



**Generation**

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**DUVHA POWER STATION**

Atmospheric Emission License: NDM/AEL/MP312/11/07

GENERAL MANAGER

2026/02/03

DATE

**DUVHA POWER STATION MONTHLY EMISSIONS REPORT**  
Atmospheric Emission License: NDM/AEL/MP312/11/07



## 1. RAW MATERIALS AND PRODUCTS

| Raw Materials and Products | Raw Material Type | Units | Max Permitted Consumption Rate | Consumption Rate Dec-2025 |
|----------------------------|-------------------|-------|--------------------------------|---------------------------|
|                            | Coal              | Tons  | 1 400 000                      | 263 317.12                |
|                            | Fuel Oil          | Tons  | 5 000                          | 3656.25                   |

| Production Rates | Product / By-Product Name | Units | Max Production Capacity Permitted | Indicative Production Rate Dec-2025 |
|------------------|---------------------------|-------|-----------------------------------|-------------------------------------|
|                  | Energy                    | GWh   | 2 160.00                          | 444.98                              |
|                  | Ash                       | Tons  | 562 464                           | 63 406.76                           |

Note: Max energy rate = AEL capacity [3,600 MW] × 24 hrs × days in month ÷ 1,000 (to convert to GWh).

## 2. ENERGY SOURCE CHARACTERISTICS

| Coal Characteristic | Units | Stipulated Range | Monthly Average Content |
|---------------------|-------|------------------|-------------------------|
| Sulphur Content     | %     | 0.6 - 1.2        | 0.71                    |
| Ash Content         | %     | 30.2             | 24.08                   |

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

| Associated Unit/Stack | Daily Limit |                 |                 |
|-----------------------|-------------|-----------------|-----------------|
|                       | PM          | SO <sub>2</sub> | NO <sub>x</sub> |
| Unit 1                | 50          | 2600            | 1100            |
| Unit 2                | 50          | 2600            | 1100            |
| Unit 4                | 100         | 2600            | 1100            |
| Unit 5                | 50          | 2600            | 1100            |
| Unit 6                | 100         | 2600            | 1100            |

## 4. ABATEMENT TECHNOLOGY (%)

| Associated Unit/Stack | Technology Type       | ESP Efficiency | Technology Type | SO <sub>3</sub> Plant Utilization |
|-----------------------|-----------------------|----------------|-----------------|-----------------------------------|
| Unit 1                | FFP                   | Unit Off load  | SO <sub>3</sub> | n/a                               |
| Unit 2                | FFP                   | 99.93%         | SO <sub>3</sub> | n/a                               |
| Unit 4                | ESP + SO <sub>3</sub> | Unit Off-Load  | SO <sub>3</sub> | Unit-Offload                      |
| Unit 5                | ESP + SO <sub>3</sub> | 99.76%         | SO <sub>3</sub> | 97.30%                            |
| Unit 6                | ESP + SO <sub>3</sub> | 99.86%         | SO <sub>3</sub> | 94.50%                            |

Note: The ESP plant does not have a bypass mode; therefore, it operates at 100% utilization.

## 5. DATA RELIABILITY (%)

| Associated Unit/Stack | PM            | SO <sub>2</sub> | NO            | O <sub>2</sub> |
|-----------------------|---------------|-----------------|---------------|----------------|
| Unit 1                | Unit Off load | Unit Off load   | Unit Off load | Unit Off load  |
| Unit 2                | 100 00        | 98 9            | 100 00        | 100 00         |
| Unit 4                | Unit Off load | Unit Off load   | Unit Off load | Unit Off load  |
| Unit 5                | 100 0         | 99 80           | 99 40         | 98 90          |
| Unit 6                | 100 00        | 99 90           | 99 90         | 100 00         |

Note NO<sub>x</sub> emissions are measured as NO in PPM. The final NO<sub>x</sub> value is expressed as total NO<sub>2</sub> equivalent

## 6. EMISSION PERFORMANCE

Table 6 1 Monthly tonnages for December 2025

| Associated Unit/Stack | PM (tons)     | SO <sub>2</sub> (tons) | NO <sub>x</sub> (tons) |
|-----------------------|---------------|------------------------|------------------------|
| Unit 1                | Unit Off load | Unit Off load          | Unit Off load          |
| Unit 2                | 6 8           | 658                    | 296                    |
| Unit 4                | Unit Off load | Unit Off load          | Unit Off load          |
| Unit 5                | 46 2          | 1 573                  | 530                    |
| Unit 6                | 30 7          | 2 953                  | 1 273                  |
| <b>SUM</b>            | <b>83 66</b>  | <b>5 184</b>           | <b>2 098</b>           |

Table 6 2 PM AEL Daily - December 2025

| Associated Unit/Stack | Normal Days   | Number of days in Grace period | Number of Section 30 days | Number of days In contravention | Total Exceedance | Mo Avg (mg/Nm <sup>3</sup> ) |
|-----------------------|---------------|--------------------------------|---------------------------|---------------------------------|------------------|------------------------------|
| Unit 1                | Unit Off load | Unit Off load                  | Unit Off load             | Unit Off load                   | Unit Off load    | Unit Off load                |
| Unit 2                | 8             | 0                              | 0                         | 0                               | 0                | 14 3                         |
| Unit 4                | Unit Off load | Unit Off load                  | Unit Off load             | Unit Off load                   | Unit Off load    | Unit Off load                |
| Unit 5                | 19            | 2                              | 0                         | 2                               | 4                | 50 0                         |
| Unit 6                | 28            | 0                              | 0                         | 0                               | 0                | 19 0                         |
| <b>SUM</b>            | <b>55</b>     | <b>2</b>                       | <b>0</b>                  | <b>2</b>                        | <b>4</b>         |                              |

