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Date:
22 May 2024

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LRP01PLA111 _0401/20240509

Dear Mr. Mkhathshwa

LETHABO POWER STATION EMISSION MONTHLY REPORT FOR APRIL 2024

Please find attached Lethabo Power Station emission report for the month of April 2024.

Also attached are the Ambient Air Quality Monitoring Report, Complaints Register and the Fugitive Dust Fallout Monitoring Report for April 2024.

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

Yours sincerely

Karabo Rakgolela
GENERAL MANAGER

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Eskom Holdings SOC Ltd Reg No 2002/015527/30



Report

Lethabo Power Station

Report name: **Lethabo Power Station**
April 2024
Emission Report

Reference number: **LRP01PLA111 _0401/20240509**
Document Type: **Report**
Area of Applicability: **Environment**
Report Date: **May-2024**
Classification: **Controlled Disclosure**

Signatures:

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Date: 21 May 2024

Verified by :


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Senior Advisor

Date: 2024 05 22

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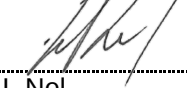
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Date: 2024/05/23

Reviewed by:


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C&I Manager

Date: 2024-05-23

Reviewed by:


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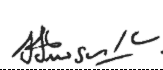
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LETHABO POWER STATION MONTHLY EMISSIONS REPORT

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 Apr-2024
	Coal	Tons	2 000 000	1 173 567
	Fuel Oil	Tons	1 700	506,980
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Indicative Production Rate Apr-2024
	Energy	GWh	2 743,200	1 586,239
	Ash	Tons	770 000	442 669,416
	RE Ash	kg/MWh	Not Specified	279,069

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: $[3\,810\text{ MW}] \times 24\text{ hrs} \times \text{days in Month}/1000$ to convert to GWh.

2. ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.656 (Standard)	0,740
Ash Content	%	37.37 (Standard)	37,720

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	SO ₂	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. ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Apr-2024	Technology Type	SO ₃ Utilization Apr-2024
Unit 1	Electrostatic Precipitator (ESP)	99,90%	SO ₃	99,5%
Unit 2	Electrostatic Precipitator (ESP)	99,70%	SO ₃	93,9%
Unit 3	Electrostatic Precipitator (ESP)	99,77%	SO ₃	99,6%
Unit 4	Electrostatic Precipitator (ESP)	99,70%	SO ₃	100,0%
Unit 5	Electrostatic Precipitator (ESP)	99,71%	SO ₃	100,0%
Unit 6	Electrostatic Precipitator (ESP)	Unit Off-line	SO ₃	Off-line

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

5. MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO
Unit 1	99,7	100,0	100,0
Unit 2	92,7	100,0	100,0
Unit 3	97,2	100,0	100,0
Unit 4	94,0	100,0	100,0
Unit 5	98,1	100,0	100,0
Unit 6	OFF	OFF	OFF

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

6. EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of April 2024

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	81,7	2 845	1 433
Unit 2	207,3	3 024	947
Unit 3	187,2	3 221	1 326
Unit 4	250,2	3 735	1 719
Unit 5	227,9	4118	1568
Unit 6	OFF	OFF	OFF
SUM	954,3	16 943	6 994

Table 6.2: Operating days in compliance to PM AEL Limit - April 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average PM (mg/Nm³)
Unit 1	24	2	0	0	2	50,6
Unit 2	16	10	0	0	10	157,7
Unit 3	18	12	0	0	12	105,9
Unit 4	19	11	0	0	11	159,3
Unit 5	21	9	0	0	9	105,8
Unit 6	OFF	OFF	OFF	OFF	OFF	OFF
SUM	98	44	0	0	44	

Table 6.3: Operating days in compliance to SO₂ AEL Limit - April 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contraven- tion	Total Exceedance	Average SO ₂ (mg/Nm³)
Unit 1	27	0	0	0	0	1 687,9
Unit 2	27	0	0	0	0	1 824,9
Unit 3	30	0	0	0	0	1 845,4
Unit 4	30	0	0	0	0	1 747,3
Unit 5	30	0	0	0	0	1 919,9
Unit 6	0	0	0	0	0	
SUM	144	0	0	0	0	

Table 6.4: Operating days in compliance to NOx AEL Limit - April 2024

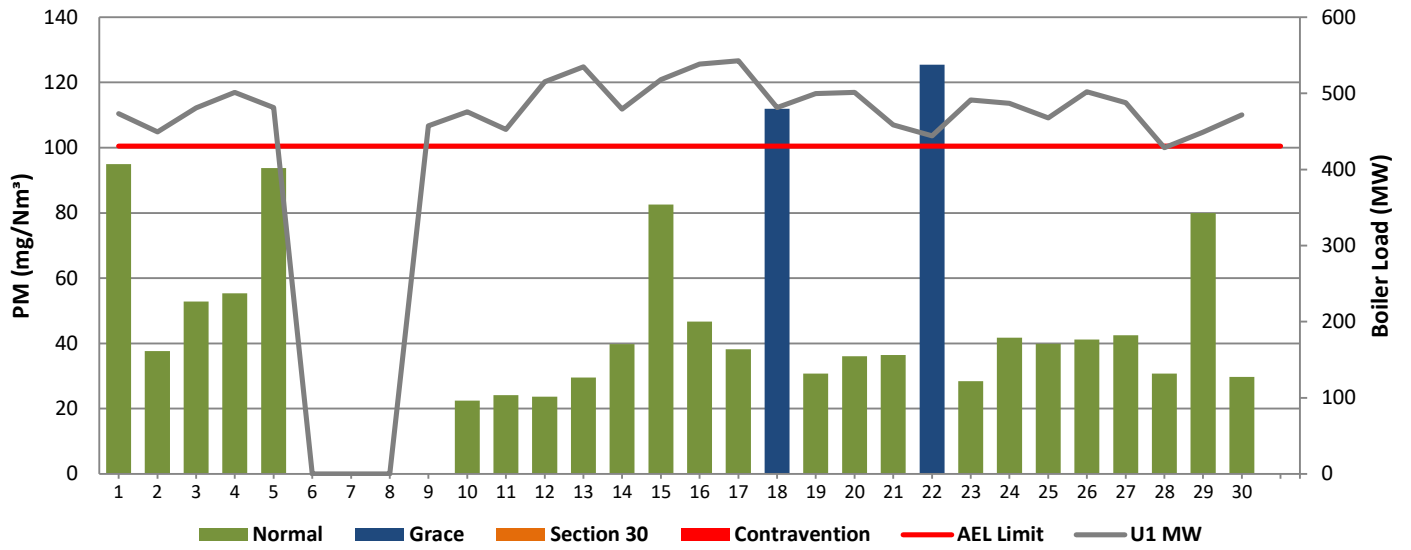
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	27	0	0	0	0	847,6
Unit 2	27	0	0	0	0	568,9
Unit 3	30	0	0	0	0	759,9
Unit 4	30	0	0	0	0	800,9
Unit 5	30	0	0	0	0	730,2
Unit 6	OFF	OFF	OFF	OFF	OFF	
SUM	144	0	0	0	0	

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

Table 6.5: Legend Description

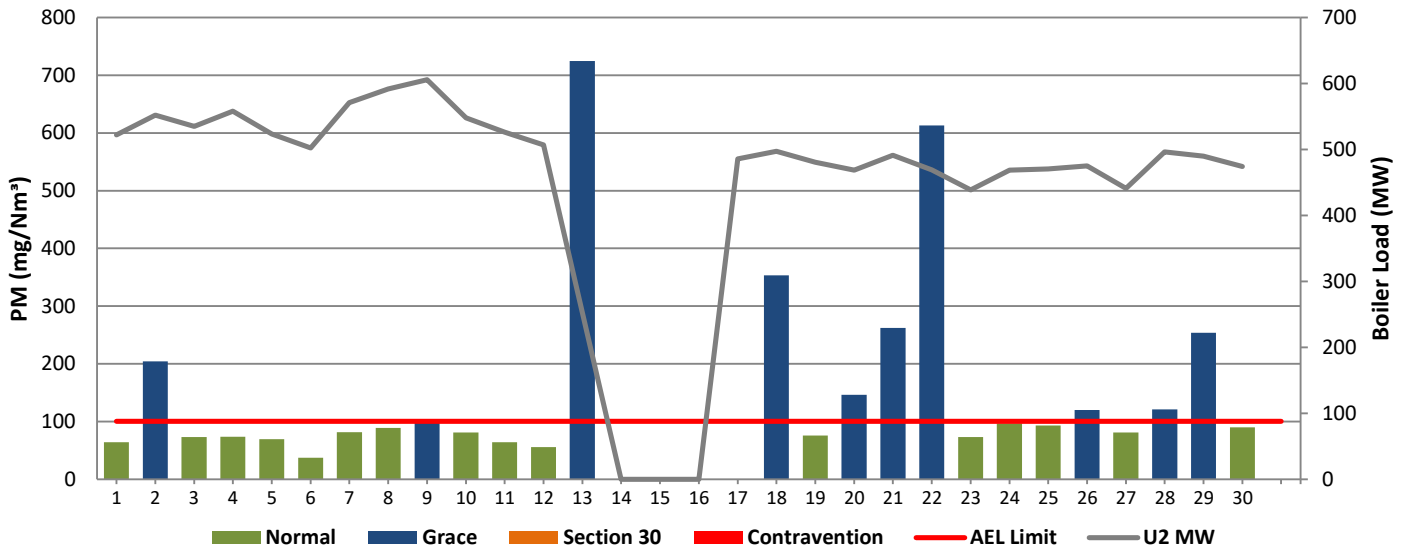
Condition	Colour	Description
Normal	GREEN	Emissions below Emission Limit Value (ELV)
Grace	BLUE	Emissions above the ELV during grace period
Section 30	ORANGE	Emissions above ELV during a NEMA S30 incident
Contravention	RED	Emissions above ELV but outside grace or S30 incident conditions

Figure 1: Lethabo Unit 1 PM Emissions - April 2024



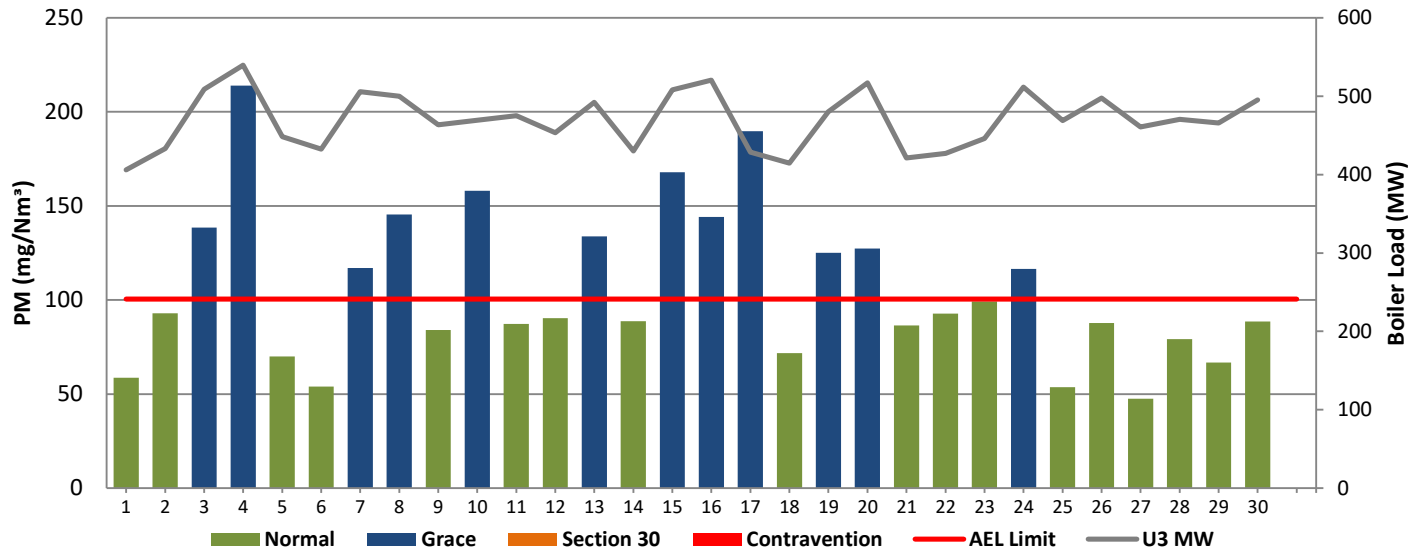
Reasons:	
Date	Description:
18-Apr	Manual rapping carried out
22-Apr	Manual rapping carried out

