



## Generation

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### Attention:

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AND

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## DUVHA POWER STATION

Atmospheric Emission License 17/4/AEL/MP312/11/07

  
GENERAL MANAGER

2025/03/31  
DATE

**DUVHA POWER STATION MONTHLY EMISSIONS REPORT**

Atmospheric Emission License 17/4/AEL/MP312/11/07



## 1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Feb-2025
	Coal	Tons	1 400 000	276 097.840
	Fuel Oil	Tons	5 000	2162.27
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Indicative Production Rate Feb-2025
	Energy	GWh	2 419.200	500.430
	Ash	Tons	not specified	64 800.2

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: [3 600 MW] x 24 hrs x days in Month/1000 to convert to GWh

## 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	22.60
Sulphur Content	%	0.6 TO >1.2	0.63
Ash Content	%	27 TO 30	23.47

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

Associated Unit/Stack	PM	SO <sub>2</sub>	NO <sub>x</sub>
Unit 1	100	3500	1100
Unit 2	100	3500	1100
Unit 4	100	3500	1100
Unit 5	100	3500	1100
Unit 6	100	3500	1100

#### 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Feb-2025	Technology Type	SO <sub>3</sub> Utilization Feb-2025
Unit 1	FFP	99.9%	SO <sub>3</sub>	n/a
Unit 2	FFP	100.0%	SO <sub>3</sub>	n/a
Unit 4	ESP + SO <sub>3</sub>	Off	SO <sub>3</sub>	Off
Unit 5	ESP + SO <sub>3</sub>	Off	SO <sub>3</sub>	Off
Unit 6	ESP + SO <sub>3</sub>	99.7%	SO <sub>3</sub>	100.0%
<i>Note: ESP plant does not have bypass mode operation, hence plant 100% Utilised.</i>				

#### 5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO	O <sub>2</sub>
Unit 1	100.0	94.8	96.1	100.0
Unit 2	100.0	90.9	94.6	99.5
Unit 4	Off	Off	Off	Off
Unit 5	Off	Off	Off	Off
Unit 6	99.2	83.3	100.0	98.7

*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>*

#### 6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of February 2025

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>x</sub> (tons)
Unit 1	39.1	2 964	1 086
Unit 2	15.8	2 266	1 080
Unit 4	Off	Off	Off
Unit 5	Off	Off	Off
Unit 6	91.2	254	170
<b>SUM</b>	146.11	5 483	2 336



Table 6.2: Operating days in compliance to PM AEL Limit - February 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm <sup>3</sup> )
Unit 1	27	0	0	0	0	25.6
Unit 2	27	0	0	0	0	11.3
Unit 4	Off	Off	Off	Off	Off	Off
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	2	3	0	0	3	513.8
<b>SUM</b>	<b>56</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	

Table 6.3: Operating days in compliance to SO<sub>2</sub> AEL Limit - February 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO <sub>2</sub> (mg/Nm <sup>3</sup> )
Unit 1	28	0	0	0	0	1 879.8
Unit 2	28	0	0	0	0	1 561.9
Unit 4	Off	Off	Off	Off	Off	Off
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	6	0	0	0	0	1 090.9
<b>SUM</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Table 6.4: Operating days in compliance to NO<sub>x</sub> AEL Limit - February 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO <sub>x</sub> (mg/Nm <sup>3</sup> )
Unit 1	28	0	0	0	0	687.9
Unit 2	28	0	0	0	0	748.2
Unit 4	Off	Off	Off	Off	Off	Off
Unit 5	Off	Off	Off	Off	Off	Off
Unit 6	6	0	0	0	0	676.4
<b>SUM</b>	<b>62</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 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 1 PM Emissions - February 2025

