Glenbrook Annual Air Quality Report

Resource Consent DIS60376538 Condition 30

30 September 2025

Prepared by: NZ Steel Environment Team
Reviewed by: Amy Hill
New Zealand Steel Environmental Manager

Introduction

This report has been prepared as required by Resource Consent Number DIS60376538, condition 30 Annual Air Quality Report.

This is a Summary Report for the period 1 July 2024 to 30 June 2025.

NZ Steel's planned transition to an Electric Arc Furnace (EAF) is currently being constructed and is therefore not included in this report.

Version 2: Note this report has been updated to include gaps identified through the SQEP and council review process prior to being published.

30. a) Results of stack testing undertaken in accordance with conditions 21,21A and 22

i. A summary of stack testing data with a comparison of the result to the discharge limits of condition 13.

Table 1

Stack Name	Test Date	Contaminant	Result Average Across 3 Tests	Consent Limit
MHF 2	15/08/2024	Total Filterable Particulate	39 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	2.7 kg/hr	5.2 kg/hr
		Nitrogen oxides	34.6 kg/hr	75 kg/hr
		Sulphur Dioxides	17.4 Kg/hr	60kg/hr
MHF 3	15/08/2024	Total Filterable Particulate	29.1 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	1.8 kg/hr	5.2 kg/hr
		Nitrogen oxides	58.4 Kg/hr	75 kg/hr
		Sulphur Dioxides	27.6 Kg/hr	60 kg/hr
MHF 4	16/06/2025	Total Filterable Particulate	25.8 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	1.75 kg/hr	5.2 kg/hr
		Nitrogen oxides	46.5 Kg/hr	75 kg/hr

Stack Name	Test Date	Contaminant	Result Average Across 3 Tests	Consent Limit
MHF 4	16/06/2025	Sulphur Dioxides	25.1 Kg/hr	60 kg/hr
MHF 5	16/06/2025	Total Filterable Particulate	43.9 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	4.5 kg/hr	5.2 kg/hr
		Nitrogen oxides	58.9 Kg/hr	75 kg/hr
		Sulphur Dioxides	37.9 Kg/hr	60 kg/hr
Kiln 2	02/08/2024	Total Filterable Particulate	25.8 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	2.45 kg/hr	5.2 kg/hr
		Nitrogen oxides	10 kg/hr	13 kg/hr
		Sulphur Dioxides	1.3 kg/hr	7 kg/hr
Kiln 3	13/08/2024	Total Filterable Particulate	14.5 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	1.08 kg/hr	5.2 kg/hr
		Nitrogen oxides	6.3 kg/hr	13 kg/hr
		Sulphur Dioxides	0.5 kg/hr	7 kg/hr
Kiln 4	01/07/2025	Total Filterable Particulate	25 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	2.3 kg/hr	5.2 kg/hr
		Nitrogen oxides	7.7 kg/hr	13 kg/hr
		Sulphur Dioxides	0.4 kg/hr	7 kg/hr
Kiln 5	01/07/2025	Total Filterable Particulate	38 mg/m3,STP, dry	75 mg/m3,STP, dry
		Total Filterable Particulate	3.4 kg/hr	5.2 kg/hr
		Nitrogen oxides	7.4 kg/hr	13 kg/hr

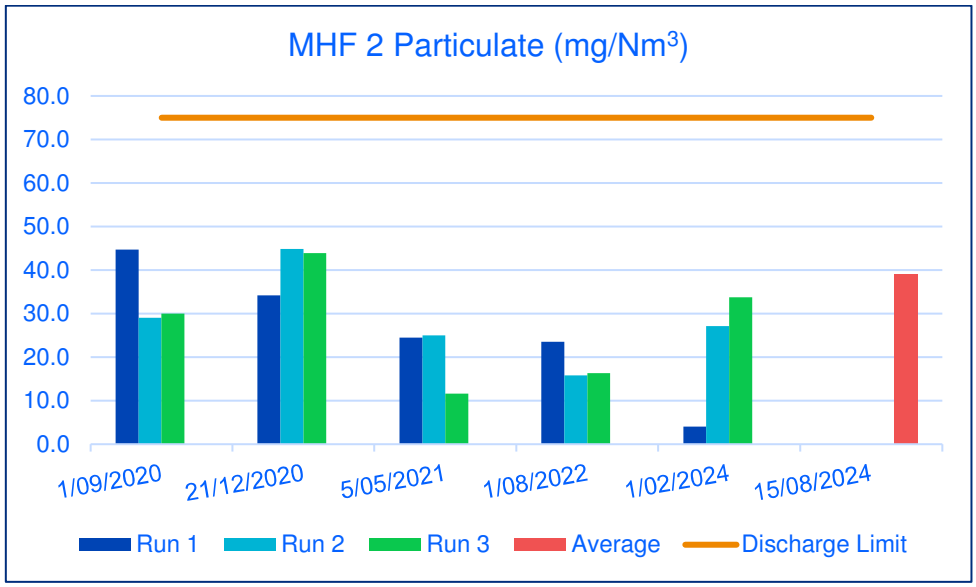
Stack Name	Test Date	Contaminant	Result Average Across 3 Tests	Consent Limit
Kiln 5	01/07/2025	Sulphur Dioxides	0.8 kg/hr	7 kg/hr
Metal side Baghouse	20/08/2024	Particulate PM2.5	4.2 mg/m3,STP, dry	15 mg/m3,STP, dry
		Particulate PM2.5	0.38 kg/hr	1 kg/hr
Slag side Baghouse	21/08/2024	Particulate PM2.5	4.1 mg/m3,STP, dry	15 mg/m3,STP, dry
		Particulate PM2.5	0.17 kg/hr	1 kg/hr
Reheat Furnace Stack	19/11/2024	Nitrogen oxides	12.1kg/hr	19kg/hr
Pickle Line Scrubber Stack	21/11/2024	HCL	0.6mg/m3,STP, dry	20 mg/m3,STP, dry
Acid Regeneration Plant Stack	06/08/2024	HCL	N/A	45mg/m3

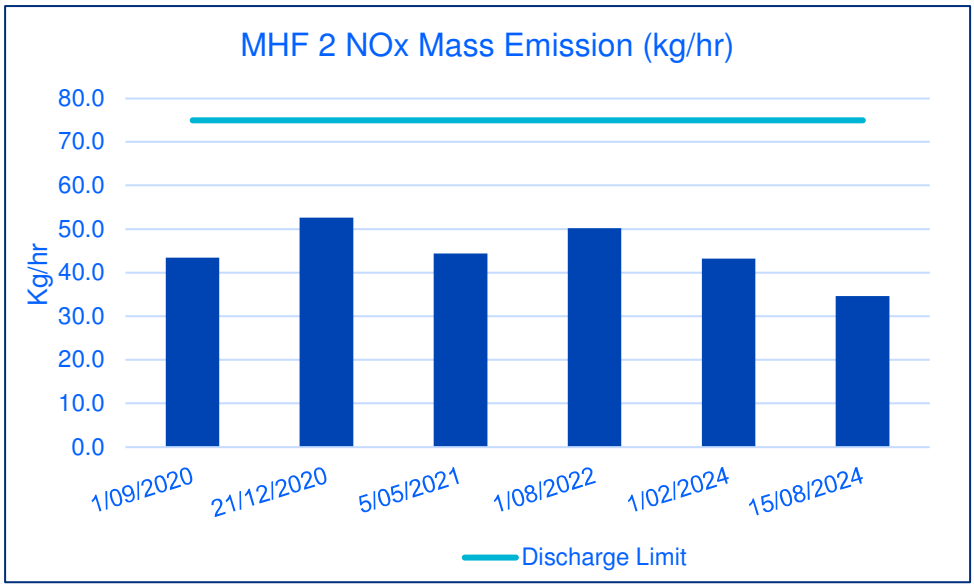
Note: No result was available for the Acid Regeneration Plant stack August 2024 sample due to the samples being disturbed at the laboratory. A re-test was undertaken; however, a process disruption occurred during testing, rendering the results invalid. Testing will be re-done at the next available opportunity.

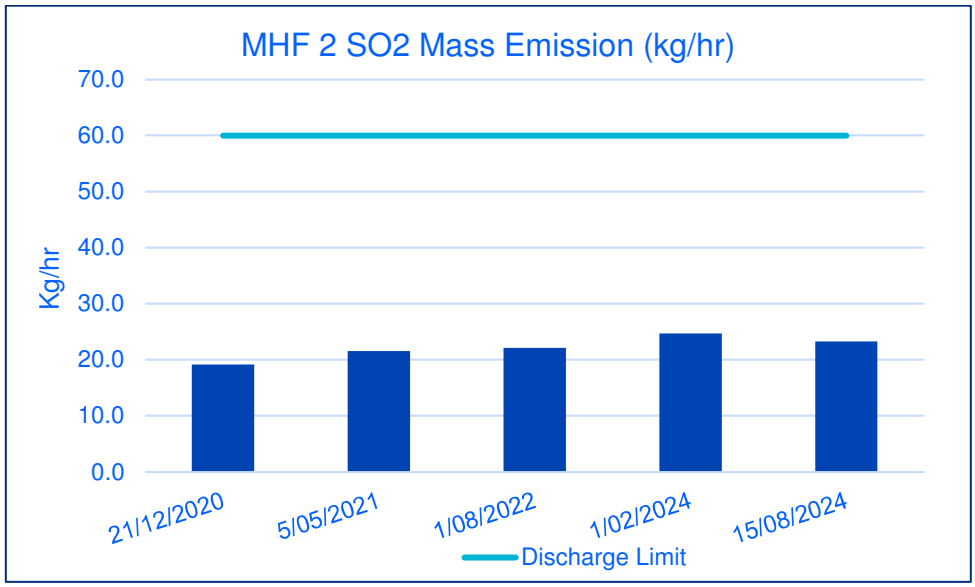
30)a) ii.

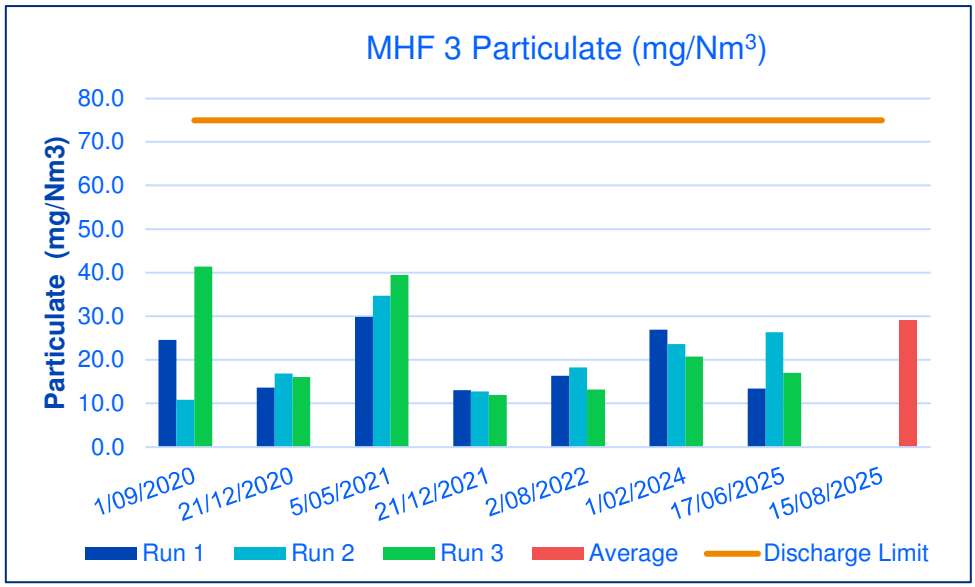
A summary of trends for stack discharges over at least the past five years of stack testing results.

Note: Before July 2024, the result was for each run. From July 2024, an average across the tests is specified in the resource consent. Missing data was generally attributable to plant operating conditions.


