Eskom

Mr. Mcebo Mkhatshwa
Air Quality Officer
Fezile Dabi District Municipality
P.O Box 10
Sasolburg
1947

Date:
30 August 2024

Enquiries:
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LRP01PLA000 _0414/20240812

Dear Mr. Mkhatshwa

LETHABO POWER STATION EMISSION MONTHLY REPORT FOR JULY 2024

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

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

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

Yours sincerely

Karabo Rakgolela
PP act GM **GENERAL MANAGER**
2024/08/27

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Eskom	Report	Lethabo Power Station

Report name:	**Lethabo Power Station July 2024 Emission Report**	Reference number:	**LRP01PLA000 _0414/20240812**
		Document Type:	**Report**
		Area of Applicability:	**Environment**
		Report Date:	**August-2024**
		Classification:	**Controlled Disclosure**

Signatures:

Compiled by:	**Verified by :**	**Reviewed by:**
B Moletsane	W de Klerk	Nathi Mazibuko
Boiler Engineer	**Senior Advisor**	**BPE Manager**
Date: 26 August 2024	**Date:** 2024 08 26	**Date:** 2024/08/26

Reviewed by:	**Reviewed by:**	**Reviewed by:**
C Govinden	L Nel	M Hariram
PE Manager	**C&I Manager**	**Environmental Manager**
Date: 2024/08/26	**Date:** 2024-08-36	**Date:** 2024-08-26

Reviewed by:	**Approved by:**	
Thuti Njapha	H Sewsunker	
Engineering Manager	**Technical Manager**	
Date: 26/08/2024	**Date:** 2024/08/27	

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 Jul-2024
	Coal	Tons	*2 000 000*	*1 165 829*
	Fuel Oil	Tons	*1 700*	*2717.890*
Production Rates	**Product / By-Product Name**	**Units**	**Maximum Production Capacity Permitted**	**Indicative Production Rate Jul-2024**
	Energy	GWh	*2 834.640*	*1 568.170*
	Ash	Tons	*770 000*	*444 064.140*
	RE Ash	kg/MWh	*Not Specified*	*283.174*

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: [3 810 MW] x 24 hrs x 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)*	*0.690*
Ash Content	%	*37.37 (Standard)*	*38.090*

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 Jul-2024	Technology Type	SO_3 Utlization Jul-2024
Unit 1	*Electrostatic Precipitator (ESP)*	*99.85%*	SO_3	*98.3%*
Unit 2	*Electrostatic Precipitator (ESP)*	*99.12%*	SO_3	*41.4%*
Unit 3	*Electrostatic Precipitator (ESP)*	*99.80%*	SO_3	*99.7%*
Unit 4	*Electrostatic Precipitator (ESP)*	*99.59%*	SO_3	*99.6%*
Unit 5	*Electrostatic Precipitator (ESP)*	*99.74%*	SO_3	*98.4%*
Unit 6	*Electrostatic Precipitator (ESP)*	*99.86%*	SO_3	*88.6%*

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	*90.9*	*99.7*	*99.9*
Unit 2	*73.0*	*100.0*	*100.0*
Unit 3	*97.0*	*100.0*	*100.0*
Unit 4	*95.4*	*99.5*	*99.7*
Unit 5	*98.9*	*100.0*	*100.0*
Unit 6	*100.0*	*99.6*	*100.0*

Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO_2

6. EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of July 2024

Associated Unit/Stack	PM (tons)	SO_2 (tons)	NO_x (tons)
Unit 1	148.5	3 020	1 655
Unit 2	571.2	2 607	1 016
Unit 3	176.3	2 986	1 237
Unit 4	253.2	3 551	1 789
Unit 5	*204.7*	*3249*	*1347*
Unit 6	16.8	458	190
SUM	1 370.7	15 871	7 234

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

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
Unit 1	24	5	0	0	5	88.5
Unit 2	6	20	0	11	31	470.2
Unit 3	19	12	0	2	14	110.1
Unit 4	20	10	0	2	12	134.7
Unit 5	17	8	0	0	8	115.0
Unit 6	2	2	0	0	2	95.3
SUM	**88**	**57**	**0**	**15**	**72**	

Table 6.3: Operating days in compliance to SO_2 AEL Limit - July 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO_2 (mg/Nm³)
Unit 1	30	0	0	0	0	1 724.9
Unit 2	28	0	0	0	0	1 888.7
Unit 3	31	0	0	0	0	1 851.1
Unit 4	31	0	0	0	0	1 758.1
Unit 5	26	0	0	0	0	1 784.1
Unit 6	6	0	0	0	0	1 775.0
SUM	**152**	**0**	**0**	**0**	**0**	

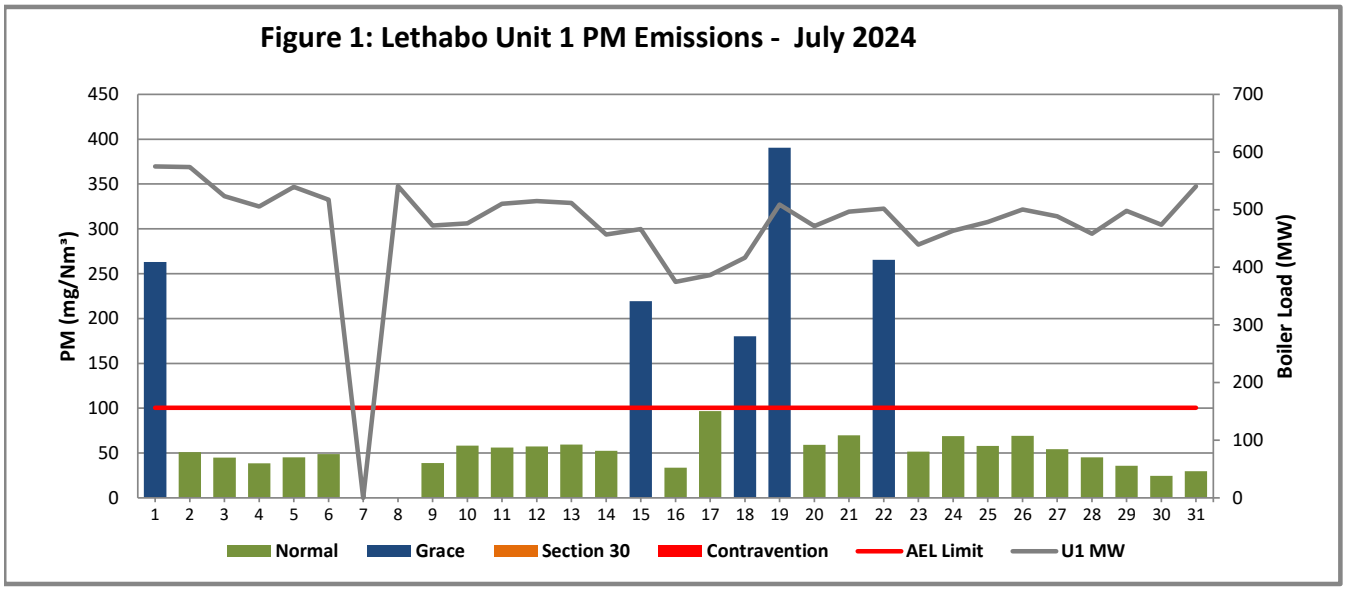
Table 6.4: Operating days in compliance to NOx AEL Limit - July 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm³)
Unit 1	30	0	0	0	0	943.4
Unit 2	28	0	0	0	0	735.3
Unit 3	31	0	0	0	0	768.0
Unit 4	30	0	0	1	1	883.7
Unit 5	26	0	0	0	0	743.8
Unit 6	6	0	0	0	0	727.3
SUM	**151**	**0**	**0**	**1**	**1**	

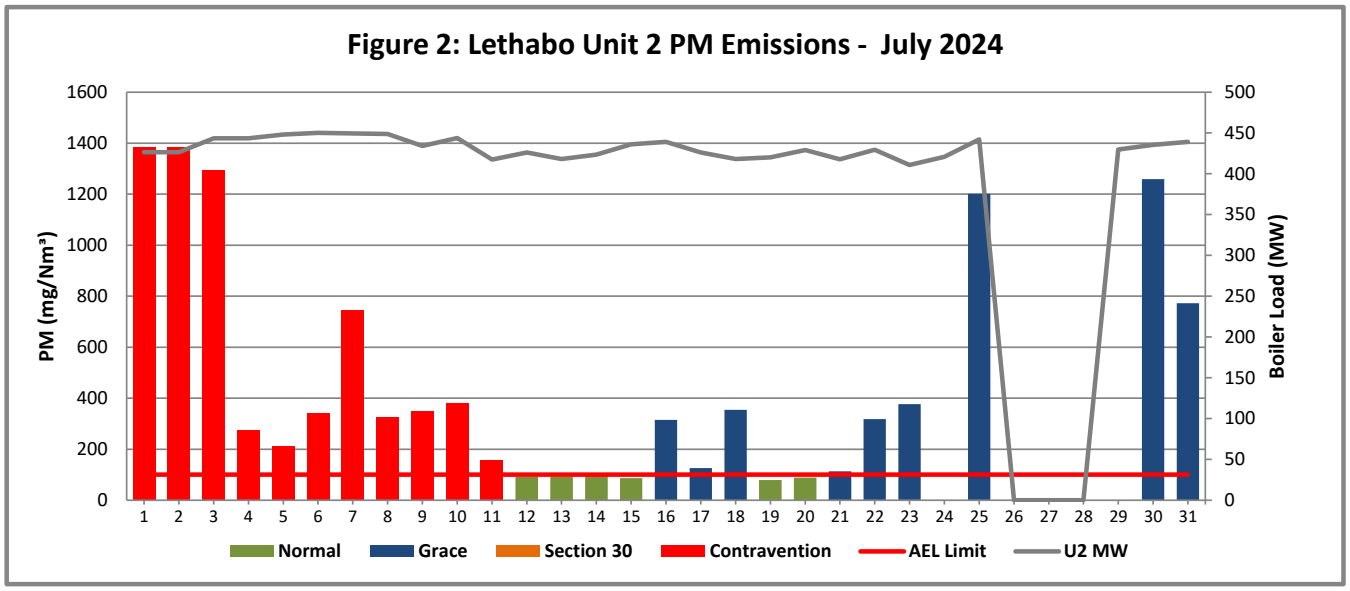
Note: NOx emissions is measured as NO in PPM. Final NOx value is expressed as total NO_2

Table 6.5: Legend Description

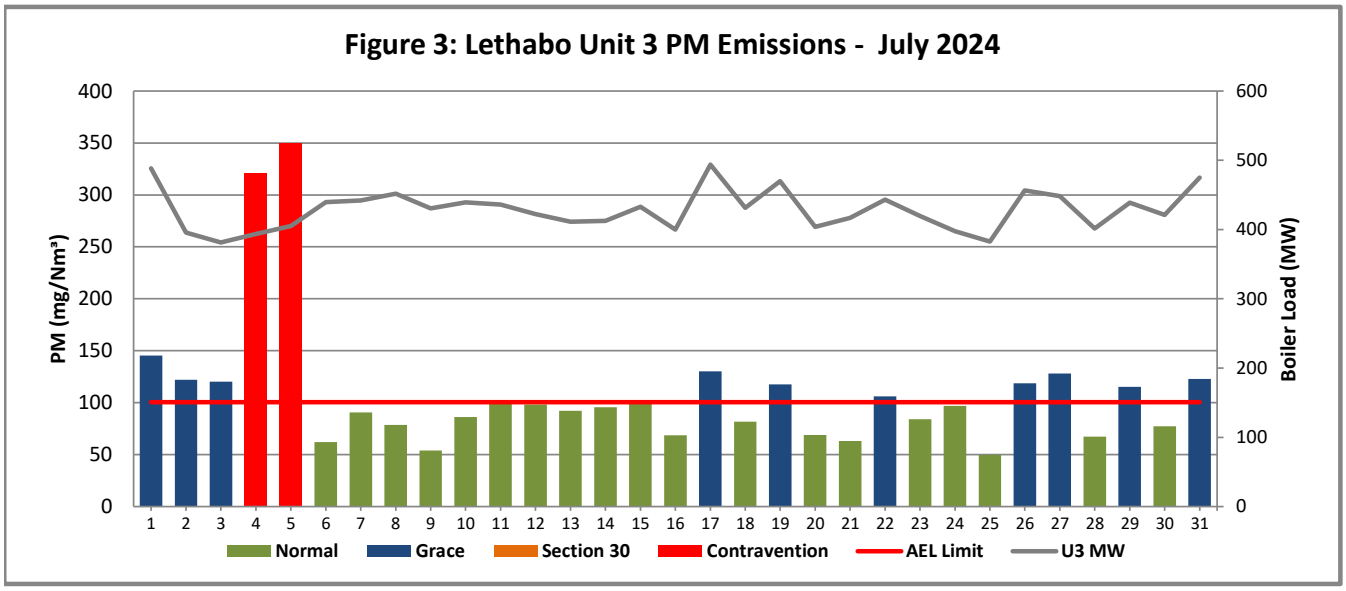
Condition	Colour	Description
Normal	GREEN	Emissions below Emission Limit Value (ELV)
Grace	BLUE	Emissions above the ELV during grace period
Section 30	ORANGE	Emissions above ELV during a NEMA S30 incident
Contravention	RED	Emissions above ELV but outside grace or S30 incident conditions