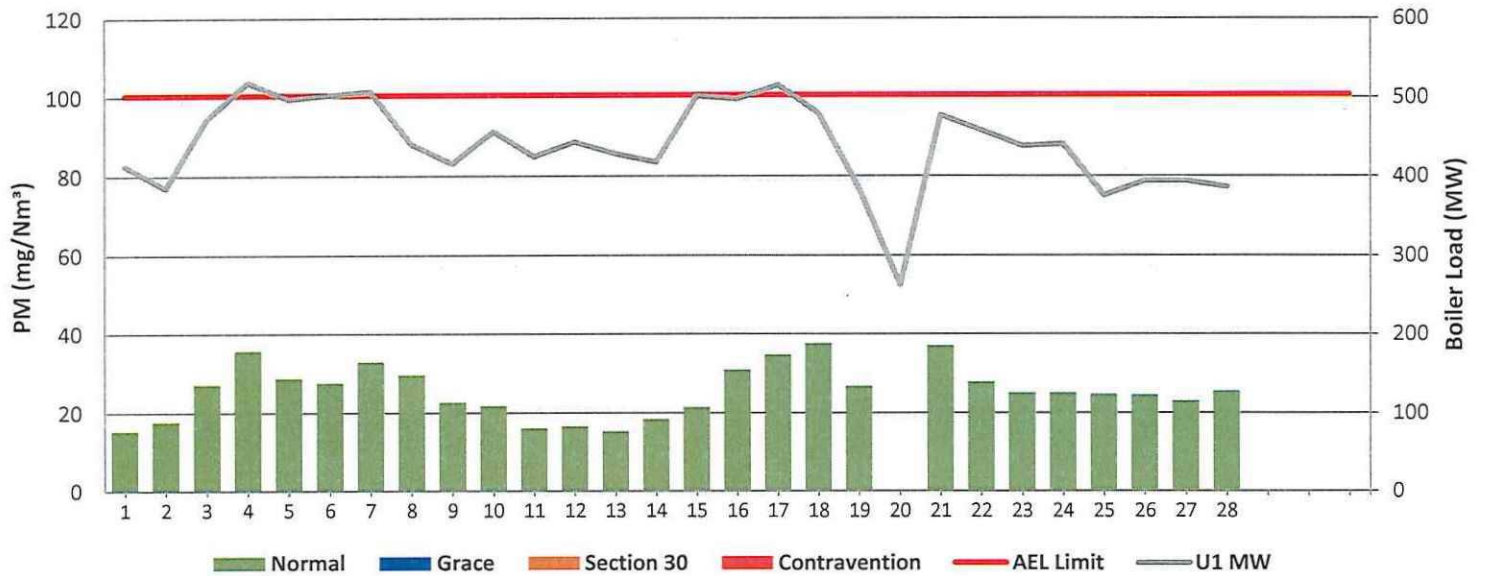


Figure 2: Duvha Unit 2 PM Emissions - February 2025

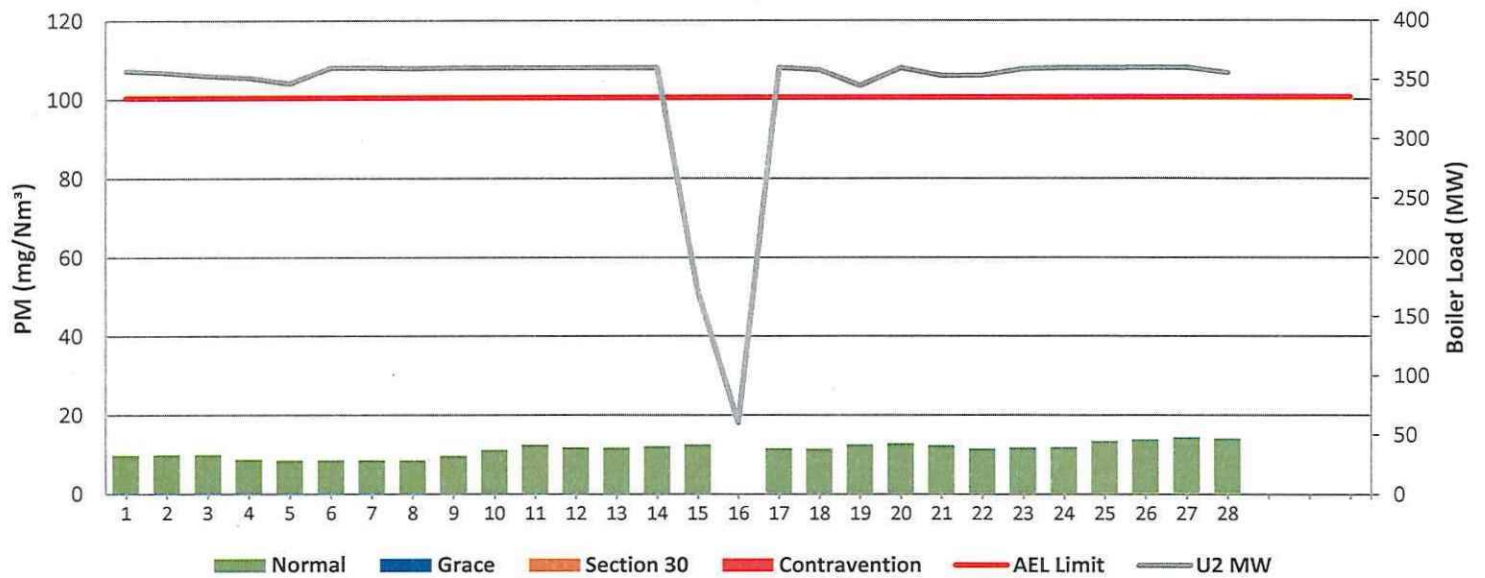


