



Generation

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DUVHA POWER STATION

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

GENERAL MANAGER

2021/04/12

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-2021
	Coal	Tons	1 400 000	352 072.75
	Fuel Oil	Tons	5 000	2018.54
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Feb-2021
	Energy	GWh	3600	567.60
	Ash	Tons	not specified	95975.03
	RE Ash	kg/MWh	not specified	0.36

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 TO >1.2	0.86
Ash Content	%	27 TO 30	27.26

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	Minimum Control Efficiency	Efficiency Feb-2021	Minimum Utilization	Utilization Feb-2021
Unit 1	Fabric Filter Plant (FFP)	99%	99%	100%	100%
Unit 2	Fabric Filter Plant (FFP)	99%	99%	100%	100%
Unit 3	Fabric Filter Plant (FFP)	99%	Unit Off-line	100%	Unit Off-line
Unit 4	Electro Static Precipiator (ESP)	99.6%	Unit Off-line	100%	Unit Off-line
Unit 5	Electro Static Precipiator (ESP)	99.6%	Unit Off-line	100%	Unit Off-line
Unit 6	Electro Static Precipiator (ESP)	99.6%	99%	100%	100%
Unit 4	Chemithon (SO ₃)	99.6%	Unit Off-line	96%	Unit Off-line
Unit 5	Chemithon (SO ₃)	99.6%	Unit Off-line	96%	Unit Off-line
Unit 6	Chemithon (SO ₃)	99.6%	100%	96%	97%

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO
Unit 1	99.6	97.8	96.3
Unit 2	100.0	97.2	97.2
Unit 6	80.2	100.0	100.0

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of February 2021

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	52.2	3 466	1 524
Unit 2	50.9	1 641	1 150
Unit 6	119.0	1 546	680
SUM	222.1	6 653	3 353

Table 6.2: Operating days in compliance to PM AEL Limit - February 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	27	1	0	0	1	27.4
Unit 2	21	0	0	0	0	37.9
Unit 6	5	8	0	0	8	209.5
SUM	53	9	0	0	9	

Table 6.3: Operating days in compliance to SO_x AEL Limit - February 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO _x (mg/Nm ³)
Unit 1	28	0	0	0	0	1 832.4
Unit 2	22	0	0	0	0	1 159.3
Unit 6	16	0	0	0	0	1 750.5
SUM	66	0	0	0	0	

Table 6.4: Operating days in compliance to NO_x AEL Limit - February 2021

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm ³)
Unit 1	28	0	0	0	0	804.9
Unit 2	22	0	0	0	0	812.1
Unit 6	16	0	0	0	0	767.8
SUM	66	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 - February 2021

