



Generation

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DUVHA POWER STATION

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


GENERAL MANAGER

2028/08/28
DATE



JUNE 2025

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 Jun-2025
	Coal	Tons	1 400 000	601 934.48
	Fuel Oil	Tons	5 000	4 643.86
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Indicative Production Rate Jun-2025
	Energy	GWh	2 592.000	968.25
	Ash	Tons	not specified	146316.66

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	22.67
Sulphur Content	%	0.6 TO >1.2	0.72
Ash Content	%	27 TO 30	24.64

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	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	Efficiency Jun-2025	Technology Type	SO ₃ Utilization Jun-2025
Unit 1	FFP	99.9%	SO ₃	n/a
Unit 2	FFP	99.9%	SO ₃	n/a
Unit 4	ESP + SO ₃	98.3%	SO ₃	98.3%
Unit 5	ESP + SO ₃	99.9%	SO ₃	93.6%
Unit 6	ESP + SO ₃	99.8%	SO ₃	99.8%

Note: ESP plant does not have bypass mode operation, hence plant 100% Utilised.

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO
Unit 1	98.8	86.7	86.7
Unit 2	98.9	86.7	86.7
Unit 4	98.5	99.8	99.9
Unit 5	100.0	100.0	97.8
Unit 6	100.0	99.9	100.0

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

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of June 2025

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	30.09	3 337	1 134
Unit 2	29.62	2 413	1 008
Unit 4	419.96	2 301	1 043
Unit 5	21.04	365	128
Unit 6	50.14	2 174	1 192
SUM	550.85	10 590	4 505

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	23	0	0	0	0	21.1
Unit 2	25	0	0	0	0	22.9
Unit 4	26	2	0	0	2	322.3
Unit 5	5	4	0	0	4	84.1
Unit 6	25	1	0	0	1	42.9
SUM	104	7	0	0	7	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - June 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm ³)
Unit 1	25	0	0	0	0	2 291.4
Unit 2	25	0	0	0	0	1 804.2
Unit 4	29	0	0	0	0	1 546.3
Unit 5	8	0	0	0	0	1 422.7
Unit 6	27	0	0	0	0	1 616.6
SUM	114	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - June 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	25	0	0	0	0	760.8
Unit 2	25	0	0	0	0	761.5
Unit 4	29	0	0	0	0	694.5
Unit 5	8	0	0	0	0	484.9
Unit 6	27	0	0	0	0	897.7
SUM	114	0	0	0	0	

