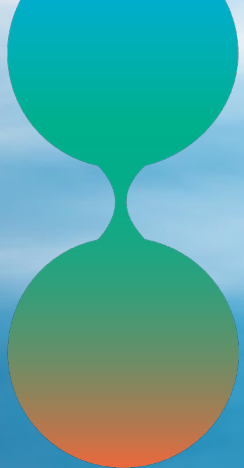




Jamie Donta

Emissions Calculations & Deviation Reporting



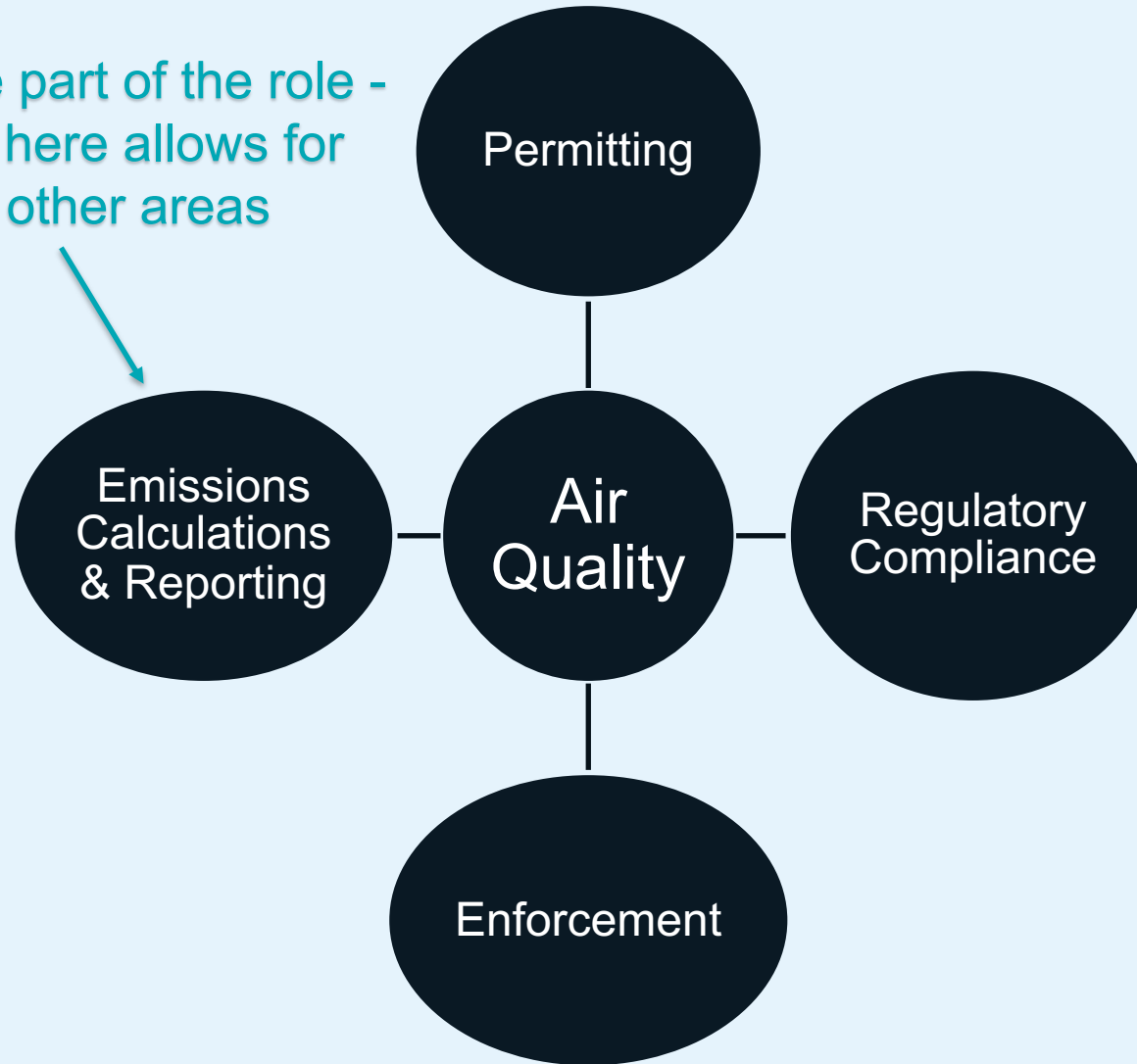
Emissions Calculations & Deviation Reporting