Figure 3: Duvha Unit 6 PM Emissions - February 2025

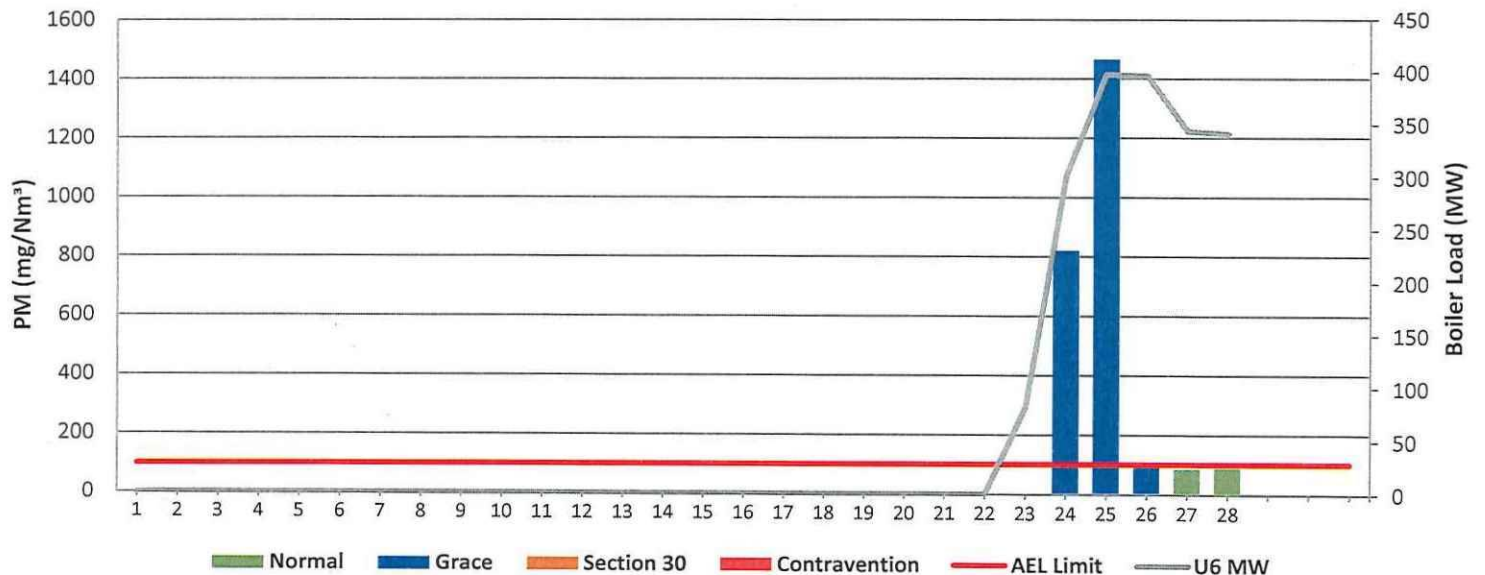


Figure 4: Duvha Unit 1 