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

Table 6.5: Legend Description

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

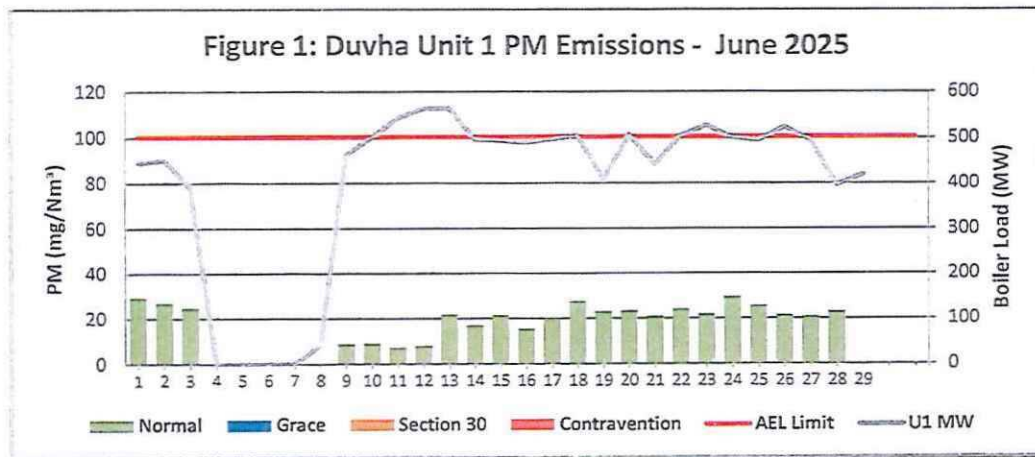


Figure 2: Duvha Unit 2 PM Emissions - June 2025

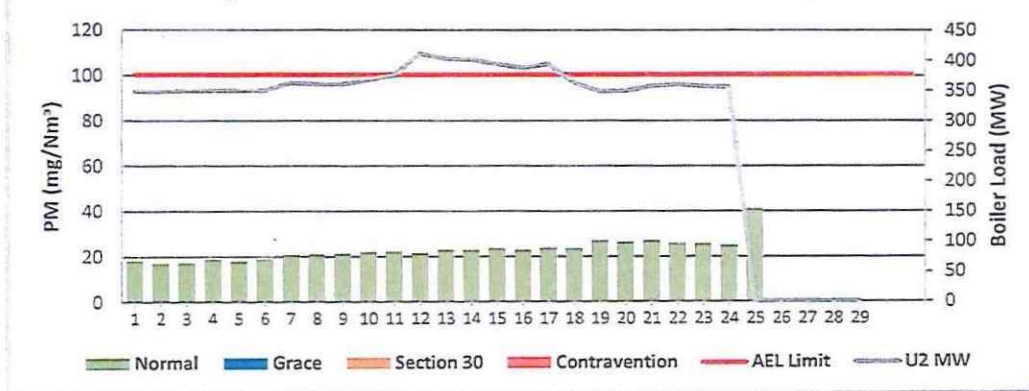


Figure 3: Duvha Unit 4 PM Emissions - June 2025

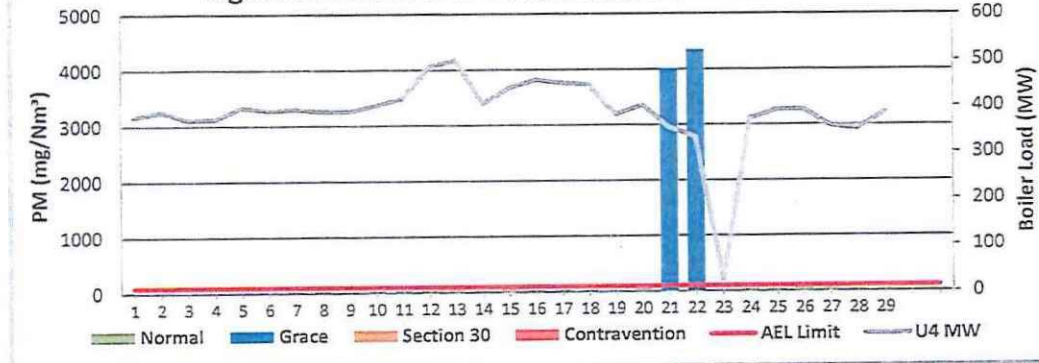