Figure 2: Lethabo Unit 2 PM Emissions - April 2024



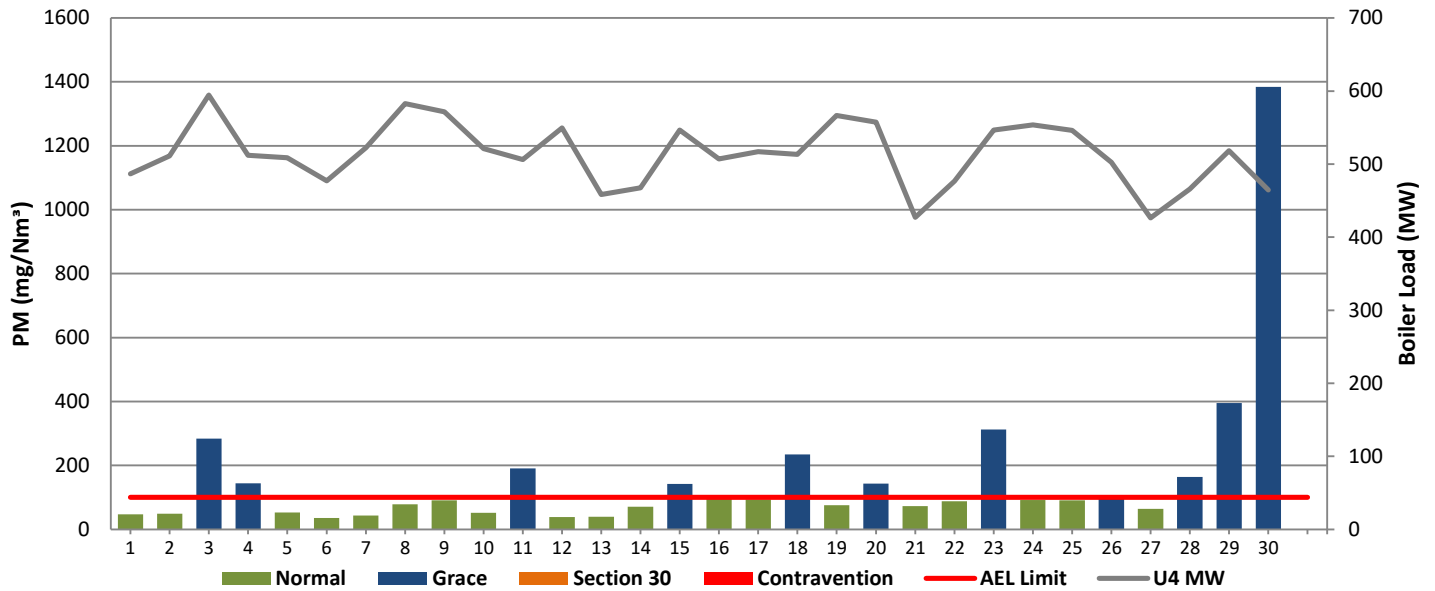
Reasons:	
Date	Description:
02-Apr	Manual rapping carried out.
09-Apr	DHP issues
13-Apr	Unit 2 shut-down for BTL
18-Apr	U2 synchronised on 17/04/2024 @06h36 & emissions to be below on 20/04/2024 @06h36
20-Apr	Precip poor performance on casing fields [LHO - 1, 2 & 3 - 0 kw; LHI - 6 (0 kw) & RHI - 1, 2 & 3 (0 kw) & 5, 6 -7 (11
21-Apr	RHI ESP casing poor performance
22-Apr	RHI Casing outage
26-Apr	Poor ESP casing performance
28-Apr	Poor ESP casing performance
29-Apr	Manual rapping carried out

Figure 3: Lethabo Unit 3 PM Emissions - April 2024



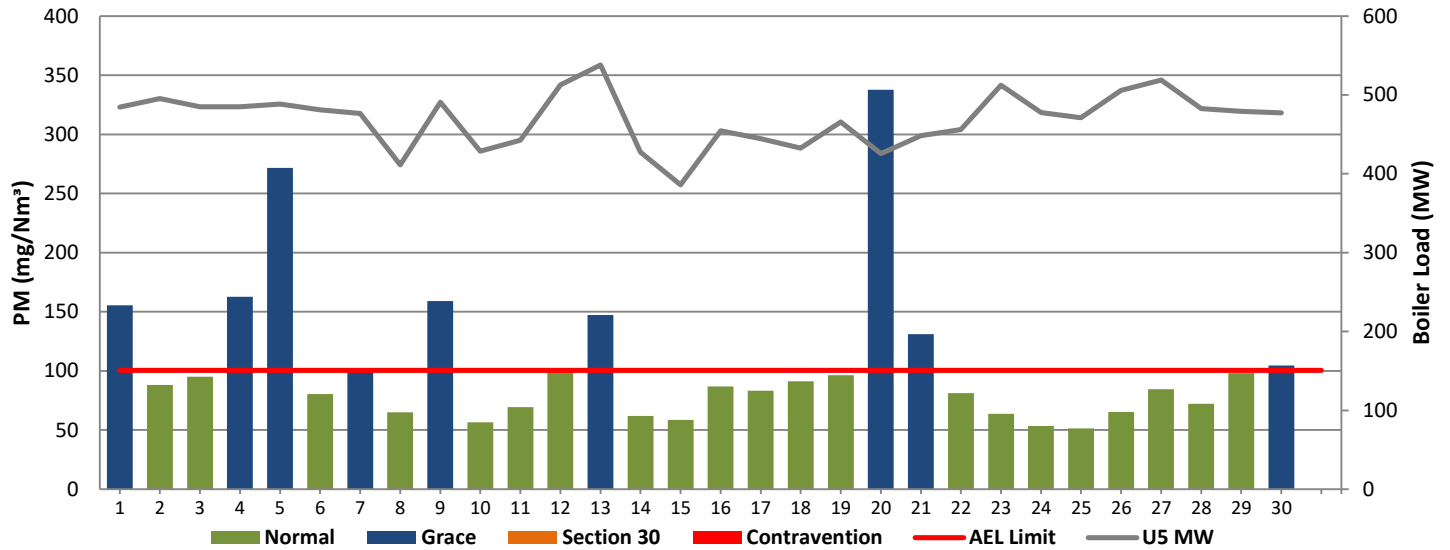
Reasons:	
Date	Description:
03-Apr	Dust handling plant challenges
04-Apr	Manual rapping carried out.
07-Apr	Sulphur fluctuations due to boiler load
08-Apr	Manual rapping
10-Apr	Manual rapping
13-Apr	Poor casing performance
15-Apr	Manual rapping carried out
16-Apr	High hopper levels
17-Apr	Manual rapping carried out
19-Apr	Manual rapping
20-Apr	SO3 plant flow control valve issues
24-Apr	Manual rapping carried out

Figure 4: Lethabo Unit 4 PM Emissions - April 2024



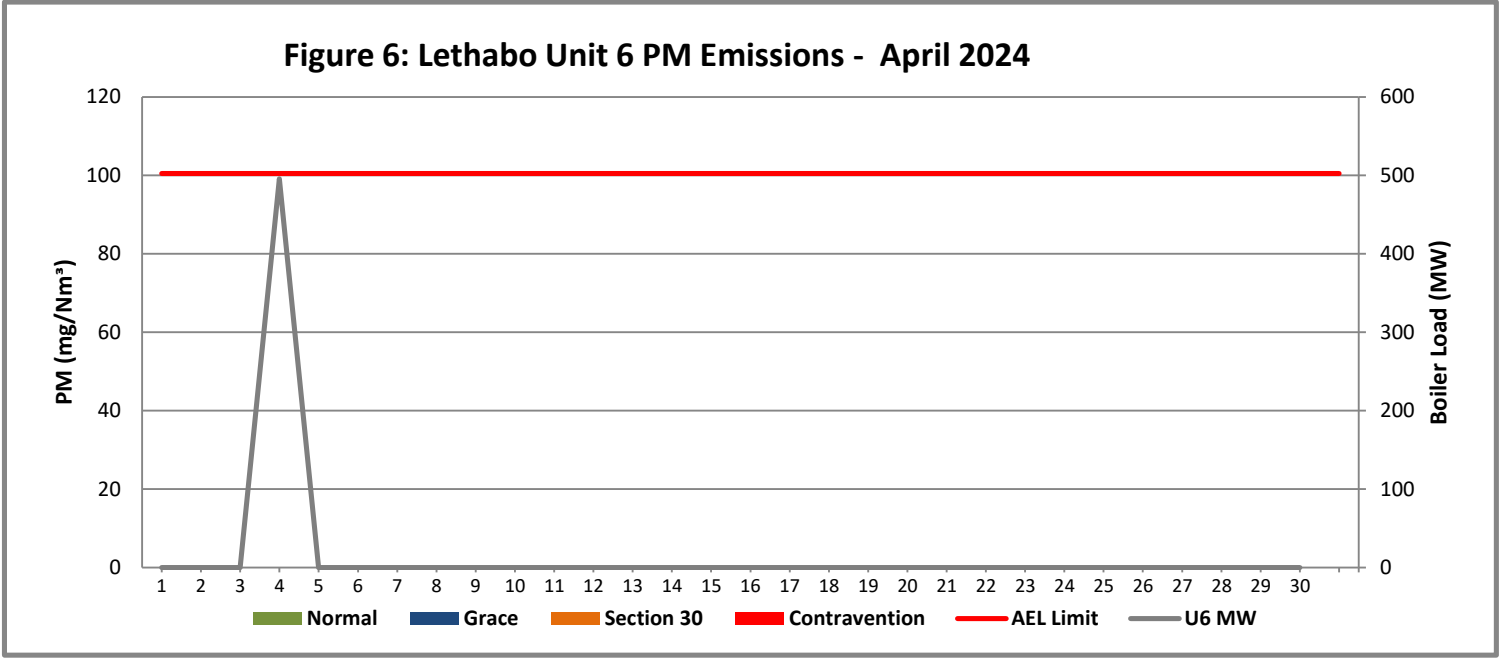
Reasons:	
Date	Description:
03-Apr	High hopper levels
04-Apr	High hopper levels.
11-Apr	Manual rapping
15-Apr	Dust Handling Plant Issues
18-Apr	Manual rapping carried out
20-Apr	Poor casing performance
23-Apr	Manual rapping carried out
26-Apr	Poor ESP casing performance
28-Apr	LHO ESP casing poor performance
29-Apr	Poor ESP casing performance
30-Apr	Unit tripped on black furnace

Figure 5: Lethabo Unit 5 PM Emissions - April 2024



Reasons:	
Date	Description:
01-Apr	Manual rapping carried out
04-Apr	Dust plant issues
05-Apr	LHI Casing outage
07-Apr	Poor casing performance on LHI
09-Apr	Manual rapping
13-Apr	Manual rapping carried out
20-Apr	Manual rapping
21-Apr	RHO casing outage
30-Apr	High hopper levels

Figure 6: Lethabo Unit 6 PM Emissions - April 2024



Reasons:	
Date	Description:

