

**Generation**

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DUVHA POWER STATION

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



GENERAL MANAGER



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	Max Permitted Consumption Rate	Consumption Rate Jul-2025
	Coal	Tons	2 260 000	489 806
	Fuel Oil	Tons	5 000	4326.660
Production Rates	Product / By-Product Name	Units	Max Production Capacity Permitted	Indicative Production Rate Jul-2025
	Energy	GWh	2 678.400	959.910
	Ash	Tons	not specified	120 345.214

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
CV Content	MJ/kg	18-24	22.650
Sulphur Content	%	0.6 TO >1.2	0.750
Ash Content	%	27 TO 30	24.570

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	Daily Limit		
	PM	SO ₂	NO _x
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 ₃ Plant Utilization
Unit 1	ESP + SO ₃	99.871%	SO ₃	n/a
Unit 2	ESP + SO ₃	Off-line	SO ₃	n/a
Unit 4	ESP + SO ₃	99.796%	SO ₃	98.6%
Unit 5	ESP + SO ₃	99.803%	SO ₃	100.0%
Unit 6	ESP + SO ₃	99.781%	SO ₃	95.0%

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

5. DATA RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
Unit 1	100 0	100 0	99.9	100 0
Unit 2	Offload	Offload	Offload	Offload
Unit 4	100 0	100 0	100 0	100 0
Unit 5	99 8	100 0	100 0	100 0
Unit 6	100 0	100 0	100 0	100 0

Note: NO_x emissions are measured as NO in PPM. The final NO_x value is expressed as total NO₂ equivalent

6. EMISSION PERFORMANCE

Table 6 1 Monthly tonnages for July 2025

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	38 5	3 507	1 173
Unit 2	Offload	Offload	Offload
Unit 4	38 5	1 894	865
Unit 5	44 2	1 388	712
Unit 6	53 6	2 592	1 330
SUM	174 73	9 459	4 107

Table 6 2: PM AEL Daily - July 2025

Associated Unit/Stack	Normal	Grace	Section 30	NC	Total Exceedance	Mnth Avg (mg/Nm³)
Unit 1	29	0	0	0	0	24 2
Unit 2	Offload	Offload	Offload	Offload	Offload	Offload
Unit 4	22	0	0	0	0	32.0
Unit 5	22	3	0	0	3	48 9
Unit 6	30	0	0	0	0	35 6
SUM	103	3	0	0	3	

Table 6 3: SO₂ AEL Daily - July 2025

Associated Unit/Stack	Normal	Grace	Section 30	NC	Total Exceedance	Mnth Avg (mg/Nm³)
Unit 1	29	0	0	0	0	2 209 5
Unit 2	Offload	Offload	Offload	Offload	Offload	Offload
Unit 4	23	0	0	0	0	1 522 7
Unit 5	26	0	0	0	0	1 312 6
Unit 6	31	0	0	0	0	1 604 2
SUM	110	0	0	0	0	

Table 6.4: NO_x AEL Daily - July 2025

Associated Unit/Stack	Normal	Grace	Section 30	NC	Total Exceedance	Mnth Avg (mg/Nm ³)
Unit 1	29	0	0	0	0	739.4
Unit 2	<i>Offload</i>	<i>Offload</i>	<i>Offload</i>	<i>Offload</i>	<i>Offload</i>	<i>Offload</i>
Unit 4	23	0	0	0	0	685.6
Unit 5	26	0	0	0	0	660.9
Unit 6	31	0	0	0	0	819.7
SUM	110	0	0	0	0	

