

DETECTION OF CORROSION UNDER INSULATION (CUI)



Detection
Sizing
Services
Support

Russell NDE Systems Inc.

www.russelltech.com

1-800-661-0127



Russell NDE Systems Inc. snapshot

- MANUFACTURE OF NDE EQUIPMENT
- SERVICE AND CALIBRATION
- PIPELINE INSPECTIONS WITH ILI TOOLS
- BOILER INSPECTIONS USING ROBOTICS
- CCTV INSPECTIONS, UP TO 1.25 MILES
- LEAK DETECTION
- WATER AND WASTE WATER MAINS
- OIL AND GAS PIPELINES
- SLURRY PIPELINES
- LINED AND OTHER CHALLENGING PIPELINES
- CUSTOMERS WORLD-WIDE

DETECTING THOSE UNSEEN HAZARDS THAT CAN CAUSE LIFE-THREATENING LEAKS, FIRES AND EXPLOSIONS

Russell NDE Systems Inc. has developed a flexible "Bracelet Probe" (BP) that can adapt quickly and easily to any size of insulated pipe, starting at 3". The BP contains sensitive sensors that cover a 10" wide scan path as it is wheeled along the outside of the insulated or fire-proofed pipe or pressure vessel.

The sensors detect changes in the electromagnetic (EM) field from an exciter coil that has energized the pipe. The pipe acts like a conduit for the AC magnetic fields; however, variations in its thickness affect the efficiency of how the pipe conducts the fields. At places where the pipe wall is thinner, it cannot contain as much magnetic energy and therefore the magnetic field around the BP becomes stronger, allowing the corrosion-under-insulation (CUI) to be detected and roughly sized.

flexible solutions for your inspection needs

THE BRACELET PROBE PROVIDES A TOTAL END TO END SOLUTION FOR ALL OF YOUR INSULATED AND FIREPROOFED PIPES.

Rapid results: near real-time

Data from the BP is fed to a lap-top computer which both displays and instantly records the condition of the pipe under the insulation

Screen snap-shots can be saved of the 3D color-maps, strip charts and voltage planes which are used to size the CUI.

- Scan at up to 12 feet/minute
- Horizontal and vertical pipes.
- Fireproofed sphere legs
- Fireproofed or insulated vessels and skirts
- 10" wide scans cover the whole pipe in a few quadrants

CUSTOM SOLUTIONS

Russell NDE Systems can design and manufacture custom NDT solutions for your refinery or pipeline operations.

TRAINING SOLUTIONS

Russell NDE Systems Inc. is an equipment manufacturer and as such, regularly provides training courses for our customers.

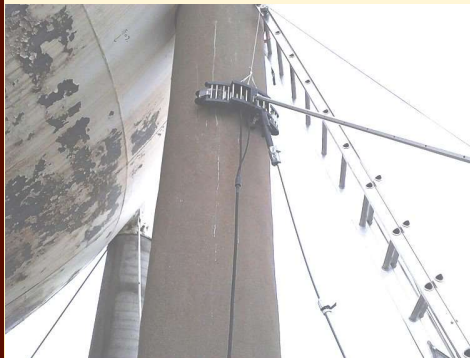
SOFTWARE SOLUTIONS

Our talented software engineers can customize our software to meet your needs. The family of software products that we offer starts with Adept-Pro and Easy-Log and continues with IRIS and Links software for pipeline applications



Don't let corrosion under fireproofing (CUF) weaken the legs holding up your gas storage spheres: Inspect for CUF using either the standard Bracelet Probe, pictured below, or the large Bracelet Probe used with our patented robotic crawler.

