

Mr. Chakane Sibaya
Air Quality Officer
Fezile Dabi District Municipality
P.O Box 10
Sasolburg
1947

Date:
01 Febraury 2021

Enquiries:
W de Klerk
Tel +27 16 457 5308

Ref: LRP03PLA000 _0226/20210127

Dear Mr. Sibaya

LETHABO POWER STATION EMISSION MONTHLY REPORT FOR DECEMBER 2020

Please find attached Lethabo Power Station emission report for the month of December 2020.

Also attached ambient air quality monitoring report, complaints register and the fugitive dust fallout monitoring report for December 2020.

For any additional information please do not hesitate to contact us.

Yours sincerely



Karabo Rakgolela
GENERAL MANAGER

	Report	Lethabo Power Station
---	---------------	----------------------------------

Report name: **Lethabo Power Station
December 2020
Emission Report**

Reference number: **LRP03PLA000
_0226/20210127**

Document Type: **Report**

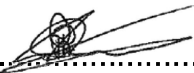
Area of Applicability: **Environment**

Report Date: **January 2021**

Classification: **Controlled
Disclosure**

Signatures:

Compiled by:



.....
P Parag
System Engineer

Date: 2021/02/16
.....

Verified by :



.....
W de Klerk
Environmental Officer

Date: 2021-02-16
.....

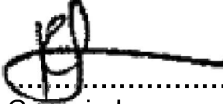
Reviewed by:



.....
N Mazibuko
BPE Manager

Date: 2021-02-16
.....

Reviewed by:



.....
C Govinden
PE Manager

Date: 2020/02/18
.....

Reviewed by:



.....
L Nel
C&I Manager

Date: 2021-02-22
.....

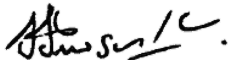
Reviewed by:



.....
M Hariram
Environmental Manager

Date: 2021/02/23
.....

Approved by:



.....
H Sewsunker
Engineering Manager

Date: 2021/02/23
.....

CONTROLLED DISCLOSURE

When downloaded from the database, this document is uncontrolled and it is the responsibility of the user to ensure that it is the same as the authorised revision on the data base

LETHABO POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License FDDM-MET-2011-08-P1


1. RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Dec-2020
	Coal	Tons	2 000 000	1 239 279
	Fuel Oil	Tons	1 700	1320.81
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Production Rate Dec-2020
	Energy	GWh	2834.64	1 805.48
	Ash	Tons	770 000	487 656.3
	RE Ash	kg/MWh	not specified	270.10

2. ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.55 (Standard)	0.630
Ash Content	%	36.89 (Standard)	39.350

*Please note the "standard" is not necessary a limit, but merely a optimum indication, it will fluctuate as the coal quality changes.

3. EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SOx	NOx
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 Dec-2020
Unit 1	<i>Electrostatic Precipitator (ESP)</i>	<i>99.82%</i>
Unit 2	<i>Electrostatic Precipitator (ESP)</i>	<i>99.60%</i>
Unit 3	<i>Electrostatic Precipitator (ESP)</i>	<i>Unit Off-line</i>
Unit 4	<i>Electrostatic Precipitator (ESP)</i>	<i>99.73%</i>
Unit 5	<i>Electrostatic Precipitator (ESP)</i>	<i>99.79%</i>
Unit 6	<i>Electrostatic Precipitator (ESP)</i>	<i>99.79%</i>

5. MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	CO ₂
Unit 1	<i>99.0</i>	<i>99.2</i>	<i>99.2</i>	<i>98.9</i>
Unit 2	<i>99.0</i>	<i>98.9</i>	<i>99.0</i>	<i>98.7</i>
Unit 3	<i>OFF</i>	<i>OFF</i>	<i>OFF</i>	<i>OFF</i>
Unit 4	<i>98.9</i>	<i>99.2</i>	<i>99.2</i>	<i>99.2</i>
Unit 5	<i>93.7</i>	<i>95.3</i>	<i>95.3</i>	<i>95.3</i>
Unit 6	<i>99.2</i>	<i>99.3</i>	<i>99.3</i>	<i>99.3</i>

6. EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of December 2020

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	178.7	3 429	1 478
Unit 2	316.9	3 694	1 358
Unit 3	OFF	OFF	OFF
Unit 4	227.4	3 507	1 731
Unit 5	156.6	2 500	1 240
Unit 6	209.0	4 140	2 051
SUM	1 088.6	17 270.5	7 857.7

Table 6.2: Operating days in compliance to PM AEL Limit - December 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	17	12	0	0	12	109.6
Unit 2	11	15	0	0	15	177.1
Unit 3	OFF	OFF	OFF	OFF	OFF	OFF
Unit 4	14	11	0	2	13	118.3
Unit 5	15	6	4	0	10	129.6
Unit 6	23	8	0	0	8	97.5
SUM	42	38	0	2	40	

Table 6.3: Operating days in compliance to SO_x AEL Limit - December 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average SO _x (mg/Nm ³)
Unit 1	31	0	0	0	0	1 947.2
Unit 2	27	0	0	0	0	1 920.7
Unit 3	OFF	OFF	OFF	OFF	OFF	OFF
Unit 4	28	0	0	0	0	1 791.5
Unit 5	28	0	0	0	0	1 838.8
Unit 6	31	0	0	0	0	1 949.1
SUM	86	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - December 2020

Associated Unit/Stack	Normal	Grace	Section 30	Contra-vention	Total Exceedance	Average NOx (mg/Nm ³)
Unit 1	31	0	0	0	0	835.9
Unit 2	27	0	0	0	0	703.3
Unit 3	OFF	OFF	OFF	OFF	OFF	OFF
Unit 4	28	0	0	0	0	876.3
Unit 5	28	0	0	0	0	877.6
Unit 6	31	0	0	0	0	964.2
SUM	86	0	0	0	0	

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
Contra-vention	Red	Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Lethabo Unit 1 PM Emissions - December 2020