SO<sub>2</sub> Emissions - February 2025

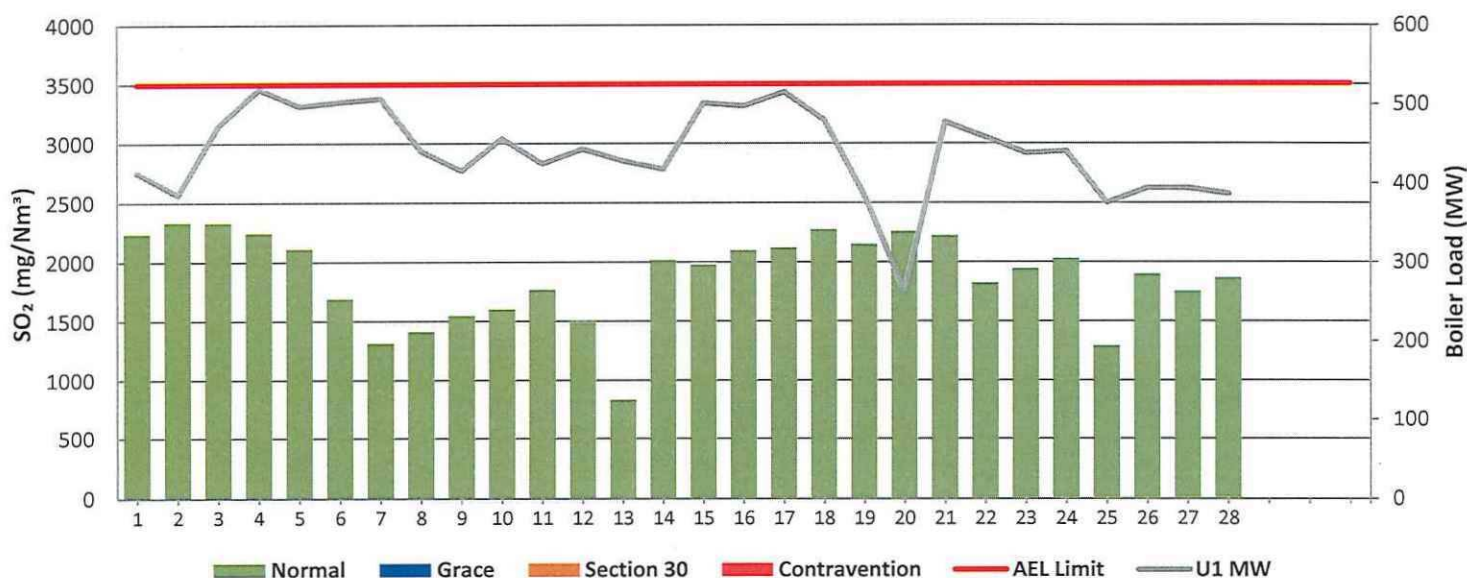


Figure 5: Duvha Unit 2 SO<sub>2</sub> Emissions - February 2025

