

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

Date:
14 April 2021

Enquiries:
W de Klerk
Tel +27 16 457 5308

LRP03PLA111 _0235/20210412

Dear Mr. Sibaya

LETHABO POWER STATION EMISSION MONTHLY REPORT FOR FEBRUARY 2021

Please find attached Lethabo Power Station emission report for the month of February 2021.

Also attached are the Ambient Air Quality Monitoring Report, Complaints Register and the Fugitive Dust Fallout Monitoring Report for February 2021.

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
February 2021
Emission Report**

Reference number: **LRP03PLA111
_0235/20210412**

Document Type: **Report**

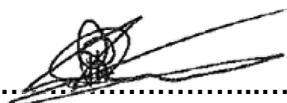
Area of Applicability: **Environment**

Report Date: **April 2021**

Classification: **Controlled
Disclosure**

Signatures:

Compiled by:


.....
P Parag
System Engineer

Verified by :


.....
W de Klerk
Environmental Officer

Reviewed by:

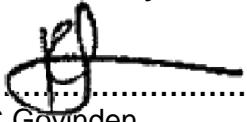

.....
N Mazibuko
BPE Manager

Date: 2021-04-12
.....

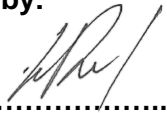
Date: 2021 04 12
.....

Date: 2021-04-12
.....

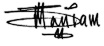
Reviewed by:


.....
C Govinden
PE Manager

Reviewed by:


.....
L Nel
C&I Manager

Reviewed by:

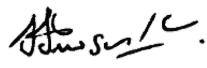

.....
M Hariram
Environmental Manager

Date: 2021/04/12
.....

Date: 2021-04-13
.....

Date: 13 April 2021
.....

Approved by:


.....
H Sewsunker
Engineering Manager

Date: 2021/04/15.....

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
Copyright © 2008, Eskom Generation, Lethabo Power Station

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 Feb-2021 |
|----------------------------|---------------------------|--------|---------------------------------------|---------------------------|
| | Coal | Tons | 2 000 000 | 1 075 948 |
| | Fuel Oil | Tons | 1 700 | 768.76 |
| Production Rates | Product / By-Product Name | Units | Maximum Production Capacity Permitted | Production Rate Feb-2021 |
| | Energy | GWh | 2560.32 | 1 562.89 |
| | Ash | Tons | 770 000 | 420 157.5 |
| | RE Ash | kg/MWh | not specified | 268.83 |

2. ENERGY SOURCE CHARACTERISTICS

| Coal Characteristic | Units | Stipulated Range | Monthly Average Content |
|---------------------|-------|------------------|-------------------------|
| Sulphur Content | % | 0.656 (Standard) | 0.640 |
| Ash Content | % | 37.37 (Standard) | 39.050 |

***Please note the "standard" is not necessary a limit, but merely a optimum indication, it will fluctuate as the coal quality changes. The Stipulated Range are the Station acceptance test values.**

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 Feb-2021 |
|-----------------------|-----------------------------------------|----------------------|
| Unit 1 | <i>Electrostatic Precipitator (ESP)</i> | <i>Unit Off-line</i> |
| Unit 2 | <i>Electrostatic Precipitator (ESP)</i> | 99.72% |
| Unit 3 | <i>Electrostatic Precipitator (ESP)</i> | 99.74% |
| Unit 4 | <i>Electrostatic Precipitator (ESP)</i> | 99.80% |
| Unit 5 | <i>Electrostatic Precipitator (ESP)</i> | 99.78% |
| Unit 6 | <i>Electrostatic Precipitator (ESP)</i> | 99.78% |

5. MONITOR RELIABILITY (%)

| Associated Unit/Stack | PM | SO ₂ | NO | CO ₂ |
|-----------------------|-------|-----------------|------|-----------------|
| Unit 1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unit 2 | 99.7 | 99.7 | 99.7 | 99.7 |
| Unit 3 | 98.5 | 99.7 | 99.7 | 99.7 |
| Unit 4 | 100.0 | 92.6 | 92.7 | 92.6 |
| Unit 5 | 94.6 | 98.7 | 98.7 | 94.7 |
| Unit 6 | 98.9 | 98.3 | 98.5 | 92.3 |

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 | 0 | 0 | 0 |
| Unit 2 | 237.8 | 4 400 | 1 601 |
| Unit 3 | 234.3 | 3 760 | 1 889 |
| Unit 4 | 195.1 | 4 409 | 2 124 |
| Unit 5 | 134.1 | 2 108 | 935 |
| Unit 6 | 103.2 | 2 090 | 979 |
| SUM | 904.5 | 16 766.8 | 7 528.3 |

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

| Associated Unit/Stack | Normal | Grace | Section 30 | Contra-vention | Total Exceedance | Average PM (mg/Nm ³) |
|-----------------------|-----------|-----------|------------|----------------|------------------|----------------------------------|
| Unit 1 | 0 | 0 | 0 | 0 | 0 | |
| Unit 2 | 16 | 12 | 0 | 0 | 12 | 112.2 |
| Unit 3 | 13 | 13 | 1 | 0 | 14 | 131.1 |
| Unit 4 | 24 | 4 | 0 | 0 | 4 | 86.8 |
| Unit 5 | 6 | 15 | 0 | 0 | 15 | 146.3 |
| Unit 6 | 7 | 8 | 0 | 0 | 8 | 111.7 |
| SUM | 66 | 52 | 1 | 0 | 53 | |

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

| Associated Unit/Stack | Normal | Grace | Section 30 | Contra-vention | Total Exceedance | Average SO _x (mg/Nm ³) |
|-----------------------|------------|----------|------------|----------------|------------------|-----------------------------------------------|
| Unit 1 | 0 | 0 | 0 | 0 | 0 | |
| Unit 2 | 28 | 0 | 0 | 0 | 0 | 2 078.1 |
| Unit 3 | 28 | 0 | 0 | 0 | 0 | 1 990.1 |
| Unit 4 | 28 | 0 | 0 | 0 | 0 | 1 968.1 |
| Unit 5 | 23 | 0 | 0 | 0 | 0 | 1 874.8 |
| Unit 6 | 17 | 0 | 0 | 0 | 0 | 2 171.5 |
| SUM | 124 | 0 | 0 | 0 | 0 | |

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

| Associated Unit/Stack | Normal | Grace | Section 30 | Contra-vention | Total Exceedance | Average NOx (mg/Nm ³) |
|-----------------------|------------|----------|------------|----------------|------------------|-----------------------------------|
| Unit 1 | 0 | 0 | 0 | 0 | 0 | |
| Unit 2 | 28 | 0 | 0 | 0 | 0 | 755.7 |
| Unit 3 | 24 | 0 | 0 | 4 | 4 | 997.6 |
| Unit 4 | 28 | 0 | 0 | 0 | 0 | 947.8 |
| Unit 5 | 23 | 0 | 0 | 0 | 0 | 812.9 |
| Unit 6 | 16 | 0 | 0 | 1 | 1 | 996.5 |
| SUM | 119 | 0 | 0 | 5 | 5 | |

Table 6.5: Legend Description

| Condition | Colour | Description |
|----------------|--------|------------------------------------------------------------------|
| Normal | Grey | Emissions below Emission Limit Value (ELV) |
| Grace | Blue | Emissions above the ELV during grace period |
| Section 30 | Green | 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 - February 2021