Jamie Donta

Kinder Morgan

Environmental Specialist R&Rs

Data is only one part of the role - minimizing time here allows for more support in other areas



Emissions Calculations & Reporting

- Many fired sources have Continuous Emissions Monitoring Systems (CEMS) and other analyzers (fuel flowrate, firing rate, etc.), which feed into calculations
 - Time consuming to manipulate and summarize monthly
 - Many companies utilize Excel workbooks developed internally or by consultants
- Need to compare calculations against permit limits and compile results for semi-annual/annual reporting



Call to Action

- Drive to have zero emissions deviations
 - Previous process gave a 1+ month lag time between some deviation occurrences to confirmation
 - More near real-time and better data visibility by all support groups needed for effective root cause investigations
 - Minimizes deviation durations and occurrences through process learning
- Desire for autonomy for reports and emissions calculations
 - Avoids tight turnaround times after receiving draft reports from consultants
 - Improve data quality and ownership
 - Shift to proactive vs. reactive
 - Potential time & cost savings



Old Process vs. New Process

Raw Data Exports

- Operations pulls CEMS data exports
- Engineering pulls DCS data exports

Additional Data Compilation

- Air specialist compiles additional data such as flaring events and fuel gas sample data

Consultant Calculations

- Data is provided to consultant by work day 5 of the next month

Receive Emissions Calculations & Deviation Summary

- Received by end of month

Old Process

Old Process vs. New Process

Seeq Data Imports

- Data auto-import from DCS to Seeq daily

Additional Data Imports

- Air specialist imports additional data such as flaring events and fuel gas sample data monthly

