Long Range Ultrasonic Testing (LRUT) Service
External Piping Inspection

Pipelines and piping with limited external accessibility, e.g. at road crossings, buried |pipe, insulated pipe, overhead piping with limited access or other barriers to inspection could conventionally only be examined with very high and costly effort. ROSEN's Long Range Ultrasonic Testing ("LRUT") service is fast and cost-effective.
LRUT provides efficient screening of long pipe sections for corrosion and other damage mechanisms. From a single measurement location, LRUT emits guided waves to reach distant pipes and to those considered inaccessible via other means of inspection.

GUL LRUT System

The Challenge

Pipeline systems in operation include insulated and buried sections with challenging and difficult-to-access areas, such as those located at high elevation. Conventionally, inspecting them is time-consuming and costly.

Visual examination by qualified piping personnel is key to identifying threats. However, as corrosion and other damage mechanisms are typically a hidden threat, a visual examination is often not sufficient. Access for inspection is not always ideal due to the increased risk of product release and associated health, safety, and environmental risks.

The Solution

Our LRUT technology provides a new approach to pipeline inspection. Using low frequency ultrasound guided waves traveling along the pipe offers 100% coverage of the pipe wall without moving the transducer tool/from a single measurement location. Besides, itt offers several advantages over conventional inspection methods. It is an efficient and effective method to quickly review long sections of pipe assets for possible integrity issues such as corrosion or damage including accurate position information of identified features.

The LRUT technology works effectively while the piping system operates, including insulated and buried sections. Only a ring of transducers is fitted around the pipeline at an accessible location; the transducers generate and receive low-frequency ultrasonic guided waves along the pipe. The returning echoes generate reference signals making it possible to identify defects such as corrosion and other anomalies. Typical test ranges of ±30m (±98ft) can be achieved from a single location (60m/197ft in both directions), with up to 150m (450ft) under ideal conditions.

Teletest Sonyks

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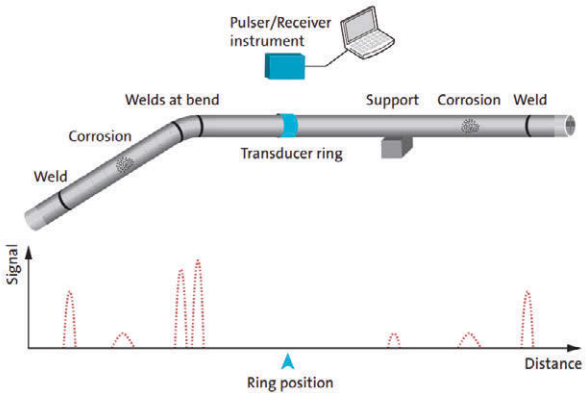
Key Advantages

- Rapid screening with 100% coverage
- Piping system is in operation up to 125° C/257° F (special high temperature equipment is available > 125° C)
- Screening long sections of pipe at once /in one measurement
- No need for a liquid couplant, which is necessary for conventional ultrasonic
- Maintenance cost reduction by not having to remove the insulation or coating
- Reliable detection of internal and external metal loss (corrosion/erosion) even under insulation
- Focusing capability to evaluate corrosion distribution around pipe circumference
- Ideal where conventional testing is impossible or very costly, e.g. clamped, insulated, elevated or buried pipes, road crossings, offshore pipes, etc.
- Testing of elevated or complex piping from convenient locations
- Direct onsite data review
- Pipe diameter range from 6'' to 78'' is standard. (For pipe diameters 2", 3" and 4'' a smaller version is available).

Measuring Description

Transducers attached to the pipe send waves tens of meters along the pipe wall and the returning echoes indicate whether metal loss is present. Physical access to the pipe is only required at the position of the transducer. The system is composed of the three primary components transducer ring, pulser / receiver instrument and controlling computer.



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