Figure 7: Lethabo Unit 1 SO₂ Emissions - April 2024

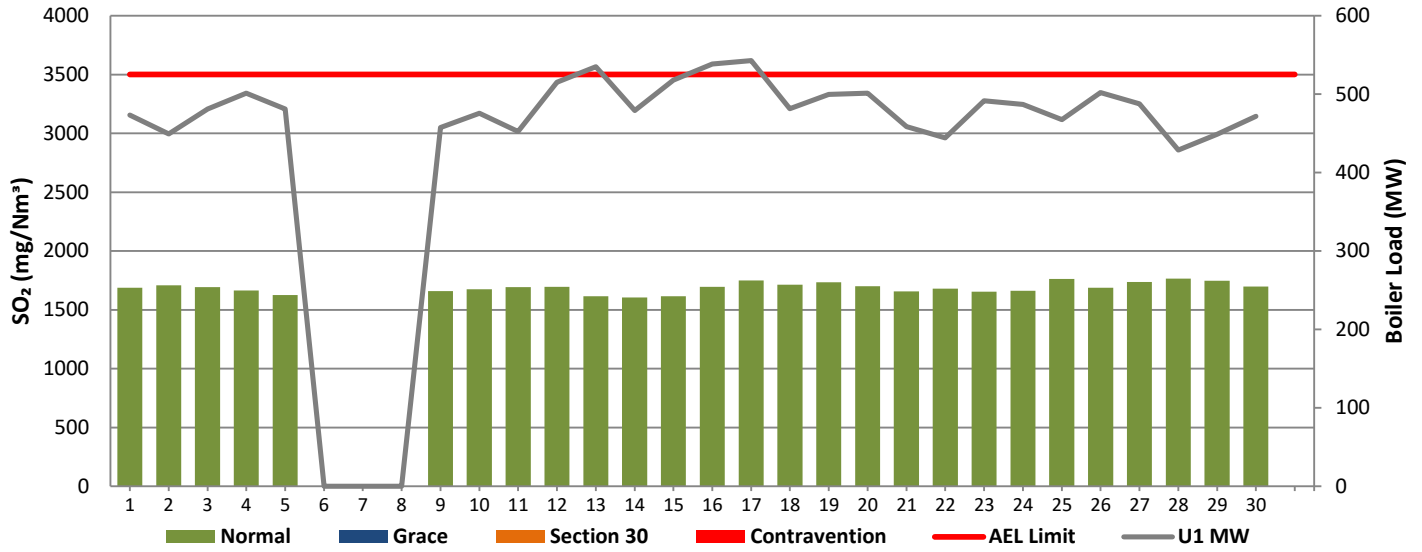


Figure 8: Lethabo Unit 2 SO₂ Emissions - April 2024

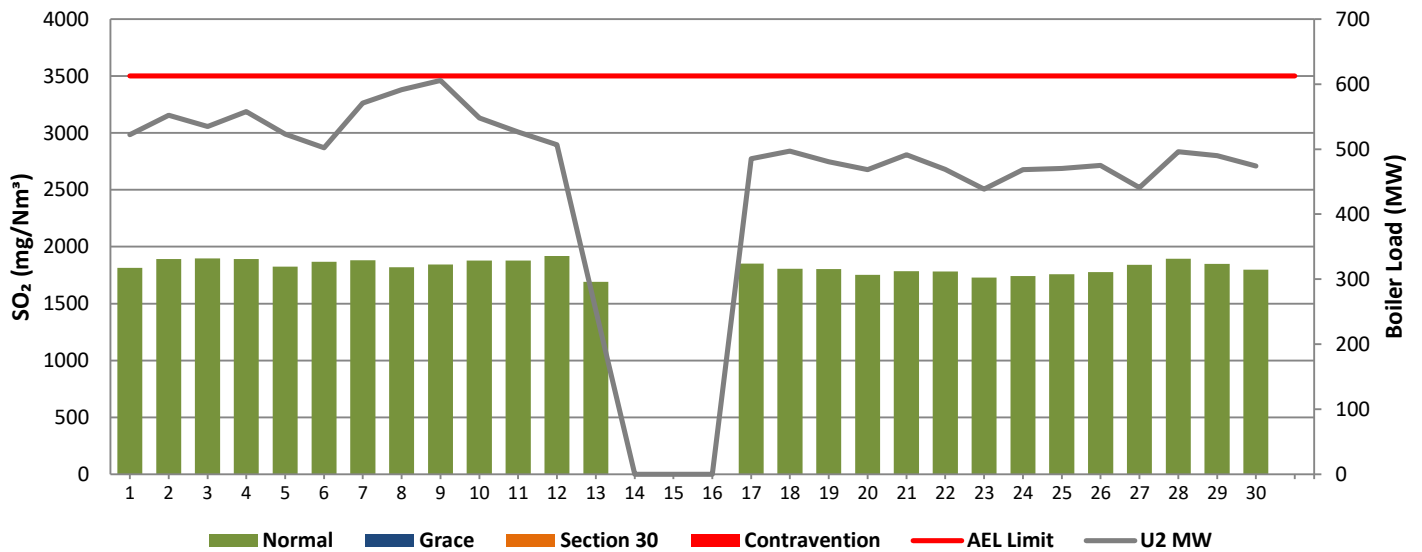


Figure 9: Lethabo Unit 3 SO₂ Emissions - April 2024

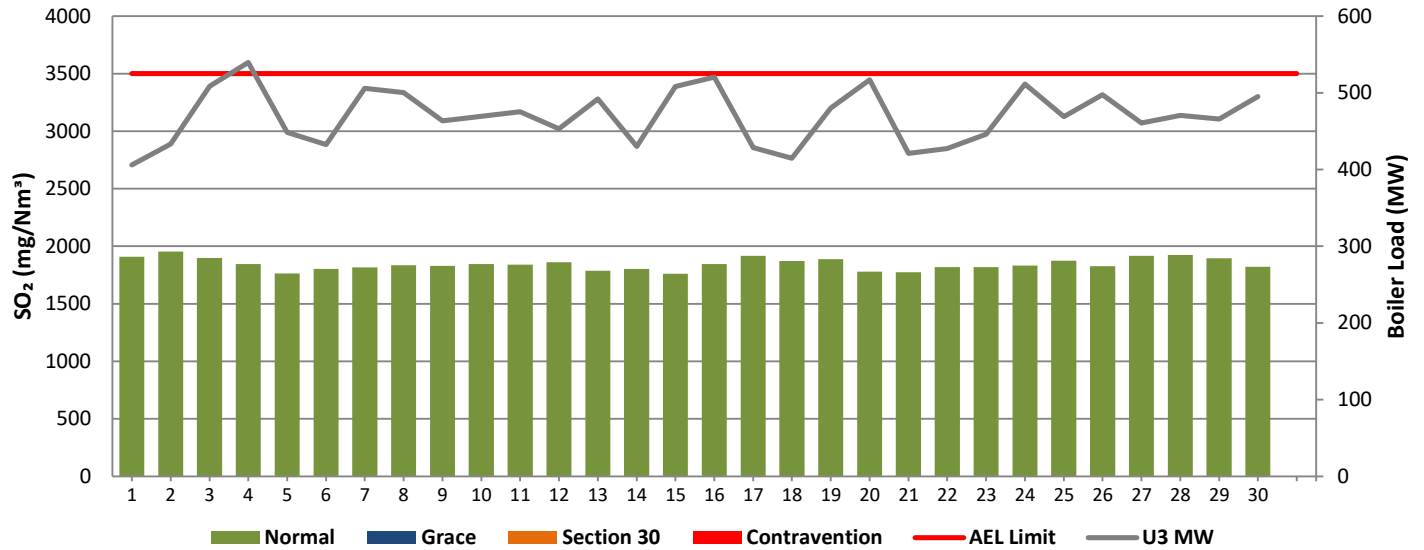


Figure 10: Lethabo Unit 4 SO₂ Emissions - April 2024

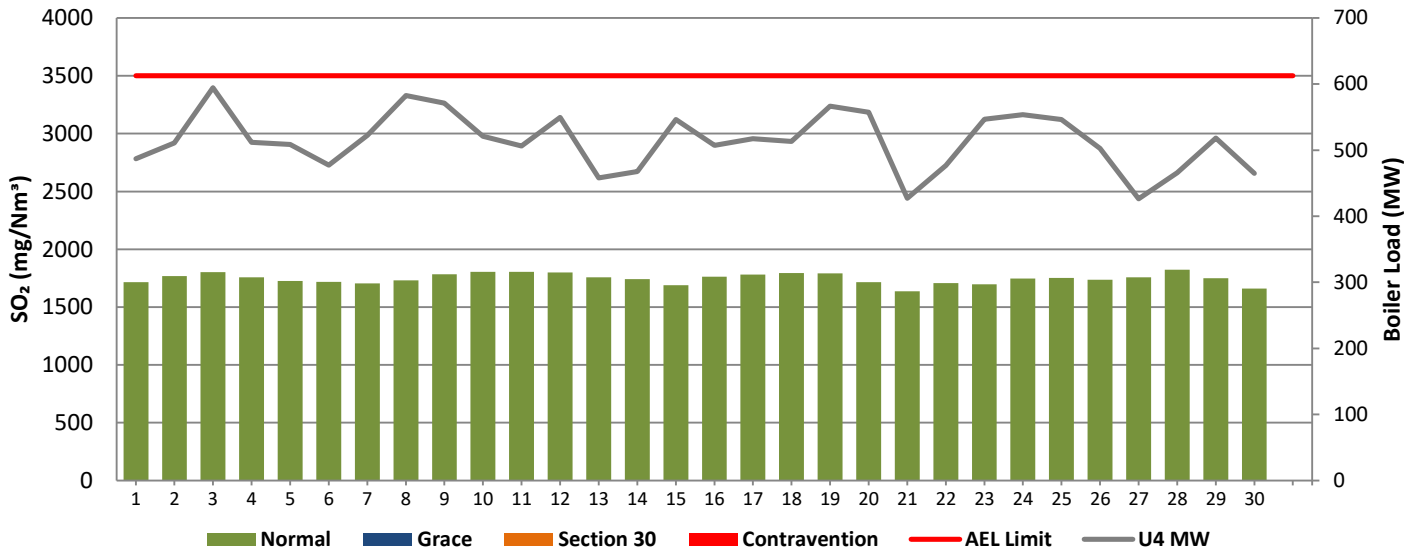


Figure 11: Lethabo Unit 5 SO₂ Emissions - April 2024

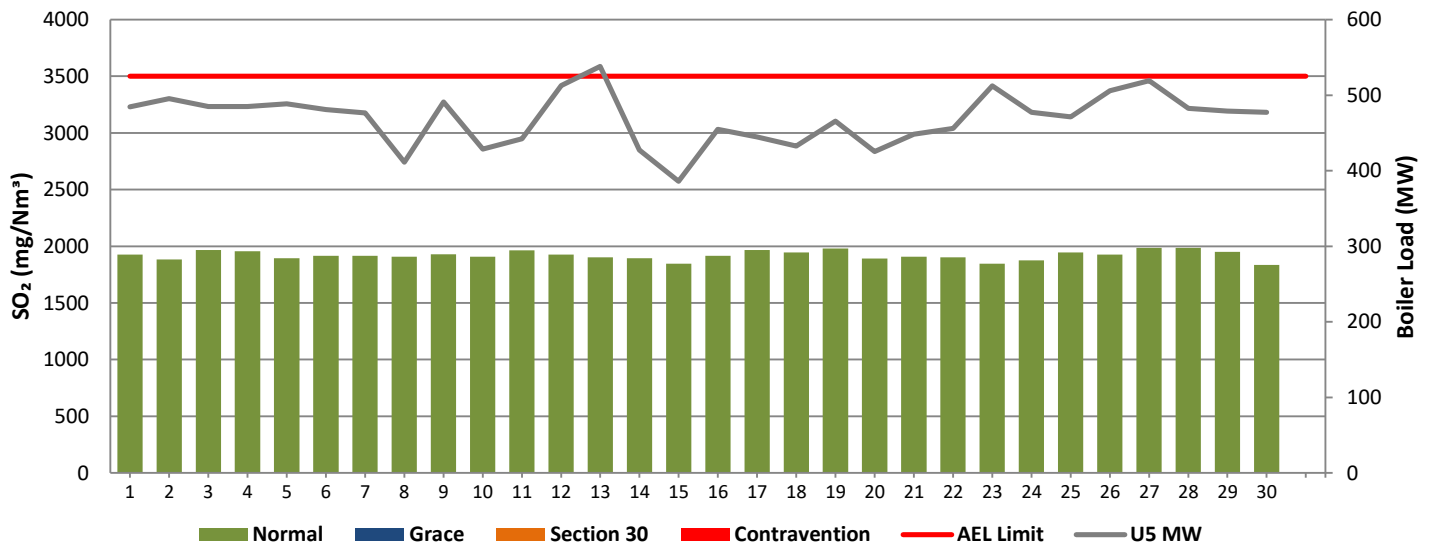


Figure 12: Lethabo Unit 6 SO₂ Emissions - April 2024

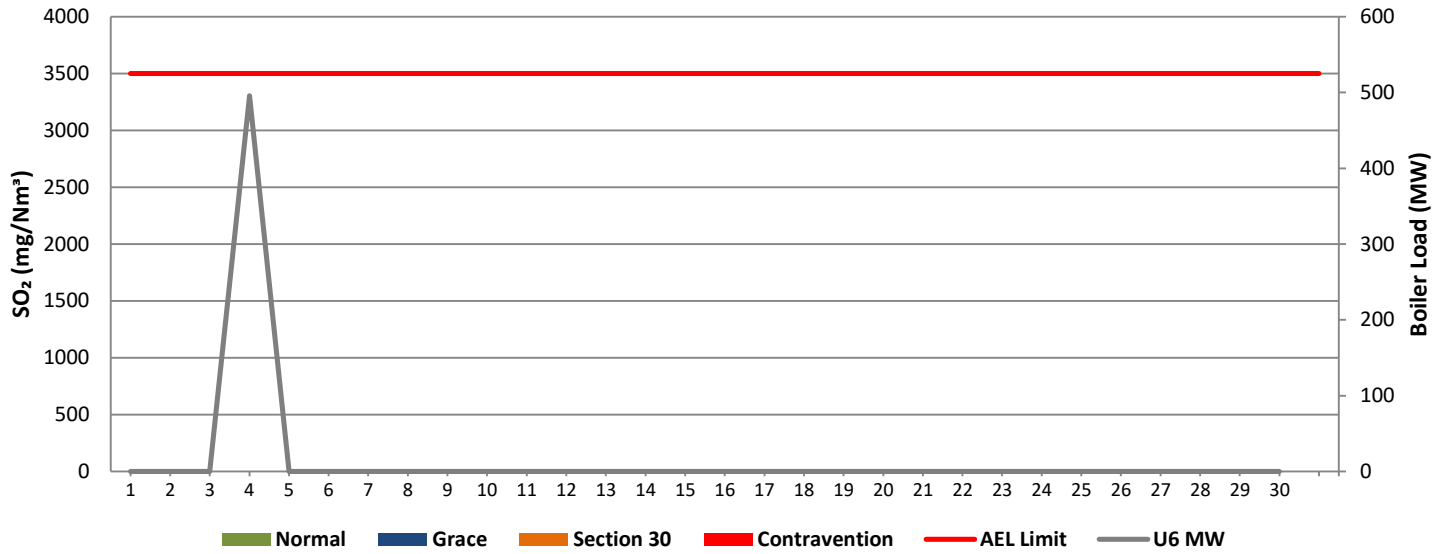


Figure 13: Lethabo Unit 1 NO_x Emissions - April 2024

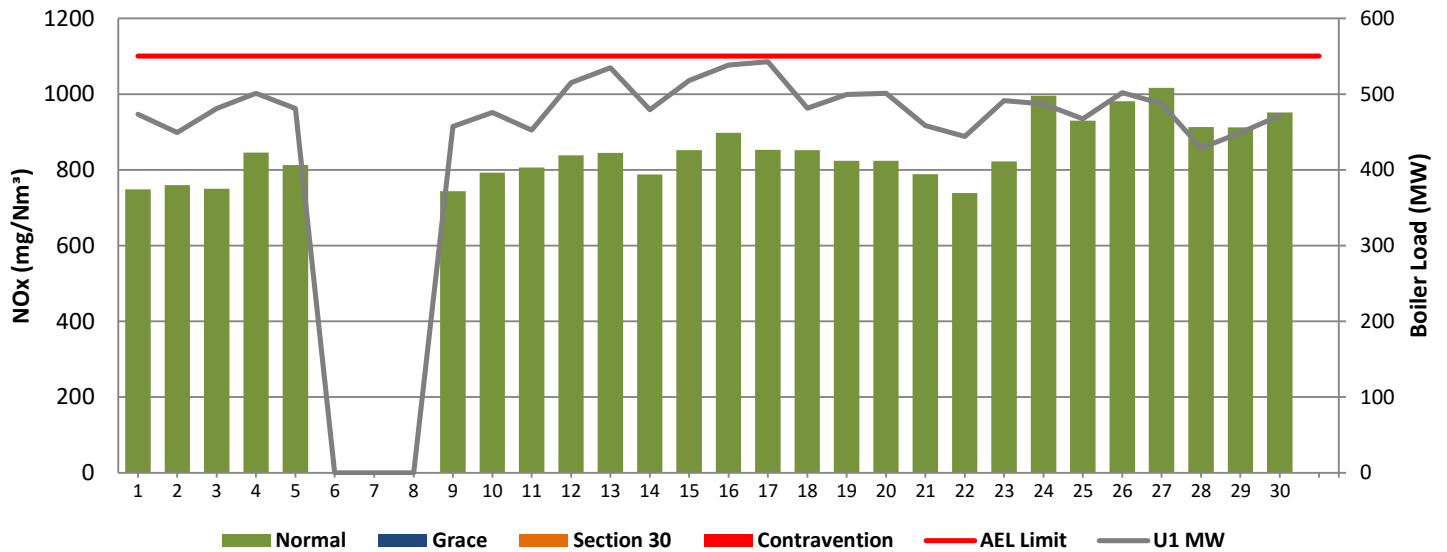


Figure 14: Lethabo Unit 2 NOx Emissions - April 2024

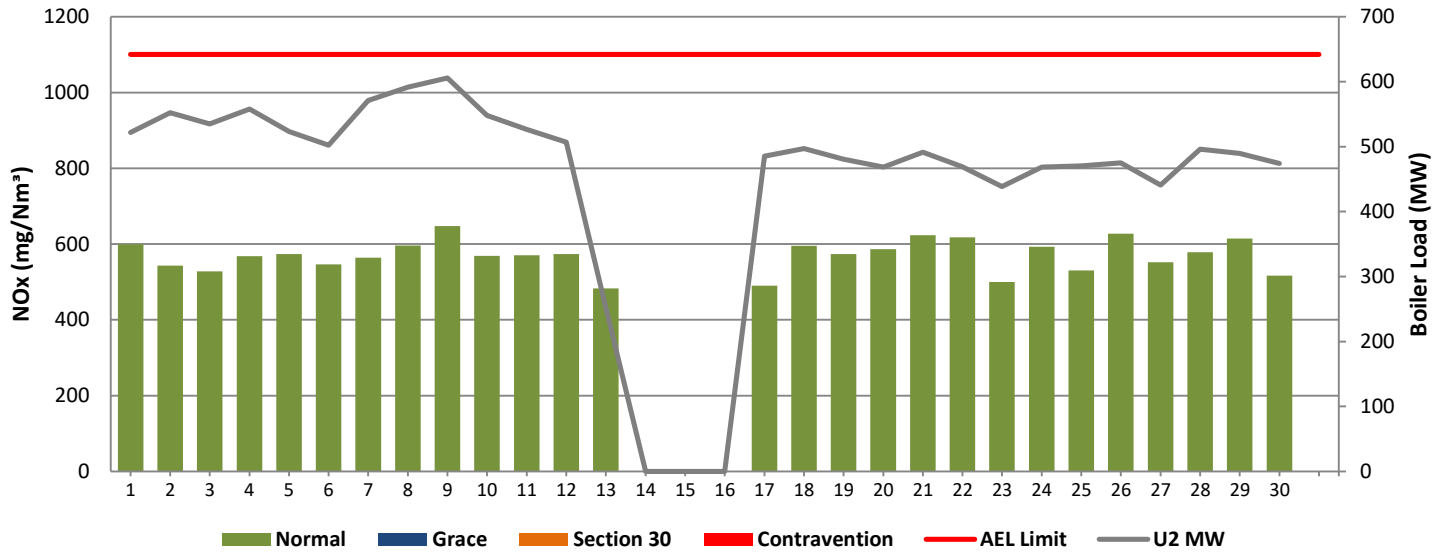


Figure 15: Lethabo Unit 3 NOx Emissions - April 2024

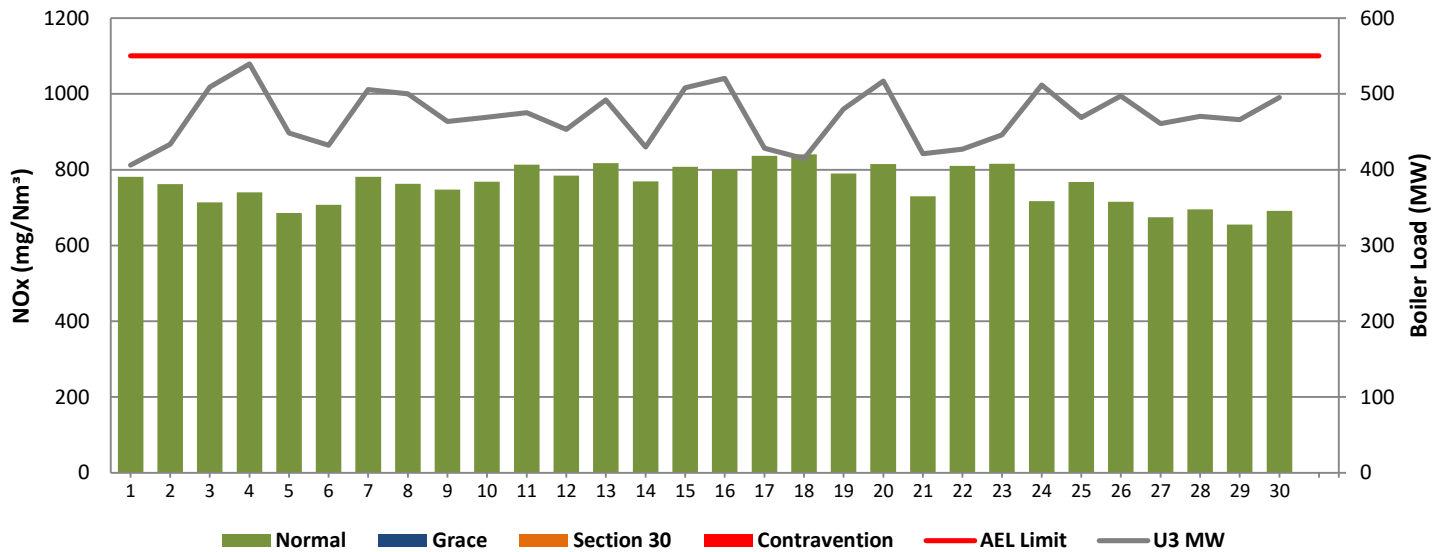


Figure 16: Lethabo Unit 4 NOx Emissions - April 2024

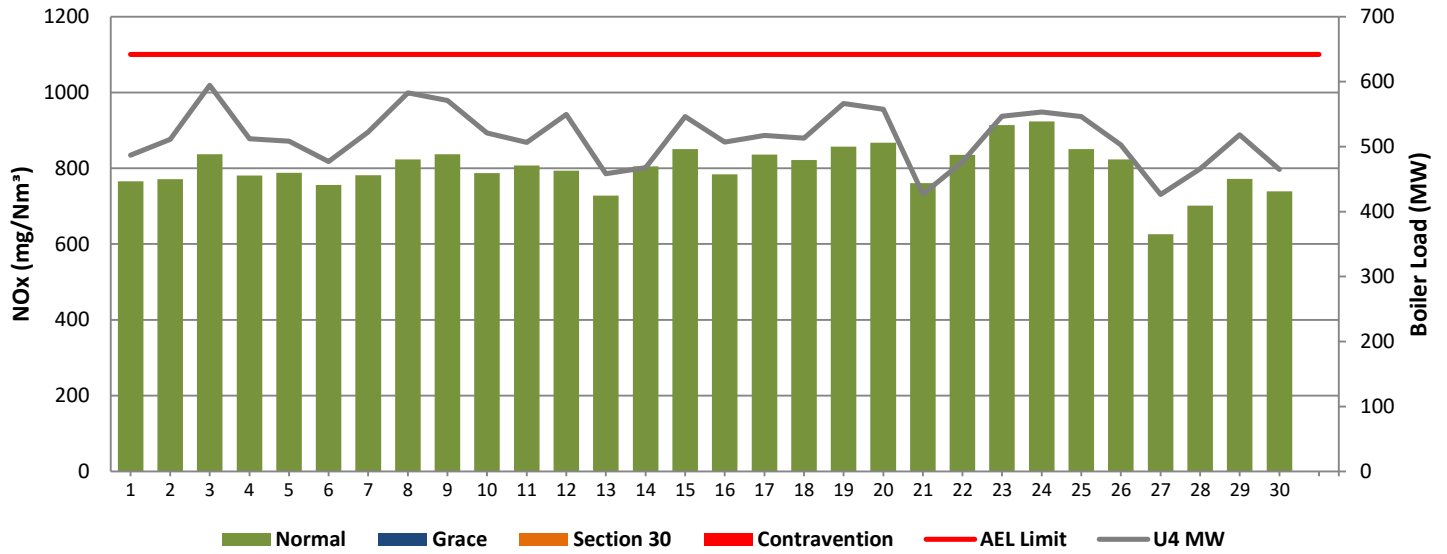


Figure 17: Lethabo Unit 5 NOx Emissions - April 2024

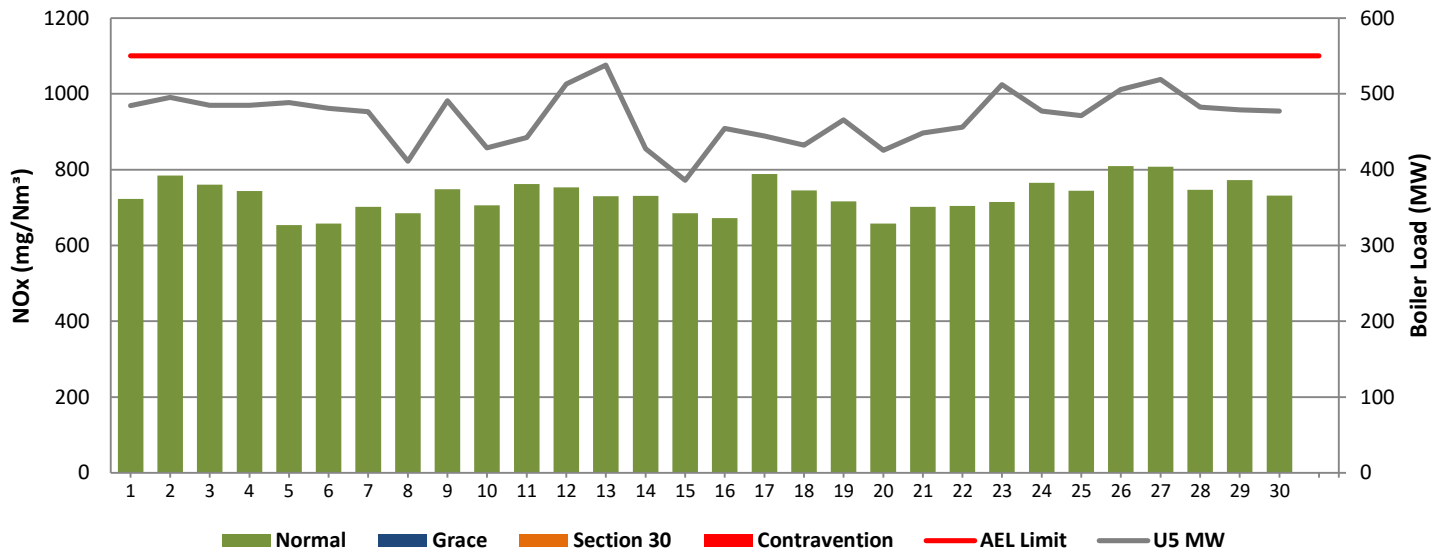
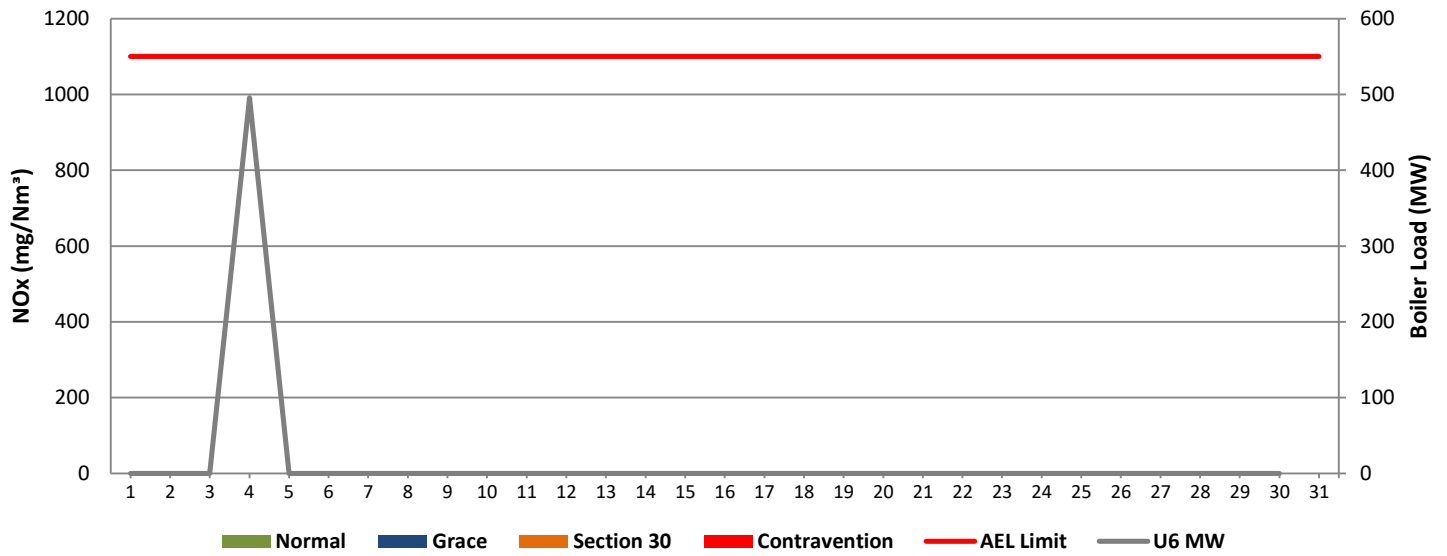


Figure 18: Lethabo Unit 6 NOx Emissions - April 2024



7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1: PM Start-up information for the month of April 2024

