

# APPLICATION NOTE

October 2021



Flare Gas Recovery Unit Corrosion  
Monitoring Using WAND

Refinery Operator

## OVERVIEW

APPLICATION	WAND Sensor installation at designated locations on Flare Gas Recovery Unit
CLIENT	Refinery operator
ASSET	FGRU straight pipe & pipe elbows
TEMPERATURE	65°C
DEGRADATION	Sour corrosion
INSPECTION FREQUENCY	Once / 3 months

## CHALLENGES



The customer wanted to determine corrosion rate at various locations on the FGRU, in order to assess if corrosion would be exacerbated by changing a certain process condition. Manual UT thickness readings could not be used for this, since poor measurement repeatability could not accurately trend thickness loss for the corrosion rate calculation.



Various measurement locations were underneath coatings, and in order to access them for inspection using manual UT, the coating had to be removed. This was not feasible for the customer, considering the high monitoring frequency.



## SOLUTION

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WAND sensors were installed at designated locations on the FRGU. For those locations underneath coating, the coating was initially removed to install the WAND sensors, and then reapplied on top of the sensors afterward. Data from the sensors was then wirelessly acquired using the WAND handheld data collector.



## RESULTS

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Using the permanently installed WAND sensors, thickness loss could be precisely determined, which enabled the customer to accurately assess how the corrosion rate was being affected by changing certain process parameters.

Thickness data could be wirelessly acquired from the sensors underneath coatings using the WAND handheld data collector, without needing to remove the coating, saving time and costs.







Thickness data from the permanently installed sensors acquired quickly and easily using the WAND handheld data collector.