Receive Emissions Calculations & Deviation Summary

- Received daily

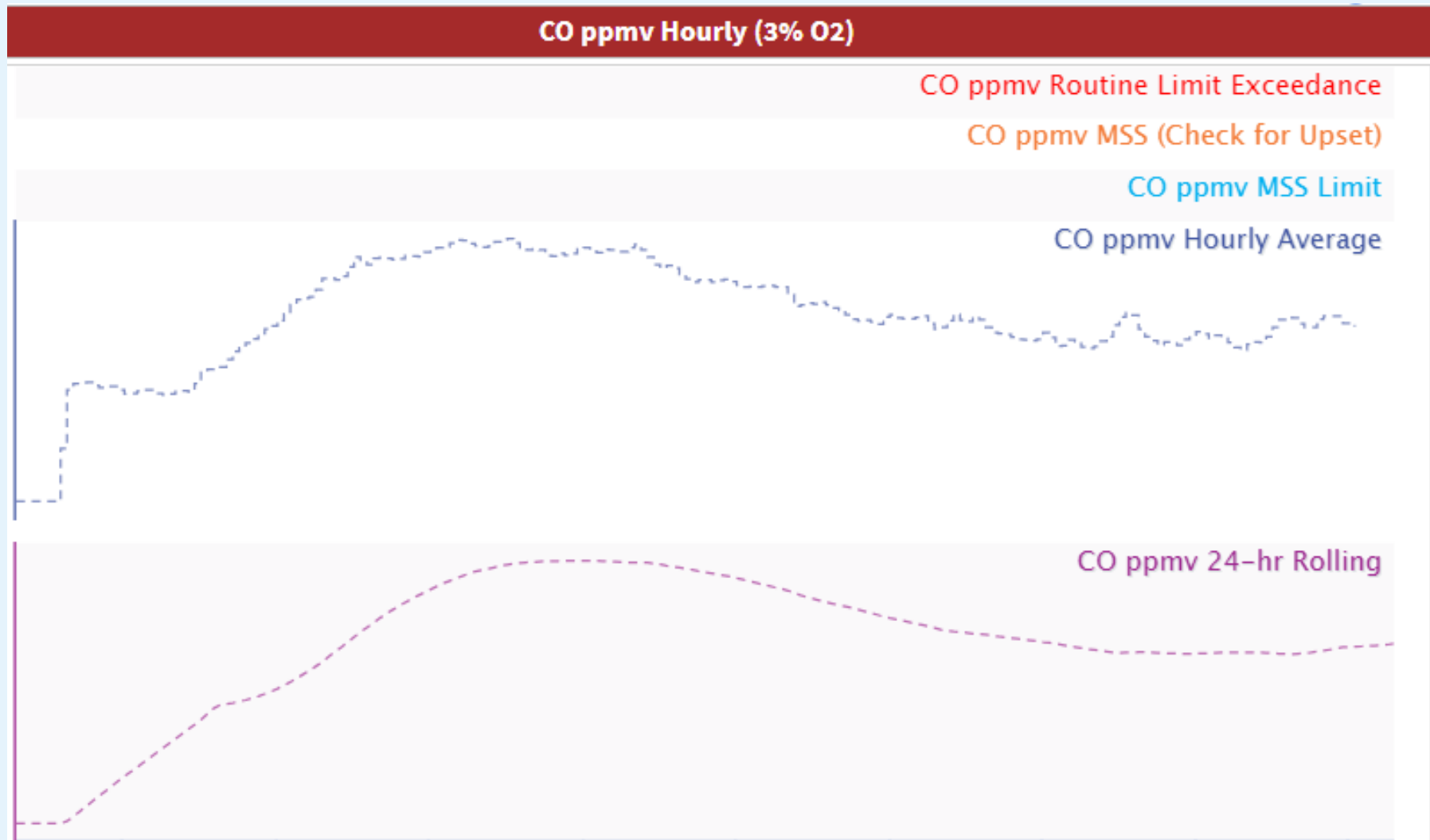
New Process

connect

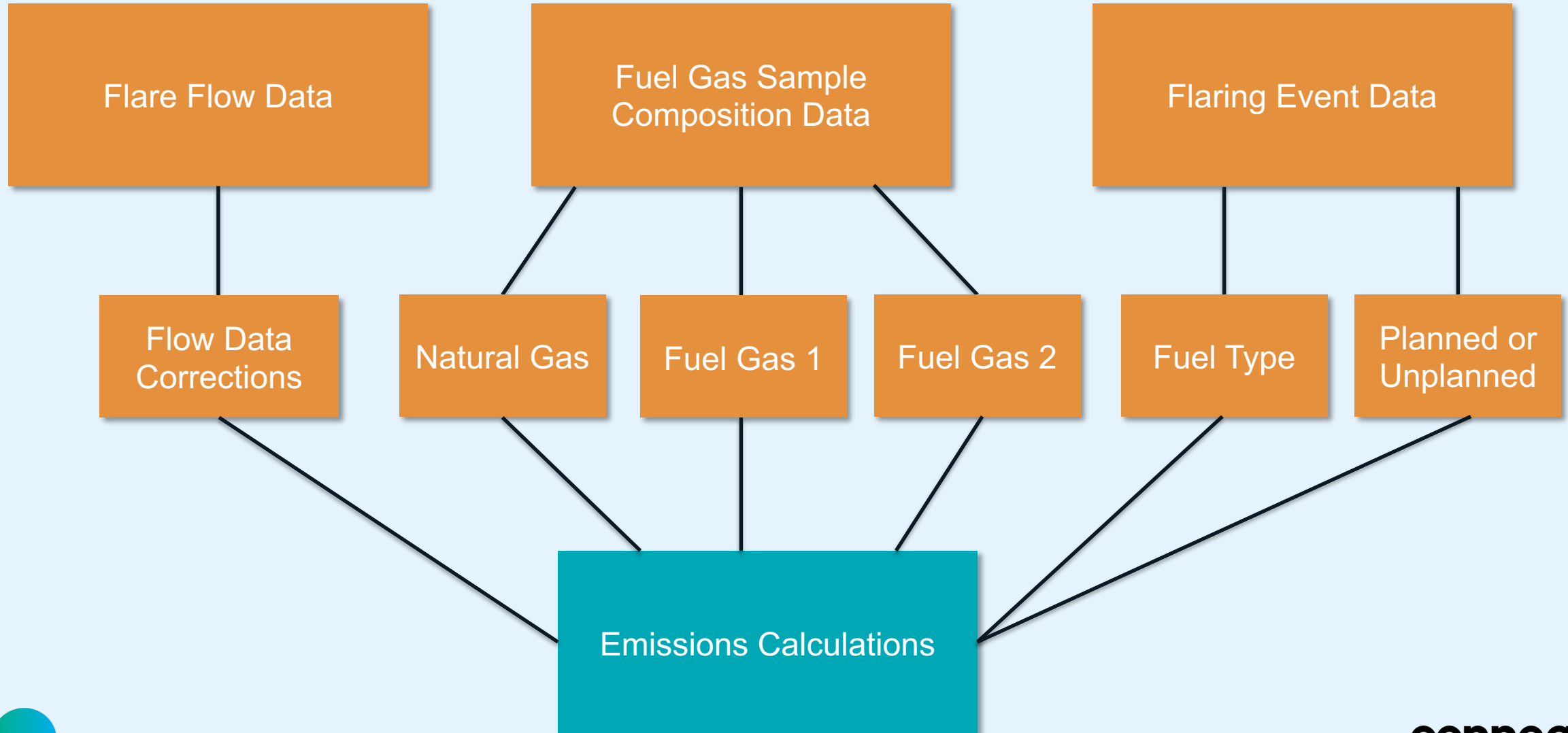
