



Generation

Nkangala District Municipality
P O Box 437
Middleburg
1050

Attention:

Mr V Mahlangu

AND

Directorate: Air Quality Management
Services
The Chief Director:
Mr S S Maluleka
Department of Environmental Services
Private Bag X447
PRETORIA
0001
Tel: (012) 310 3263
Fax: (012) 320 0488

Date: 2020/05/22

Enquiries: Duvha Environmental Management

☎ +27 13 690 0445

☎ +27 66 212 2105

Enquiries: Ms Simthandile
Nhlapo

☎ +27 13 690 0445

☎ +27 66 212 2105

Total number of pages: 14

Total number of annexes: 1

DUVHA POWER STATION

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

GENERAL MANAGER

2020-06-08

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 Sep-2019
	Coal	Tons	1 400 000	571 186
	Fuel Oil	Tons	5 000	3754.05
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Sep-2019
	Energy	GWh	3600	973.73
	Ash	Tons	not specified	160 389.1

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 TO >1.2	0.840
Ash Content	%	27 TO 30	28.080

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO _x	NO _x
Unit 1	100	3500	1100
Unit 2	100	3500	1100
Unit 3	100	3500	1100
Unit 4	100	3500	1100
Unit 5	100	3500	1100
Unit 6	100	3500	1100

4 ABATEMET TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Sep-2019
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	99.82%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Electro Static Precipiator (ESP)	99.64%
Unit 5	Electro Static Precipiator (ESP)	99.73%
Unit 6	Electro Static Precipiator (ESP)	99.69%

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO
Unit 2	99.9	99.6	99.8
Unit 4	97.2	98.8	98.8
Unit 5	99.9	99.6	99.8
Unit 6	99.9	100.0	100.0

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of September 2019

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 2	85.7	3 694	1 973
Unit 4	145.8	2 907	1 754
Unit 5	76.8	2 704	1 077
Unit 6	88.7	1 956	1 036
SUM	397.1	11 262	5 841

Table 6.2: Operating days in compliance to PM AEL Limit - September 2019

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 2	27	2	0	0	2	45.5
Unit 4	19	4	2	0	6	99.5
Unit 5	20	2	0	0	2	53.4
Unit 6	14	5	0	0	5	89.5
SUM	80	13	2	0	15	

Table 6.3: Operating days in compliance to SOx AEL Limit - September 2019

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
Unit 2	30	0	0	0	0	1 956.8
Unit 4	29	0	0	0	0	1 615.6
Unit 5	24	0	0	0	0	1 781.5
Unit 6	22	0	0	0	0	1 531.4
SUM	105	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - September 2019

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
Unit 2	30	0	0	0	0	1 035.7
Unit 4	29	0	0	0	0	955.9
Unit 5	24	0	0	0	0	706.4
Unit 6	22	0	0	0	0	800.4
SUM	105	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 2: Duvha Unit 2 PM Emissions - September 2019