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 - July 2025

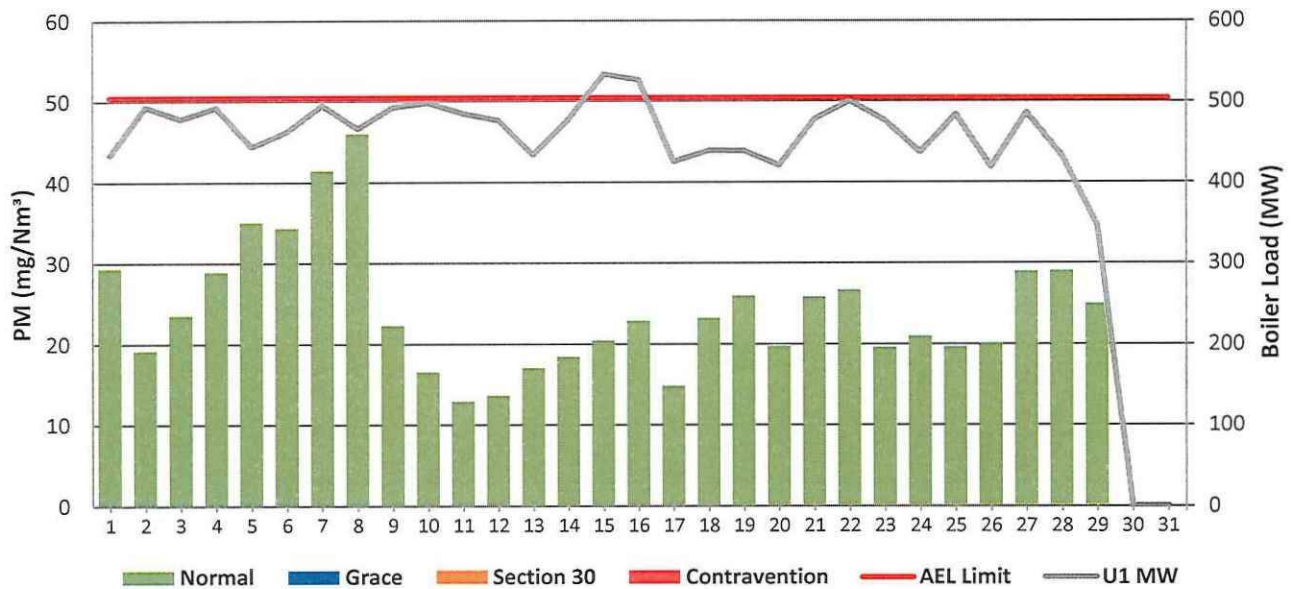


Figure 2: Duvha Unit 4 PM Emissions - July 2025