MHF 2 Particulate (mg/Nm3)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/09/2020
21/12/2020
5/05/2021
1/08/2022
1/02/2024
15/08/2024
Run 1
Run 2
Run 3
Average
Discharge Limit


MHF 2 NOx Mass Emission (kg/hr)
Kg/hr
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/09/2020
21/12/2020
5/05/2021
1/08/2022
1/02/2024
15/08/2024
Discharge Limit


MHF 2 SO2 Mass Emission (kg/hr)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Kg/hr
21/12/2020
5/05/2021
1/08/2022
1/02/2024
15/08/2024
Discharge Limit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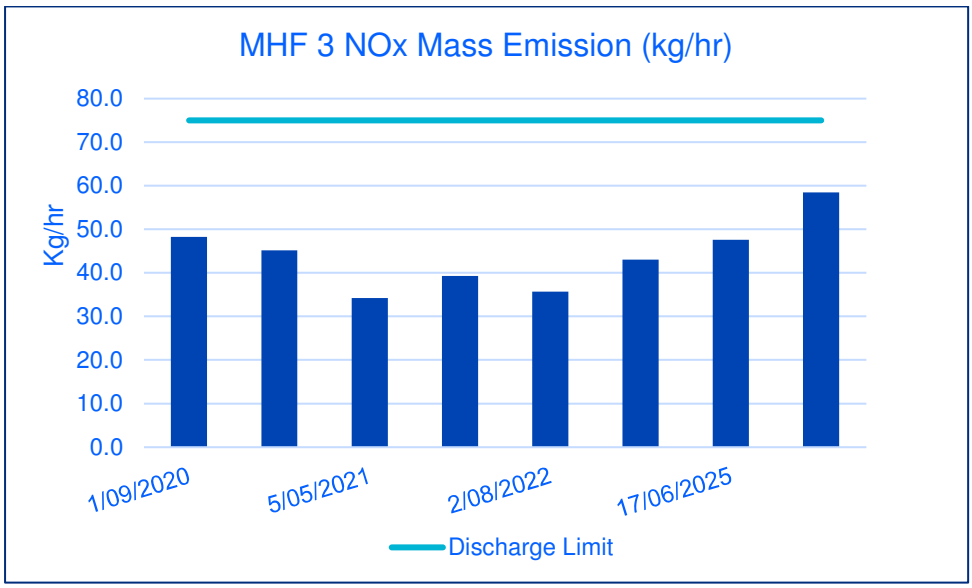
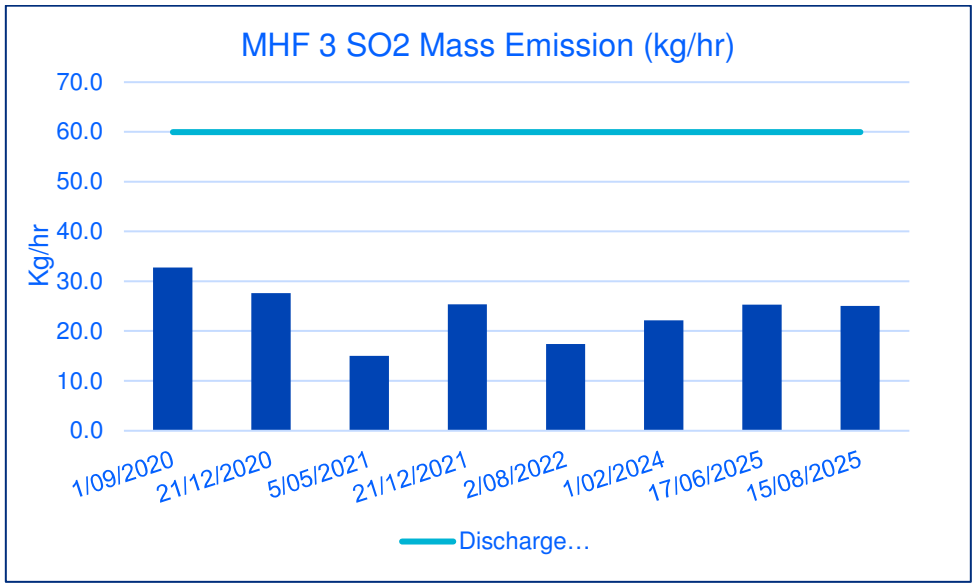
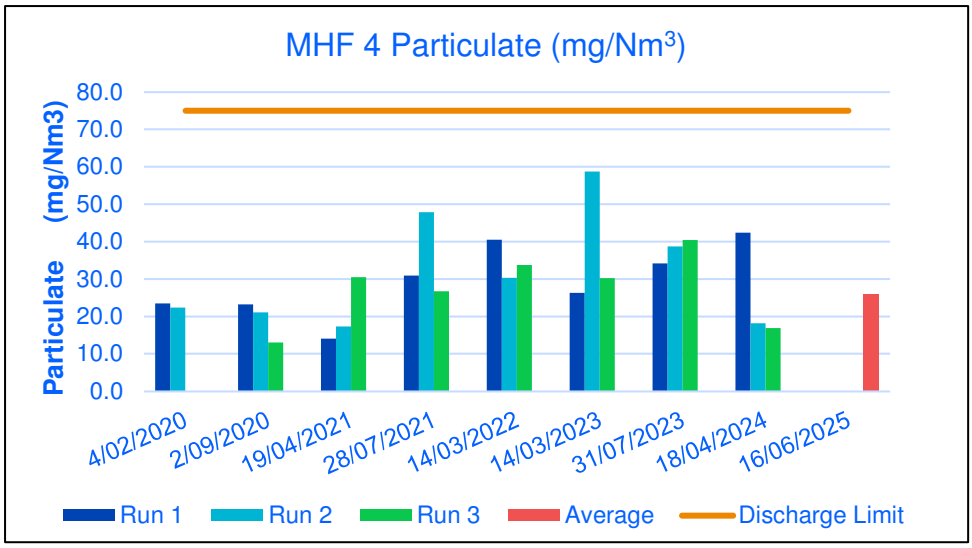
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Particulate (mg/Nm3)
1/09/2020
21/12/2020
5/05/2021
21/12/2021
2/08/2022
1/02/2024
17/06/2025
15/08/2025
Run 1
Run 2
Run 3
Average
Discharge Limit


MHF 3 NOx Mass Emission (kg/hr)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Kg/hr
1/09/2020
5/05/2021
2/08/2022
17/06/2025
Discharge Limit


MHF 3 SO2 Mass Emission (kg/hr)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Kg/hr
1/09/2020
21/12/2020
5/05/2021
21/12/2021
2/08/2022
1/02/2024
17/06/2025
15/08/2025
Discharge…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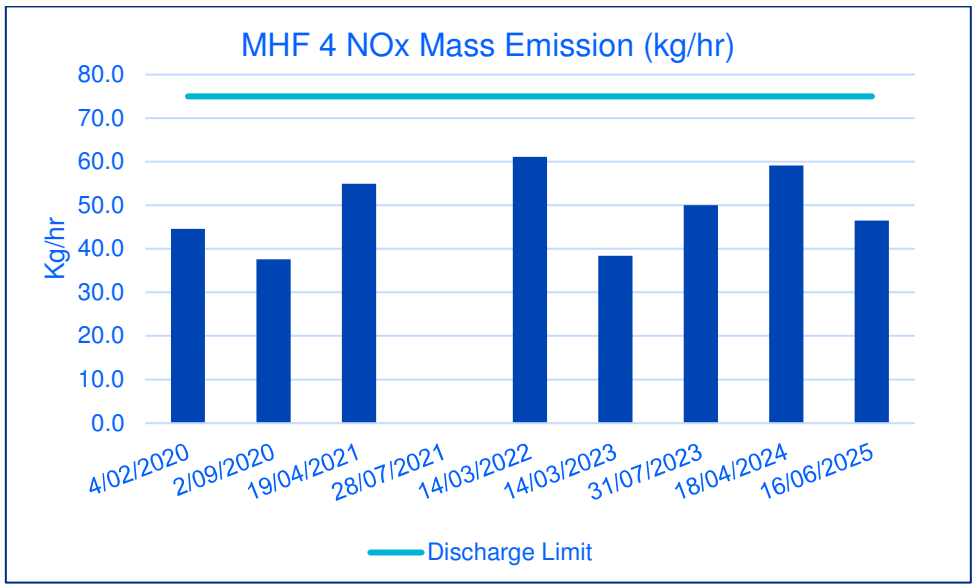
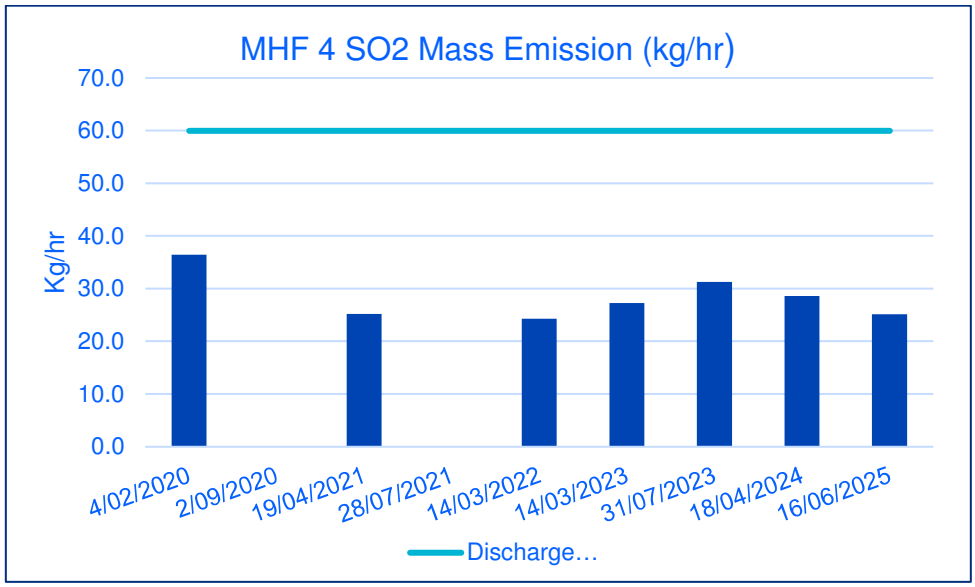
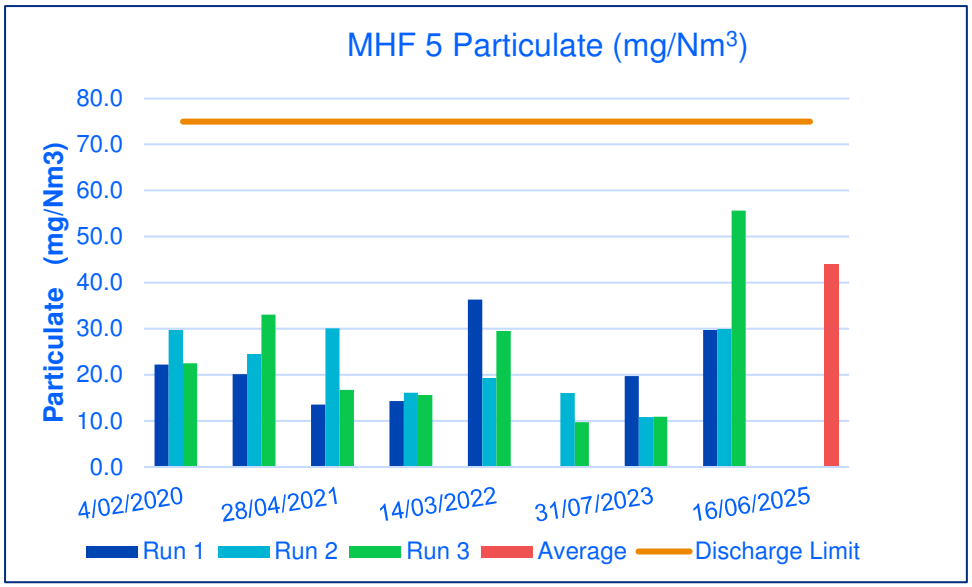
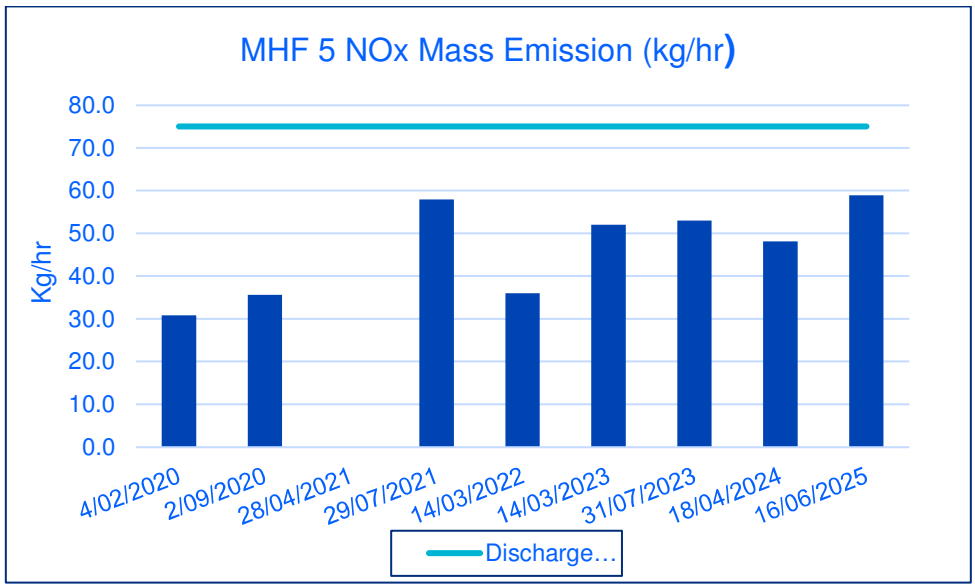
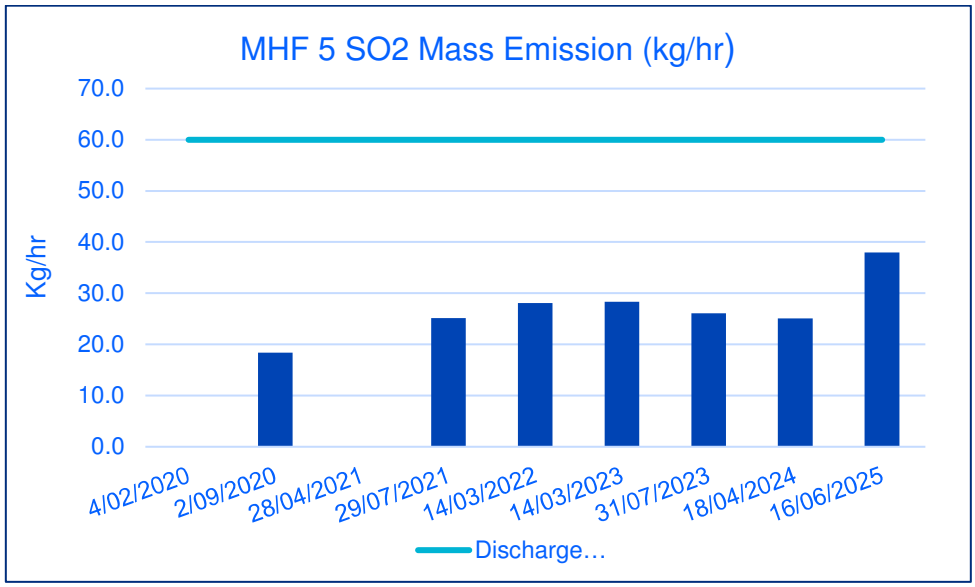
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Particulate (mg/Nm3)
4/02/2020
2/09/2020
19/04/2021
28/07/2021
14/03/2022
14/03/2023
31/07/2023
18/04/2024
16/06/2025
Run 1
Run 2
Run 3
Average
Discharge Limit