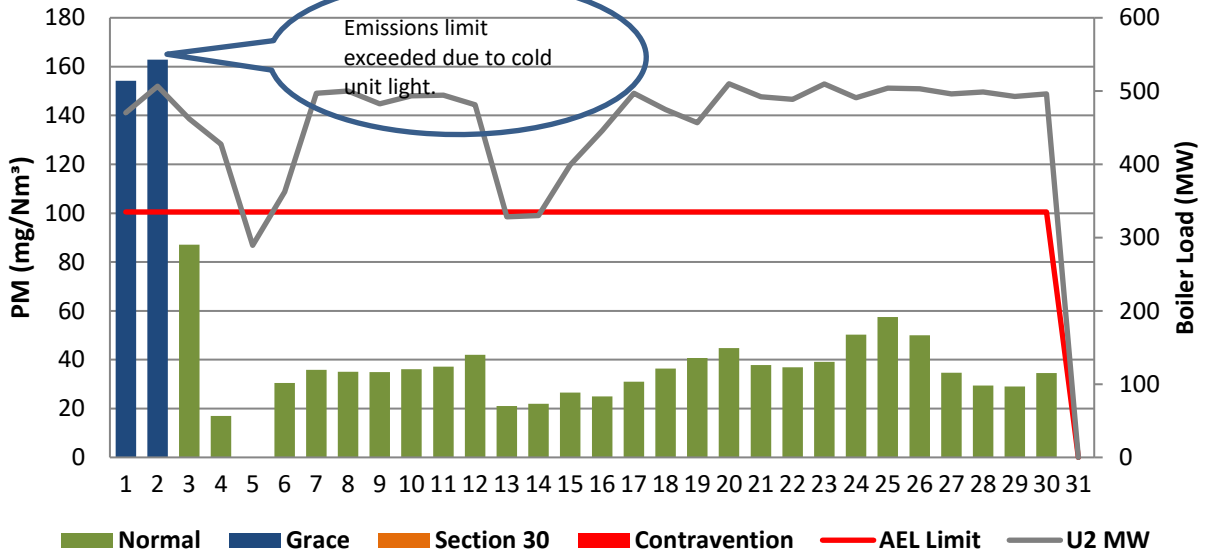


Figure 4: Duvha Unit 4 PM Emissions - September 2019

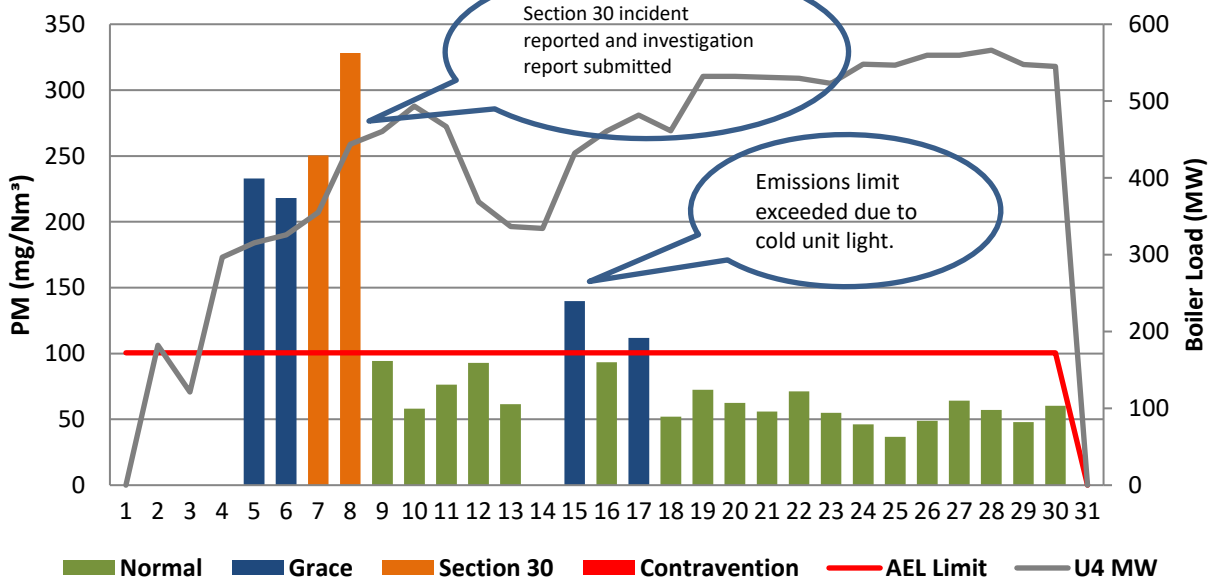


Figure 5: Duvha Unit 5 PM Emissions - September 2019