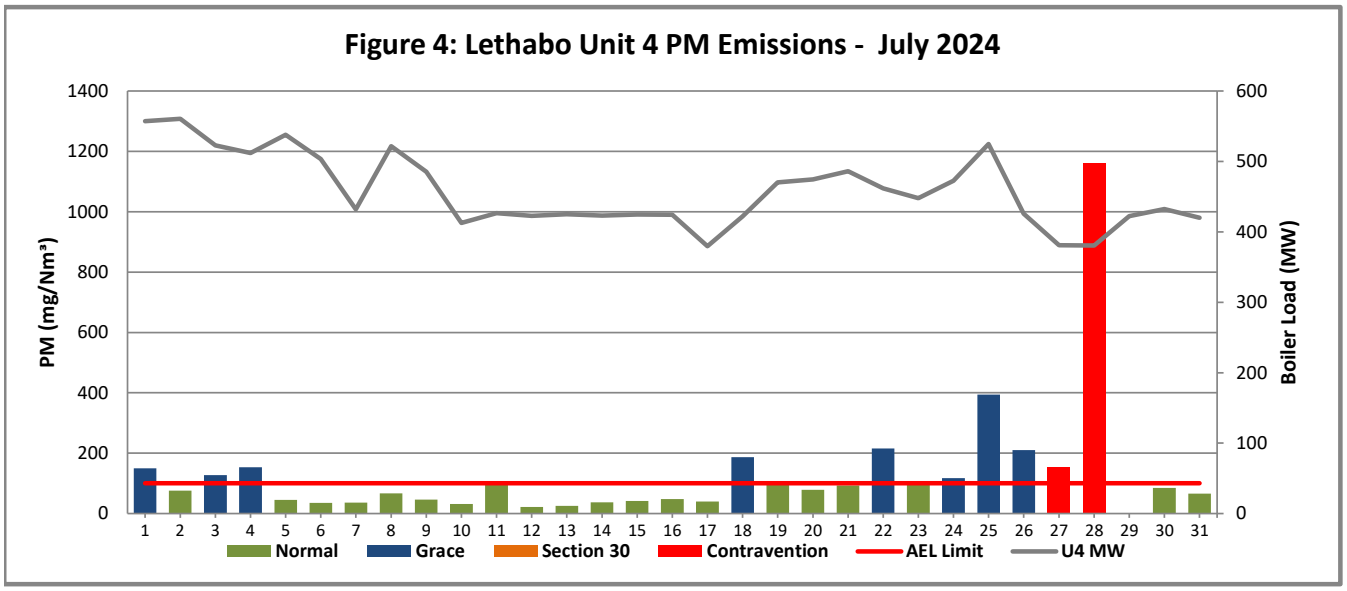
Reasons:	
Date	**Description:**
01-Jul	Manual rapping carried out
07-Jul	U1 opportunity maintance.
08-Jul	U1 opportunity maintance.
15-Jul	Manual rapping
18-Jul	ESP off for secondary air heater repairs.
19-Jul	Monitor maxing out due to draght group shutown for maintenance.
23-Jul	Manaul rapping carried out. Poor casing performance.



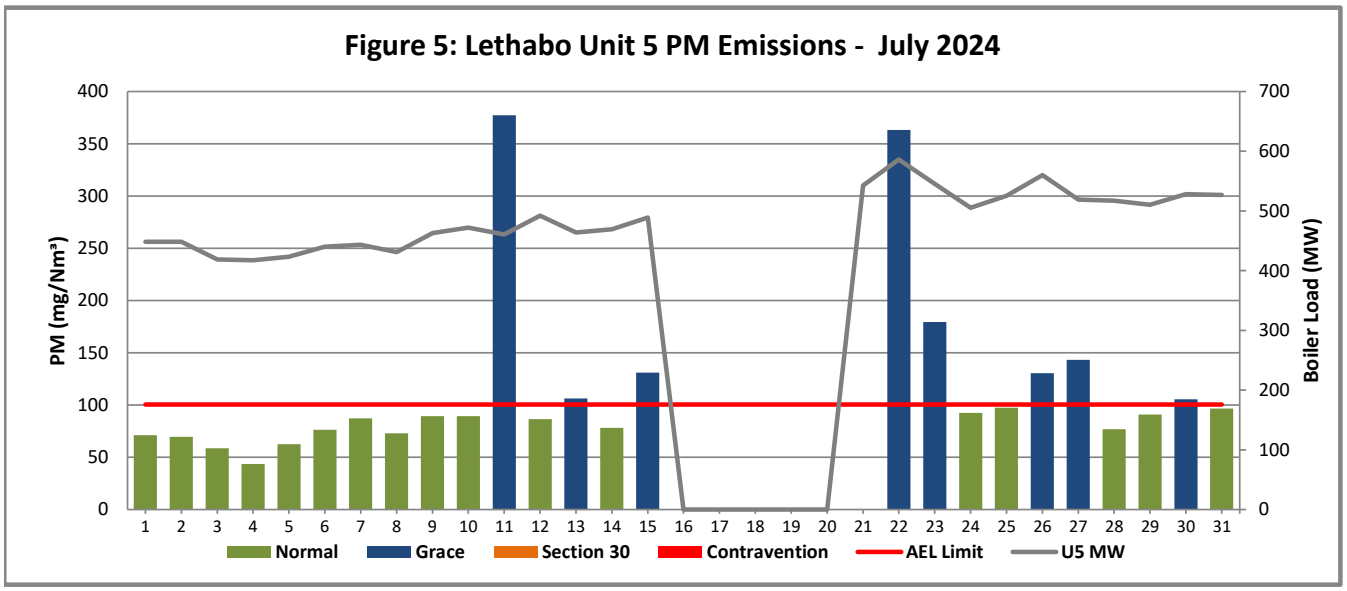
Reasons:	
Date	**Description:**
01-Jul	Poor ESP performance SO3 plant unavailable RHI Casing outage
02-Jul	Poor ESP performance SO3 plant unavailable RHI Casing outage
03-Jul	Poor ESP performance SO3 plant unavailable RHO Casing outage
04-Jul	SO3 plant unavailable
05-Jul	SO3 plant unavailable
06-Jul	SO3 plant unavailable
07-Jul	SO3 plant unavailable
08-Jul	SO3 plant unavailable
09-Jul	SO3 plant unavailable Manual rapping done
10-Jul	SO3 plant unavailable Manual rapping done
11-Jul	SO3 plant unavailable
16-Jul	Manual rapping
17-Jul	SO3 Plant off for air blower replacement.
18-Jul	Manual rapping
21-Jul	SO3 plant off
22-Jul	SO3 plant off
23-Jul	Unit shut down
24-Jul	The unit synchronised on 2024/07/24 @ 10:56, therefore the emissions need to be below by 2024/07/27 @ 10:56 and remain below the limit unit 2024/07/28 @ 23:59
25-Jul	The unit synchronised on 2024/07/24 @ 10:56, therefore the emissions need to be below by 2024/07/27 @ 10:56 and remain below the limit unit 2024/07/28 @ 23:59
27-Jul	Off load
30-Jul	Light-up Condition.
31-Jul	Light-up Condition.



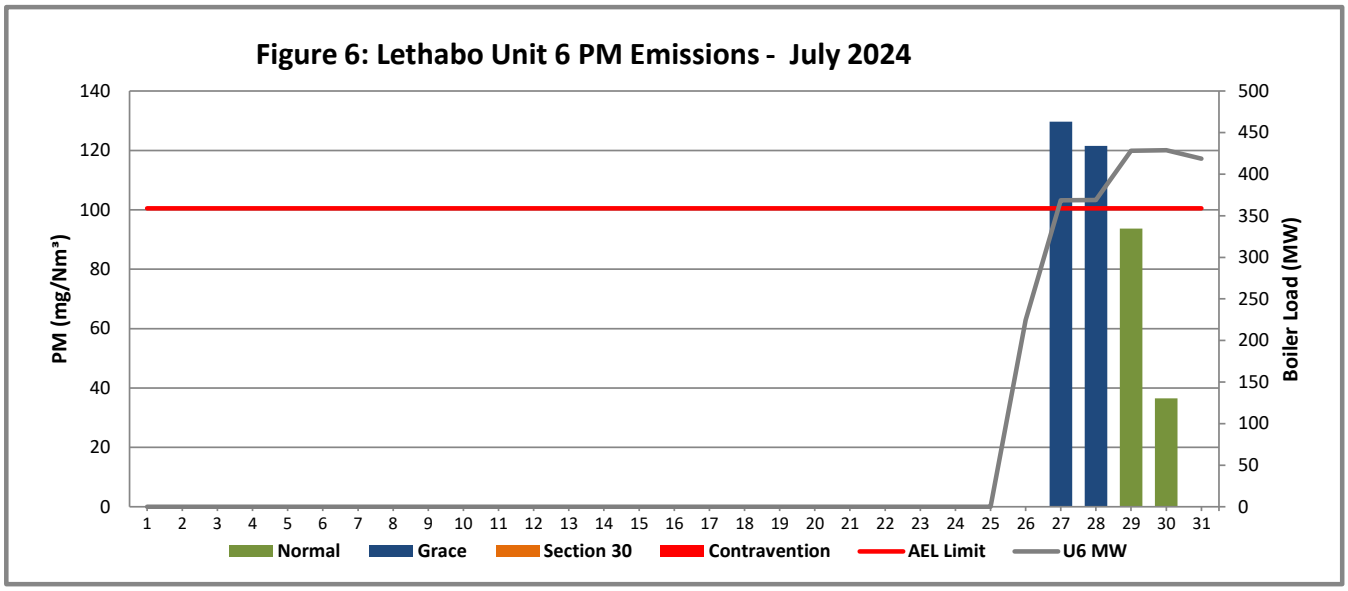
Reasons:	
Date	**Description:**
01-Jul	Manual rapping carried out LHI F2 & RHO F3 Off
02-Jul	High hopper levels LHI F2 & RHO F3 off
03-Jul	Manual rapping carried out High hopper levels
04-Jul	LHI Casing outage RH F3 off
05-Jul	RHO Casing outage
17-Jul	Manaul rapping
19-Jul	Manual rapping Poor casing performance
22-Jul	Poor casing performance. High hopper levels.
26-Jul	SO3 plant challenges
27-Jul	Poor casing performance. Precip screen faulty
29-Jul	Manual rapping.
31-Jul	Clean rapping brought forward.



Reasons:	
Date	**Description:**
01-Jul	High hopper level due to 4A bucket elevator standing.
03-Jul	High hopper levels due to A Bucket tripped on bottom alignment.
04-Jul	Manual rapping carried out
18-Jul	Manual rapping carried out
22-Jul	Manual rapping done
24-Jul	Poor casing performance Manual rapping carried out.
25-Jul	High hopper levels Poor casing performance
26-Jul	High hopper levels. Poor casing performance
27-Jul	Precip computer screen tripped Poor casing performance
28-Jul	RHI casing outage



Reasons:	
Date	**Description:**
11-Jul	RHI casing outage
13-Jul	Manual rapping
15-Jul	High hopper levels Poor ESP casing performance
22-Jul	The unit synchronised on 2024/07/21 @ 00:32, therefore the emissions need to be below by 2024/07/24 @00:32 and remain below the limit for the entire day of the 24th
23-Jul	The unit synchronised on 2024/07/21 @ 00:32, therefore the emissions need to be below by 2024/07/24 @00:32 and remain below the limit for the entire day of the 24th
26-Jul	Manual rapping.
27-Jul	High hopper levels and poor casing performance
30-Jul	Poor casing performance.



Reasons:	
Date	**Description:**
26-Jul	Light-up Conditions.
27-Jul	Light-up Conditions
28-Jul	Light-up Conditions
31-Jul	Light-up conditions.