Unit No.1	<i>Boiler tube leak repairs and Cold reheat NRV leak.</i>		<i>Tripped on vacuum</i>					
Breaker Open (BO)	2:42 pm	2024/04/05	8:22 pm	2024/04/18				
Draught Group (DG) Shut Down (SD)	4:19 am	2024/04/06	DG did not trip or SD	DG did not trip or SD				
BO to DG SD (duration)	00:13:37	DD:HH:MM	n/a	DD:HH:MM				
Fires in time	11:45 am	2024/04/09						
Synch. to Grid (or BC)	1:29 pm	2024/04/09						
Fires in to BC (duration)	00:01:44	DD:HH:MM		DD:HH:MM				
Emissions below limit from BC (end date)	2:50 pm	2024/04/05						
Emissions below limit from BC (duration)	-3,94375	DD:HH:MM		DD:HH:MM				

Unit No.2	<i>Islanding test.</i>		<i>Boiler tube leak repairs.</i>					
Breaker Open (BO)	12:30 pm	2024/04/05	12:57 am	2024/04/13				
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	12:53 pm	2024/04/13				
BO to DG SD (duration)	n/a	DD:HH:MM	00:11:56	DD:HH:MM				
Fires in time			5:00 am	2024/04/17				
Synch. to Grid (or BC)			6:38 am	2024/04/17				
Fires in to BC (duration)		DD:HH:MM	00:01:38	DD:HH:MM				
Emissions below limit from BC (end date)			12:00 am	2024/04/19				
Emissions below limit from BC (duration)		DD:HH:MM	01:17:22	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>Unit tripped on low drum level</i>		<i>Black furnace</i>					
Breaker Open (BO)	12:41 am	2024/04/06	12:05 am	2024/04/30				
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	2:05 am	2024/04/30				
BO to DG SD (duration)	n/a	DD:HH:MM	00:02:00	DD:HH:MM				
Fires in time	7:15 am	2024/04/06	11:05 am	2024/04/30				
Synch. to Grid (or BC)	9:02 am	2024/04/06	12:15 pm	2024/04/30				
Fires in to BC (duration)	00:01:47	DD:HH:MM	00:01:10	DD:HH:MM				
Emissions below limit from BC (end date)	6:00 am	2024/04/08	10:40 am	2024/05/03				
Emissions below limit from BC (duration)	01:20:58	DD:HH:MM	02:22:25	DD:HH:MM				

Unit No.5	0		0		0			
Breaker Open (BO)								
Draught Group (DG) Shut Down (SD)								
BO to DG SD (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM

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

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of April 2024 in mg/Nm³

8. MAINTENANCE

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

Unit 2				
Beginning of				
Reason for Maintenance				
End (Time):				
Duration				

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

Unit 4				
Beginning of	2024/02/24 15:15			
Reason for Maintenance	LHO casing repairs			
End (Time):	2024/02/24 18:17			
Duration	3:02:00			

Unit 5				
Beginning of	2024/04/05 08:24	2024/04/20 00:00	2024/04/21 00:00	
Reason for Maintenance	LHI precip casing repairs.	LHI precip casing.	AM: RHO Precip. casing	
End (Time):	2024/04/06 05:34	2024/04/21 00:00	2024/04/22 04:51	
Duration	21:10:00	24:00:00	28:51:00	

Unit 6				
Beginning of				
Reason for Maintenance				
End (Time):				
Duration				

9. GENERAL

Unit 2 Monitor Reliability

06/04/2024: PM Monitor Reliability low due to monitors unavailability.

22/04/2024: PM monitor reliability low due to monitor reading maxing out.

Unit 3 Monitor Reliability

06/04/2024 : PM Monitor Reliability low due to monitors unavailability.

Unit 4 Monitor Reliability

30/04/2024: PM Monitor Reliability low due to monitors reading maxing out.

Unit 5 Monitor Reliability

20/04/2024: PM monitor reliability low due to monitors reading maxing out.

CO2 and Velocity Monitors Low Reliability Units 1-6:

Due to correction of bad data as per internal emission data integrity review actions in 2021 and 2022. Bad Velocity data and Bad CO2 data were corrected/removed as per the review actions and findings.

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.

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
May-23	OFF	0,48	0,46	0,32	0,64	0,41	0,47
Jun-23	0,13	0,64	0,47	0,30	0,46	0,30	0,36
Jul-23	0,21	0,27	0,42	0,27	0,25	0,32	0,30
Aug-23	0,21	0,60	0,63	0,42	0,42	0,50	0,46
Sep-23	0,26	0,28	0,46	0,41	0,33	0,51	0,37
Oct-23	0,26	0,48	0,63	0,43	0,39	0,42	0,43
Nov-23	0,83	1,31	0,94	0,67	0,59	0,75	0,87
Dec-23	0,53	0,87	0,88	1,25	0,93	0,71	0,85
Jan-24	0,53	0,98	0,85	0,87	0,75	0,78	0,79
Feb-24	0,55	0,81	0,89	0,63	0,48	OFF	0,68
Mar-24	0,86	0,58	0,97	0,69	0,84	OFF	0,79
Apr-24	0,27	0,66	0,55	0,69	0,68	OFF	0,58

ADDENDUM TO MONTHLY EMISSIONS REPORT

12. DAILY EMISSIONS FIGURES

Final Dust Concentration (mg/Nm³)							
Date	U1	U2	U3	U4	U5	U6	Limit
31-Mar	44	59	181	45	64	OFF	100
01-Apr	95	64	59	47	156	OFF	100
02-Apr	38	205	93	49	88	OFF	100
03-Apr	53	73	138	285	95	OFF	100
04-Apr	55	74	214	144	163	OFF	100
05-Apr	94	70	70	53	272	OFF	100
06-Apr	OFF	37	54	36	80	OFF	100
07-Apr	OFF	81	117	43	101	OFF	100
08-Apr	OFF	89	145	78	65	OFF	100
09-Apr	OFF	101	84	91	159	OFF	100
10-Apr	22	81	158	52	57	OFF	100
11-Apr	24	64	87	191	69	OFF	100
12-Apr	24	56	90	39	100	OFF	100
13-Apr	30	724	134	40	147	OFF	100
14-Apr	40	OFF	89	71	62	OFF	100
15-Apr	83	OFF	168	142	59	OFF	100
16-Apr	47	OFF	144	98	87	OFF	100
17-Apr	38	OFF	190	94	83	OFF	100
18-Apr	112	353	72	235	91	OFF	100
19-Apr	31	76	125	76	96	OFF	100
20-Apr	36	146	127	143	338	OFF	100
21-Apr	36	262	86	73	131	OFF	100
22-Apr	125	613	93	88	81	OFF	100
23-Apr	28	73	99	312	64	OFF	100
24-Apr	42	97	116	92	53	OFF	100
25-Apr	40	93	54	91	51	OFF	100
26-Apr	41	120	88	105	65	OFF	100
27-Apr	43	81	48	65	85	OFF	100
28-Apr	31	121	79	164	72	OFF	100
29-Apr	80	254	67	395	98	OFF	100
30-Apr	30	90	89	1384	105	OFF	100

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final SOx Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	Limit
31-Mar	1623	1770	1902	1696	1905	OFF	3500
01-Apr	1688	1815	1910	1716	1926	OFF	3500
02-Apr	1707	1892	1955	1768	1885	OFF	3500
03-Apr	1692	1897	1898	1802	1967	OFF	3500
04-Apr	1665	1893	1846	1759	1957	OFF	3500
05-Apr	1624	1825	1763	1725	1895	OFF	3500
06-Apr	OFF	1867	1804	1718	1916	OFF	3500
07-Apr	OFF	1882	1816	1705	1916	OFF	3500
08-Apr	OFF	1821	1835	1730	1907	OFF	3500
09-Apr	1660	1843	1829	1784	1929	OFF	3500
10-Apr	1674	1879	1846	1805	1907	OFF	3500
11-Apr	1692	1877	1841	1804	1964	OFF	3500
12-Apr	1696	1917	1861	1799	1926	OFF	3500
13-Apr	1616	1693	1788	1757	1903	OFF	3500
14-Apr	1605	OFF	1803	1742	1895	OFF	3500
15-Apr	1615	OFF	1761	1690	1846	OFF	3500
16-Apr	1695	OFF	1844	1763	1915	OFF	3500
17-Apr	1750	1852	1918	1781	1967	OFF	3500
18-Apr	1712	1807	1871	1794	1946	OFF	3500
19-Apr	1734	1803	1888	1791	1979	OFF	3500
20-Apr	1700	1752	1780	1716	1892	OFF	3500
21-Apr	1656	1786	1775	1636	1908	OFF	3500
22-Apr	1681	1783	1819	1707	1902	OFF	3500
23-Apr	1653	1730	1819	1698	1846	OFF	3500
24-Apr	1660	1742	1833	1748	1877	OFF	3500
25-Apr	1762	1758	1876	1753	1946	OFF	3500
26-Apr	1688	1777	1826	1738	1925	OFF	3500
27-Apr	1738	1842	1916	1757	1984	OFF	3500
28-Apr	1765	1894	1926	1824	1987	OFF	3500
29-Apr	1746	1850	1896	1749	1949	OFF	3500
30-Apr	1698	1799	1822	1659	1835	OFF	3500

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final NOx Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	Limit
31-Mar	808	583	788	809	608	OFF	1100
01-Apr	749	600	781	766	723	OFF	1100
02-Apr	760	543	762	771	784	OFF	1100
03-Apr	750	528	714	837	761	OFF	1100
04-Apr	845	568	741	781	744	OFF	1100
05-Apr	813	573	686	788	654	OFF	1100
06-Apr	OFF	547	707	756	658	OFF	1100
07-Apr	OFF	564	781	782	702	OFF	1100
08-Apr	OFF	596	763	823	685	OFF	1100
09-Apr	744	648	747	837	748	OFF	1100
10-Apr	792	569	769	787	706	OFF	1100
11-Apr	806	570	813	807	762	OFF	1100
12-Apr	838	574	785	794	754	OFF	1100
13-Apr	845	483	817	728	730	OFF	1100
14-Apr	788	OFF	769	805	731	OFF	1100
15-Apr	852	OFF	808	851	685	OFF	1100
16-Apr	898	OFF	800	784	672	OFF	1100
17-Apr	853	490	837	836	789	OFF	1100
18-Apr	852	596	841	822	745	OFF	1100
19-Apr	824	573	790	857	717	OFF	1100
20-Apr	824	587	815	868	658	OFF	1100
21-Apr	788	623	730	761	702	OFF	1100
22-Apr	739	618	810	835	704	OFF	1100
23-Apr	822	500	816	914	715	OFF	1100
24-Apr	996	593	717	924	765	OFF	1100
25-Apr	930	530	768	851	744	OFF	1100
26-Apr	982	627	715	823	810	OFF	1100
27-Apr	1017	552	674	626	808	OFF	1100
28-Apr	913	579	696	702	747	OFF	1100
29-Apr	912	615	655	772	773	OFF	1100
30-Apr	952	517	691	739	731	OFF	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
May-23	OFF	OFF	98,56%	1,8	99,36%	0,8	100,00%	0,0	96,91%	3,8	100,00%	0,0
Jun-23	100,00%	0,0	100,00%	0,0	99,41%	0,7	98,31%	2,0	98,52%	1,8	100,00%	0,0
Jul-23	100,00%	0,0	100,00%	0,0	99,19%	1,0	100,00%	0,0	100,00%	0,0	99,22%	1,0
Aug-23	100,00%	0,0	100,00%	0,0	98,46%	1,9	100,00%	0,0	99,23%	1,0	99,12%	1,1
Sep-23	99,17%	1,0	100,00%	0,0	98,51%	1,8	100,00%	0,0	98,34%	2,0	99,17%	1,0
Oct-23	99,98%	0,0	96,81%	4,0	98,31%	2,1	100,00%	0,0	99,34%	0,8	99,30%	0,9
Nov-23	97,53%	2,96	97,57%	2,92	99,17%	1,00	100,00%	0,00	100,00%	0,00	99,71%	0,35
Dec-23	100,00%	0,0	97,95%	2,5	100,00%	0,0	98,62%	1,7	98,03%	2,4	97,91%	2,6
Jan-24	97,90%	2,6	98,73%	1,6	100,00%	0,0	100,00%	0,0	99,32%	0,8	100,00%	0,0
Feb-24	100,00%	0,0	99,34%	0,8	98,42%	1,8	99,89%	0,1	100,00%	0,0	Off-line	Off-line
Mar-24	100,00%	0,0	99,19%	1,0	100,00%	0,0	97,53%	3,1	99,19%	1,0	100,00%	0,00%
Apr-24	100,00%	0,0	100,00%	0,0	100,00%	0,0	99,89%	0,1	97,43%	3,1	100,00%	0,00%

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
May-23	OFF	OFF	100,00%	0,0	99,89%	0,0	99,33%	0,2	100,00%	0,0	90,67%	2,9
Jun-23	85,96%	4,2	81,82%	5,5	96,56%	1,0	97,86%	0,6	86,81%	4,0	97,50%	0,8
Jul-23	97,98%	0,6	97,83%	0,7	100,00%	0,0	97,85%	0,7	99,67%	0,1	100,00%	0,0
Aug-23	99,33%	0,2	95,61%	1,4	100,00%	0,0	97,47%	0,8	100,00%	0,0	100,00%	0,0
Sep-23	100,00%	0,0	98,19%	0,5	98,75%	0,4	99,72%	0,1	99,58%	0,1	95,83%	1,3
Oct-23	99,73%	0,1	100,00%	0,0	96,91%	1,0	100,00%	0,0	100,00%	0,0	97,27%	0,8
Nov-23	95,14%	1,5	94,17%	1,8	83,89%	4,8	86,14%	4,2	89,17%	3,3	94,62%	1,6
Dec-23	92,47%	2,3	97,67%	0,7	81,25%	5,8	84,48%	4,8	93,82%	1,9	85,62%	4,5
Jan-24	95,73%	1,3	90,43%	3,0	69,76%	9,4	91,80%	2,5	89,78%	3,2	95,24%	1,5
Feb-24	99,92%	0,0	87,56%	3,6	98,85%	0,3	95,65%	1,3	88,10%	3,5	Off-line	Off-line
Mar-24	99,33%	0,21	93,76%	1,94	84,86%	4,69	100,00%	0,00	100,00%	0,00	Off-line	Off-line
Apr-24	99,46%	0,2	93,92%	1,8	99,58%	0,1	100,00%	0,0	100,00%	0,0	Off-line	Off-line