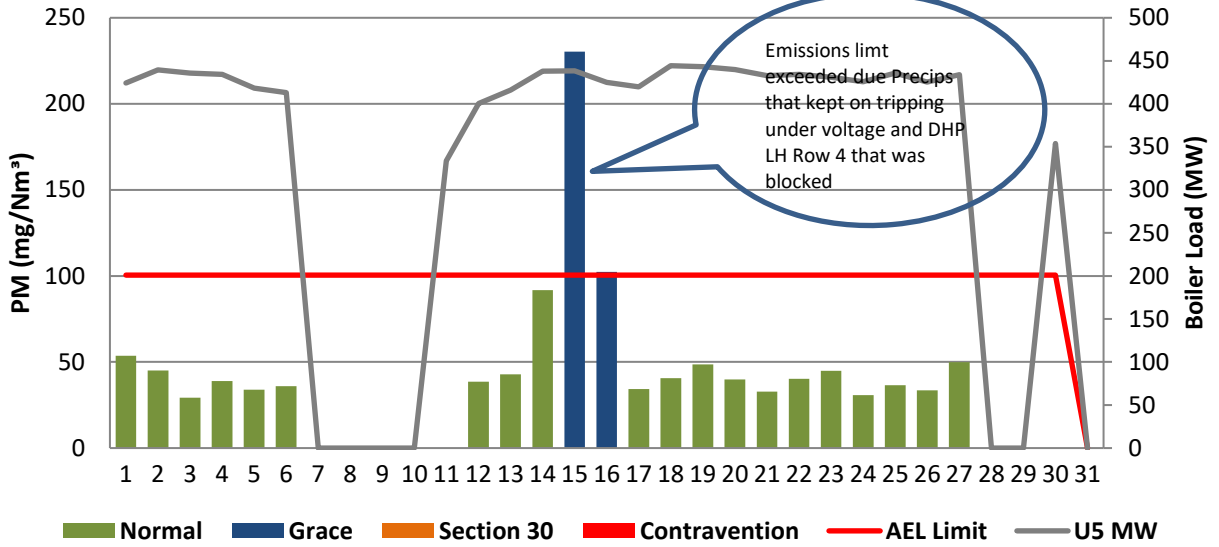


Figure 6: Duvha Unit 6 PM Emissions - September 2019

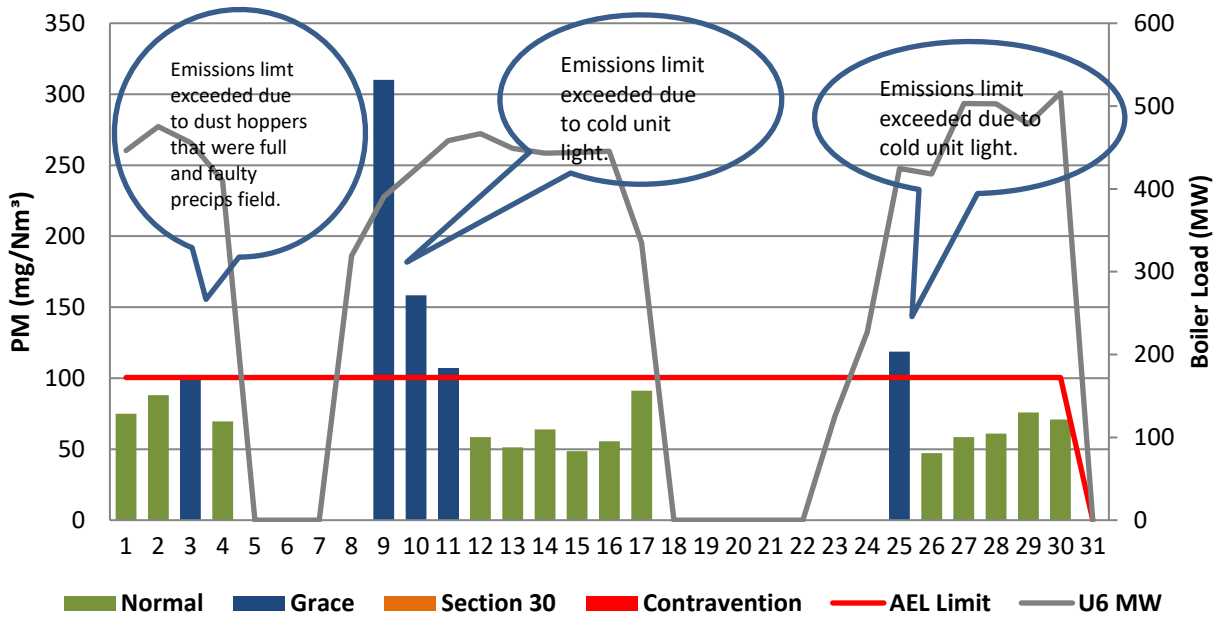