Emissions Dashboard Examples



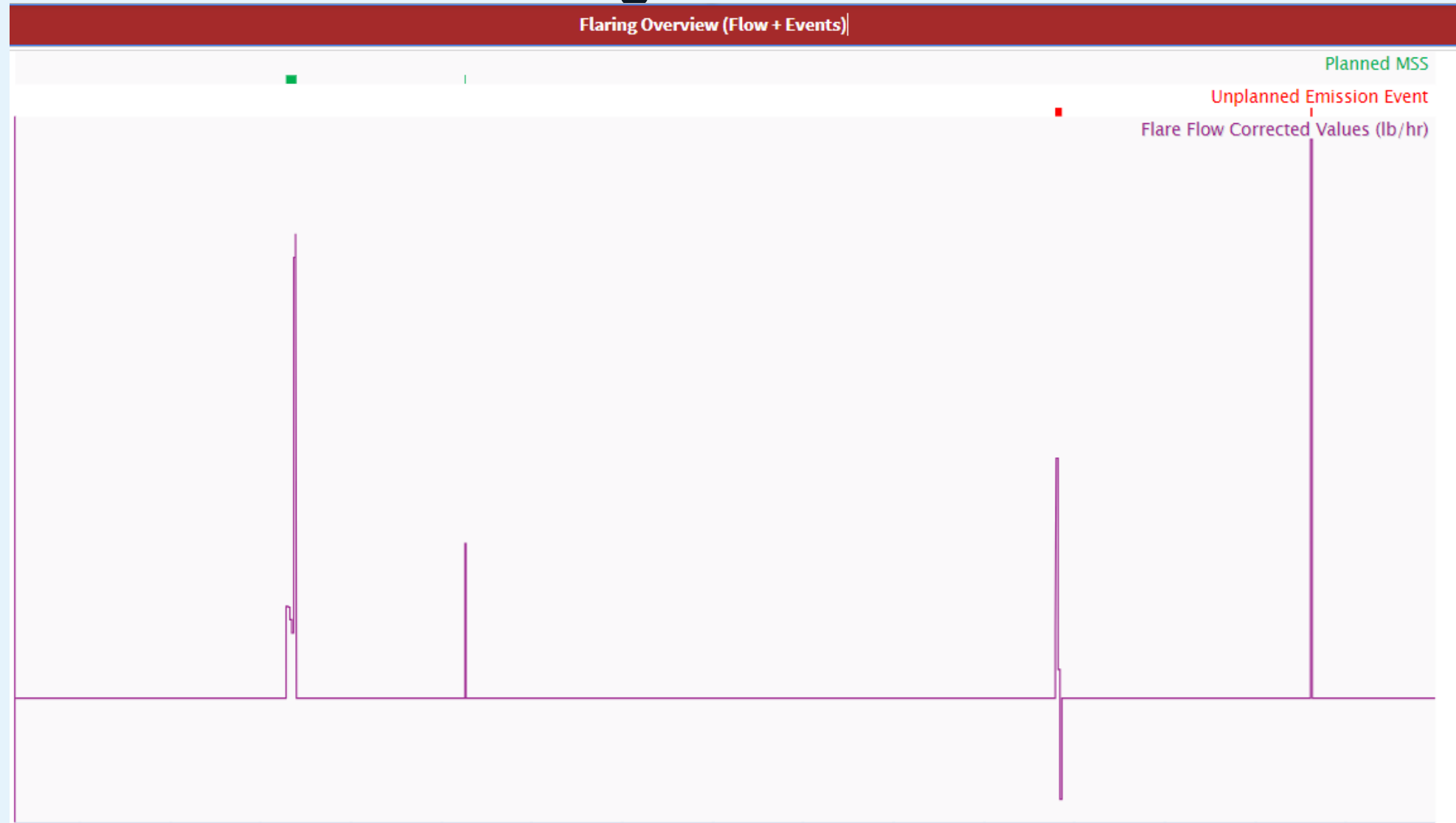
Heater Emissions Monitoring



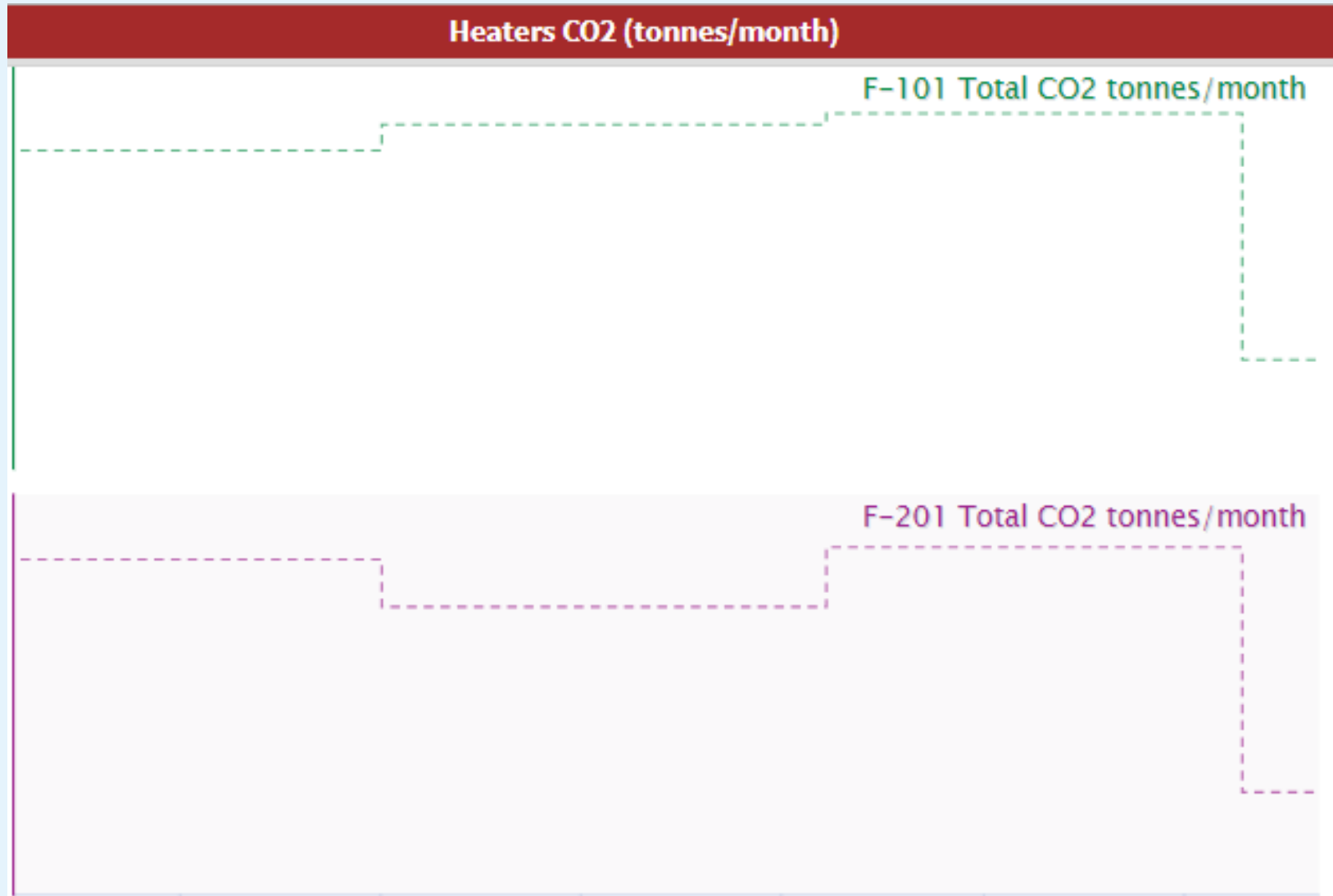
Flare Emissions Monitoring



Flare Emissions Monitoring



GHG Emissions Monitoring



Value Realized to Date

In ~6 months, the Facility has:

1. Realized notable time savings of up to 12 days/year
2. Observed cultural changes around environmental compliance
3. Caught and corrected an equipment issue using Seeq data



Value Realized to Date

- Emissions calculations & reporting time savings

Task	Pre-Seeq (hours/year)	Post-Seeq (hours/year)	% Time Savings
Monthly Emissions Calculations	240	72*	70%
Semi-Annual Reports	188	80*	57%
GHG Reconciliation	24	3*	87%

**Estimates based on January 2024*

- Time savings allows us to complete without a consultant – cost savings too!



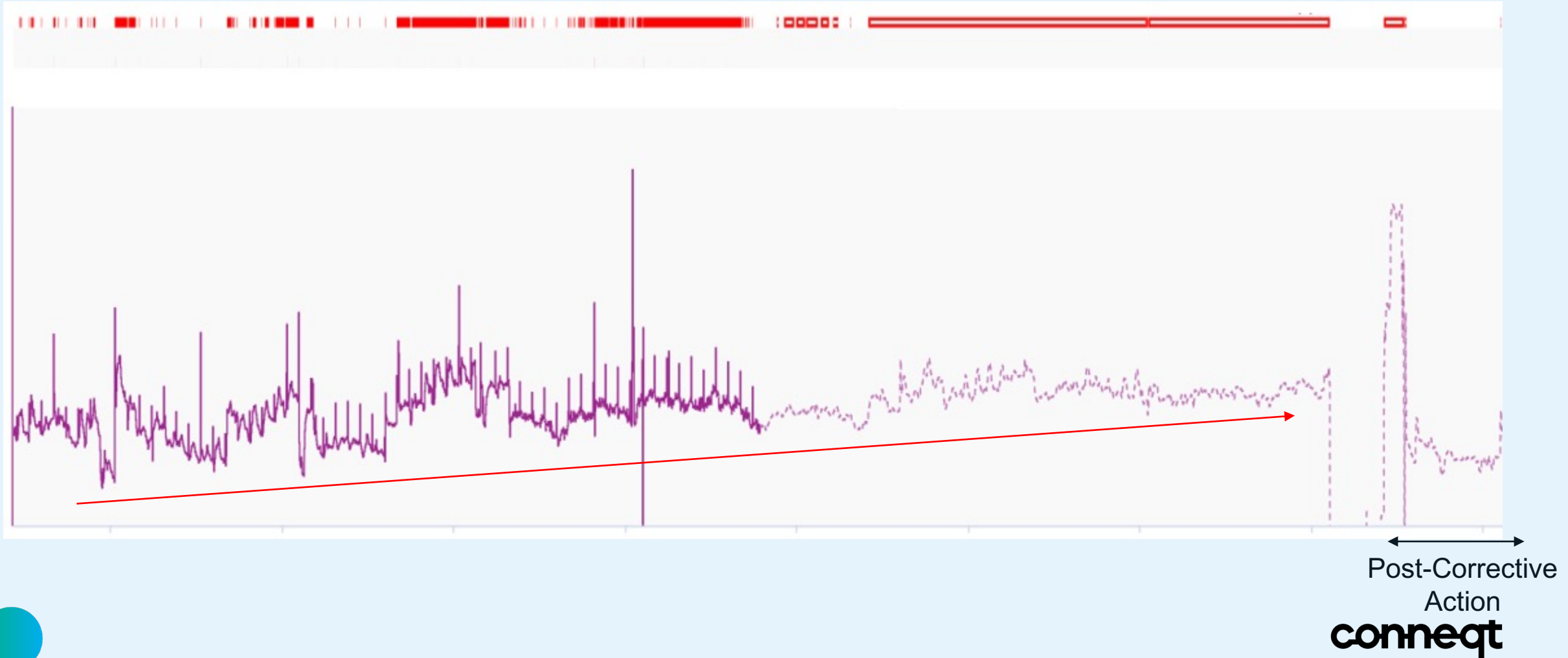
Value Realized to Date