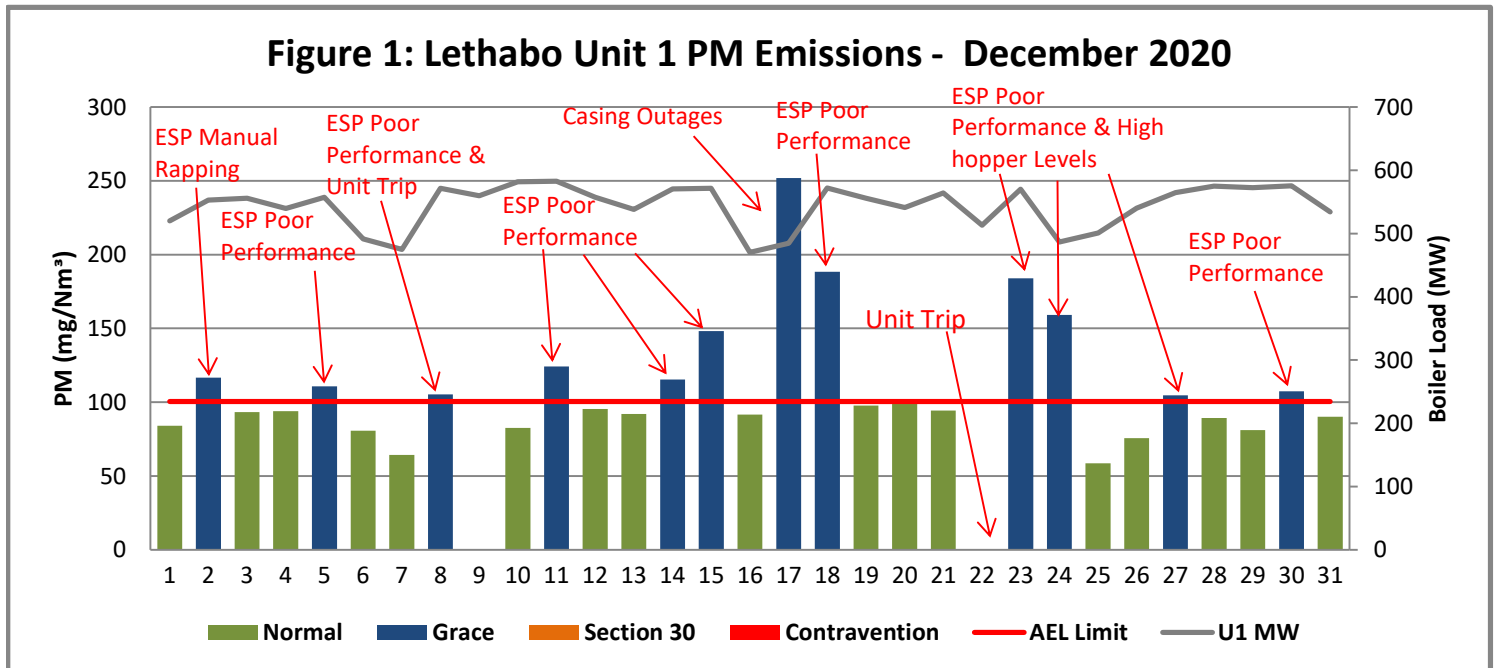


Figure 2: Lethabo Unit 2 PM Emissions - December 2020

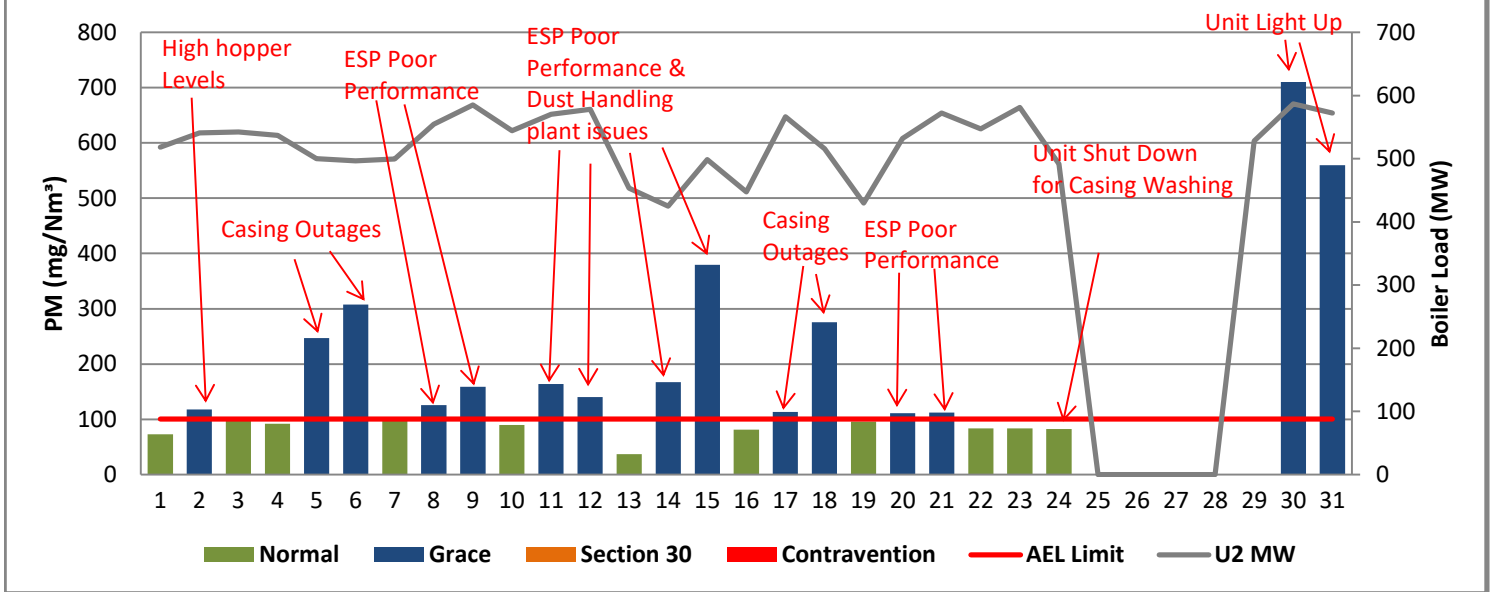


Figure 3: Lethabo Unit 3 PM Emissions - December 2020

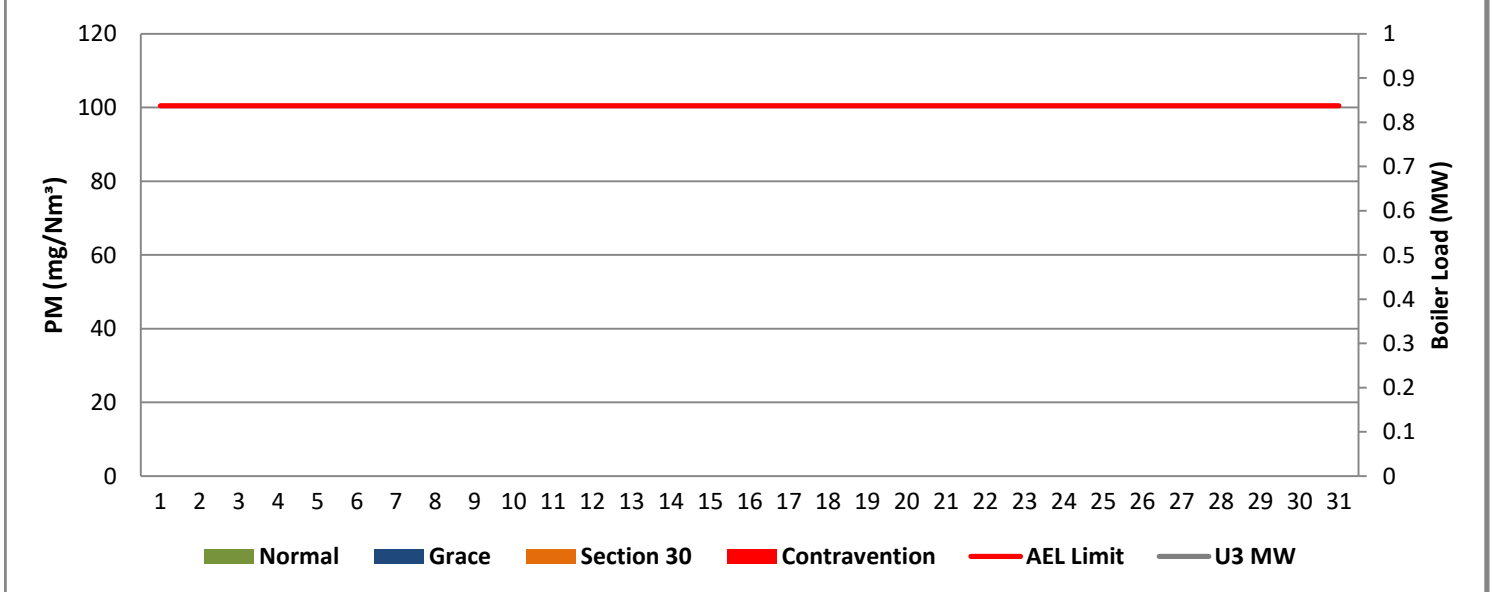


Figure 4: Lethabo Unit 4 PM Emissions - December 2020

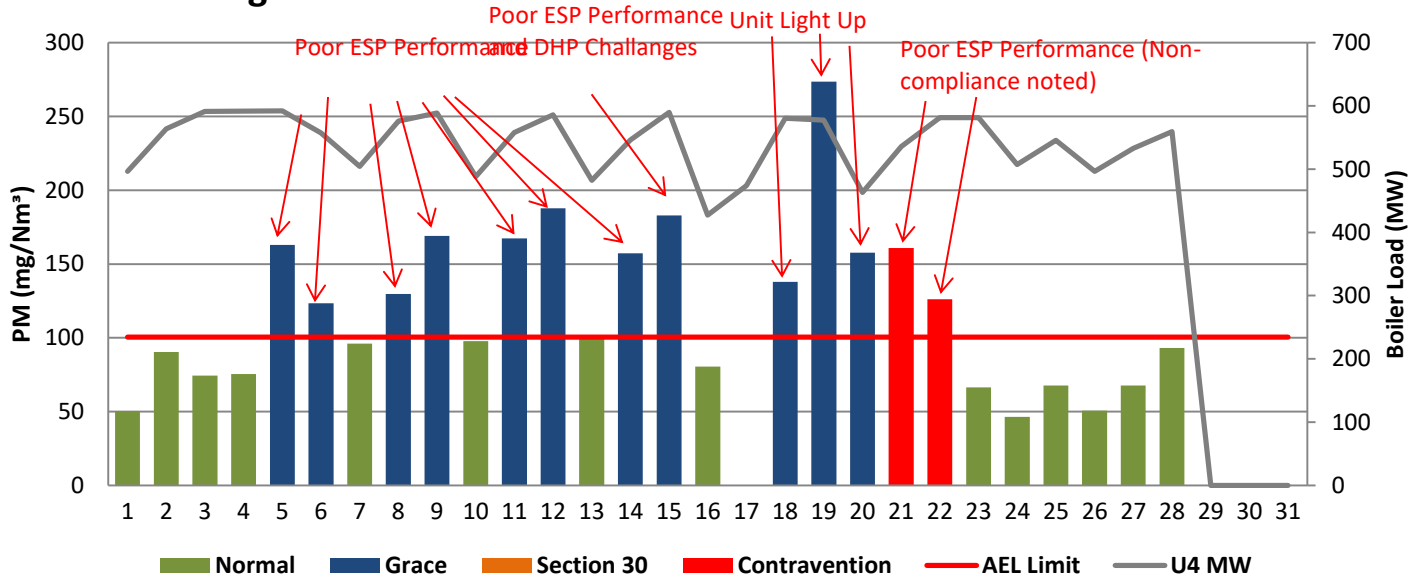


Figure 5: Lethabo Unit 5 PM Emissions - December 2020

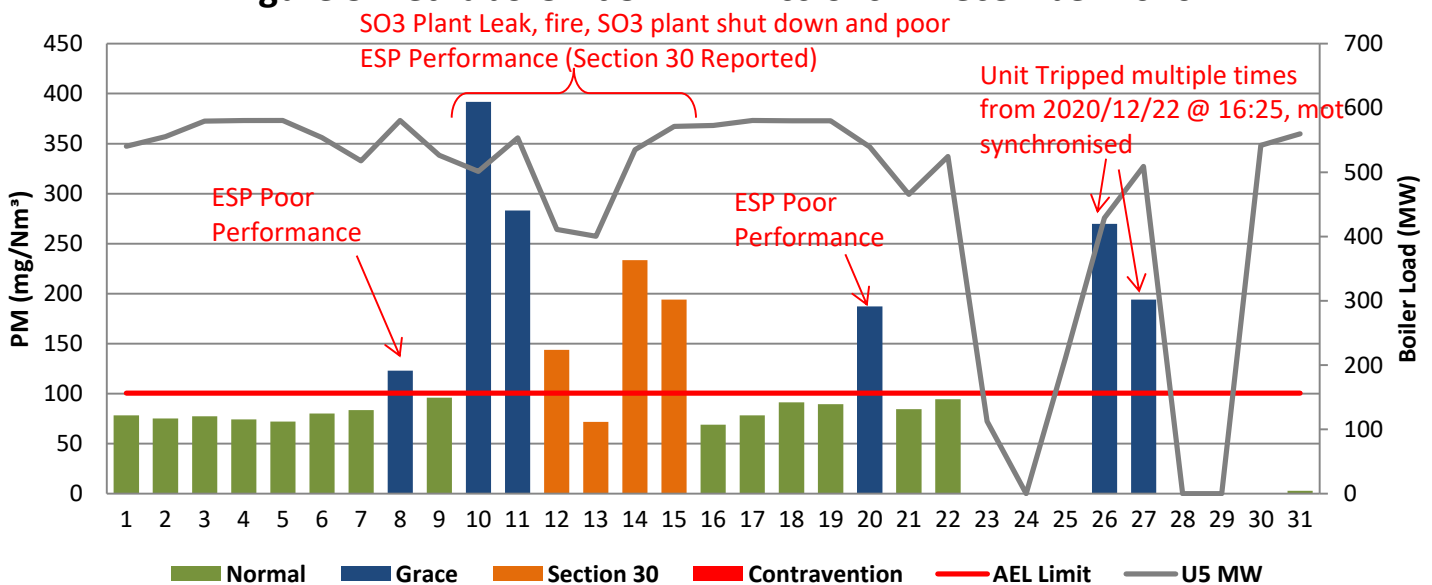


Figure 6: Lethabo Unit 6 PM Emissions - December 2020

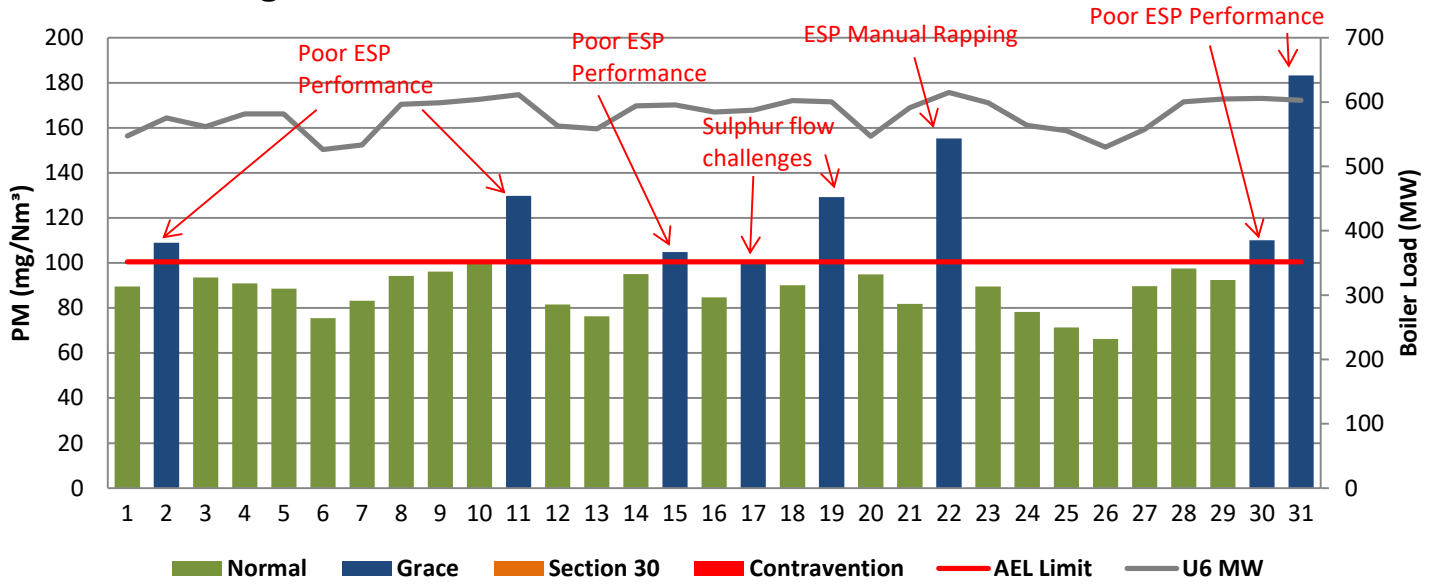


Figure 7: Lethabo Unit 1 SOx Emissions - December 2020

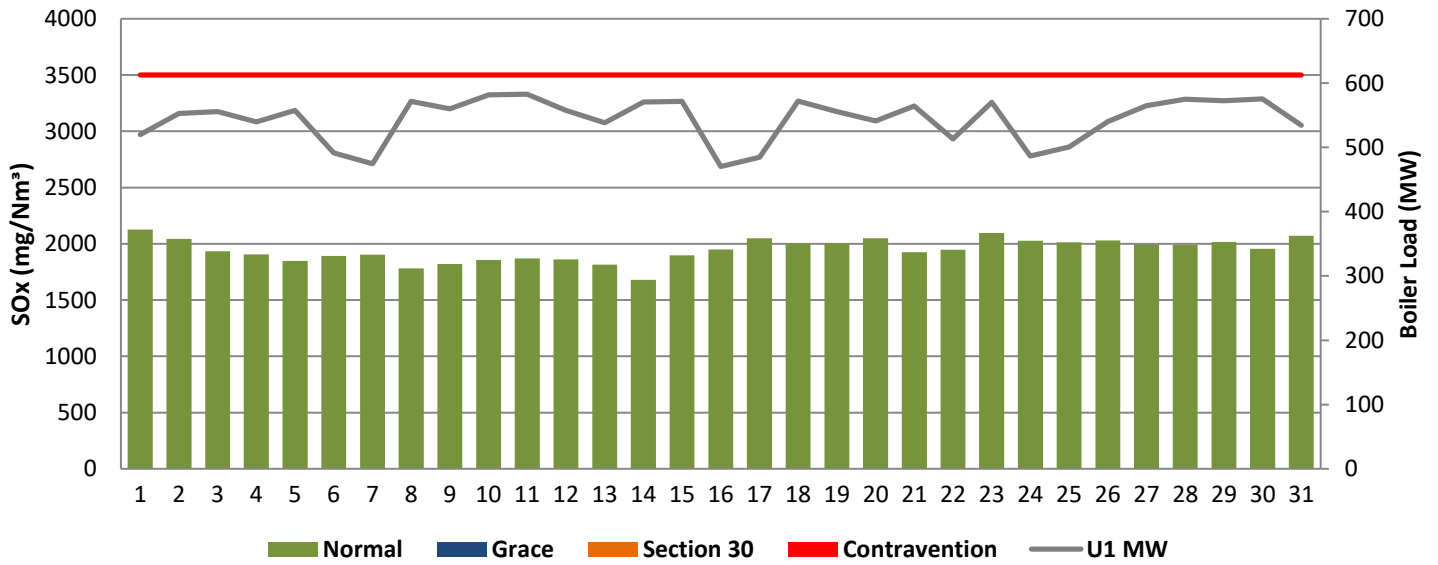


Figure 8: Lethabo Unit 2 SOx Emissions - December 2020

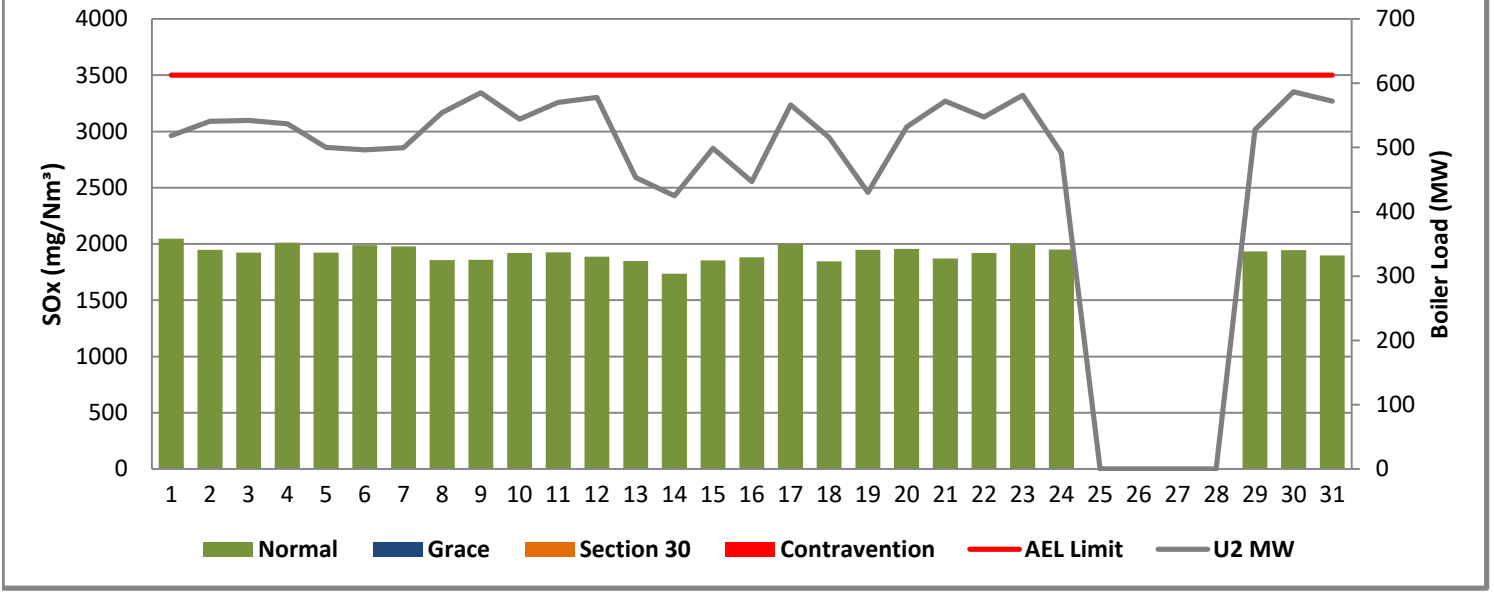


Figure 9: Lethabo Unit 3 SOx Emissions - December 2020

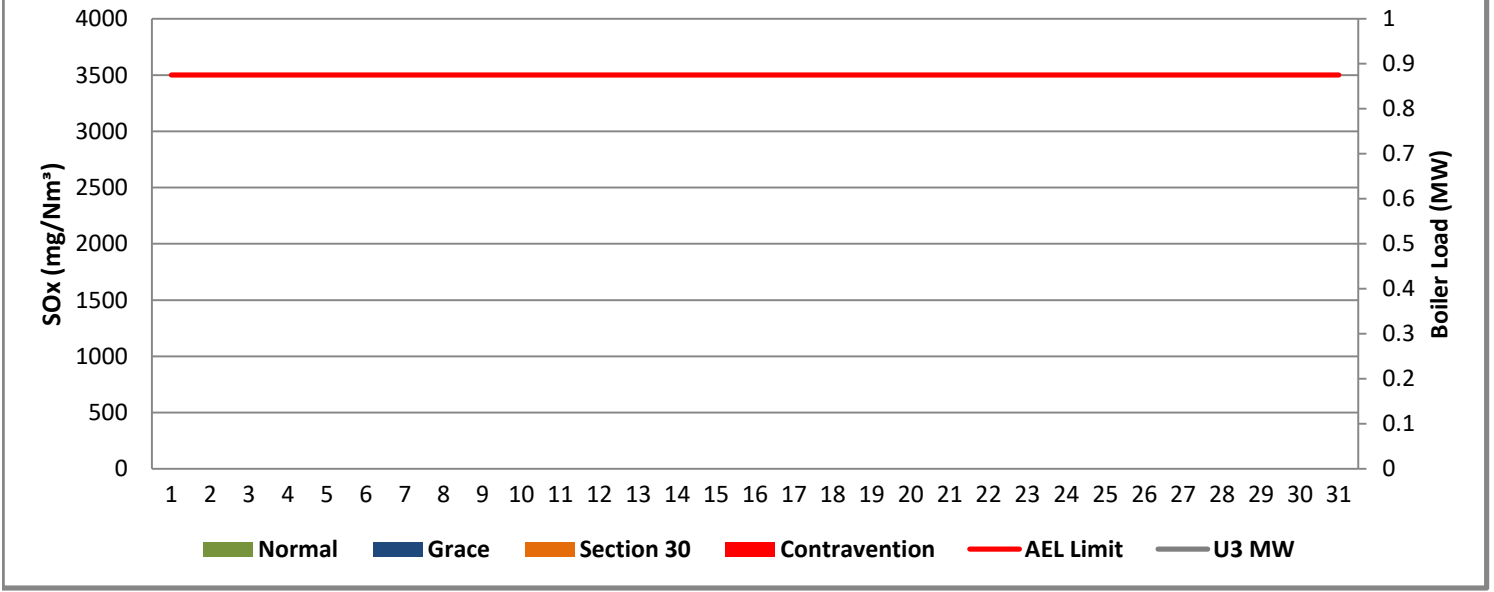


Figure 10: Lethabo Unit 4 SOx Emissions - December 2020

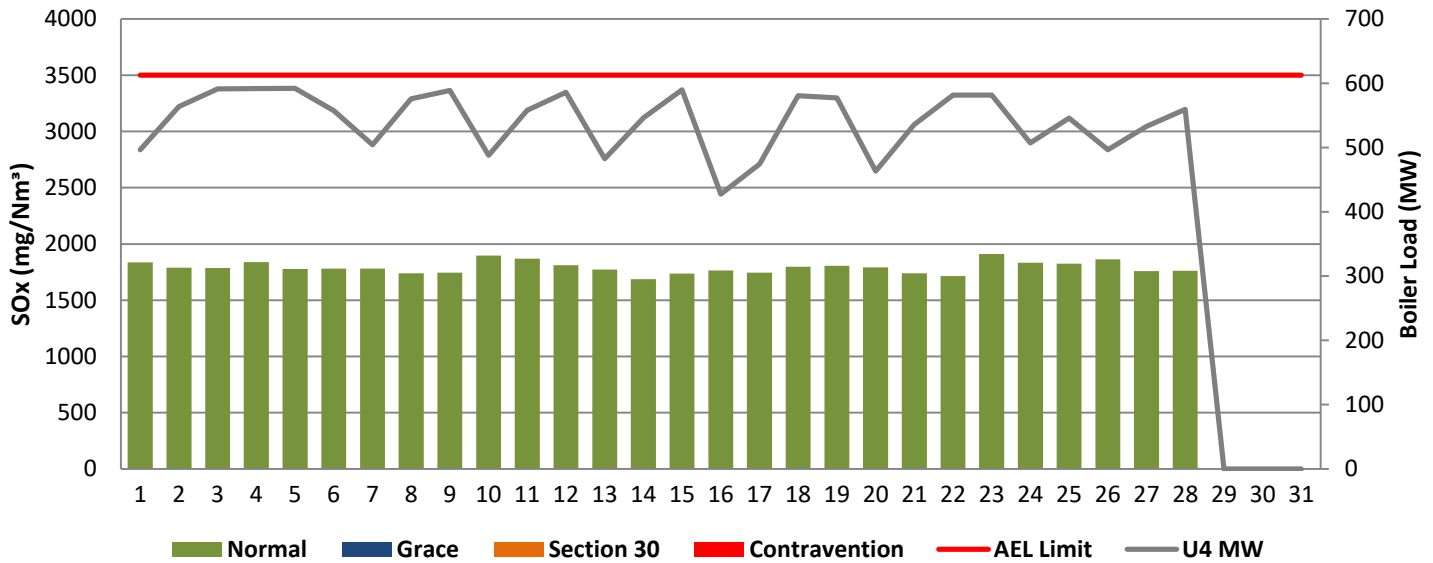


Figure 11: Lethabo Unit 5 SOx Emissions - December 2020

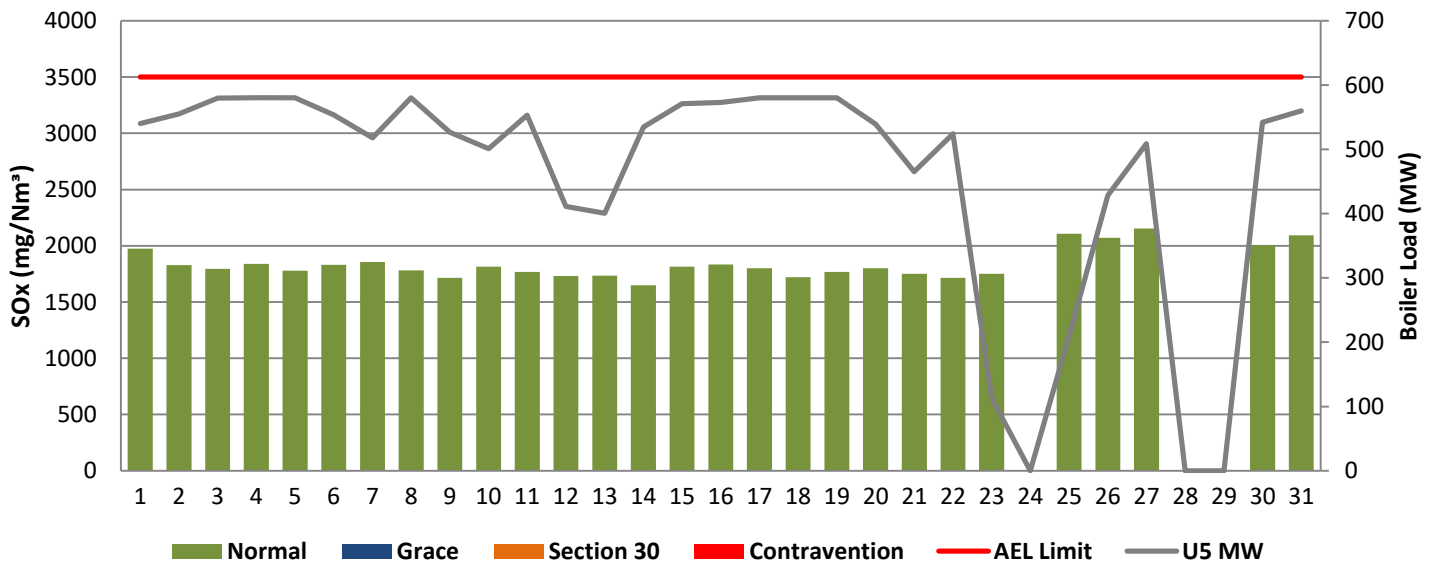


Figure 12: Lethabo Unit 6 SOx Emissions - December 2020

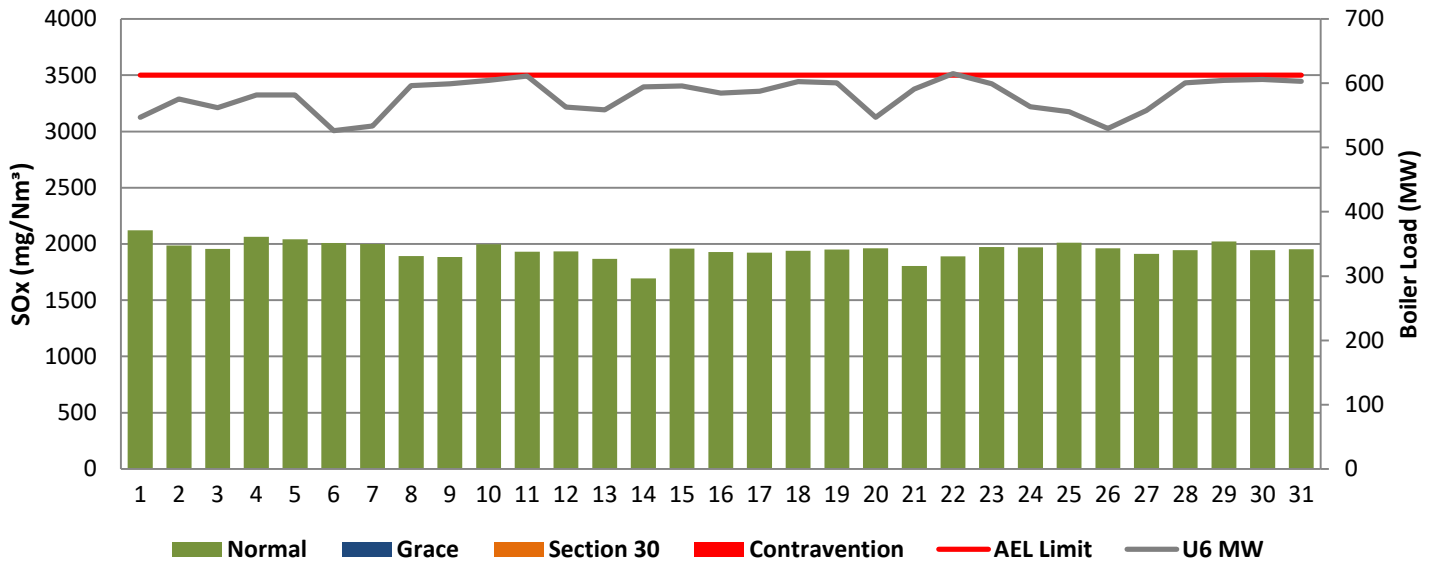


Figure 13: Lethabo Unit 1 NOx Emissions - December 2020

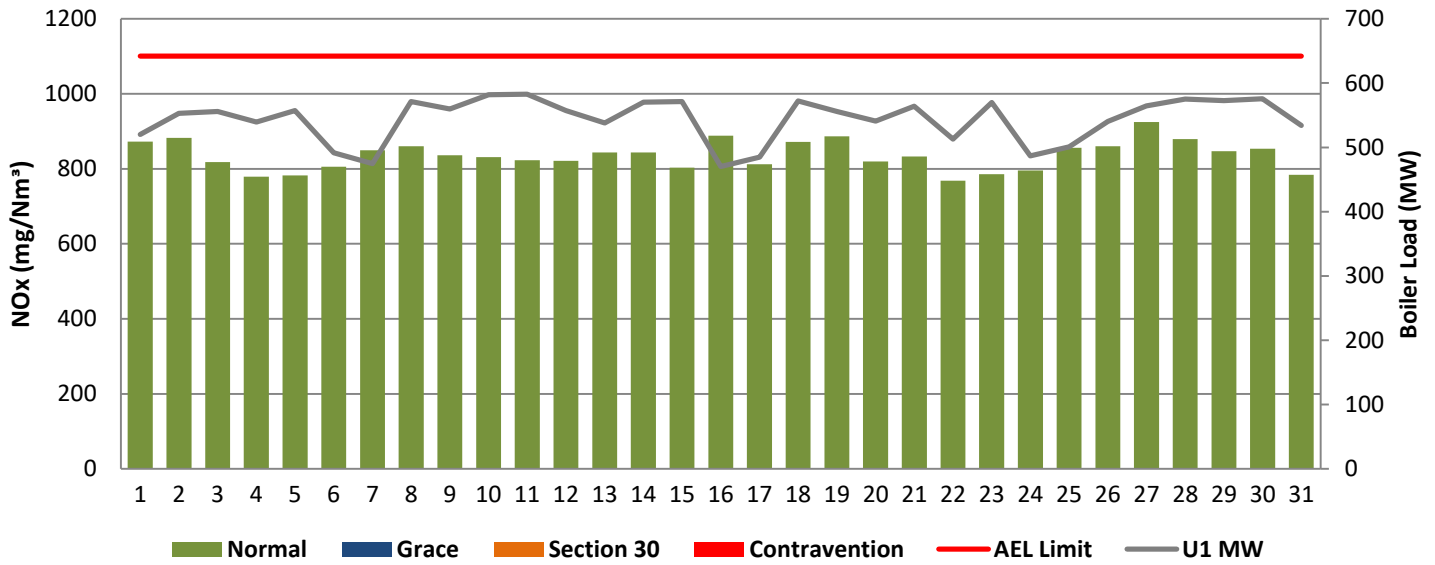


Figure 14: Lethabo Unit 2 NOx Emissions - December 2020

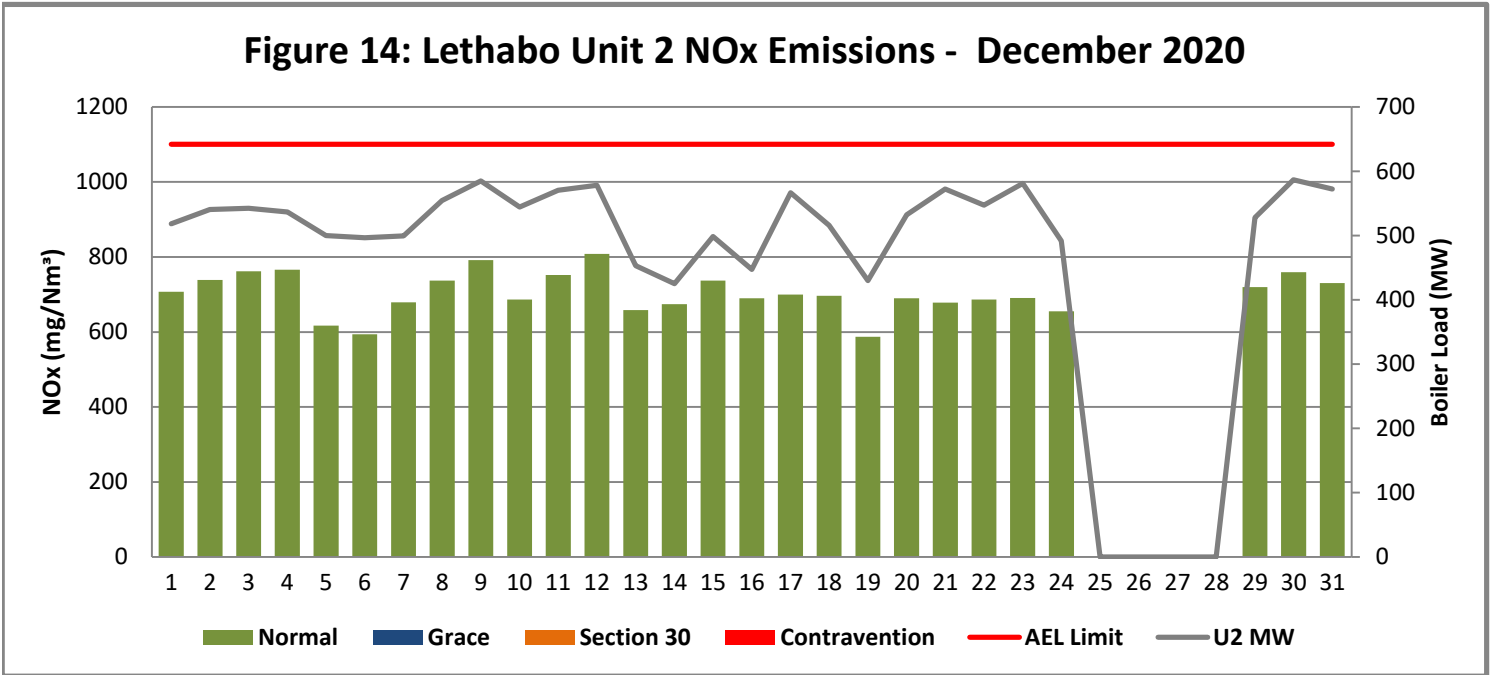


Figure 15: Lethabo Unit 3 NOx Emissions - December 2020

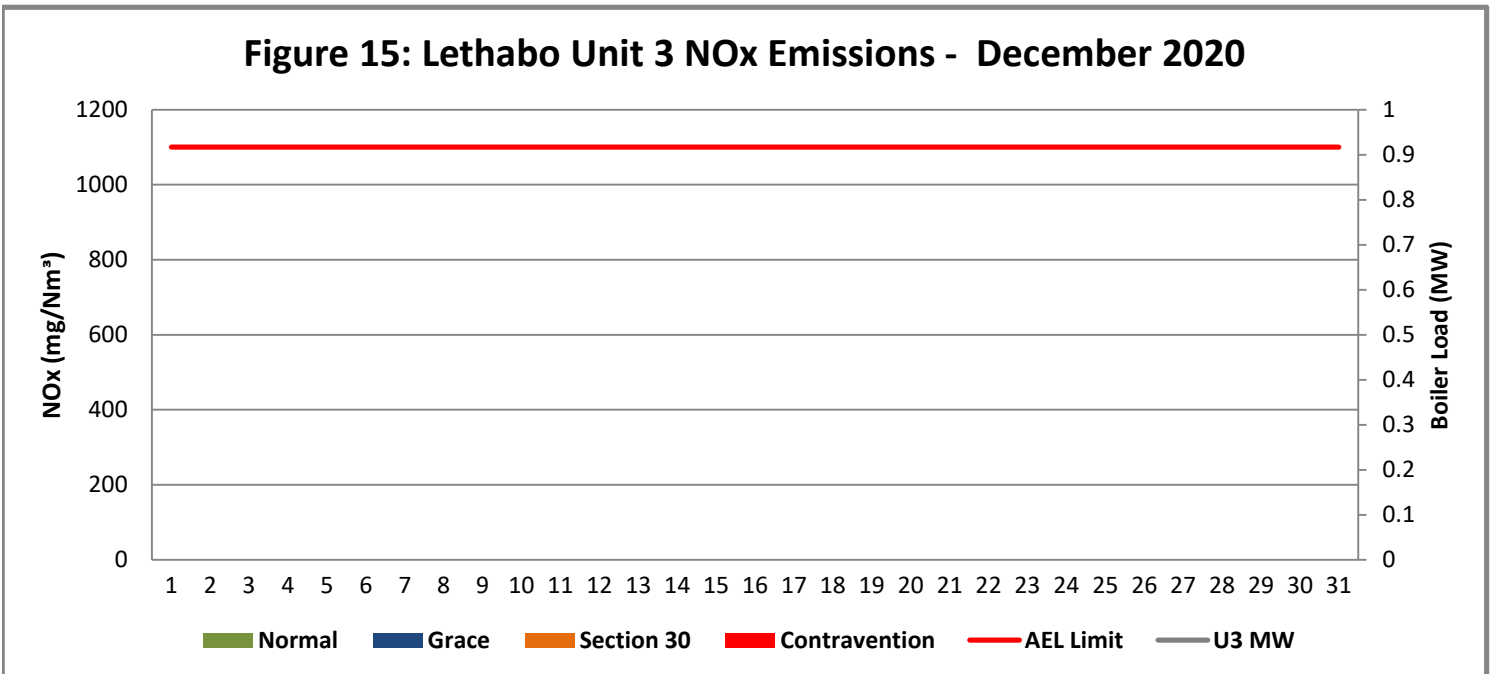


Figure 16: Lethabo Unit 4 NOx Emissions - December 2020

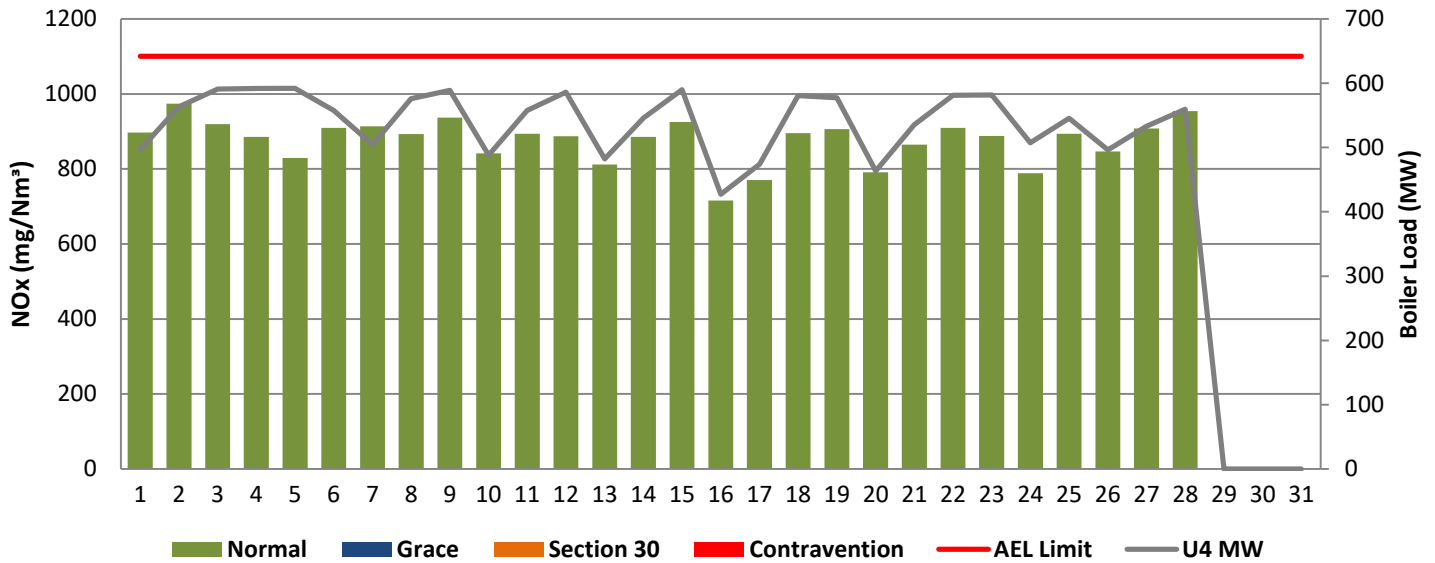


Figure 17: Lethabo Unit 5 NOx Emissions - December 2020

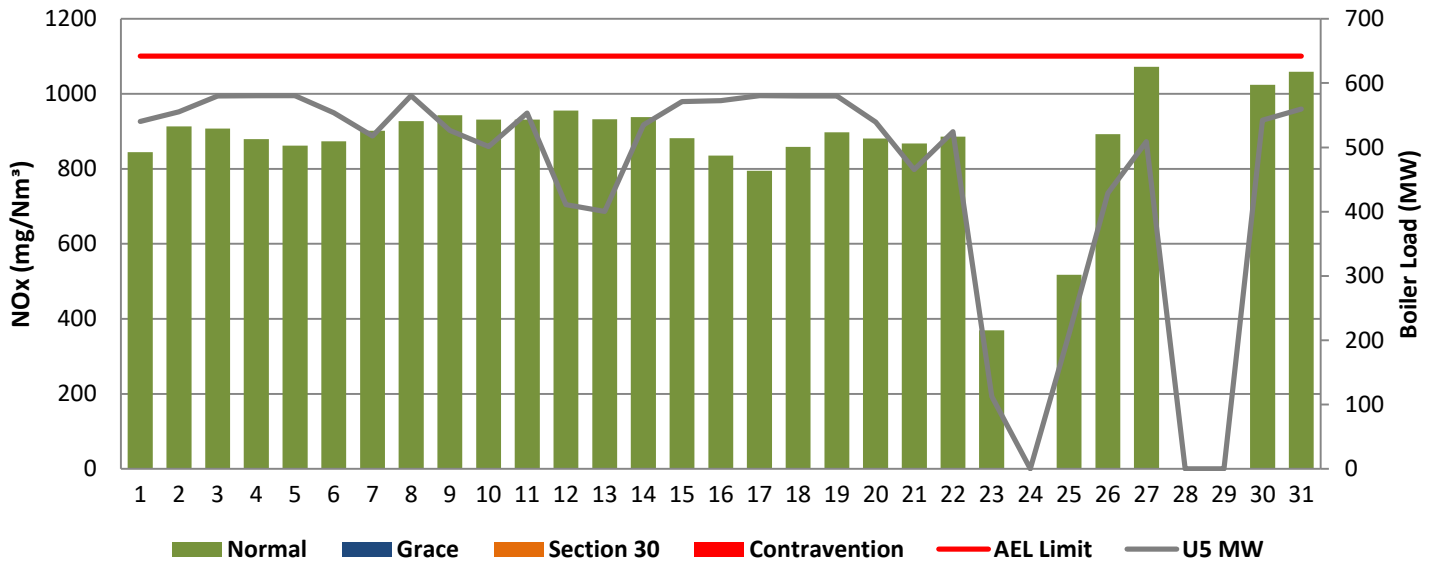
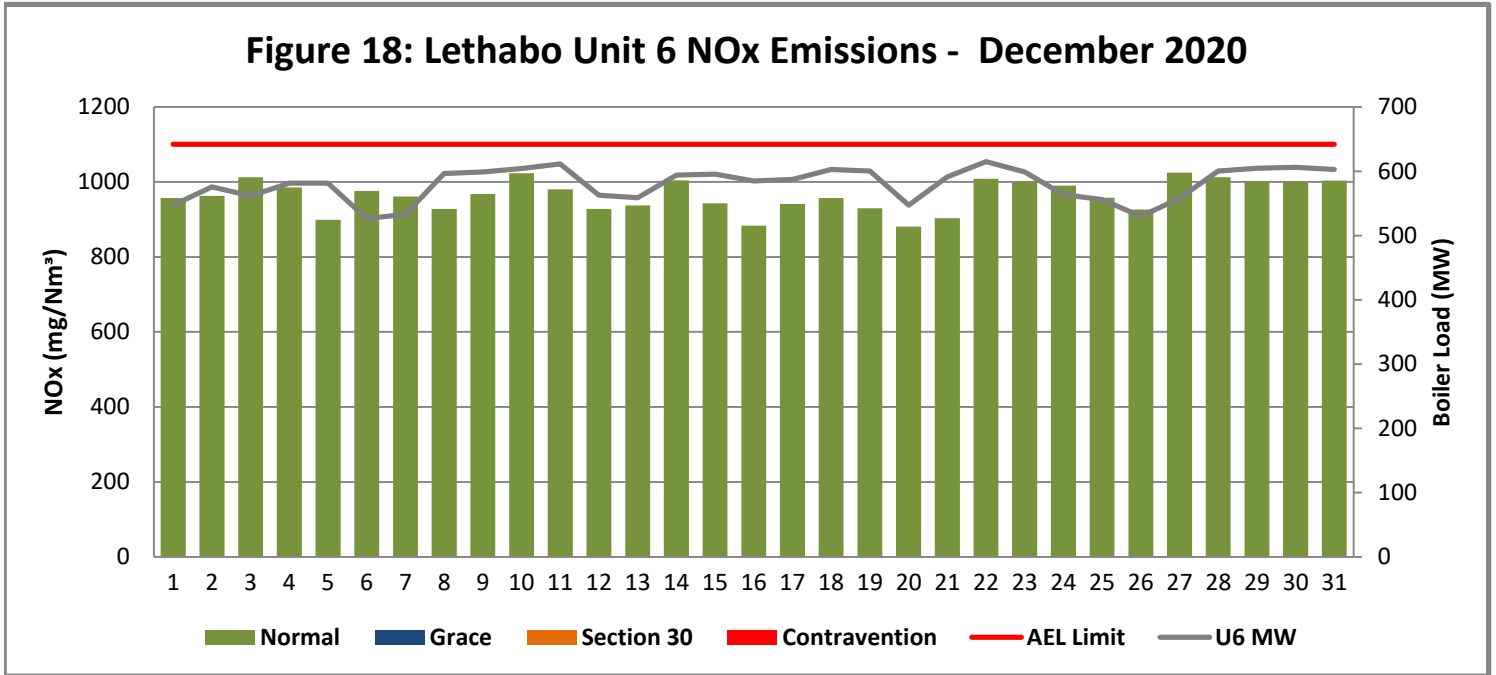


Figure 18: Lethabo Unit 6 NOx Emissions - December 2020



7. SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1: PM Start-up information for the month of December 2020

Unit No.1	Low drum level.		Unit 1 tripped on 11Kv unit transformer A		AM: Boiler tube leak.			