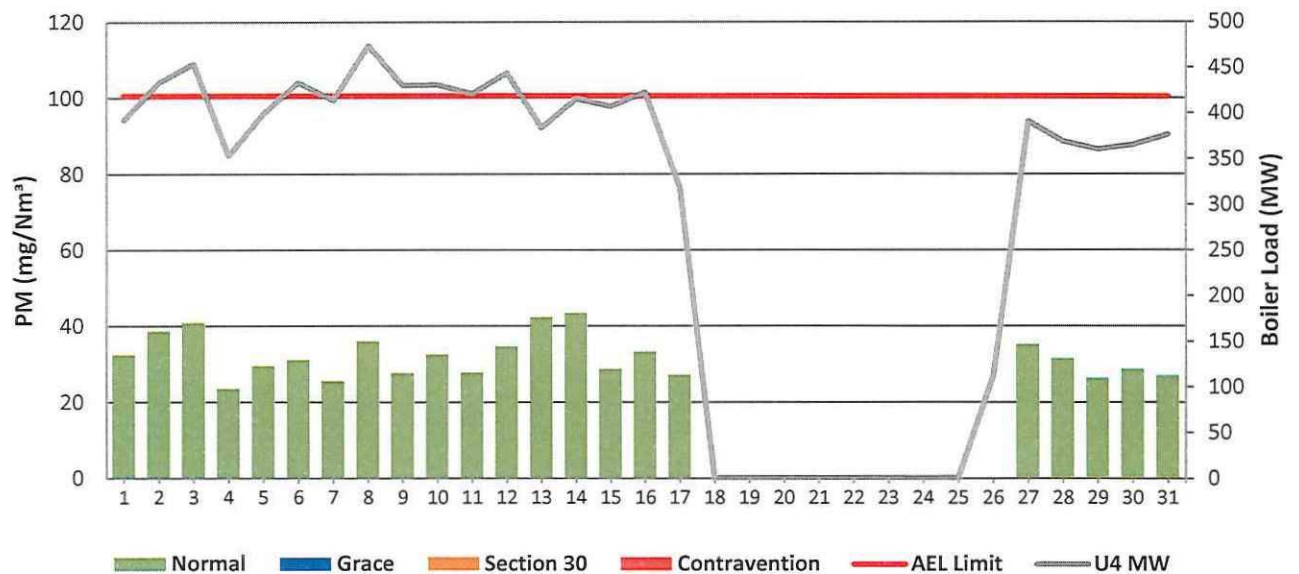


Figure 3: Duvha Unit 5 PM Emissions - July 2025

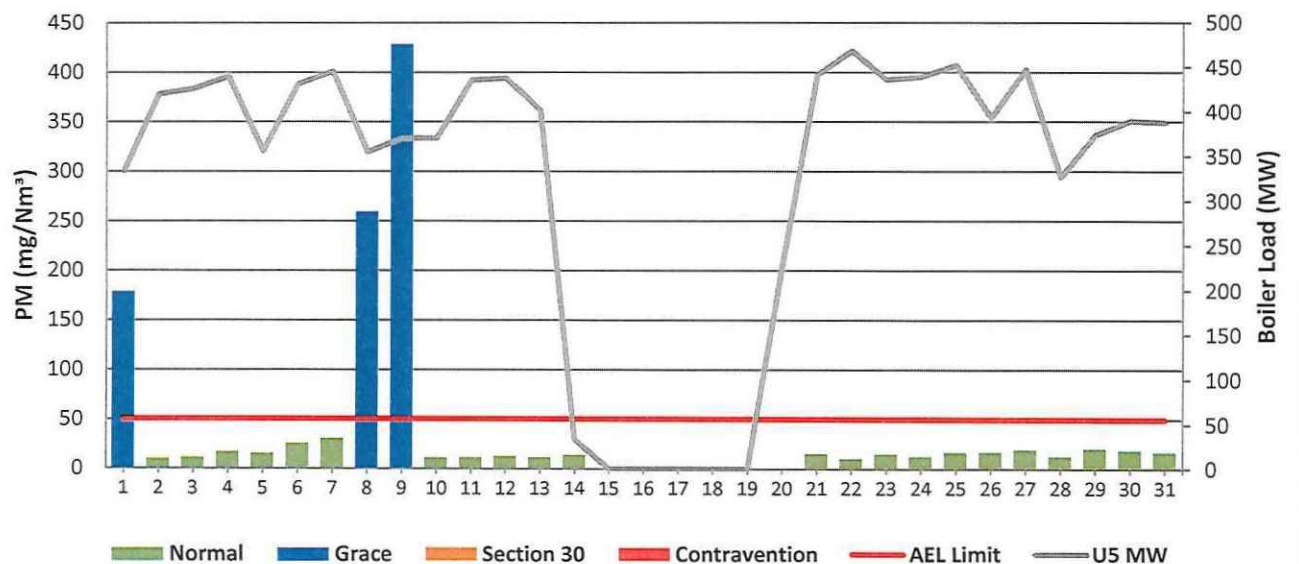


Figure 4: Duvha Unit 6 PM Emissions - July 2025