ADDENDUM TO MONTHLY EMISSIONS REPORT

Particulate Emission Monitors

Availability						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
May-23	OFF	97,07%	99,85%	99,46%	95,56%	99,50%
Jun-23	99,23%	95,11%	99,19%	98,33%	99,03%	99,86%
Jul-23	98,92%	100,00%	99,60%	99,73%	98,33%	99,87%
Aug-23	99,73%	92,28%	99,22%	98,85%	97,85%	98,79%
Sep-23	99,44%	98,61%	98,89%	99,03%	97,99%	97,98%
Oct-23	100,00%	96,51%	99,33%	99,73%	98,66%	99,69%
Nov-23	92,92%	86,39%	94,86%	98,60%	97,64%	96,16%
Dec-23	98,12%	92,68%	95,74%	90,32%	95,03%	97,85%
Jan-24	98,28%	85,65%	94,35%	90,76%	92,88%	97,82%
Feb-24	96,67%	93,82%	93,39%	96,10%	98,81%	OFF
Mar-24	94,09%	97,49%	96,46%	97,18%	95,83%	OFF
Apr-24	99,68%	92,71%	97,22%	94,03%	98,06%	OFF

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
May-23	OFF	OFF	100,00%	100,00%	100,00%	100,00%	99,60%	99,87%	99,73%	99,87%	99,52%	99,68%
Jun-23	99,70%	99,85%	99,58%	100,00%	99,71%	100,00%	100,00%	100,00%	100,00%	100,00%	99,86%	100,00%
Jul-23	98,39%	98,39%	98,08%	97,95%	98,12%	98,39%	98,39%	98,25%	97,92%	97,92%	98,25%	98,39%
Aug-23	100,00%	100,00%	99,83%	99,83%	100,00%	100,00%	99,86%	100,00%	100,00%	100,00%	100,00%	100,00%
Sep-23	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	99,85%	99,85%
Oct-23	99,46%	99,46%	99,33%	99,46%	99,19%	99,19%	99,46%	99,46%	99,33%	99,46%	99,40%	99,40%
Nov-23	100,00%	100,00%	99,72%	99,86%	99,86%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	99,73%
Dec-23	100,00%	100,00%	100,00%	100,00%	100,00%	98,95%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Jan-24	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	99,87%	100,00%	100,00%	100,00%
Feb-24	98,08%	98,08%	99,78%	98,95%	98,28%	98,28%	97,83%	97,83%	97,73%	97,73%	OFF	OFF
Mar-24	99,73%	99,73%	100,00%	100,00%	99,62%	99,43%	99,73%	99,60%	99,73%	99,87%	OFF	OFF
Apr-24	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	0,00%	0,00%

Oxygen Monitor Availability						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
May-23	OFF	100,00%	100,00%	100,00%	100,00%	99,84%
Jun-23	100,00%	99,55%	99,86%	99,68%	100,00%	100,00%
Jul-23	98,12%	97,76%	98,12%	98,25%	100,00%	97,72%
Aug-23	100,00%	99,83%	99,87%	99,72%	100,00%	99,60%
Sep-23	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Oct-23	99,33%	99,06%	99,19%	99,33%	100,00%	99,40%
Nov-23	99,86%	99,72%	99,86%	100,00%	100,00%	99,58%
Dec-23	100,00%	99,83%	99,81%	99,72%	100,00%	99,46%
Jan-24	99,87%	99,86%	100,00%	100,00%	100,00%	98,10%
Feb-24	97,92%	99,78%	97,84%	97,67%	97,54%	OFF
Mar-24	99,73%	100,00%	99,24%	99,87%	99,87%	OFF
Apr-24	100,00%	100,00%	99,86%	100,00%	100,00%	0,00%

ADDENDUM TO MONTHLY EMISSIONS REPORT

14. EFFICIENCY

ESP Efficiency (%)						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
May-23	OFF	99,812%	99,803%	99,868%	99,731%	99,822%
Jun-23	99,948%	99,718%	99,787%	99,864%	99,796%	99,858%
Jul-23	99,904%	99,864%	99,793%	99,869%	99,880%	99,837%
Aug-23	99,912%	99,715%	99,715%	99,816%	99,818%	99,770%
Sep-23	99,895%	99,867%	99,793%	99,825%	99,860%	99,766%
Oct-23	99,908%	99,804%	99,749%	99,830%	99,849%	99,829%
Nov-23	99,715%	99,499%	99,652%	99,764%	99,775%	99,705%
Dec-23	99,776%	99,585%	99,592%	99,414%	99,576%	99,667%
Jan-24	99,833%	99,641%	99,694%	99,692%	99,737%	99,721%
Feb-24	99,834%	99,719%	99,697%	99,788%	99,835%	Unit Off-line
Mar-24	99,519%	99,614%	99,393%	99,559%	99,474%	Unit Off-line
Apr-24	99,901%	99,698%	99,774%	99,704%	99,714%	Unit Off-line