Breaker Open (BO)	9:34 PM	2020/12/08	10:41 PM	2020/12/21	9:56 AM	2020/12/31		
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	12:30 AM	2020/12/22	11:35 PM	2020/12/31		
BO to DG SD (duration)	n/a	DD:HH:MM	00:01:49	DD:HH:MM	00:13:39	DD:HH:MM		
Fires in time			9:05 AM	2020/12/22	3:30 AM	2021/01/03		
Synch. to Grid (or BC)			11:53 AM	2020/12/22	6:07 AM	2021/01/03		
Fires in to BC (duration)		DD:HH:MM	00:02:48	DD:HH:MM	00:02:37	DD:HH:MM		
Emissions below limit from BC (end date)			not > limit	not > limit	not > limit	not > limit		
Emissions below limit from BC (duration)		DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM		

Unit No.2	LHI Precip casing washing, Cold Reserve and Black Furnace Trip							
Breaker Open (BO)	11:06 PM	2020/12/24						
Draught Group (DG) Shut Down (SD)	12:10 PM	2020/12/25						
BO to DG SD (duration)	00:13:04	DD:HH:MM						
Fires in time	3:45 AM	2020/12/29						
Synch. to Grid (or BC)	8:47 AM	2020/12/29						
Fires in to BC (duration)	00:05:02	DD:HH:MM						
Emissions below limit from BC (end date)	4:00 AM	2021/01/02						
Emissions below limit from BC (duration)	03:19:13	DD:HH:MM						

Unit No.3								
Breaker Open (BO)								
Draught Group (DG) Shut Down (SD)								
BO to DG SD (duration)								
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)								
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)								

Unit No.4	<i>BFPT Discharge valve gland blown.</i>		<i>Boiler tube leak</i>					
Breaker Open (BO)	<i>2:47 AM</i>	<i>2020/12/16</i>	<i>1:49 PM</i>	<i>2020/12/28</i>				
Draught Group (DG) Shut Down (SD)	<i>8:50 AM</i>	<i>2020/12/16</i>	<i>3:35 AM</i>	<i>2020/12/29</i>				
BO to DG SD (duration)	<i>00:06:03</i>	<i>DD:HH:MM</i>	<i>00:13:46</i>	<i>DD:HH:MM</i>				
Fires in time	<i>10:35 AM</i>	<i>2020/12/17</i>	<i>10:35 AM</i>	<i>2020/12/17</i>				
