

# Overview

INSPECTION, ENGINEERING, INTEGRATED  
INDUSTRIAL SERVICES & ROPE ACCESS



A HIGHER LEVEL  
OF RELIABILITY®



# Inspection

## TRADITIONAL NDE/NDT

### Radiographic Testing

- X-ray and gamma radiographic examination of weldments, castings, shop fabrication and plant piping systems using film, Computed Radiography (CR) or Digital Radiography (DR) imaging
- Internal or external exposure techniques
- Pipeline RT crawler capability for pipe diameters of 6 in. to 60 in. and X-ray tube capacity 160KV to 400KV
- Evaluation of piping or vessel corrosion/erosion problems (FAC/CUI) using profile or shadow-shot techniques
- Cobalt isotopes and Linear Accelerator sources for heavy wall components
- Small Controlled Area Radiography (SCAR)

### Ultrasonic Testing

- Ultrasonic Thickness Examination
- Ultrasonic Flaw Detection

### Other Methods

- Liquid Penetrant Examination
- Magnetic Particle Examination
- Ground Penetrating Radar

## VISUAL INSPECTION

- API - Pressure Vessels (510), Pressure Piping (570), Tanks (653)
- Coating Inspection
- CSA/CWB/AWS/CWI
- Risk Based Inspection
- QA/QC
- Borescope Inspection

## INSPECTION TRAINING

Training by seasoned professionals in all NDT methods and API inspection at your facility or a Hellier center.

## ADVANCED NDE/NDT

These programs meet or exceed the recommendations of SNT-TC-1A and in most cases also meet the requirements of CP-189.

In addition to Acuren's internal program, many of Acuren Advanced NDE personnel also hold ISO-9712 and EN473 qualifications in advanced methods such as TOFD, Phased Array, and ACFM and many technicians also hold client and industry Performance Demonstration Qualifications such as QUTE, QUPE, EPRI, Shell, Suncor, and Chevron.

- Alternating Current Field Measurement (ACFM)
- Automated Corrosion Mapping (ACM)
- Eddy Current Array
- Eddy Current Testing (ET)
- Electromagnetic-acoustic transducers (EMAT) for boiler tube and piping
- Guided Wave Inspections (GUI)
- Infrared Thermography
- IRIS Testing
- Laser Profilometry
- Phased Array Ultrasonics (PAUT) with Full Matrix Capture (FMC)
- High Temperature PAUT (up to 700°F)
- Real Time Radiography (RTR)
- Remote Field Testing (RFT)
- Time of Flight Diffraction (TOFD)
- Tubular Examination

## ADVANCED PRODUCTS & SOFTWARE

- STRAP – Steam Turbine Risk Assessment Program
- Eclipse Scientific BeamTool 7 UT software
- Eclipse Scientific InspectionBank NDT database
- Eclipse specialized UT Flange and Bolt Scanning tools
- High temperature inspection solutions
- Custom NDT application engineering

### Acuren's early detection of this fault was another win for us.

It had allowed us to properly plan the replacement. Not only did we avoid the cost of an emergency repair and production down time, we also avoided additional damage that would have resulted from a catastrophic failure.

~ Maintenance Planner, Processing Plant

# Engineering



Acuren employs a cohesive team of engineers, scientists, technologists and technicians with expertise in a wide spectrum of engineering disciplines, including:

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- |                     |                     |                        |                    |
|---------------------|---------------------|------------------------|--------------------|
| ▪ <b>Materials</b>  | ▪ <b>Structural</b> | ▪ <b>Civil</b>         | ▪ <b>Corrosion</b> |
| ▪ <b>Mechanical</b> | ▪ <b>Welding</b>    | ▪ <b>Metallurgical</b> | ▪ <b>Forensic</b>  |
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Our extensive professional engineering experience is supported by in-house laboratory facilities in Vancouver, Calgary, Edmonton, Sarnia, Mississauga, Saint John, St. John's, Austin, TX and Cincinnati, OH.