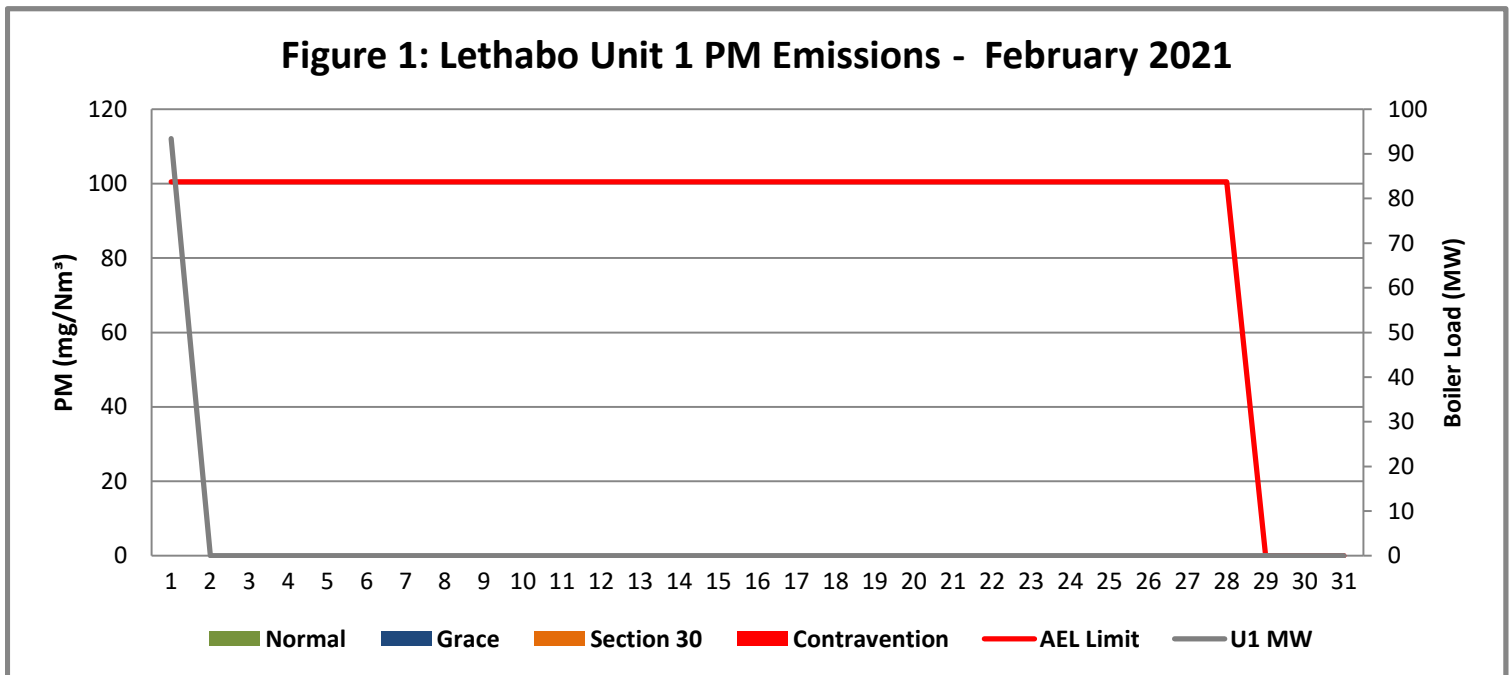


Figure 2: Lethabo Unit 2 PM Emissions - February 2021

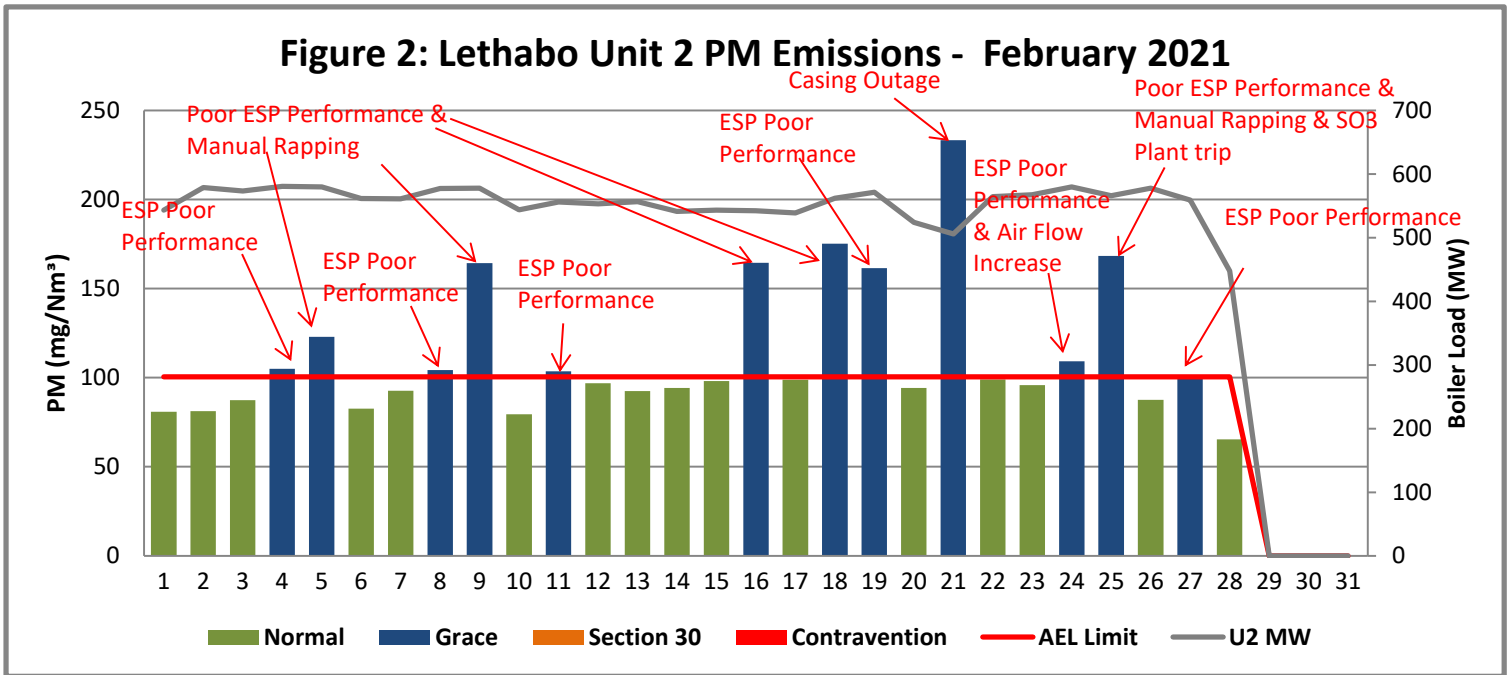


Figure 3: Lethabo Unit 3 PM Emissions - February 2021

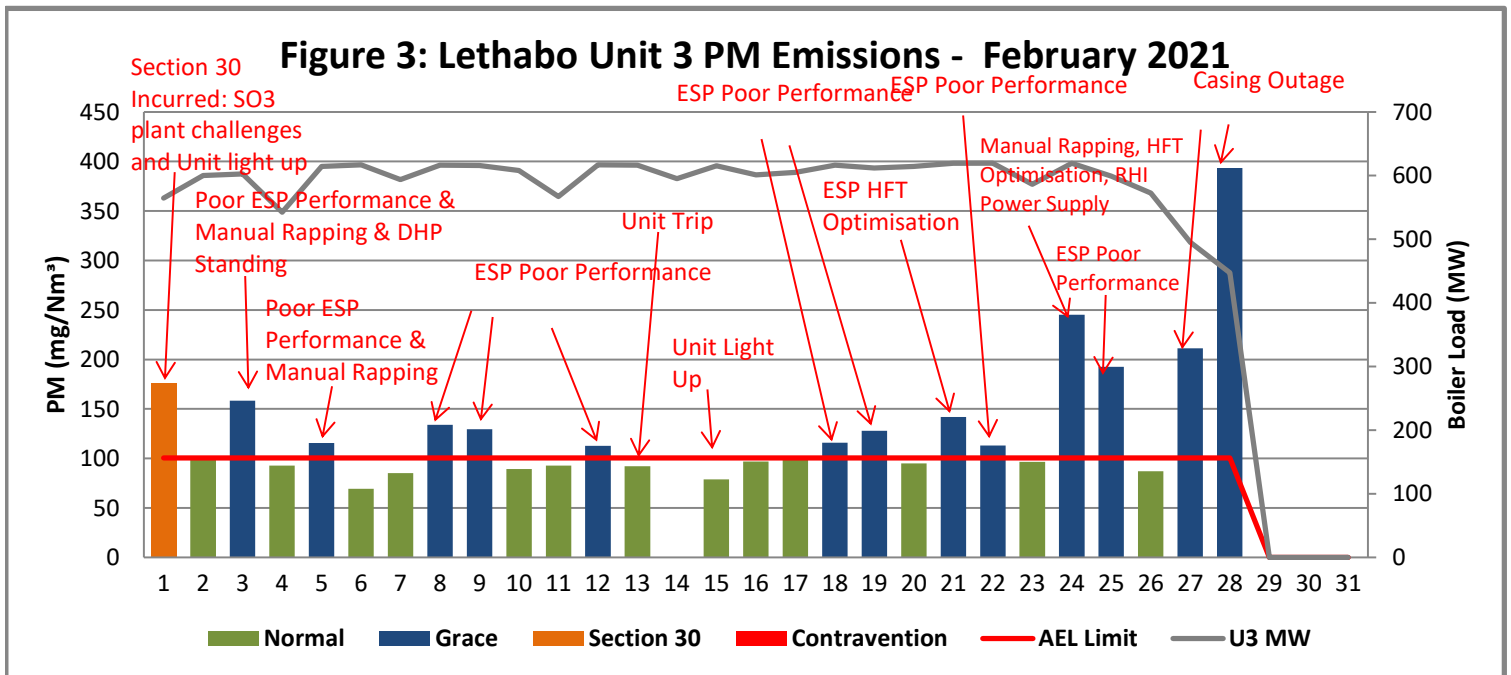


Figure 4: Lethabo Unit 4 PM Emissions - February 2021

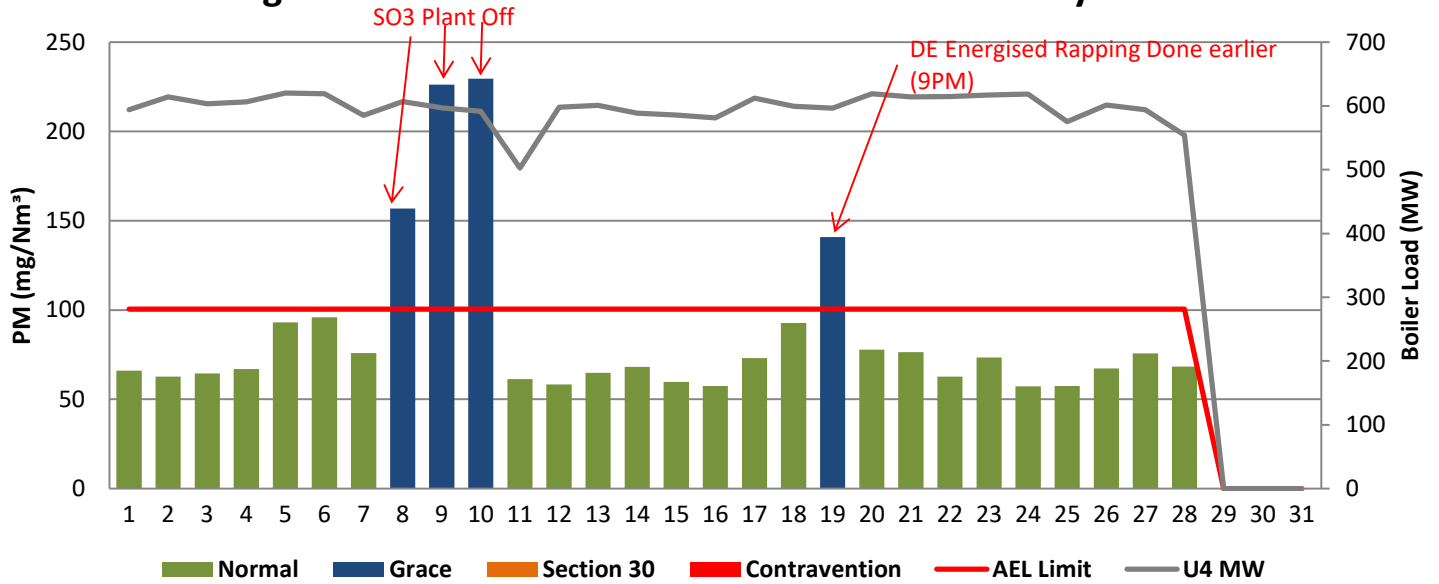
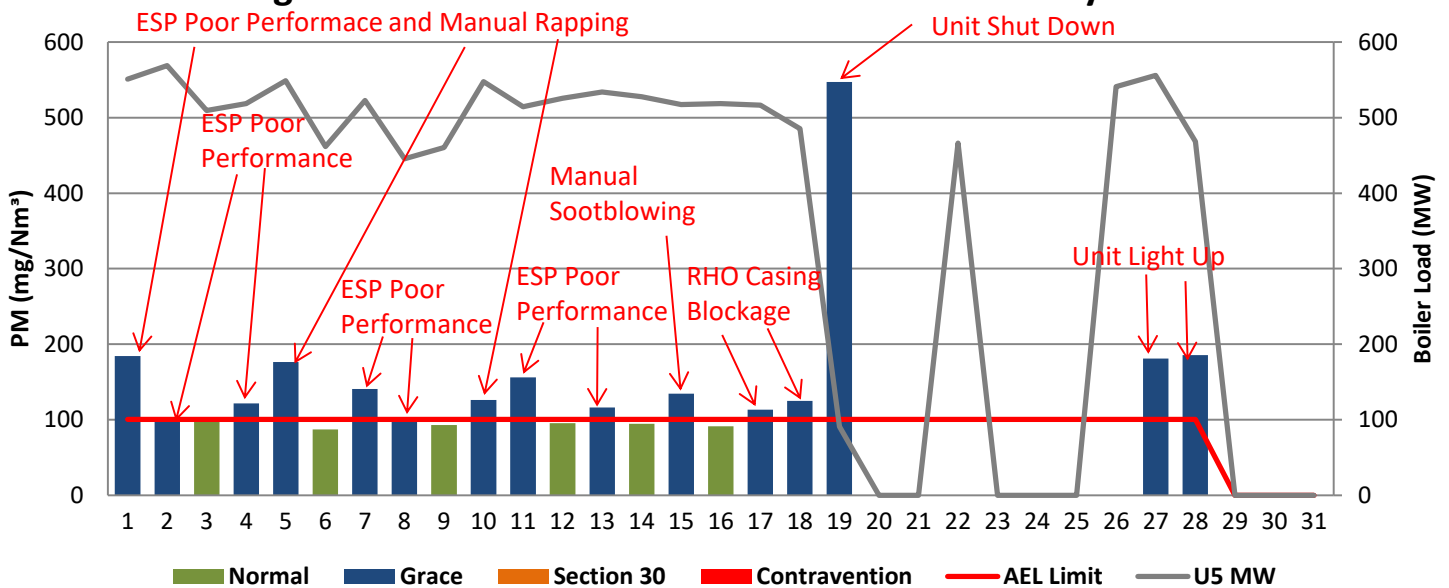