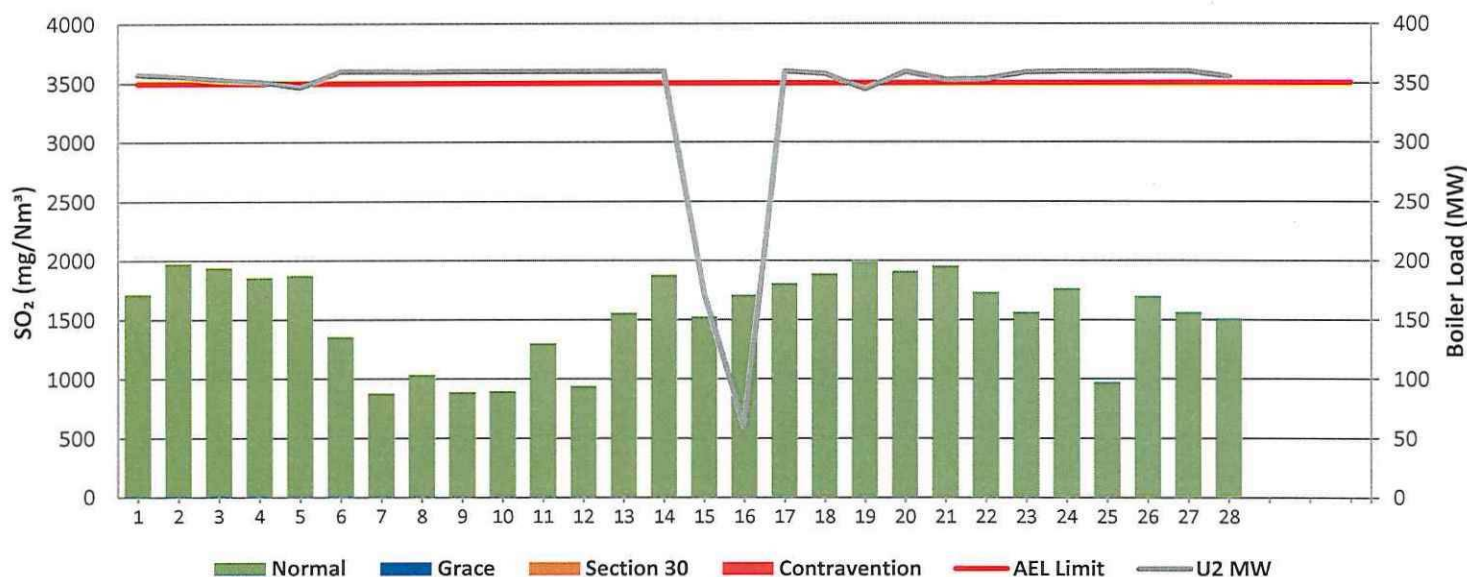


Figure 6: Duvha Unit 6 SO<sub>2</sub> Emissions - February 2025