## FIELD ENGINEERING SERVICES

- Ferrite Testing
- Hardness Testing
- Metallurgical Replicas
- Optical Emission Spectroscopy (OES)
- Positive Material Identification (PMI)
- Vibration Analysis

## MATERIALS ENGINEERING

- Advanced NDE Application Development
- Corrosion Engineering
- Failure Analysis
- Finite Element Analysis (FEA)
- Fire Investigation
- Fitness for Service (FSS)
- Forensic Investigation
- Fracture Mechanics
- Life Assessment Studies
- Material Selection
- Scanning Electron Microscopy
- Stress & Strain Analysis
- Welding Engineering

## MATERIALS TESTING & LAB

- Chemical Analysis
- Specification Compliance
- Identification of Unknown Materials
- Alloy Sorting
- Corrosion Testing – as per ASTM and NACE standards
- Accelerated Corrosion Assessment
- Corrosion & Environmental Testing (including salt spray coating testing)
- Mechanical Testing
- Tensile Testing – including elevated temperature – up to 1,780 kN (400,000 lbf)
- Charpy Impact Testing
- Fracture Toughness Testing (CTOD)
- Hardness Testing
- Weld Procedure Testing – as per ASME, CSA, CWB, AWS, ASTM
- Valve Certification as per API and ANSE
- Metallurgical Evaluation & Metallography
- Weld Procedure & Qualification Testing

## RELIABILITY ENGINEERING

- Condition Monitoring
- Motor Current Testing (MCE)
- Vibration Analysis
- Rotor Balancing / Laser Shaft Alignment
- Advanced Diagnostics
- Ultrasound Leak Detection
- Oil Analysis
- Laser Scanning
- SCORE assessment
- Vibration Control Solutions
- On-Site Services
- Field Engineering and Repair Services
- Root Cause Failure Analysis
- Equipment Maintenance Plans
- PM and PDM Evaluation and Optimization
- Training and Mentorship



Acuren is a single source provider of technology-enabled asset protection solutions used to evaluate the structural integrity of critical energy, industrial and public infrastructure.

QUALITY ■ SAFETY ■ TRAINING

## INDUSTRIES

- Aerospace
- Automotive
- Building & Infrastructure
- Chemical
- Insurance & Litigation
- Metal Fabrication
- Mining
- Oil & Gas
- Pipeline (Integrity & Construction)
- Power Generation (Fossil, Nuclear & Wind)
- Pulp & Paper
- Shipping & Marine Inspection
- Transportation

## CERTIFICATIONS

Acuren has national programs for Quality, Safety and Training. Acuren maintains rigorous quality assurance standards and is currently registered to the following:

- ISO 9001:2000
- ISO 17025
- ANSI/NCSL Z540-1-1994
- CSA W178.1
- CSA N285.0
- NUPIC
- AS7003
- NAS410
- NADCAP
- AMO
- Lloyd's Register Approved Service Supplier
- ABS
- ABSA
- DNV

**Since your Rope Access Technicians started with us in July we have been impressed with your group's ability to assist us with multiple scopes of work encompassing a number of trades and activities.** Over the last few months I have approached your supervision with every type of job that you could possibly come across in these plants and not once was I ever told no we can't do that.... by bringing your group in, we were able to avoid building a number of very large scaffolds where the estimated cost was over \$1.2 million dollars in the first month alone. I am also pleased to inform you that thanks to your group's performance one of the lessons learned on this project will be shared with all our groups and divisions worldwide and we will be involving rope access technicians at a much earlier stage on all our projects.

*~ Insulation Superintendent /Coordinator, Oilsands Extraction*

**With maintenance budgets being squeezed,** it's nice to be able to leverage the value of having a partner that offers programs which help us prevent unexpected costs by identifying problems early, before they cause unplanned downtime at significant expense.

*~ Maintenance Supervisor, Manufacturing Plant*

# Rope Access and Industrial Services

Rope access and other alternative access solutions for efficient execution of:

- NDT & Advanced NDT
- Shutdown & Turnaround Support
- Insulation & Asbestos Abatement
- Painting, Coating & Fire Proofing
- Winterization & Seasonal
- Pipefitting, Welding & Construction
- Electrical
- Installation, Removal & Replacement Projects

**You guys knocked it out of the park!!!** That was an impressive feat and I'm not aware of anyone having done anything like this before.