Figure 5: Lethabo Unit 5 PM Emissions - February 2021



ESP Poor Performance and Manual Rapping

Figure 6: Lethabo Unit 6 PM Emissions - February 2021

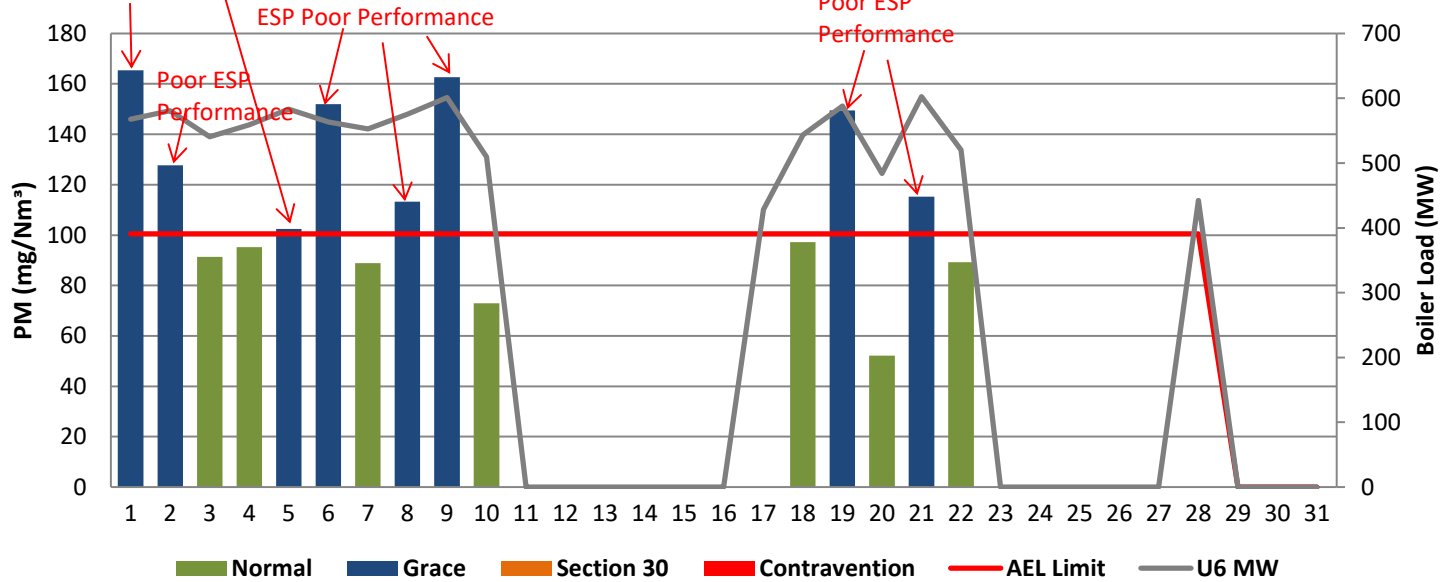


Figure 7: Lethabo Unit 1 SOx Emissions - February 2021

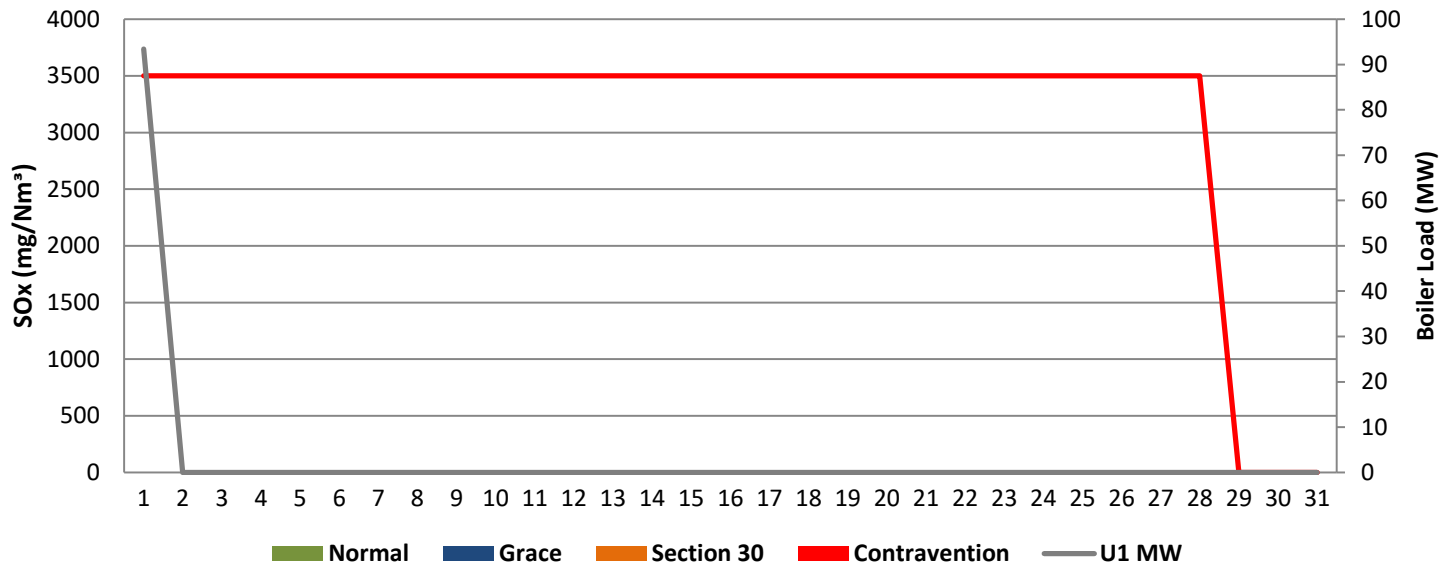


Figure 8: Lethabo Unit 2 SOx Emissions - February 2021

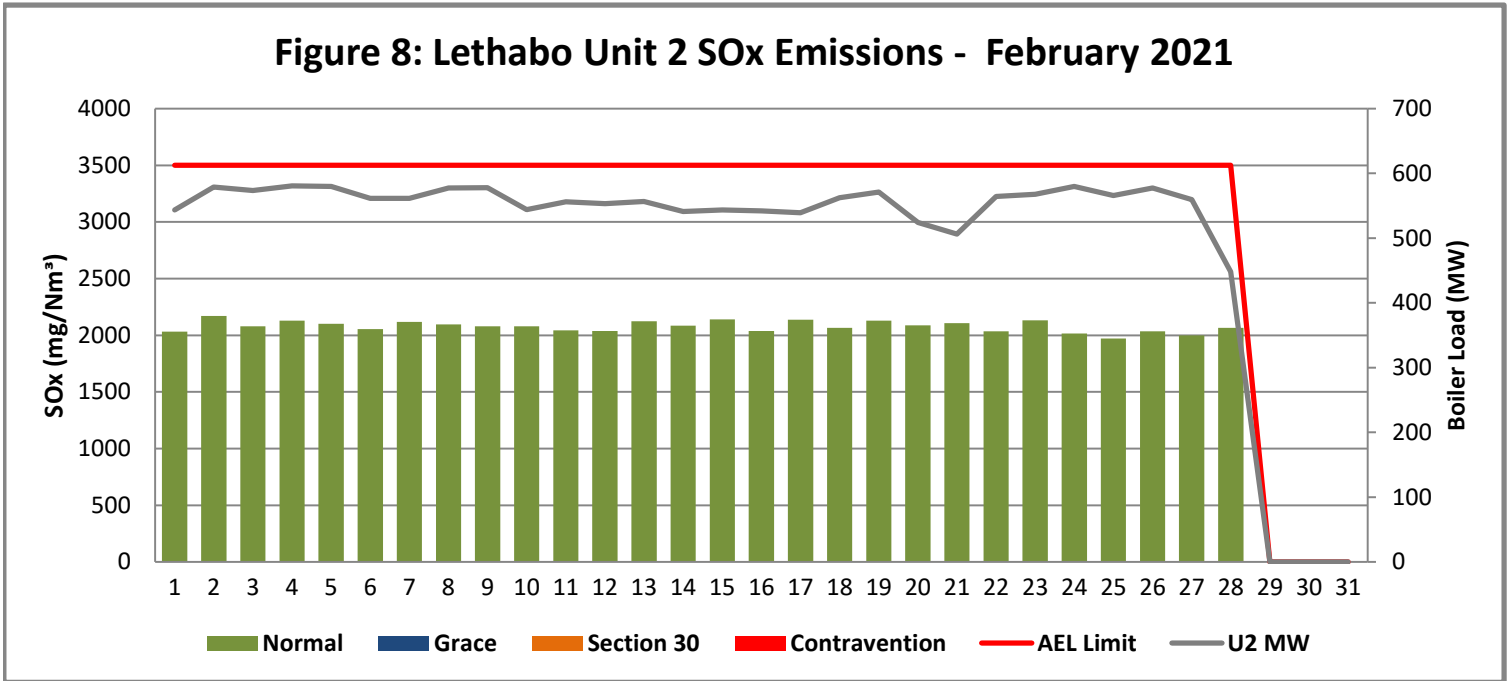


Figure 9: Lethabo Unit 3 SOx Emissions - February 2021