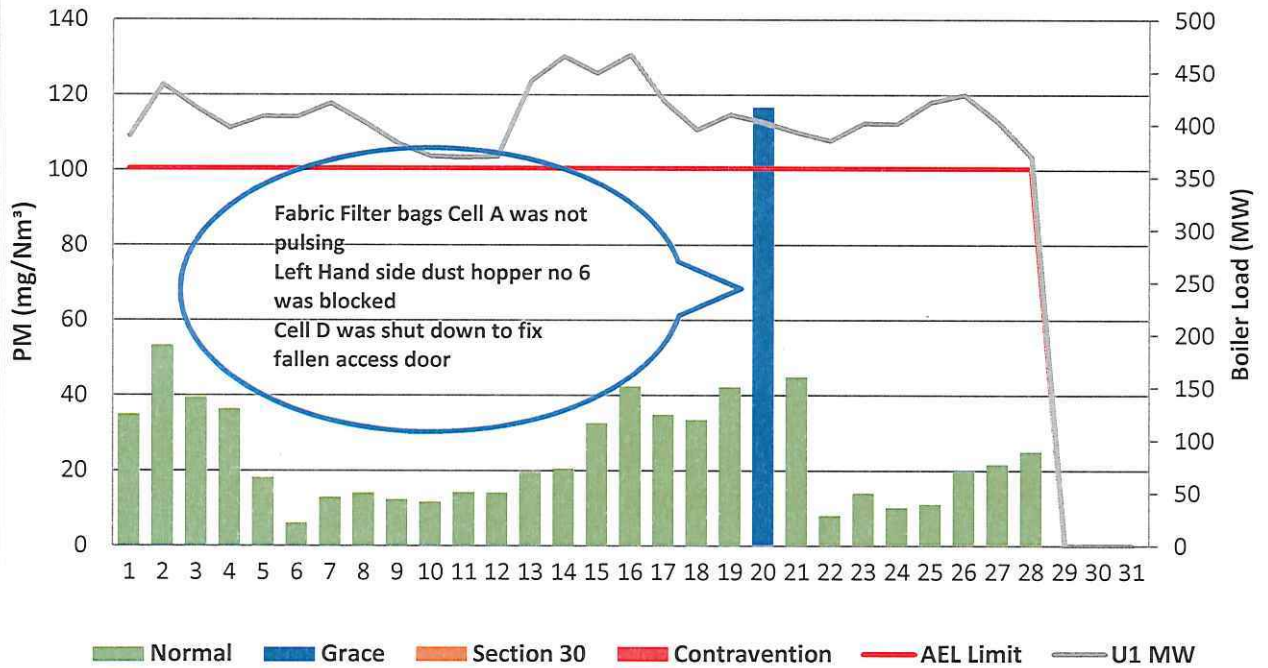


Figure 2: Duvha Unit 2 PM Emissions - February 2021

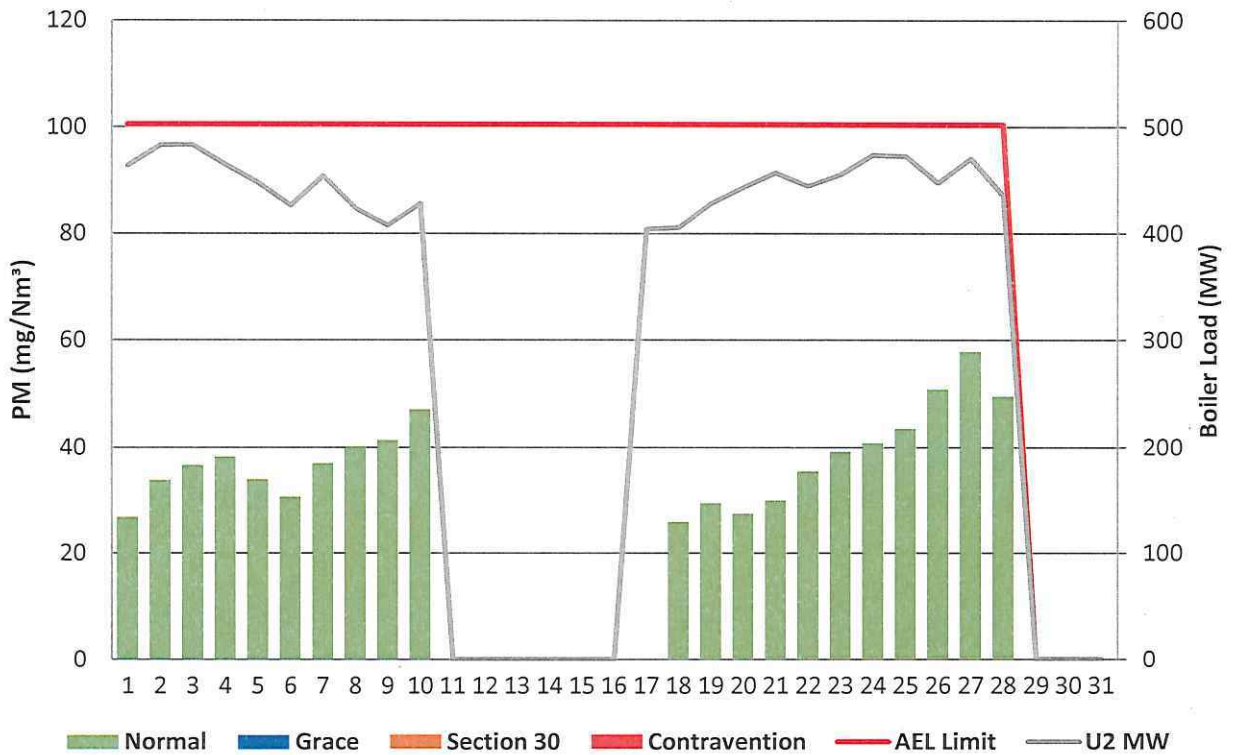