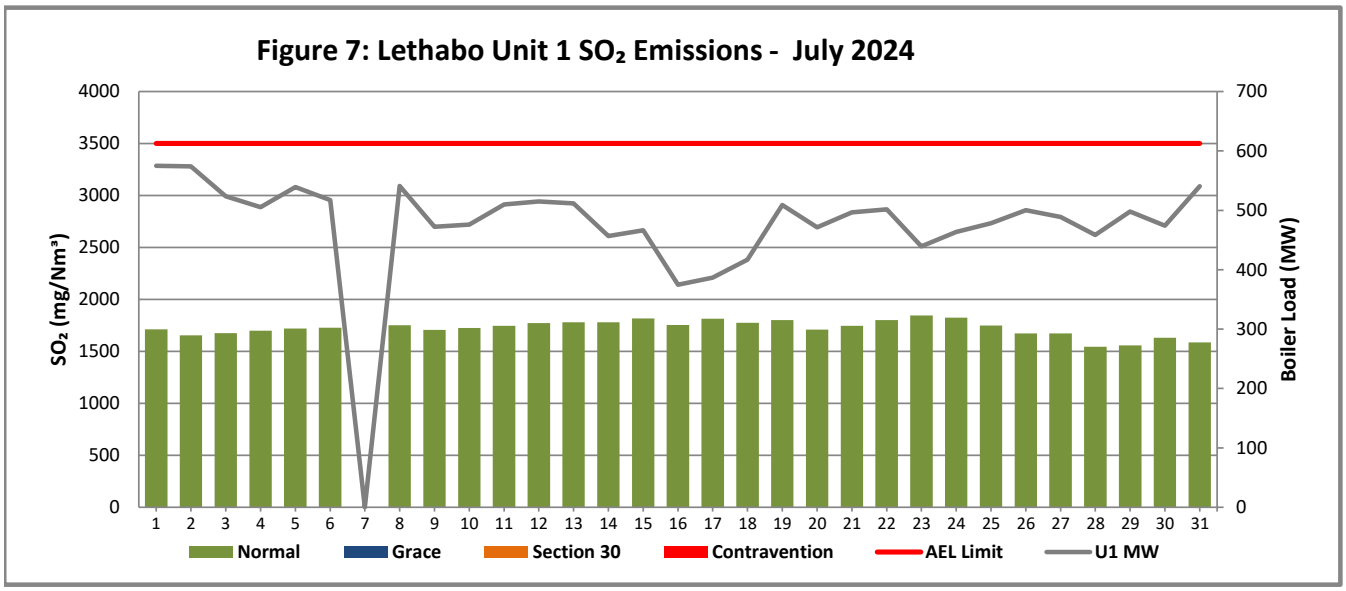


Figure 7: Lethabo Unit 1 SO₂ Emissions - July 2024
SO₂ (mg/Nm³)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
700
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW

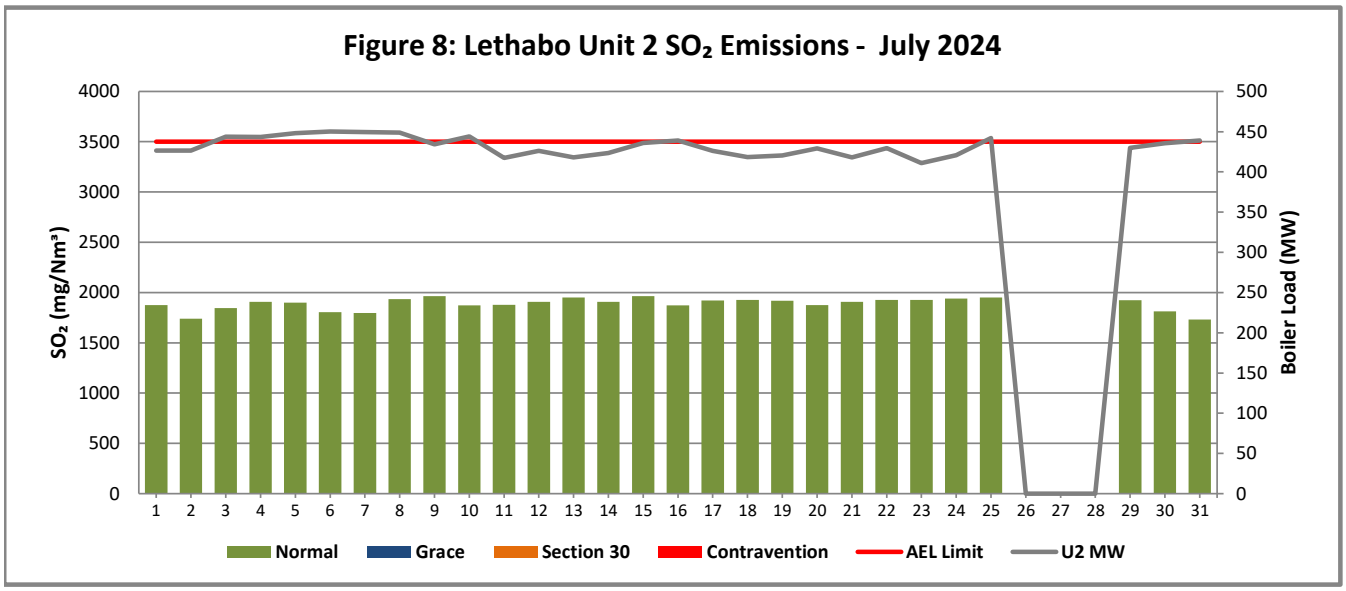


Figure 8: Lethabo Unit 2 SO₂ Emissions - July 2024
SO₂ (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U2 MW

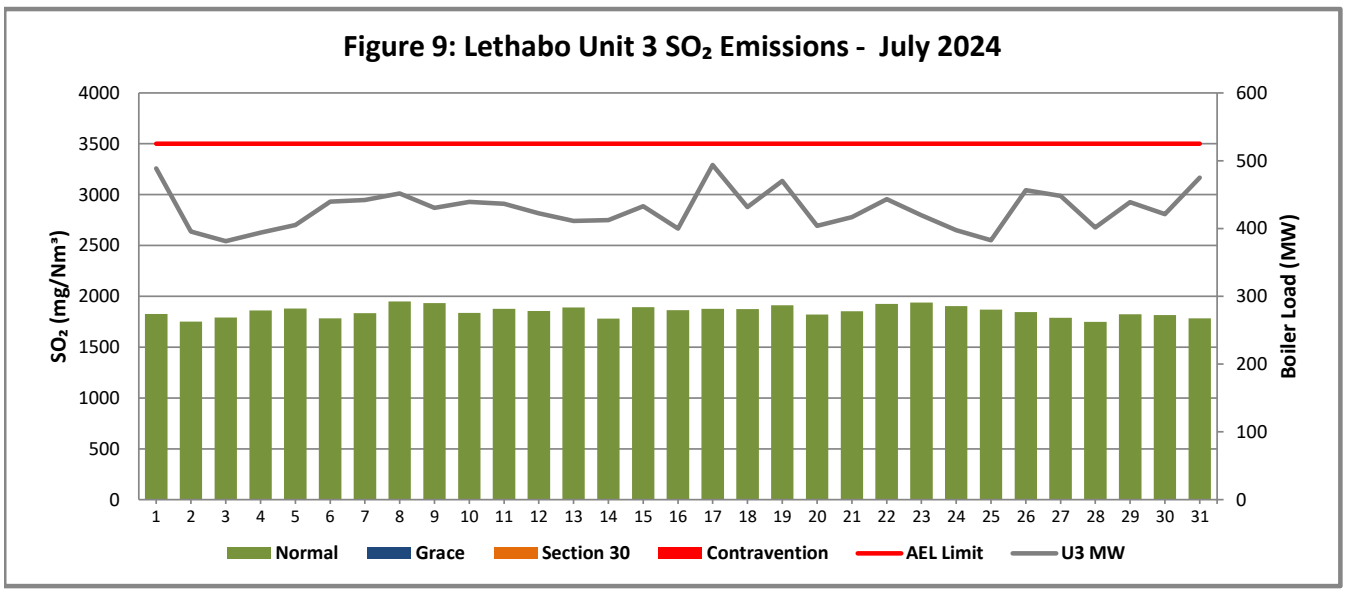


Figure 9: Lethabo Unit 3 SO₂ Emissions - July 2024
SO₂ (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW

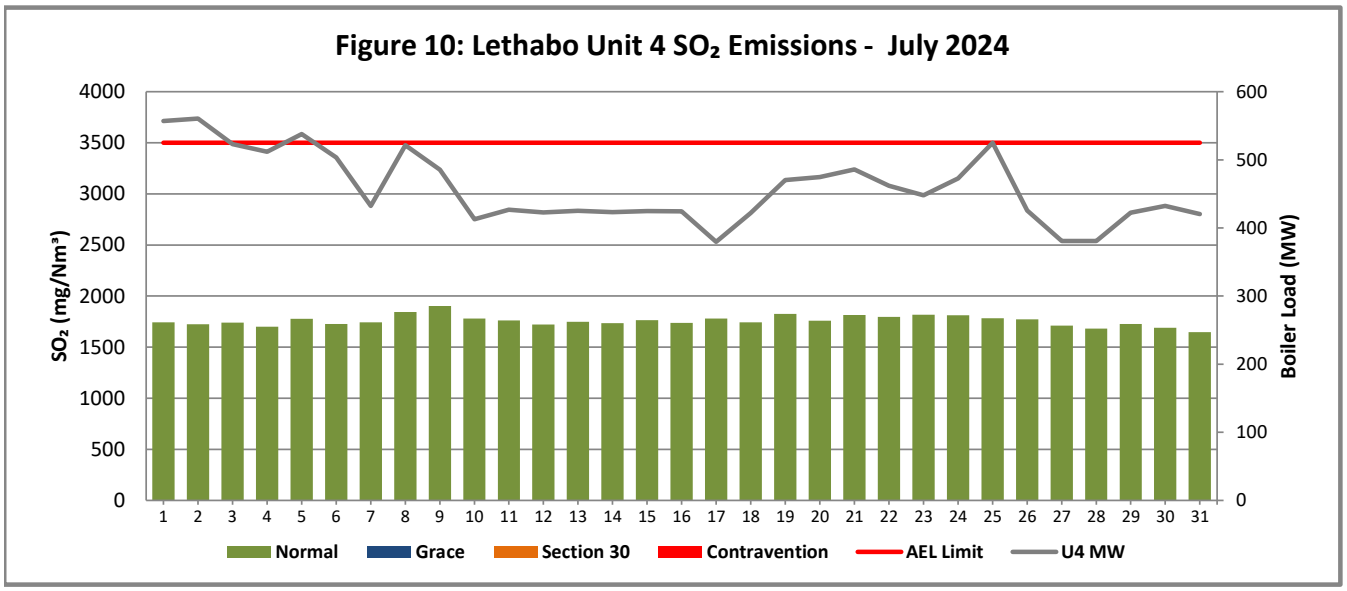


Figure 10: Lethabo Unit 4 SO₂ Emissions - July 2024
SO₂ (mg/Nm³)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U4 MW

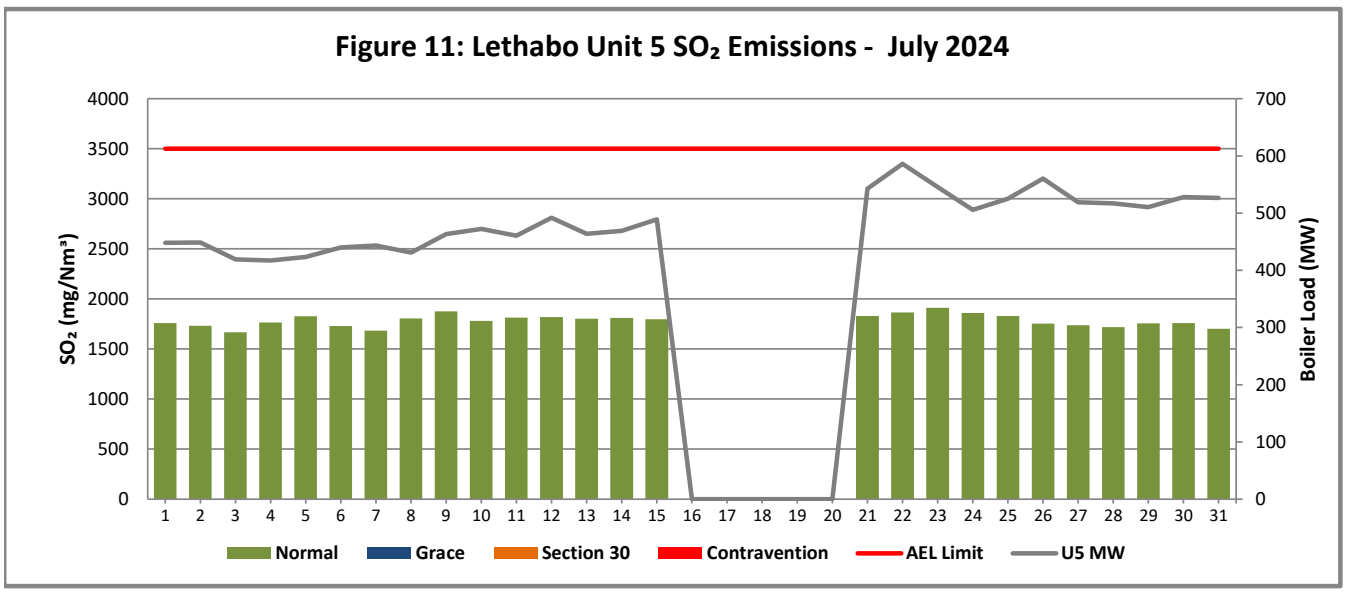


Figure 11: Lethabo Unit 5 SO₂ Emissions - July 2024
SO₂ (mg/Nm³)
Boiler Load (MW)
4000
3500
3000
2500
2000
1500
1000
500
0
700
600
500
400
300
200
100
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U5 MW