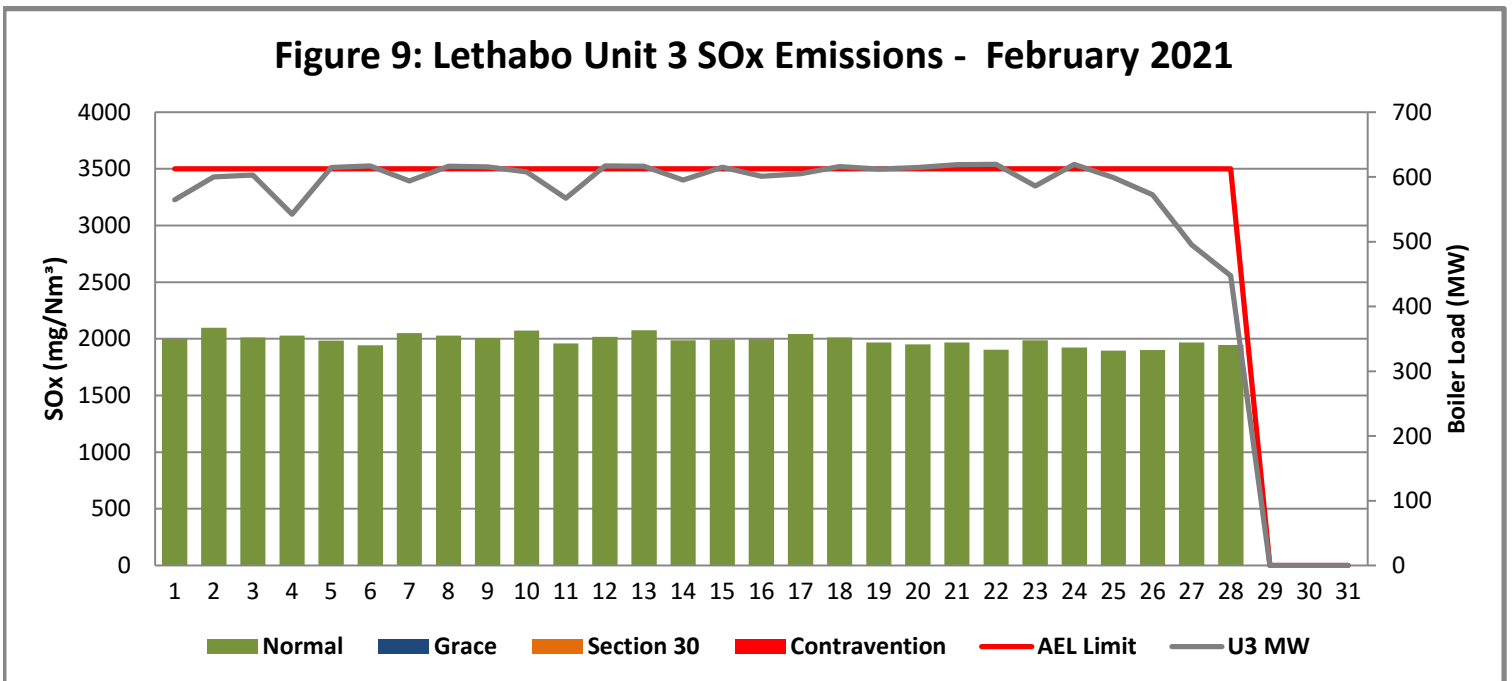


Figure 10: Lethabo Unit 4 SOx Emissions - February 2021

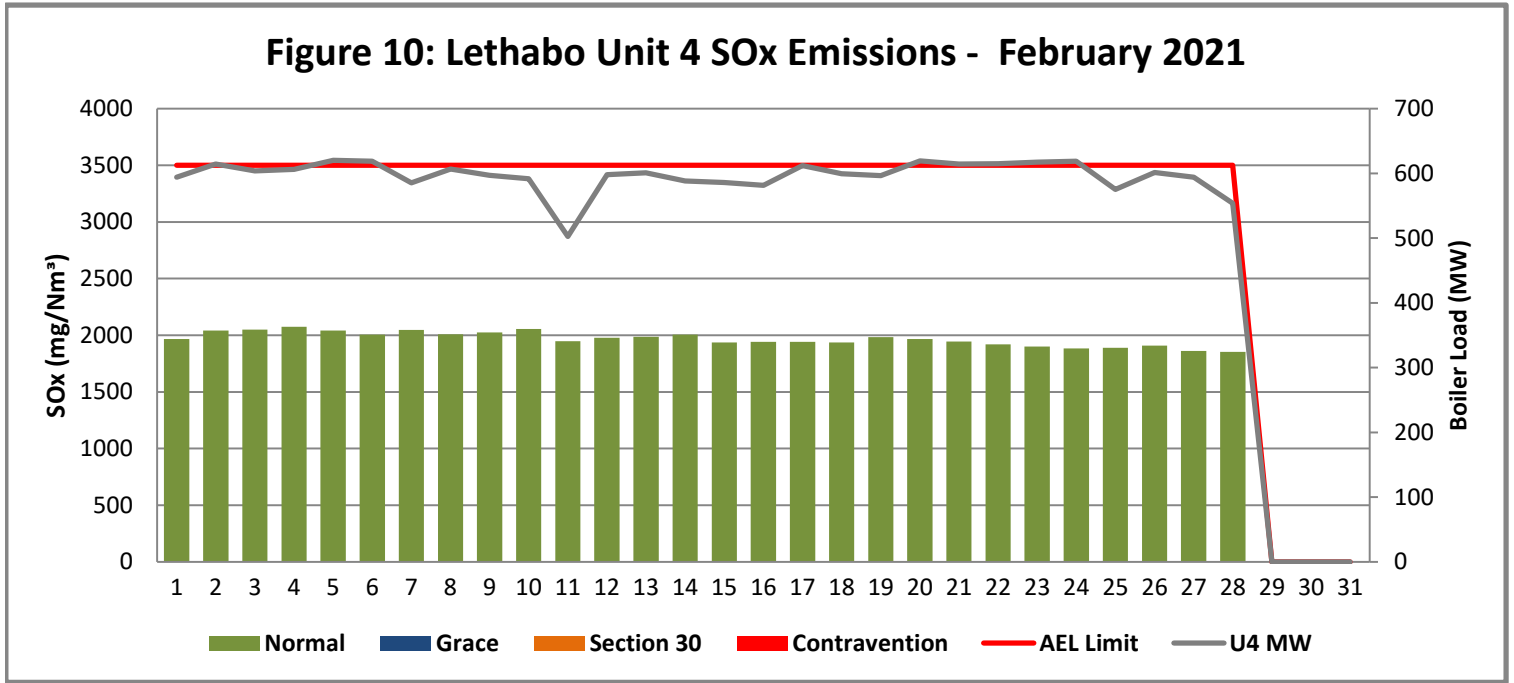


Figure 11: Lethabo Unit 5 SOx Emissions - February 2021

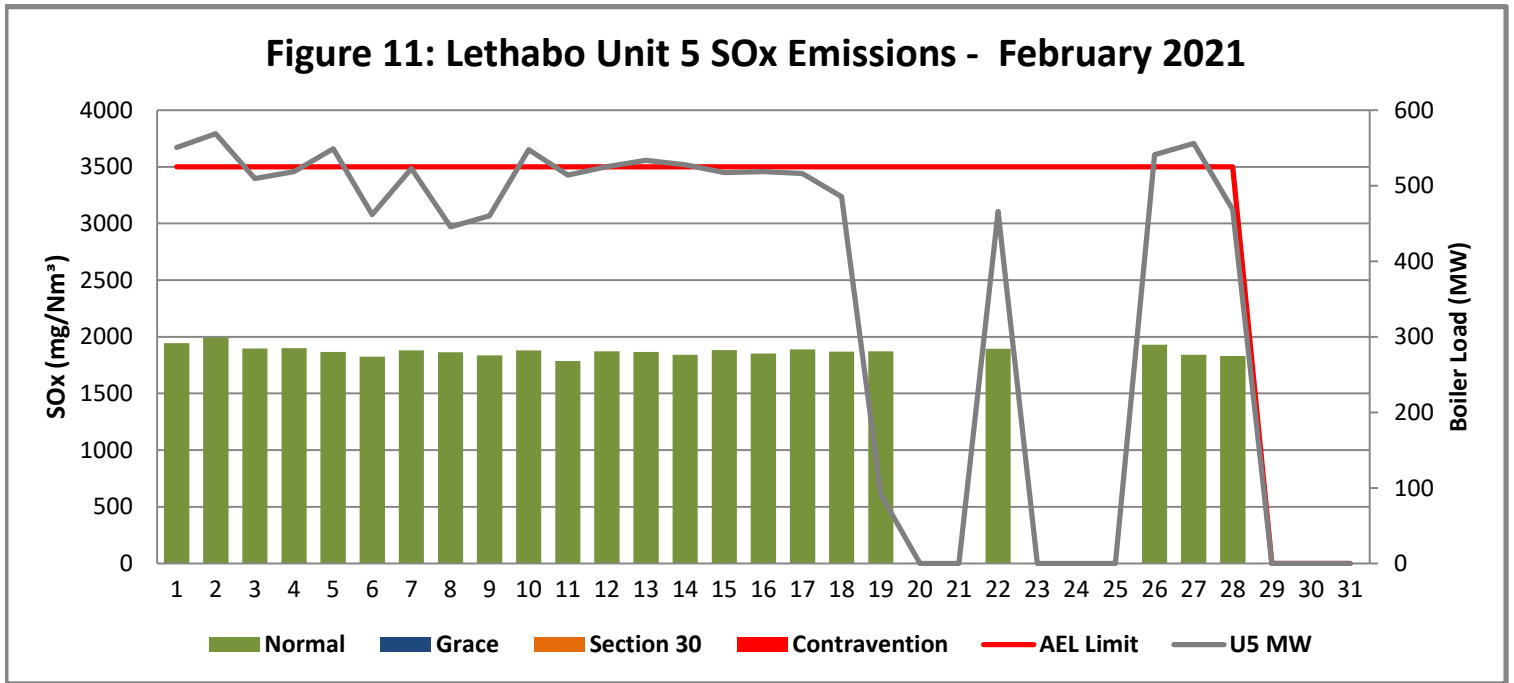


Figure 12: Lethabo Unit 6 SOx Emissions - February 2021

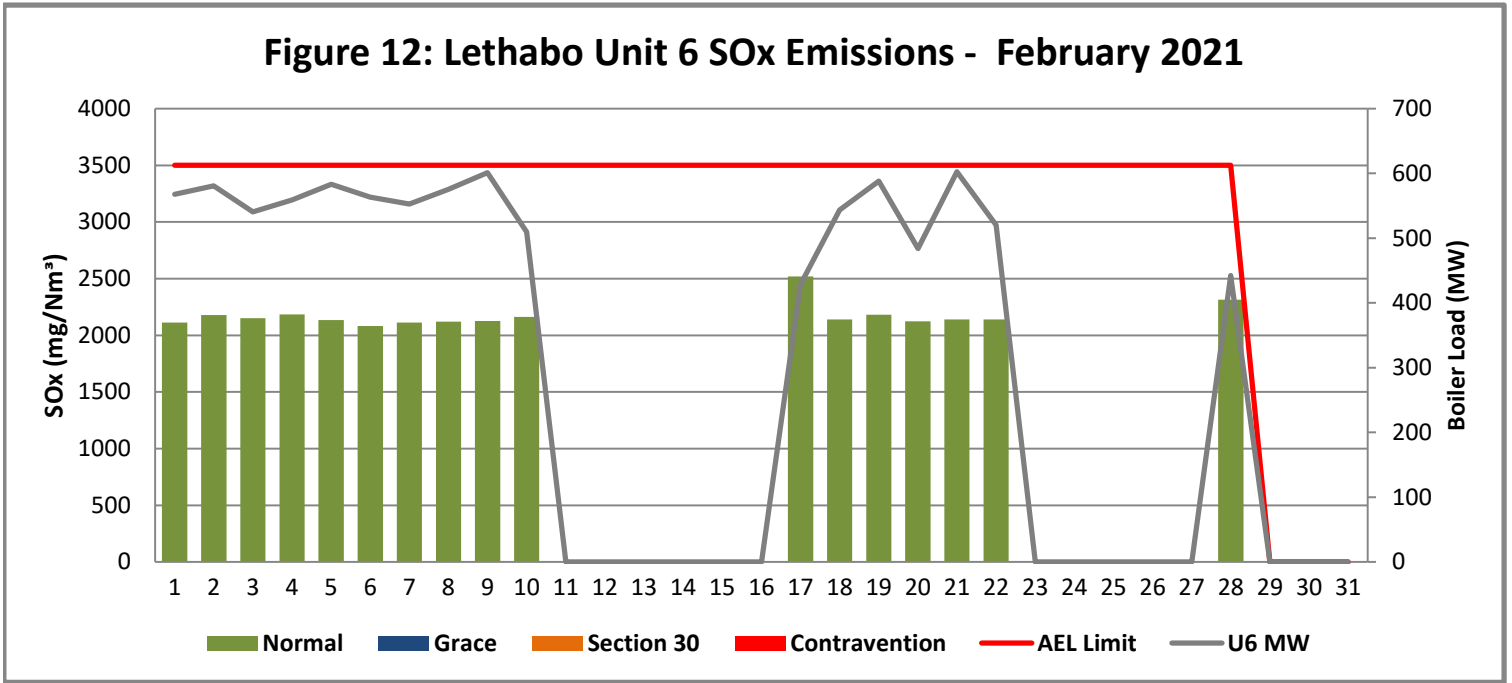


Figure 13: Lethabo Unit 1 NOx Emissions - February 2021

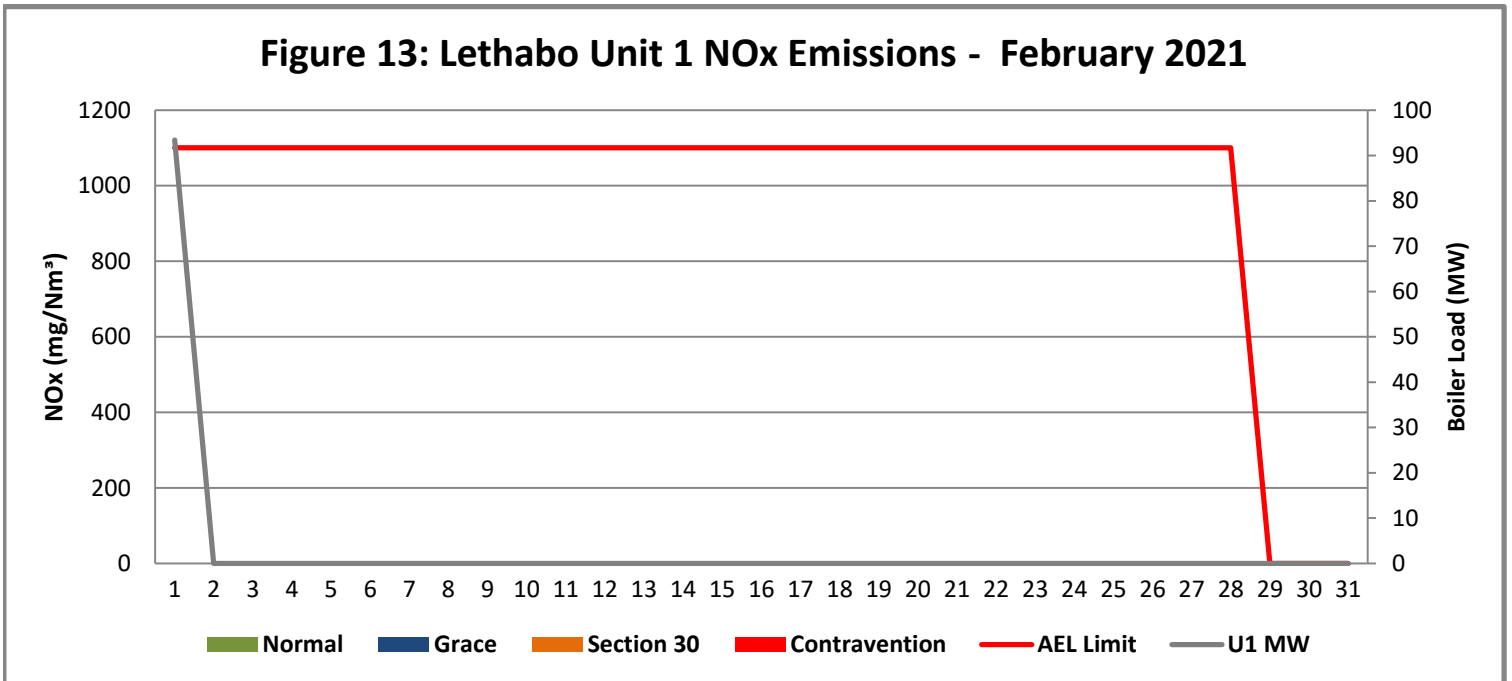