Figure 8: Duvha Unit 2 SOx Emissions - September 2019

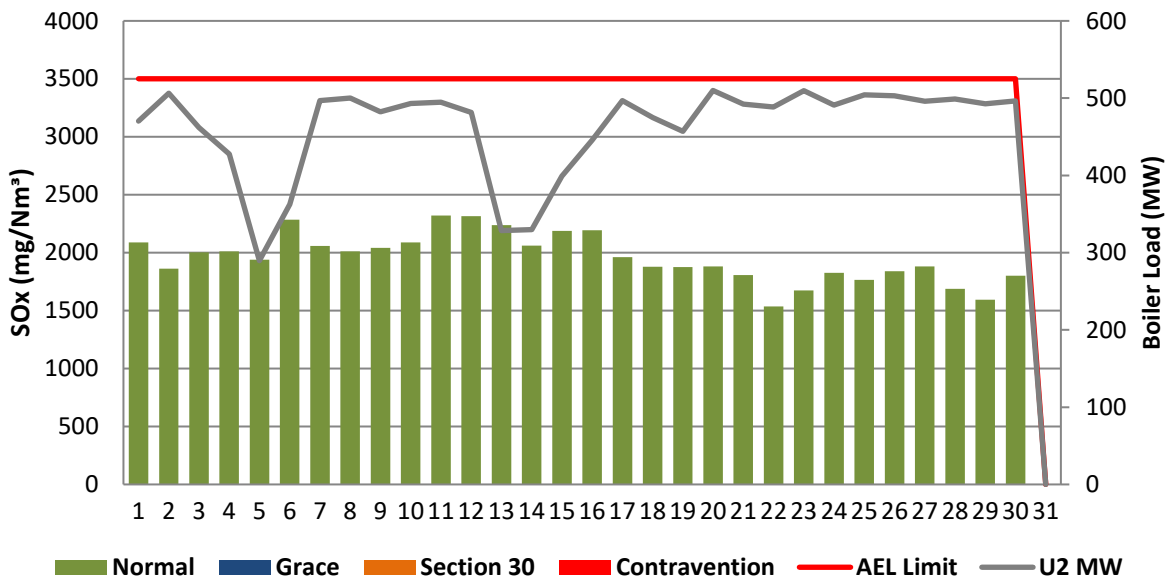


Figure 10: Duvha Unit 4 SOx Emissions - September 2019

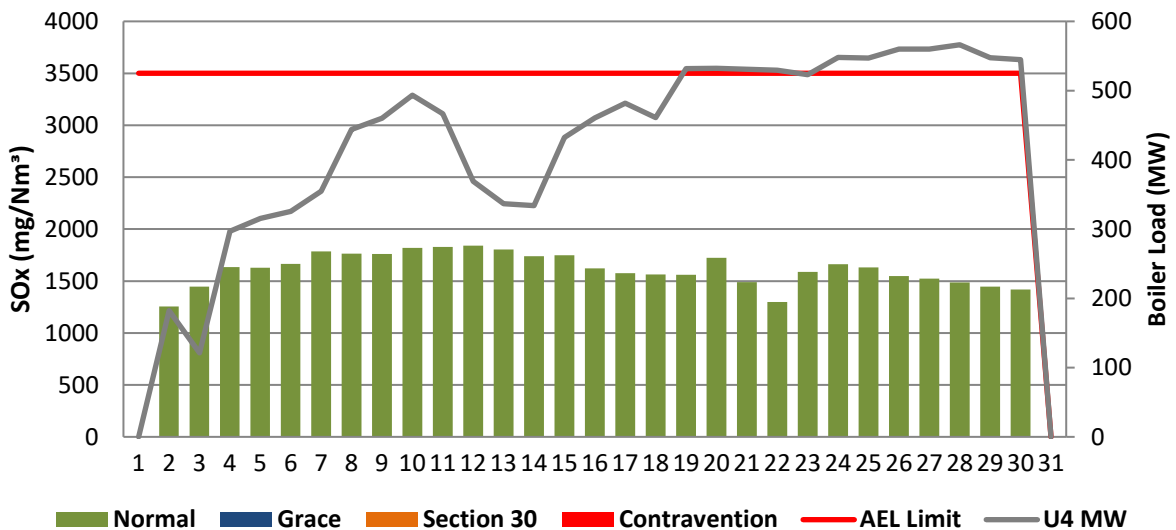