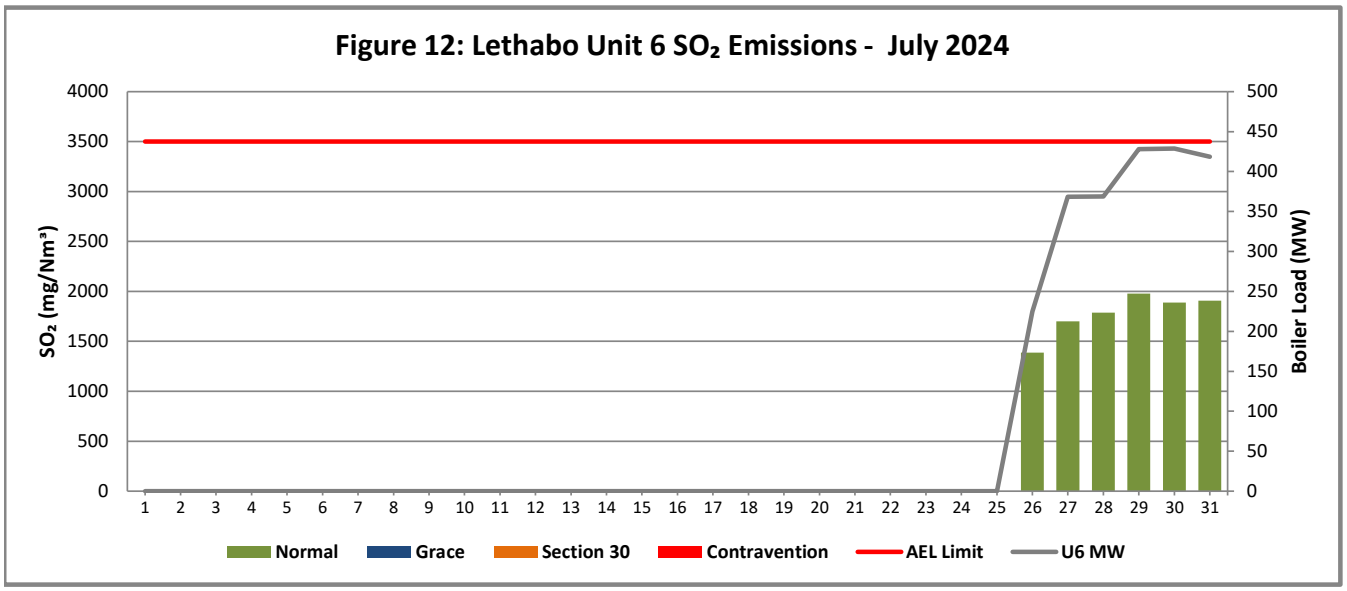


Figure 12: Lethabo Unit 6 SO₂ Emissions - July 2024
SO₂ (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U6 MW

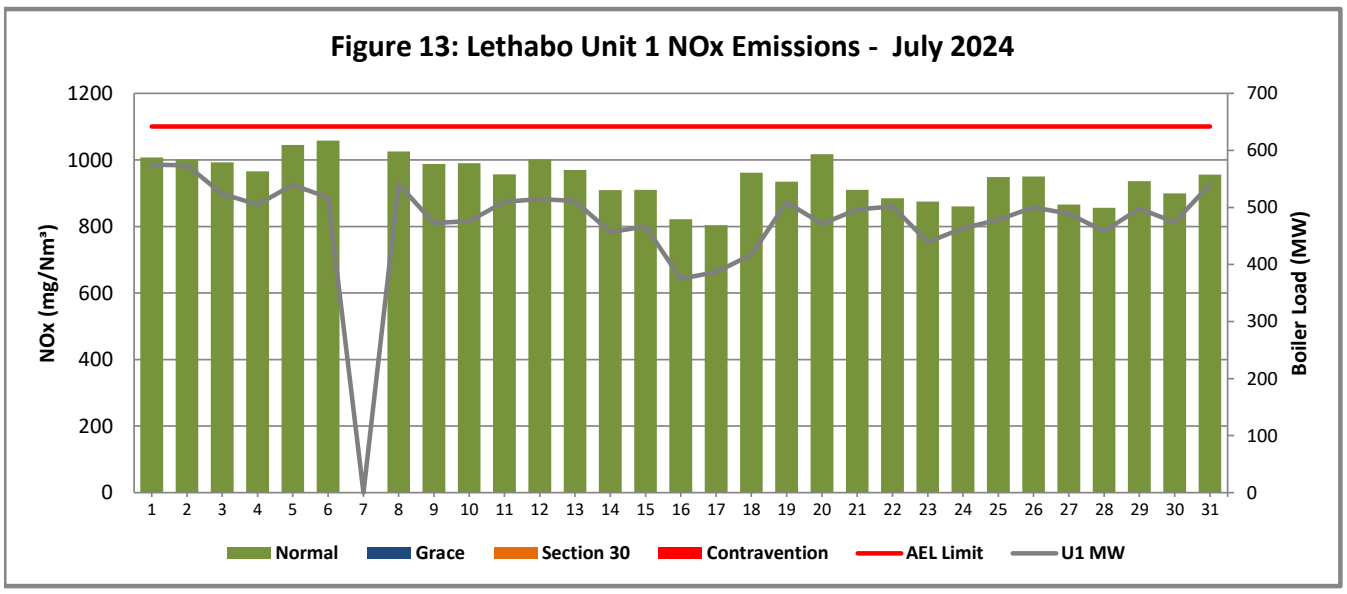


Figure 13: Lethabo Unit 1 NOx Emissions - July 2024
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U1 MW

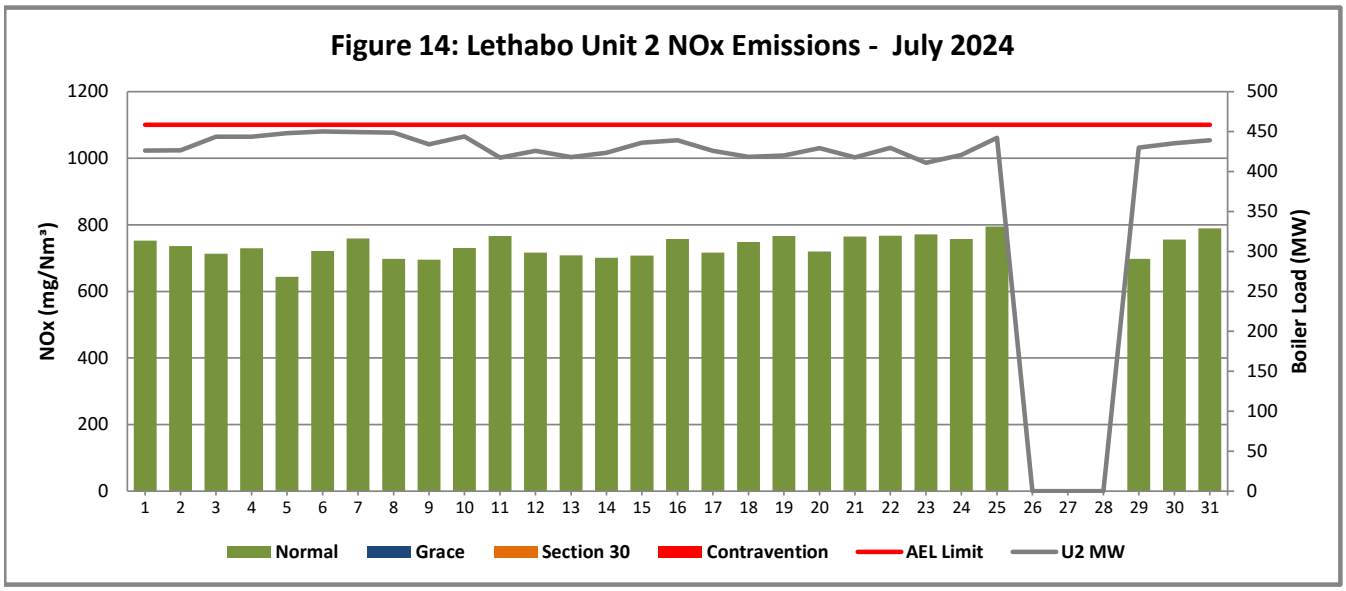


Figure 14: Lethabo Unit 2 NOx Emissions - July 2024
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U2 MW

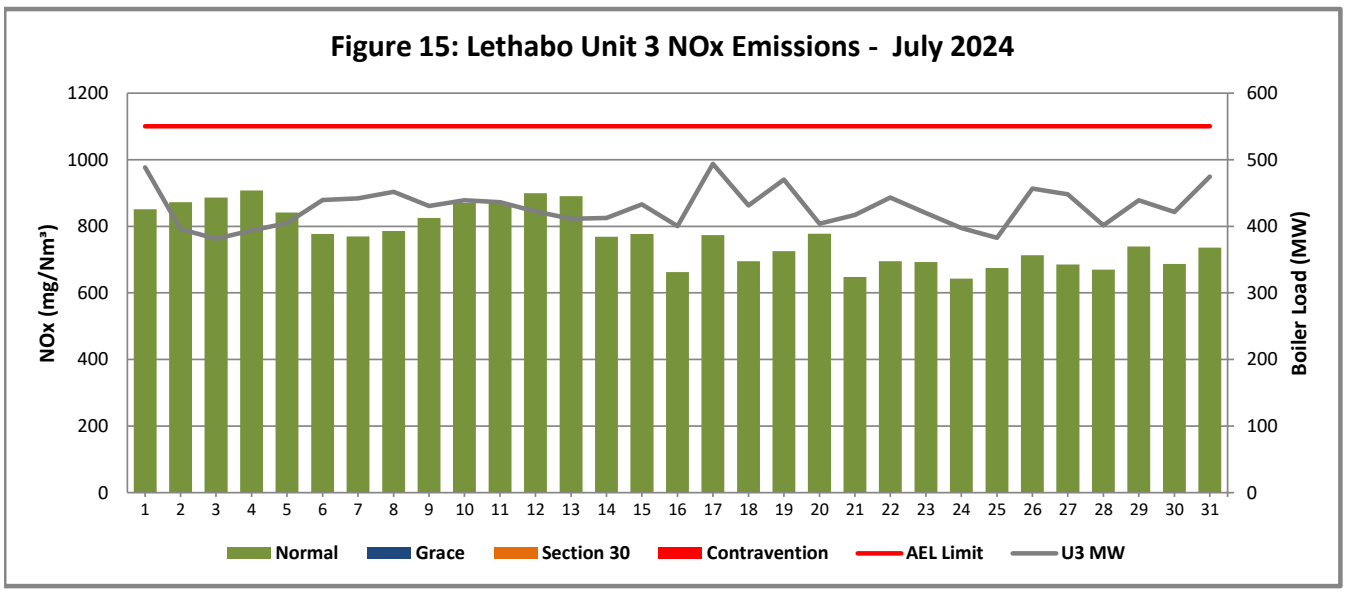
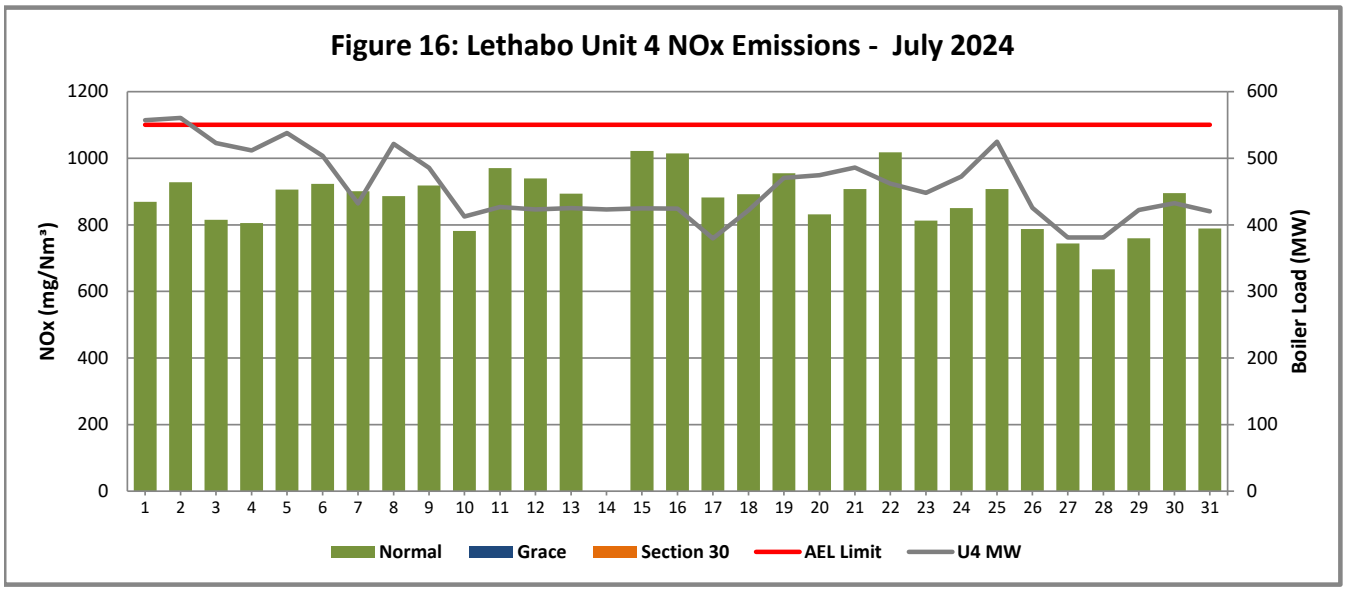
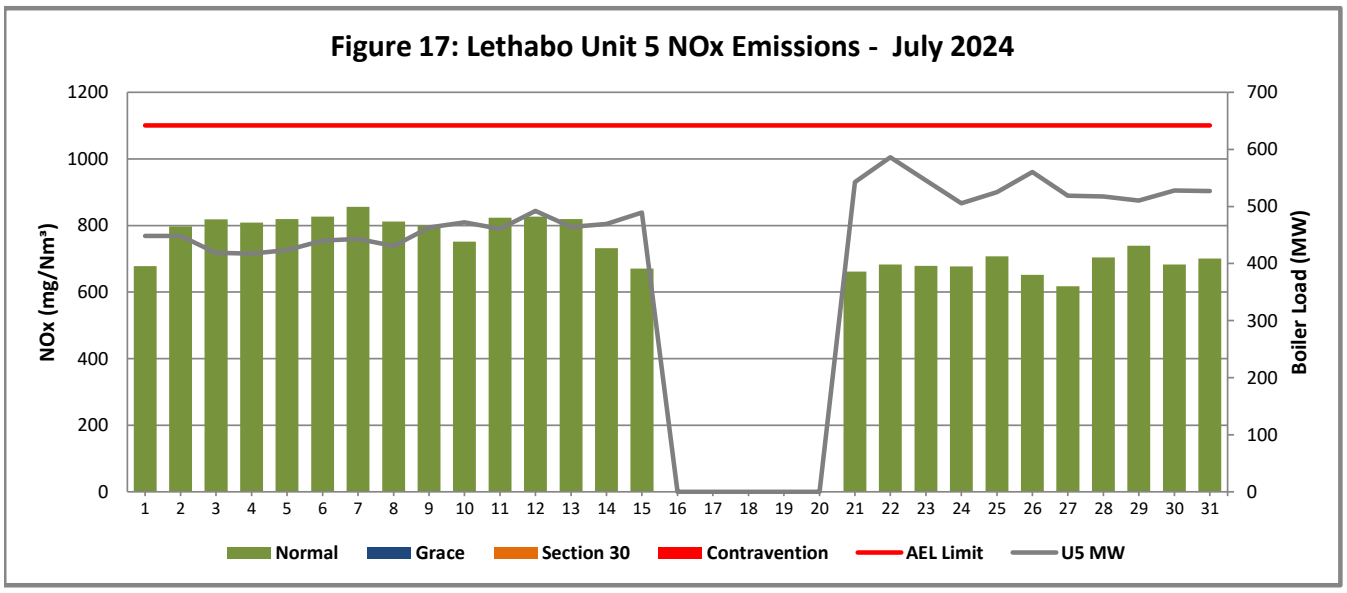