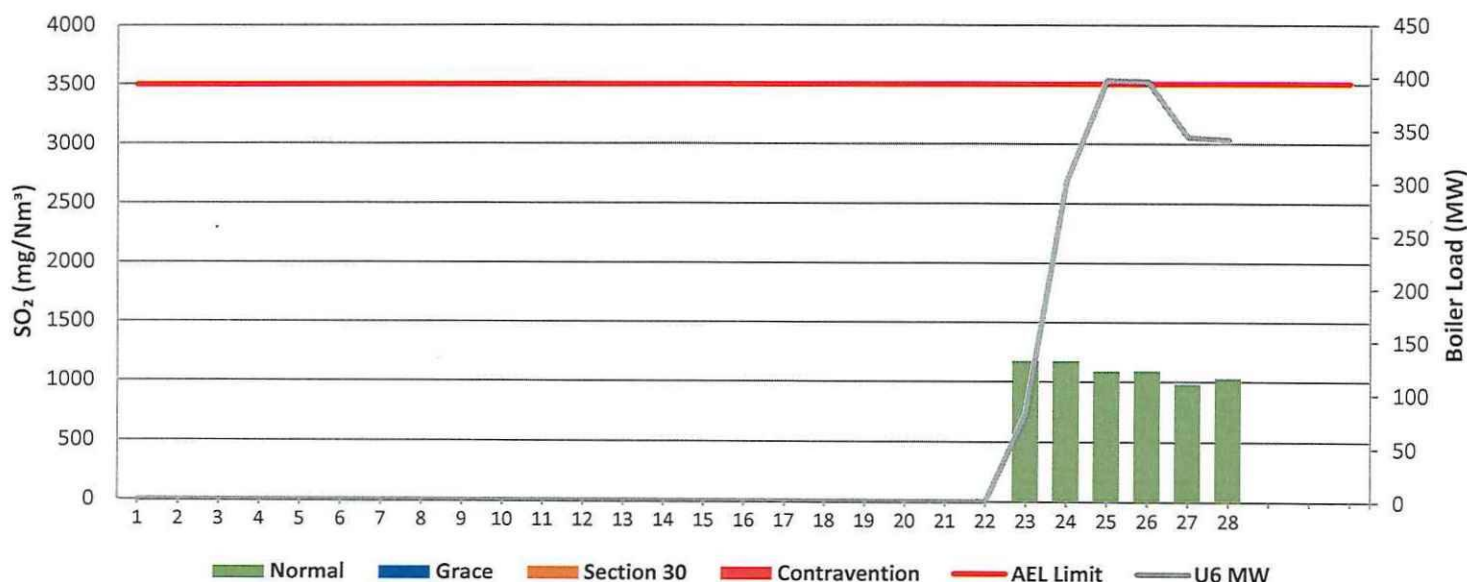




Figure 7: Duvha Unit 1 NOx Emissions - February 2025

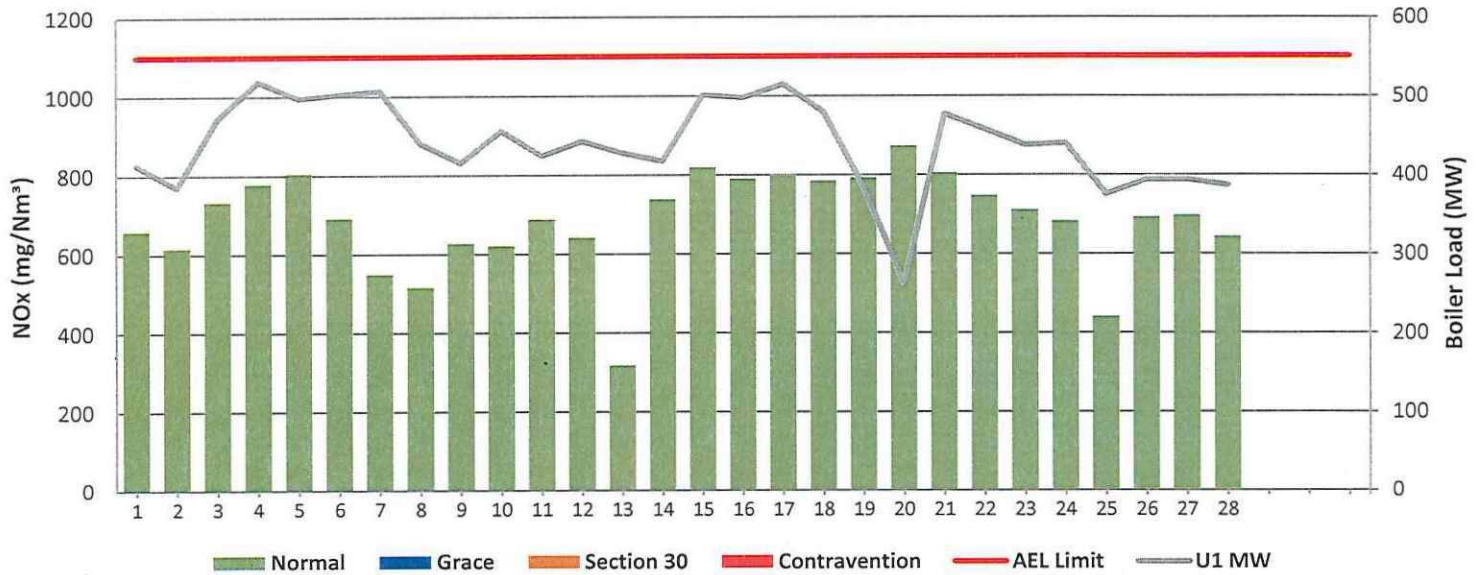