Figure 11: Duvha Unit 5 SOx Emissions - September 2019

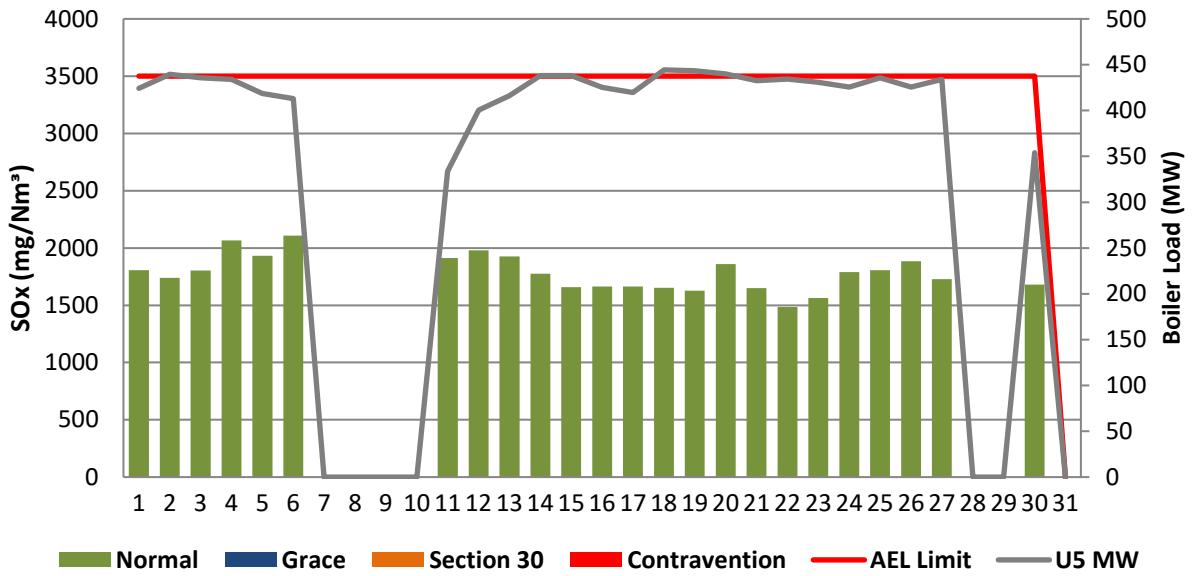


Figure 12: Duvha Unit 6 SOx Emissions - September 2019

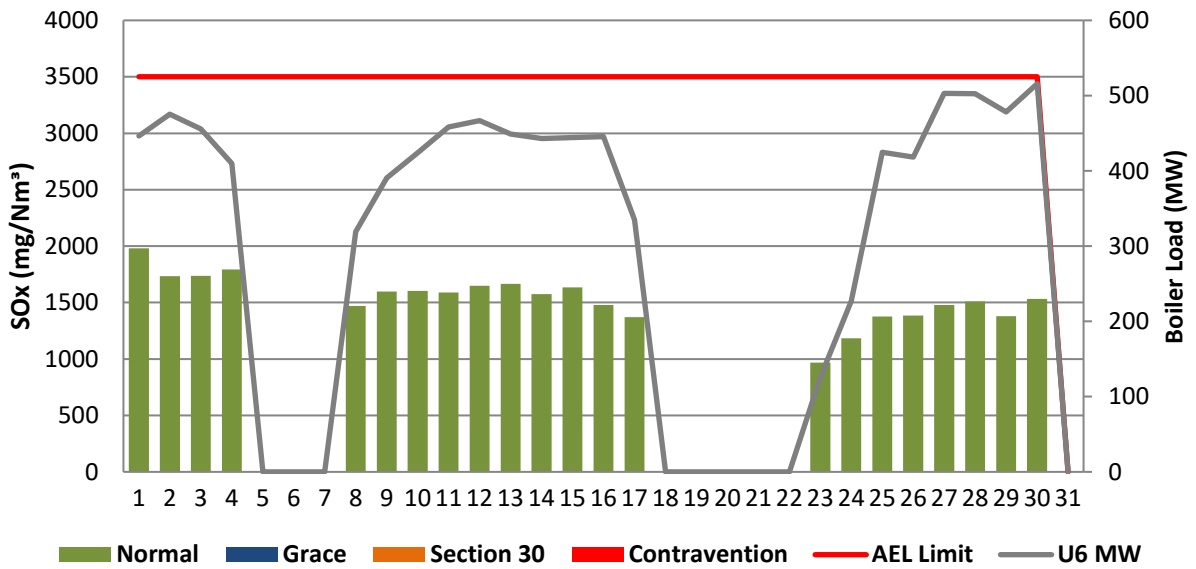