Figure 6: Duvha Unit 6 PM Emissions - February 2021

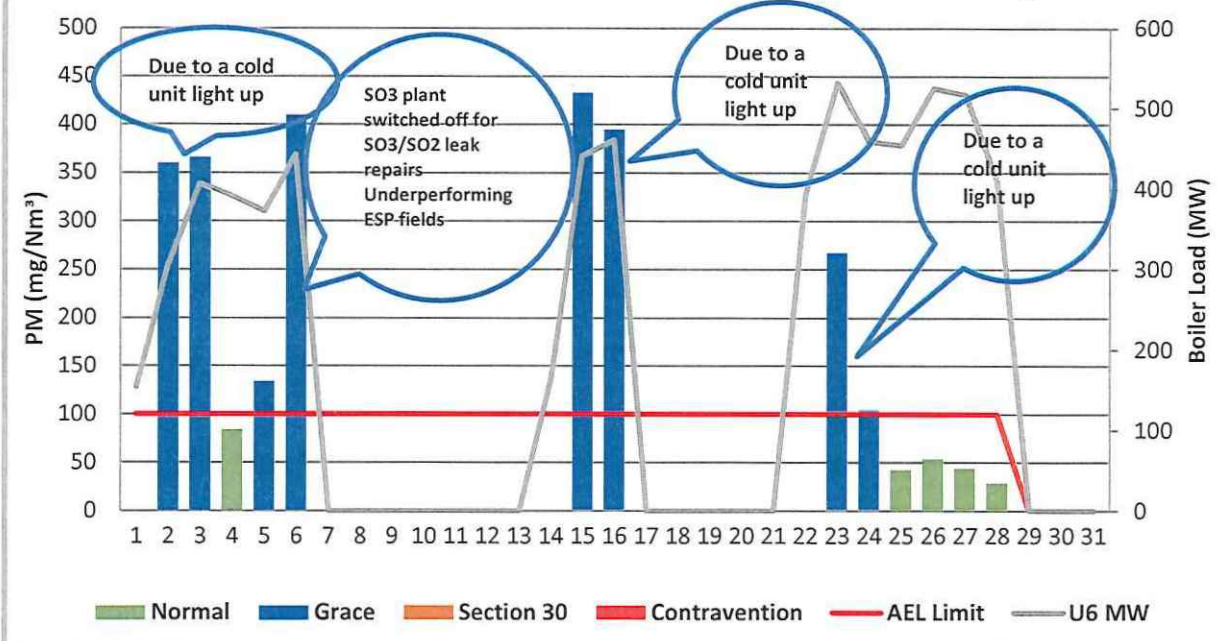