Figure 15: Lethabo Unit 3 NOx Emissions - July 2024
NOx (mg/Nm³)
Boiler Load (MW)
Normal
Grace
Section 30
Contravention
AEL Limit
U3 MW



Reasons:	
Date	Description:
14-Jul	Monitor fault.



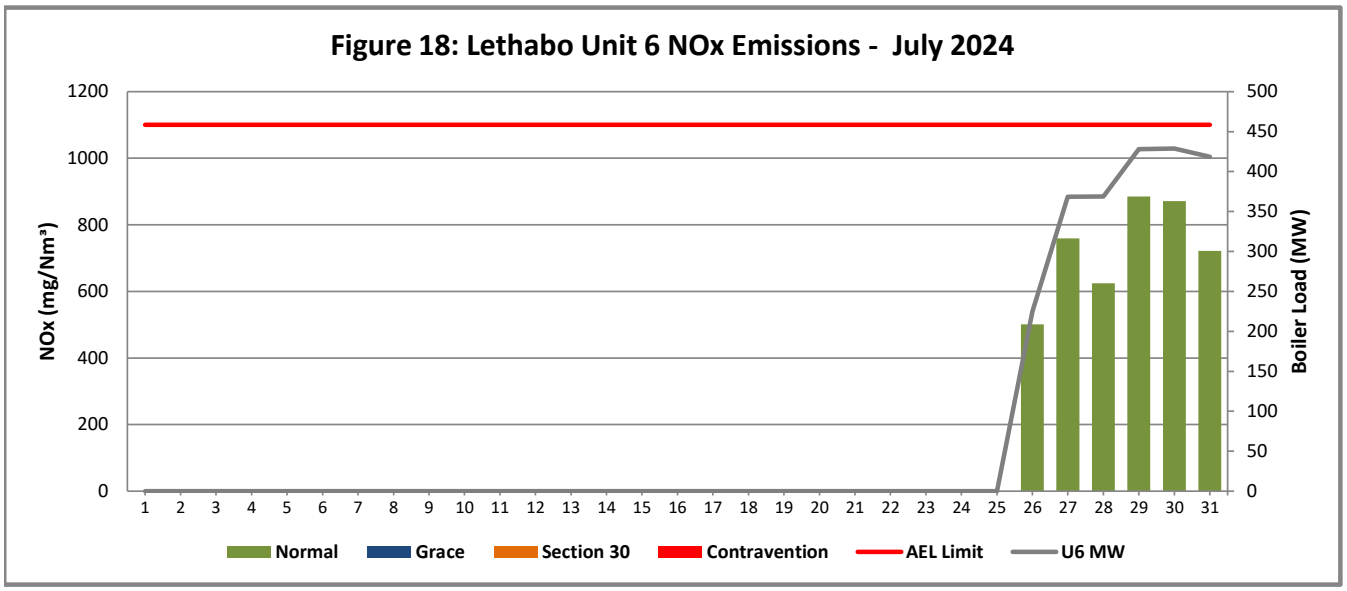


Figure 18: Lethabo Unit 6 NOx Emissions - July 2024
NOx (mg/Nm³)
Boiler Load (MW)
1200
1000
800
600
400
200
0
500
450
400
350
300
250
200
150
100
50
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Normal
Grace
Section 30
Contravention
AEL Limit
U6 MW

7 SHUT DOWN AND LIGHT UP INFORMATION

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

Unit No.1	*Unit tripped on Low drum level*							
Breaker Open (BO)	*5:18 pm*	*2024/07/09*						
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	*6:43 pm*	*2024/07/09*						
Synch. to Grid (or BC)	*9:51 pm*	*2024/07/09*						
Fires in to BC (duration)	*00:03:07*	DD:HH:MM						
Emissions below limit from BC (end date)	*12:00 am*	*2024/07/10*						
Emissions below limit from BC (duration)	*00:02:09*	DD:HH:MM						

Unit No.2	*Unit slipped due to oil burners fall out after HP fuel oil p/p B tripped*		*0:00:00*		*0*			
Breaker Open (BO)	*6:00 am*	*2024/07/29*						
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	*5:54 am*	*2024/07/29*						
Synch. to Grid (or BC)	*7:28 am*	*2024/07/29*						
Fires in to BC (duration)	*00:01:34*	DD:HH:MM						
Emissions below limit from BC (end date)	*12:00 am*	*2024/08/03*						
Emissions below limit from BC (duration)	*04:16:32*	DD:HH:MM						

Unit No.3	0		0					
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	AM: no coal supply.		0		0			
Breaker Open (BO)	9:03 pm	2024/07/28						
Draught Group (DG) Shut Down (SD)	10:20 pm	2024/07/28						
BO to DG SD (duration)	00:01:17	DD:HH:MM						
Fires in time	4:00 am	2024/07/29						
Synch. to Grid (or BC)	4:38 am	2024/07/29						
Fires in to BC (duration)	00:00:38	DD:HH:MM						
Emissions below limit from BC (end date)	1:00 am	2024/07/31						
Emissions below limit from BC (duration)	01:20:22	DD:HH:MM						

Unit No.5	*AM: Boiler tube leak.*		*0*		*0*			
Breaker Open (BO)	*11:18 pm*	*2024/07/15*						
Draught Group (DG) Shut Down (SD)	*12:47 pm*	*2024/07/16*						
BO to DG SD (duration)	*00:13:29*	DD:HH:MM						
Fires in time	*2:36 pm*	*2024/07/20*						
Synch. to Grid (or BC)	*12:31 am*	*2024/07/21*						
Fires in to BC (duration)	*00:09:55*	DD:HH:MM						
Emissions below limit from BC (end date)	*5:00 am*	*2024/07/25*						
Emissions below limit from BC (duration)	*04:04:29*	DD:HH:MM						

Unit No.6	*Outage*							
Breaker Open (BO)								
Draught Group (DG) Shut Down (SD)								
BO to DG SD (duration)		DD:HH:MM						
Fires in time	*12:10 pm*	*2024/07/25*						
Synch. to Grid (or BC)	*4:10 am*	*2024/07/31*						
Fires in to BC (duration)	*05:16:00*	DD:HH:MM						
Emissions below limit from BC (end date)	*12:00 am*	*2024/08/01*						
Emissions below limit from BC (duration)	*00:19:50*	DD:HH:MM						

7.2: Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of July 2024 in mg/Nm^3

8. MAINTENANCE

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

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

Unit 3				
Beginning of	2024/07/04 00:00:00			
Reason for Maintenance	LHI Pricip casing repairs			
End (Time):	2024/07/04 16:48:00			
Duration	16:48:00			

Unit 4				
Beginning of	2024/07/28 00:00			
Reason for Maintenance	AM: RHO Precip casing			
End (Time):	2024/07/28 21:03			
Duration	21:03:00			

Unit 5				
Beginning of	2024/07/11 14:45			
Reason for Maintenance	RHI precip casing repairs.			
End (Time):	2024/07/12 00:00			
Duration	9:15:00			

Unit 6				
Beginning of	2024/07/28 01:00:00			
Reason for Maintenance	Precip Optimization			
End (Time):	2024/07/30 22:24			
Duration	69:24:00			

9. GENERAL

Unit 1 Monitor Reliability

19/07/2024 & 21/07/2024: PM monitor Reliability low due to monitor reading max out. 28/07/2024 -
30/07/2024: PM monitor reliability low due to tripped electrical boards.

Unit 2 Monitor Reliability

01/07/2024 - 03/07/2024: PM Monitor Reliability low due to monitor max out.
07/07/2024: PM monitor reliability low due to monitor reading maxing out.
21/07/2024, 23/07/2024, 25/07/2024, 30/07/2024 - 31/07/2024: PM monitor reliability low due to monitor reading maxing out.
On the 01/07/2024 - 11/07/2024, unit 2 registered a non-compliance as the unit continued to exceed for greater than 72 hours due to SO3 plant issues; requiring the repairs of the SO3 plant sulphur inlet burner pipe flange and inlet air pipe burner valve.
During this time the PM monitor for the unit did read at maxium reading for some period, and this time is deducted from the monitor availability which is why the monitor availability is below MES required 80% reliability for the month

Unit 3 Monitor Reliability

04/07/2024: PM monitor reliability low due to monitor calibration taking place
21/07/2024: PM Monitor reliability low due to monitor max out.
On the 01/07/2024 - 05/07/2024, unit 3 registered a non-compliance as the unit continued to exceed for greater than 72 hours due to ESP casing issues; requiring the repairs.

Unit 4 Monitor Reliability

28/07/2024: PM Monitor Reliability low due to monitor reading maxing out.
The unit synchronised on 2024/07/29 @ 04:37, therefore the emissions need to be below by 2024/08/01 @ 04:37 and remain below the limit unit 2024/08/01 @ 23:59; however, failed to be below the limit due to high hopper levels.