Figure 14: Duvha Unit 2 NOx Emissions - September 2019

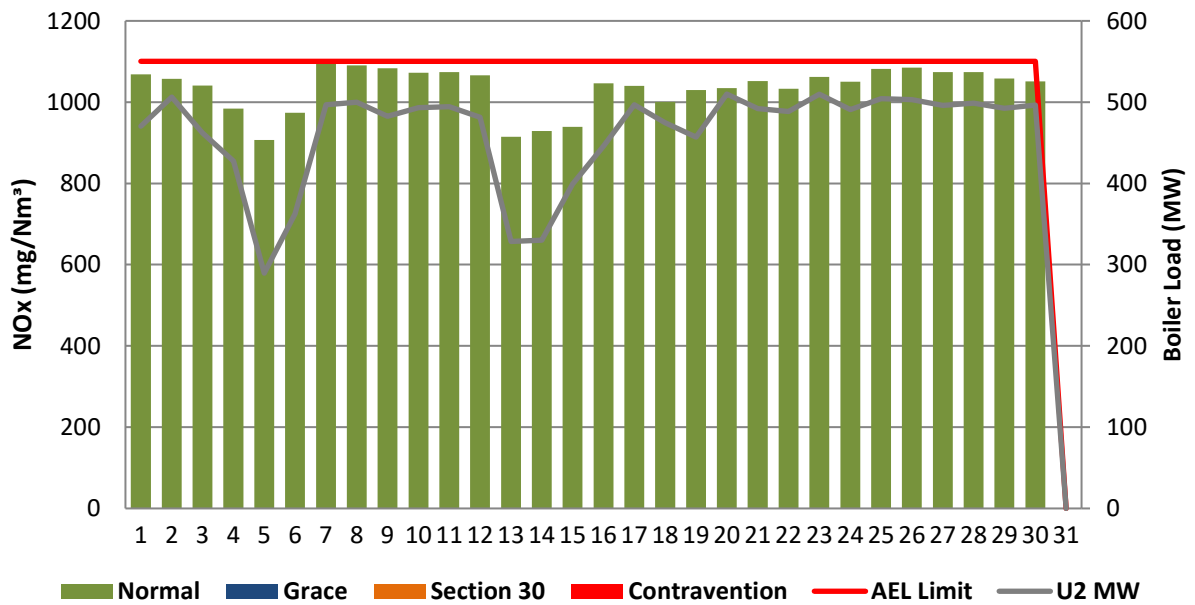


Figure 16: Duvha Unit 4 NOx Emissions - September 2019