Figure 14: Lethabo Unit 2 NOx Emissions - February 2021

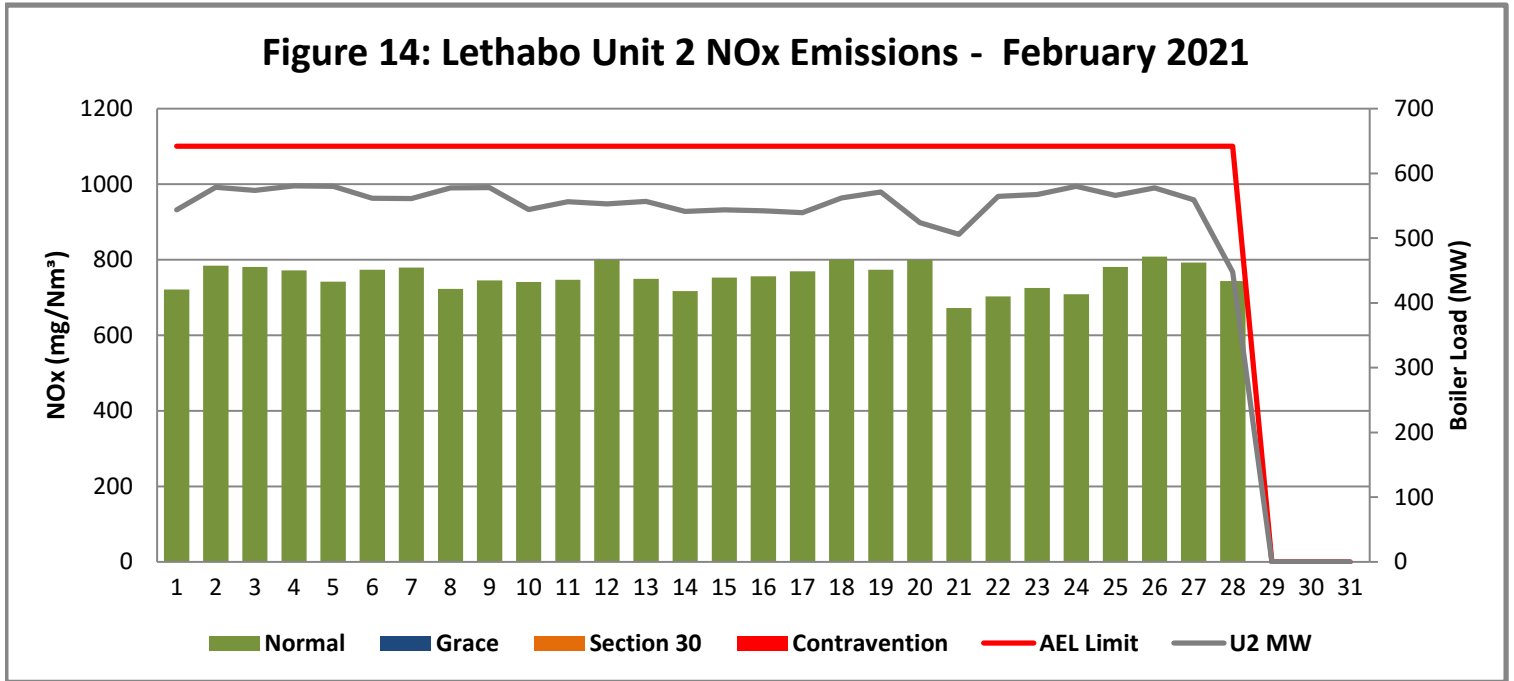


Figure 15: Lethabo Unit 3 NOx Emissions - February 2021

No NOx Abatement in Place, Two top mills in service & one bottom mill out of service

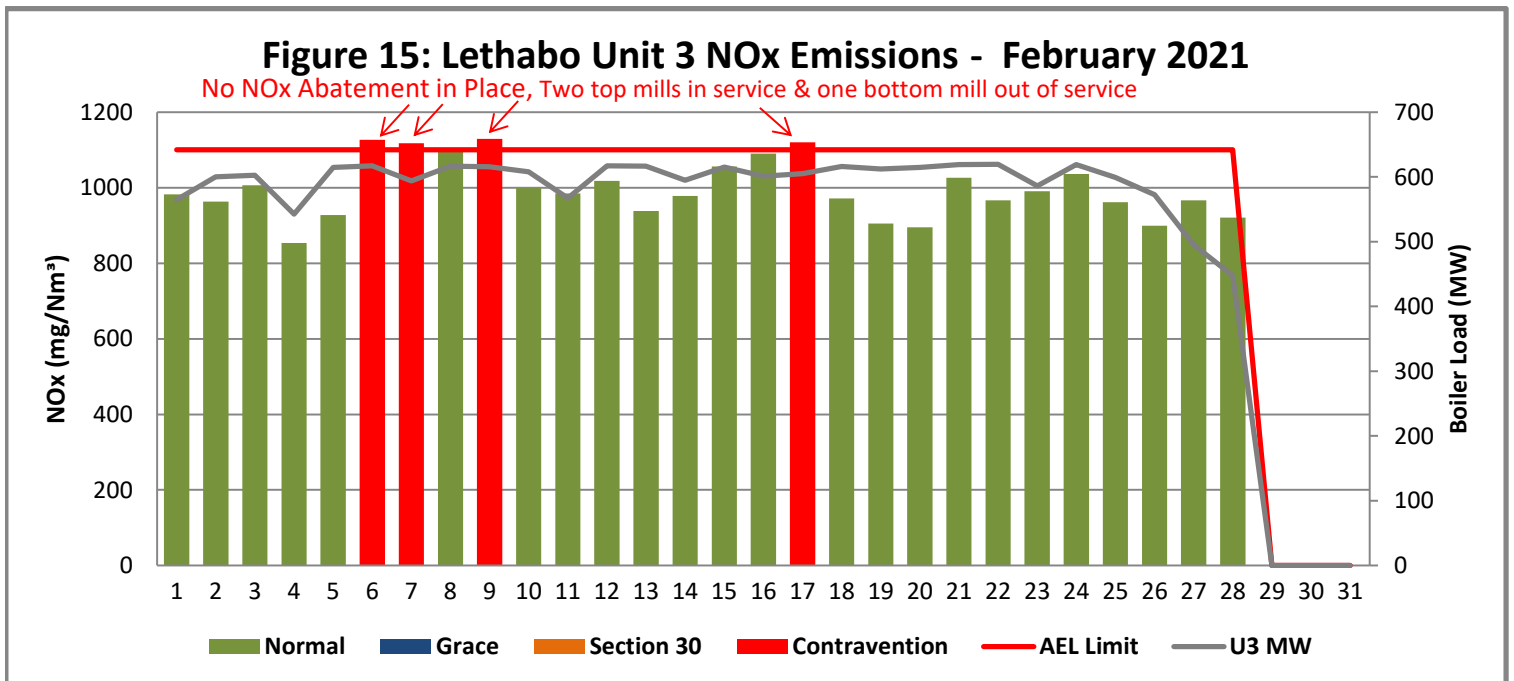


Figure 16: Lethabo Unit 4 NOx Emissions - February 2021

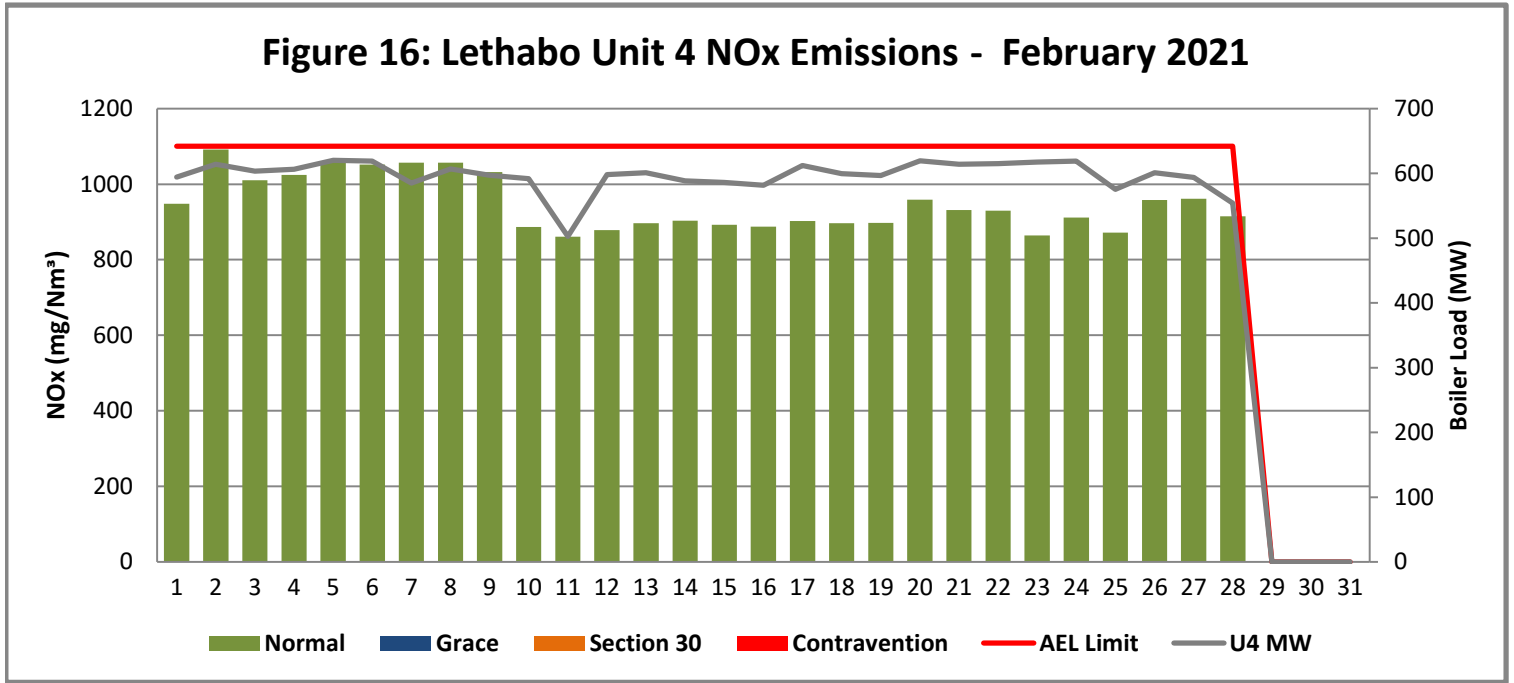
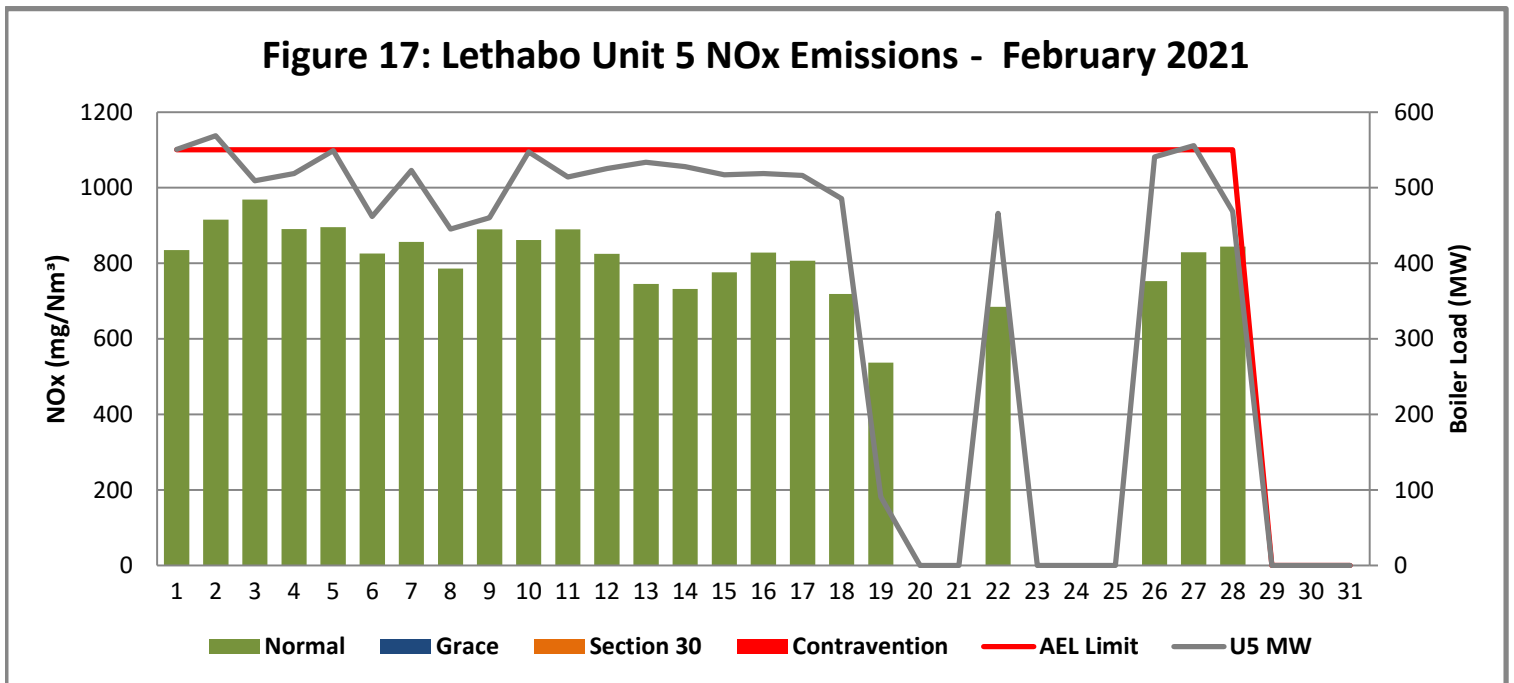
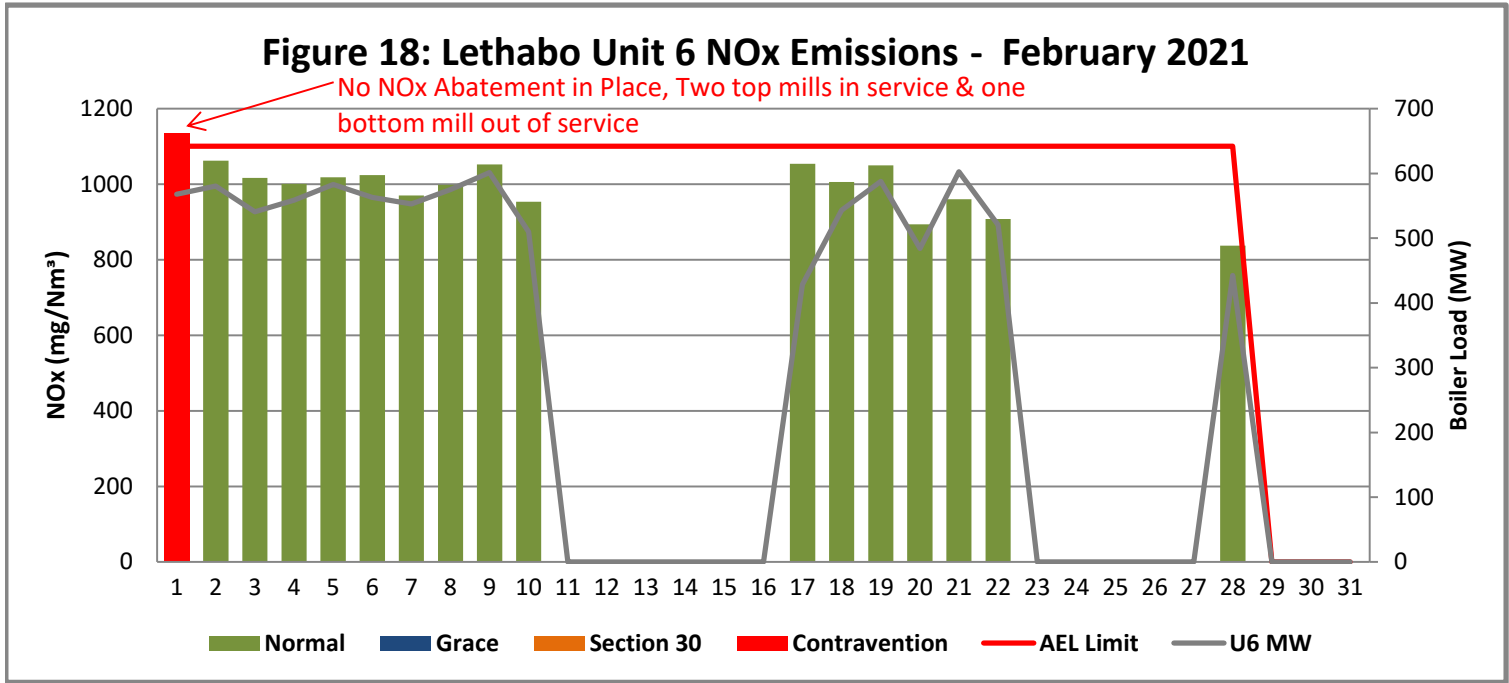