Figure 4: Duvha Unit 5 PM Emissions - June 2025

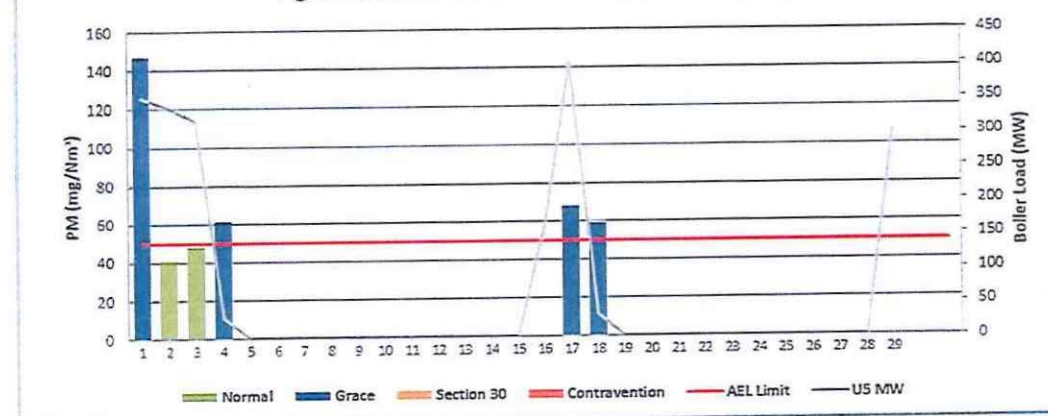


Figure 5: Duvha Unit 6 PM Emissions - June 2025

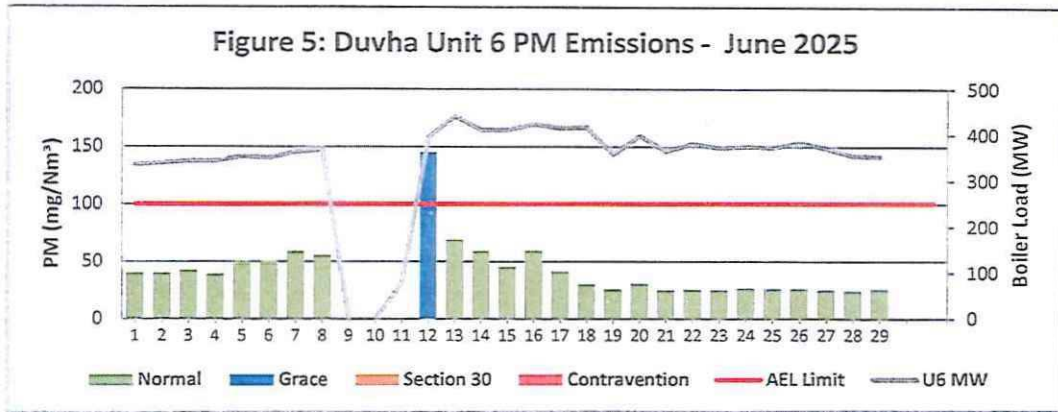


Figure 6: Duvha Unit 1 SO₂ Emissions - June 2025

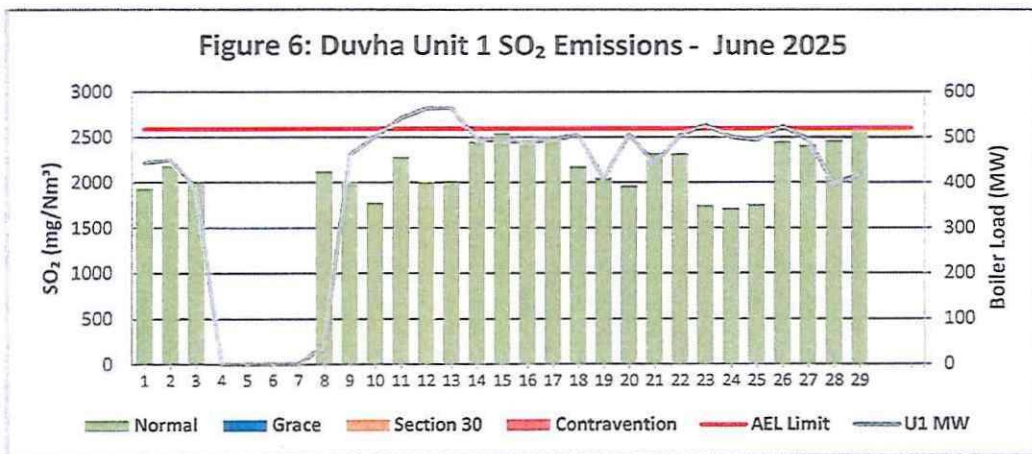


Figure 7: Duvha Unit 2 SO₂ Emissions - June 2025

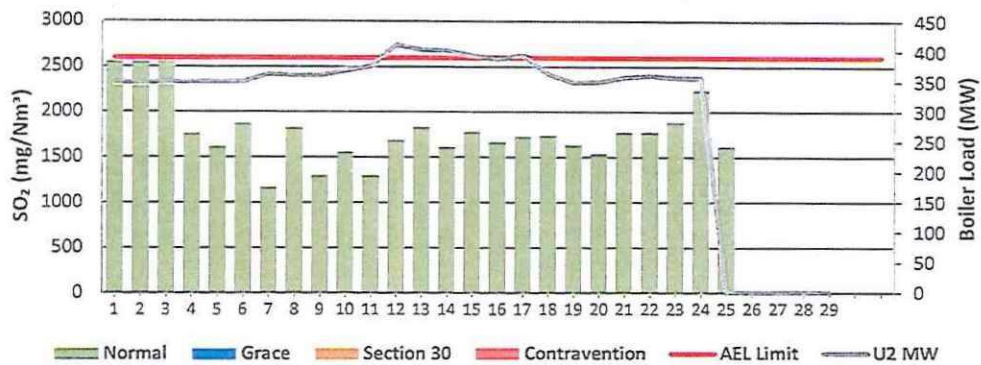