Figure 7: Duvha Unit 1 SOx Emissions - February 2021

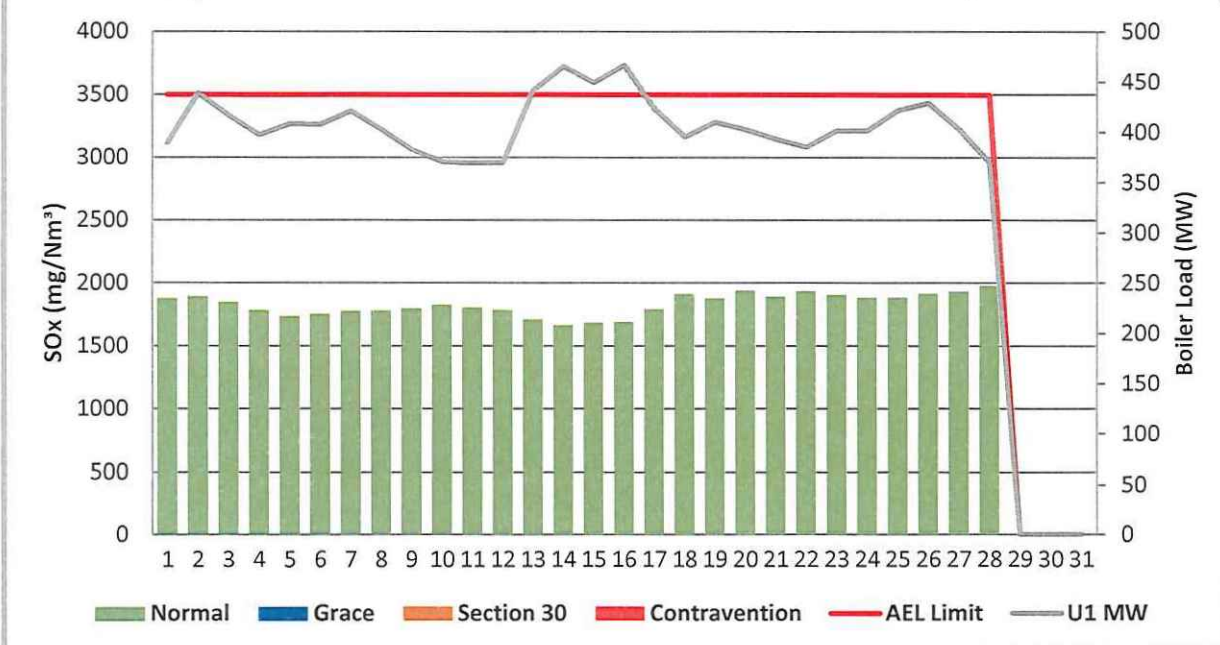


Figure 8: Duvha Unit 2 SOx Emissions - February 2021

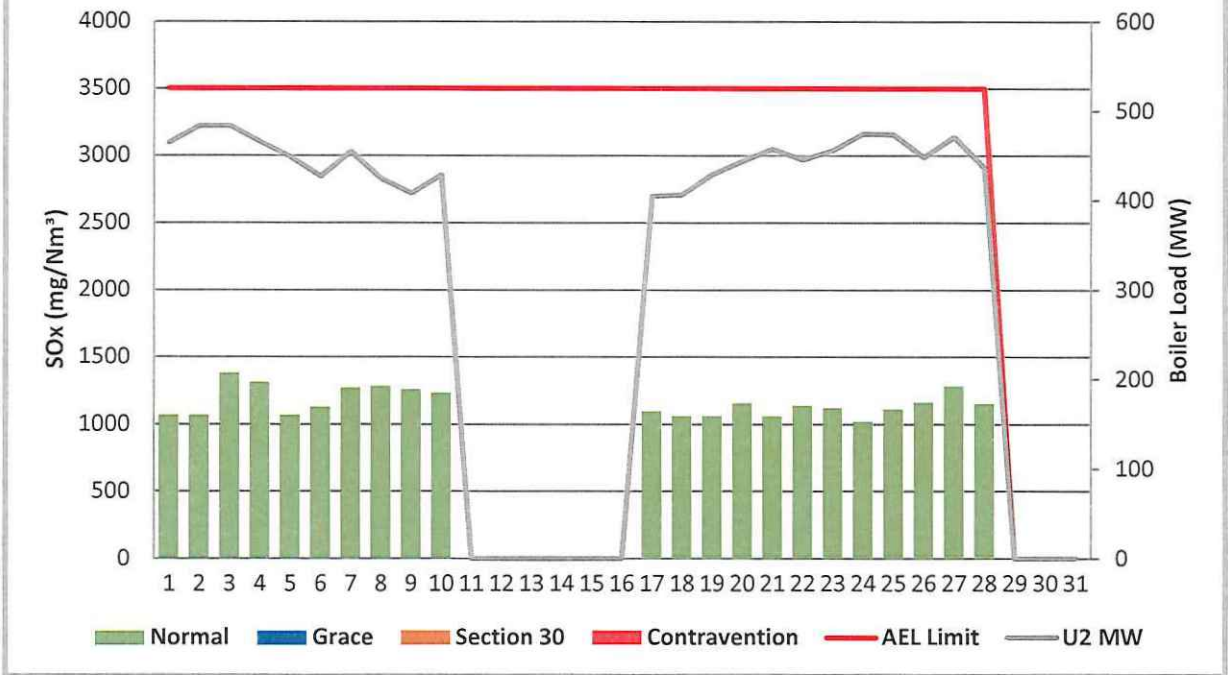


Figure 12: Duvha Unit 6 SOx Emissions - February 2021