15. REMARKS

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
1	78	Poor vacuum	2024/04/05 14:42:00	2024/04/01 00:00:00
1	40	furnace pressure high	2024/04/05 14:42:00	2024/04/01 00:00:00
1	99	Spinning Reserve	2024/04/01 16:20:00	2024/04/01 09:48:00
1	98	Spinning Reserve	2024/04/02 06:09:00	2024/04/01 23:54:00
1	90	Spinning Reserve	2024/04/02 16:01:00	2024/04/02 09:55:00
1	98	Spinning Reserve	2024/04/03 00:00:00	2024/04/02 23:02:00
1	94	Boiler KHI	2024/04/03 02:23:00	2024/04/03 00:00:00
1	94	Spinning Reserve	2024/04/03 04:15:00	2024/04/03 02:23:00
1	92	Spinning Reserve	2024/04/03 08:39:00	2024/04/03 07:58:00
1	48	Spinning Reserve	2024/04/03 09:12:00	2024/04/03 08:39:00
1	100	Spinning Reserve	2024/04/05 03:22:00	2024/04/05 01:26:00
1	593	Boiler tube leak repairs and Cold reheat NRV leak.	2024/04/09 13:29:00	2024/04/05 14:42:00
1	297	System Generated Ramp Event for Event id : 1918892	2024/04/09 16:29:00	2024/04/09 13:29:00
1	168	Poor vacuum	2024/04/09 16:35:00	2024/04/09 16:29:00
1	138	Poor vacuum	2024/04/09 16:49:00	2024/04/09 16:35:00
1	118	Poor vacuum.	2024/04/10 08:41:00	2024/04/09 16:49:00
1	60	Spinning Reserve	2024/04/10 04:17:00	2024/04/10 00:16:00
1	58	Poor vacuum.	2024/04/18 20:22:00	2024/04/10 08:41:00
1	66	Spinning Reserve	2024/04/15 03:56:00	2024/04/15 02:23:00
1	593	Tripped on vacuum	2024/04/18 22:39:00	2024/04/18 20:22:00
1	297	System Generated Ramp Event for Event id : 1923529	2024/04/19 00:09:00	2024/04/18 22:39:00
1	116	Poor vacuum	2024/04/21 16:26:00	2024/04/19 00:09:00
1	94	Spinning Reserve	2024/04/21 16:26:00	2024/04/21 08:47:00
1	118	Poor vacuum	2024/04/25 03:47:00	2024/04/21 16:26:00
1	99	Spinning Reserve	2024/04/22 00:00:00	2024/04/21 20:58:00
1	100	Spinning Reserve	2024/04/22 17:04:00	2024/04/22 09:56:00
1	95	Spinning Reserve	2024/04/23 00:36:00	2024/04/22 23:10:00
1	60	Spinning Reserve	2024/04/23 03:25:00	2024/04/23 00:36:00
1	80	Spinning Reserve	2024/04/25 03:47:00	2024/04/24 23:36:00
1	119	Poor vacuum	2024/04/25 13:54:00	2024/04/25 03:47:00
1	98	Spinning Reserve	2024/04/25 13:54:00	2024/04/25 08:56:00
1	118	Poor vacuum	2024/04/30 23:59:59	2024/04/25 13:54:00
1	100	Spinning Reserve	2024/04/28 16:22:00	2024/04/27 20:34:00
1	100	Spinning Reserve	2024/04/29 04:26:00	2024/04/28 22:55:00
1	100	Spinning Reserve	2024/04/29 15:11:00	2024/04/29 07:18:00
1	100	Spinning Reserve	2024/04/30 04:58:00	2024/04/29 23:30:00
1	40	Spinning Reserve	2024/04/30 15:54:00	2024/04/30 07:42:00
1	50	Spinning Reserve	2024/04/30 23:59:59	2024/04/30 20:10:00
2	57	Spray water Valve defective	2024/04/02 09:11:00	2024/04/01 00:00:00
2	58	Spinning Reserve	2024/04/01 17:46:00	2024/04/01 02:32:00
2	59	Spinning Reserve	2024/04/02 05:58:00	2024/04/01 22:29:00
2	38	Spray water faulty	2024/04/03 15:15:00	2024/04/02 09:11:00
2	26	Furnace pressure high.	2024/04/03 14:56:00	2024/04/02 19:40:00
2	52	Spinning Reserve	2024/04/03 04:21:00	2024/04/02 22:54:00
2	50	Spinning Reserve	2024/04/03 14:22:00	2024/04/03 08:44:00
2	19	AM:Spray-water v/v faulty	2024/04/05 12:30:00	2024/04/03 15:15:00
2	103	AM: F mill short feeder on fire and long feeder tripped.	2024/04/03 18:20:00	2024/04/03 18:04:00
2	100	AM: F mill short feeder fire and long feeder tripped.	2024/04/03 19:34:00	2024/04/03 18:20:00
2	50	High furnace pressure.	2024/04/04 07:31:00	2024/04/03 19:34:00
2	93	Spinning Reserve	2024/04/04 13:45:00	2024/04/04 09:13:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
2	25	Spinning Reserve	2024/04/04 15:56:00	2024/04/04 13:45:00
2	88	A-mill feeders faulty.	2024/04/05 01:56:00	2024/04/04 22:18:00
2	103	Spinning Reserve	2024/04/05 03:10:00	2024/04/05 01:27:00
2	50	Spinning Reserve	2024/04/05 04:43:00	2024/04/05 03:10:00
2	97	Spinning Reserve	2024/04/05 12:30:00	2024/04/05 07:14:00
2	593	Islanding test.	2024/04/05 13:12:00	2024/04/05 12:30:00
2	297	System Generated Ramp Event for Event id : 1918869	2024/04/05 14:42:00	2024/04/05 13:12:00
2	18	Spray water valves defective	2024/04/07 08:36:00	2024/04/05 14:42:00
2	100	Spinning Reserve	2024/04/05 20:49:00	2024/04/05 19:57:00
2	60	Spinning Reserve	2024/04/05 22:07:00	2024/04/05 20:49:00
2	99	Spinning Reserve	2024/04/06 00:49:00	2024/04/05 22:07:00
2	100	Spinning Reserve	2024/04/06 15:17:00	2024/04/06 02:26:00
2	114	Spinning Reserve	2024/04/06 17:53:00	2024/04/06 15:17:00
2	114	D&F mills not available.	2024/04/06 23:00:00	2024/04/06 17:53:00
2	99	Spinning Reserve	2024/04/07 08:36:00	2024/04/06 23:04:00
2	8	Spray water valaves defective.	2024/04/07 15:04:00	2024/04/07 08:36:00
2	20	Spinning Reserve	2024/04/07 14:56:00	2024/04/07 14:48:00
2	28	Spinning Reserve	2024/04/07 15:04:00	2024/04/07 14:56:00
2	117	Spinning Reserve	2024/04/08 05:13:00	2024/04/07 23:54:00
2	18	EF: ID fans not coping	2024/04/08 06:13:00	2024/04/08 05:13:00
2	118	Spinning Reserve	2024/04/09 16:26:00	2024/04/09 13:57:00
2	114	Spinning Reserve	2024/04/10 00:51:00	2024/04/10 00:15:00
2	113	Spinning Reserve	2024/04/10 04:21:00	2024/04/10 03:43:00
2	118	Spinning Reserve	2024/04/10 16:08:00	2024/04/10 07:31:00
2	112	Spinning Reserve	2024/04/11 04:40:00	2024/04/10 19:34:00
2	118	Spinning Reserve	2024/04/11 17:37:00	2024/04/11 07:16:00
2	112	Spinning Reserve	2024/04/11 23:45:00	2024/04/11 20:11:00
2	116	E-mill girth gear grease system faulty.	2024/04/12 00:18:00	2024/04/11 23:45:00
2	108	E-mill girth gear grease system faulty.	2024/04/13 00:57:00	2024/04/12 00:18:00
2	593	Boiler tube leak repairs.	2024/04/17 06:38:00	2024/04/13 00:57:00
2	297	System Generated Ramp Event for Event id : 1921531	2024/04/17 09:38:00	2024/04/17 06:38:00
2	96	D-mill 4000hrs service.	2024/04/17 22:28:00	2024/04/17 09:38:00
2	118	D Mill 4000hrs service	2024/04/21 09:38:00	2024/04/17 22:28:00
2	15	AM: C-Mill running with one feeder	2024/04/20 16:53:00	2024/04/20 07:00:00
2	80	Spinning Reserve	2024/04/20 13:55:00	2024/04/20 08:29:00
2	118	System Generated Slip Event linked to PCLF Event : 1923165	2024/04/23 00:00:00	2024/04/21 09:38:00
2	80	Spinning Reserve	2024/04/22 07:58:00	2024/04/21 21:06:00
2	20	A-mill short feeder defective.	2024/04/22 08:46:00	2024/04/22 07:58:00
2	80	F mill faulty	2024/04/23 17:16:00	2024/04/22 22:46:00
2	118	AM: High stack emissions.	2024/04/28 07:01:00	2024/04/23 00:00:00
2	50	F mill faulty	2024/04/23 23:40:00	2024/04/23 20:27:00
2	14	F mill Faulty	2024/04/24 05:23:00	2024/04/23 23:40:00
2	48	F mill fauly	2024/04/24 14:48:00	2024/04/24 12:27:00
2	70	F mill faulty	2024/04/24 16:31:00	2024/04/24 14:48:00
2	50	F mill faulty	2024/04/24 19:43:00	2024/04/24 16:31:00
2	76	F mill faulty	2024/04/25 03:50:00	2024/04/24 19:43:00
2	70	F mill faulty	2024/04/25 16:17:00	2024/04/25 14:00:00
2	69	F mill faulty	2024/04/26 04:05:00	2024/04/25 19:39:00
2	68	Spinning Reserve	2024/04/26 16:07:00	2024/04/26 11:01:00
2	77	Spinning Reserve	2024/04/27 02:30:00	2024/04/27 00:07:00
2	49	Spinning Reserve	2024/04/27 03:30:00	2024/04/27 03:11:00
2	78	Spinning Reserve	2024/04/27 16:29:00	2024/04/27 03:30:00
2	66	Spinning Reserve	2024/04/28 06:15:00	2024/04/27 18:38:00
2	68	AM:High stack emissions	2024/04/28 17:57:00	2024/04/28 07:01:00
2	98	Spinning Reserve	2024/04/28 16:44:00	2024/04/28 12:58:00
2	50	Spinning Reserve	2024/04/28 17:49:00	2024/04/28 16:44:00
2	18	PA flow at max	2024/04/30 23:59:59	2024/04/28 17:57:00
2	98	F mill not available	2024/04/28 22:00:00	2024/04/28 19:48:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
2	99	Spinning Reserve	2024/04/29 04:25:00	2024/04/28 22:00:00
2	97	Spinning Reserve	2024/04/29 08:22:00	2024/04/29 07:04:00
2	168	Spinning Reserve	2024/04/29 16:49:00	2024/04/29 08:22:00
2	99	F-Mill NDE trunion lube oil pump faulty	2024/04/30 07:48:00	2024/04/29 15:42:00
2	58	Spinning Reserve	2024/04/30 04:54:00	2024/04/29 23:06:00
2	140	Spinning Reserve	2024/04/30 15:53:00	2024/04/30 07:42:00
2	100	Spinning Reserve	2024/04/30 16:47:00	2024/04/30 15:53:00
2	100	Spinning Reserve	2024/04/30 21:06:00	2024/04/30 19:12:00
2	170	Spinning Reserve	2024/04/30 23:59:59	2024/04/30 21:06:00
3	38	ID fan not coping	2024/04/03 05:42:00	2024/04/01 00:00:00
3	80	Spinning Reserve	2024/04/01 00:57:00	2024/04/01 00:00:00
3	178	EF:High stack emissions	2024/04/02 08:12:00	2024/04/01 00:57:00
3	112	EF:High stack emissions	2024/04/02 08:34:00	2024/04/02 08:12:00
3	100	Spinning Reserve	2024/04/02 09:06:00	2024/04/02 08:34:00
3	80	Spinning Reserve	2024/04/02 10:01:00	2024/04/02 09:06:00
3	180	Spinning Reserve	2024/04/02 16:00:00	2024/04/02 10:01:00
3	112	Spinning Reserve	2024/04/02 16:25:00	2024/04/02 16:00:00
3	94	A & E mill not available	2024/04/02 22:00:00	2024/04/02 16:25:00
3	90	High stack emissions.	2024/04/03 00:00:00	2024/04/02 22:00:00
3	84	Spinning Reserve	2024/04/03 00:00:00	2024/04/02 23:03:00
3	179	Spinning Reserve	2024/04/03 05:42:00	2024/04/03 00:00:00
3	58	ID fans not coping.	2024/04/03 05:50:00	2024/04/03 05:42:00
3	68	ID fans not coping.	2024/04/13 09:51:00	2024/04/03 05:50:00
3	49	AM: E mill grease system and motor bearing fault.	2024/04/03 07:50:00	2024/04/03 07:01:00
3	52	Spinning Reserve	2024/04/03 08:14:00	2024/04/03 07:51:00
3	148	Spinning Reserve	2024/04/03 08:38:00	2024/04/03 08:14:00
3	100	Spinning Reserve	2024/04/03 10:51:00	2024/04/03 08:38:00
3	48	Spinning Reserve	2024/04/04 14:46:00	2024/04/04 09:03:00
3	68	High stack emissions	2024/04/06 04:43:00	2024/04/05 00:30:00
3	81	Spinning Reserve	2024/04/05 15:49:00	2024/04/05 08:34:00
3	78	Spinning Reserve	2024/04/05 20:50:00	2024/04/05 20:00:00
3	57	Spinning Reserve	2024/04/05 22:07:00	2024/04/05 20:50:00
3	75	Spinning Reserve	2024/04/06 00:23:00	2024/04/05 22:07:00
3	74	Spinning Reserve	2024/04/06 04:43:00	2024/04/06 02:45:00
3	145	Spinning Reserve	2024/04/06 16:07:00	2024/04/06 04:43:00
3	101	Spinning Reserve	2024/04/06 20:56:00	2024/04/06 16:07:00
3	148	AM: SSC tail-end sprocket repairs	2024/04/07 05:01:00	2024/04/06 20:57:00
3	43	Spinning Reserve	2024/04/07 08:38:00	2024/04/07 05:02:00
3	49	Spinning Reserve	2024/04/07 16:47:00	2024/04/07 14:53:00
3	100	Spinning Reserve	2024/04/08 05:54:00	2024/04/07 23:42:00
3	50	EF:High stack emissions	2024/04/08 12:24:00	2024/04/08 09:58:00
3	100	EF:High stack emissions	2024/04/08 17:44:00	2024/04/08 12:24:00
3	150	High stack emissions.	2024/04/09 08:59:00	2024/04/09 01:08:00
3	49	EF: High stack emissions	2024/04/09 17:33:00	2024/04/09 08:59:00
3	16	High stack emissions.	2024/04/10 00:00:00	2024/04/09 17:33:00
3	134	SSC Standing.	2024/04/10 00:00:00	2024/04/09 21:00:00
3	150	High stack emissions.	2024/04/10 02:33:00	2024/04/10 00:00:00
3	150	Spinning Reserve	2024/04/10 03:39:00	2024/04/10 02:33:00
3	52	Spinning Reserve	2024/04/10 04:41:00	2024/04/10 03:39:00
3	47	Spinning Reserve	2024/04/10 09:40:00	2024/04/10 07:34:00
3	148	Spinning Reserve	2024/04/10 16:55:00	2024/04/10 09:54:00
3	50	Spinning Reserve	2024/04/11 07:04:00	2024/04/10 19:24:00
3	46	Spinning Reserve	2024/04/11 09:00:00	2024/04/11 07:04:00
3	150	Spinning Reserve	2024/04/11 09:26:00	2024/04/11 09:00:00
3	49	Spinning Reserve	2024/04/12 12:43:00	2024/04/12 08:55:00
3	100	Spinning Reserve	2024/04/12 16:47:00	2024/04/12 12:43:00
3	150	AM: High stack emissions.	2024/04/13 00:00:00	2024/04/12 16:41:00
3	146	T14C motor replacement.	2024/04/13 09:12:00	2024/04/13 00:00:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
3	100	T14C motor replacement	2024/04/13 09:51:00	2024/04/13 09:12:00
3	58	AM: ID Fans not coping.	2024/04/30 23:59:59	2024/04/13 09:51:00
