



Early Corrosion Detection for Degassing System

Unlocking Insights into Corrosion to Reveal Elevated Rates and Lineup Correlations



PROBLEM

Temperature fluctuations in the degassing system due to lineup change led to a short-term increase in corrosion rate, which could have worsened if not detected early.



ASSET

- The degassing system encountered significant corrosion from chemical exposure, temperature, pressure, moisture, oxygen, and impurities, posing potential integrity risks.
- The 2-inch elbow pipe section in the degassing system poses monitoring challenges with current methods.



ALERT

Harnessing the capabilities of mCluez™, the fixed equipment team analyzed the trends on the solution's dashboard and observed the following:

- A steep decrease in thickness.
- The corrosion rate had increased to 400 mpy (mils per year).



INVESTIGATION

- The fixed equipment team discovered a temperature drop below the dew point, correlating with a lineup change.
- A strong correlation was established between process data and temperature.
- The corrosion rate increased significantly following the temperature drop.



RESULT

The early detection of corrosion with mCluez™ solution proved instrumental in averting process interruptions and unplanned downtime, effectively overcoming hurdles linked to manual inspection methods. Additionally, raising the temperature within the corrosion-affected segment of the degassing system successfully mitigated the heightened corrosion rate. Leveraging data-driven insights further enabled prompt decision-making in plant operations and the assessment of equipment longevity, optimizing overall efficiency and maintenance strategies.

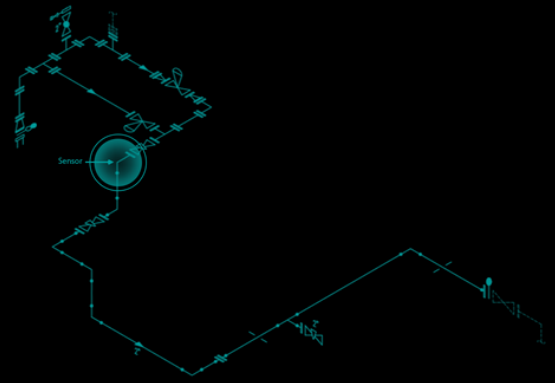


Figure 1. Trends showing a steep decrease in thickness in the highlighted period



Figure 2. mPACT2WO's ultrasonic sensor on 2-inch elbow pipe



TRANSFORMATION

The adoption of the mCluez™ corrosion monitoring solution provided the continuity of operations by avoiding process interruptions and unplanned downtime during lineup changes. The solution empowered the fixed equipment team to make timely decisions by providing reliable insights into corrosion rates.