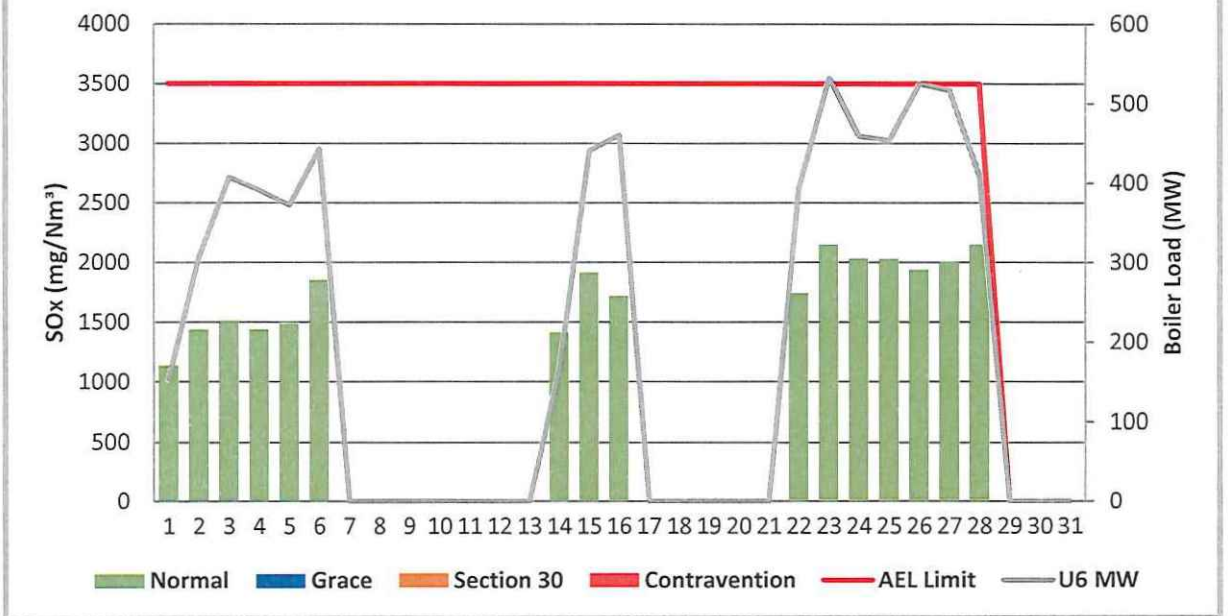
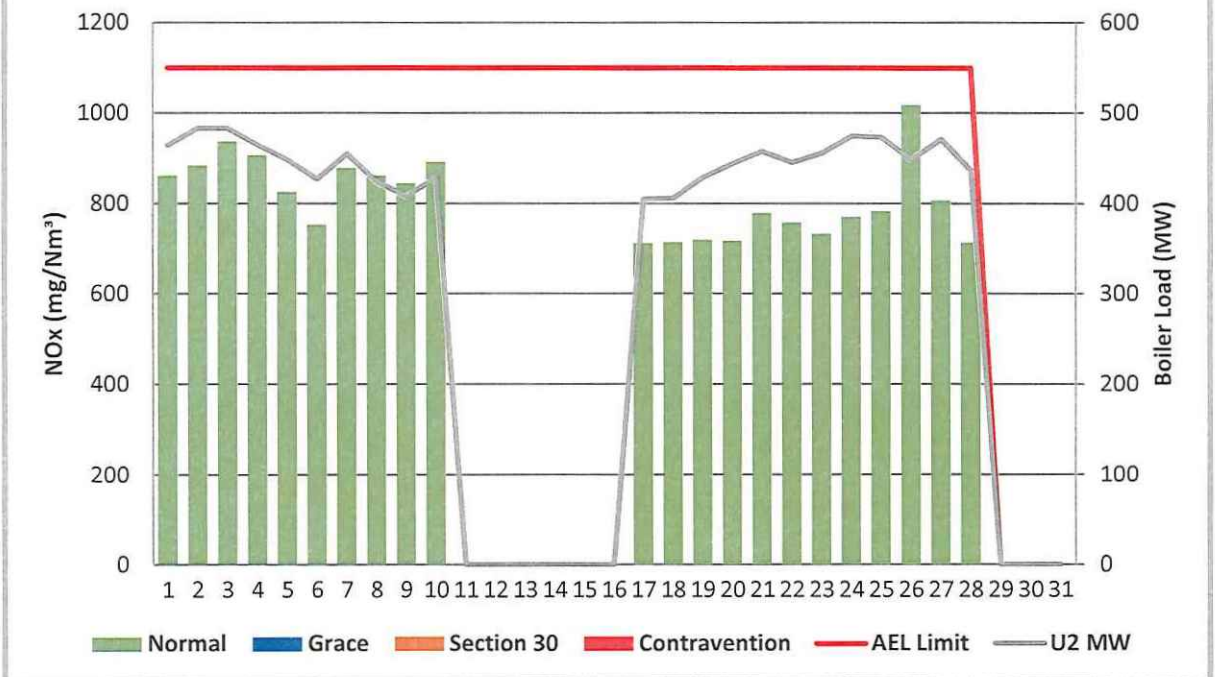
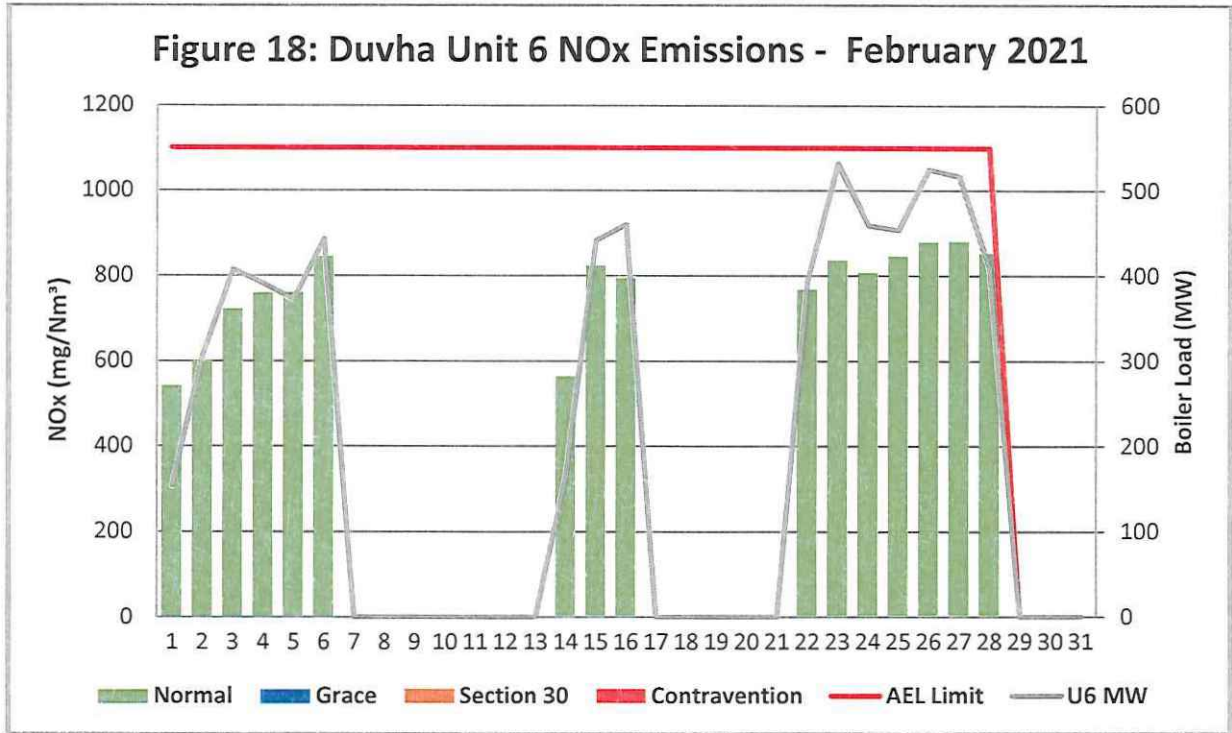