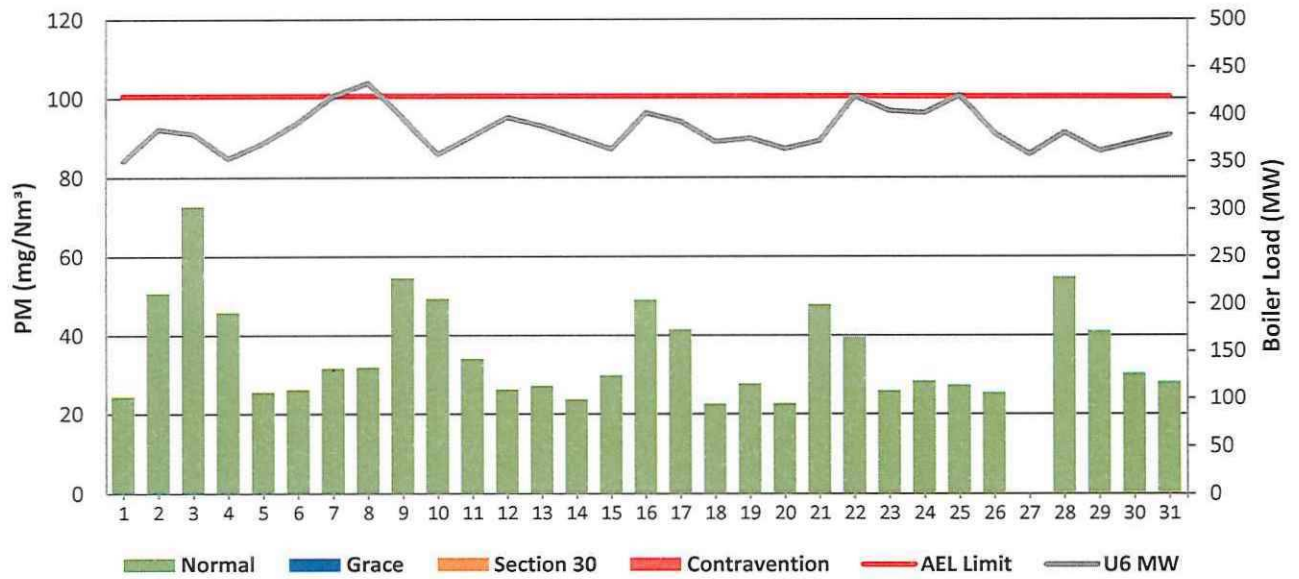


Figure 5: Duvha Unit 1 SO₂ Emissions - July 2025

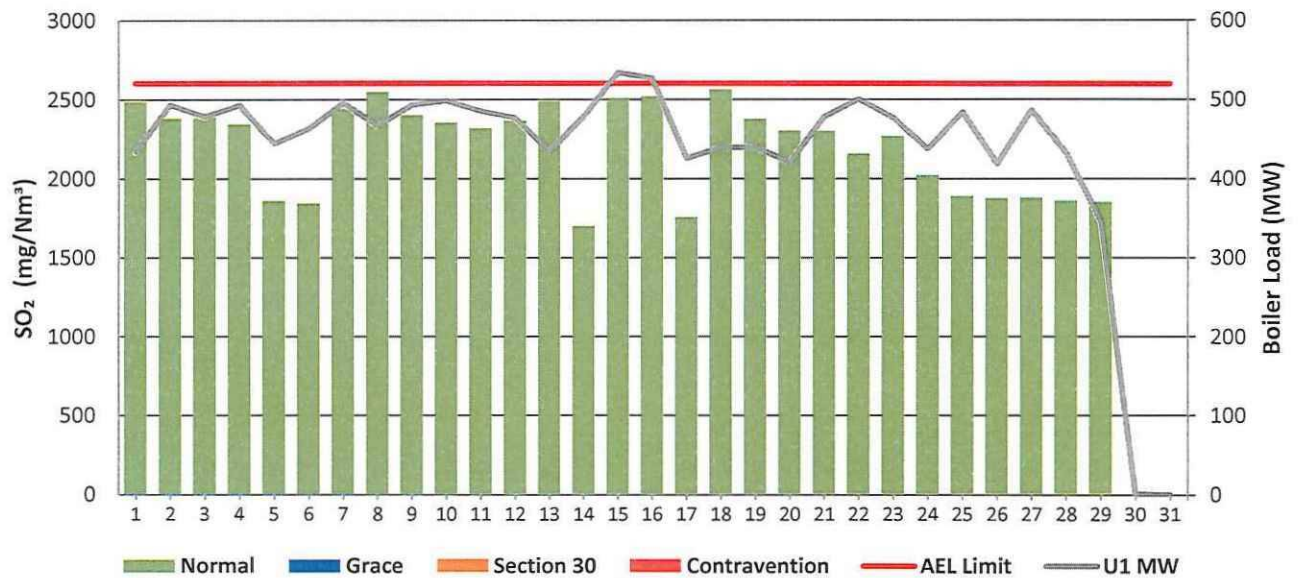


Figure 6: Duvha Unit 4 SO₂ Emissions - July 2025