Table 6.3: SO<sub>2</sub> AEL Daily - December 2025

| Associated Unit/Stack | Normal Days   | Number of days in Grace period | Number of Section 30 days | Number of days In contravention | Total Exceedance | Mo Avg (mg/Nm <sup>3</sup> ) |
|-----------------------|---------------|--------------------------------|---------------------------|---------------------------------|------------------|------------------------------|
| Unit 1                | Unit Off load | Unit Off load                  | Unit Off load             | Unit Off load                   | Unit Off load    | Unit Off load                |
| Unit 2                | 9             | 0                              | 0                         | 0                               | 0                | 1 226.70                     |
| Unit 4                | Unit Off load | Unit Off load                  | Unit Off load             | Unit Off load                   | Unit Off load    | Unit Off load                |
| Unit 5                | 25            | 0                              | 0                         | 0                               | 0                | 1 631.20                     |
| Unit 6                | 29            | 0                              | 0                         | 0                               | 0                | 1 675.50                     |
| <b>SUM</b>            | <b>63</b>     | <b>0</b>                       | <b>0</b>                  | <b>0</b>                        | <b>0</b>         |                              |

Table 6.4: NO<sub>x</sub> AEL Daily - December 2025

| Associated Unit/Stack | Normal Days   | Number of days in Grace period | Number of Section 30 days | Number of days In contravention | Total Exceedance | Mo Avg (mg/Nm <sup>3</sup> ) |
|-----------------------|---------------|--------------------------------|---------------------------|---------------------------------|------------------|------------------------------|
| Unit 1                | Unit Off load | Unit Off load                  | Unit Off load             | Unit Off load                   | Unit Off load    | Unit Off load                |
| Unit 2                | 9             | 0                              | 0                         | 0                               | 0                | 539.3                        |
| Unit 4                | Unit Off load | Unit Off load                  | Unit Off load             | Unit Off load                   | Unit Off load    | Unit Off load                |
| Unit 5                | 25            | 0                              | 0                         | 0                               | 0                | 535.20                       |
| Unit 6                | 29            | 0                              | 0                         | 0                               | 0                | 715.80                       |
| <b>SUM</b>            | <b>63</b>     | <b>0</b>                       | <b>0</b>                  | <b>0</b>                        | <b>0</b>         |                              |