*~ Maintenance Supervisor, Oilsands Extraction*

## WHAT ARE OUR SERVICES?

Tacten has a range of highly skilled individuals to complete tasks efficiently and safely. Our rope access techniques are safer than traditional methods with training regulated by the governing body, Industrial Rope Access Trade Association (IRATA). Our crews aim to complete tasks in a shorter time frame than conventional methods, saving both time and resources.

We partner with our customers to provide exceptional project management services designed for their needs and to minimize risk. We understand that our customers operate in a climate of market pressures beyond their control and when we design a solution, it is a customized plan based on years of experience.

## HOISTING & RIGGING

- Flare & Incinerator Stacks (Repairs, Installations, & Removals)
- Heavy Lifting & Hoisting
- Engineered Fall Arrest System (Installation & Repairs)

## INSPECTION

- Visual
- Coal Bunker Inspection
- Stack Inspection
- Wind Power Generation Blade Inspection
- Positive Material Identification (PMI)
- Quality Assurance (QA)
- Quality Control (QC)

## INSTALLATION, REMOVAL & REPLACEMENT

- Piping Repairs, Installation, & Removal
- Electrical Installation
- Metal Cladding
- Vessel & Tank Repairs
- Flare Tip Removal
- Riser Installation
- Acoustic Emission Systems Installation
- Spring Can/Hanger Installation
- Stress Analysis Equipment Installation
- General Equipment

## MAINTENANCE

- Internal & External Leg Work
- Penstock Inspections & Repairs

- Concrete Repairs

## PAINTING & COATING

- Protective Coating (Internal & External Surfaces of Tanks, Vessels, & Structural Steel)
- Sandblasting

## WINTERIZATION & SEASONAL MAINTENANCE

- Steam Trace
- Electrical
- Heat Trace
- Ice & Snow Removal

## PIPEFITTING

- Steam Trace
- Valves, PSV Install, Replacements
- Bustle Pipes

## ELECTRICAL

- EHT (Electrical Heat Trace)
- Electrical & Communication Cables
- Light & Ballast

## INSULATION & ASBESTOS ABATEMENT

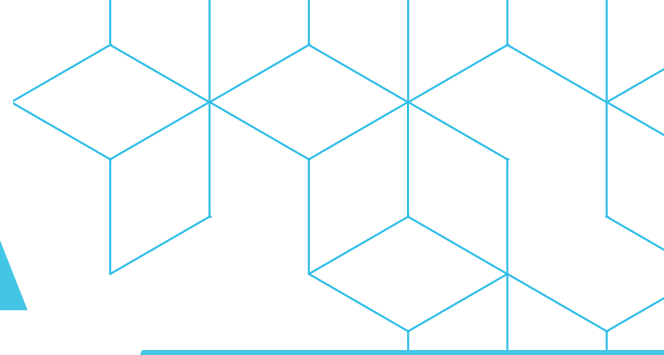
- Piping Repairs, Installation, & Removal
- Metal Cladding
- Vessels & Tanks
- General Equipment

## WELDING & FABRICATION SERVICE

- Structural & Pressure
- Vessels & Tanks
- Pipes
- Patches & Repairs

## OTHER OFFERINGS

- Shutdown & Turn Around Support
- Removal of Damaged Equipment & Overhead Hazards (Including Cable Trays, Ice Removal, & Cleaning)
- Confined Space (Including Rescue Service)
- Furnace & Burner De-Slags
- Nuts & Bolt Removal, Replacement, & Torqueing
- De-vegetation
- Geotechnical Work (Slop Stabilization, Scaling, Trimming, Pinning)







[www.acuren.com](http://www.acuren.com)  
[info@acuren.com](mailto:info@acuren.com)



West	503.652.8878
Midwest	937.228.9729
Gulf Coast	281.228.0000
Southeast	919.875.8240
Northeast	724.228.2155



Pacific	604.275.3800
Western	780.440.2131
Central	519.336.3021
Atlantic	709.753.2100



**BEYOND INSPECTION**