Figure 8: Duvha Unit 4 SO₂ Emissions - June 2025

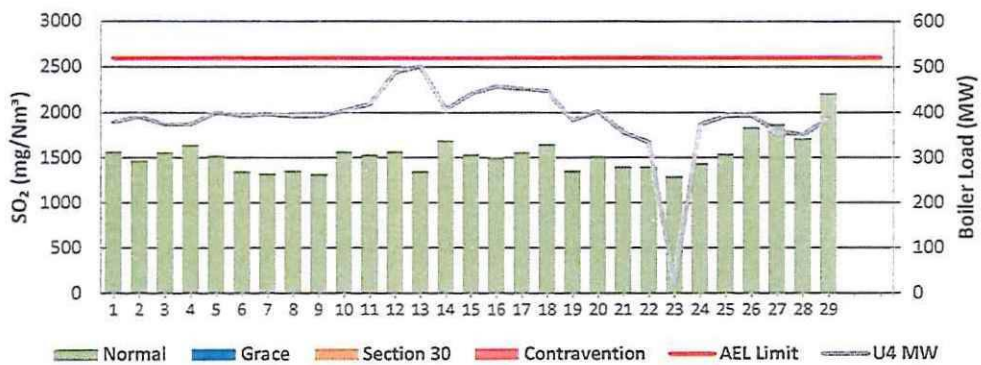


Figure 9: Duvha Unit 5 SO₂ Emissions - June 2025

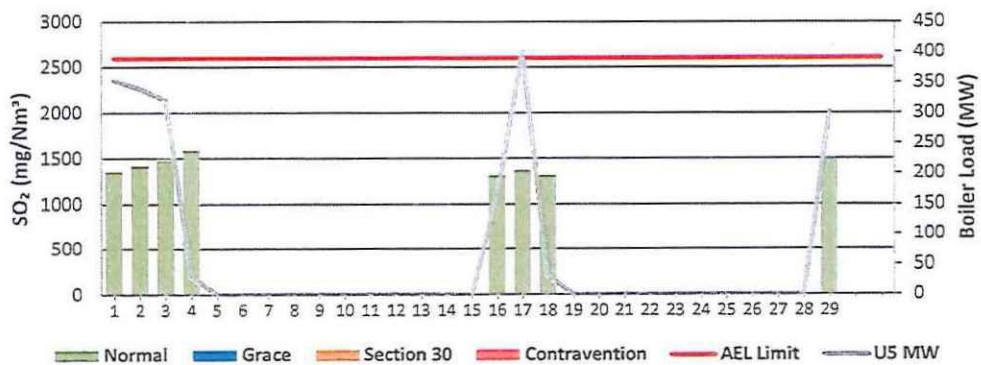


Figure 10: Duvha Unit 6 SO₂ Emissions - June 2025

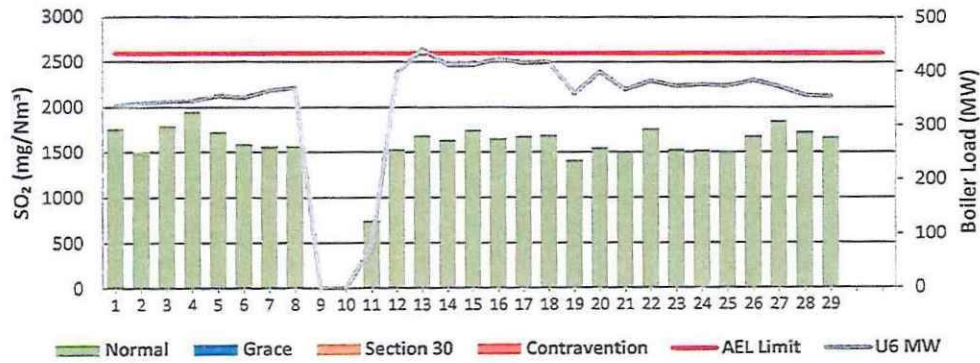


Figure 11: Duvha Unit 1 NO_x Emissions - June 2025