Table 6.5: 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 |

Figure 1: Duvha Unit 2 PM Emissions - December 2025

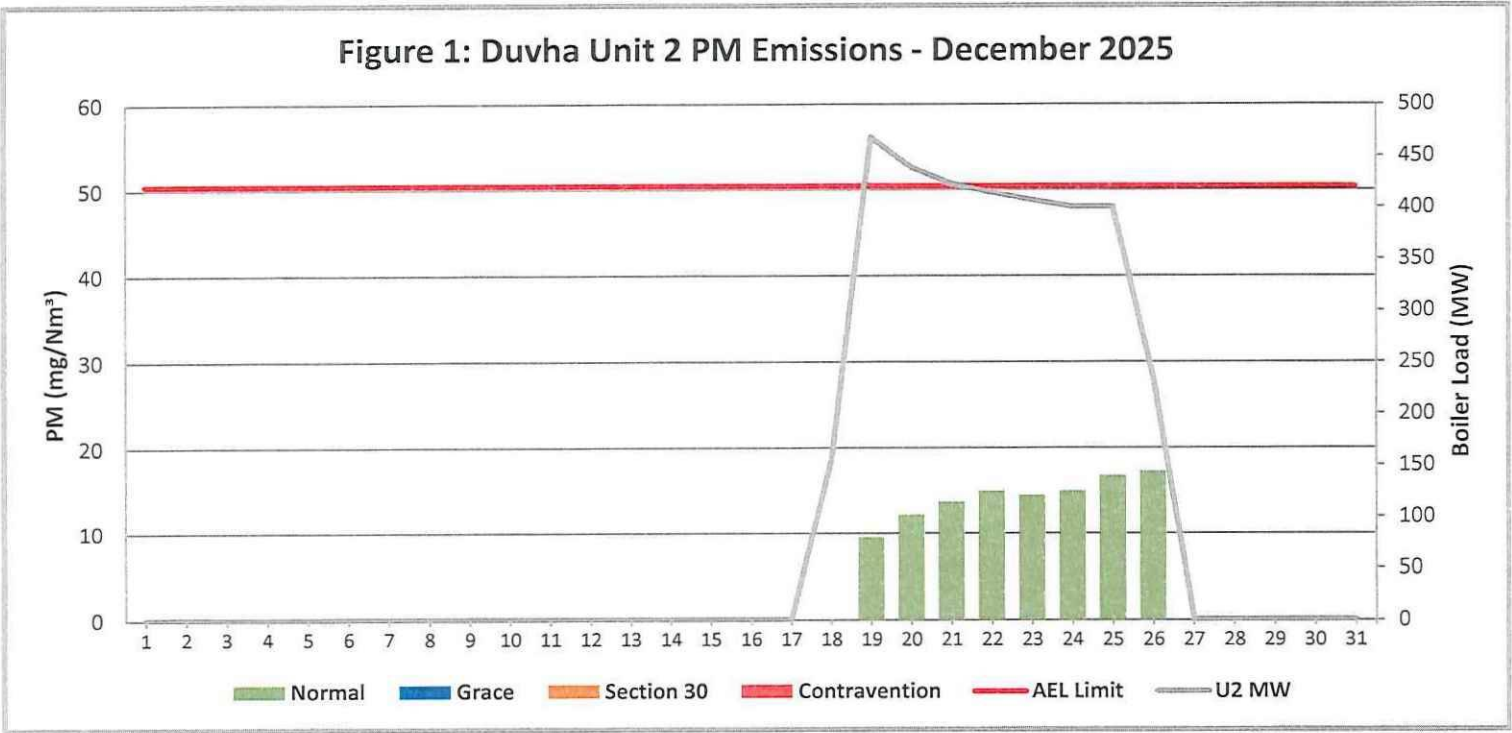