Figure 8: Duvha Unit 2 NOx Emissions - February 2025

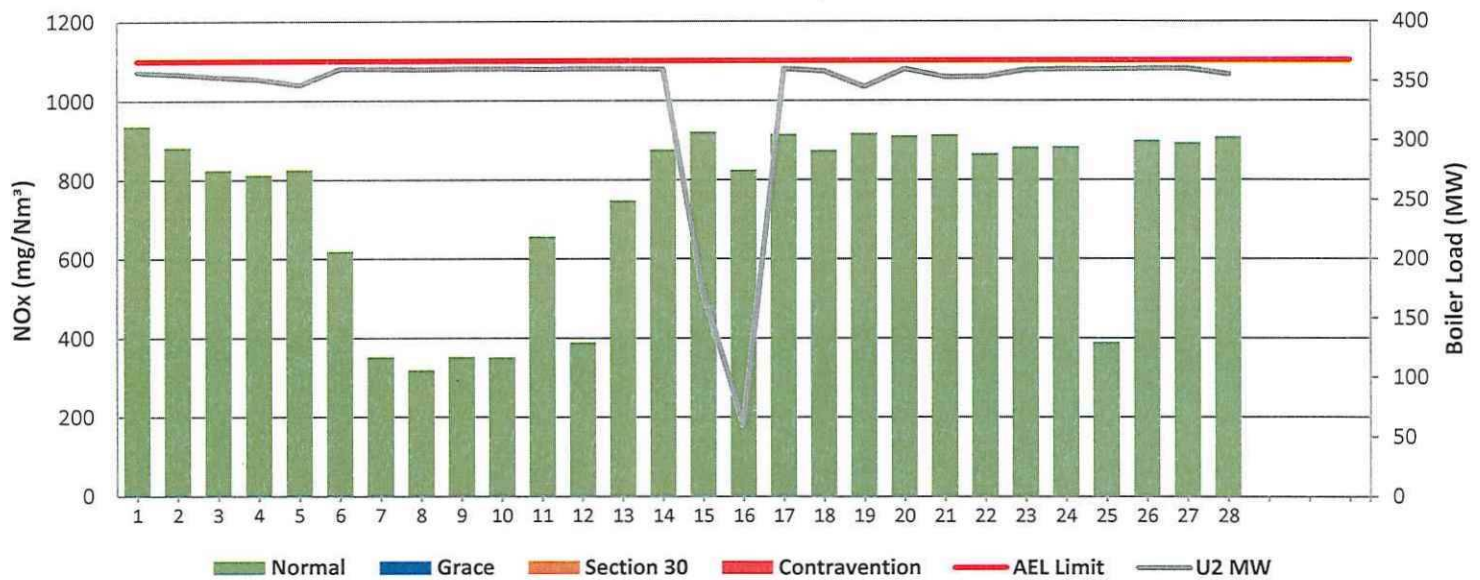
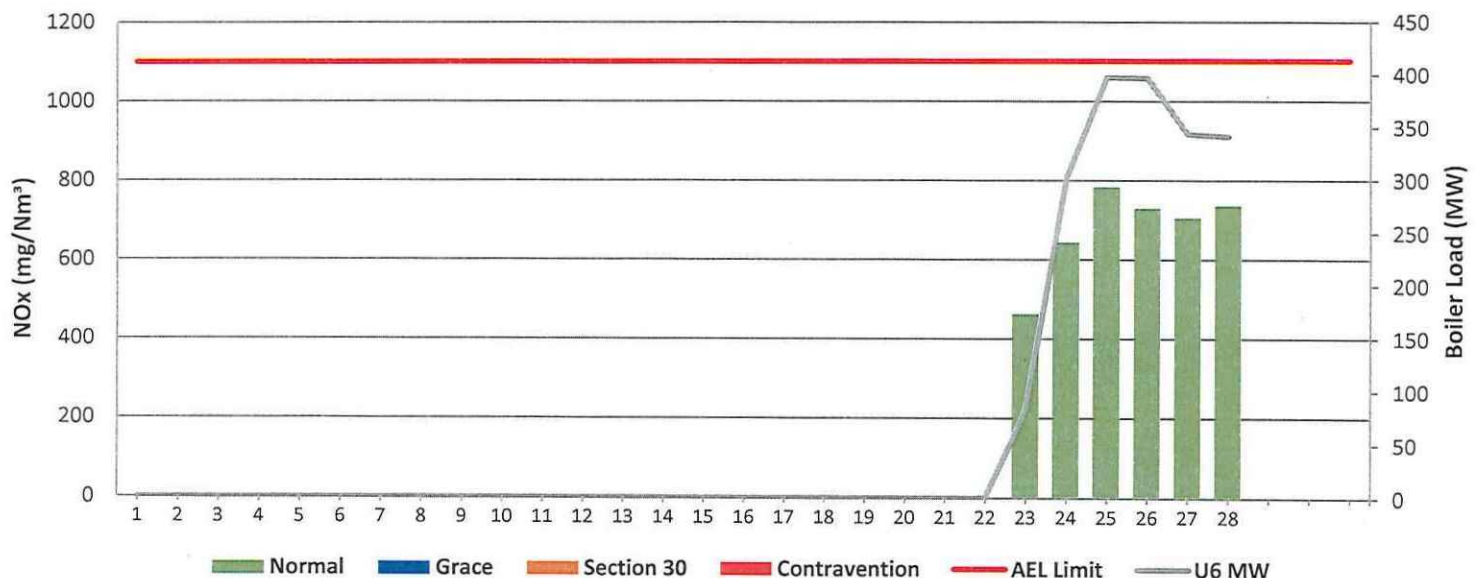