3	153	High stack emissions.	2024/04/14 04:30:00	2024/04/14 00:23:00
3	60	High stack emissions.	2024/04/14 19:56:00	2024/04/14 04:30:00
3	97	Spinning Reserve	2024/04/14 14:52:00	2024/04/14 04:30:00
3	158	High stack emissions.	2024/04/14 22:43:00	2024/04/14 19:56:00
3	56	High stack emissions.	2024/04/15 04:53:00	2024/04/14 22:43:00
3	104	Spinning Reserve	2024/04/15 04:23:00	2024/04/15 02:31:00
3	60	Spinning Reserve	2024/04/16 02:34:00	2024/04/15 23:10:00
3	160	Spinning Reserve	2024/04/16 04:07:00	2024/04/16 02:34:00
3	58	Spinning Reserve	2024/04/17 01:02:00	2024/04/16 13:32:00
3	160	Spinning Reserve	2024/04/17 04:59:00	2024/04/17 01:02:00
3	159	High stack emissions.	2024/04/18 16:56:00	2024/04/17 08:51:00
3	61	High stack emissions.	2024/04/18 20:01:00	2024/04/18 16:56:00
3	160	EF:High stack emissions	2024/04/19 05:12:00	2024/04/18 20:01:00
3	60	EF:High stack emissions	2024/04/20 07:00:00	2024/04/19 05:12:00
3	55	Spinning Reserve	2024/04/20 13:59:00	2024/04/20 08:27:00
3	30	Spinning Reserve	2024/04/20 14:15:00	2024/04/20 13:59:00
3	56	Spinning Reserve	2024/04/20 15:55:00	2024/04/20 14:15:00
3	156	AM: Precip. clean rapping.	2024/04/21 05:58:00	2024/04/21 00:22:00
3	158	Spinning Reserve	2024/04/21 18:01:00	2024/04/21 05:58:00
3	38	High emissions.	2024/04/22 00:21:00	2024/04/21 18:01:00
3	119	Spinning Reserve	2024/04/22 00:21:00	2024/04/21 21:01:00
3	158	Spinning Reserve	2024/04/22 05:32:00	2024/04/22 00:21:00
3	60	No 5th mill available	2024/04/23 04:23:00	2024/04/22 05:50:00
3	60	Spinning Reserve	2024/04/22 08:14:00	2024/04/22 07:27:00
3	30	Spinning Reserve	2024/04/22 08:23:00	2024/04/22 08:14:00
3	20	Spinning Reserve	2024/04/22 09:07:00	2024/04/22 08:23:00
3	11	Spinning Reserve	2024/04/22 10:17:00	2024/04/22 09:07:00
3	28	Spinning Reserve	2024/04/22 10:28:00	2024/04/22 10:17:00
3	38	Spinning Reserve	2024/04/22 10:52:00	2024/04/22 10:28:00
3	70	Spinning Reserve	2024/04/22 12:51:00	2024/04/22 10:52:00
3	95	Spinning Reserve	2024/04/22 16:16:00	2024/04/22 12:51:00
3	95	Emissions.	2024/04/23 04:23:00	2024/04/22 16:16:00
3	60	EF: Fifth mill not available	2024/04/23 11:28:00	2024/04/23 04:23:00
3	97	Spinning Reserve	2024/04/23 10:30:00	2024/04/23 09:19:00
3	6	Spinning Reserve	2024/04/23 10:59:00	2024/04/23 10:30:00
3	53	Spinning Reserve	2024/04/23 11:28:00	2024/04/23 11:07:00
3	159	Spinning Reserve	2024/04/23 15:59:00	2024/04/23 11:28:00
3	80	Spinning Reserve	2024/04/23 16:22:00	2024/04/23 15:59:00
3	160	EF: High stack emissions	2024/04/24 04:58:00	2024/04/23 20:18:00
3	80	F Mill seal air fan defective	2024/04/26 15:02:00	2024/04/25 15:06:00
3	110	Spinning Reserve	2024/04/27 02:24:00	2024/04/27 00:27:00
3	80	Spinning Reserve	2024/04/27 03:03:00	2024/04/27 02:24:00
3	108	Spinning Reserve	2024/04/27 14:43:00	2024/04/27 03:03:00
3	57	Spinning Reserve	2024/04/28 11:45:00	2024/04/28 09:47:00
3	158	Spinning Reserve	2024/04/28 15:24:00	2024/04/28 11:45:00
3	81	D-mill jacking oil pumps defective and F-mill lube oil pumps defective.	2024/04/29 04:21:00	2024/04/28 15:24:00
3	39	Spinning Reserve	2024/04/29 04:21:00	2024/04/28 22:46:00
3	160	Spinning Reserve	2024/04/29 15:01:00	2024/04/29 10:14:00
3	80	F-mill lube oil pump faulty	2024/04/29 21:36:00	2024/04/29 17:11:00
3	160	Spinning Reserve	2024/04/30 23:59:59	2024/04/30 22:06:00
4	29	EF: ID fans not coping	2024/04/02 10:18:00	2024/04/01 00:00:00
4	90	Spinning Reserve	2024/04/01 10:22:00	2024/04/01 00:00:00
4	190	Spinning Reserve	2024/04/01 15:35:00	2024/04/01 10:22:00
4	89	Spinning Reserve	2024/04/01 16:47:00	2024/04/01 15:35:00
4	200	Spinning Reserve	2024/04/02 15:58:00	2024/04/02 10:17:00
4	18	ID fan not coping	2024/04/03 07:11:00	2024/04/02 10:18:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
4	203	Mill problems	2024/04/02 15:58:00	2024/04/02 10:18:00
4	100	F mill-one feeder in service	2024/04/02 17:25:00	2024/04/02 15:58:00
4	100	Spinning Reserve	2024/04/02 16:07:00	2024/04/02 15:58:00
4	116	AM: F mill choked	2024/04/04 20:54:00	2024/04/04 08:10:00
4	168	For MCW 4A & 4B filter cleaning.	2024/04/05 00:07:00	2024/04/04 22:35:00
4	206	4 A & B MCW Motor filter cleaning	2024/04/05 05:14:00	2024/04/05 00:07:00
4	593	Unit tripped on low drum level	2024/04/06 09:02:00	2024/04/06 00:41:00
4	296	System Generated Ramp Event for Event id : 1919076	2024/04/06 11:32:00	2024/04/06 09:02:00
4	358	F-mill PF isolating damper defective	2024/04/06 10:47:00	2024/04/06 10:32:00
4	241	F-mill PF isolating damper defective	2024/04/06 11:25:00	2024/04/06 10:47:00
4	101	F-mill PF isolating damper defective.	2024/04/06 17:09:00	2024/04/06 11:25:00
4	118	6A MCW Motor filter cleaning	2024/04/10 04:24:00	2024/04/09 22:55:00
4	118	Spinning Reserve	2024/04/11 04:41:00	2024/04/10 20:57:00
4	118	Boiler KHI	2024/04/11 09:11:00	2024/04/11 06:18:00
4	100	Spinning Reserve	2024/04/11 09:11:00	2024/04/11 08:36:00
4	118	Spinning Reserve	2024/04/11 13:44:00	2024/04/11 09:11:00
4	118	Spinning Reserve	2024/04/12 01:12:00	2024/04/11 20:25:00
4	218	Spinning Reserve	2024/04/12 03:00:00	2024/04/12 01:12:00
4	218	SSC standing	2024/04/13 17:52:00	2024/04/13 06:27:00
4	268	SSC Standing	2024/04/13 18:11:00	2024/04/13 17:52:00
4	249	SSC running on test.	2024/04/13 20:19:00	2024/04/13 18:11:00
4	236	SSC running on test.	2024/04/13 22:20:00	2024/04/13 20:19:00
4	18	A-mill LH feeder clutch	2024/04/14 07:34:00	2024/04/13 22:20:00
4	200	T12D gearbox repairs.	2024/04/14 12:09:00	2024/04/13 23:45:00
4	195	Spinning Reserve	2024/04/15 04:37:00	2024/04/15 02:20:00
4	218	Spinning Reserve	2024/04/16 06:42:00	2024/04/16 01:45:00
4	118	High stack emissions.	2024/04/16 16:51:00	2024/04/16 10:20:00
4	100	Spinning Reserve	2024/04/16 15:17:00	2024/04/16 11:36:00
4	218	EF:High stack emissions	2024/04/17 00:14:00	2024/04/16 19:47:00
4	118	EF:High stack emissions	2024/04/18 00:19:00	2024/04/17 19:23:00
4	218	Spinning Reserve	2024/04/18 04:02:00	2024/04/18 01:53:00
4	218	Spinning Reserve	2024/04/18 13:34:00	2024/04/18 09:20:00
4	218	AM: Precip. clean rapping.	2024/04/21 05:58:00	2024/04/21 00:33:00
4	218	Spinning Reserve	2024/04/22 05:32:00	2024/04/21 20:53:00
4	118	no 5th mill available.(B & D mills)	2024/04/23 00:00:00	2024/04/22 17:12:00
4	118	EF: High stack emissions	2024/04/25 00:59:00	2024/04/24 19:59:00
4	118	EF:High stack emissions	2024/04/25 16:10:00	2024/04/25 15:15:00
4	75	Spinning Reserve	2024/04/27 00:38:00	2024/04/27 00:33:00
4	218	Spinning Reserve	2024/04/27 02:22:00	2024/04/27 00:38:00
4	168	Spinning Reserve	2024/04/27 03:02:00	2024/04/27 02:22:00
4	218	Spinning Reserve	2024/04/27 16:50:00	2024/04/27 03:02:00
4	118	Spinning Reserve	2024/04/28 08:40:00	2024/04/28 07:42:00
4	218	Spinning Reserve	2024/04/29 07:48:00	2024/04/28 08:40:00
4	218	Spinning Reserve	2024/04/29 09:58:00	2024/04/29 07:48:00
4	118	Spinning Reserve	2024/04/30 00:05:00	2024/04/29 09:58:00
4	593	Black furnace	2024/04/30 12:15:00	2024/04/30 00:05:00
4	296	System Generated Ramp Event for Event id : 1927336	2024/04/30 14:45:00	2024/04/30 12:15:00
4	210	Spinning Reserve	2024/04/30 19:30:00	2024/04/30 13:19:00
4	118	Spinning Reserve	2024/04/30 21:30:00	2024/04/30 19:30:00
4	218	Spinning Reserve	2024/04/30 23:59:59	2024/04/30 21:30:00
5	78	Poor vacuum.	2024/04/07 12:05:00	2024/04/01 00:00:00
5	20	Spinning Reserve	2024/04/01 11:03:00	2024/04/01 00:00:00
5	138	Spinning Reserve	2024/04/01 16:59:00	2024/04/01 11:03:00
5	40	Spinning Reserve	2024/04/01 18:11:00	2024/04/01 16:59:00
5	40	Spinning Reserve	2024/04/02 05:56:00	2024/04/01 22:26:00
5	40	High furnace pressure.	2024/04/03 04:05:00	2024/04/02 20:31:00
5	140	AM: T11Econveyor motor-gearbox alignment	2024/04/04 05:35:00	2024/04/03 21:34:00
5	37	Spinning Reserve	2024/04/04 14:52:00	2024/04/04 09:42:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
5	90	AM: CW pump 4A+B motor filter cleaning	2024/04/05 00:24:00	2024/04/04 22:42:00
5	115	4 A & B MCW Motor filter cleaning	2024/04/05 05:08:00	2024/04/05 00:24:00
5	40	LHI precip casing repairs.	2024/04/06 05:34:00	2024/04/05 08:24:00
5	20	Spinning Reserve	2024/04/05 15:42:00	2024/04/05 12:56:00
5	40	EF: High stack emissions	2024/04/06 16:58:00	2024/04/06 05:34:00
5	90	High stack emissions.	2024/04/06 20:31:00	2024/04/06 16:58:00
5	140	AM: T11E motor gearbox alignment	2024/04/07 05:05:00	2024/04/06 20:31:00
5	90	D mill PF isolating damper repairs	2024/04/07 10:01:00	2024/04/07 05:05:00
5	90	D mill PF isolating damper repairs	2024/04/07 11:47:00	2024/04/07 10:01:00
5	10	A Mill running only one feeder	2024/04/07 12:05:00	2024/04/07 11:47:00
5	58	Poor vacuum	2024/04/20 00:00:00	2024/04/07 12:05:00
5	60	Spinning Reserve	2024/04/07 16:36:00	2024/04/07 15:10:00
5	60	EF: High stack emissions	2024/04/07 21:40:00	2024/04/07 20:20:00
5	158	EF: High stack emissions	2024/04/08 00:00:00	2024/04/07 21:40:00
5	158	D mill maintenance	2024/04/08 01:19:00	2024/04/08 00:00:00
5	182	AM: A & D mills not available.	2024/04/08 03:37:00	2024/04/08 01:19:00
5	155	AM:A Mill both feeder speed faulty, B & D mill in service with one feeder each	2024/04/08 21:24:00	2024/04/08 03:37:00
5	68	AM:A Mill both feeder speed faulty,	2024/04/11 08:52:00	2024/04/08 21:24:00
5	92	Spinning Reserve	2024/04/10 04:19:00	2024/04/10 00:09:00
5	160	Spinning Reserve	2024/04/11 13:55:00	2024/04/11 08:52:00
5	60	Spinning Reserve	2024/04/12 15:55:00	2024/04/12 09:00:00
5	16	ID fans not coping.	2024/04/12 20:25:00	2024/04/12 15:55:00
5	40	ID fans not coping.	2024/04/12 20:59:00	2024/04/12 20:25:00
5	160	AM: For 05WX21 fuse isolator replacement	2024/04/13 03:04:00	2024/04/13 00:28:00
5	27	A-mill 4000hrs Service	2024/04/15 03:37:00	2024/04/14 00:00:00
5	77	Spinning Reserve	2024/04/14 14:25:00	2024/04/14 01:46:00
5	77	Spinning Reserve	2024/04/15 07:47:00	2024/04/15 02:31:00
5	125	AM: Mill C bunker flooded	2024/04/15 07:47:00	2024/04/15 03:37:00
5	105	AM: Mill C bunker flooded.	2024/04/17 10:49:00	2024/04/16 02:42:00
5	55	Spinning Reserve	2024/04/17 04:26:00	2024/04/16 23:53:00
5	60	AM: Mill C bunker flooded.	2024/04/18 15:42:00	2024/04/17 10:49:00
5	100	A-mill both feeders not available.	2024/04/18 11:04:00	2024/04/18 10:52:00
5	150	A-mill both feeders not available.	2024/04/18 15:42:00	2024/04/18 11:04:00
5	80	AM: Mill C bunker flooded.	2024/04/18 16:50:00	2024/04/18 15:42:00
5	60	A-mill not available	2024/04/20 00:00:00	2024/04/18 16:50:00
5	100	High stack emissions	2024/04/20 01:20:00	2024/04/19 23:25:00
5	118	LHI precip casing.	2024/04/21 00:00:00	2024/04/20 00:00:00
5	20	ID fans not coping	2024/04/22 08:01:00	2024/04/20 01:21:00
5	80	Spinning Reserve	2024/04/20 09:00:00	2024/04/20 08:27:00
5	118	AM: RHO Precip. casing repairs.	2024/04/22 04:51:00	2024/04/21 00:00:00
5	80	Spinning Reserve	2024/04/21 21:42:00	2024/04/21 21:00:00
5	98	A & E mill not available	2024/04/22 07:00:00	2024/04/22 04:51:00
5	58	Poor vacuum.	2024/04/23 09:23:00	2024/04/22 07:00:00
5	60	A&E mills not available.	2024/04/22 17:36:00	2024/04/22 07:00:00
5	20	ID fans not coping.	2024/04/22 23:56:00	2024/04/22 17:36:00
5	58	A Mill both feeders & E Mill motor replacement	2024/04/25 09:21:00	2024/04/23 09:23:00
5	60	Poor vacuum	2024/04/26 07:53:00	2024/04/23 11:26:00
5	58	C Mill PF leak & E Mills motor repacement	2024/04/26 07:53:00	2024/04/25 14:22:00
5	58	ID fans not coping.	2024/04/30 23:59:59	2024/04/26 07:53:00
5	160	Spinning Reserve	2024/04/29 15:12:00	2024/04/29 10:35:00
6	593	Outage	2024/04/30 23:59:59	2024/04/01 00:00:00

