TECHNOLOGY AND A TEAM *THAT SOLVES YOUR CHALLENGES.*

INDUSTRIAL®
INSPECTION & ANALYSIS

Making the World Safer

WHO WE ARE

In 2015, the founders of Industrial Inspection & Analysis, Inc.™ (IIA) began with a vision to build a best-in-class, industrial inspection company with a breadth of high-quality service offerings for a variety of sub-sectors while ensuring a simultaneously important focus on customer service, technical leadership, and continuous improvement. IIA is comprised of numerous companies acquired over the years. All being leaders in inspection, testing, and analytical services with history dating back as far as 1929.

IIA offers timely, accurate, and reliable inspections, certifications, and testing solutions in both laboratory and field settings. Our company has grown to serve the whole of North America with a presence across the entire United States and a large growing footprint in Canada and Asia.

As we grow, we remain focused on continuously improving our offerings, educating our already robust bench of expert talent, and expanding our vast service offerings. In doing so, our current and future customers benefit from our expertise, knowledge, connections, and industry leadership.

STORY-WORTHY SERVICE

Whether for a routine inspection or a unique and challenging lab, field, or examination project, IIA is committed to providing professional, fast, and accurate service each and every time. Our customers' success is priority, no matter what, and this is what makes our service story-worthy.

NUCLEAR SERVICES SUMMARY

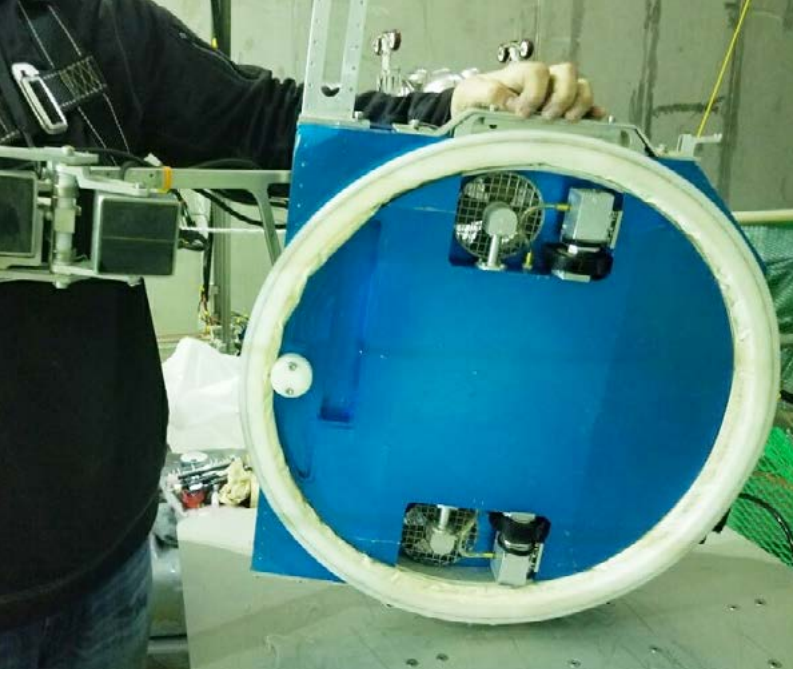
Industrial Inspection & Analysis (IIA) Nuclear Services offers full service industrial support to ensure safe, efficient, and compliant facilities. IIA offers exams, maintenance, foreign object retrieval, asset and integrity management, and Section XI (and Non-Section XI) examinations. We use automated and manual systems as well as conventional and Specialty NDE technologies, such as Pulsed Eddy Current (PEC) and Guided Wave Testing (GWT). We also use our own proprietary technology to deliver fast, safe, and reliable results for your facility.

THE SERVICE YOU DESERVE

IIA has been the trusted industry leader for decades because we understand your challenges. IIA's asset inspections keep your facilities safe and running smoothly. We test critical components and critical welds; provide exams for Reactor Pressure Vessels (RPVs), dissimilar welds, and a variety of valve configurations; and we also offer emergency services. Our team includes highly qualified professionals from ASNT Level II and III Technicians to Certified Weld Inspectors and more. We offer expert and story-worthy service for each and every project.