Synch. to Grid (or BC)	<i>2:48 PM</i>	<i>2020/12/17</i>	<i>1:00 AM</i>	<i>2021/01/03</i>				
Fires in to BC (duration)	<i>00:04:13</i>	<i>DD:HH:MM</i>	<i>16:14:25</i>	<i>DD:HH:MM</i>				
Emissions below limit from BC (end date)	<i>12:00 AM</i>	<i>2020/12/18</i>	<i>not > limit</i>	<i>not > limit</i>				
Emissions below limit from BC (duration)	<i>00:09:12</i>	<i>DD:HH:MM</i>	<i>n/a</i>	<i>DD:HH:MM</i>				

Unit No.5	AVR fault		AVR fault.		AVR fault.		AVR fault.	
Breaker Open (BO)	4:19 PM	2020/12/22	12:11 PM	2020/12/23	7:12 PM	2020/12/23	5:54 AM	2020/12/27
Draught Group (DG) Shut Down (SD)	7:45 PM	2020/12/22	DG did not trip or SD	DG did not trip or SD	11:00 PM	2020/12/23	8:35 AM	2020/12/27
BO to DG SD (duration)	00:03:26	DD:HH:MM	n/a	DD:HH:MM	00:03:48	DD:HH:MM	00:02:41	DD:HH:MM
Fires in time	7:50 PM	2020/12/22			8:35 PM	2020/12/25	4:10 AM	2020/12/30
Synch. to Grid (or BC)	11:45 AM	2020/12/23			10:51 PM	2020/12/25	8:05 AM	2020/12/30
Fires in to BC (duration)	00:15:55	DD:HH:MM		DD:HH:MM	00:02:16	DD:HH:MM	00:03:55	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit			9:00 AM	2020/12/26	8:00 PM	2021/01/04
Emissions below limit from BC (duration)	n/a	DD:HH:MM		DD:HH:MM	00:10:09	DD:HH:MM	05:11:55	DD:HH:MM

Unit No.6								
Breaker Open (BO)								
Draught Group (DG) Shut Down (SD)								
BO to DG SD (duration)								
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)								
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)								

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of December 2020 in mg/Nm³

8. MAINTENANCE

Unit 1				
Beginning of	2020/11/14 00:03	2020/11/15 00:01	2020/11/29 00:27	
Reason for Maintenance	RHO precip casing repairs.	LHO precip casing repairs.	LHO precip casing repairs.	
End (Time):	2020/11/14 22:30	2020/11/15 18:33	2020/11/29 21:59	
Duration	22:27:00	18:32:00	21:32:00	

Unit 2				
Beginning of	2020/11/06 11:58:00	2020/11/14 00:00:00		