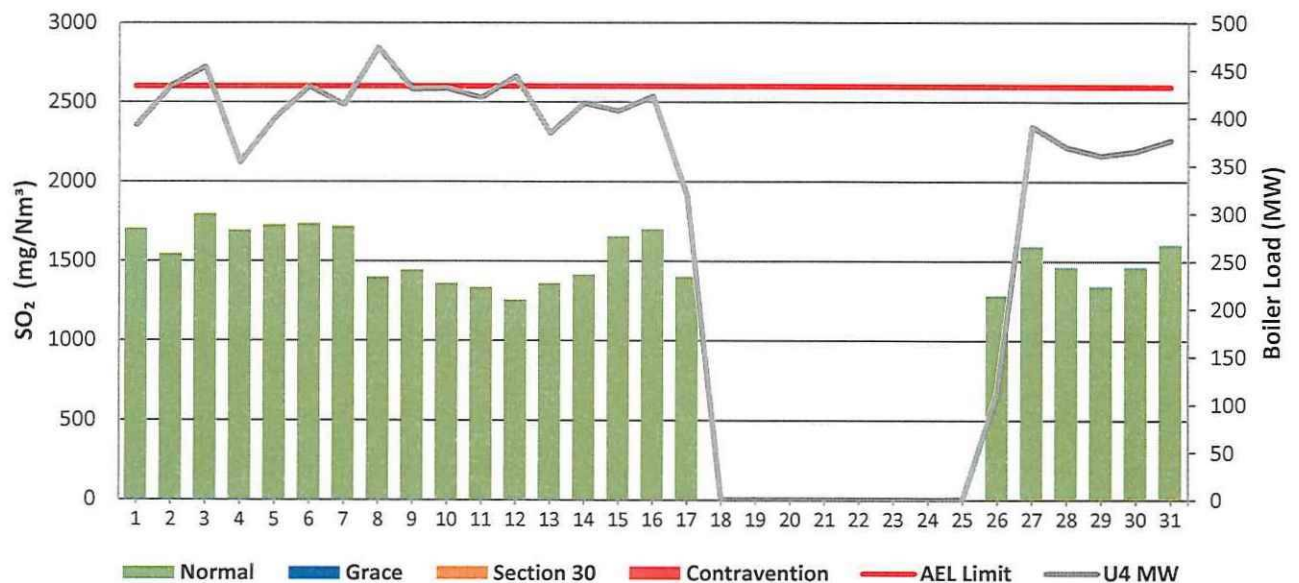


Figure 7: Duvha Unit 5 SO₂ Emissions - July 2025

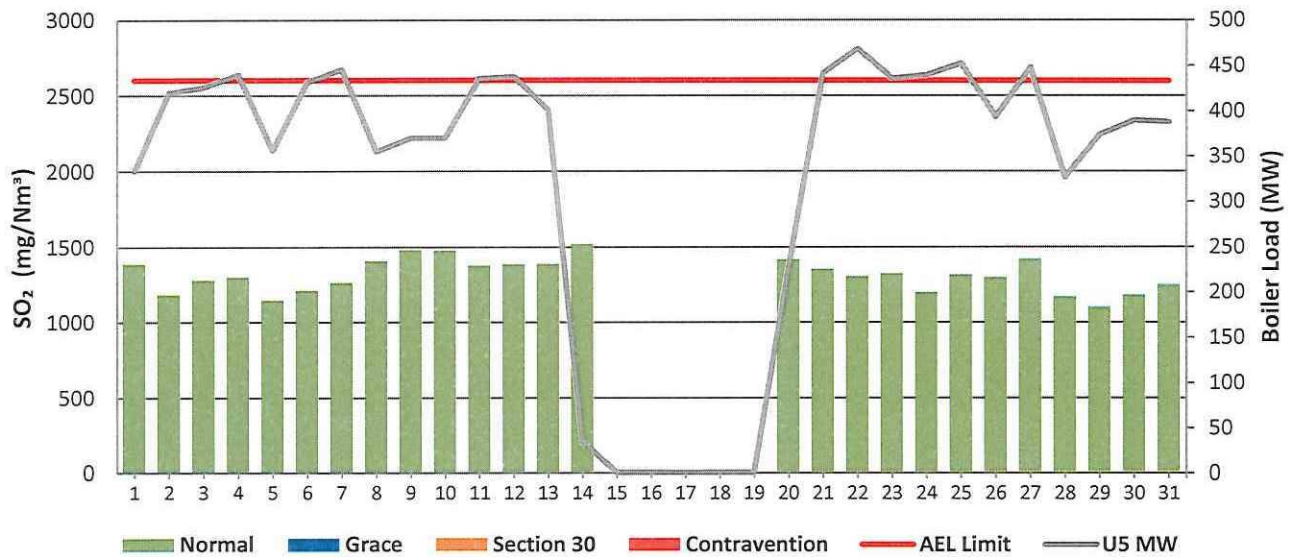


Figure 8: Duvha Unit 6 SO₂ Emissions - July 2025