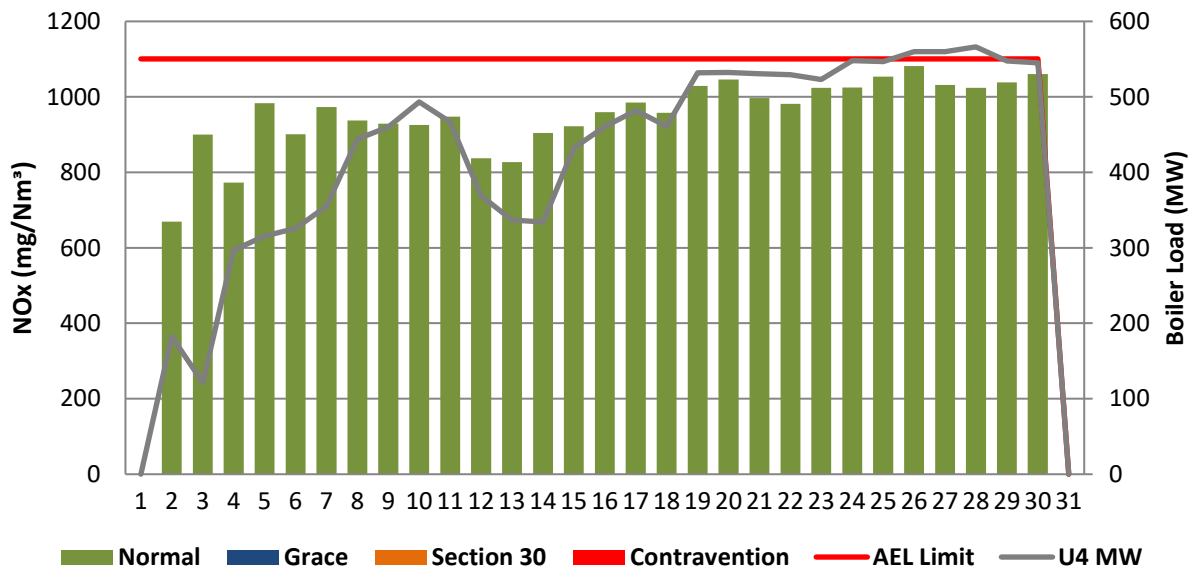


Figure 17: Duvha Unit 5 NOx Emissions - September 2019

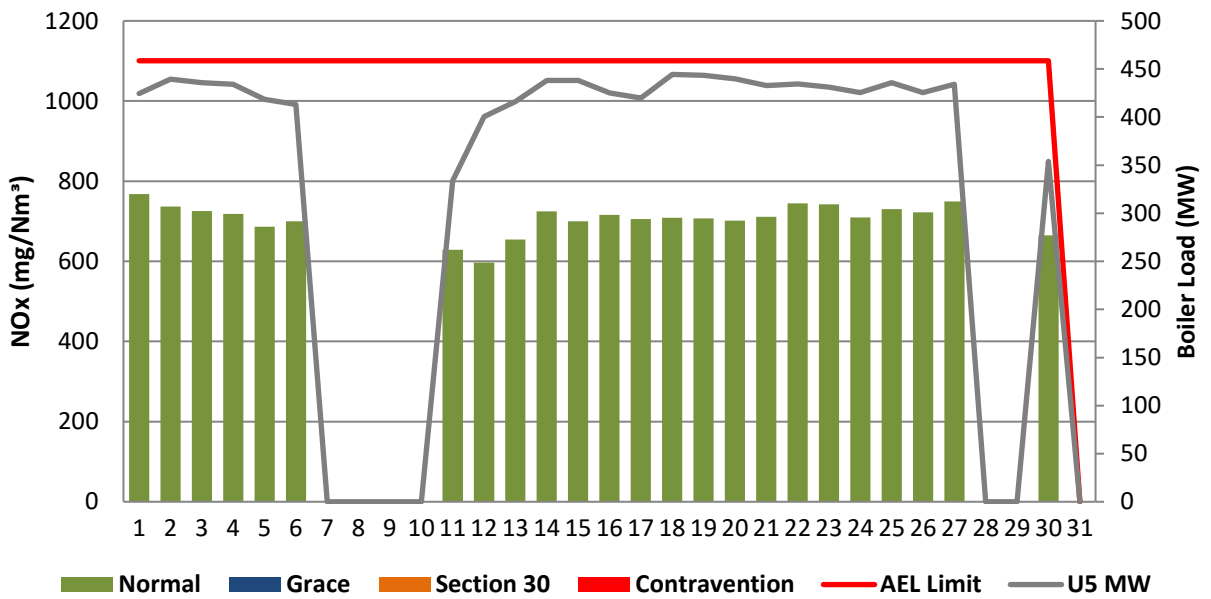
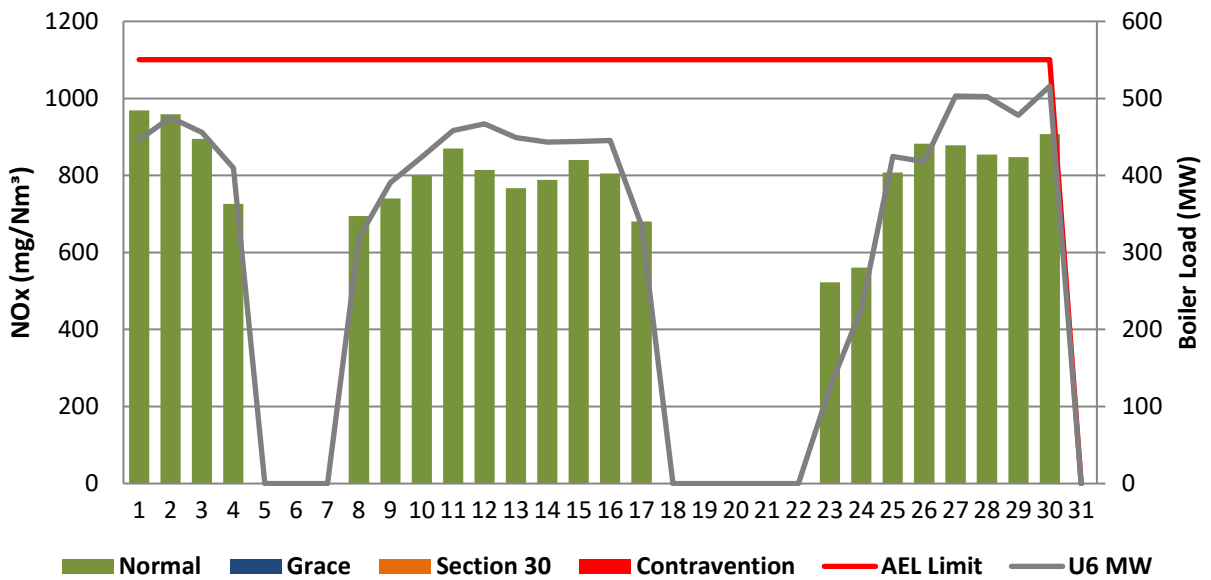