Reason for Maintenance	Casing Test	Casing Test		
End (Time):	2020/11/06 17:14:00	2020/11/14 04:00:00		
Duration	5:16:00	4:00:00		

Unit 3				
Beginning of				
Reason for Maintenance				
End (Time):				
Duration				

Unit 4				
Beginning of				
Reason for Maintenance				
End (Time):				
Duration				

Unit 5				
Beginning of				
Reason for Maintenance				
End (Time):				
Duration				

Unit 6				
Beginning of	2020/11/27 00:12:00			
Reason for Maintenance	LHO Casing Repairs			
End (Time):	2020/11/27 17:44:00			
Duration	17:32:00			

9. GENERAL

Unit 5:

It is noted that the Moisture curve was incorrect and inflated during the time of the correlation. It was determined that an average of 6.4% (H₂O) be used from the point of curve expiry until the test is redone. The order has already been placed to redo this correlation and we are awaiting completion of the Stack Lift Project in order to carry out the correlation test.

Unit 3:

Returned to service after an extended outage Cold commissioning activities were taking place during the month, however the unit was synchronized in January 2021

Unit 4:

The Exceedances from the 18/12/2020 to 22/12/2020 was not seen as a Section 30 at the time. The Emissions were below in the 72 Hour Grace Period and the Average from 14:00 to 23:59 (after the grace period), was 88mg/Nm³ for the day. The incident was not reported as NEMA Section 30 incidents under the assumption that it was considered to be exempted from the Particulate Matter (PM) limit for two separate "grace periods" namely; start-up and upset conditions. However upon further deliberation it was determined that the start-up period remain in place until there is a full calendar day break in emission exceedances and therefore it is considered to be an exceedance of the 72 hour grace period provided for start-up conditions. This will therefore be considered as a contravention.