PM Exceedances		
U1.	Manual rapping carried out	18-Apr
U1.	Manual rapping carried out	22-Apr
U2.	Manual rapping carried out. High hopper levels.	02-Apr
U2.	DHP issues	09-Apr
U2.	Unit 2 shut-down for BTL	13-Apr
U2.	U2 synchronised on 17/04/2024 @06h36 & emissions to be below on 20/04/2024 @06h36 SO3 plant still ramping up	18-Apr
U2.	Precip poor performance on casing fields [LHO - 1, 2 & 3 - 0 kw; LHI - 6 (0 kw) & RHI - 1, 2 & 3 (0 kw) & 5, 6 -7 (11 kw)]	20-Apr
U2.	RHI ESP casing poor performance Monitor maxing out	21-Apr
U2.	RHI Casing outage Manual rapping carried out.	22-Apr
U2.	Poor ESP casing performance	26-Apr
U2.	Poor ESP casing performance	28-Apr
U2.	Manual rapping carried out ESP poor performance	29-Apr
U3.	Dust handling plant challenges	03-Apr
U3.	Manual rapping carried out.	04-Apr
U3.	Sulphur fluctuations due to boiler load	07-Apr
U3.	Manual rapping	08-Apr
U3.	Manual rapping	10-Apr
U3.	Poor casing performance SO3 Burner temps low	13-Apr
U3.	Manual rapping carried out SO3 burner temp low	15-Apr
U3.	High hopper levels SO3 burner temp low	16-Apr
U3.	Manual rapping carried out SO3 burner temp low	17-Apr
U3.	Manual rapping SO3 plant tripped on comms fault	19-Apr
U3.	SO3 plant flow control valve issues	20-Apr

PM Exceedances		
U3.	Manual rapping carried out	24-Apr
U4.	High hopper levels Manual rapping.	03-Apr
U4.	High hopper levels.	04-Apr
U4.	Manual rapping	11-Apr
U4.	Dust Handling Plant Issues	15-Apr
U4.	Manual rapping carried out	18-Apr
U4.	Poor casing performance	20-Apr
U4.	Manual rapping carried out	23-Apr
U4.	Poor ESP casing performance	26-Apr
U4.	LHO ESP casing poor performance	28-Apr
U4.	Poor ESP casing performance Manual rapping carried out	29-Apr
U4.	Unit tripped on black furnace	30-Apr
U5.	Manual rapping carried out	01-Apr
U5.	Dust plant issues	04-Apr
U5.	LHI Casing outage	05-Apr
U5.	Poor casing performance on LHI	07-Apr
U5.	Manual rapping	09-Apr
U5.	Manual rapping carried out	13-Apr
U5.	Manual rapping LHI Casing outage	20-Apr
U5.	RHO casing outage	21-Apr
U5.	High hopper levels Poor casing performance	30-Apr