Figure 13: Duvha Unit 1 NOx Emissions - February 2021



Figure 14: Duvha Unit 2 NOx Emissions - February 2021





7 SHUT DOWN AND LIGHT UP INFORMATION

Tables 7.1: Shut-down and light-up information for the month of February 2021

Unit No.2	<i>Event 1</i>	
Breaker Open (BO)	<i>9:40 AM</i>	<i>2021/02/10</i>
Draught Group (DG) Shut Down (SD)	<i>6:40 AM</i>	<i>2021/02/16</i>
BO to DG SD (duration)	<i>05:21:00</i>	DD:HH:MM
Fires in time	<i>3:20 PM</i>	<i>2021/02/16</i>
Synch. to Grid (or BC)	<i>12:20 AM</i>	<i>2021/02/17</i>
Fires in to BC (duration)	<i>00:09:00</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.6	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	<i>BO previously</i>	<i>BO previously</i>	<i>6:55 PM</i>	<i>2021/02/06</i>	<i>10:05 PM</i>	<i>2021/02/16</i>	<i>11:35 AM</i>	<i>2021/02/28</i>
Draught Group (DG) Shut Down (SD)	<i>n/a</i>	<i>n/a</i>	<i>1:45 AM</i>	<i>2021/02/13</i>	<i>3:45 PM</i>	<i>2021/02/17</i>	<i>DG did not trip or SD</i>	<i>DG did not trip or SD</i>
BO to DG SD (duration)	<i>n/a</i>	<i>DD:HH:MM</i>	<i>06:06:50</i>	<i>DD:HH:MM</i>	<i>00:17:40</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>
Fires in time	<i>9:45 AM</i>	<i>2021/02/01</i>	<i>12:30 PM</i>	<i>2021/02/14</i>	<i>4:20 AM</i>	<i>2021/02/22</i>		
Synch. to Grid (or BC)	<i>11:05 PM</i>	<i>2021/02/01</i>	<i>8:25 PM</i>	<i>2021/02/14</i>	<i>8:30 AM</i>	<i>2021/02/22</i>		
Fires in to BC (duration)	<i>00:13:20</i>	<i>DD:HH:MM</i>	<i>00:07:55</i>	<i>DD:HH:MM</i>	<i>00:04:10</i>	<i>DD:HH:MM</i>		<i>DD:HH:MM</i>
Emissions below limit from BC (end date)	<i>12:00 PM</i>	<i>2021/02/04</i>	<i>12:00 AM</i>	<i>2021/02/18</i>	<i>12:00 AM</i>	<i>2021/02/25</i>		
Emissions below limit from BC (duration)	<i>02:12:55</i>	<i>DD:HH:MM</i>	<i>03:03:35</i>	<i>DD:HH:MM</i>	<i>02:15:30</i>	<i>DD:HH:MM</i>		<i>DD:HH:MM</i>

8 General

Units 3, 4 and 5 were offload during the month of February 2021.

Units 2 and 6 oxygen monitors were faulty and giving faulty readings during the month of February 2020. The average Oxygen Standard Reference Method value from units 2 and 6 QAL 2 report were used to generate averages for this period.

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.


9 Complaints and 10 Incidents Register

Refer to addendum A


Boiler Plant Engineering Manager

09 April 2021

Date


Environmental Manager

2021/04/12

Date

Ndwelani pp

Engineering Manager

09 April 2021

Date

Compiled by:	Environmental Officer	
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