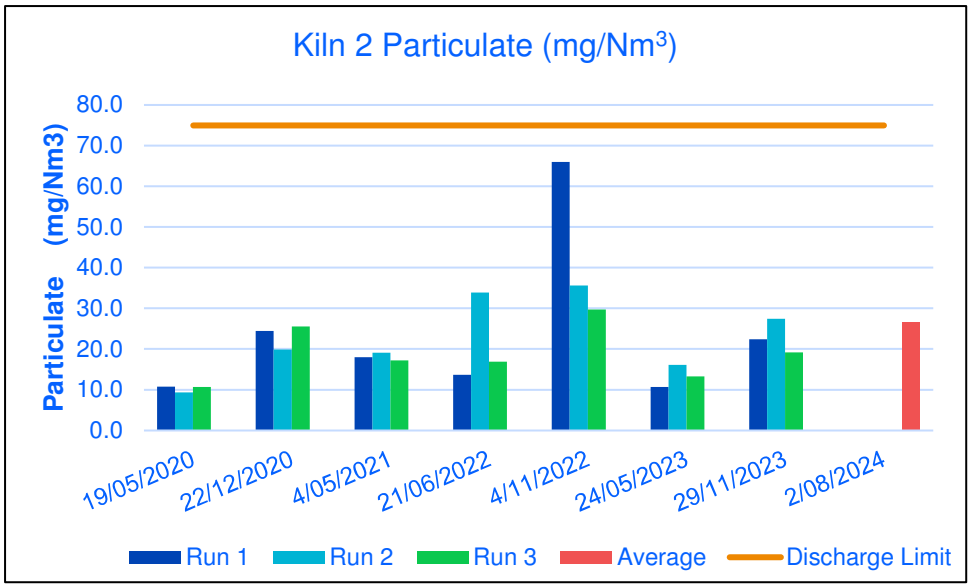

MHF 4 NOx Mass Emission (kg/hr)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Kg/hr
4/02/2020
2/09/2020
19/04/2021
28/07/2021
14/03/2022
14/03/2023
31/07/2023
18/04/2024
16/06/2025
Discharge Limit

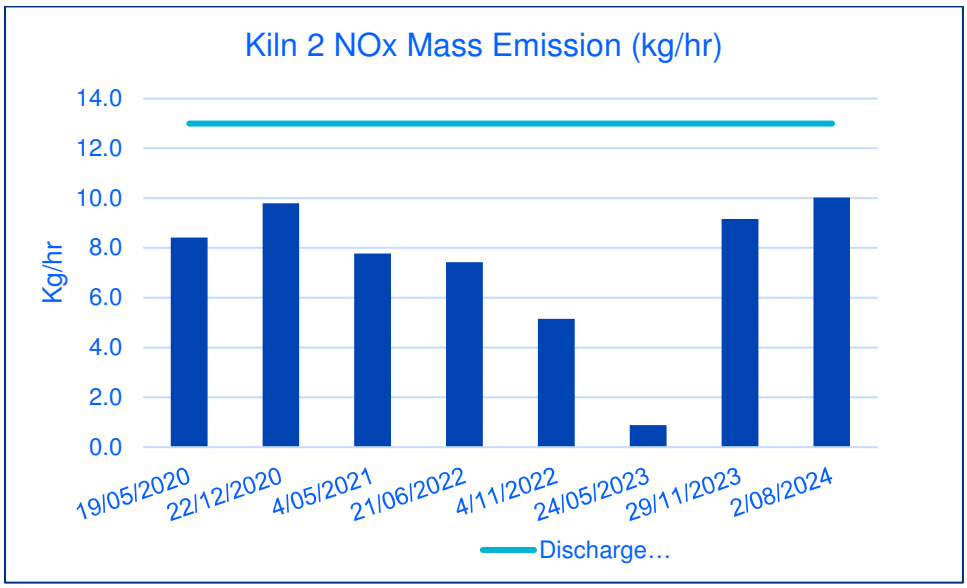

MHF 4 SO2 Mass Emission (kg/hr)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Kg/hr
4/02/2020
2/09/2020
19/04/2021
28/07/2021
14/03/2022
14/03/2023
31/07/2023
18/04/2024
16/06/2025
Discharge…

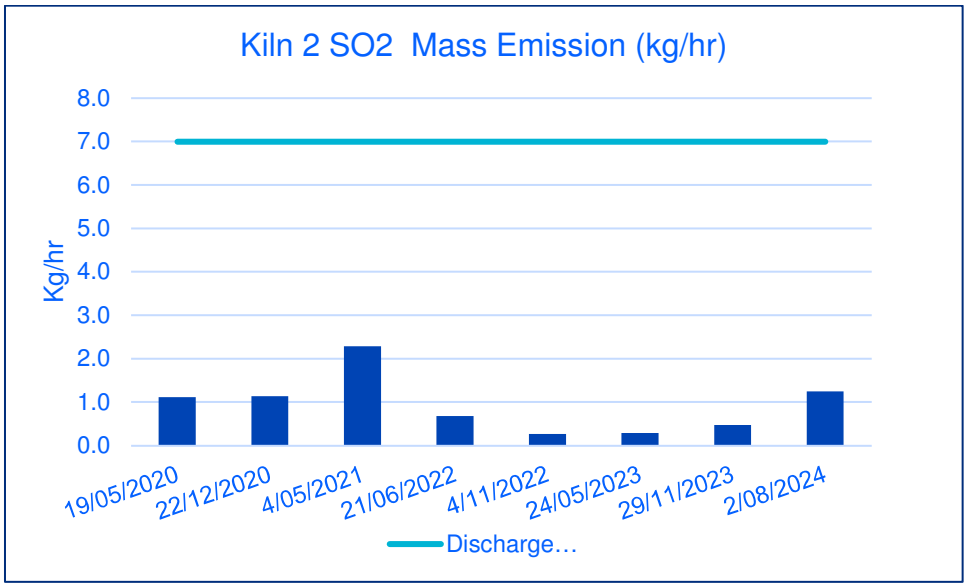

MHF 5 Particulate (mg/Nm3)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Particulate (mg/Nm3)
4/02/2020
28/04/2021
14/03/2022
31/07/2023
16/06/2025
Run 1
Run 2
Run 3
Average
Discharge Limit

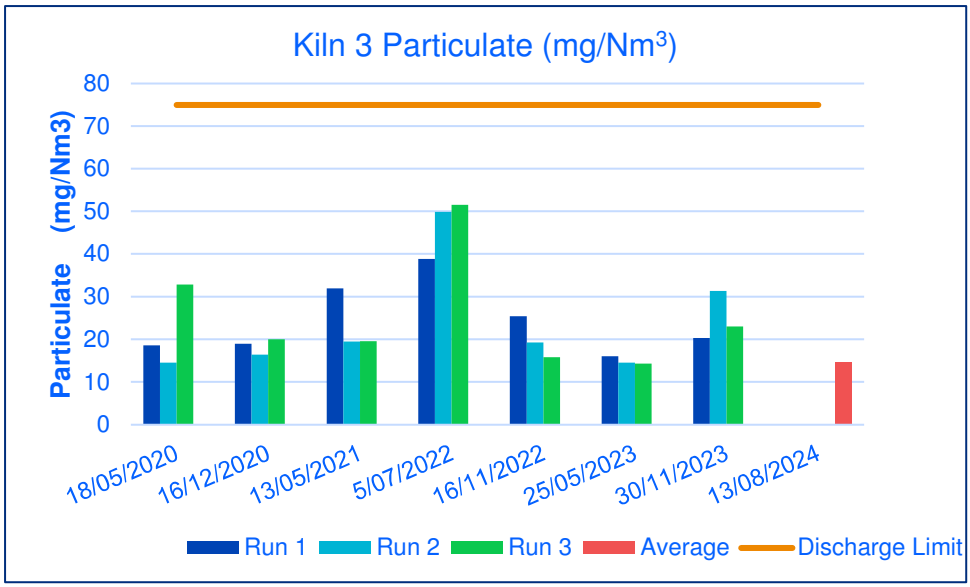

MHF 5 NOx Mass Emission (kg/hr)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Kg/hr
4/02/2020
2/09/2020
28/04/2021
29/07/2021
14/03/2022
14/03/2023
31/07/2023
18/04/2024
16/06/2025
Discharge…

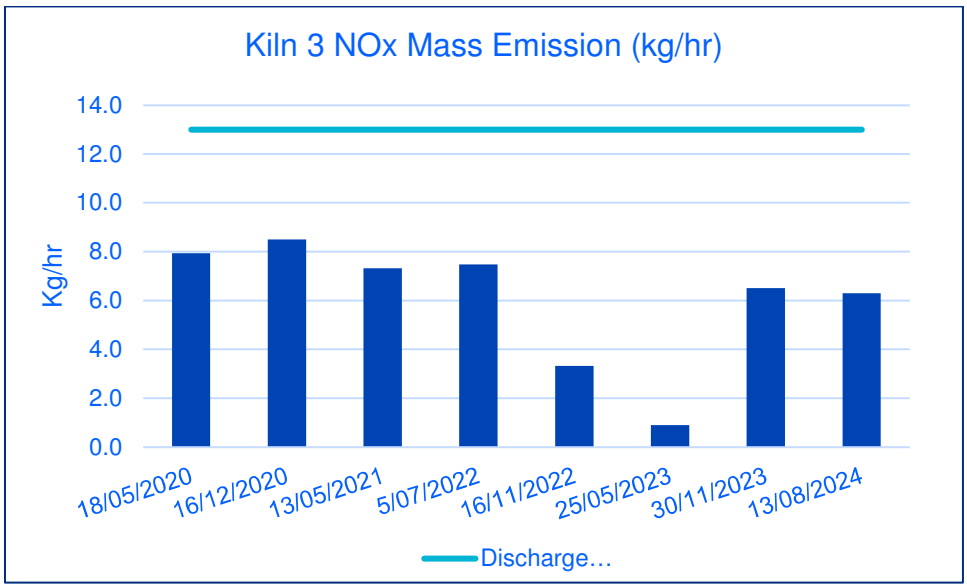

MHF 5 SO2 Mass Emission (kg/hr)
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Kg/hr
4/02/2020
2/09/2020
28/04/2021
29/07/2021
14/03/2022
14/03/2023
31/07/2023
18/04/2024
16/06/2025
Discharge…