ADDENDUM TO MONTHLY EMISSIONS REPORT

10. S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

To be completed in the case of a S30 incident or a legal contravention:

Unit no	Incident Start Date	Incident End Date	Incident Cause	Remedial action	S30 initial notification sent	Date S30 investigation report sent	Date DEA Acknowledgment	Date DEA Acceptable	Comments / Reference No.
5	13/12/2020	16/12/2020	<ul style="list-style-type: none"> • SO3 plant gas leak due to corroded turbulator pipe. • RHO Electrostatic Precipitator internal failure. 	SO3 plant turbulator pipe was repaired. Turbulator wall thickness measurements to be incorporated in all scope of works for the units.	14/12/2020	31/12/2020	None		
4	18/12/2020	22/12/2020	Misinterpretation of licence conditions	Legal contravention raised					Refer to Section 9 (General) of this report for further details

11. PARTICULATE EMISSIONS

EMISSION RATE (ACTUAL EMISSION/MWh GENERATED - kg/MWh)

MONTH	UNIT 1	UNIT 2	UNIT 3	UNIT 4	UNIT 5	UNIT 6	STATION
Jan-20	0.42	0.52	0.62	0.25	OFF	0.73	0.49
Feb-20	0.56	0.46	0.67	0.29	0.27	OFF	0.47
Mar-20	0.37	0.58	0.72	0.26	0.33	OFF	0.45
Apr-20	0.54	0.36	0.69	0.21	0.18	0.64	0.41
May-20	0.83	0.34	0.54	0.20	0.20	0.42	0.38
Jun-20	0.23	0.26	0.29	0.18	0.20	0.48	0.27
Jul-20	0.40	0.49	0.36	0.22	0.21	0.45	0.35
Aug-20	0.31	0.30	0.49	0.26	0.35	0.43	0.35
Sep-20	0.24	0.43	OFF	0.25	0.18	0.32	0.28
Oct-20	0.32	0.54	OFF	0.26	0.36	0.31	0.35
Nov-20	0.42	0.49	OFF	0.40	0.31	0.41	0.41
Dec-20	0.47	0.82	OFF	0.69	0.43	0.60	0.63

ADDENDUM TO MONTHLY EMISSIONS REPORT

12. DAILY EMISSIONS FIGURES

Final Dust Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	Limit
01-Dec	84	73	OFF	50	78	90	100
02-Dec	117	118	OFF	90	75	109	100
03-Dec	93	98	OFF	74	77	94	100
04-Dec	94	92	OFF	75	74	91	100
05-Dec	111	247	OFF	163	72	89	100
06-Dec	81	308	OFF	124	80	76	100
07-Dec	64	97	OFF	96	83	83	100
08-Dec	105	126	OFF	130	123	94	100
09-Dec	OFF	159	OFF	169	96	96	100
10-Dec	83	90	OFF	98	392	100	100
11-Dec	124	164	OFF	167	283	130	100
12-Dec	96	140	OFF	188	144	82	100
13-Dec	92	37	OFF	100	72	76	100
14-Dec	115	167	OFF	157	234	95	100
15-Dec	148	379	OFF	183	194	105	100
16-Dec	92	82	OFF	81	69	85	100
17-Dec	252	113	OFF	OFF	78	101	100
18-Dec	188	276	OFF	138	91	90	100
19-Dec	98	96	OFF	274	90	129	100
20-Dec	99	111	OFF	158	187	95	100
21-Dec	94	112	OFF	161	85	82	100
22-Dec	OFF	84	OFF	126	95	155	100
23-Dec	184	84	OFF	66	OFF	90	100
24-Dec	159	82	OFF	46	OFF	78	100
25-Dec	59	OFF	OFF	68	OFF	71	100
26-Dec	76	OFF	OFF	51	270	66	100
27-Dec	105	OFF	OFF	68	194	90	100
28-Dec	89	OFF	OFF	93	OFF	98	100
29-Dec	81	OFF	OFF	OFF	OFF	92	100
30-Dec	107	710	OFF	OFF	OFF	110	100
31-Dec	90	560	OFF	OFF	3	183	100

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final SOx Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	Limit
01-Dec	2126	2047	OFF	1836	1973	2120	3500
02-Dec	2043	1947	OFF	1790	1828	1987	3500
03-Dec	1933	1923	OFF	1785	1795	1955	3500
04-Dec	1907	2012	OFF	1838	1840	2064	3500
05-Dec	1849	1922	OFF	1778	1779	2043	3500
06-Dec	1893	1990	OFF	1782	1830	2007	3500
07-Dec	1904	1979	OFF	1782	1856	2000	3500
08-Dec	1782	1856	OFF	1740	1782	1892	3500
09-Dec	1821	1861	OFF	1746	1715	1884	3500
10-Dec	1856	1921	OFF	1897	1816	1999	3500
11-Dec	1870	1925	OFF	1868	1768	1931	3500
12-Dec	1862	1887	OFF	1812	1732	1935	3500
13-Dec	1814	1850	OFF	1771	1733	1867	3500
14-Dec	1679	1734	OFF	1688	1649	1693	3500
15-Dec	1897	1855	OFF	1737	1816	1958	3500
16-Dec	1951	1881	OFF	1763	1835	1927	3500
17-Dec	2049	1998	OFF	1746	1802	1923	3500
18-Dec	2003	1847	OFF	1796	1721	1938	3500
19-Dec	2006	1949	OFF	1805	1768	1949	3500
20-Dec	2050	1957	OFF	1791	1801	1960	3500
21-Dec	1924	1870	OFF	1740	1750	1805	3500
22-Dec	1948	1920	OFF	1714	1714	1889	3500
23-Dec	2096	1999	OFF	1910	1751	1972	3500
24-Dec	2029	1950	OFF	1834	OFF	1970	3500
25-Dec	2014	OFF	OFF	1825	2107	2011	3500
26-Dec	2030	OFF	OFF	1865	2072	1962	3500
27-Dec	1995	OFF	OFF	1759	2153	1912	3500
28-Dec	1990	OFF	OFF	1762	OFF	1946	3500
29-Dec	2017	1934	OFF	OFF	OFF	2023	3500
30-Dec	1954	1946	OFF	OFF	2004	1945	3500
31-Dec	2070	1898	OFF	OFF	2095	1954	3500

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final NOx Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	Limit
01-Dec	872	707	OFF	897	844	957	1100
02-Dec	883	739	OFF	974	913	963	1100
03-Dec	818	762	OFF	919	907	1013	1100
04-Dec	779	766	OFF	886	879	985	1100
05-Dec	783	617	OFF	830	862	899	1100
06-Dec	805	594	OFF	909	874	976	1100
07-Dec	850	679	OFF	914	901	961	1100
08-Dec	860	737	OFF	893	927	928	1100
09-Dec	836	791	OFF	937	943	968	1100
10-Dec	831	686	OFF	841	931	1023	1100
11-Dec	823	752	OFF	894	931	980	1100
12-Dec	821	808	OFF	887	955	928	1100
13-Dec	843	658	OFF	812	932	937	1100
14-Dec	843	674	OFF	885	937	1004	1100
15-Dec	803	737	OFF	926	882	943	1100
16-Dec	888	690	OFF	716	836	883	1100
17-Dec	812	700	OFF	771	795	942	1100
18-Dec	871	696	OFF	896	858	957	1100
19-Dec	886	587	OFF	906	897	930	1100
20-Dec	820	690	OFF	791	881	881	1100
21-Dec	833	678	OFF	865	868	903	1100
22-Dec	768	686	OFF	910	886	1009	1100
23-Dec	786	690	OFF	888	369	1001	1100
24-Dec	795	655	OFF	789	OFF	990	1100
25-Dec	856	OFF	OFF	894	517	958	1100
26-Dec	860	OFF	OFF	846	893	927	1100
27-Dec	924	OFF	OFF	908	1072	1025	1100
28-Dec	879	OFF	OFF	954	OFF	1012	1100
29-Dec	847	720	OFF	OFF	OFF	1002	1100
30-Dec	854	760	OFF	OFF	1024	1001	1100
31-Dec	784	730	OFF	OFF	1059	1004	1100

ADDENDUM TO MONTHLY EMISSIONS REPORT

13. AVAILABILITY

ESP utilisation

Availability												
Month	Unit 1	Days Affected	Unit 2	Days Affected	Unit 3	Days Affected	Unit 4	Days Affected	Unit 5	Days Affected	Unit 6	Days Affected
Jan-20	95.16%	6	99.19%	1	100.00%	0	100.00%	0	OFF LOAD	0	100.00%	0
Feb-20	94.17%	3	100.00%	0	93.33%	4	100.00%	0	100.00%	0	0.00%	OFF LOAD
Mar-20	99.19%	1	98.39%	2	97.58%	3	100.00%	0	100.00%	0	0.00%	OFF LOAD
Apr-20	98.33%	2	95.00%	6	100.00%	0	100.00%	0	100.00%	0	100.00%	0%
May-20	98.39%	2	98.39%	2	98.39%	2	100.00%	0	100.00%	0	100.00%	0
Jun-20	98.33%	2	100.00%	0	100.00%	0	100.00%	0	100.00%	0	100.00%	0
Jul-20	98.39%	2	98.39%	2	99.19%	1	100.00%	0	100.00%	0	100.00%	0
Aug-20	100.00%	0	100.00%	0	98.39%	2	100.00%	0	98.39%	2	100.00%	0
Sep-20	98.33%	2	98.33%	2	OFF LOAD	0	100.00%	0	100.00%	0	100.00%	0
Oct-20	99.19%	1	99.19%	1	OFF LOAD	0	100.00%	0	99.19%	1	100.00%	0
Nov-20	97.50%	3	98.33%	2	OFF LOAD	0	100.00%	0	100.00%	0	99.17%	1
Dec-20	98.39%	2	97.58%	3	OFF LOAD	0	100.00%	0	99.19%	1	100.00%	0

SO₃ plant utilisation

Availability												
Month	Unit 1	Days Affected	Unit 2	Days Affected	Unit 3	Days Affected	Unit 4	Days Affected	Unit 5	Days Affected	Unit 6	Days Affected
Jan-20	100.00%	0	100.00%	0	100.00%	0	100.00%	0	OFF LOAD	0	100.00%	0
Feb-20	100.00%	0	100.00%	0	93.33%	1	100.00%	0	83.33%	4	OFF LOAD	0
Mar-20	100.00%	0	93.55%	2	87.10%	4	100.00%	0	64.52%	11	OFF LOAD	0
Apr-20	100.00%	0	100.00%	0	100.00%	0	100.00%	0	100.00%	0	90.00%	3
May-20	93.55%	2	100.00%	0	100.00%	0	100.00%	0	100.00%	0	100.00%	0
Jun-20	100.00%	0	100.00%	0	96.67%	1	100.00%	0	100.00%	0	100.00%	0
Jul-20	100.00%	0	96.77%	1	100.00%	0	100.00%	0	100.00%	0	100.00%	0
Aug-20	93.55%	2	100.00%	0	100.00%	0	100.00%	0	77.42%	7	100.00%	0
Sep-20	100.00%	0	93.33%	2	OFF LOAD	0	100.00%	0	100.00%	0	100.00%	0
Oct-20	100.00%	0	100.00%	0	OFF LOAD	0	100.00%	0	100.00%	0	100.00%	0
Nov-20	100.00%	0	96.67%	1	OFF LOAD	0	100.00%	0	100.00%	0	100.00%	0
Dec-20	100.00%	0	100.00%	0	OFF LOAD	0	100.00%	0	93.55%	2	100.00%	0

ADDENDUM TO MONTHLY EMISSIONS REPORT

Particulate Emission Monitors

Availability						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Jan-20	91.53%	98.92%	98.73%	99.81%	OFF	63.53%
Feb-20	75.98%	99.43%	98.42%	98.91%	99.68%	OFF
Mar-20	86.67%	96.97%	96.20%	99.44%	96.84%	OFF
Apr-20	91.26%	96.53%	98.53%	98.66%	96.22%	95.18%
May-20	88.89%	99.19%	99.19%	100.00%	99.73%	98.25%
Jun-20	89.86%	99.20%	99.17%	98.75%	97.78%	90.56%
Jul-20	92.47%	98.48%	99.33%	99.35%	100.00%	99.19%
Aug-20	100.00%	100.00%	99.85%	100.00%	97.99%	100.00%
Sep-20	94.71%	99.63%	OFF	100.00%	100.00%	100.00%
Oct-20	97.98%	99.19%	OFF	99.33%	99.19%	100.00%
Nov-20	94.04%	94.58%	OFF	97.17%	97.28%	99.69%
Dec-20	98.99%	99.01%	OFF	98.92%	93.67%	99.19%

Gaseous Emission Monitors

Availability												
Month	Unit 1		Unit 2		Unit 3		Unit 4		Unit 5		Unit 6	
	SO _x	NO _x	SO _x	NO _x	SO _x	NO _x	SO _x	NO _x	SO _x	NO _x	SO _x	NO _x
Jan-20	99.64%	99.64%	100.00%	100.00%	100.00%	99.90%	90.95%	90.79%	OFF	OFF	100.00%	99.20%
Feb-20	99.84%	99.84%	96.55%	98.71%	98.85%	98.71%	99.95%	99.49%	85.71%	85.71%	OFF	OFF
Mar-20	99.73%	99.73%	98.80%	98.80%	99.68%	99.68%	99.12%	98.45%	98.79%	98.92%	OFF	OFF
Apr-20	100.00%	99.86%	100.00%	100.00%	96.68%	96.68%	99.83%	99.97%	99.96%	99.96%	99.94%	99.94%
May-20	94.74%	94.74%	100.00%	100.00%	99.87%	100.00%	99.84%	99.84%	93.47%	93.61%	90.89%	90.89%
Jun-20	99.44%	99.44%	99.33%	99.33%	99.33%	99.33%	100.00%	100.00%	100.00%	100.00%	93.30%	93.10%
Jul-20	99.73%	99.73%	99.07%	99.07%	99.73%	99.87%	98.54%	98.85%	99.60%	99.87%	99.86%	99.87%
Aug-20	99.91%	99.91%	100.00%	100.00%	99.85%	99.85%	100.00%	100.00%	100.00%	100.00%	96.67%	96.53%
Sep-20	100.00%	100.00%	99.86%	99.86%	OFF	OFF	100.00%	100.00%	100.00%	100.00%	99.77%	99.77%
Oct-20	99.87%	100.00%	99.87%	99.60%	OFF	OFF	99.46%	99.46%	99.46%	99.46%	99.46%	99.46%
Nov-20	97.66%	97.66%	97.64%	97.78%	OFF	OFF	94.14%	94.14%	94.55%	94.55%	94.64%	94.64%
Dec-20	99.17%	99.17%	98.89%	99.05%	OFF	OFF	99.22%	99.22%	95.32%	95.32%	99.33%	99.33%