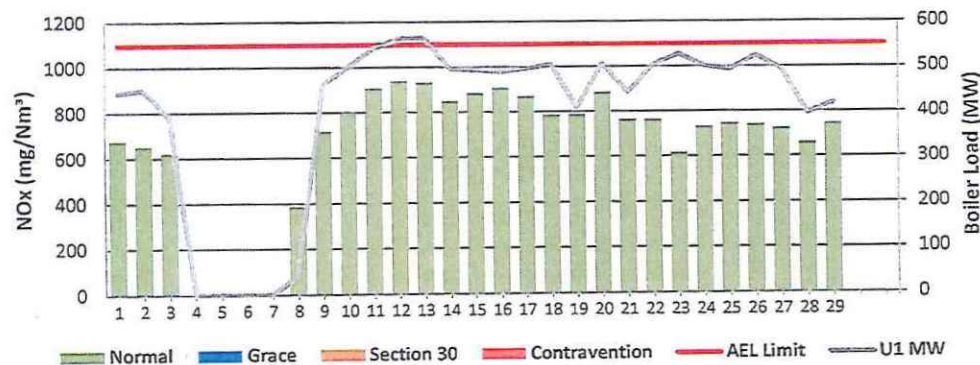


Figure 12: Duvha Unit 2 NO_x Emissions - June 2025

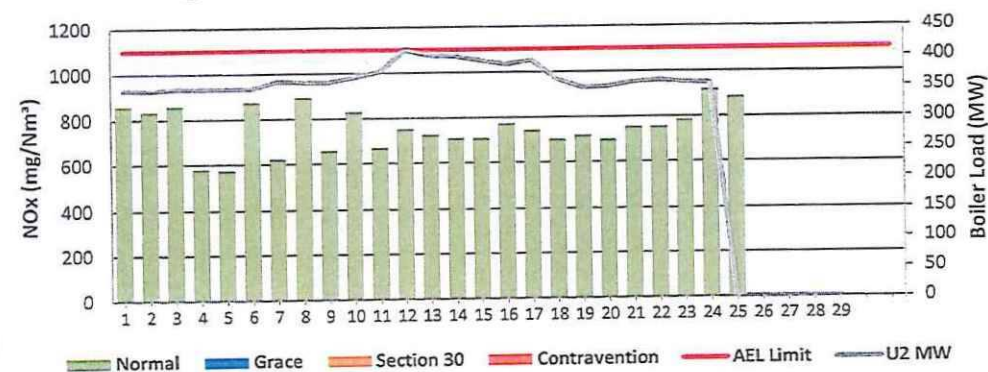


Figure 13: Duvha Unit 4 NOx Emissions - June 2025

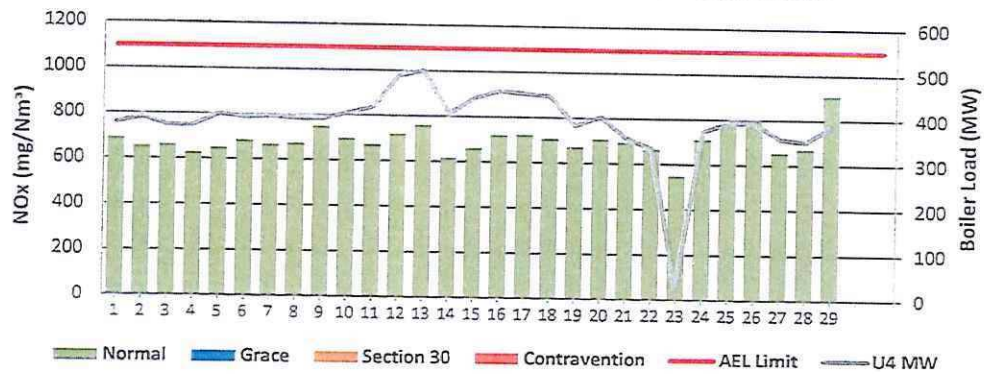


Figure 14: Duvha Unit 5 NOx Emissions - June 2025

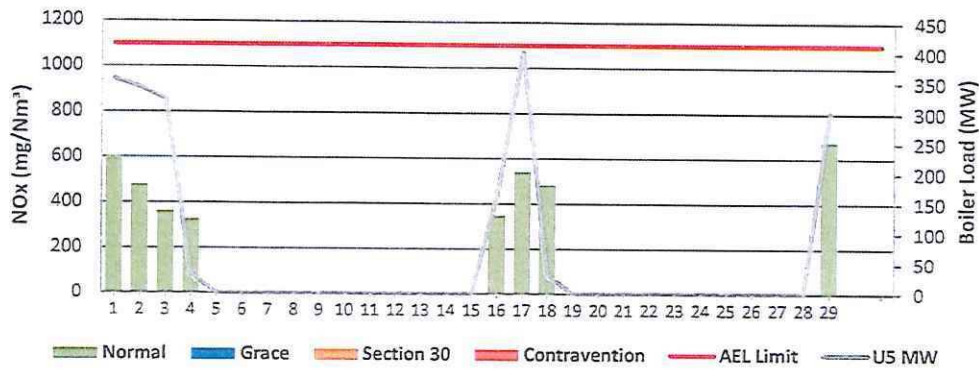
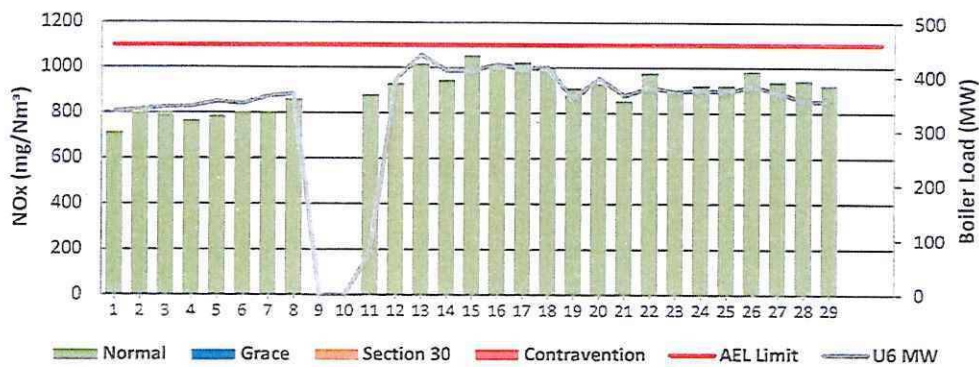