Figure 9: Duvha Unit 6 NOx Emissions - February 2025





## 7 SHUT DOWN AND LIGHT UP INFORMATION

Tables 7.1: Shut-down and light-up information for the month of February 2025

Unit No.1	Event 1	
Breaker Open (BO)	6:25 pm	2025/02/19
Draught Group (DG) Shut Down (SD)	9:40 pm	2025/02/19
BO to DG SD (duration)	00:03:15	DD:HH:MM
Fires in time	1:15 am	2025/02/20
Synch. to Grid (or BC)	7:05 am	2025/02/20
Fires in to BC (duration)	00:05:50	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.2	Event 1	
Breaker Open (BO)	11:45 am	2025/02/15
Draught Group (DG) Shut Down (SD)	8:45 am	2025/02/16
BO to DG SD (duration)	00:21:00	DD:HH:MM
Fires in time	10:50 am	2025/02/16
Synch. to Grid (or BC)	7:15 pm	2025/02/16
Fires in to BC (duration)	00:08:25	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.6	Event 1		Event 2	
Breaker Open (BO)	BO previously	BO previously	9:40 pm	2025/02/28
Draught Group (DG) Shut Down (SD)	2:20 am	2025/02/16	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
Fires in time	7:35 am	2025/02/23		
Synch. to Grid (or BC)	10:50 pm	2025/02/23		
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	7:00 pm	2025/02/27		
Emissions below limit from BC (duration)	03:20:10	DD:HH:MM		DD:HH:MM

## 8 COMPLAINTS

There were no complaints for this month

Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence

## 9 GENERAL

Exceedance Particulate Matter

Unit 6

24/02/2025 – 26/02/2025

The unit came back from a cold unit light up. There was a backlog on the Dust handling plant and the precipitator fields tripped on communication fault.

The averages for Oxygen (O<sub>2</sub>) and Carbon Dioxide (CO<sub>2</sub>) data from the QAL2 tests reports were used for reporting gaseous emissions for units 1, 2 and 4 due to poor performance of the O<sub>2</sub> and CO<sub>2</sub> gaseous monitors. The poor performance of the monitors, on multiple units, was because of the station's inability to conduct bi-weekly calibrations and preventative maintenance of the O<sub>2</sub> analysers for an extended period.

The lack of preventative maintenance on the O<sub>2</sub> analysers is because the station historically did not have a long-term maintenance contract for this purpose. When a contract was eventually placed in October 2024, a fault-finding exercise was conducted by the service provider (SI analytics) gave their findings which are being addressed.

The station has given the service provider time to resolve these issues identified with the monitors and the monitors are expected to perform at 80% reliability by 31 April 2025.

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 were no section 30 incidents for this month

  
Boiler Plant Engineering Manager

2025/03/31  
Date

  
Environmental Manager

2025/03/31  
Date

  
Engineering Manager

2025-03-31  
Date

Compiled by Environmental Officer

For	Nkangala District Municipality	Air Quality Officer
Copies	Generation Environmental Management	D Herbst B Mccourt
	Generation Compliance Management	R Rampiar
	Generation Asset Management	E Patel
	Duvha Power Station	Engineering Manager Operating Manager Maintenance Manager Production Manager Boiler Engineering Manager System Engineer Environmental Manager