ADDENDUM TO MONTHLY EMISSIONS REPORT

Oxygen Monitor Availability						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Jan-20	99.64%	99.19%	100.00%	94.95%	OFF	99.20%
Feb-20	99.84%	99.07%	98.85%	99.95%	67.86%	OFF
Mar-20	100.00%	99.80%	97.24%	99.95%	99.19%	OFF
Apr-20	51.08%	100.00%	97.35%	99.97%	99.96%	99.94%
May-20	89.69%	100.00%	100.00%	99.84%	100.00%	99.95%
Jun-20	99.31%	99.92%	99.33%	98.85%	100.00%	100.00%
Jul-20	99.87%	99.30%	99.87%	99.02%	100.00%	99.87%
Aug-20	99.86%	99.92%	99.85%	100.00%	100.00%	96.67%
Sep-20	99.68%	99.86%	OFF	100.00%	100.00%	98.97%
Oct-20	99.73%	99.87%	OFF	99.33%	99.33%	99.46%
Nov-20	99.45%	99.72%	OFF	93.97%	94.55%	94.64%
Dec-20	99.31%	98.85%	OFF	99.22%	95.32%	99.33%

14. EFFICIENCY

ESP Efficiency (%)						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Jan-20	99.825%	99.768%	99.727%	99.086%	OFF	99.662%
Feb-20	99.998%	99.999%	99.997%	99.999%	99.998%	OFF
Mar-20	99.851%	99.749%	99.698%	99.892%	99.851%	OFF
Apr-20	99.777%	99.838%	99.695%	99.909%	99.914%	99.707%
May-20	99.652%	99.847%	99.757%	99.912%	99.909%	99.805%
Jun-20	99.907%	99.883%	99.874%	99.922%	99.913%	99.783%
Jul-20	99.835%	99.777%	99.837%	99.905%	99.903%	99.788%
Aug-20	99.875%	99.872%	99.791%	99.892%	99.845%	99.809%
Sep-20	99.892%	99.793%	OFF	99.882%	99.913%	99.848%
Oct-20	99.860%	99.742%	OFF	99.876%	99.828%	99.850%
Nov-20	99.835%	99.792%	OFF	99.833%	99.867%	99.822%
Dec-20	99.817%	99.651%	OFF	99.713%	99.813%	99.739%

ADDENDUM TO MONTHLY EMISSIONS REPORT

15. REMARKS

UNIT	MW LOSS	REASON	ACTUAL START DATE	ACTUAL END DATE
1	593	Low drum level.	2020/12/08 21:34:00	2020/12/09 01:55:00
1	593	Unit 1 tripped on 11Kv unit transformer A buchholz alarm.	2020/12/21 22:41:00	2020/12/22 11:53:00
1	593	AM: Boiler tube leak.	2020/12/31 09:56:00	2020/12/31 23:59:59
1	86	EF:High stack emissions.	2020/12/03 21:02:00	2020/12/04 04:07:00
1	93	EF:High stack emissions	2020/12/04 20:50:00	2020/12/05 00:35:00
1	180	High stack emissions.	2020/12/16 01:19:00	2020/12/16 05:57:00
1	80	EF:High stack emissions.	2020/12/16 10:31:00	2020/12/16 12:35:00
1	179	EF:High stack emissions.	2020/12/16 12:35:00	2020/12/16 16:53:00
1	80	EF: High stack emissions.	2020/12/16 19:57:00	2020/12/16 20:42:00
1	181	High stack emissions	2020/12/16 20:42:00	2020/12/17 00:00:00
1	101	High stack emissions	2020/12/17 00:00:00	2020/12/17 01:06:00
1	78	EF: High stack emissions	2020/12/19 19:46:00	2020/12/20 00:01:00
1	80	LHO precip casing repairs.	2020/12/24 00:06:00	2020/12/25 03:46:00
1	80	LHI Precip casing repairs	2020/12/17 00:00:00	2020/12/18 00:00:00
1	297	System Generated Ramp Event for Event id : 1505957	2020/12/09 01:55:00	2020/12/09 03:25:00
1	296	System Generated Ramp Event for Event id : 1509690	2020/12/22 11:53:00	2020/12/22 13:31:00
2	593	LHI Precip casing washing.	2020/12/24 23:06:00	2020/12/28 20:29:00
2	538	System Generated Ramp Event for Event id : 1510602 (Recalculated)	2020/12/29 06:29:00	2020/12/29 07:02:00
2	593	Black furnace	2020/12/29 07:02:00	2020/12/29 08:47:00
2	85	High stack emissions	2020/12/03 13:42:00	2020/12/03 16:21:00
2	85	EF:High stack emissions	2020/12/03 20:41:00	2020/12/03 21:39:00
2	186	EF:High stack emissions.	2020/12/03 21:39:00	2020/12/04 05:01:00
2	90	EF:High stack emissions	2020/12/04 20:50:00	2020/12/04 21:07:00
2	85	EF:High stack emissions	2020/12/04 21:07:00	2020/12/05 00:00:00
2	89	EF:High stack emissions.	2020/12/07 15:41:00	2020/12/07 16:49:00
2	79	EF: High stack emissions	2020/12/10 09:24:00	2020/12/10 16:54:00
2	85	High stack emissions.	2020/12/10 19:46:00	2020/12/11 03:58:00
2	185	EF: High stack emissions	2020/12/13 00:33:00	2020/12/13 05:33:00
2	187	EF:High stack emissions.	2020/12/15 09:51:00	2020/12/15 15:00:00
2	89	High stack emissions.	2020/12/15 21:28:00	2020/12/16 01:14:00
2	189	High stack emissions.	2020/12/16 01:14:00	2020/12/16 17:00:00
2	88	EF: High stack emissions.	2020/12/16 20:09:00	2020/12/17 06:02:00
2	187	EF:High stack emissions.	2020/12/19 04:05:00	2020/12/20 00:01:00
2	85	EF: High stack emissions	2020/12/22 14:07:00	2020/12/23 00:31:00
2	85	LHI precip casing repairs.	2020/12/05 00:00:00	2020/12/06 00:00:00
2	86	AM: RHI casing repairs.	2020/12/06 00:00:00	2020/12/06 22:50:00
2	85	RHO casing repairs	2020/12/18 10:54:00	2020/12/18 21:49:00
2	185	EF: Dust plant standing	2020/12/13 05:33:00	2020/12/13 09:40:00
2	85	Dust plant standing	2020/12/13 09:40:00	2020/12/13 13:09:00
2	183	EF: Dust plant standing.	2020/12/13 13:09:00	2020/12/13 16:58:00
2	183	Dust plant repairs.	2020/12/13 21:16:00	2020/12/14 15:30:00
2	87	Dust Plant repairs.	2020/12/14 15:30:00	2020/12/14 17:21:00
2	234	Dust plant repairs.	2020/12/14 20:11:00	2020/12/15 00:37:00
2	185	Dust plant repairs	2020/12/15 00:37:00	2020/12/15 05:28:00
2	297	System Generated Ramp Event for Event id : 1511645	2020/12/29 08:47:00	2020/12/29 10:17:00
2	0	Cold Reserve	2020/12/28 20:29:00	2020/12/29 06:29:00

3	593	G/O	2020/12/01 00:00:00	2020/12/31 23:59:59
4	593	BFPT Discharge valve gland blown.	2020/12/16 02:47:00	2020/12/17 14:48:00
4	593	Boiler tube leak	2020/12/28 13:49:00	2020/12/31 23:59:59
4	89	high stack emissions	2020/12/07 14:07:00	2020/12/07 16:54:00
4	39	EF:high stack emissions.	2020/12/07 16:54:00	2020/12/07 20:04:00
4	87	High stack emission.	2020/12/07 20:04:00	2020/12/08 03:49:00
4	188	EF: High stack emissions	2020/12/10 08:34:00	2020/12/10 16:53:00
4	210	High stack emissions.	2020/12/10 19:49:00	2020/12/11 03:58:00
4	87	EF: High stack emissions	2020/12/13 00:43:00	2020/12/13 16:42:00
4	187	High stack emissions.	2020/12/13 18:39:00	2020/12/13 21:20:00
4	239	High stack emissions	2020/12/13 21:20:00	2020/12/14 00:33:00
4	189	High stack emissions.	2020/12/14 00:33:00	2020/12/14 05:51:00
4	178	High stack emissions	2020/12/20 17:18:00	2020/12/20 19:16:00
4	230	EF: High stack emissions	2020/12/20 19:16:00	2020/12/21 02:11:00
4	297	System Generated Ramp Event for Event id : 1508157	2020/12/17 14:48:00	2020/12/17 17:18:00
5	593	AVR fault	2020/12/22 16:19:00	2020/12/23 11:45:00
5	540	System Generated Ramp Event for Event id : 1509884 (Recalculated)	2020/12/23 11:45:00	2020/12/23 12:11:00
5	593	AVR fault.	2020/12/23 12:11:00	2020/12/23 19:01:00
5	556	System Generated Ramp Event for Event id : 1510121 (Recalculated)	2020/12/23 19:01:00	2020/12/23 19:12:00
5	593	AVR fault.	2020/12/23 19:12:00	2020/12/25 22:51:00
5	593	AVR fault.	2020/12/27 05:54:00	2020/12/30 08:05:00
5	78	EF High stack emissions.	2020/12/09 11:42:00	2020/12/09 13:27:00
5	189	EF: High stack emissions.	2020/12/09 13:27:00	2020/12/09 16:40:00
5	80	EF: High stack emissions	2020/12/09 16:40:00	2020/12/10 00:00:00
5	50	EF:High stack emissions.	2020/12/15 10:04:00	2020/12/15 14:24:00
5	80	EF: High stack emissions.	2020/12/21 08:39:00	2020/12/21 12:17:00
5	180	EF: High stack emissions.	2020/12/21 12:17:00	2020/12/21 18:49:00
5	200	High stack emissions	2020/12/21 18:49:00	2020/12/22 04:50:00
5	180	High stack emission	2020/12/31 13:40:00	2020/12/31 16:19:00
5	80	AM:RHO precip casing repairs.	2020/12/10 00:00:00	2020/12/11 02:41:00
5	177	AM: SO3 Plant maintenance.	2020/12/12 01:38:00	2020/12/14 02:41:00
5	178	AM:S03 plant leak repairs.	2020/12/11 02:41:00	2020/12/11 05:12:00
5	180	System Generated Slip Event linked to PCLF Event : 1506975	2020/12/14 02:41:00	2020/12/14 06:07:00
5	297	System Generated Ramp Event for Event id : 1510224	2020/12/25 22:51:00	2020/12/26 01:51:00
5	297	System Generated Ramp Event for Event id : 1511118	2020/12/30 08:05:00	2020/12/30 11:05:00
6	120	High stack emissions	2020/12/03 13:34:00	2020/12/03 16:17:00
6	118	EF:High stack emissions.	2020/12/03 20:52:00	2020/12/04 04:13:00

PM Exceedances		
U1.	<ul style="list-style-type: none"> LHO F7 high hopper level Emissions were high yesterday due to high manual rapping, however emissions increase significantly from 11:00 to 22:00 Possibly due to high airflow, will be investigated. 	02-Dec
U1.	<p>LHO: F7 - Arcing & sparking/ undervoltage trip; F1 - Is limit - undervoltage fault (DE rapper faulty); F2 - Poorly performing (Arcing & sparking); F4 - Off (Reprogramming to be done) MCS on local</p> <p>LHI: F3 - Performing poorly (Arcing & sparking); F4 - IP limit - performing poorly; F5 -On (to be reprogrammed) IP limit; F7 - on manual and off (MCS on Local) and IS limit</p> <p>RHI: F7 ON (Performing poorly) Pilot relay fault (MCS on local);</p> <p>RHO: F3 - Performing poorly (Arcing & sparking); F1 -Arcing & sparking; F5 -Poorly performing (Undervoltage fault) - MCS limit</p>	05-Dec
U1.	<p>Unit tripped last night and synchronized on 2020/12/09 @ 01:56</p> <p>Very Poor performance from LHO, LHI and RHO casing on Unit 1</p> <p>RHO F7 poor performance, EMS confirmed that it is arcing and sparking</p>	08-Dec
U1.	<p>LHO and LHI casings are performing poorly.</p> <p>Manual Rapping LHI and RHI</p>	11-Dec
U1.	LHI casing poor performance	14-Dec
U1.	Poor ESP Performance	15-Dec
U1.	LHI casing outage	17-Dec
U1.	ESP Poor Performance, number of casing with invalid program faults. Possible issues with the rapping program.	18-Dec
U1.	<p>Unit Tripped on Electrical Issues.</p> <p>Unit synchronized on 2020/12/22 @ 11:51,</p>	22-Dec
U1.	ESP Poor Performance, and 5 High Hopper levels on RHO and dust plant 01Wx12 not running	23-Dec