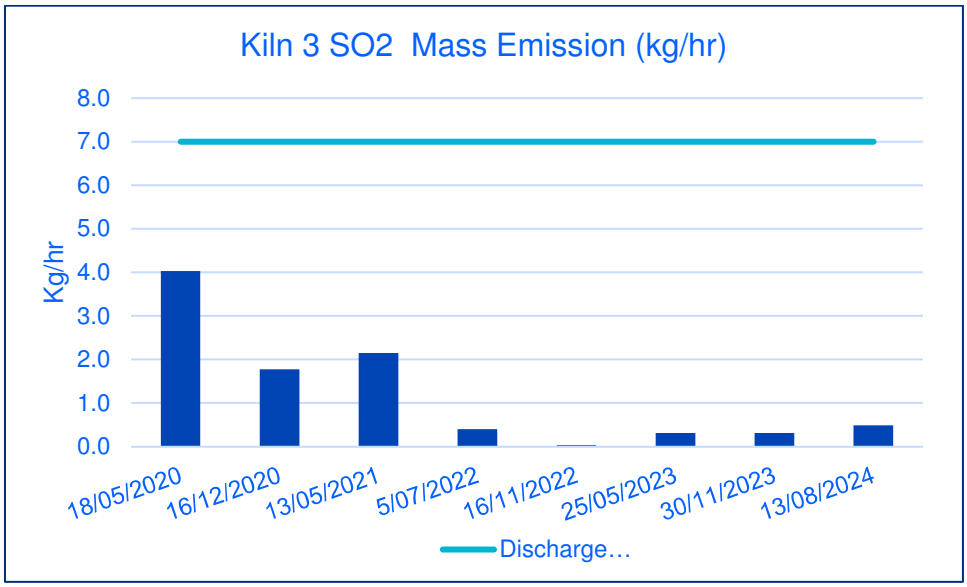

Kiln 2 Particulate (mg/Nm3)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Particulate (mg/Nm3)
19/05/2020
22/12/2020
4/05/2021
21/06/2022
4/11/2022
24/05/2023
29/11/2023
2/08/2024
Run 1
Run 2
Run 3
Average
Discharge Limit

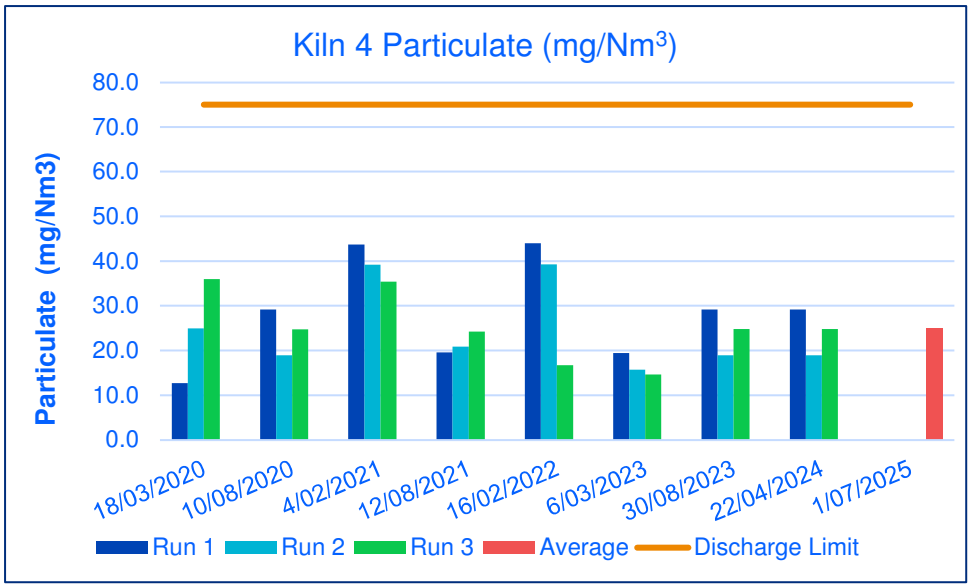

Kiln 2 NOx Mass Emission (kg/hr)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Kg/hr
19/05/2020
22/12/2020
4/05/2021
21/06/2022
4/11/2022
24/05/2023
29/11/2023
2/08/2024
Discharge…

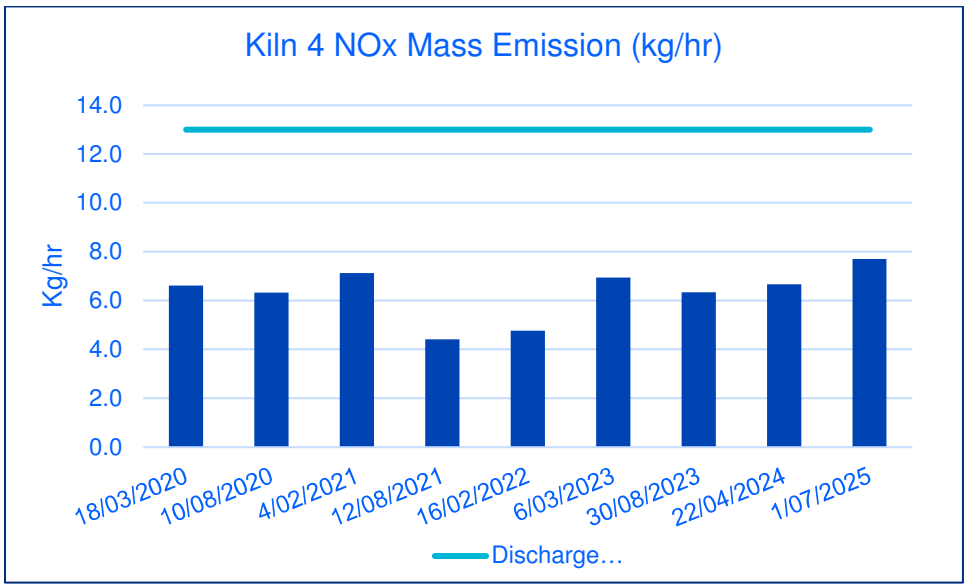

Kiln 2 SO2 Mass Emission (kg/hr)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Kg/hr
19/05/2020
22/12/2020
4/05/2021
21/06/2022
4/11/2022
24/05/2023
29/11/2023
2/08/2024
Discharge…


Kiln 3 Particulate (mg/Nm3)
80
70
60
50
40
30
20
10
0
Particulate (mg/Nm3)
18/05/2020
16/12/2020
13/05/2021
5/07/2022
16/11/2022
25/05/2023
30/11/2023
13/08/2024
Run 1
Run 2
Run 3
Average
Discharge Limit


Kiln 3 NOx Mass Emission (kg/hr)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Kg/hr
18/05/2020
16/12/2020
13/05/2021
5/07/2022
16/11/2022
25/05/2023
30/11/2023
13/08/2024
Discharge…


Kiln 3 SO2 Mass Emission (kg/hr)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Kg/hr
18/05/2020
16/12/2020
13/05/2021
5/07/2022
16/11/2022
25/05/2023
30/11/2023
13/08/2024
Discharge…


Kiln 4 Particulate (mg/Nm3)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Particulate (mg/Nm3)
18/03/2020
10/08/2020
4/02/2021
12/08/2021
16/02/2022
6/03/2023
30/08/2023
22/04/2024
1/07/2025
Run 1
Run 2
Run 3
Average
Discharge Limit


Kiln 4 NOx Mass Emission (kg/hr)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
Kg/hr
18/03/2020
10/08/2020
4/02/2021
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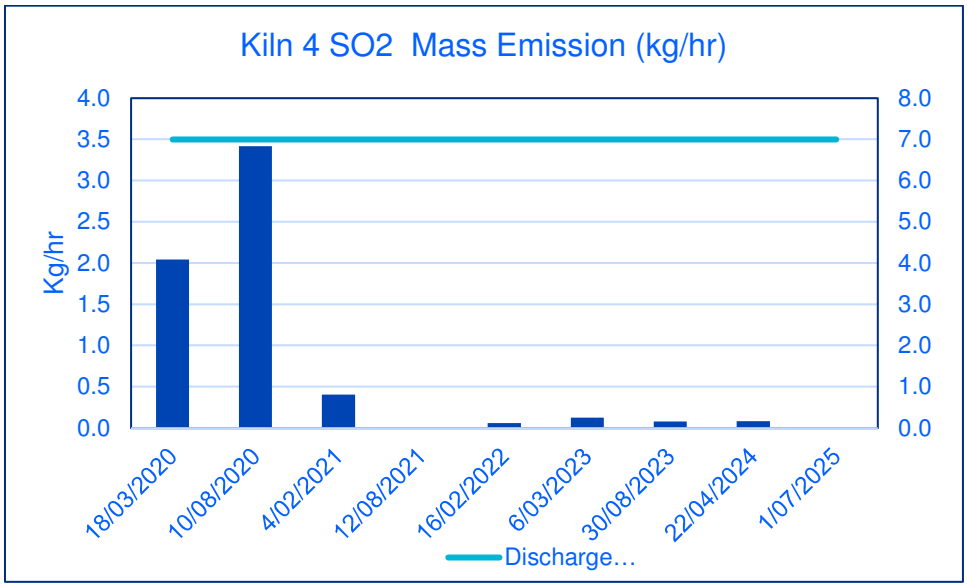
1/07/2025
Discharge…