STANDARD BRACELET



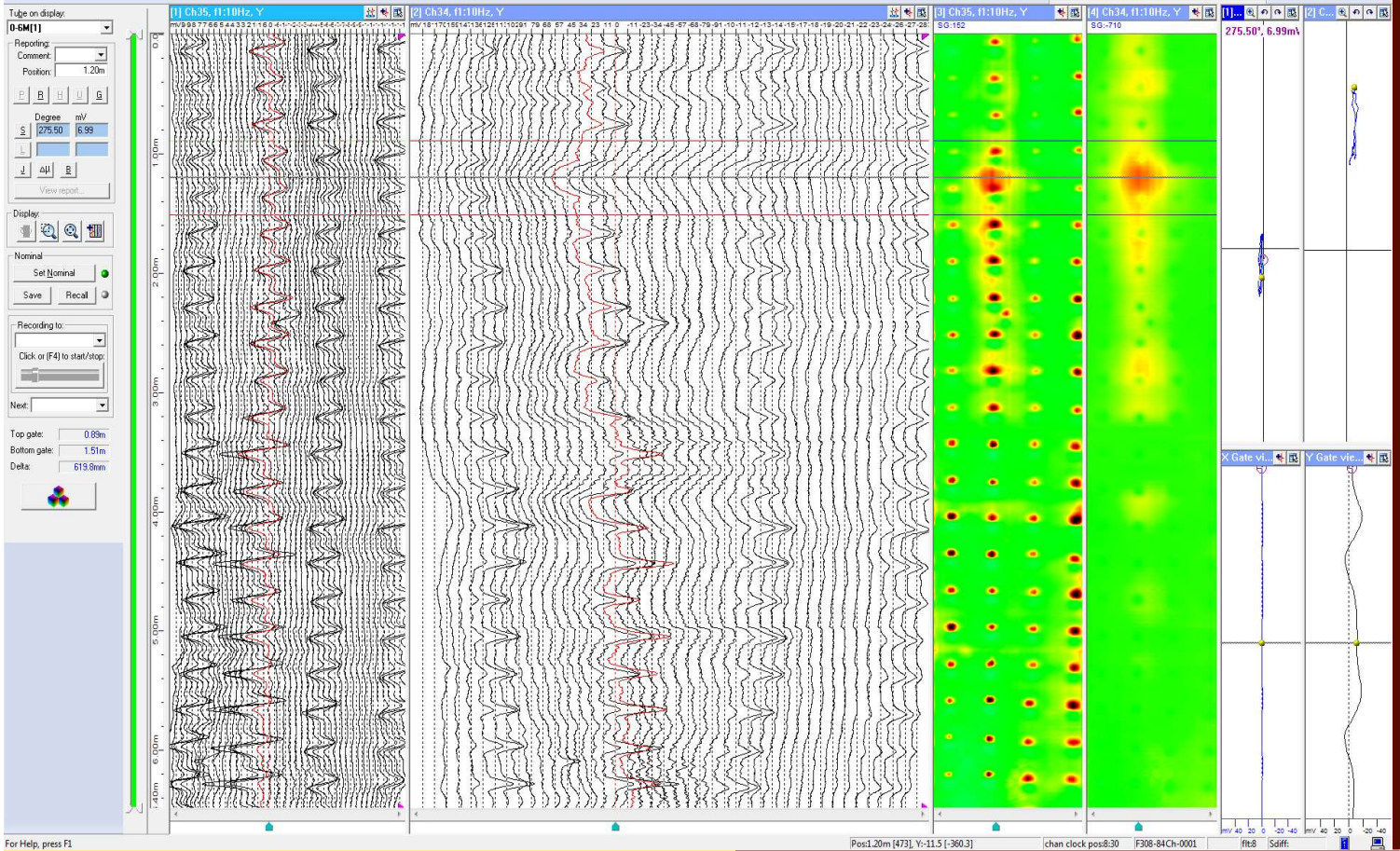
The standard Bracelet is used with a pole and rope system to inspect sphere legs



The Large Diameter Bracelet Probe is used with an Inuktun robotic crawler to inspect the leg in 3-4 passes



Actual data from a scan of a sphere leg from our large Bracelet Probe



simplifying NDT

RUSSELL
NDE SYSTEMS INC

4909 75 Avenue
Edmonton, AB, T6B 2S3
Canada
+1 (780) 468-6800
+1 (780) 462-9378