Figure 17: Lethabo Unit 5 NOx Emissions - February 2021





7. SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1: PM Start-up information for the month of February 2021

| | | | | | | | | |
|------------------------------------------|--|--|--|--|--|--|--|--|
| Unit No.1 | | | | | | | | |
| 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.2 | | | | | | | | |
| 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.3 | Unit tripped on feed water tank level low | | | | | | | |
| Breaker Open (BO) | 8:50 PM | 2021/02/13 | | | | | | |
| 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 | | | | | | |
| Fires in time | 12:26 AM | 2021/02/14 | | | | | | |
| Synch. to Grid (or BC) | 2:10 AM | 2021/02/14 | | | | | | |
| Fires in to BC (duration) | 00:01:44 | DD:HH:MM | | | | | | |
| Emissions below limit from BC (end date) | 11:00 PM | 2021/02/15 | | | | | | |
| Emissions below limit from BC (duration) | 01:20:50 | DD:HH:MM | | | | | | |

| | | | | | | | | |
|-------------------------------------------------|--|--|--|--|--|--|--|--|
| Unit No.4 | | | | | | | | |
| 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.5 | <i>For RHO Precip casing partially blocked and</i> | | | | | | | |
| Breaker Open (BO) | <i>2:20 AM</i> | <i>2021/02/19</i> | | | | | | |
| Draught Group (DG) Shut Down (SD) | <i>8:25 PM</i> | <i>2021/02/19</i> | | | | | | |
| BO to DG SD (duration) | <i>00:18:05</i> | <i>DD:HH:MM</i> | | | | | | |
| Fires in time | <i>12:35 AM</i> | <i>2021/02/26</i> | | | | | | |
| Synch. to Grid (or BC) | <i>2:13 AM</i> | <i>2021/02/26</i> | | | | | | |
| Fires in to BC (duration) | <i>00:01:38</i> | <i>DD:HH:MM</i> | | | | | | |
| 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> | <i>DD:HH:MM</i> | | | | | | |

| | | | | | | | | |
|-------------------------------------------------|--------------------------------|-------------------|-----------------------------------------|-----------------------|--|--|--|--|
| Unit No.6 | <i>Boiler tube leak</i> | | <i>Boiler tube leak repairs.</i> | | | | | |
| Breaker Open (BO) | <i>10:25 AM</i> | <i>2021/02/10</i> | <i>1:45 PM</i> | <i>2021/02/22</i> | | | | |
| Draught Group (DG) Shut Down (SD) | <i>5:15 AM</i> | <i>2021/02/11</i> | <i>12:55 AM</i> | <i>2021/02/23</i> | | | | |
| BO to DG SD (duration) | <i>00:18:50</i> | <i>DD:HH:MM</i> | <i>00:11:10</i> | <i>DD:HH:MM</i> | | | | |
| Fires in time | <i>1:35 PM</i> | <i>2021/02/17</i> | <i>10:40 AM</i> | <i>2021/02/28</i> | | | | |
| Synch. to Grid (or BC) | <i>3:40 PM</i> | <i>2021/02/17</i> | <i>12:44 PM</i> | <i>2021/02/28</i> | | | | |
| Fires in to BC (duration) | <i>00:02:05</i> | <i>DD:HH:MM</i> | <i>00:02:04</i> | <i>DD:HH:MM</i> | | | | |
| Emissions below limit from BC (end date) | <i>3:00 AM</i> | <i>2021/02/18</i> | <i>not > limit</i> | <i>not > limit</i> | | | | |
| Emissions below limit from BC (duration) | <i>00:11:20</i> | <i>DD:HH:MM</i> | <i>n/a</i> | <i>DD:HH:MM</i> | | | | |

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of February 2021 in mg/Nm³

8. MAINTENANCE

| | | | | |
|-------------------------------|--|--|--|--|
| Unit 1 | | | | |
| Beginning of | | | | |
| Reason for Maintenance | | | | |
| End (Time): | | | | |
| Duration | | | | |

| | | | | |
|-------------------------------|----------------------------|--|--|--|
| Unit 2 | | | | |
| Beginning of | 2021/02/21 00:00:00 | | | |
| Reason for Maintenance | LHO Precip casing repairs. | | | |
| End (Time): | 2021/02/21 22:23:00 | | | |
| Duration | 22:23:00 | | | |

| | | | | |
|-------------------------------|---------------------------|----------------------------|--|--|
| Unit 3 | | | | |
| Beginning of | 2021/02/27 00:00 | 2021/02/28 00:30 | | |
| Reason for Maintenance | LHI pricip casing repairs | RHI Precip casing repairs. | | |
| End (Time): | 2021/02/28 00:30 | 2021/02/28 19:41 | | |
| Duration | 24:30:00 | 19:11:00 | | |

| | | | | |
|-------------------------------|---------------------------|--|--|--|
| Unit 4 | | | | |
| Beginning of | 2021/02/08 00:00:00 | | | |
| Reason for Maintenance | SO3 plant off for repairs | | | |
| End (Time): | 2021/02/10 00:00:00 | | | |
| Duration | 48:00:00 | | | |

| | | | | |
|-------------------------------|-------------------------------------|--|--|--|
| Unit 5 | | | | |
| Beginning of | 2021/02/19 02:11 | | | |
| Reason for Maintenance | RHO Precip casing partially blocked | | | |
| End (Time): | 2021/02/22 03:08 | | | |
| Duration | 72:57:00 | | | |

| | | | | |
|-------------------------------|----------------------------|----------------------------|----------------------------|--|
| Unit 6 | | | | |
| Beginning of | 2021/02/08 00:12:00 | 2021/02/08 04:28 | 2021/02/06 00:36 | |
| Reason for Maintenance | RHI precip casing repairs. | RHI precip casing repairs. | RHI precip casing repairs. | |
| End (Time): | 2021/02/08 04:28:00 | 2021/02/08 17:51 | 2021/02/06 00:52 | |
| Duration | 4:16:00 | 13:23:00 | 0:16:00 | |

9. GENERAL

Unit 3:

A Section 30 was reported for extended start up condition, Unit synchronized on 28/01/2021 @ 01:24, needed to be below the limit by 31/01/2021 @ 01:24. On 31/01/2021 the SO3 plant was shut down due to a converter leak, this coupled with start up conditions contributed to the Section 30 being incurred.

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 test has been conducted and awaiting the report with the new curve.

Unit 3:

Because there is no abatement technology for NOx installed at Lethabo to assist with reducing the amount of NOx produced, operating with both top mills in service and one bottom mill out resulted in the NOx exceeding the limit on 6, 7, 9 and 17 February 2021.

On 14 January 2021 C&I Maintenance adjusted the sample pressure on the PROCAL gas analyser after they were requested to increase the pressure so that the sample pressure difference during the cycling purge be higher than 20mBar. This resulted in the H2O values also increasing. The H2O cannot be calibrated with the available facilities at Lethabo and are therefore fully reliant on the QAL2 corrections. The H2O values were therefore higher than what they were supposed to be since the adjustment. Because the H2O values are used in the calculation of the NOx, the NOx also increased when the H2O increased. On 19 February 2021 C&I Maintenance calibrated the pressure transducer which resulted in a similar percentage decrease on the H2O as the percentage increase observed on 14 January 2021.

The H2O data had to be corrected from 14 January 2021 @13:50 to 9 February 2021 @ 13:20 as it was falsely elevated during this time.

Unit 6:

Because there is no abatement technology for NOx installed at Lethabo to assist with reducing the amount of NOx produced, operating with both top mills in service and one bottom mill out resulted in the NOx exceeding the limit on 1 February 2021.

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. |
|---------|---------------------|-------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------|------------------------------------|-------------------------|---------------------|---------------------------------------|
| 3 | 31/01/2021 | 01/02/2021 | S03 plant failed as a result of converter air pipe expansion joint damage resulting in unpredicted equipment failure | Perform borescope inspection on both burner and converter expansion joints | 01/02/2021 | 11/02/2021 | None | | |
| 3 | 06/02/2021 | 07/02/2021 | No Nox Abatement Technology, and Teo Top Mills in service | Avoid Two Top Mill operation where possible | N/A | N/A | None | | NOx exceedances - Legal Contravention |
| 3 | 09/02/2021 | 09/02/2021 | No Nox Abatement Technology, and Teo Top Mills in service | Avoid Two Top Mill operation where possible | N/A | N/A | None | | NOx exceedances - Legal Contravention |
| 3 | 17/02/2021 | 17/02/2021 | No Nox Abatement Technology, and Teo Top Mills in service | Avoid Two Top Mill operation where possible | N/A | N/A | None | | NOx exceedances - Legal Contravention |
| 6 | 01/02/2021 | 01/02/2021 | No Nox Abatement Technology, and Teo Top Mills in service | Avoid Two Top Mill operation where possible | N/A | N/A | None | | NOx exceedances - Legal Contravention |

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 |
|--------|--------|--------|--------|--------|--------|--------|---------|
| 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 |
| Jan-21 | 0.75 | 0.66 | 0.68 | 0.39 | 0.37 | 0.54 | 0.52 |
| Feb-21 | OFF | 0.64 | 0.59 | 0.49 | 0.51 | 0.52 | 0.56 |