Kiln 4 SO2 Mass Emission (kg/hr)
Kg/hr
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
18/03/2020
10/08/2020
4/02/2021
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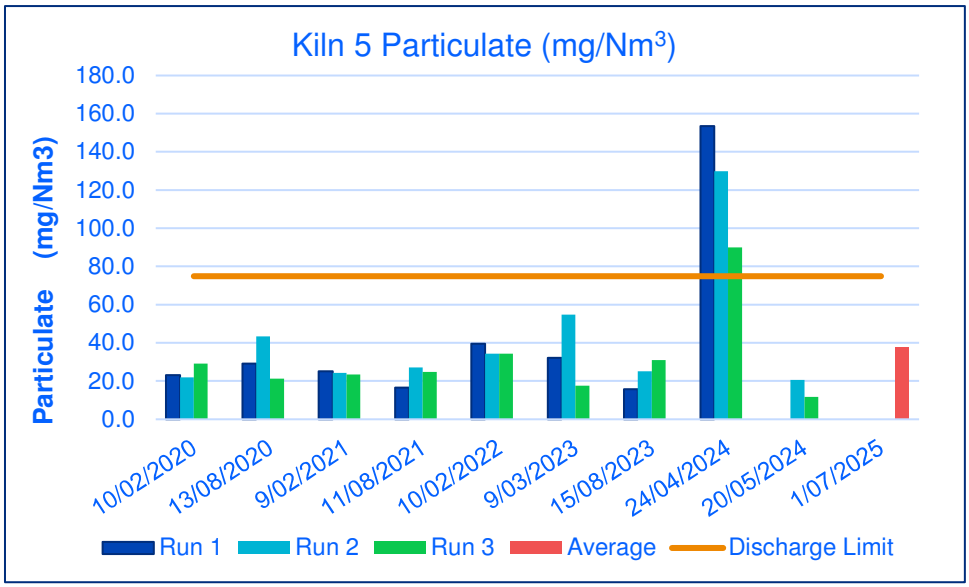
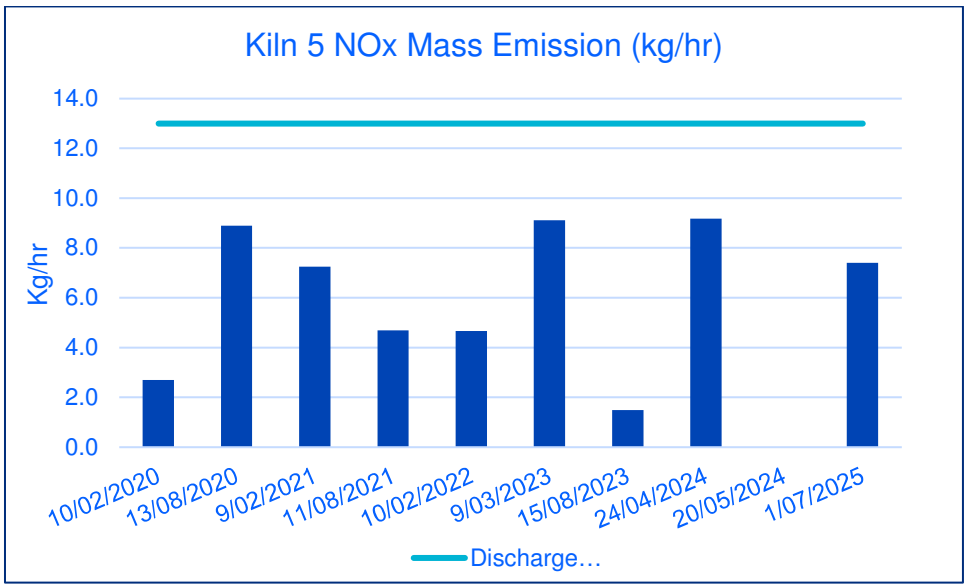
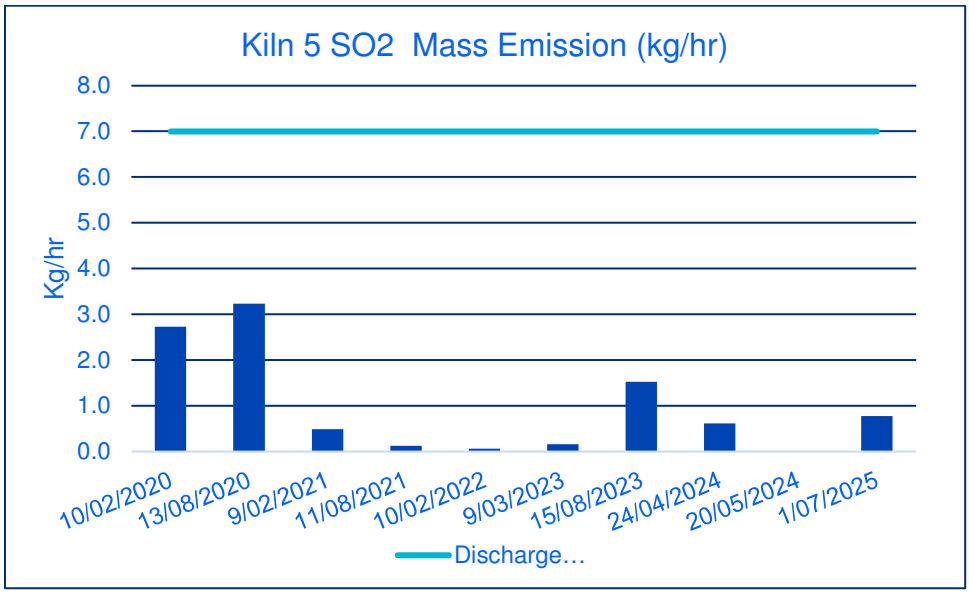
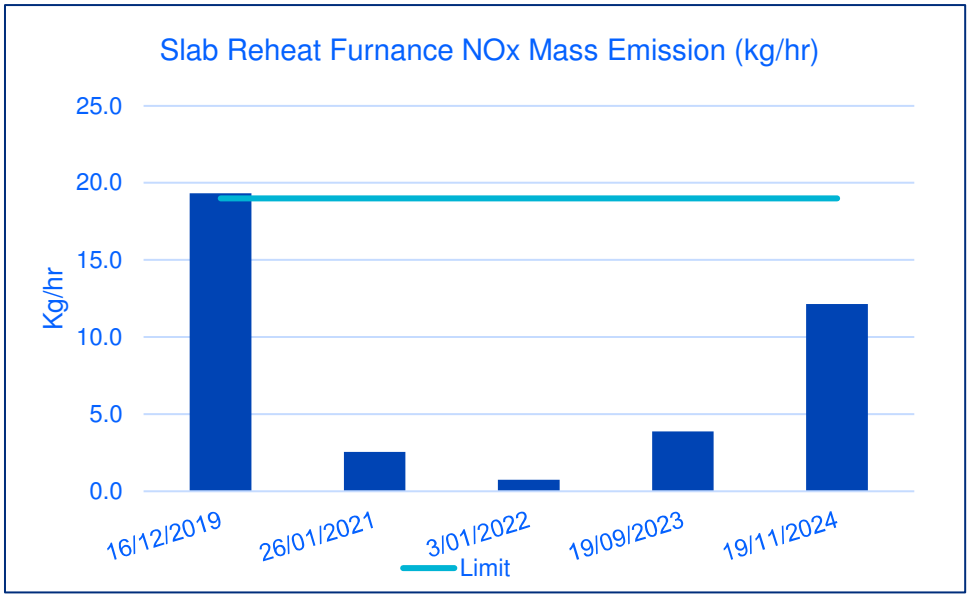
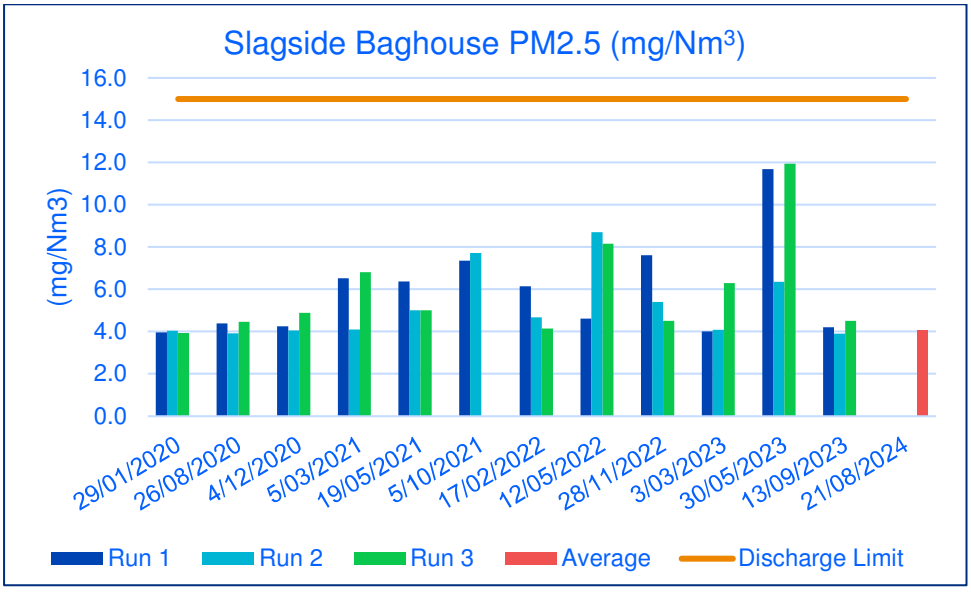
6/03/2023
30/08/2023
22/04/2024
1/07/2025
Discharge…

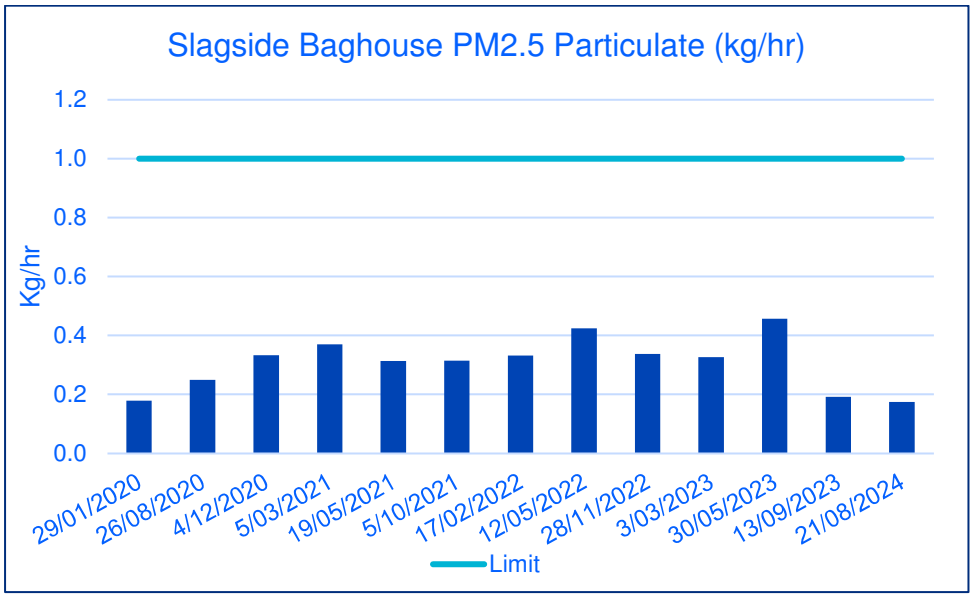

Kiln 5 Particulate (mg/Nm3)
Particulate (mg/Nm3)
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
10/02/2020
13/08/2020
9/02/2021
11/08/2021
10/02/2022
9/03/2023
15/08/2023
24/04/2024
20/05/2024
1/07/2025
Run 1
Run 2
Run 3
Average
Discharge Limit

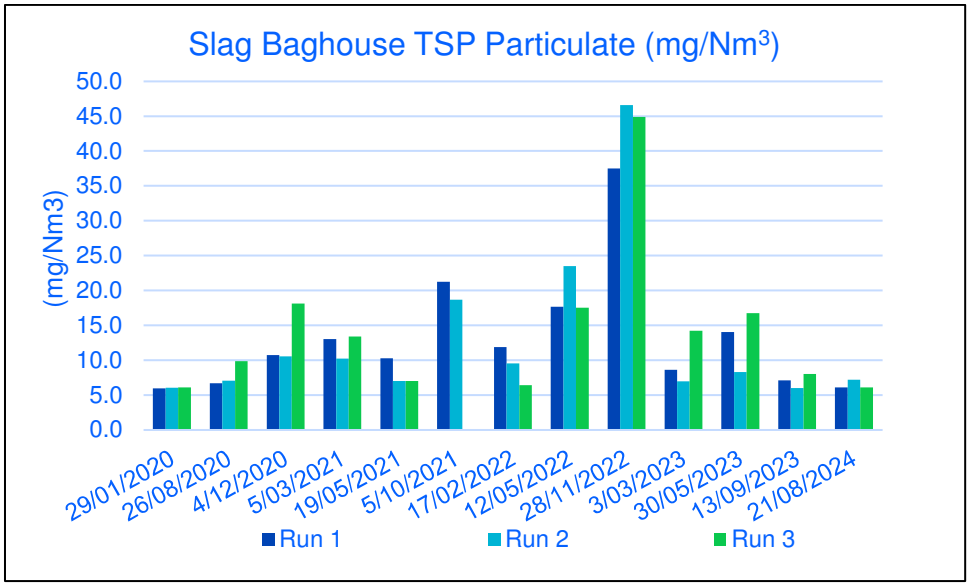

Kiln 5 NOx Mass Emission (kg/hr)
Kg/hr
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
10/02/2020
13/08/2020
9/02/2021
11/08/2021
10/02/2022
9/03/2023
15/08/2023
24/04/2024
20/05/2024
1/07/2025
Discharge…

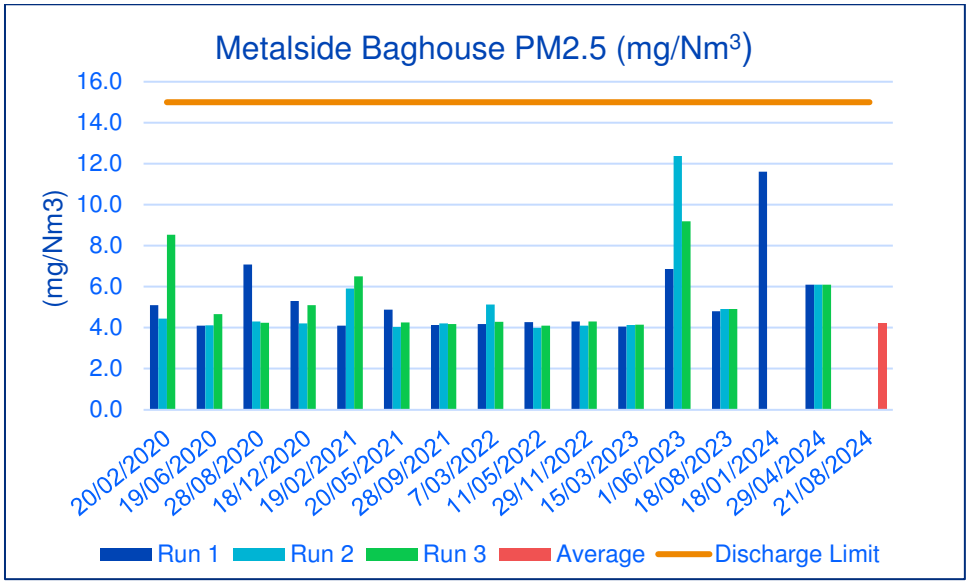

Kiln 5 SO2 Mass Emission (kg/hr)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Kg/hr
10/02/2020
13/08/2020
9/02/2021
11/08/2021
10/02/2022
9/03/2023
15/08/2023
24/04/2024
20/05/2024
1/07/2025
Discharge…

