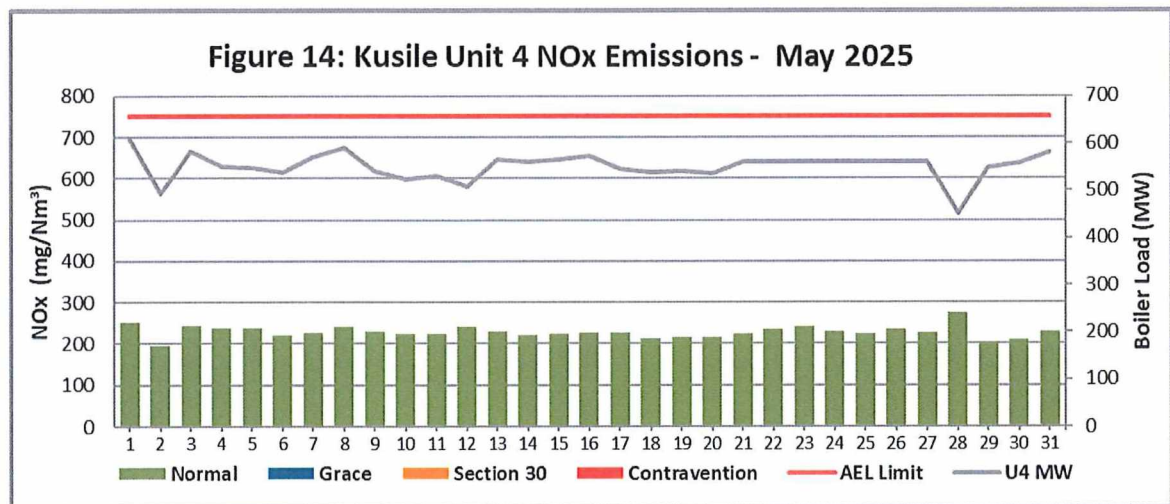
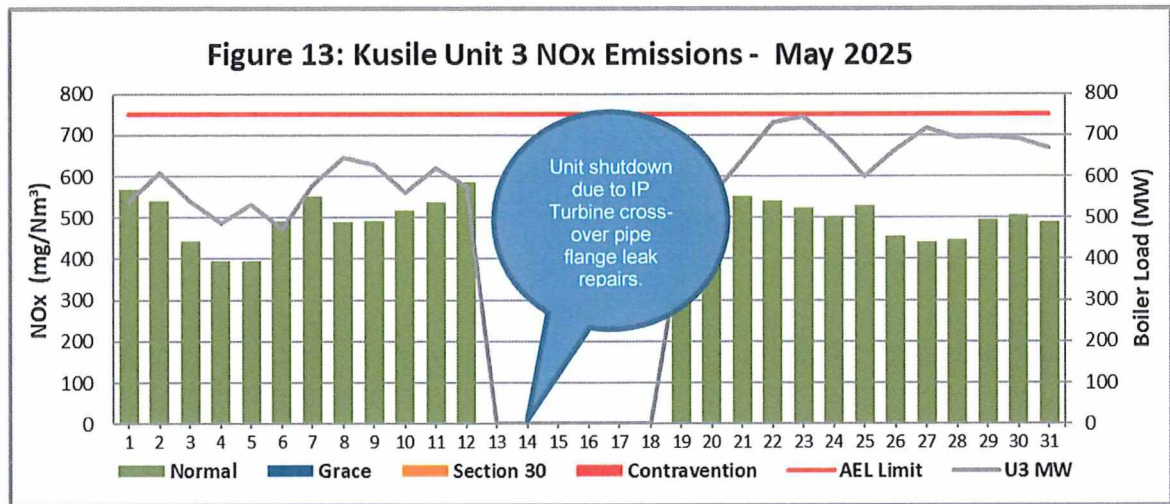
Note: Unit 1 on 30/05/2025 operated for 7.1 hours and on 31/05/2025 operated for 5.4 hours. Reporting of emissions is exempt during this period because reporting of emissions commences 24 hours after unit synchronization.











## 8. Correlation and Parallel test status

### Unit 1:

- 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 2:

- The unit is operating with unity curves for particulate matter and gaseous emissions. The full PM and gaseous emissions correlation test was completed on the 19th of June 2025. Awaiting test report from service provider.