Figure 2: Duvha Unit 5 PM Emissions - December 2025

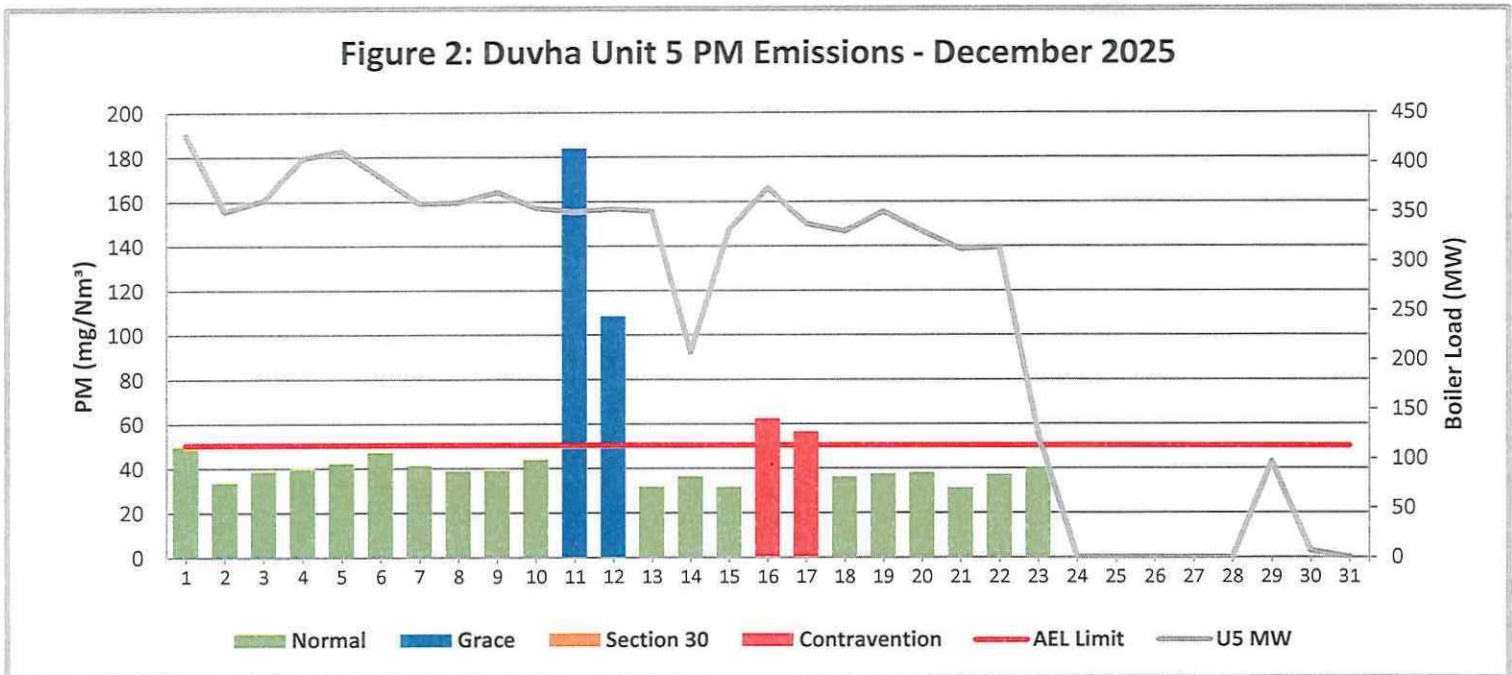


Figure 3: Duvha Unit 6 PM Emissions - December 2025

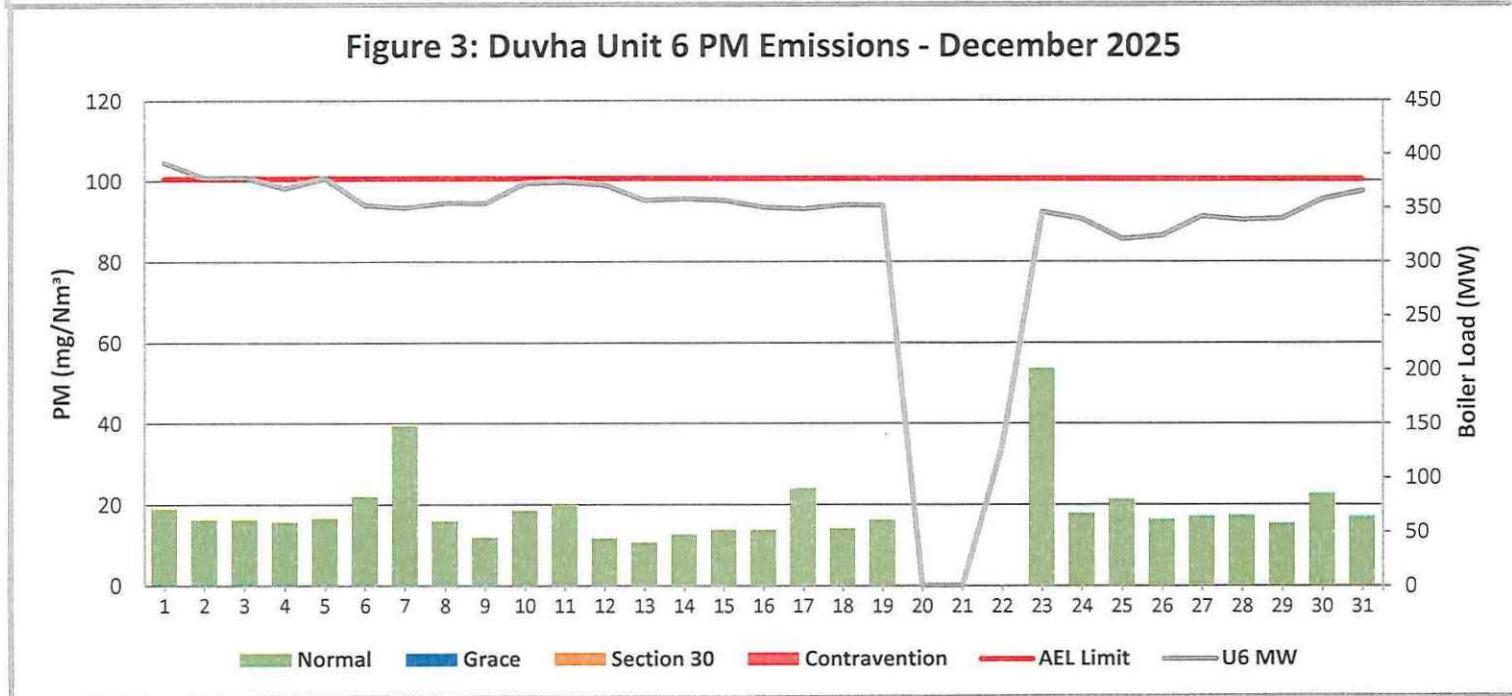