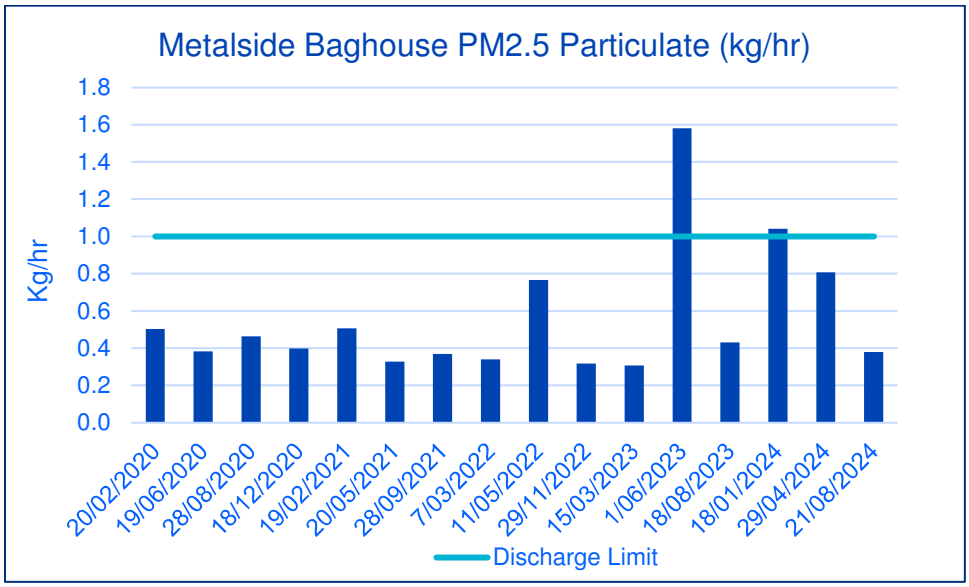

Slab Reheat Furnance NOx Mass Emission (kg/hr)
25.0
20.0
15.0
10.0
5.0
0.0
Kg/hr
16/12/2019
26/01/2021
3/01/2022
19/09/2023
19/11/2024
Limit

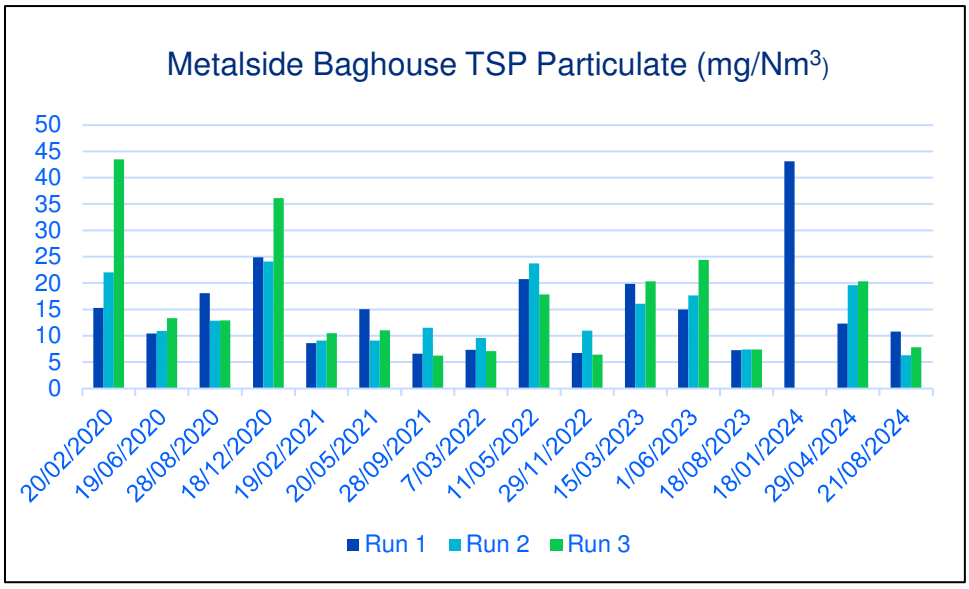

Slagside Baghouse PM2.5 (mg/Nm3)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
(mg/Nm3)
29/01/2020
26/08/2020
4/12/2020
5/03/2021
19/05/2021
5/10/2021
17/02/2022
12/05/2022
28/11/2022
3/03/2023
30/05/2023
13/09/2023
21/08/2024
Run 1
Run 2
Run 3
Average
Discharge Limit

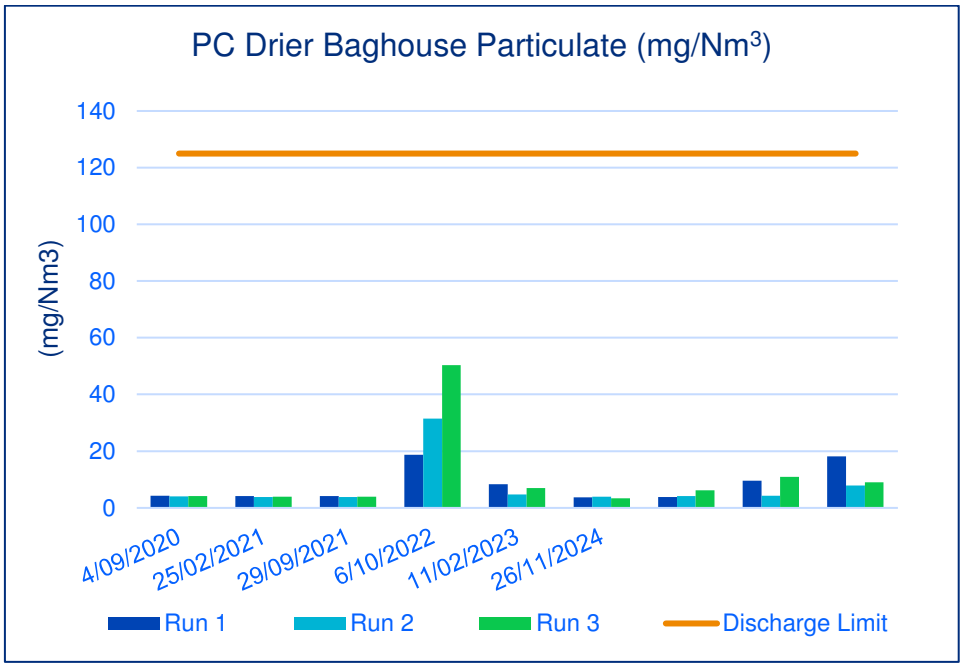

Slagside Baghouse PM2.5 Particulate (kg/hr)
Kg/hr
1.2
1.0
0.8
0.6
0.4
0.2
0.0
29/01/2020
26/08/2020
4/12/2020
5/03/2021
19/05/2021
5/10/2021
17/02/2022
12/05/2022
28/11/2022
3/03/2023
30/05/2023
13/09/2023
21/08/2024
Limit

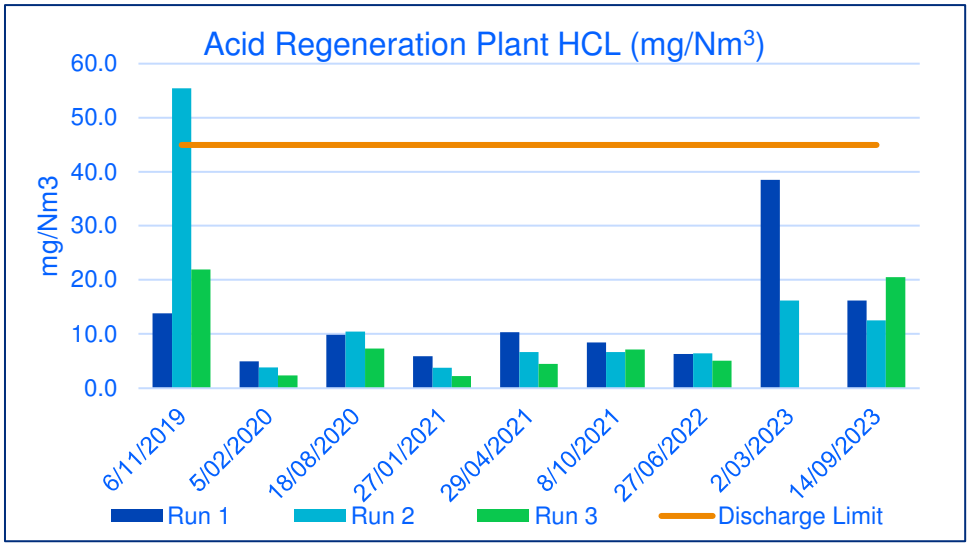

Slag Baghouse TSP Particulate (mg/Nm3)
(mg/Nm3)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
29/01/2020
26/08/2020
4/12/2020
5/03/2021
19/05/2021
5/10/2021
17/02/2022
12/05/2022
28/11/2022
3/03/2023
30/05/2023
13/09/2023
21/08/2024
Run 1
Run 2
Run 3

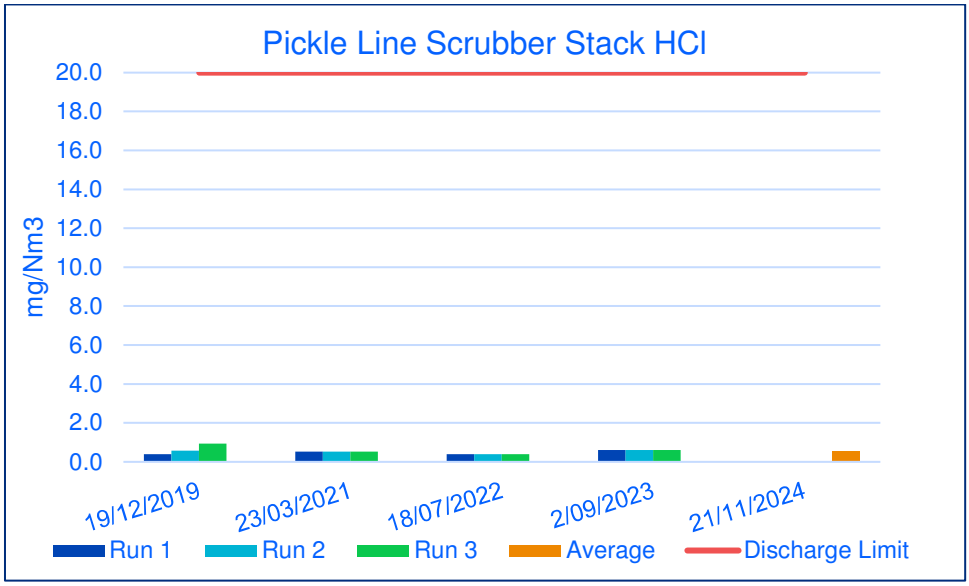

Metalside Baghouse PM2.5 (mg/Nm3)
(mg/Nm3)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
20/02/2020
19/06/2020
28/08/2020
18/12/2020
19/02/2021
20/05/2021
28/09/2021
7/03/2022
11/05/2022
29/11/2022
15/03/2023
1/06/2023
18/08/2023
18/01/2024
29/04/2024
21/08/2024
Run 1
Run 2
Run 3
Average
Discharge Limit


Metalside Baghouse PM2.5 Particulate (kg/hr)
Kg/hr
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
20/02/2020
19/06/2020
28/08/2020
18/12/2020
19/02/2021
20/05/2021
28/09/2021
7/03/2022
11/05/2022
29/11/2022
15/03/2023
1/06/2023
18/08/2023
18/01/2024
29/04/2024
21/08/2024
Discharge Limit


Metalside Baghouse TSP Particulate (mg/Nm3)
50
45
40
35
30
25
20
15
10
5
0
20/02/2020
19/06/2020
28/08/2020
18/12/2020
19/02/2021
20/05/2021
28/09/2021
7/03/2022
11/05/2022
29/11/2022
15/03/2023
1/06/2023
18/08/2023
18/01/2024
29/04/2024
21/08/2024
Run 1
Run 2
Run 3


PC Drier Baghouse Particulate (mg/Nm3)
140
120
100
80
60
40
20
0
(mg/Nm3)
4/09/2020
25/02/2021
29/09/2021
6/10/2022
11/02/2023
26/11/2024
Run 1
Run 2
Run 3
Discharge Limit


Acid Regeneration Plant HCL (mg/Nm3)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
mg/Nm3
6/11/2019
5/02/2020
18/08/2020
27/01/2021
29/04/2021
8/10/2021
27/06/2022
2/03/2023
14/09/2023
Run 1
Run 2
Run 3
Discharge Limit


Pickle Line Scrubber Stack HCl
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
mg/Nm3
19/12/2019
23/03/2021
18/07/2022
2/09/2023
21/11/2024
Run 1
Run 2
Run 3
Average
Discharge Limit

Note:

- Stack testing for some parameters is new, so no existing data is available except for this reporting period.
- EAF baghouse not yet commissioned
- The ARP Sample taken on the 6th August 2024 had an issue with the analysis of Cl so the result was not provided. A re-test was requested however, there was a plant breakdown during the re-test so no result has been received to date.
- Stack testing was undertaken at the required frequency as required by Condition 21 Monitoring Conditions: Stack Testing.

Condition 30)a) iv.

iv) Details of any exceedances of the limits in Condition 13 (Stack Tests) and any subsequent action to investigate and if necessary, remedy any exceedances.