### Unit 3

- Unit 3 is operating with valid correlation curves.
- Unit 3 is operating with Unity curves on the gaseous emissions. The gaseous parallel test was completed on the 8<sup>th</sup> of April 2025. Correlation test report received and under review.

### Unit 4:

- Unit 4 is operating with valid correlation curves and parallel factors.

### 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     |             |
|------------------------------------------|-----------------------|-----------------------|-------------|-------------|
| Breaker Open (BO)                        | 4:00 pm               | 2025/05/03            | 2:15 am     | 2025/05/25  |
| Draught Group (DG) Shut Down (SD)        | DG did not trip or SD | DG did not trip or SD | 6:25 am     | 2025/05/25  |
| BO to DG SD (duration)                   | n/a                   | DD:HH:MM              | 00:04:10    | DD:HH:MM    |
| Fires in time                            |                       |                       | 1:20 pm     | 2025/05/25  |
| Synch. to Grid (or BC)                   |                       |                       | 3:35 pm     | 2025/05/25  |
| Fires in to BC (duration)                |                       | DD:HH:MM              | 00:02:15    | DD:HH:MM    |
| Emissions below limit from BC (end date) |                       |                       | not > limit | not > limit |
| Emissions below limit from BC (duration) |                       | DD:HH:MM              | n/a         | DD:HH:MM    |

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| Unit No. 3                               | Event 1     |             |
|------------------------------------------|-------------|-------------|
| Breaker Open (BO)                        | 4:45 pm     | 2025/05/12  |
| Draught Group (DG) Shut Down (SD)        | 4:50 am     | 2025/05/13  |
| BO to DG SD (duration)                   | 00:12:05    | DD:HH:MM    |
| Fires in time                            | 9:45 am     | 2025/05/18  |
| Synch. to Grid (or BC)                   | 3:10 pm     | 2025/05/19  |
| Fires in to BC (duration)                | 01:05:25    | 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    |

| Unit No. 4                               | Event 1               |                       |
|------------------------------------------|-----------------------|-----------------------|
| Breaker Open (BO)                        | 9:00 am               | 2025/05/02            |
| Draught Group (DG) Shut Down (SD)        | DG did not trip or SD | DG did not trip or SD |
| BO to DG SD (duration)                   | n/a                   | DD:HH:MM              |
| Fires in time                            |                       |                       |
| Synch. to Grid (or BC)                   |                       |                       |
| Fires in to BC (duration)                |                       | DD:HH:MM              |
| Emissions below limit from BC (end date) |                       |                       |
| Emissions below limit from BC (duration) |                       | DD:HH:MM              |

| Unit No. 5                               | Event 1               |                       | Event 2     |             | Event 3     |             |
|------------------------------------------|-----------------------|-----------------------|-------------|-------------|-------------|-------------|
| Breaker Open (BO)                        | 5:40 am               | 2025/05/19            | 4:35 am     | 2025/05/29  | 11:15 am    | 2025/05/31  |
| Draught Group (DG) Shut Down (SD)        | DG did not trip or SD | DG did not trip or SD | 4:35 am     | 2025/05/29  | 11:15 am    | 2025/05/31  |
| BO to DG SD (duration)                   | n/a                   | DD:HH:MM              | 00:00:00    | DD:HH:MM    | 00:00:00    | DD:HH:MM    |
| Fires in time                            |                       |                       | 2:50 pm     | 2025/05/29  | 11:40 am    | 2025/05/31  |
| Synch. to Grid (or BC)                   |                       |                       | 4:00 pm     | 2025/05/29  | 1:35 pm     | 2025/05/31  |
| Fires in to BC (duration)                |                       | DD:HH:MM              | 00:01:10    | DD:HH:MM    | 00:01:55    | DD:HH:MM    |
| Emissions below limit from BC (end date) |                       |                       | not > limit | not > limit | not > limit | not > limit |
| Emissions below limit from BC (duration) |                       | DD:HH:MM              | n/a         | DD:HH:MM    | n/a         | DD:HH:MM    |

## 10.Complaints

No complaints reported for the month of May 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 May 2025. |                    |                  |                     |                                                                                                                   |                                                                 |                                            |