- Culture change around root-cause investigations

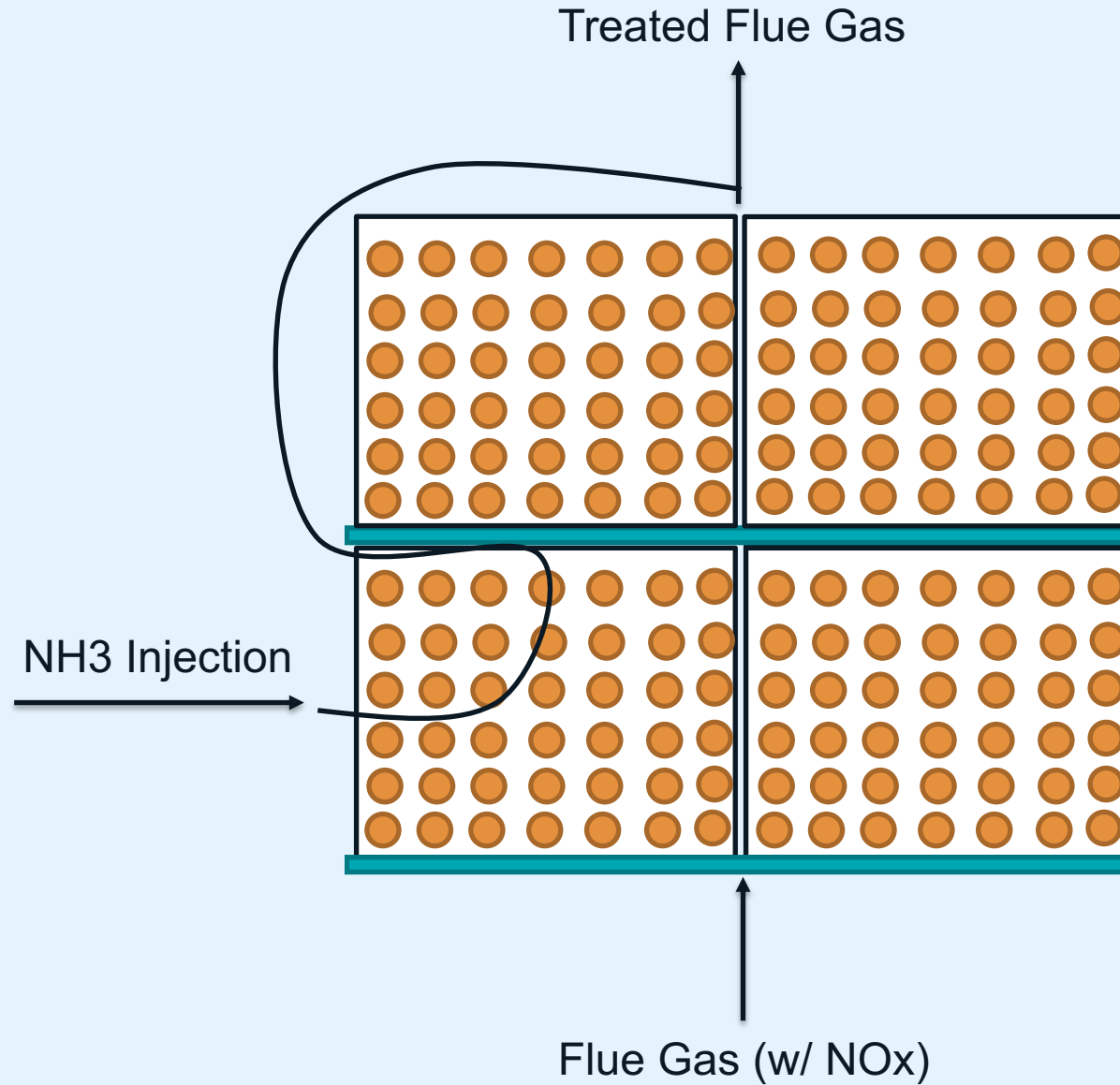


Value Realized to Date

- Emissions troubleshooting corrective actions



Value Realized to Date



In Summary

- All types of roles can realize quantifiable value from Seeq!
- Automating emissions calculations can result in time savings, cost savings, and improved data quality
- Time savings for environmental specialists allows them to focus on other pertinent aspects of their role
- Visibility into environmental data empowers operational groups to proactively implement changes to improve environmental compliance





Thank You