Figure 4: Duvha Unit 2 SO<sub>2</sub> Emissions - December 2025

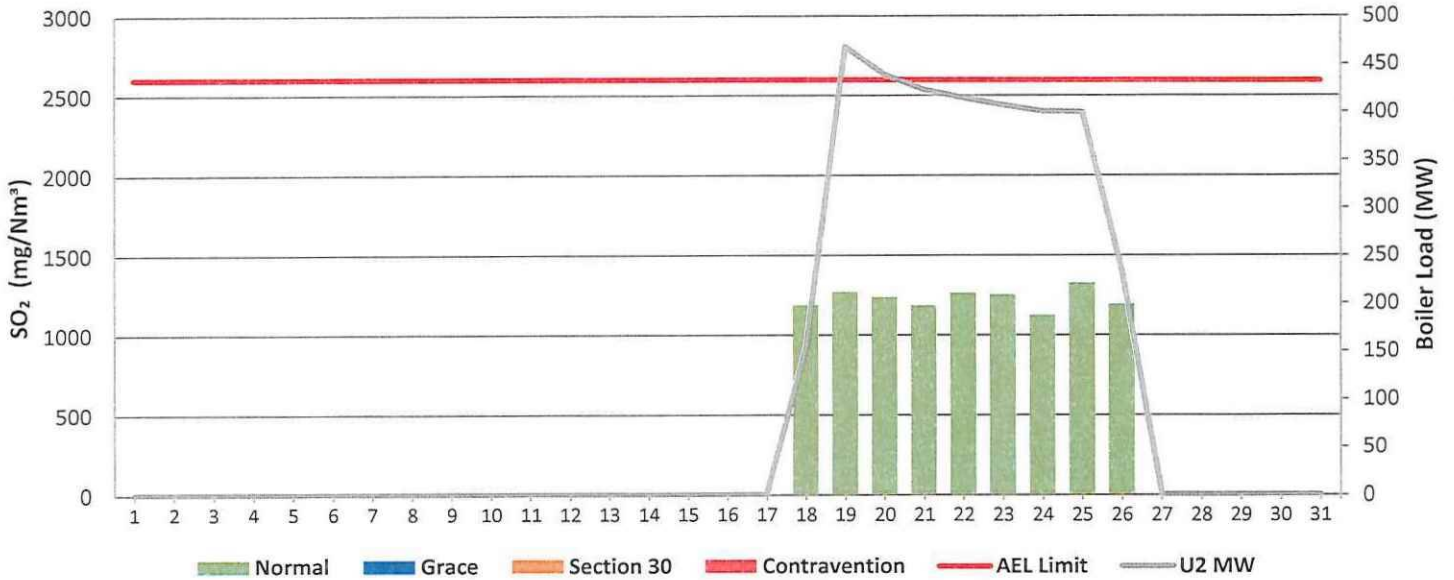


Figure 5: Duvha Unit 5 SO<sub>2</sub> Emissions - December 2025

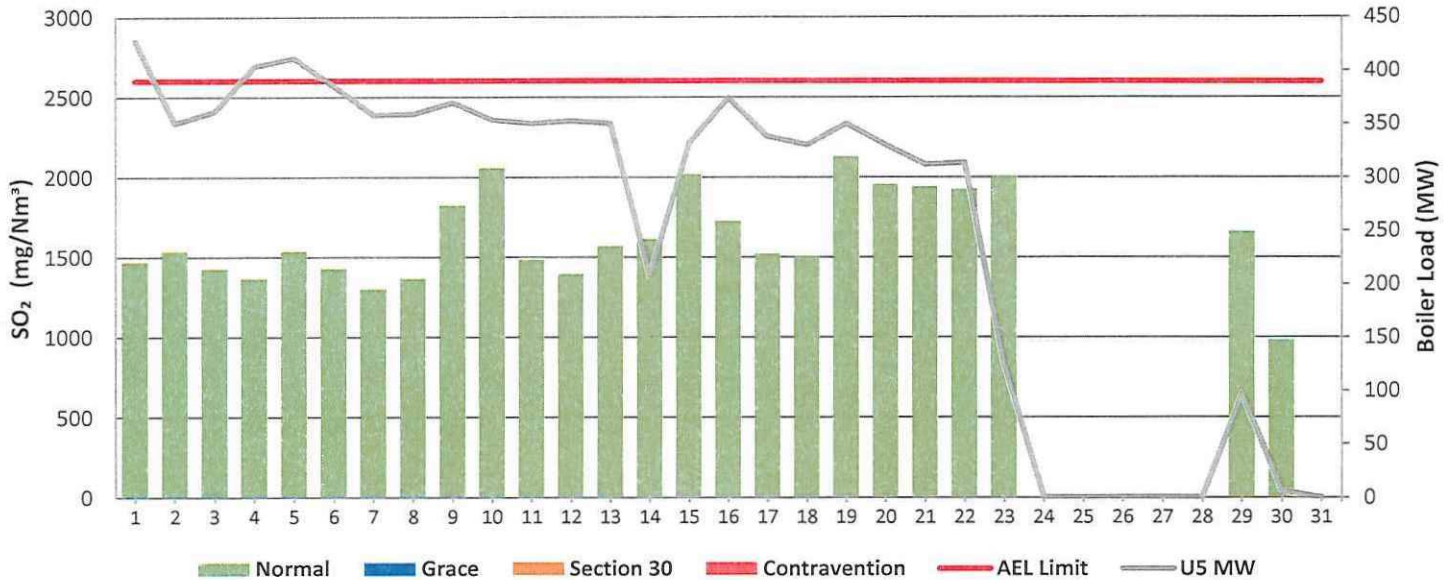