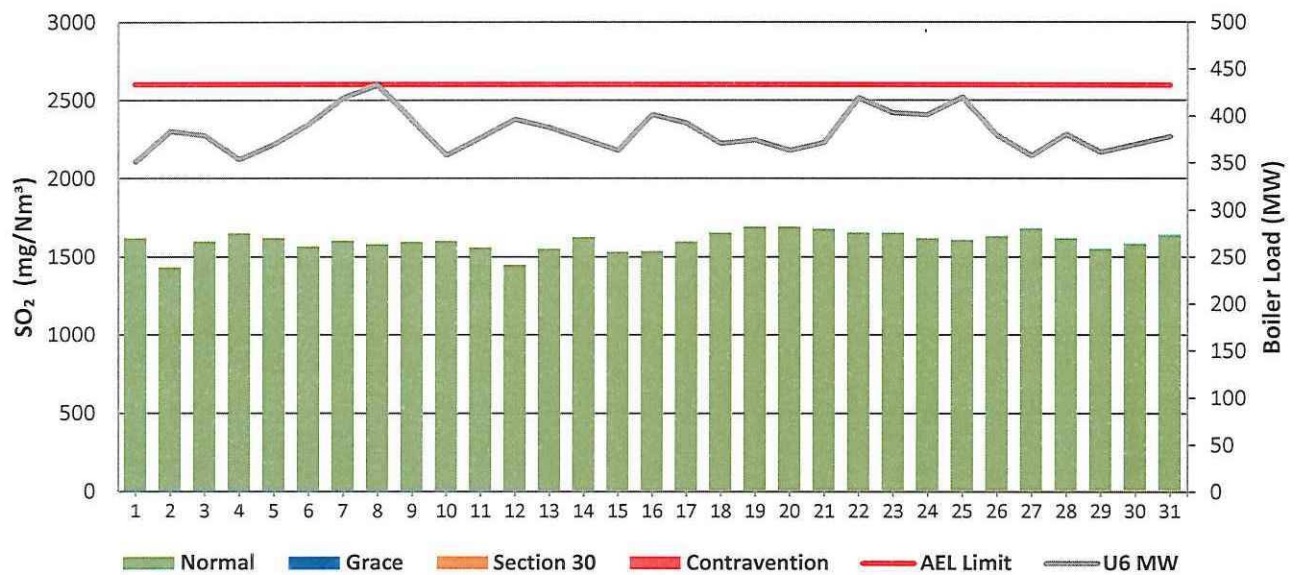


Figure 9: Duvha Unit 1 NO_x Emissions - July 2025

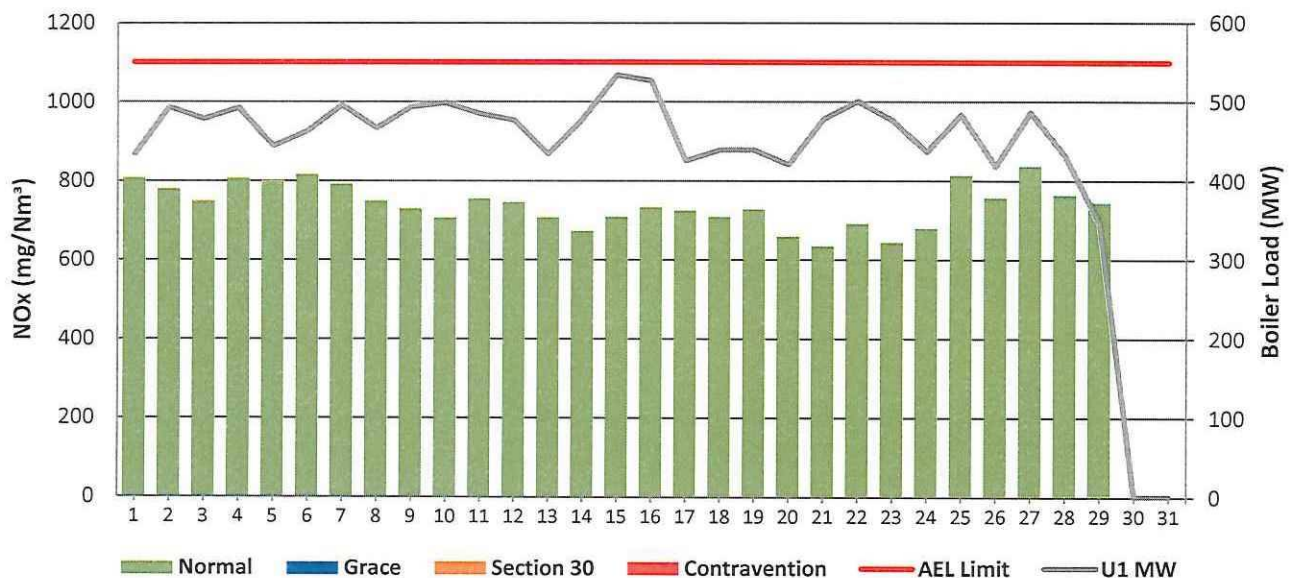


Figure 10: Duvha Unit 4 NO_x Emissions - July 2025