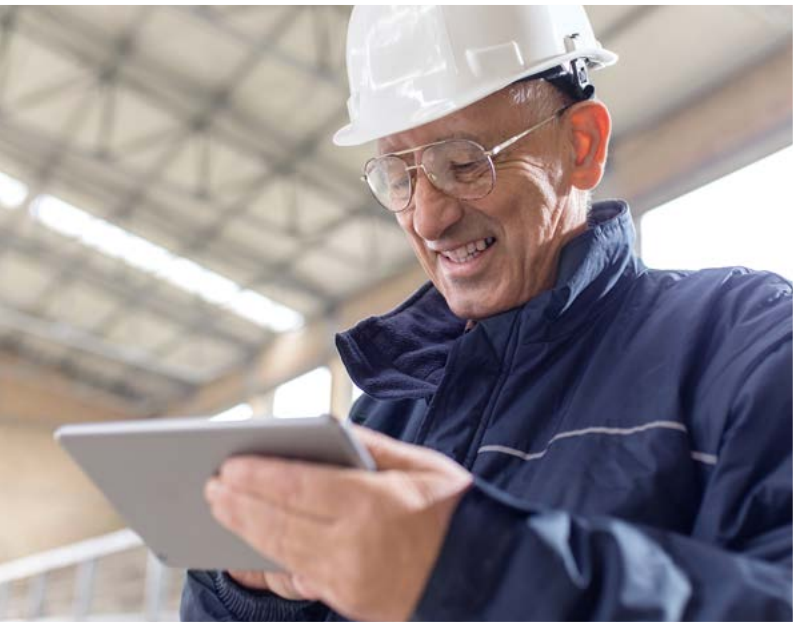
" Nuclear power plants are unique and require adhering to special safety rules and processes. I believe IIA's nuclear site experience was a critical factor in the project's success. "

- Key leader from Nuclear Division of Fortune 100 energy company



PROPRIETARY TECHNOLOGY

IIA has innovative technology that provides reliable results and enables the safe operation of your plant. The AIRIS® robotic scanner easily moves around internal components, and our Steam Generator Nozzle Examination Tool (SG-NExT) provides internal surface inspections. IIA's ARMUT® uses QR code film on complex geometry to examine critical welds, and the Automated Nozzle Tool System (ANT2) performs nozzle exams without obstructing the center of the reactor.



BREADTH OF SERVICE

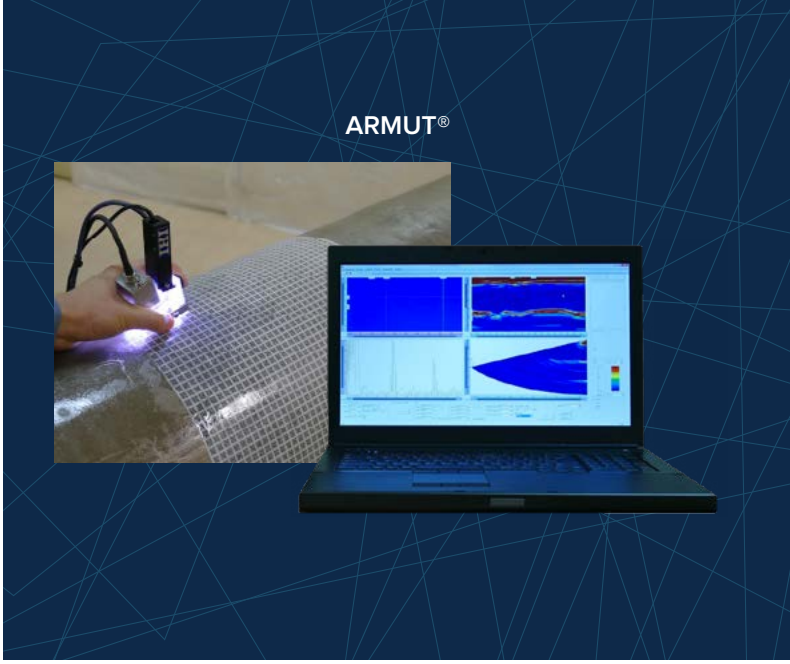
Keeping your facility safe and compliant by providing corrosion, pitting, and wall-loss detection; In-Service Inspections; PDI; and general weld inspections, including unmatched elbow weld inspections. We provide exams for ID and OD piping, screening and monitoring of casings. We also examine Condensate Storage Tanks (CSTs) and Refueling Water Storage Tanks (RWSTs) and perform Service Water Line Inspections as well as In-Line validation (ILI).