Figure 6: Duvha Unit 6 SO<sub>2</sub> Emissions - December 2025

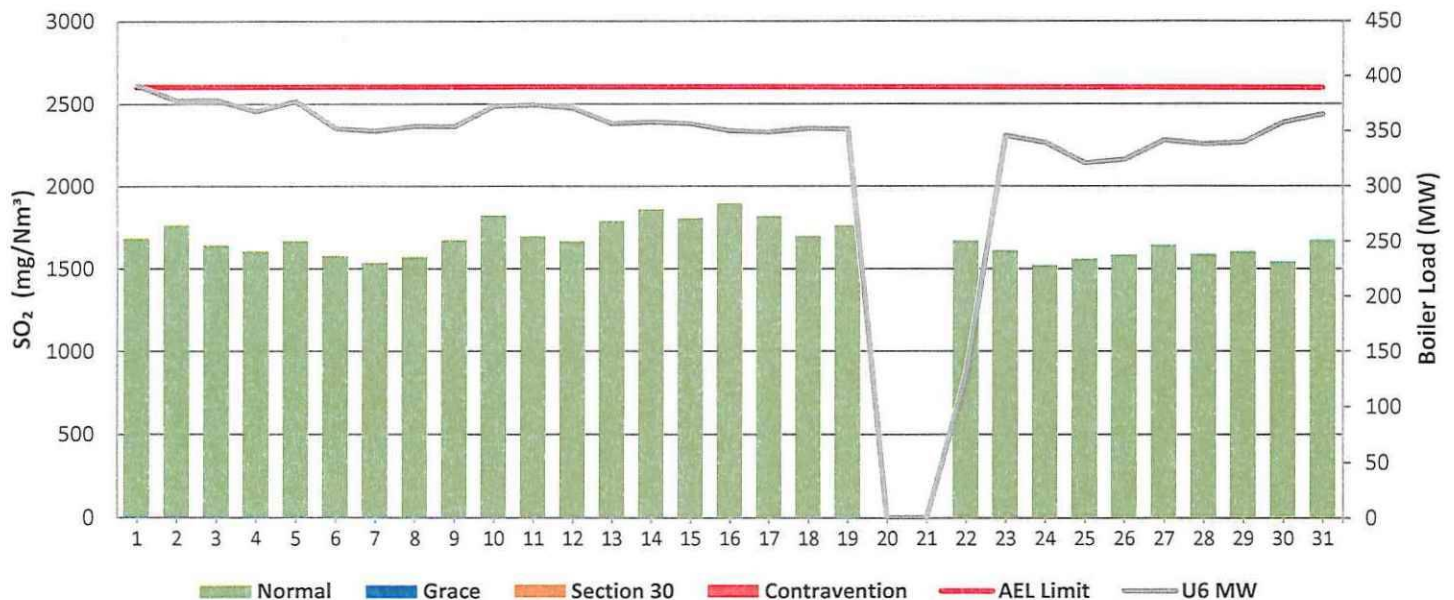


Figure 7: Duvha Unit 2 NO<sub>x</sub> Emissions - December 2025

