Guided Waves Pipe Inspection

Guided Wave enables volumetric screening of pipes which covers 100% of the cross sectional area of the pipes within the diagnostic length of test. In most cases, tens of meters can be screened from a single test position making it a rapid and cost effective NDT method. Additionally, access to the pipe under test is only required at the test position (remote inspection) which makes guided wave screening technology an idealsolution for inspecting pipes that are difficult to access, such as cased and insulated pipes.

Wavemaker Pipe Screening System

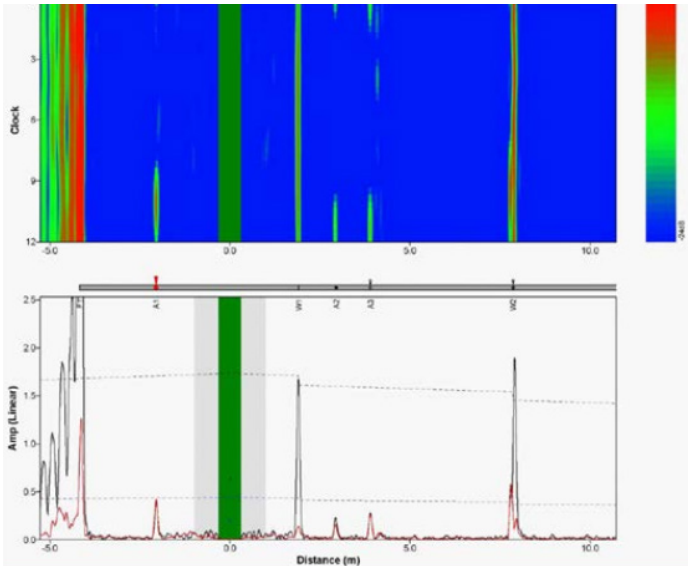
The Wavemaker Pipe Screening System (WPSS) is a screening method by means of ultrasound. A probe ring is placed around the pipe and transmits guided waves through the pipe in either direction of the probe ring. The pulse echo type operation provides information on feature position and severity.

Standard Application:

- Seamless, longitudinally or spiral welded pipe types
- Pipe size 1 – 72 inches
- Surface temperature -40°C to 120°C (diameter < 10”) or -40°C to 80°C (diameter >8”)

Typical Wavemaker pipe screening applications are:

- Screening of insulated pipe for external or internal corrosion without removing the insulation (other than at the test positions)
- Screening of pipe in racks with limited access requirements
- Sreening of inaccessible areas such as cased road and dike crossings
- Screening of pipe passing through bund walls



Operational Benefits

There are many advantages of using the Wavemaker Pipe Screening System for rapid long-range pipe screening:

- The test can be carried out at elevated temperatures without taking the pipe out of service 100% of the pipe is inspected (within the diagnostic length of a test)
- Ability to detect metal loss and planar defects at long range
- Metal loss may be internal or external
- Sensitivity can be as good as 1% loss of cross-section in ideal conditions (but is typically set at 5%)

Limitations

- Well bonded concrete, thick plastic and bitumastic coating greatly reduces the test range
- Less effective on lines having a large number of bends or branches or on very convoluted pipe
- May not be applicable to lines containing sludgy liquids. These and waxy deposits can reduce test range.
- May not be applicable for detection of small isolated corrosion pits
- Fast flowing product or high ambient noise (e.g. caused by pumps or compressors) may prevent tests being carried out.