



Paper and Pulp Plant (Mexico)

Condensate Stabiliser Tube Inspection

OVERVIEW

Condensate Stabilisers are primarily used to recover some of portions of the liquid in processing plants.

A paper & pulp plant in Mexico faced a problem with such a Condensate Stabilizer. After just a few months of operation, there was a scheduled turn around.

As it was an emergency shutdown, their maintenance team called their maintenance contractor to inspect the equipment within a day and to issue a report right after the inspection.

The Technology

DETECTING THE FAULTS

Considering the massive volume of tubes and time constraint from the end-user, the contractor selected APRIS for this project.

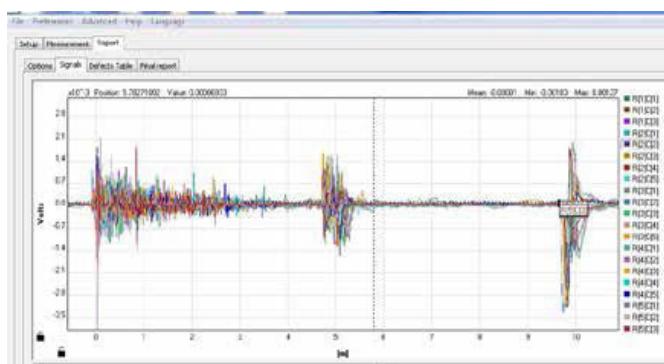
APRIS was the ideal inspection tool due to its ultra-fast Acoustic Pulse Reflectometry technology which only takes 10 seconds to inspect each tube.

The end-user also wanted to know the precise location of the leaks in the Condensate Stabiliser which overlapped with APRIS' capability.

$\varnothing: 19.05\text{mm}$ $T: 2.11\text{mm}$ $L: 7.5\text{m}$



Picture of Application - Condensate Stabiliser



Sample of Signals with Fault Signatures

OUTCOME RESULTS

All 2,354 tubes were tested in 12 hours and 20 minutes stint by the team of four engineers, which was only possible because of APRIS.

If inspection and its results weren't given within a day (24 hr cycle), several millions of dollars would have been lost in terms of operations. As per the operations team, 'The Condensate Stabilizer was put back into operations and there had been no issues for 9 months'.

1

- 3% of tubes were identified with leak.
- 1% of tubes had wall loss between 40 - 50%.
- 10% of tubes had a 30 - 40% wall loss.
- 17% of tubes had a 20 - 30% wall loss.

2

Tubes that were identified with leaks or wall loss greater than 40% - were plugged.