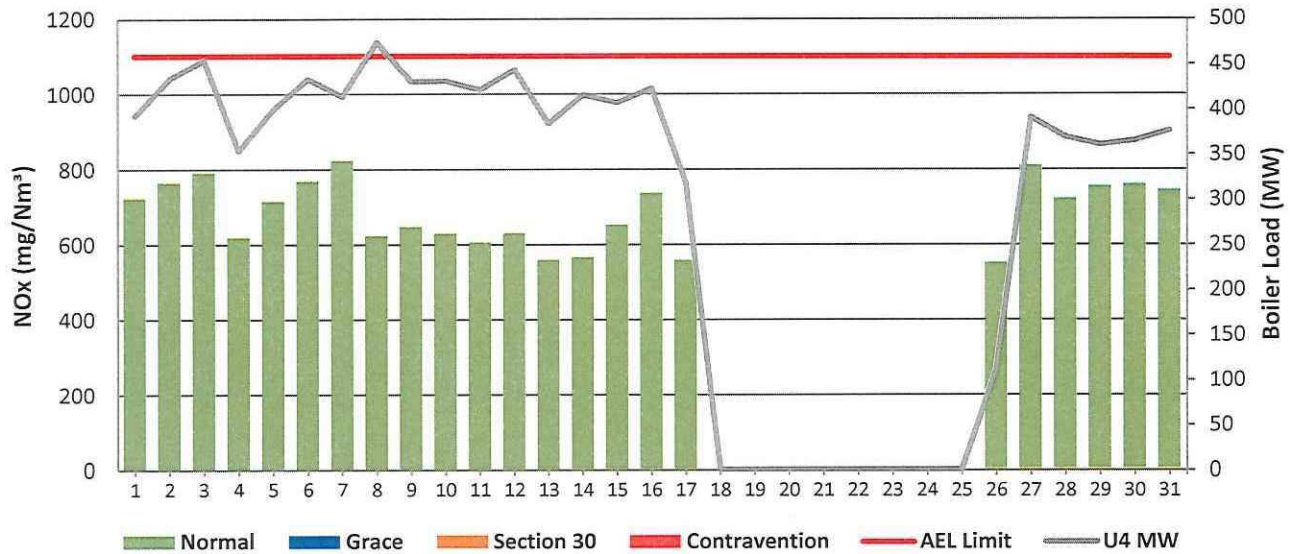


Figure 11: Duvha Unit 5 NO_x Emissions - July 2025

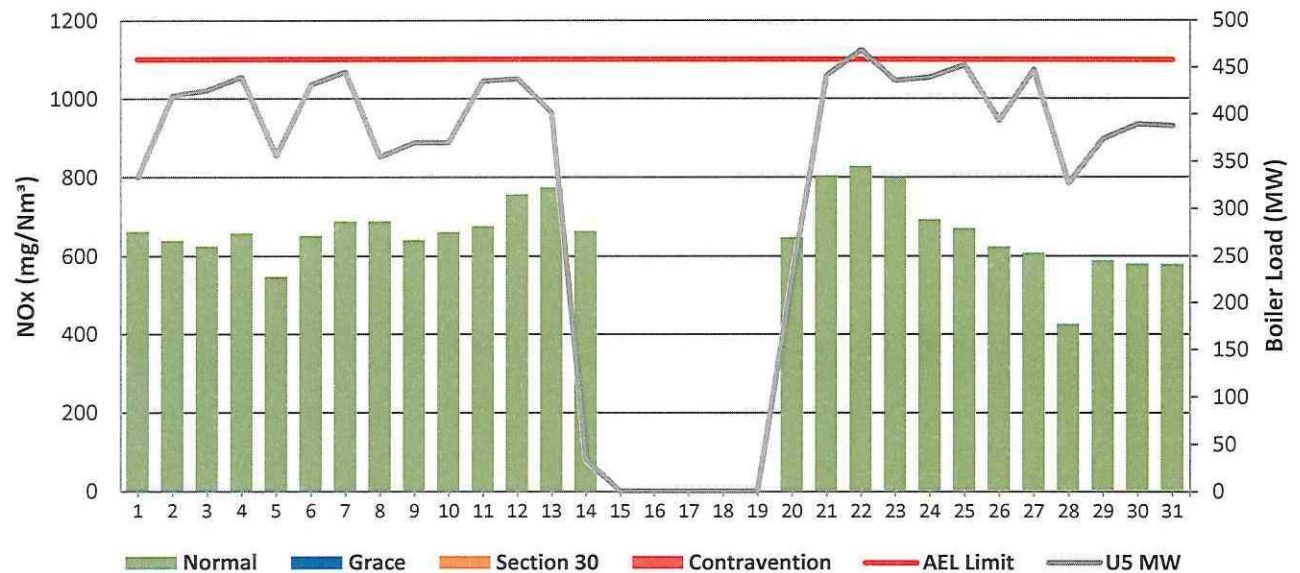
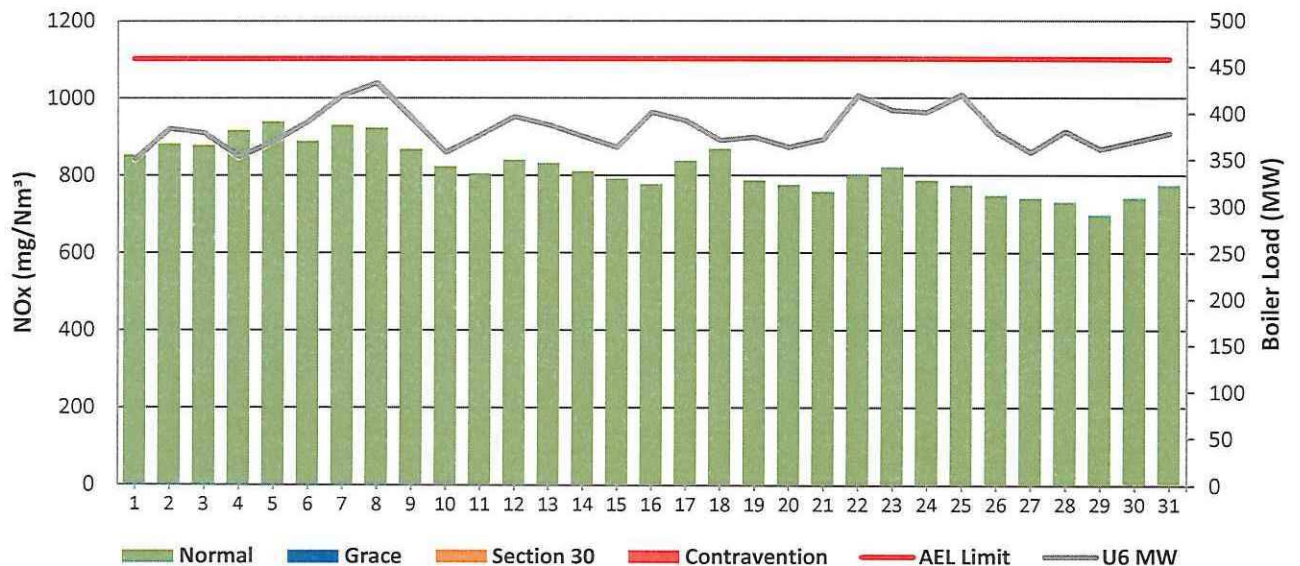