FOREIGN OBJECTS

We use Remote Visual Inspection techniques and technology to provide foreign object search and retrieval solutions for most parts of your plant. Foreign objects can cause shut-downs and loss of revenue, and can lead to catastrophic failures. IIA uses intrinsically safe remote visual cameras and crawlers. We are the industry leaders in mobilizing and safely deploying Explosion Proof inspection equipment.

TECHNOLOGIES

We use a combination of Conventional, Specialty, and Proprietary technologies, including PASS, AIRIS, ANT2, and ARMUT®. IIA's proprietary ARMUT® technology uses QR code film on complex geometry and is used to examine critical welds and gather extremely high-resolution images. Our Automated Nozzle Tool System (ANT2) is used to perform nozzle exams without obstructing the center of the reactor and exams can be completed with or without the Core Barrel in place.



SPECIALTY NDE

- Absolute Recordable Manual Ultrasonic Testing (ARMUT®)
- Automated Nozzle Tool System (ANT2)
- Guided Wave Testing (GWT)
- Phased Array Sectorial Scanning (PASS)
- Pulsed Eddy Current Array (PECA)
- Automated Corrosion Mapping (Internal)
- Laser Profilometry (External)
- Flex Form Phased Array
- Computed Radiography
- Phased Array Ultrasonic Testing (PAUT) Manual & Automated
- Full Matrix Capture (FMC)
- Time of Flight Diffraction (TOFD)
- Shear Wave

TRADITIONAL NDE

- Eddy Current
- Radiography (RT/CR/X-Ray)
- Magnetic Particle (MT)
- Penetrant Testing (PT)
- Ultrasonic Thickness Testing (UTT)
- Visual Testing (VT)
- Corrosion Mapping
- Ferrite Testing
- Hardness Testing

RVI

Internal Visual Inspections of anything from ¼" and above in tanks, tubes, vessels or pipes, including:

- Cracks, Holes or Joint Separation
- Collapsed Pipes
- Blockage or Debris Build Up
- Foreign Object Removal/Retrieval
- General Assessment - Cleanliness, Corrosion, Water
- Feedwater Line Inspections
- Cold and Hot Reheat Line Inspections with Magnetic Crawlers

CERTIFICATIONS AND GUIDELINES

- All Certifications Based on Guidelines in SNT-TC-1A and CP189
- NUPIC and NIAC Approved Vendor
- In-Line Inspection Validation 10CFR50, Appendix B, Part 21 ANSI Standard N45.2

ARMUT® TECHNOLOGY:
PREPARATION. SCANNING. RESULTS.

ARMUT® (Absolute Recordable Manual Ultrasonic Testing) combines the best of both manual and automated UT, and Industrial Inspection & Analysis is the sole provider of critical weld examinations using this proprietary technology.

IIA's ARMUT® Technology Is Truly Innovative

Camera

A machine vision camera placed atop of the UT probe is used to track the probe's movements, skew angle allowing for UT data correlation.

Mylar Film with QR Codes

The mylar film is wrapped on the component; and the QR codes, which facilitate the gathering of positional data, are read by scanning the film with the hand-held probe.

Positional and Time Encoded Data Acquisition

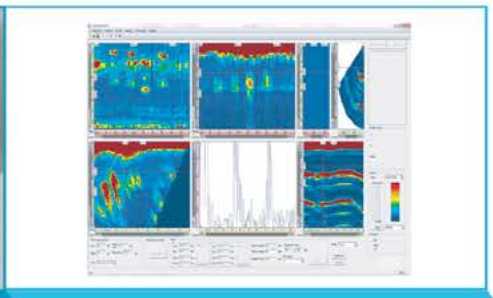
ARMUT® technology allows a single individual to conduct critical weld examinations, and the system simultaneously gathers encoded positional data and encoded time data.