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 Acknowledg-ment	Date DEA Acceptable	Comments / Reference No.
Unit 2	2024/07/05	2024/07/11	SO3 plant challenges.	Maintenance					
Unit 3	2024/07/03	2024/07/05	Poor casing performance and RHO casing outage.	Maintenance					
Unit 4	2024/07/24	2024/07/28	Poor casing performance and high hopper levels.	Maintenance					

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
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
May-24	0.25	0.91	0.56	1.10	0.81	OFF	0.75
Jun-24	0.30	1.03	0.45	0.68	0.54	OFF	0.60
Jul-24	0.43	2.04	0.55	0.75	0.68	1.28	0.87

ADDENDUM TO MONTHLY EMISSIONS REPORT

12. DAILY EMISSIONS FIGURES

Final Dust Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	**Limit**
01-Jul	263	1384	145	150	71	OFF	100
02-Jul	51	1384	122	76	70	OFF	100
03-Jul	45	1295	120	127	59	OFF	100
04-Jul	39	274	321	153	44	OFF	100
05-Jul	45	212	350	45	63	OFF	100
06-Jul	49	341	62	36	76	OFF	100
07-Jul	OFF	747	91	36	87	OFF	100
08-Jul	OFF	327	78	67	73	OFF	100
09-Jul	39	351	54	47	89	OFF	100
10-Jul	58	380	86	32	89	OFF	100
11-Jul	56	159	99	100	377	OFF	100
12-Jul	57	93	98	22	87	OFF	100
13-Jul	59	92	92	25	106	OFF	100
14-Jul	53	97	96	37	78	OFF	100
15-Jul	219	87	99	42	131	OFF	100
16-Jul	34	315	69	48	OFF	OFF	100
17-Jul	97	126	130	40	OFF	OFF	100
18-Jul	180	355	82	186	OFF	OFF	100
19-Jul	391	79	118	98	OFF	OFF	100
20-Jul	59	88	69	79	OFF	OFF	100
21-Jul	70	113	63	93	OFF	OFF	100
22-Jul	265	318	106	216	363	OFF	100
23-Jul	51	377	84	99	179	OFF	100
24-Jul	69	OFF	97	117	92	OFF	100
25-Jul	58	1202	50	394	97	OFF	100
26-Jul	69	OFF	119	210	130	OFF	100
27-Jul	54	OFF	128	154	143	130	100
28-Jul	45	OFF	67	1160	77	122	100
29-Jul	36	OFF	115	OFF	91	94	100
30-Jul	25	1259	77	84	105	36	100
31-Jul	30	772	123	66	97	OFF	100

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final SOx Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	**Limit**
01-Jul	1713	1874	1827	1742	1760	OFF	3500
02-Jul	1655	1740	1750	1725	1733	OFF	3500
03-Jul	1676	1847	1791	1739	1666	OFF	3500
04-Jul	1698	1907	1860	1701	1765	OFF	3500
05-Jul	1719	1900	1880	1778	1826	OFF	3500
06-Jul	1729	1804	1783	1728	1729	OFF	3500
07-Jul	OFF	1796	1834	1742	1683	OFF	3500
08-Jul	1752	1934	1950	1843	1806	OFF	3500
09-Jul	1708	1966	1933	1903	1875	OFF	3500
10-Jul	1725	1873	1836	1780	1781	OFF	3500
11-Jul	1746	1879	1878	1761	1813	OFF	3500
12-Jul	1772	1908	1855	1721	1819	OFF	3500
13-Jul	1779	1950	1891	1747	1802	OFF	3500
14-Jul	1781	1907	1781	1734	1812	OFF	3500
15-Jul	1816	1964	1893	1765	1797	OFF	3500
16-Jul	1753	1872	1865	1736	OFF	OFF	3500
17-Jul	1813	1922	1876	1779	OFF	OFF	3500
18-Jul	1775	1926	1875	1742	OFF	OFF	3500
19-Jul	1800	1919	1911	1827	OFF	OFF	3500
20-Jul	1708	1875	1822	1760	OFF	OFF	3500
21-Jul	1746	1907	1854	1813	1830	OFF	3500
22-Jul	1801	1927	1925	1797	1866	OFF	3500
23-Jul	1846	1926	1938	1818	1910	OFF	3500
24-Jul	1825	1941	1903	1811	1860	OFF	3500
25-Jul	1749	1952	1870	1782	1829	OFF	3500
26-Jul	1674	OFF	1845	1773	1753	1386	3500
27-Jul	1672	OFF	1788	1710	1737	1702	3500
28-Jul	1545	OFF	1750	1680	1718	1788	3500
29-Jul	1557	1923	1823	1726	1757	1979	3500
30-Jul	1631	1813	1814	1689	1760	1889	3500
31-Jul	1585	1731	1784	1647	1701	1907	3500

ADDENDUM TO MONTHLY EMISSIONS REPORT

Final NOx Concentration (mg/Nm³)

Date	U1	U2	U3	U4	U5	U6	**Limit**
01-Jul	1008	752	851	869	678	OFF	1100
02-Jul	1002	736	872	927	797	OFF	1100
03-Jul	993	714	886	815	818	OFF	1100
04-Jul	966	730	908	805	809	OFF	1100
05-Jul	1045	644	842	906	819	OFF	1100
06-Jul	1058	721	776	923	826	OFF	1100
07-Jul	OFF	759	770	901	856	OFF	1100
08-Jul	1026	698	786	886	812	OFF	1100
09-Jul	988	695	825	918	800	OFF	1100
10-Jul	990	730	870	782	751	OFF	1100
11-Jul	956	767	870	971	823	OFF	1100
12-Jul	1001	717	899	939	826	OFF	1100
13-Jul	970	709	890	894	819	OFF	1100
14-Jul	909	701	769	1126	732	OFF	1100
15-Jul	910	708	777	1022	670	OFF	1100
16-Jul	822	758	662	1015	OFF	OFF	1100
17-Jul	804	717	774	882	OFF	OFF	1100
18-Jul	961	749	695	892	OFF	OFF	1100
19-Jul	935	766	726	955	OFF	OFF	1100
20-Jul	1017	720	777	831	OFF	OFF	1100
21-Jul	910	765	648	908	661	OFF	1100
22-Jul	884	767	695	1017	683	OFF	1100
23-Jul	875	771	693	812	679	OFF	1100
24-Jul	860	757	643	851	677	OFF	1100
25-Jul	949	795	675	907	708	OFF	1100
26-Jul	950	OFF	713	787	652	501	1100
27-Jul	866	OFF	685	744	617	759	1100
28-Jul	856	OFF	670	666	704	625	1100
29-Jul	936	698	740	760	739	885	1100
30-Jul	899	755	687	895	683	871	1100
31-Jul	956	789	736	789	701	721	1100

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
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%
May-24	100.00%	0.0	97.91%	2.6	100.00%	0.0	97.67%	2.9	99.38%	0.8	100.00%	0.00%
Jun-24	100.00%	0.00	99.17%	1.00	98.09%	2.29	98.32%	2.01	100.00%	0.00	100.00%	0.00
Jul-24	100.00%	0.0	100.00%	0.0	100.00%	0.0	100.00%	0.0	100.00%	0.0	100.00%	0.00%

SO_3 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
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
May-24	99.45%	0.2	99.87%	0.0	96.37%	1.1	99.87%	0.0	100.00%	0.0	Off-line	Off-line
Jun-24	97.08%	0.88	69.03%	9.29	100.00%	0.00	99.34%	0.20	99.77%	0.07	Off-line	Off-line
Jul-24	98.30%	0.5	41.43%	18.2	99.73%	0.1	99.58%	0.1	98.39%	0.5	53.66%	14.37

ADDENDUM TO MONTHLY EMISSIONS REPORT

Particulate Emission Monitors

Availability						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
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
May-24	98.93%	93.01%	97.45%	91.88%	95.47%	OFF
Jun-24	98%	87%	97%	97%	99%	OFF
Jul-24	90.95%	73.05%	97.04%	95.37%	98.85%	61.98%

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
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%	OFF	OFF
May-24	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	98.79%	98.79%	98.37%	98.37%	OFF	OFF
Jun-24	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	OFF	OFF
Jul-24	99.75%	99.89%	100.00%	100.00%	100.00%	100.00%	99.46%	99.73%	100.00%	100.00%	73.40%	70.78%

Oxygen Monitor Availability						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
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%	OFF
May-24	99.97%	100.00%	99.98%	98.79%	98.31%	OFF
Jun-24	100.00%	100.00%	100.00%	99.55%	36.78%	OFF
Jul-24	99.89%	100.00%	100.00%	100.00%	99.84%	50.17%

ADDENDUM TO MONTHLY EMISSIONS REPORT

14. EFFICIENCY

ESP Efficiency (%)						
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
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
May-24	99.906%	99.582%	99.771%	99.525%	99.654%	Unit Off-line
Jun-24	99.89%	99.55%	99.82%	99.62%	99.75%	Unit Off-line
Jul-24	99.848%	99.125%	99.796%	99.588%	99.735%	99.450%