ADDENDUM TO MONTHLY EMISSIONS REPORT

12. DAILY EMISSIONS FIGURES

Final Dust Concentration (mg/Nm³)

| Date | U1 | U2 | U3 | U4 | U5 | U6 | Limit |
|--------|-----|-----|-----|-----|-----|-----|-------|
| 29-Jan | OFF | 85 | 312 | 79 | 110 | 150 | 100 |
| 30-Jan | OFF | 102 | 273 | 65 | 113 | 91 | 100 |
| 31-Jan | OFF | 67 | 154 | 68 | 92 | 91 | 100 |
| 01-Feb | OFF | 81 | 176 | 66 | 184 | 165 | 100 |
| 02-Feb | OFF | 81 | 99 | 63 | 101 | 128 | 100 |
| 03-Feb | OFF | 87 | 158 | 65 | 98 | 91 | 100 |
| 04-Feb | OFF | 105 | 93 | 67 | 122 | 95 | 100 |
| 05-Feb | OFF | 123 | 116 | 93 | 176 | 102 | 100 |
| 06-Feb | OFF | 83 | 69 | 96 | 87 | 152 | 100 |
| 07-Feb | OFF | 93 | 85 | 76 | 141 | 89 | 100 |
| 08-Feb | OFF | 104 | 134 | 157 | 102 | 113 | 100 |
| 09-Feb | OFF | 164 | 129 | 226 | 93 | 163 | 100 |
| 10-Feb | OFF | 79 | 89 | 229 | 126 | 73 | 100 |
| 11-Feb | OFF | 104 | 93 | 61 | 156 | OFF | 100 |
| 12-Feb | OFF | 97 | 113 | 58 | 95 | OFF | 100 |
| 13-Feb | OFF | 92 | 92 | 65 | 116 | OFF | 100 |
| 14-Feb | OFF | 94 | OFF | 68 | 95 | OFF | 100 |
| 15-Feb | OFF | 98 | 79 | 60 | 134 | OFF | 100 |
| 16-Feb | OFF | 164 | 97 | 57 | 91 | OFF | 100 |
| 17-Feb | OFF | 99 | 99 | 73 | 113 | OFF | 100 |
| 18-Feb | OFF | 175 | 116 | 93 | 125 | 97 | 100 |
| 19-Feb | OFF | 161 | 128 | 141 | 547 | 149 | 100 |
| 20-Feb | OFF | 94 | 95 | 78 | OFF | 52 | 100 |
| 21-Feb | OFF | 233 | 142 | 76 | OFF | 115 | 100 |
| 22-Feb | OFF | 99 | 113 | 63 | OFF | 89 | 100 |
| 23-Feb | OFF | 96 | 97 | 73 | OFF | OFF | 100 |
| 24-Feb | OFF | 109 | 245 | 57 | OFF | OFF | 100 |
| 25-Feb | OFF | 168 | 193 | 57 | OFF | OFF | 100 |
| 26-Feb | OFF | 88 | 87 | 67 | OFF | OFF | 100 |
| 27-Feb | OFF | 101 | 211 | 76 | 181 | OFF | 100 |
| 28-Feb | OFF | 65 | 393 | 68 | 186 | OFF | 100 |

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final SOx Concentration (mg/Nm³)

| Date | U1 | U2 | U3 | U4 | U5 | U6 | Limit |
|--------|-----|------|------|------|------|------|-------|
| 29-Jan | OFF | 2092 | 1999 | 2097 | 1897 | 2106 | 3500 |
| 30-Jan | OFF | 2110 | 1990 | 1968 | 1927 | 2149 | 3500 |
| 31-Jan | OFF | 2082 | 1970 | 1968 | 1891 | 2098 | 3500 |
| 01-Feb | OFF | 2032 | 1999 | 1968 | 1944 | 2112 | 3500 |
| 02-Feb | OFF | 2171 | 2097 | 2041 | 1994 | 2178 | 3500 |
| 03-Feb | OFF | 2080 | 2012 | 2050 | 1898 | 2150 | 3500 |
| 04-Feb | OFF | 2130 | 2030 | 2074 | 1900 | 2184 | 3500 |
| 05-Feb | OFF | 2102 | 1985 | 2042 | 1866 | 2134 | 3500 |
| 06-Feb | OFF | 2055 | 1943 | 2007 | 1826 | 2080 | 3500 |
| 07-Feb | OFF | 2117 | 2051 | 2048 | 1881 | 2111 | 3500 |
| 08-Feb | OFF | 2097 | 2030 | 2008 | 1863 | 2122 | 3500 |
| 09-Feb | OFF | 2080 | 2005 | 2024 | 1836 | 2127 | 3500 |
| 10-Feb | OFF | 2078 | 2073 | 2055 | 1879 | 2161 | 3500 |
| 11-Feb | OFF | 2043 | 1960 | 1947 | 1786 | OFF | 3500 |
| 12-Feb | OFF | 2038 | 2018 | 1979 | 1873 | OFF | 3500 |
| 13-Feb | OFF | 2124 | 2076 | 1988 | 1868 | OFF | 3500 |
| 14-Feb | OFF | 2085 | 1987 | 2005 | 1841 | OFF | 3500 |
| 15-Feb | OFF | 2139 | 1995 | 1937 | 1884 | OFF | 3500 |
| 16-Feb | OFF | 2038 | 1998 | 1942 | 1853 | OFF | 3500 |
| 17-Feb | OFF | 2138 | 2041 | 1943 | 1890 | 2518 | 3500 |
| 18-Feb | OFF | 2065 | 2012 | 1937 | 1870 | 2141 | 3500 |
| 19-Feb | OFF | 2128 | 1968 | 1984 | 1872 | 2180 | 3500 |
| 20-Feb | OFF | 2088 | 1950 | 1966 | OFF | 2123 | 3500 |
| 21-Feb | OFF | 2108 | 1968 | 1945 | OFF | 2139 | 3500 |
| 22-Feb | OFF | 2034 | 1903 | 1919 | 1894 | 2139 | 3500 |
| 23-Feb | OFF | 2131 | 1987 | 1901 | OFF | OFF | 3500 |
| 24-Feb | OFF | 2016 | 1925 | 1884 | OFF | OFF | 3500 |
| 25-Feb | OFF | 1972 | 1895 | 1889 | OFF | OFF | 3500 |
| 26-Feb | OFF | 2035 | 1902 | 1909 | 1931 | OFF | 3500 |
| 27-Feb | OFF | 2000 | 1969 | 1861 | 1842 | OFF | 3500 |
| 28-Feb | OFF | 2065 | 1944 | 1854 | 1829 | 2314 | 3500 |

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final NOx Concentration (mg/Nm³)

| Date | U1 | U2 | U3 | U4 | U5 | U6 | Limit |
|--------|-----|-----|------|------|-----|------|-------|
| 29-Jan | OFF | 757 | 908 | 900 | 961 | 1093 | 1100 |
| 30-Jan | OFF | 756 | 839 | 948 | 912 | 1097 | 1100 |
| 31-Jan | OFF | 715 | 941 | 948 | 832 | 1102 | 1100 |
| 01-Feb | OFF | 722 | 982 | 948 | 835 | 1135 | 1100 |
| 02-Feb | OFF | 784 | 963 | 1092 | 916 | 1062 | 1100 |
| 03-Feb | OFF | 781 | 1007 | 1011 | 969 | 1016 | 1100 |
| 04-Feb | OFF | 772 | 853 | 1024 | 891 | 1001 | 1100 |
| 05-Feb | OFF | 742 | 928 | 1059 | 896 | 1018 | 1100 |
| 06-Feb | OFF | 774 | 1127 | 1052 | 826 | 1024 | 1100 |
| 07-Feb | OFF | 779 | 1118 | 1057 | 856 | 970 | 1100 |
| 08-Feb | OFF | 723 | 1100 | 1057 | 786 | 998 | 1100 |
| 09-Feb | OFF | 745 | 1129 | 1032 | 890 | 1052 | 1100 |
| 10-Feb | OFF | 741 | 999 | 887 | 862 | 954 | 1100 |
| 11-Feb | OFF | 747 | 985 | 861 | 890 | OFF | 1100 |
| 12-Feb | OFF | 799 | 1018 | 878 | 825 | OFF | 1100 |
| 13-Feb | OFF | 750 | 938 | 897 | 745 | OFF | 1100 |
| 14-Feb | OFF | 717 | 978 | 903 | 732 | OFF | 1100 |
| 15-Feb | OFF | 753 | 1057 | 892 | 776 | OFF | 1100 |
| 16-Feb | OFF | 756 | 1090 | 888 | 829 | OFF | 1100 |
| 17-Feb | OFF | 769 | 1120 | 902 | 807 | 1054 | 1100 |
| 18-Feb | OFF | 800 | 972 | 897 | 719 | 1006 | 1100 |
| 19-Feb | OFF | 773 | 905 | 898 | 537 | 1050 | 1100 |
| 20-Feb | OFF | 799 | 895 | 959 | OFF | 894 | 1100 |
| 21-Feb | OFF | 672 | 1026 | 931 | OFF | 960 | 1100 |
| 22-Feb | OFF | 703 | 967 | 930 | 684 | 908 | 1100 |
| 23-Feb | OFF | 725 | 991 | 864 | OFF | OFF | 1100 |
| 24-Feb | OFF | 708 | 1036 | 912 | OFF | OFF | 1100 |
| 25-Feb | OFF | 781 | 962 | 872 | OFF | OFF | 1100 |
| 26-Feb | OFF | 808 | 899 | 958 | 753 | OFF | 1100 |
| 27-Feb | OFF | 792 | 966 | 962 | 829 | OFF | 1100 |
| 28-Feb | OFF | 744 | 921 | 915 | 844 | 837 | 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 |
| 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 |
| Jan-21 | 100.00% | 0 | 99.19% | 1 | 100.00% | 0 | 100.00% | 0 | 99.19% | 1 | 99.19% | 1 |
| Feb-21 | OFF LOAD | 0 | 99.11% | 1 | 98.21% | 2 | 100.00% | 0 | 100.00% | 0 | 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 |
| 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 |
| Jan-21 | 57.14% | 3 | 100.00% | 0 | 83.87% | 5 | 100.00% | 0 | 96.77% | 1 | 100.00% | 0 |
| Feb-21 | OFF LOAD | 0 | 100.00% | 0 | 96.43% | 1 | 92.86% | 2 | 100.00% | 0 | 100.00% | 0 |

ADDENDUM TO MONTHLY EMISSIONS REPORT

Particulate Emission Monitors

| Availability | | | | | | |
|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
| 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% |
| Jan-21 | 86.90% | 99.60% | 99.74% | 100.00% | 91.53% | 99.44% |
| Feb-21 | OFF | 99.70% | 98.46% | 100.00% | 94.64% | 98.90% |

Gaseous Emission Monitors

| Availability | | | | | | | | | | | | |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Unit 1 | | Unit 2 | | Unit 3 | | Unit 4 | | Unit 5 | | Unit 6 | |
| Month | SO_x | NO_x | SO_x | NO_x | SO_x | NO_x | SO_x | NO_x | SO_x | NO_x | SO_x | NO_x |
| 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% |
| Jan-21 | 99.56% | 99.56% | 99.60% | 99.73% | 99% | 99% | 92.39% | 92.39% | 99.87% | 99.87% | 100.00% | 100.00% |
| Feb-21 | OFF | OFF | 99.70% | 99.70% | 100% | 100% | 92.56% | 92.71% | 98.65% | 98.65% | 98.27% | 98.52% |

ADDENDUM TO MONTHLY EMISSIONS REPORT

| Oxygen Monitor Availability | | | | | | |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
| 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% |
| Jan-21 | 99.56% | 99.06% | 99.54% | 100.00% | 99.87% | 99.87% |
| Feb-21 | OFF | 99.70% | 99.55% | 99.26% | 98.32% | 98.52% |

14. EFFICIENCY

| ESP Efficiency (%) | | | | | | |
|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 |
| 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% |
| Jan-21 | 99.622% | 99.689% | 99.717% | 99.832% | 99.827% | 99.745% |
| Feb-21 | OFF | 99.722% | 99.736% | 99.799% | 99.779% | 99.775% |