IIA's proprietary ARMUT® technology is the only system that combines automated and manual UT examination methods and uses a QR code film on complex geometry to gather encoded positional and encoded time data simultaneously. The ARMUT® can be used by a single technician to examine critical welds and gather extremely high-resolution images that can be stored, shared, and immediately analyzed.

The ARMUT® Process

PREPARATION

SCANNING



RESULTS

PROPRIETARY PASS®:

MAKE CRITICAL DECISIONS REGARDING VALVE OPERABILITY AND PREDICTIVE MAINTENANCE

Industrial Inspection & Analysis Nuclear Services' division provides inspection and diagnostics services for a variety of valve configurations using our Phased Array Sectorial Scanning (PASS®) technique. In addition, our PASS® Visualization Software provides a comprehensive solution for Phased Array UT (PAUT) data analysis and field interpretation.

IIA's PASS® inspection procedure uses proven Phased Array Ultrasonic Testing (PAUT) which is a superior technique to Radiography Testing, Conventional Ultrasonic Testing, or Acoustic Emissions. IIA's skilled technicians offer complete and accurate scans of valves without the need to visually question the valve integrity or disassemble pipes and valves. IIA determines the condition of valves by deploying PAUT which sends sound beams directly through the valve body, and subsequently the echoes bouncing within the valve internals are used to evaluate and analyze the condition of the valve and its components.

Once this is complete, our PASS® Visualization Software translates the raw PAUT data into a dynamic valve simulation. We then provide a visual representation of the valve as a 3-D model. By providing a simple way to view and interpret field data, performance characteristics can be easily and quickly visualized, interpreted and analyzed. An accompanying PASS® database tracks valve performance during inspection. This enables critical decisions to be made regarding operability and predictive maintenance. IIA's unique simulation allows technicians and plant personnel, with minimum PASS® knowledge, to easily view the visual translation of the raw PAUT data and successfully analyze conditions and move forward with any necessary decisions regarding maintenance. Where field tests can be recreated for additional analysis and evaluation.

In addition to providing a simulation of the PAUT data, detailed attributes are collected and placed in the PASS® database, which can then be used to track valve performance over multiple inspections. This also allows for critical decisions to be made regarding repairs and predictive maintenance. IIA's valve inspection and PASS® Visualization Software assists in eliminating unnecessary valve disassemblies, which provide significant cost savings.

PASS® has the ability to detect and/or measure some of the following trend-able attributes:

- Flow Rate
- Total Disc Travel
- Disc Fluttering
- Disc Back Tapping
- Stuck Disc
- Disc Velocity
- Stroke Time
- Angular Disc Movement exceeding design values

IIA's patented Phased Array Sectorial Scanning (PASS®) Techniques along with our proprietary software, provides technicians and plant operators an unmatched level of information regarding performance aspects of valve integrity and of how the valve reacts during operation. IIA's Valve Visualization software provides an easy to use, complete solution for PAUT data analysis.

A Few Benefits of IIA Nuclear Services PASS® Technology:

- Gather, analyze and act on field data
- Minimize outage impact by using PASS® instead of RT
- Receive high-quality and well-defined data
- Plan assessments using PASS® valve data
- Generate valve work-lists to assist in outage planning
- Assist with predictive maintenance

IIA Nuclear Services offers this comprehensive suite of inspection techniques and data analysis to make valve inspection easier, more accurate, less costly and also less time-consuming.

IIA PLANT SERVICES

PLANT SERVICES SUMMARY

Industrial Inspection & Analysis (IIA) is the go-to professional providing safe, quality inspections for outage and maintenance needs across North America. IIA's breadth of technicians are certified to industry standards, understand your plant operations, and have the ability to respond to multiple concurrent outages. Our team provides outage planning, as well as visual, magnetic particle, penetrant, and ultrasonic inspections, and much more. IIA's team ensures the continued reliability and availability of your plant.