Figure 18: Duvha Unit 6 NOx Emissions - September 2019



7 SHUT DOWN AND LIGHT UP INFORMATION

Tables 7.1: Shut-down and light-up information for the month of September 2019

Unit No.2	<i>Event 1</i>	
Breaker Open (BO)	<i>4:50 AM</i>	<i>2019/09/04</i>
Draught Group (DG) Shut Down (SD)	<i>5:50 AM</i>	<i>2019/09/04</i>
BO to DG SD (duration)	<i>00:01:00</i>	DD:HH:MM
Fires in time	<i>2:30 AM</i>	<i>2019/09/05</i>
Synch. to Grid (or BC)	<i>1:55 PM</i>	<i>2019/09/05</i>
Fires in to BC (duration)	<i>00:11:25</i>	DD:HH:MM
Emissions below limit from BC (end date)	<i>not > limit</i>	<i>not > limit</i>
Emissions below limit from BC (duration)	<i>n/a</i>	DD:HH:MM

Unit No.4	<i>Event 1</i>		<i>Event 2</i>	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	<i>10:30 PM</i>	<i>2019/09/13</i>
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	<i>12:00 AM</i>	<i>2019/09/14</i>
BO to DG SD (duration)	<i>n/a</i>	DD:HH:MM	<i>00:01:30</i>	DD:HH:MM
Fires in time	<i>8:00 PM</i>	<i>2019/09/04</i>	<i>3:35 AM</i>	<i>2019/09/14</i>
Synch. to Grid (or BC)	<i>9:55 PM</i>	<i>2019/09/04</i>	<i>7:05 AM</i>	<i>2019/09/14</i>
Fires in to BC (duration)	<i>00:01:55</i>	DD:HH:MM	<i>00:03:30</i>	DD:HH:MM
Emissions below limit from BC (end date)	<i>9:00 PM</i>	<i>2019/09/09</i>	<i>12:00 AM</i>	<i>2019/09/15</i>
Emissions below limit from BC (duration)	<i>04:23:05</i>	DD:HH:MM	<i>00:16:55</i>	DD:HH:MM

Unit No.5	<i>Event 1</i>		<i>Event 2</i>	
Breaker Open (BO)	<i>11:25 PM</i>	<i>2019/09/06</i>	<i>11:50 PM</i>	<i>2019/09/27</i>
Draught Group (DG) Shut Down (SD)	<i>6:15 AM</i>	<i>2019/09/10</i>	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>
BO to DG SD (duration)	<i>03:06:50</i>	DD:HH:MM	<i>n/a</i>	DD:HH:MM
Fires in time	<i>6:20 AM</i>	<i>2019/09/10</i>		
Synch. to Grid (or BC)	<i>6:35 AM</i>	<i>2019/09/11</i>		
Fires in to BC (duration)	<i>01:00:15</i>	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	<i>12:00 AM</i>	<i>2019/09/12</i>		
Emissions below limit from BC (duration)	<i>00:17:25</i>	DD:HH:MM		DD:HH:MM

Unit No.6	<i>Event 1</i>		<i>Event 2</i>	
Breaker Open (BO)	<i>3:10 PM</i>	<i>2019/09/04</i>	<i>11:50 PM</i>	<i>2019/09/17</i>
Draught Group (DG) Shut Down (SD)	<i>3:55 PM</i>	<i>2019/09/08</i>	<i>11:40 PM</i>	<i>2019/09/23</i>
BO to DG SD (duration)	<i>04:00:45</i>	DD:HH:MM	<i>05:23:50</i>	DD:HH:MM
Fires in time	<i>4:00 PM</i>	<i>2019/09/08</i>	<i>3:25 AM</i>	<i>2019/09/24</i>
Synch. to Grid (or BC)	<i>4:25 PM</i>	<i>2019/09/08</i>	<i>4:10 PM</i>	<i>2019/09/24</i>
Fires in to BC (duration)	<i>00:12:55</i>	DD:HH:MM	<i>00:12:45</i>	DD:HH:MM
Emissions below limit from BC (end date)	<i>9:00 AM</i>	<i>2019/09/11</i>	<i>2:00 AM</i>	<i>2019/09/26</i>
Emissions below limit from BC (duration)	<i>02:16:35</i>	DD:HH:MM	<i>01:09:50</i>	DD:HH:MM

8 General

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

9 & 10 Complains and Incidents Register

Refer to addendum A


Boiler Plant Engineering
Manager

27 May 2020

Date


Environmental
Manager

2020/05/22

Date


Engineering Manager

27 May 2020

Date

Compiled by: Environmental Officer

For: Nkangala District Municipality

Air Quality Officer

Copies: Eskom Environmental Management

D Herbst
B
Mccourt

Group Technology Engineering

R
Rampiar
E Patel

Duvha Power Station:

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