U1.	ESP Poor Performance	24-Dec
U1.	<ul style="list-style-type: none"> • Reasons for exceedances are due to high hopper levels. • ESP casing performance are below 200kv • BPE reported LHO F1 and 2, under voltage problem • F4 invalid program, suspected fuses are blown. EMS to attend • RHO F3 and F5 under voltage problems, EMS to attend • LHO casing is performing very poorly, even though it was taken on casing outage last week. EMS need to send out still air test results to engineering. • BPE advised that there is a lot of ash build up on the in the casings, need to plan longer outage to clean casings. 	27-Dec
U1.	RHO power out was below 150kv.	30-Dec
U1.	Unit Shut Down for Tube leak	31-Dec
U2.	<ul style="list-style-type: none"> • RHO F1 and F2 high hopper level • high emissions from 11:00 to 22:00 will be investigated 	02-Dec
U2.	<p>Casing outages were done over the weekend therefore there was high emissions.</p> <p>LHO: F3 - Arcing & sparking (Is limit); F4 - Poorly performing (Arcing & sparking)</p> <p>LHI: F2 - Poorly performing (Arcing & sparking) Vs limit; F3 - Arcing & sparking; F5 - Tripping on UnderVoltage (Arcing & sparking); F6 - Arcing & sparking (Local); F4 - Poorly performing (arcing & sparking)</p> <p>RHI: F2 - Poorly performing / Arcing & sparking (Vs limit); F3 - Arcing & sparking; F6 - IS limit (MCS on local) - Undervoltage trip</p> <p>RHO: F4- poorly Performing (Arcing & sparking); F1 - Poorly performing (Vs limit) - arcing & sparking; F3- Poor performing (Arcing & sparking); F2 - Poorly performing (DE rapper faulty); F5 - Poorly performing (Arcing & sparking)</p>	05-Dec
U2.	<p>Casing outages were done over the weekend therefore there was high emissions.</p> <p>LHO: F3 - Arcing & sparking (Is limit); F4 - Poorly performing (Arcing & sparking)</p> <p>LHI: F2 - Poorly performing (Arcing & sparking) Vs limit; F3 - Arcing & sparking; F5 - Tripping on UnderVoltage (Arcing & sparking); F6 - Arcing & sparking (Local); F4 - Poorly performing (arcing & sparking)</p> <p>RHI: F2 - Poorly performing / Arcing & sparking (Vs limit); F3 - Arcing & sparking; F6 - IS limit (MCS on local) - Undervoltage trip</p> <p>RHO: F4- poorly Performing (Arcing & sparking); F1 - Poorly performing (Vs limit) - arcing & sparking; F3- Poor performing (Arcing & sparking); F2 - Poorly performing (DE rapper faulty); F5 - Poorly performing (Arcing & sparking)</p>	06-Dec

U2.	<ul style="list-style-type: none"> • LHO F1 and F7 EMS to attend to under voltage and poor performance. • RHI F4, EMS reported structure had burnt, MMS to attend. • RHO casing should be prioritized for casing outage <p>LHO: F3 - Arcing & sparking (Is limit); F4 - Poorly performing (Arcing & sparking)</p> <p>LHI: F2 - Poorly performing (Arcing & sparking) Vs limit; F3 - Arcing & sparking; F5 - Tripping on UnderVoltage (Arcing & sparking); F6 - Arcing & sparking (Local); F4 - Poorly performing (arcing & sparking)</p> <p>RHI: F2 - Poorly performing / Arcing & sparking (Vs limit); F3 - Arcing & sparking; F6 - IS limit (MCS on local) - Undervoltage trip</p> <p>RHO: F4- poorly Performing (Arcing & sparking); F1 - Poorly performing (Vs limit) - arcing & sparking; F3- Poor performinG (Arcing & sparking); F2 - Poorly performing (DE rapper faulty); F5 - Poorly performing (Arcing & sparking)</p>	08-Dec
-----	--	--------

U2.	<ul style="list-style-type: none"> Manual rapping was done on casings, and optimization was done by EMS <p>LHO: F3 - Arcing & sparking (Is limit); F4 - Poorly performing (Arcing & sparking)</p> <p>LHI: F2 - Poorly performing (Arcing & sparking) Vs limit; F3 - Arcing & sparking; F5 - Tripping on UnderVoltage (Arcing & sparking); F6 - Arcing & sparking (Local); F4 - Poorly performing (Arcing & sparking)</p> <p>RHI: F2 - Poorly performing / Arcing & sparking (Vs limit); F3 - Arcing & sparking; F6 - IS limit (MCS on local) - Undervoltage trip</p> <p>RHO: F4- poorly Performing (Arcing & sparking); F1 - Poorly performing (Vs limit) - arcing & sparking; F3- Poor performing (Arcing & sparking); F2 - Poorly performing (DE rapper faulty); F5 - Poorly performing (Arcing & sparking)</p>	09-Dec
U2.	Poor ESP Performance and DHP challenges	11-Dec
U2.	Poor ESP Performance and DHP challenges	12-Dec
U2.	<ul style="list-style-type: none"> High hopper levels on the DHP, Ops reported 16 full hoppers, both streams are in service, backlogging in service. Ash production is still high, therefore backlogging is taking long <p>Poor ESP performance</p>	14-Dec
U2.	Poor ESP Performance and DHP challenges	15-Dec
U2.	<p>Casing Outage</p> <ul style="list-style-type: none"> Sulphur flow was interrupted late afternoon after replacement of a drain valve on the common system. 	17-Dec
U2.	Casing Outage	18-Dec
U2.	<p>ESP Poor Performance</p> <p>EMS to look at LHO F1 and F2 program issues today, Elec Eng advised that it is a communication fault, EMS need to replace the fuses.</p> <p>Unit 2 5 day opportunity to be requested for casing washing.</p>	20-Dec
U2.	Poor ESP performance, 5 day casing washing has been requested	21-Dec
U2.	Unit Light Up	30-Dec

U2.	<p>Unit Light Up</p> <ul style="list-style-type: none"> • Unit still has high hopper levels on DHP, Ops confirmed that there are 17 full hopper levels <p>Immediately intervention needed for the DHP problems and backlogging to take place.</p> <ul style="list-style-type: none"> • Ops to arrange for spinning on Unit 2 after morning peak to bring down emissions and hopper levels. • SO3 plant is in service from 04:55 this morning after flow meter replacement, need to monitor emissions closely. • Unit is still under startup conditions, need to be below on 01/01/2021 @ 08:47 	31-Dec
U3.	Unit Not Synchronised, undergoing cold commisioning activities.	18-Dec
U3.	Unit Not Synchronised, undergoing cold commisioning activities.	19-Dec
U3.	Unit Not Synchronised, undergoing cold commisioning activities.	20-Dec
U3.	Unit Not Synchronised, undergoing cold commisioning activities.	21-Dec
U3.	Unit Not Synchronised, undergoing cold commisioning activities.	22-Dec
U3.	Unit Not Synchronised, undergoing cold commisioning activities.	23-Dec
U4.	<p>LHO: F7 - Poorly performing (Undervoltage trip)</p> <p>LHI: F6 - DE Rapper faulty;</p> <p>RHI: F7 - Arcing and Sparking- poor Performing Controller to be replaced); F4 - Poorly performing (Sparking & arcing) + CE rapper fault; F3 - Poorly performing / Arcing & sparking)</p>	05-Dec
U4.	<p>LHO: F7 - Poorly performing (Undervoltage trip)</p> <p>LHI: F6 - DE Rapper faulty;</p> <p>RHI: F7 - Arcing and Sparking- poor Performing Controller to be replaced); F4 - Poorly performing (Sparking & arcing) + CE rapper fault; F3 - Poorly performing / Arcing & sparking)</p>	06-Dec
U4.	<ul style="list-style-type: none"> • RHI casing should be prioritized for casing outage <p>LHO: F7 - Poorly performing (Undervoltage trip); F2 - High oil temp trip</p> <p>LHI: F6 - DE Rapper faulty;</p> <p>RHI: F7 - Arcing and Sparking- poor Performing Controller to be replaced); F4 - Poorly performing (Sparking & arcing) + CE rapper fault; F3 - Poorly performing / Arcing & sparking); F1 - Undervoltage trip</p> <p>RHO: F7 - Prograam invalid; F4 - undervoltage trip</p>	08-Dec

U4.	<ul style="list-style-type: none"> • Rapping was not done on Unit 4 since the 06 December and this will affect the emissions performance. <p>LHO: F7 - Poorly performing (Undervoltage trip); F2 - High oil temp trip</p> <p>LHI: F6 - DE Rapper faulty;</p> <p>RHI: F7 - Arcing and Sparking- poor Performing Controller to be replaced); F4 - Poorly performing (Sparking & arcing) + CE rapper fault; F3 - Poorly performing / Arcing & sparking); F1 - Undervoltage trip</p> <p>RHO: F7 - Prograam invalid; F4 - undervoltage trip</p>	09-Dec
U4.	Rapping was not done on Unit 4 since the 06 December and this will affect the emissions performance	11-Dec
U4.	Poor ESP Performance	12-Dec

U4.	below 100.45, not considered as an exceedance	13-Dec
U4.	Poor ESP Performance	14-Dec
U4.	Poor Casing Performance and DHP challenges	15-Dec
U4.	• Unit shutdown on 2020/12/16 @ 02:37	16-Dec
U4.	• Unit synchronized on 2020/12/17 @ 14:48	17-Dec
U4.	Unit Under Light Up	18-Dec
U4.	<ul style="list-style-type: none"> • RHI casing is performing well. • LHI casing not performing, 5 fields not performing, EMS to revisit the field to check what can be done while on load 	19-Dec
U4.	<p>Average from 14:00 to 23:59, was 88. Therefore no Section 30 applicable on this Unit.</p> <p>defects on LHI CE rapper faulty, F2, F3, F5. EMS to relook at the defects and resolve.</p> <ul style="list-style-type: none"> • Process Eng LHI casing had 5 defects yesterday, Sulphur flow was also interrupted in the morning, which contributed emissions. 	20-Dec
U4.	ESP Poor Performance	21-Dec
U4.	Poor ESP Performance	22-Dec
U5.	<ul style="list-style-type: none"> • Sulphur flow indication is on Unit 5 is not showing • RHO casing should be prioritized for casing outage <p>LHO: F3 - Poorly Performing (Arcing & sparking); F4 - Poorly Performing (Arcing & sparking); F5 - Poorly performing (Arcing & sparking); F2 - Sparking & Arcing</p> <p>LHI: F2- Poorly Performing (Arcing & sparking)</p> <p>RHI: F1 - Poorly Performing (Arcing & sparking); F5 - Poorly performing</p> <p>RHO: F5 - Poorly performing (MCS on local); F6 - DE Rapper Fault; F2 - Poorly performing (Arcing & sparking)</p>	08-Dec
U5.	SO3 PLANT LEAK, AND FIRE, PLANT SHUT DOWN.	10-Dec
U5.	POOR ESP PERFORMANCE	
U5.	• SO3 plant is off due to leak on cooling air filter	11-Dec
U5.	SO3 Plant off	12-Dec
U5.	• Unit incurred a Section 30 as yesterday was day 4 of exceedance. Due to SO3 plant off	13-Dec
U5.	SO3 Plant off, S30 reported	14-Dec
U5.	LHO Poor Performance	
U5.	SO3 Plant off, S30 reported	15-Dec

U5.	ESP Poor Performance	20-Dec
U5.	<ul style="list-style-type: none">• Unit tripped on 2020/12/22 @ 16:25,• Still off, PTM and Eng busy with fault finding.	22-Dec

U5.	<ul style="list-style-type: none"> • Unit tripped on 2020/12/22 @ 16:25, • Still off, PTM and Eng busy with fault finding. 	23-Dec
U5.	<ul style="list-style-type: none"> • Unit tripped on 2020/12/22 @ 16:25, • Still off, PTM and Eng busy with fault finding. 	24-Dec
U5.	Unit still off for fault finding	25-Dec
U5.	<ul style="list-style-type: none"> • Unit tripped on 2020/12/22 @ 16:25, • Still off, PTM and Eng busy with fault finding. • RHO Casing outage needed 	26-Dec
U5.	<ul style="list-style-type: none"> • Unit tripped on 2020/12/22 @ 16:25, • Still off, PTM and Eng busy with fault finding. • RHO Casing outage needed 	27-Dec
U5.	Unit still off for fault finding	28-Dec
U5.	Unit is still off for fault finding	29-Dec
U6.	<ul style="list-style-type: none"> • LHO F4 Plate rappers not rapping. • LHI F7 fault due to a shearing pin • RHO F3 and F4 faults (awaiting casing outage) 	02-Dec
U6.	Poor ESP Performance	11-Dec
U6.	<p>LHO: F1 - Poorly performing (Arcing & sparking); F7 - Poorly performing (Sparking & arcing); F2 - poorly Performing (Arcing & sparking); F6 - poorly Performing (Arcing & sparking)</p> <p>LHI: 7 - DE Rapper faulty (Shearing pin); F2 - poorly perfroming (Sparking & arcing)</p> <p>RHI: F4 - Poorly performing (Arcing & sparking); F6 - DE Rapper faulty; F1 - Poorly performing (Arcing & sparking)</p> <p>RHO:F3- Poorly Performing; F4 - Poorly performing (Arcing & sparking); F2 - poorly Performing (Undervoltage trip)</p> <p>MCS Local</p>	15-Dec
U6.	• Sulphur flow was interrupted late afternoon after replacement of a drain valve on the common system.	17-Dec
U6.	SO3 PLANT IN SERVICE BUT WITH LOW OR NO SULPHUR FLOW AND TEMPS. SULPHUR CONTROL VALVE IS 100% OPEN WITH ONLY 36 KG/H SULPHUR FLOW	19-Dec
U6.	• Manual rapping was done on LHO and RHO casings, which is why emissions were high	22-Dec
U6.	<p>ESP poor performance</p> <p>LHO casing has deteriorated however, damper cannot isolate</p>	30-Dec
U6.	<p>ESP poor performance</p> <p>LHO casing has deteriorated however, damper cannot isolate</p>	31-Dec