ADDENDUM TO MONTHLY EMISSIONS REPORT

15. REMARKS

| UNIT | MWLOSS | REASON | ACTUALSTARTDATE | ACTUALENDDATE |
|------|--------|-------------------------------------------|---------------------|---------------------|
| 1 | 593 | General Overhaul Outage | 2021/02/01 00:00:00 | 2021/02/28 23:59:59 |
| 2 | 47 | EF: High stack emissions | 2021/02/06 14:35:00 | 2021/02/07 00:08:00 |
| 2 | 67 | EF: High stack emissions. | 2021/02/10 00:43:00 | 2021/02/10 08:57:00 |
| 2 | 69 | High stack emissions. | 2021/02/10 15:16:00 | 2021/02/10 17:51:00 |
| 2 | 80 | High stack emissions | 2021/02/12 14:45:00 | 2021/02/12 17:30:00 |
| 2 | 130 | High stack emissions | 2021/02/12 20:39:00 | 2021/02/13 02:41:00 |
| 2 | 80 | EF: High stack emissions | 2021/02/14 21:18:00 | 2021/02/15 00:04:00 |
| 2 | 122 | EF:High stack emissions | 2021/02/17 20:38:00 | 2021/02/18 03:45:00 |
| 2 | 78 | EF: High stack emissions | 2021/02/20 00:43:00 | 2021/02/20 08:44:00 |
| 2 | 28 | EF: High stack emissions | 2021/02/20 08:44:00 | 2021/02/20 13:33:00 |
| 2 | 79 | EF: High stack emissions | 2021/02/20 13:33:00 | 2021/02/20 16:58:00 |
| 2 | 79 | EF: High stack emissions. | 2021/02/20 20:06:00 | 2021/02/21 00:00:00 |
| 2 | 80 | High stack emissions | 2021/02/22 20:02:00 | 2021/02/22 23:26:00 |
| 2 | 180 | Hight stack emissions | 2021/02/22 23:26:00 | 2021/02/23 00:11:00 |
| 2 | 52 | EF:High stack emissions | 2021/02/26 23:16:00 | 2021/02/27 00:18:00 |
| 2 | 80 | AM: LHO Precip casing repairs. | 2021/02/21 00:00:00 | 2021/02/21 22:23:00 |
| 3 | 593 | Unit tripped on feed water tank level low | 2021/02/13 20:42:00 | 2021/02/14 02:10:00 |
| 3 | 47 | High stack emissions | 2021/02/02 10:56:00 | 2021/02/02 12:29:00 |
| 3 | 50 | EF:High stack emissions. | 2021/02/02 20:59:00 | 2021/02/03 00:22:00 |
| 3 | 69 | EF: High stack emissions. | 2021/02/10 20:47:00 | 2021/02/10 22:15:00 |
| 3 | 48 | EF: High stack emissions. | 2021/02/20 21:35:00 | 2021/02/21 00:01:00 |
| 3 | 114 | High stack emissions. | 2021/02/23 11:13:00 | 2021/02/23 17:40:00 |
| 3 | 66 | EF: High stack emissions | 2021/02/26 10:05:00 | 2021/02/26 12:21:00 |
| 3 | 116 | EF: High stack emissions. | 2021/02/26 12:21:00 | 2021/02/26 17:03:00 |
| 3 | 118 | High stack emissions | 2021/02/26 20:29:00 | 2021/02/27 00:00:00 |
| 3 | 118 | LHI pricip casing repairs | 2021/02/27 00:00:00 | 2021/02/28 00:30:00 |
| 3 | 118 | AM: RHI Precip casing repairs. | 2021/02/28 00:30:00 | 2021/02/28 19:41:00 |
| 3 | 218 | EF: High stack emssions | 2021/02/01 00:00:00 | 2021/02/01 04:48:00 |
| 4 | 200 | EF: High stack emssions | 2021/02/11 06:59:00 | 2021/02/11 12:29:00 |
| 4 | 99 | EF: High stack emssions | 2021/02/11 12:29:00 | 2021/02/11 13:48:00 |
| 5 | 525 | Turbine physical over speed test | 2021/02/18 22:45:00 | 2021/02/19 02:11:00 |
| 5 | 593 | For RHO Precip casing partially blocked | 2021/02/19 02:11:00 | 2021/02/22 03:08:00 |
| 5 | 593 | Boiler tube leak repairs. | 2021/02/22 10:28:00 | 2021/02/26 02:13:00 |
| 5 | 59 | EF:High stack emissions. | 2021/02/01 00:00:00 | 2021/02/01 03:19:00 |
| 5 | 90 | High stack emissions | 2021/02/03 13:19:00 | 2021/02/03 20:25:00 |
| 5 | 110 | EF: High stack emissions | 2021/02/03 20:25:00 | 2021/02/03 21:15:00 |
| 5 | 130 | High stack emissions. | 2021/02/03 21:15:00 | 2021/02/03 22:08:00 |
| 5 | 159 | High stack emissions | 2021/02/03 22:08:00 | 2021/02/04 05:23:00 |
| 5 | 50 | EF: High stack emissions | 2021/02/06 09:05:00 | 2021/02/06 10:22:00 |
| 5 | 148 | EF: High stack emissions | 2021/02/06 10:22:00 | 2021/02/07 00:03:00 |
| 5 | 151 | High stack emissions. | 2021/02/09 09:42:00 | 2021/02/10 00:34:00 |
| 5 | 38 | High stack emissions | 2021/02/12 14:39:00 | 2021/02/12 17:20:00 |
| 5 | 32 | High stack emissions | 2021/02/12 20:22:00 | 2021/02/13 00:20:00 |
| 5 | 180 | EF: High stack emissions | 2021/02/28 12:27:00 | 2021/02/28 17:03:00 |
| 5 | 50 | RHI precip casing repairs. | 2021/02/08 00:12:00 | 2021/02/08 04:28:00 |
| 5 | 149 | RHI precip casing repairs. | 2021/02/08 04:28:00 | 2021/02/08 17:51:00 |
| 5 | 61 | Ef: High stack emssions | 2021/02/03 11:08:00 | 2021/02/03 13:19:00 |
| 6 | 593 | Boiler tube leak | 2021/02/10 10:20:00 | 2021/02/17 15:40:00 |
| 6 | 593 | Boiler tube leak repairs. | 2021/02/22 13:39:00 | 2021/02/28 12:44:00 |
| 6 | 118 | EF: High stack emissions | 2021/02/03 11:10:00 | 2021/02/03 13:24:00 |
| 6 | 60 | EF: High stack emissions | 2021/02/03 13:24:00 | 2021/02/03 17:03:00 |
| 6 | 171 | EF: High stack emissions | 2021/02/03 19:48:00 | 2021/02/04 05:12:00 |
| 6 | 72 | EF:High stack emissions. | 2021/02/04 20:18:00 | 2021/02/05 00:05:00 |
| 6 | 80 | EF: High stack emissions. | 2021/02/10 01:02:00 | 2021/02/10 08:56:00 |
| 6 | 119 | RHI precip casing repairs. | 2021/02/06 00:36:00 | 2021/02/06 00:52:00 |
| 6 | 217 | AM: Dust plant standing. | 2021/02/20 03:17:00 | 2021/02/20 17:42:00 |

| PM Exceedances | | |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| U2. | ESP Poor Performance | 04-Feb |
| U2. | Flue gas temperature imbalance Poor Esp Performance and Manual Rapping | 05-Feb |
| U2. | Poor ESP Performance | 08-Feb |
| U2. | ESP Poor Performance and manual rapping | 09-Feb |
| U2. | ESP Poor Performance | 11-Feb |
| U2. | <ul style="list-style-type: none"> • Manual rapping was implemented last night. • LHO F3 and RHO F3 high hopper levels. • LHO F7 Poor performing (under voltage) EMS provided feedback internal fault confirmed • LHI F7, EMS provided feedback sparking and arcing, awaiting plant | 16-Feb |
| U2. | <ul style="list-style-type: none"> • Manual rapping done last night therefore high emissions | 18-Feb |
| U2. | Poor ESP Performance | 19-Feb |
| U2. | Poor ESP performance | 19-Feb |
| U2. | <ul style="list-style-type: none"> • LHO casing was taken on outage | 21-Feb |
| U2. | Sharp increase in air flow from 23:00 contributed to higher emissions ESP poor Performance | 24-Feb |
| U2. | Manual Rapping ESP Poor Performance SO3 plant tripped on comms fault for 3 hours in the morning | 25-Feb |
| U2. | ESP Poor Performance | 27-Feb |
| U3. | Section 30 Incurred: SO3 plant challenges and Unit light up SO3 plant shut down for leak on converter | 01-Feb |
| U3. | DHP Standing, Poor Esp Performance and Manual Rapping required | 03-Feb |
| U3. | Poor ESP performance and Manual rapping | 05-Feb |
| U3. | ESP Poor Performance GCD provided feedback that backend transformers investigation continued yesterday and was brought back to service last night, additionally LH rapping problems occurred | 08-Feb |
| U3. | 2 blocked hoppers; ESP poor Performance | 12-Feb |

| | | |
|-----|-----------------------------------------------------------------------------------------|--------|
| U3. | Unit Tripped | 13-Feb |
| U3. | • Synchronised on load 14/02 @ 02:11, need to be below the limit by 17/02 @ 02:11 | 14-Feb |
| U3. | ESP Poor Performance | 18-Feb |
| U3. | HFT optimisation | 21-Feb |
| U3. | ESP Poor Performance | 22-Feb |
| U3. | Manual Rapping RHI has no power supply yesterday HFT optimization | 24-Feb |
| U3. | Poor ESP Performance | 25-Feb |
| U3. | Casing Outage | 27-Feb |
| U3. | Casing Outage, Number of defects were addressed and improvement in performance was seen | 28-Feb |
| U4. | • SO3 plant off for repairs on the thermocouple and pocket and leak on the converter. | 08-Feb |
| U4. | • SO3 plant off for repairs on the thermocouple and pocket and leak on the converter. | 09-Feb |
| U4. | SO3 plant repairs were done and the plant is ramping up | 10-Feb |
| U5. | Exceedance due to Poor ESP Performance and Manual Rapping | 01-Feb |
| U5. | ESP Poor Performance | 04-Feb |
| U5. | Poor ESP Performance (casing outage planned for the weekend) and manual rapping | 05-Feb |
| U5. | Poor ESP Performance | 07-Feb |

| | | |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| U5. | <ul style="list-style-type: none"> • High hoppers on LHO F5 and RHO F3, • RHO casing is partially blocked causing poor performance. Unit need to be off for 3 days to unblock | 10-Feb |
| U5. | <ul style="list-style-type: none"> • Manual Rapping done | |
| U5. | Poor ESP Performance | 11-Feb |
| U5. | <ul style="list-style-type: none"> • BPE advised unit was running high last night due to manual soot blowing | 15-Feb |
| U5. | <ul style="list-style-type: none"> • Unit is requested for weekend maintenance of 3.5 days, • Need to manage emissions with manual rapping until unit is off for opportunity RHO Precip casing partially blocked | 17-Feb |
| U5. | <ul style="list-style-type: none"> • Unit was high due to it being shut down between 23:00-00:00 RHO Precip casing partially blocked | 18-Feb |
| U5. | Unit Shut Down for RHO Precip Casing blocked and ID fan Vane fault | 19-Feb |
| U5. | Unit Synchronised 03:08 22/02/2021 Unit Shut Down for Boiler Tube Leak Repairs 10:29 22/02/2021 | 22-Feb |
| U5. | Unit Synchronised on load at 02:13 26/02/2021 | 26-Feb |
| U5. | Unit Light Up | 27-Feb |
| U5. | Unit Light Up | 28-Feb |
| U6. | Exceedance due to Poor ESP Performance and Manual Rapping | 01-Feb |
| U6. | Poor ESP Performance | 02-Feb |
| U6. | Poor ESP Performance and manual rapping | 05-Feb |
| U6. | Poor ESP Performance | 06-Feb |
| U6. | ESP Poor performance | 08-Feb |
| U6. | ESP Poor Performance | 09-Feb |
| U6. | ESP Poor Performance | 21-Feb |
| U6. | <ul style="list-style-type: none"> • Unit Synchronized on 28/02 @ 12:44, need to be below the limit on 03/03 @ 12:44 | 28-Feb |

| NOX Exceedances | | |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| U3. | Because there is no abatement technology for NOx installed at Lethabo to assist with reducing the amount of NOx produced, operating with both top mills in service and one bottom mill out resulted in the NOx exceeding the limit | 06-Feb |
| U3. | Because there is no abatement technology for NOx installed at Lethabo to assist with reducing the amount of NOx produced, operating with both top mills in service and one bottom mill out resulted in the NOx exceeding the limit | 07-Feb |
| U3. | Because there is no abatement technology for NOx installed at Lethabo to assist with reducing the amount of NOx produced, operating with both top mills in service and one bottom mill out resulted in the NOx exceeding the limit | 09-Feb |
| U3. | Because there is no abatement technology for NOx installed at Lethabo to assist with reducing the amount of NOx produced, operating with both top mills in service and one bottom mill out resulted in the NOx exceeding the limit | 17-Feb |
| U6. | Because there is no abatement technology for NOx installed at Lethabo to assist with reducing the amount of NOx produced, operating with both top mills in service and one bottom mill out resulted in the NOx exceeding the limit | 01-Feb |