15. REMARKS

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
1	118	Spinning Reserve	2024/07/01 11:16:00	2024/07/01 11:56:00
1	117	Spinning Reserve	2024/07/03 10:29:00	2024/07/03 14:30:00
1	0	Cold Reserve	2024/07/06 21:08:00	2024/07/08 09:29:00
1	297	System Generated Ramp Event for Event id : 1952135	2024/07/08 09:29:00	2024/07/08 12:29:00
1	593	Unit tripped on Low drum level	2024/07/09 17:18:00	2024/07/09 21:51:00
1	297	System Generated Ramp Event for Event id : 1953114	2024/07/09 21:51:00	2024/07/09 23:21:00
1	195	Spinning Reserve	2024/07/09 23:21:00	2024/07/10 00:34:00
1	118	D Mill PA isol damper fails to open S005	2024/07/10 03:45:00	2024/07/10 18:48:00
1	116	D Mill PA isol damper fails to open	2024/07/11 05:04:00	2024/07/11 06:41:00
1	118	D-mill needs cleaning.	2024/07/13 09:55:00	2024/07/13 15:22:00
1	116	Unit 1 booked a 118MW load loss for D-mill PF leak and no 5th mill available.	2024/07/14 07:00:00	2024/07/16 07:35:00
1	122	F mill PF leak repairs.	2024/07/15 23:10:00	2024/07/16 07:35:00
1	243	D & F mill trunion seal & B Mill girt gear turning	2024/07/16 07:35:00	2024/07/17 21:56:00
1	118	F mill fails to start due to grease system fault & B Mill girth gear turning	2024/07/17 21:56:00	2024/07/19 09:07:00
1	99	Spinning Reserve	2024/07/18 08:02:00	2024/07/18 17:22:00
1	227	AM: R/H Sec A/H lube oil p/p B replacement.	2024/07/18 22:47:00	2024/07/19 02:21:00
1	118	Spinning Reserve	2024/07/19 09:07:00	2024/07/19 11:19:00
1	218	Spinning Reserve	2024/07/24 08:39:00	2024/07/24 18:00:00
1	68	High PA flow	2024/07/24 19:18:00	2024/07/26 07:57:00
1	151	Spinning Reserve	2024/07/24 20:52:00	2024/07/25 03:52:00
1	50	Spinning Reserve	2024/07/25 09:01:00	2024/07/25 13:21:00
1	71	Spinning Reserve	2024/07/25 13:21:00	2024/07/25 16:49:00
1	45	B Mill girth gear turning & F Mill trunnion seal	2024/07/25 16:49:00	2024/07/25 17:46:00
1	70	B Mill girth gear turning & F Mill trunnion seal	2024/07/25 17:46:00	2024/07/26 05:38:00
1	80	Spinning Reserve	2024/07/26 00:08:00	2024/07/26 05:38:00
1	118	Spinning Reserve	2024/07/27 04:21:00	2024/07/27 06:39:00
1	118	F mill not available	2024/07/30 16:45:00	2024/07/31 03:54:00
2	118	D Mill &E mills on ptw for girth gear turning	2024/07/01 00:00:00	2024/07/23 16:15:00
2	30	AM: SO3 plant repairs	2024/07/01 00:00:00	2024/07/08 16:44:00
2	45	EF: High PA flows	2024/07/01 00:00:00	2024/07/03 07:57:00
2	15	PA flow high.	2024/07/03 07:57:00	2024/07/03 08:14:00
2	23	PA flow high.	2024/07/03 08:14:00	2024/07/05 09:26:00
2	27	Spinning Reserve	2024/07/04 11:00:00	2024/07/04 15:17:00
2	63	EF: High PA flows	2024/07/05 09:26:00	2024/07/05 09:52:00
2	16	EF: High PA flows	2024/07/05 09:52:00	2024/07/05 11:31:00
2	20	EF: High PA flows	2024/07/05 11:31:00	2024/07/08 09:31:00
2	21	EF: High PA flows	2024/07/08 09:31:00	2024/07/08 17:31:00
2	50	EF: High PA flows	2024/07/08 17:32:00	2024/07/12 04:05:00
2	30	Spinning Reserve	2024/07/08 22:17:00	2024/07/09 06:18:00
2	70	Spinning Reserve	2024/07/09 12:38:00	2024/07/09 16:10:00
2	29	Spinning Reserve	2024/07/09 23:24:00	2024/07/10 03:21:00
2	96	B-mill tripped bearing temp high.	2024/07/10 16:42:00	2024/07/10 17:25:00
2	29	Spinning Reserve	2024/07/10 22:51:00	2024/07/11 05:08:00
2	96	B-mill tripped on bearing temp high	2024/07/11 16:17:00	2024/07/11 20:47:00
2	46	Spinning Reserve	2024/07/11 22:57:00	2024/07/12 04:05:00
2	52	EF: High PA flows	2024/07/12 04:05:00	2024/07/23 16:15:00
2	50	Spinning Reserve	2024/07/12 12:16:00	2024/07/12 16:01:00
2	30	Spinning Reserve	2024/07/12 21:23:00	2024/07/12 21:26:00
2	43	Spinning Reserve	2024/07/12 21:26:00	2024/07/12 22:00:00
2	42	F-mill long feeder repairs	2024/07/12 22:00:00	2024/07/13 06:24:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
2	68	Critical pressure problems.	2024/07/13 08:57:00	2024/07/13 09:21:00
2	46	Spinning Reserve	2024/07/13 20:26:00	2024/07/14 07:24:00
2	44	Spinning Reserve	2024/07/14 09:55:00	2024/07/14 14:29:00
2	46	Spinning Reserve	2024/07/14 23:10:00	2024/07/15 04:30:00
2	42	Spinning Reserve	2024/07/16 10:59:00	2024/07/16 17:03:00
2	22	Spinning Reserve	2024/07/17 00:00:00	2024/07/17 07:03:00
2	46	Spinning Reserve	2024/07/17 07:03:00	2024/07/17 16:31:00
2	37	Spinning Reserve	2024/07/17 22:18:00	2024/07/18 04:40:00
2	33	Spinning Reserve	2024/07/18 06:53:00	2024/07/18 17:24:00
2	37	AM: Manual Precip. rapping.	2024/07/18 19:29:00	2024/07/19 04:14:00
2	15	Spinning Reserve	2024/07/19 07:58:00	2024/07/19 16:47:00
2	35	High stack emissions.	2024/07/19 16:47:00	2024/07/20 02:21:00
2	23	Spinning Reserve	2024/07/20 02:21:00	2024/07/20 18:29:00
2	42	Spinning Reserve	2024/07/20 23:24:00	2024/07/21 14:39:00
2	68	Spinning Reserve	2024/07/21 14:39:00	2024/07/21 15:52:00
2	68	System air pressure low	2024/07/21 15:52:00	2024/07/21 17:03:00
2	45	Spinning Reserve	2024/07/21 22:48:00	2024/07/22 04:03:00
2	35	Spinning Reserve	2024/07/22 10:45:00	2024/07/22 16:59:00
2	44	Spinning Reserve	2024/07/22 22:41:00	2024/07/23 05:25:00
2	45	EF: High stack emissions	2024/07/23 05:25:00	2024/07/23 10:05:00
2	48	Spinning Reserve	2024/07/23 10:05:00	2024/07/23 16:07:00
2	120	D Mill &E mills on ptw for girth gear turning	2024/07/23 16:15:00	2024/07/23 21:39:00
2	0	Cold Reserve	2024/07/23 21:39:00	2024/07/24 10:56:00
2	296	System Generated Ramp Event for Event id : 1958359	2024/07/24 10:56:00	2024/07/24 13:26:00
2	214	Spinning Reserve	2024/07/24 13:26:00	2024/07/24 14:07:00
2	157	Spinning Reserve	2024/07/24 14:07:00	2024/07/24 14:35:00
2	136	Spinning Reserve	2024/07/24 14:35:00	2024/07/24 16:24:00
2	122	D Mill feed boxes &E mills on ptw for girth gear turning	2024/07/24 17:53:00	2024/07/25 22:30:00
2	43	High PA flow	2024/07/24 19:22:00	2024/07/25 22:30:00
2	49	Spinning Reserve	2024/07/24 20:42:00	2024/07/25 03:47:00
2	0	Cold Reserve	2024/07/25 22:30:00	2024/07/29 06:00:00
2	593	Unit slipped due to oil burners fall out after HP fuel oil p/p B tripped	2024/07/29 06:00:00	2024/07/29 07:28:00
2	50	High PA flow.	2024/07/29 10:30:00	2024/07/31 23:59:59
2	118	D Mill feed boxes &E mills on ptw for girth gear turning	2024/07/29 10:30:00	2024/07/31 23:59:59
2	50	Spinning Reserve	2024/07/30 11:14:00	2024/07/30 16:23:00
2	50	Spinning Reserve	2024/07/31 21:58:00	2024/07/31 23:59:59
3	58	ID Fans not coping	2024/07/01 00:00:00	2024/07/17 05:14:00
3	61	Boiler unstable due to Poor coal quality	2024/07/01 00:00:00	2024/07/01 04:41:00
3	97	EF: High Nox	2024/07/01 00:00:00	2024/07/01 03:59:00
3	40	AM: F mill oil burners faulty	2024/07/01 03:59:00	2024/07/01 04:15:00
3	48	AM: F mill oil burners faulty	2024/07/01 04:15:00	2024/07/01 04:41:00
3	37	EF Combustion unstable - Poor coal.	2024/07/01 04:41:00	2024/07/01 22:35:00
3	158	AM: Precip. manual rapping.	2024/07/01 22:35:00	2024/07/02 08:23:00
3	160	High stack emissions	2024/07/02 08:23:00	2024/07/02 14:02:00
3	180	High stack emissions	2024/07/02 14:02:00	2024/07/04 00:00:00
3	62	High stack emissions	2024/07/04 00:00:00	2024/07/04 14:00:00
3	118	LHI Pricip casing repairs	2024/07/04 00:00:00	2024/07/04 16:48:00
3	42	High stack emissions	2024/07/04 14:00:00	2024/07/04 16:48:00
3	43	High stack emissions	2024/07/04 16:48:00	2024/07/06 00:00:00
3	114	Spinning Reserve	2024/07/04 16:48:00	2024/07/05 00:00:00
3	118	RH outer pricip cacing repairs	2024/07/05 00:00:00	2024/07/05 23:40:00
3	116	Spinning Reserve	2024/07/05 23:40:00	2024/07/06 00:00:00
3	156	T13 C Gearbox replacement	2024/07/06 00:00:00	2024/07/06 04:54:00
3	107	AM: A mill PF leak repairs	2024/07/06 04:54:00	2024/07/07 16:54:00
3	50	Spinning Reserve	2024/07/06 04:54:00	2024/07/06 06:17:00
3	50	Spinning Reserve	2024/07/07 12:01:00	2024/07/07 16:54:00
3	108	AM: A mill PF leak repairs	2024/07/07 16:54:00	2024/07/08 12:49:00
3	38	AM: Checking PF leak on A mill	2024/07/08 12:49:00	2024/07/08 13:53:00
3	110	AM: A mill PF leak repairs	2024/07/08 13:53:00	2024/07/10 23:51:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
3	47	Spinning Reserve	2024/07/08 22:20:00	2024/07/09 06:27:00
3	48	Spinning Reserve	2024/07/09 11:18:00	2024/07/09 14:44:00
3	47	Spinning Reserve	2024/07/09 23:29:00	2024/07/10 03:25:00
3	47	Spinning Reserve	2024/07/10 22:37:00	2024/07/10 23:51:00
3	159	Spinning Reserve	2024/07/10 23:51:00	2024/07/11 04:23:00
3	60	Spinning Reserve	2024/07/11 04:23:00	2024/07/11 05:30:00
3	60	Spinning Reserve	2024/07/11 05:30:00	2024/07/11 06:03:00
3	110	A&B mills not available	2024/07/11 06:03:00	2024/07/12 16:03:00
3	50	Spinning Reserve	2024/07/11 23:05:00	2024/07/12 04:10:00
3	48	Spinning Reserve	2024/07/12 10:22:00	2024/07/12 16:03:00
3	112	AM: SSC standing	2024/07/12 16:03:00	2024/07/13 02:58:00
3	46	High stack emissions	2024/07/12 19:59:00	2024/07/12 21:19:00
3	46	Spinning Reserve	2024/07/12 21:19:00	2024/07/13 04:55:00
3	110	High stack emissions.	2024/07/13 02:58:00	2024/07/13 04:55:00
3	157	High stack emissions.	2024/07/13 04:55:00	2024/07/13 16:49:00
3	110	High stack emissions.	2024/07/13 16:49:00	2024/07/14 19:23:00
3	47	Spinning Reserve	2024/07/13 20:31:00	2024/07/14 07:23:00
3	49	Spinning Reserve	2024/07/14 09:53:00	2024/07/14 14:22:00
3	48	SSC sprocket defective.	2024/07/14 14:22:00	2024/07/14 16:45:00
3	157	High stack emissions	2024/07/14 19:23:00	2024/07/15 08:39:00
3	110	High stack emissions.	2024/07/15 08:39:00	2024/07/16 00:16:00
3	158	AM: high stack emissions.	2024/07/16 00:16:00	2024/07/17 05:14:00
3	96	AM: ID Fans not coping.	2024/07/17 05:14:00	2024/07/18 17:08:00
3	23	Spinning Reserve	2024/07/17 09:39:00	2024/07/17 11:45:00
3	22	Spinning Reserve	2024/07/17 22:16:00	2024/07/18 02:28:00
3	121	Spinning Reserve	2024/07/18 02:28:00	2024/07/18 05:20:00
3	124	Spinning Reserve	2024/07/18 08:17:00	2024/07/18 17:08:00
3	98	AM: ID Fans not coping	2024/07/18 17:08:00	2024/07/26 05:04:00
3	113	EF:High stack emissions	2024/07/18 17:49:00	2024/07/19 04:47:00
3	18	Spinning Reserve	2024/07/19 07:51:00	2024/07/19 12:15:00
3	118	Spinning Reserve	2024/07/19 12:15:00	2024/07/19 17:30:00
3	118	EF:High stack emissions	2024/07/19 23:52:00	2024/07/21 01:16:00
3	118	Spinning Reserve	2024/07/21 01:16:00	2024/07/21 15:51:00
3	69	System air pressure low	2024/07/21 15:51:00	2024/07/22 13:48:00
3	50	Spinning Reserve	2024/07/21 23:35:00	2024/07/22 04:06:00
3	51	Spinning Reserve	2024/07/22 10:46:00	2024/07/22 16:53:00
3	68	Fuel oil temparature low	2024/07/22 13:48:00	2024/07/22 17:59:00
3	116	Spinning Reserve	2024/07/22 23:18:00	2024/07/23 04:30:00
3	116	High stack emissions	2024/07/23 04:30:00	2024/07/23 08:41:00
3	115	Spinning Reserve	2024/07/23 08:41:00	2024/07/23 16:16:00
3	18	Spinning Reserve	2024/07/23 16:16:00	2024/07/23 18:05:00
3	113	Spinning Reserve	2024/07/23 20:13:00	2024/07/24 04:10:00
3	120	High stack emissions.	2024/07/24 04:10:00	2024/07/24 19:16:00
3	133	High stack emissions	2024/07/24 19:16:00	2024/07/26 05:04:00
3	100	AM: ID Fans not coping	2024/07/26 05:04:00	2024/07/31 23:59:59
3	118	EF:High stack emissions	2024/07/26 10:25:00	2024/07/26 15:23:00
3	128	EF:High stack emissions	2024/07/26 15:23:00	2024/07/26 17:36:00
3	118	Spinning Reserve	2024/07/27 03:01:00	2024/07/27 05:07:00
3	118	EF:High stack emissions	2024/07/27 10:24:00	2024/07/27 17:06:00
3	118	EF: High stack emissions	2024/07/27 19:53:00	2024/07/29 04:48:00
3	118	Spinning Reserve	2024/07/29 09:40:00	2024/07/29 17:59:00
3	118	Manual rapping	2024/07/29 20:40:00	2024/07/30 00:43:00
3	118	Spinning Reserve	2024/07/30 00:43:00	2024/07/30 05:32:00
3	118	Spinning Reserve	2024/07/30 09:22:00	2024/07/30 16:14:00
3	118	High stack emissions	2024/07/30 16:14:00	2024/07/31 00:25:00
3	118	Spinning Reserve	2024/07/31 00:25:00	2024/07/31 05:51:00
3	18	Poor main turbine vacuum.	2024/07/31 13:23:00	2024/07/31 21:49:00
3	100	Coal constraints	2024/07/31 21:49:00	2024/07/31 23:59:59
4	28	ID Fans not coping	2024/07/01 00:00:00	2024/07/01 04:36:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
4	89	Spinning Reserve	2024/07/01 01:50:00	2024/07/01 03:53:00
4	156	Unit iustability	2024/07/03 02:13:00	2024/07/03 03:12:00
4	129	Unit iustability	2024/07/03 03:12:00	2024/07/03 04:07:00
4	118	Spinning Reserve	2024/07/04 08:41:00	2024/07/04 13:26:00
4	118	AM: No 5th mill available. C+D o/c.	2024/07/06 11:47:00	2024/07/08 10:41:00
4	96	Spinning Reserve	2024/07/06 21:58:00	2024/07/07 16:42:00
4	25	AM: E mill long feeder fails to pick up speed due to clutch faulty.	2024/07/07 16:42:00	2024/07/07 18:19:00
4	98	Spinning Reserve	2024/07/08 00:15:00	2024/07/08 01:10:00
4	45	Spinning Reserve	2024/07/08 01:10:00	2024/07/08 08:12:00
4	122	A-mill feeders faulty.	2024/07/09 16:10:00	2024/07/09 23:29:00
4	116	B Mill defective	2024/07/09 20:37:00	2024/07/09 20:46:00
4	124	B Mill defective	2024/07/09 20:46:00	2024/07/09 23:30:00
4	141	B Mill long FDR blocked & D mill off due to feeder boxes	2024/07/09 23:30:00	2024/07/10 06:51:00
4	76	Spinning Reserve	2024/07/10 01:09:00	2024/07/10 03:47:00
4	247	A-mill in service with one feeder B & D mill due to fdr boxes	2024/07/10 06:51:00	2024/07/10 16:44:00
4	168	A & B-Mill long feeders faulty & D-mill on PTWfor fdr boxes	2024/07/10 16:44:00	2024/07/16 20:22:00
4	51	Spinning Reserve	2024/07/16 10:52:00	2024/07/16 17:06:00
4	21	Spinning Reserve	2024/07/16 17:06:00	2024/07/16 20:22:00
4	170	A & B-Mill long feeders faulty & D-mill on PTWfor fdr boxes	2024/07/16 20:22:00	2024/07/18 05:16:00
4	55	Spinning Reserve	2024/07/17 00:00:00	2024/07/17 04:57:00
4	88	AM: Mill A o/c. No feeders.	2024/07/17 04:57:00	2024/07/18 05:16:00
4	130	AM: B-Mill long feeder faulty & D-mill on PTWfor fdr boxes.	2024/07/18 05:16:00	2024/07/18 17:40:00
4	85	Spinning Reserve	2024/07/18 06:56:00	2024/07/18 17:21:00
4	21	Spinning Reserve	2024/07/18 17:21:00	2024/07/18 17:40:00
4	136	AM: B-Mill long feeder faulty & D-mill on PTWfor fdr boxes.	2024/07/18 17:40:00	2024/07/19 04:27:00
4	37	AM: High CO flue gas reading.	2024/07/18 19:54:00	2024/07/19 04:27:00
4	139	AM: B-Mill long feeder faulty & D-mill on PTWfor fdr boxes	2024/07/19 04:27:00	2024/07/19 17:26:00
4	77	Spinning Reserve	2024/07/19 08:15:00	2024/07/19 17:26:00
4	115	System air pressure low.	2024/07/21 14:23:00	2024/07/22 13:48:00
4	97	Spinning Reserve	2024/07/21 22:46:00	2024/07/22 04:09:00
4	14	Spinning Reserve	2024/07/22 04:09:00	2024/07/22 05:17:00
4	9	Spinning Reserve	2024/07/22 05:17:00	2024/07/22 10:43:00
4	105	Spinning Reserve	2024/07/22 10:43:00	2024/07/22 17:10:00
4	114	Fuel oil temparature low	2024/07/22 13:48:00	2024/07/22 17:10:00
4	132	B mill PA isolating damper defective	2024/07/22 17:10:00	2024/07/22 21:20:00
4	15	PA flow at max	2024/07/22 18:55:00	2024/07/22 21:20:00
4	208	Spinning Reserve	2024/07/23 04:48:00	2024/07/23 05:03:00
4	158	Spinning Reserve	2024/07/23 05:03:00	2024/07/23 05:28:00
4	118	Spinning Reserve	2024/07/23 05:28:00	2024/07/23 05:57:00
4	217	Spinning Reserve	2024/07/23 20:20:00	2024/07/24 05:22:00
4	215	Spinning Reserve	2024/07/24 21:52:00	2024/07/25 04:30:00
4	115	Spinning Reserve	2024/07/26 00:13:00	2024/07/26 04:05:00
4	118	High stack emissions.	2024/07/26 04:37:00	2024/07/26 15:01:00
4	213	EF:High stack emissions	2024/07/26 15:01:00	2024/07/26 16:13:00
4	227	EF: High stack emissions	2024/07/26 16:13:00	2024/07/26 20:35:00
4	236	EF: High stack emissions	2024/07/26 20:35:00	2024/07/28 00:00:00
4	117	EF: High stack emissions	2024/07/28 00:00:00	2024/07/28 21:03:00
4	118	AM: RHO Precip casing repairs	2024/07/28 00:00:00	2024/07/28 21:03:00
4	593	AM: no coal supply.	2024/07/28 21:03:00	2024/07/29 04:38:00
4	173	EF: High PA flows	2024/07/29 06:07:00	2024/07/29 06:16:00
4	151	EF: High PA flows	2024/07/29 06:16:00	2024/07/31 23:59:59
4	64	Spinning Reserve	2024/07/29 07:54:00	2024/07/29 09:21:00
4	64	Spinning Reserve	2024/07/29 10:00:00	2024/07/29 10:14:00
4	65	Coal constraints	2024/07/31 21:26:00	2024/07/31 23:59:59
5	28	EF: ID fans not coping	2024/07/01 00:00:00	2024/07/15 23:18:00
5	140	AM: IP turbine front bearing temp high	2024/07/01 00:00:00	2024/07/09 13:08:00
5	49	Spinning Reserve	2024/07/01 01:52:00	2024/07/01 03:54:00
5	48	Spinning Reserve	2024/07/03 00:30:00	2024/07/03 04:04:00
5	48	Spinning Reserve	2024/07/03 04:30:00	2024/07/03 06:34:00