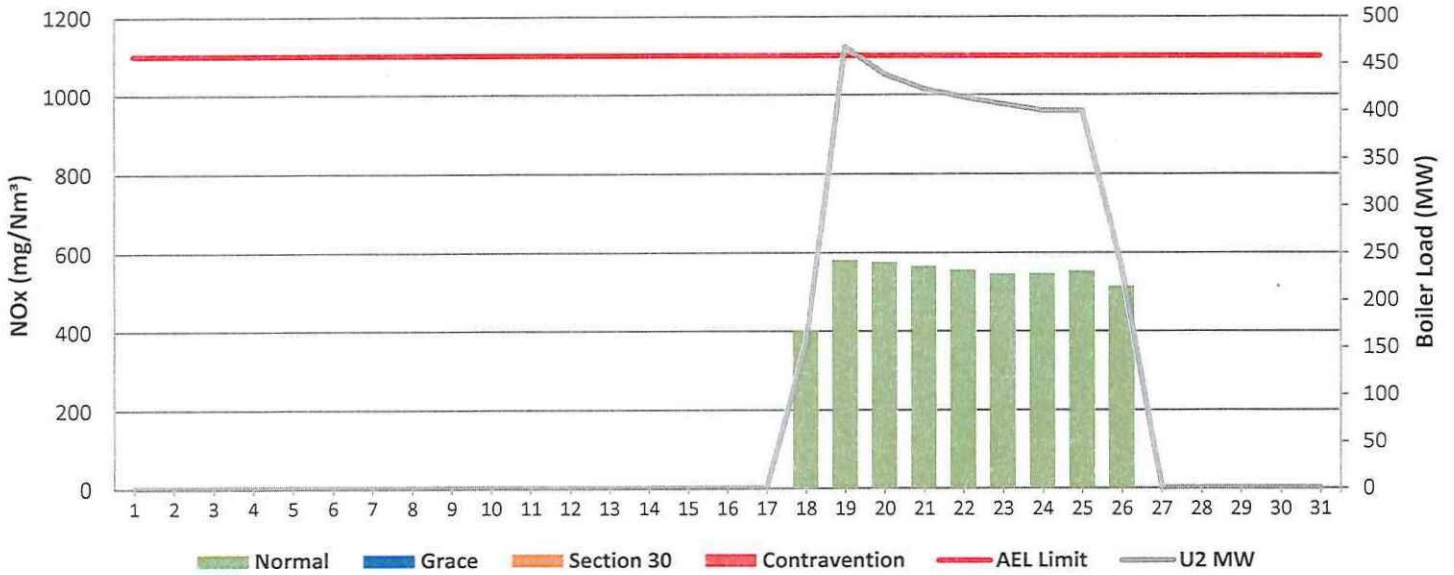


Figure 8: Duvha Unit 5 NO<sub>x</sub> Emissions - December 2025

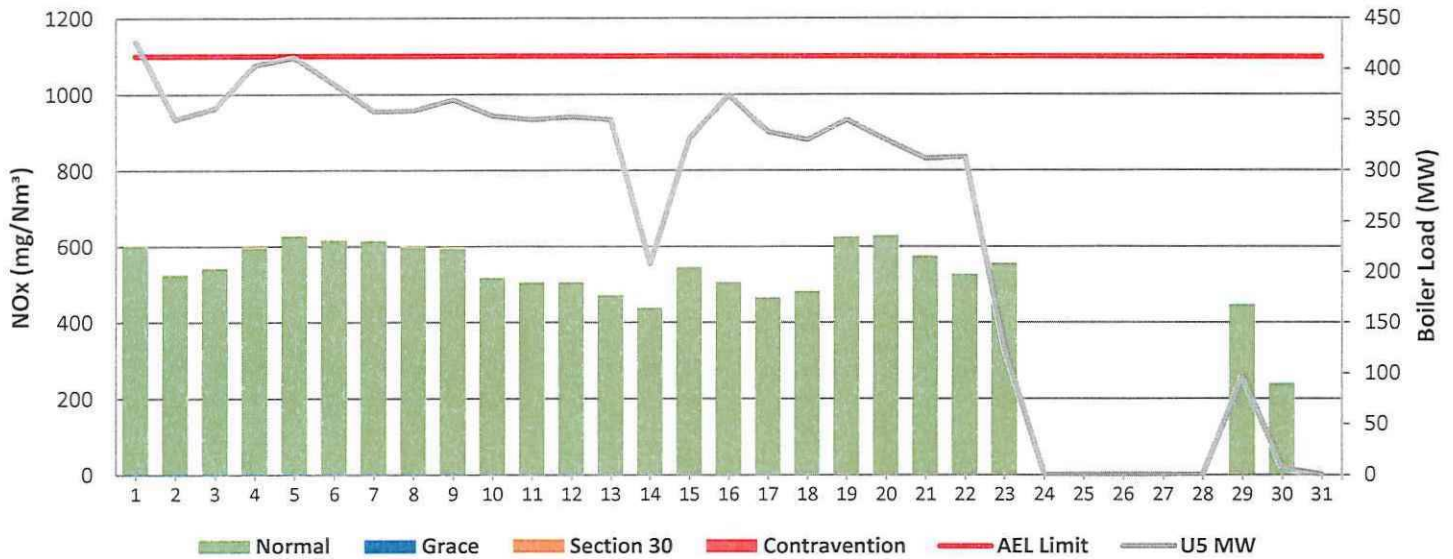
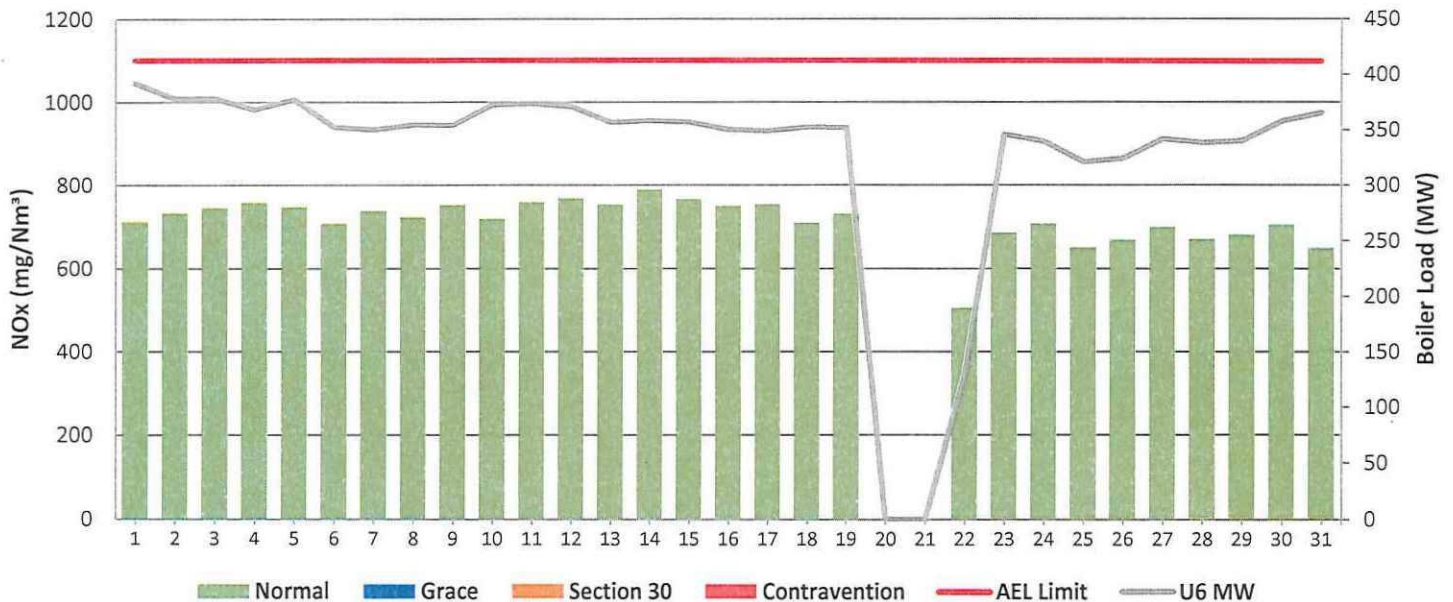