Figure 12: Duvha Unit 6 NO_x Emissions - July 2025



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

Event Description		Event 1	
Unit 1	Breaker Open (BO)	8:05 pm	2025/07/29
	Draught Group (DG) Shut Down (SD)	7:50 pm	2025/07/31
	BO to DG SD (duration)	01:23:45	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

Event Description		Event 1	
Unit 2	Breaker Open (BO)	12:10 am	2025/06/26
	Draught Group (DG) Shut Down (SD)	12:20 pm	2025/07/27
	BO to DG SD (duration)	31:12:10	DD:HH:MM
	Fires in time	7:25 pm	2025/07/30
	Synch. to Grid (or BC)	10:00 am	2025/07/31
	Fires in to BC (duration)	00:14:35	DD:HH:MM
	Emissions below limit from BC (end date)	12:00 am	2025/08/02
	Emissions below limit from BC (duration)	01:14:00	DD:HH:MM

Event Description		Event 1	
Unit 4	Breaker Open (BO)	9:15 pm	2025/07/17
	Draught Group (DG) Shut Down (SD)	5:20 pm	2025/07/21
	BO to DG SD (duration)	03:20:05	DD:HH:MM
	Fires in time	5:25 am	2025/07/26
	Synch. to Grid (or BC)	3:25 pm	2025/07/26
	Fires in to BC (duration)	00:10:00	DD:HH:MM
	Emissions below limit from BC (end date)	10:00 am	2025/07/27
	Emissions below limit from BC (duration)	00:18:35	DD:HH:MM

Event Description		Event 1		Event 2	
Unit 5	Breaker Open (BO)	10:35 am	2025/07/01	1:50 am	2025/07/14
	Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	2:30 am	2025/07/15
	BO to DG SD (duration)	n/a	DD:HH:MM	01:00:40	DD:HH:MM
	Fires in time			10:10 pm	2025/07/19
	Synch. to Grid (or BC)			8:25 am	2025/07/20
	Fires in to BC (duration)		DD:HH:MM	00:10:15	DD:HH:MM
	Emissions below limit from BC (end date)			12:00 am	2025/07/21
	Emissions below limit from BC (duration)		DD:HH:MM	00:15:35	DD:HH:MM

Event Description		Event 1		Event 2	
Unit 6	Breaker Open (BO)	11:15 am	2025/07/15	11:45 pm	2025/07/26
	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	n/a	DD:HH:MM
	Fires in time				
	Synch. to Grid (or BC)				
	Fires in to BC (duration)		DD:HH:MM		DD:HH:MM
	Emissions below limit from BC (end date)				
	Emissions below limit from BC (duration)		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	xMeasures implemented to prevent reoccurrence

9. GENERAL

Exceedances:

Particulate Matter

Unit 5

01/07/2025

Cold unit light up, the unit was returning from a planned maintenance outage

08/07/2025 – 09/07/2025

The emissions were high due to a backlog on the Dust handling plant (DHP). The dust handling plant had to be turned off due to a water ingress on the DHP's right hand side air lift vessel sump and this water carried over to the Silo Aero slides completely blocking them. This switching off of the Dust handling plant led to the dust hoppers being high by accumulating too much dust. As per the operating procedure, the precipitator fields were switched off to prevent damage to the precip components.

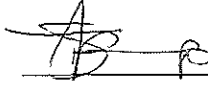
Additionally on unit 6, the SO₃ plant utilisation was lower than the minimum rate as stipulated in the Air emissions license due to the SO₃ plant being switched off on the 2nd of July. This was due to a maintenance work to cut out a section of the pipe that was corroded and thus leaking Sulphur. This corroded pipe section was cut off and replaced on the 3rd of July 2025.

10. S30 INCIDENTS REGISTER

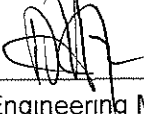
There were no Section 30 incidents for this month


Boiler Plant Engineering
Manager

28/08/2025
Date


Environmental Manager

2025/09/02
Date


Engineering Manager

2025/08/28
Date

Compiled
by

Environmental Officer

For

Nkangala District
Municipality

Air Quality Officer

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