Although outside of the reporting period it should be noted Kiln 5 exceeded the consent limit in April 2024. A copy of the MARS incident report was sent to Council at the time. In summary the plant undertook an investigation, and all data and trends indicated no abnormal activities at the time of testing. Therefore, no definitive cause was identified. A re-test conducted in May 2024 indicates normal results well below the consent limits.

Condition 30)a) v.

v. As an appendix to this Annual Air Quality Report, reports detailing how each round of stack testing was undertaken and the results, including the test methods employed, the raw data obtained during the tests, the relevant operating parameters, and all calculations.
The operating parameters to be reported include the rate of production for the relevant process and operational status of the relevant emission control systems.

The detailed reports issued by the external provider for the above stack tests undertaken in the reporting period are available on request.

Condition 30)b) A Summary of all ambient and Meteorological Monitoring undertaken in accordance with conditions 24 and 25 including:

i. Details of any exceedances of the Trigger Investigation Levels notified to Council in accordance with Condition 26.

A copy of the MARS incident report was sent to Council at the time of the event.

Table 2 below provides a summary of these incidents and report reference numbers

Notes:
Consent TIL is the Consent Trigger Investigation Level as per Condition 26
Site refers to Ambient Air monitoring stations located as per Map below and in Appendix A of Consent Conditions

Note: Glenbrook School site was decommissioned once new Air Discharge consent was issued.

NZ Steel Ambient Air Monitoring Stations

Table 1 Summary of Trigger Investigation Level Exceedances

Date	Report Reference number	Site	Trigger Investigation Level Exceedance	Consent TIL
24/09/2024	10192608	25	PM10 24 hourly average 62.3 µg/m³ PM10 1 hour average @ 12:00 122.2 µg/m³ PM10 1 hour average @ 13:00 142.2 µg/m³ PM10 1 hour average @ 14:00 150.1 µg/m³ PM10 1 hour average @ 15:00 145.4 µg/m³ PM10 1 hour average @ 16:00 141.8 µg/m³	50 µg/m³ 120 µg/m³
12/10/2024	10192842	3	PM 10 24 hourly average 50.5 µg/m³	50 µg/m³
6/12/2024	10193433	3	PM 10 24 hourly average 86.1 µg/m³ PM10 1 hour average @ 08:00 139 µg/m³ PM10 1 hour average @ 09:00 193.2 µg/m³ PM10 1 hour average @ 10:00 158.9 µg/m³ PM10 1 hour average @ 11:00 121.5 µg/m³	50 µg/m³ 120 µg/m³
11/12/2024	10193507	18	1 hr average @ 20:00 127.6 µg/m³	120 µg/m³
27/12/2024	10193643	3	PM10 24 hourly average 213.66 µg/m³ PM10 1 hour average @ 12:00 199.95 µg/m³ PM10 1 hour average @ 13:00 291.25 µg/m³ PM10 1 hour average @ 14:00 209.1 µg/m³ PM10 1 hour average @ 15:00 151.3 µg/m³ TSP 24 hourly average 138 µg/m³ TSP 1 hour average @ 12:00 417.58 µg/m³ TSP 1 hour average @ 13:00 658.12 µg/m³ TSP 1 hour average @ 14:00 481.6 µg/m³ TSP 1 hour average @ 15:00 345.71 µg/m³	50 µg/m³ 120 µg/m³ TSP 120 µg/m³ 250 µg/m³
28/12/2024	10193644	3	PM 10 24-hourly average at 68.72 µg/m³ PM10 1 hour average @ 16:00 129.37 µg/m³	50 µg/m³ 120 µg/m³

Date	Report Reference number	Site	Trigger Investigation Level Exceedance	Consent TIL
30/12/2024	10193645	3	PM 10 24-hourly average at 72.68 µg/m³ PM10 1 hour average @ 16:00 123.18 µg/m³	50 µg/m³ 120 µg/m³
31/12/2024	10193695	3	PM 10 24-hourly average at 101.3 µg/m³ TSP 24 hourly average 122.7 µg/m³ PM10 1 hour average @ 14:00 133.9 µg/m³ PM10 1 hour average @ 15:00 166.9 µg/m³ PM10 1 hour average @ 16:00 150.2 µg/m³ PM10 1 hour average @ 17:00 202.8 µg/m³ PM10 1 hour average @ 18:00 256.0 µg/m³ PM10 1 hour average @ 19:00 133.8 µg/m³ TSP 1 hr average @ 15:00 260.9 µg/m³ TSP 1 hr average @ 17:00 343.5 µg/m³ TSP 1 hr average @ 18:00 470.1 µg/m³	PM10 50 µg/m³ TSP 120 µg/m³ PM 10 120 µg/m³ TSP 250 µg/m³
2/01/2025	10193698	3	PM 10 24-hourly average 66.5 µg/m³	50 µg/m³
3/01/2025	10193720	25	PM 10 24-hourly average 72 µg/m³ PM10 1 hour average @ 20:00 124.3 µg/m³ PM10 1 hour average @ 21:00 122.7 µg/m³	50 µg/m³ 120 µg/m³
11/01/2025	10193744	18	PM10 1 hour average @ 11:00 122.7 µg/m³	120 µg/m³
14/01/2025	10193774	3	PM10 1 hour average @ 13:00 133.2 µg/m³	120 µg/m³
16/01/2025	10193801	18	PM10 1 hour average @ 08:00 191.3 µg/m³	120 µg/m³
27/01/2024	10193889	3	PM 10 24-hourly average 72 µg/m³	50 µg/m³
10/02/2025	10194013	18	PM10 1 hour average @ 08:00 123.5 µg/m³	120 µg/m³
11/02/2025	10194028	18	PM10 1 hour average @ 08:00 317 µg/m³	120 µg/m³

Date	Report Reference number	Site	Trigger Investigation Level Exceedance	Consent TIL
4/03/2025	10194295	20	PM10 1 hour average @ 16:00 175 µg/m³	120 µg/m³
7/03/2025	10194317	25	PM10 1 hour average @ 22:00 135.1µg/m³	120 µg/m³
11/03/2025	10194353	18	PM10 1 hour average @ 07:00 442.4µg/m³ PM10 1 hour average @ 08:00 816.71µg/m³ PM10 1 hour average @ 09:00 544.9µg/m³	120 µg/m³
7/04/2025	10194674	25	PM10 1 hour average @ 14:00 130.6µg/m³	120 µg/m³
9/04/2025	10194689	3	PM 10 24-hourly average 52 µg/m³	50 µg/m³
22/04/2025	10194849	3	PM10 1 hour average @ 14:00 121.3 µg/m³ TSP 1 hr average @ 14:00 345.79 µg/m³	120 µg/m³ 250 µg/m³
30/06/2025	10195692	3	PM 10 24-hourly average 51 µg/m³	50 g/m³

ii. Comparison of recorded ambient air quality with relevant New Zealand standards and guidelines.

As referenced above in **Table 1**

iii. Statistical Analysis of the recorded ambient air quality to detail the mean, median, 75th 95th ,99th percentiles and the maximum air quality values recorded for each monitoring station.

Table 2 – 24 Hour Average Statistics

	Boundary Road (18)		Glenbrook Beach (20)		Mission Bush Rd (25)		Training Centre (3)	
	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	TSP	PM10
99%	31	10	41	13	42	15	87	70
95%	23	9	32	10	34	12	54	47
75%	16	6	20	7	20	7.5	33	28
Mean	13	5	16	6	17	6	25	22
Median	12	5	15	5	15	6	20	18
Max	86	16	52	16	72	22	266	95

Note: All units are reported in µg/m³

Table 3 – Hourly Average Statistics

	Boundary Road (18)		Glenbrook Beach (20)		Mission Bush Rd (25)		Training Centre (3)	
	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	TSP	PM10
99%	38.0	20.9	56.4	21.9	65.9	27.6	106.9	87.3
95%	28.6	13.6	39.0	15.5	40.7	17.6	66.2	58.7
75%	18.0	7.5	21.6	8.9	22.4	9.3	31.5	28.8
Mean	13.4	5.0	16.5	5.9	16.9	6.4	24.7	22.1
Median	12.2	4.4	14.2	5.3	14.6	5.6	18.1	17.4
Max	816.7	143.9	174.0	44.0	150.1	86.6	658.1	291.2

Note: All units are reported in µg/m³

Table 4 Summary of Meteorological Data

	Boundary Rd (18)	Glenbrook Beach Rd (20)	Mission Bush Rd (25)	Training Centre (3)
Wind Speed Average (m/s)	3.1	3.0	3.2	3.9
Wind Gust Average (m/s)	5.3	5.3	5.1	6.2
Average Wind Direction (˚)	236.8	220.3	221	248.2
Average Ambient Temperature (˚C)	15.4	15.8	15.6	15.8
Average Relative Humidity(%)	78.2	68.6	79.3	71.5
Total Rainfall (mm)	N/A	N/A	874	933.8

Table 5: Summary statistics for NO_2 monitoring at Mission Bush Road (Site 25)

	1-hour average concentration (µg/m³)		24-hour average concentration (µg/m³)	
	July 2023 - June 2024	July 2024 - June 2025	July 2023 - June 2024	July 2024 - June 2025
Valid data %	91%	96%	93%	97%
Mean	5.2	5.5	5.1	5.5
Median	3.7	4.0	4.8	5.1
75th Percentile	6.7	7.2	6.6	7.3
95th Percentile	14.6	15.6	10.4	11.3
99th Percentile	25.1	26.3	13.6	17.5

Maximum	51.8	43.7	15.1	20.5
Trigger Investigation Level	200		25	
NESAQ	200		N/A	
NZAAQG	N/A		100	

Note: Table 5 and commentary below was compiled on behalf of NZ Steel by Tonkin + Taylor Air Quality team.

Commentary on trends for NOx

All values were slightly higher in the 2024-2025 period than the corresponding 2023-2024 period, with the exception of the maximum 1-hour average NO_2.

A Wilcoxon-Mann-Whitney (WMW) Test comparing each dataset concludes that the values in 2024-2025 dataset tend to be higher than the previous year, and that the difference is unlikely due to random chance. We note that the difference is small and could be due to changes in the source emissions or differences in meteorological conditions over each year. Once a few years of data are available, further analysis of trends (such as Theil-sen plots by wind direction and 'deweathering' analysis) could be undertaken.

All NO_2 monitoring data recorded at Mission Bush Road (Site 25) remains below the applicable Trigger Investigation Level set in Condition 26 of the Air Permit.

The annual WHO guideline for NO_2 is 10 µg/m³. The mean values show that this is not exceeded over each 12-month period.

30. c) Summary of any significant incidents involving significant discharges of air pollutants as required by condition 27.

There were no significant incidents in the reporting year.

30. d) A Summary of any complaints received and provided to the council in accordance with Condition 28

There were two complaints during the reporting period. Details are provided in **Table 6** below. A copy of the MARS incident and investigation report was sent to Council at the time.

Table 6 Complaints Summary

Date	Complaint Location	Description	Action
3/07/2025	Neighbour	Brown specks on blue vehicle	Cut and polish
30/07/2024	Neighbour	Brown specks on white vehicle	Cut and polish

30. e) Summary of material process changes within the Operational Area

In the reporting period, Kiln 2 was taken offline in anticipation of the EAF transition and reduced demand. However, it was bought back online due to maintenance being required on another Kiln. When Kiln 2 was initially brought online, it did not have the cogeneration process reconnected. The Boilers are incorporated in the Kilns' waste gas systems and burn the off-gas in a separate radiation chamber before entering a conventional superheater and economiser. The steam raised in the boiler drives a turbine to generate electricity. This impacted the melter gas flaring percentages. This has since been reconnected and has decreased the amount of melter gas flared to enable improved co-generation capacity.

The old melter dedust system was replaced with a new modern system as part of the enabling works for the EAF. This system is fit for purpose (removing dust and CO from the Melter charge bin area) and sized appropriately. The dust collection system uses a two stage process to remove the hot process dust from the air stream. The first stage is a Multicyclone system which removes the heavy hot particles. The second stage is a venturi scrubber which designed to remove fine particles and pass clean gas out through the exhaust stack.

Further details were provided in the One-off Air Quality Improvements Feasibility Report.

30. f) Summary of any proposed material process changes for the coming consent reporting year that would affect air discharges or air quality

In the upcoming year the Steel Plant will be changing from the KOBM to the Electric Arc Furnace (EAF) process. It is expected that the EAF will start hot commissioning in the first quarter of 2026. This will result in reducing the remaining Ironmaking to a 2 Klin and 1 Melter operation.

The improvements in air quality won't be fully realised until the following reporting year. These will include commissioning of a new baghouse and reduced VRU fuming due to the change in process and input materials.

The EAF will reduce direct greenhouse gas emissions by approximately 800,000 tonnes of CO2e per annum. This is equivalent to 45% of the Steel Mill's greenhouse gas emissions, with the average embodied carbon per tonne below the world average, while also providing a circular economy for scrap steel.