UNIT	MWLOSS	REASON	ACTUALSTARTDATE	ACTUALENDDATE
5	48	Spinning Reserve	2024/07/03 09:08:00	2024/07/03 16:20:00
5	48	Spinning Reserve	2024/07/03 20:57:00	2024/07/04 05:19:00
5	49	Spinning Reserve	2024/07/04 08:54:00	2024/07/04 15:43:00
5	49	Spinning Reserve	2024/07/04 19:59:00	2024/07/05 06:39:00
5	50	Spinning Reserve	2024/07/05 10:03:00	2024/07/05 16:15:00
5	47	Spinning Reserve	2024/07/05 23:47:00	2024/07/06 06:37:00
5	48	Spinning Reserve	2024/07/07 12:03:00	2024/07/08 08:10:00
5	47	Spinning Reserve	2024/07/08 22:28:00	2024/07/09 06:23:00
5	49	Spinning Reserve	2024/07/09 11:19:00	2024/07/09 12:23:00
5	68	AM: IP turbine front bearing temp high	2024/07/09 13:08:00	2024/07/11 14:45:00
5	36	A Mill inservice with 1 FDR DUE long feeder full of coal	2024/07/09 21:23:00	2024/07/11 05:11:00
5	84	Spinning Reserve	2024/07/09 23:30:00	2024/07/10 03:26:00
5	84	Spinning Reserve	2024/07/10 23:57:00	2024/07/11 05:11:00
5	39	A Mill inservice with 1 FDR DUE long feeder full of coal	2024/07/11 05:11:00	2024/07/11 14:45:00
5	70	RHI precip casing repairs.	2024/07/11 14:45:00	2024/07/12 00:00:00
5	119	Spinning Reserve	2024/07/11 23:20:00	2024/07/12 04:19:00
5	70	IP turbine front bearing temperature high	2024/07/12 00:00:00	2024/07/15 23:18:00
5	117	Spinning Reserve	2024/07/13 10:36:00	2024/07/13 17:12:00
5	114	Spinning Reserve	2024/07/14 00:01:00	2024/07/14 07:41:00
5	69	Spinning Reserve	2024/07/14 10:26:00	2024/07/14 14:30:00
5	18	Spinning Reserve	2024/07/14 23:06:00	2024/07/15 02:38:00
5	119	Spinning Reserve	2024/07/15 02:38:00	2024/07/15 04:47:00
5	593	AM: Boiler tube leak.	2024/07/15 23:18:00	2024/07/21 00:31:00
5	297	System Generated Ramp Event for Event id : 1955484	2024/07/21 00:31:00	2024/07/21 03:31:00
5	125	Spinning Reserve	2024/07/21 03:31:00	2024/07/21 04:06:00
5	100	Spinning Reserve	2024/07/21 04:06:00	2024/07/21 04:25:00
5	118	Spinning Reserve	2024/07/21 04:25:00	2024/07/21 05:27:00
5	68	Spinning Reserve	2024/07/21 05:27:00	2024/07/21 07:34:00
5	41	Spinning Reserve	2024/07/21 07:34:00	2024/07/21 09:10:00
5	18	A & F Mill long feeder on ptw for belt replacement -Mill inservice with 1 fdr	2024/07/21 09:10:00	2024/07/25 14:54:00
5	28	Spinning Reserve	2024/07/26 09:24:00	2024/07/26 16:54:00
5	68	Boiler load controls faulty	2024/07/26 16:54:00	2024/07/27 16:00:00
6	593	Outage	2024/07/01 00:00:00	2024/07/08 01:34:00
6	593	System Generated Slip Event linked to PCLF Event : 1896109	2024/07/08 01:34:00	2024/07/26 04:47:00
6	458	Mills optimization	2024/07/26 07:47:00	2024/07/27 00:00:00
6	318	Boiler and Mills optimization	2024/07/27 01:00:00	2024/07/28 01:00:00
6	218	Precip Optimization	2024/07/28 01:00:00	2024/07/30 22:24:00
6	593	Main turbine physical over speed test	2024/07/30 22:24:00	2024/07/31 04:10:00
6	218	S03 plant optimization.	2024/07/31 04:10:00	2024/07/31 23:59:59
6	25	SSC standing	2024/07/31 21:45:00	2024/07/31 23:59:59

PM Exceedances		
U1.	Manual rapping carried out	01-Jul
U1.	U1 opportunity maintance.	07-Jul
U1.	U1 opportunity maintance.	08-Jul
U1.	Manual rapping	15-Jul
U1.	ESP off for secondary air heater repairs.	18-Jul
U1.	Monitor max out due to draught group shutdown.	19-Jul
U1.	Manaul rapping carried out. Poor casing performance	22-Jul
U2.	Poor ESP performance SO3 plant unavailable RHI Casing outage	01-Jul
U2.	Poor ESP performance SO3 plant unavailable RHI Casing outage	02-Jul
U2.	Poor ESP performance SO3 plant unavailable RHO Casing outage	03-Jul
U2.	SO3 plant unavailable	04-Jul
U2.	SO3 plant unavailable	05-Jul
U2.	SO3 plant unavailable	06-Jul
U2.	SO3 plant unavailable	07-Jul
U2.	SO3 plant unavailable	08-Jul
U2.	SO3 plant unavailable Manual rapping done	09-Jul
U2.	SO3 plant unavailable Manual rapping done	10-Jul
U2.	SO3 plant unavailable	11-Jul
U2.	Manual rapping	16-Jul
U2.	SO3 Plant off for air blower replacement.	17-Jul
U2.	Manual rapping	18-Jul
U2.	SO3 plant off	21-Jul
U2.	SO3 plant off	22-Jul
U2.	Unit shut down	23-Jul
U2.	The unit synchronised on 2024/07/24 @ 10:56, therefore the emissions need to be below by 2024/07/27 @ 10:56 and remain below the limit unit 2024/07/28 @ 23:59	24-Jul

PM Exceedances		
U2.	The unit synchronised on 2024/07/24 @ 10:56, therefore the emissions need to be below by 2024/07/27 @ 10:56 and remain below the limit unit 2024/07/28 @ 23:59	25-Jul
U2.	Off load	27-Jul
U2.	Light-up Condition.	30-Jul
U2.	Light-up Condition.	31-Jul
U3.	Manual rapping carried out LHI F2 & RHO F3 Off	01-Jul
U3.	High hopper levels LHI F2 & RHO F3 off	02-Jul
U3.	Manual rapping carried out High hopper levels	03-Jul
U3.	LHI Casing outage RH F3 off	04-Jul
U3.	RHO Casing outage	05-Jul
U3.	Manaul rapping	17-Jul
U3.	Manual rapping Poor casing performance	19-Jul
U3.	Poor casing performance. High hopper levels.	22-Jul
U3.	SO3 plant challenges	26-Jul
U3.	Poor casing performance. Precip screen faulty	27-Jul
U3.	Manual rapping.	29-Jul
U3.	Clean rapping brought forward.	31-Jul
U4.	High hopper level due to 4A bucket elevator standing.	01-Jul
U4.	High hopper levels due to A Bucket tripped on bottom alignment.	03-Jul
U4.	Manual rapping carried out	04-Jul
U4.	Manual rapping carried out	18-Jul
U4.	Manual rapping done	22-Jul

PM Exceedances		
U4.	Poor casing performance Manual rapping carried out.	24-Jul
U4.	High hopper levels Poor casing performance	25-Jul
U4.	High hopper levels. Poor casing performance	26-Jul
U4.	Precip computer screen tripped Poor casing performance	27-Jul
U4.	RHI casing outage	28-Jul
U5.	RHI casing outage	11-Jul
U5.	Manual rapping	13-Jul
U5.	High hopper levels Poor ESP casing performance	15-Jul
U5.	The unit synchronised on 2024/07/21 @ 00:32, therefore the emissions need to be below by 2024/07/24 @00:32 and remain below the limit for the entire day of the 24th	22-Jul
U5.	The unit synchronised on 2024/07/21 @ 00:32, therefore the emissions need to be below by 2024/07/24 @00:32 and remain below the limit for the entire day of the 24th	23-Jul
U5.	Manual rapping.	26-Jul
U5.	High hopper levels and poor casing performance	27-Jul
U5.	Poor casing performance.	30-Jul
U6.	Light-up Conditions.	26-Jul
U6.	Light-up Conditions	27-Jul
U6.	Light-up Conditions	28-Jul
U6.	Light-up conditions.	31-Jul