Figure 9: Duvha Unit 6 NO<sub>x</sub> Emissions - December 2025



7. SHUT-DOWN AND LIGHT-UP INFORMATION FOR DECEMBER 2025

|        | Event Description                        | Event 1       |               | Event 2     |             |
|--------|--|---------------|---------------|-------------|-------------|
| Unit 2 | Breaker Open (BO)                        | BO previously | BO previously | 2:10 pm     | 2025/12/26  |
|        | Draught Group (DG) Shut Down (SD)        | n/a           | n/a           | 8:00 pm     | 2025/12/26  |
|        | BO to DG SD (duration)                   | n/a           | DD:HH:MM      | 00:05:50    | DD:HH:MM    |
|        | Fires in time                            | 3:10 am       | 2025/12/18    | 12:45 am    | 2025/12/27  |
|        | Synch. to Grid (or BC)                   | 11:45 am      | 2025/12/18    |             |             |
|        | Fires in to BC (duration)                | 00:08:35      | DD:HH:MM      |             | DD:HH:MM    |
|        | Emissions below limit from BC (end date) | 12:00 am      | 2025/12/20    | not > limit | not > limit |
|        | Emissions below limit from BC (duration) | 01:12:15      | DD:HH:MM      |             | DD:HH:MM    |

|        | Event Description                        | Event 1  |            | Event 2  |            |
|--------|--|----------|------------|----------|------------|
| Unit 5 | Breaker Open (BO)                        | 9:00 am  | 2025/12/23 | 3:15 am  | 2025/12/30 |
|        | Draught Group (DG) Shut Down (SD)        | 3:05 pm  | 2025/12/23 | 3:45 pm  | 2025/12/30 |
|        | BO to DG SD (duration)                   | 00:06:05 | DD:HH:MM   | 00:12:30 | DD:HH:MM   |
|        | Fires in time                            | 6:55 pm  | 2025/12/28 |          |            |
|        | Synch. to Grid (or BC)                   | 4:55 am  | 2025/12/28 |          |            |
|        | Fires in to BC (duration)                | DD:HH:MM | DD:HH:MM   |          | DD:HH:MM   |
|        | Emissions below limit from BC (end date) | 12:00 am | 2026/01/03 |          |            |
|        | Emissions below limit from BC (duration) | 05:19:05 | DD:HH:MM   |          | DD:HH:MM   |

|               | Event Description                        | Event 1  |            |
|---------------|--|----------|------------|
| <b>Unit 6</b> | Breaker Open (BO)                        | 2:05 pm  | 2025/12/19 |
|               | Draught Group (DG) Shut Down (SD)        | 4:45 pm  | 2025/12/19 |
|               | BO to DG SD (duration)                   | 00:02:40 | DD:HH:MM   |
|               | Fires in time                            | 5:05 am  | 2025/12/22 |
|               | Synch. to Grid (or BC)                   | 5:55 pm  | 2025/12/22 |
|               | Fires in to BC (duration)                | 00:12:50 | DD:HH:MM   |
|               | Emissions below limit from BC (end date) | 9:00 am  | 2025/12/23 |
|               | Emissions below limit from BC (duration) | 00:15:05 | DD:HH:MM   |

## 8. COMPLAINTS

There were no complaints for this month.

## 9. GENERAL

### Exceedances:

Particulate Matter:

#### Unit 5

11/12/2025 – 12/12/2025

The SO3 plant was malfunctioning and not injecting properly due to water ingress from rain into the SO3 plant transmitters. The rain affected transmitters and junction boxes were dried up and more stabler and verified instrument signals to the Programmable logic controller (PLC) were installed. The instrument faults/interlocks were restored.

16/12/2025 – 17/12/2025

Legal Contravention incident:

Unit 5 tripped on 14 December 2025 at 14:17 and was subsequently returned to service, synchronising on load at 22:50 on the same day. The 48 hours allowable time for start-up conditions were exceeded on Duvha unit 5 on the 16<sup>th</sup> of December 2025 at 23:50. A detailed investigation report with the root cause and preventative actions will be submitted to your office once the investigation has been completed. This incident was reported to your office on the 17<sup>th</sup> of December 2025.

On the SO3 plant performance, the SO3 plant utilization was 94.5% on Unit 6 for December 2025 due to the following reasons:

06/12/2025 - 07/12/2025

The SO3 plant tripped due to the process blower motor that had a fault with the Variable Speed Drive (VSD) running on the wrong speed command. The VSD was corrected to the right speed command and control, the process blower was set to the correct setpoint and the interlocks were cleared.


17/12/2025

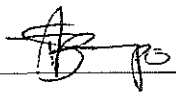
The SO3 was switched off by the Programmable logic controller (PLC) because it detected that the process gas is not moving as it should and the pressure is building up to an unsafe level. The gas blower was fixed to allow for unrestricted gas flow and normal flow pressure signals.

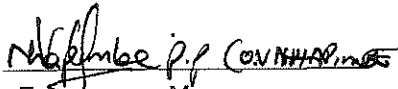
The rest of the information demonstrating compliance with the emission license conditions is supplied in the annual emission report which will be sent to your office.

#### **10. S30 Incidents Register**

There was no Section 30 incident for this month.

  
Boiler Plant Engineering  
Manager \_\_\_\_\_  
Date 29/01/2026

  
Environmental Manager \_\_\_\_\_  
Date 2026/02/03

  
Engineering Manager \_\_\_\_\_  
Date 2026/01/29

Compiled by Environmental Officer

For Nkangala District Municipality

Air Quality Officer

Copies Generation Environmental Management

D Herbst  
B Mccourt

Generation Compliance Management  
Generation Asset Management

R Rampiar  
E Patel

Duvha Power Station

Engineering Manager  
Operating Manager  
Maintenance  
Manager  
Production Manager  
Boiler Engineering  
Manager  
System Engineer  
Environmental  
Manager