30. g) Details of any identified emerging trends with respect to the information presented in accordance with subclauses (a) to (e) above and including as a result of comparison with data previously collected and reported where relevant.

Stack Testing Results Overview

MHF2 – Particulate is in a similar range to the previous 5 years data. NOx is lower than previous 5 years data, SO2 is similar to previous years monitoring.

MHF3 – Particulate is in a similar range to previous years data. NOx shows a slight increasing trend, the reason for this is yet to be determined. SO2 is in a similar range to historic levels.

MHF4 - Particulate is in a similar range to previous years data. NOx is in a similar range to previous years data, SO2 is in a similar range to historic levels.

MHF5 – Particulate shows a slight increase in trend in the last 2 years compared to 2020-2023. NOx appears within the same range since 2021. SO2 has increased slightly since 2024 however is still well below consented limits.

Kiln 2 – Particulate is within similar historical ranges, NOx is slightly elevated compared to historical readings however still well below consent limit. SO2 is within previous recorded results range.

Kiln 3 – Particulate has decreased compared to previous readings, NOx is within the range of previous results, SO2 is reduced compared to results recorded in 2020 and 2021.

Kiln 4 - Particulate is within similar historical ranges, NOx appears to be in similar range to previous data, SO2 levels have been low since 2021.

Kiln 5 – Particulate is within the historical averages, the failed stack test in April 2024, the reason was unable to be determined and the subsequent test showed results similar to other tests. NOx and SO2 were both within ranges of previous testing results.

Slab Reheat Furnace – NOx has shown an increasing trend since 2021 however the reason for this is unknown. It is still below the consented limit.

Slagside Baghouse – PM2.5 Particulate and Mass emissions were both within similar ranges to previous recorded results. Total particulate is more variable, recent results are similar to 2020 and 2021 levels.

Metalside Baghouse – PM2.5 Particulate has some variation in 2023 and early 2024, most recent result is similar to historical readings. PM2.5 mass emission is more variable however has shown a decreasing trend since early 2024. TSP particulates were elevated in early 2024 where there was a failure under the previous resource consent.

PC Drier Baghouse – continues to have low levels of particulate, well below the consent limit.

Acid regeneration Plant (ARP) – HCL results were slightly elevated compared to previous results however in the recent tests the chlorine samples were impacted and there was a breakdown in the plant which disrupted the re-test being undertaken. Another test has been requested.

Pickle Line scrubber stack – HCL results are similar to previous results reported.

Ambient Monitoring Summary

24 hour averages for ambient monitoring stations – PM2.5 at all stations is below the AAQ guideline value of 10 µg/m³ PM10 at Boundary Road, Glenbrook Beach Road and Missions Bush Rd stations annual averages are below the NES of 20 µg/m³. The training centre station, considered NZ Steel's onsite monitoring was slightly above the NES at 22 µg/m³ for the annual average. Glenbrook Beach Rd and Mission Bush Road, show similar Mean results for both PM10 and PM2.5 while Boundary Rd, considered to be our background monitoring station is lower than all 3 other monitoring stations. Training centre showed the highest 1 hourly averages which is to be expected given it's proximity to the industrial site and being directly in the SW predominant wind direction. The training centre also experienced a slightly higher on average wind speed compared to Glenbrook Beach Rd and Mission Bush Rd sites. The training centre received about 50mm additional rainfall over the reporting period compared to the rainfall recorded at Mission Bush Rd.

Analysis and comments on the trends for NOx at Mission Bush Rd was provided by the Tonkin+Taylor Air Quality team.

30. h) The following process monitoring information collected in accordance with Condition 20:

i) – iv)

30(h)(i) Sulphur content range for coal feed % on a dry basis (db)

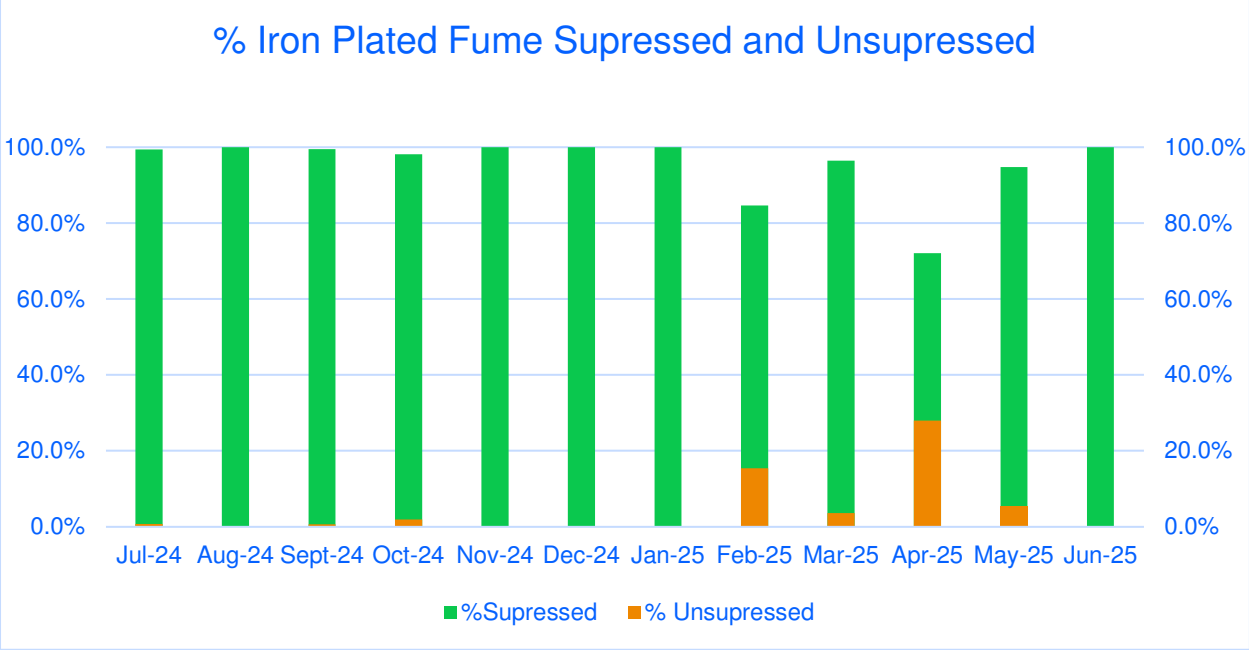
Stockpile #	Tonnes	Sulphur (db)
1806	16158	0.27
1807	16149	0.22
1808	16127	0.22
1809	16359	0.25
1810	16265	0.25
1811	15946	0.24
1812	16051	0.24
1813	16110	0.33
1814	15941	0.31
1815	16093	0.30
1816	16117	0.23
1817	16007	0.18
1818	16178	0.31
1819	16080	0.26
1820	16223	0.28
1821	16445	0.28
1822	16351	0.29
1823	15971	0.28
1824	16241	0.3
1825	16183	0.3
1826	16158	0.3
1827	16160	0.3
1828	16018	0.27
1829	16022	0.30
1830	16184	0.26
1831	16233	0.27
1832	16442	0.27
1833	16306	0.28
1834	16004	0.29
1835	16255	0.30
1836	16189	0.29
1837	16200	0.30
1838	16615	0.28

Summary – Sulphur % by quarter

Quarter	Sulphur (%)
1 (Jul-Sep)	0.262
2 (Oct-Dec)	0.261
3 (Jan-Mar)	0.276
4 (Apr-Jun)	0.286

Condition 30 h. i)-iv)	Annual amount
Sulphur Consumed	1568 tonnes
Mass of Coal @ 20.5% moisture	730,820 tonnes
Mercury Content average	Range 0.0ppm to <0.1ppm
Mass RPCC Tipped	17,961 tonnes
Mass of Iron Plated	26,801 tonnes
Melter Gas Flared annual average	23% (internal Target 15%)

v) The use of fume suppression as a percentage of Total Iron Plated



vii) The cumulative time and reasoning of emergency venting from the Iron and Steel Plants.

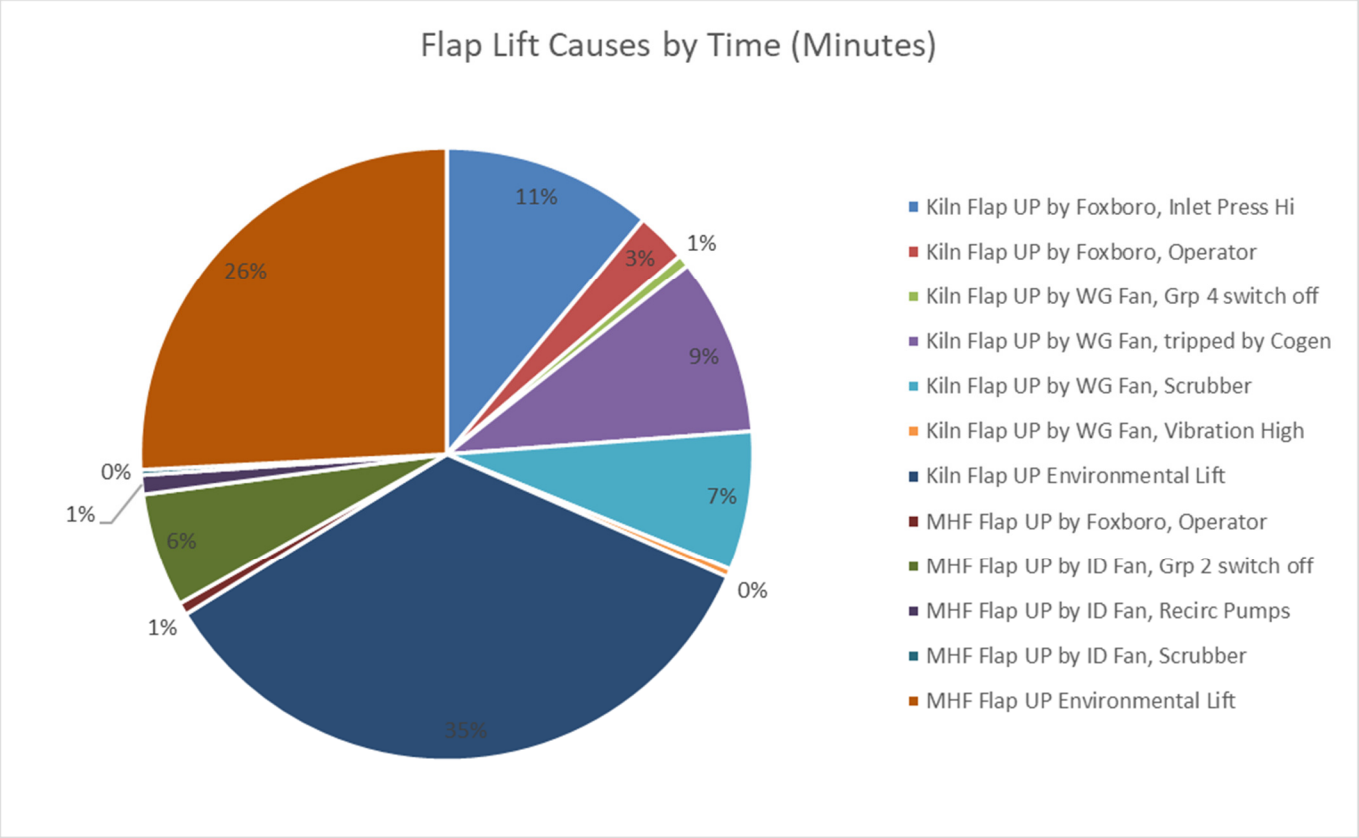
A summary of cumulative times for emergency venting by reason is below:

Cause	Number of Lifts	Time (minutes)
Kiln Flap UP by Foxboro, Inlet Press Hi	48	360
Kiln Flap UP by Foxboro, Operator	6	87
Kiln Flap UP by WG Fan, Grp 4 switch off	2	21
Kiln Flap UP by WG Fan, tripped by Cogen	28	305

Kiln Flap UP by WG Fan, Scrubber	14	239
Kiln Flap UP by WG Fan, Vibration High	1	14
Kiln Flap UP Environmental Lift	66	1124
MHF Flap UP by Foxboro, Operator	1	21
MHF Flap UP by ID Fan, Grp 2 switch off	5	196
MHF Flap UP by ID Fan, Recirc Pumps	2	33
MHF Flap UP by ID Fan, Scrubber	1	9
MHF Flap UP Environmental Lift	106	838

Operating hours for the year for both the Kilns and MHF's was:

7099 (425,940 minutes), flap lifts equated to a total of 0.35% of operating time.



A full table of these is provided in Appendix 1.

Appendix 1 – Cumulative time and reasoning for Emergency Venting from Iron and Steel Plants