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Short Range LORUS

Various locations within a facility have the potential to see the release of product due to hidden corrosion. These locations are referred to as 'difficult to inspect' and include equipment and piping which is partially buried, soil-to-air interfaces, concrete-to-air interfaces, piping encased in a sleeve or concrete, the support-to-equipment interface known as the 'touch point' and the critical area inside a storage tank. Unless the equipment is lifted, taken out of service or un-earthed, the owner/user is usually unaware that issues exist. LoRUS (Long-Range Ultrasonics) is capable of detecting external or internal corrosion within ferrous or non-ferrous material at a distance of up to 90cm (3 feet) depending on the material and its surface condition, corrosion, coatings and temperature.

THE Applus+ SOLUTION

LoRUs is a semi-automated or fully automated approach to quickly identifying the presence of hidden corrosion.

Sophisticated ultrasonic equipment and precision-machined calibration blocks allow sizing and depth to be accurately determined and the highest level of repeatability.

On-site electronic reporting can be provided depending on the number of scans obtained and multiple reports can be generated daily depending on the length of the scans. (Reporting on the critical area of a large diameter tank may take a little longer due to the amount of data obtained.)

Target customers

LoRUs is aimed at difficult-to-inspect areas of concern. LoRUs is a cost-effective approach to determining if metal loss is present at support-to-pipe interfaces where

uncoated, dissimilar metals have been in contact with one another, causing galvanic corrosion, or where line movement occurs regularly and has gradually removed metal.

Corrosion in soil-to-air and concrete-to-air interfaces is a common concern due to rainwater, mud and PH levels in the soil. In most cases, rainwater settles at the air interface and causes unseen corrosion.

Some pressure vessels are supported by concrete supports; these areas are prone to retaining moisture which can cause corrosion.

Critical areas of storage tanks can be inspected from the outside of the in-service storage tank to determine if corrosion is present in the annular area or to verify if the internal fillet weld is intact.

Key customer benefits

Benefits of LoRUs include:

- No equipment downtime required for the inspection to be performed
- No hazardous working environments
- Accurately determines the areas needing further attention or repair
- No need to lift piping or remove soil for the inspection
- Many supports or air interfaces can be inspected in a single day
- Informative inspection reports can be provided on site