Figure 15: Duvha Unit 6 NOx Emissions - June 2025



7 SHUT DOWN AND LIGHT UP INFORMATION

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

Unit No.1	Event 1	
Breaker Open (BO)	10:50 pm	2025/06/04
Draught Group (DG) Shut Down (SD)	2:40 am	2025/06/05
BO to DG SD (duration)	00:03:50	DD:HH:MM
Fires in time	10:55 am	2025/06/09
Synch. to Grid (or BC)	8:05 pm	2025/06/09
Fires in to BC (duration)	00:09:10	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit
Emissions below limit from BC (duration)		DD:HH:MM

Unit No.2	Event 1	
Breaker Open (BO)	12:10 am	2025/06/26
Draught Group (DG) Shut Down (SD)	7:55 pm	2025/06/27
BO to DG SD (duration)	01:19:45	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

Unit No.4	Event 1	
Breaker Open (BO)	11:20 pm	2025/06/23
Draught Group (DG) Shut Down (SD)	12:50 am	2025/06/24
BO to DG SD (duration)	00:01:30	DD:HH:MM
Fires in time	9:20 am	2025/06/24
Synch. to Grid (or BC)		
Fires in to BC (duration)	00:12:20	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit
Emissions below limit from BC (duration)		DD:HH:MM

Unit No.5	Event 1	
Breaker Open (BO)	2:30 am	2025/06/05

Draught Group (DG) Shut Down (SD)	1:55 pm	2025/06/14
BO to DG SD (duration)	09:11:25	DD:HH:MM
Fires in time	12:40 am	2025/06/17
Synch. to Grid (or BC)	11:30 am	2025/06/17
Fires in to BC (duration)	00:10:50	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit
Emissions below limit from BC (duration)		DD:HH:MM

Unit No.6	Event 1	
Breaker Open (BO)	3:50 pm	2025/06/09
Draught Group (DG) Shut Down (SD)	11:45 am	2025/06/10
BO to DG SD (duration)	00:19:55	DD:HH:MM
Fires in time	4:35 pm	2025/06/12
Synch. to Grid (or BC)	11:30 pm	2025/06/12
Fires in to BC (duration)		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit
Emissions below limit from BC (duration)		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

Exceedances.

Particulate Matter

Unit 5

01-02/06/2025

- Cold unit light up

Unit 5

17-18/06/2025

- Cold unit light up

Unit 6

18/06/2025

- Cold unit light up

Unit 4

21-22/06/2025

- Due to unavailability of ash pump the DHP was switched off which eventually led to the hoppers getting full. As per Ops procedure, precip fields were switched off to prevent damage to the precip components.

Additionally, the averages for SOx data from QAL 2 test reports were used for reporting emissions for Unit 2,4,5 and 6 due to poor performance of the O2 and CO2 gaseous emissions.

10 S30 Incidents Register

There was no Section 30 for this Month

Boiler Plant Engineering
Manager



13/08/2025
Date



Environmental Manager



Engineering Manager

2025/08/28
Date

2025/08/27
Date

Compiled by

Environmental Officer

For

Nkangala District Municipality

Air Quality Officer

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Generation Asset
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Duvha Power Station

Engineering Manager

Operating Manager

Maintenance Manager

Production Manager

Boiler Engineering Manager

System Engineer