WE ARE THE OUTAGE EXPERTS

We have been serving the power industry decade after decade and are the trusted leader in this sector. Our team consists of highly qualified professionals, including Certified Welding Inspectors, who provide expert and story-worthy service each and every project.

Services Include

- Outage Planning
- Boiler Visual Inspection
- Tank and Piping Inspections
- Burner Setup
- Quality Control/Quality Assurance
- Hydrogen Damage Inspection
- API 653 Tank Inspections
- API 570 Piping Inspections
- API 510 Pressurized Vessels
- IRIS & Near Drum Testing

Inspection Methods

- Visual Inspections
- Eddy Current Testing
- Magnetic Particle Testing
- Penetrant Testing
- Ultrasonic Mapping and Inspections
- Ultrasonic Shear Wave Weld Examinations

SAFETY & QUALITY

IIA is committed to safety and quality, and we instill these values in all of our technicians. We also ensure each one is knowledgeable about plant operational goals and needs. Our reliable service helps you avoid shut downs and quickly return to operation. We only use the highest quality and most accurate inspection equipment, delivering reliable results. Our services, reports, and experts all assist you in making critical decisions for your plant.

RELIABILITY

Our crews can cover multiple concurrent outages, while using numerous inspection methods. We are a trusted partner to the power generation, pulp and paper, marine, and chemical industries. We meet or exceed your schedule requirements, minimizing downtime, and our crews are highly responsive to all your needs, and in many cases, we mobilize quickly to assist with your project.

FULL SERVICE PROVIDER

IIA is a full-service industrial inspection company. We pride ourselves in knowing which inspection method to deploy for any job. Our multi-skilled technicians ensure your inspection is completed correctly and includes detailed documentation history. We are by your side from pre-planning to delivering final reports and during every step in between. Partnering with IIA means lowering your total cost of ownership.

> “ IIA’s responsiveness in completing three last-minute and urgent projects is appreciated, and IIA’s team did a fantastic job in communicating, sharing in that sense of urgency, providing us with exactly what we wanted. ”
>
> **- Gregg Maddox, Great Plains Industries**

IIA FIELD SERVICES

FIELD SERVICES SUMMARY

Industrial Inspection & Analysis (IIA) ensures the safety and reliability of your assets while optimizing your total cost of ownership. IIA provides multiple inspection services for all industrial applications, and we have the expertise and resources to mobilize a crew to an oil and gas facility one day and a power generation facility the next. When you partner with IIA, you receive complete inspections from the most knowledgeable experts in the industry along with comprehensive asset condition reports that include actionable data.

THE SERVICE YOU NEED

IIA's multi-skilled technicians arrive on site with cutting-edge technology and a remote support network to provide solutions for most any challenge in the field. Our services include remote visual inspection (RVI), traditional and specialty NDE, and proprietary in-house developed inspection technologies. We work with a range of devices and methodologies to ensure the optimal method for each specific project. We help ensure your facility is safe, compliant, and operating efficiently.

TECHNICIANS

Our technicians are highly qualified, and our training focuses on practical knowledge and hands-on experience. We also cross-train in multiple methodologies and share across applications as well as across industries.

DIGITAL REPORTING

We provide digital reports, inclusive of technique sheets with embedded calculations to ensure accuracy. Each report provides comprehensive digital data that offers informative, actionable insight for your assets.

TECHNOLOGY

IIA uses technology that provides the optimal scan results and drives asset reliability. We work with engineering and operations departments to ensure compliance, while optimizing your total asset inspection costs.

> "IIA's NDT technicians are the best in the industry. Nobody in this industry compares to the top-notch team I've worked with from IIA."
>
> **- Chris Meeker, Manager, NDT & Special Processes, UNION TANK CAR COMPANY**

INDUSTRIES SERVED

- **Downstream**
  - Process Sewer, Tanks, and Vessels
  - Cracks, Holes, or Joint Separation
  - Collapsed Pipes
  - Blockage or Debris Build Up
  - Storage Tank and Vessel Inspections
- **Midstream**
  - Pre-Commissioning/ New Construction
  - Stuck Pig Locating
  - Foreign Object Removal/Retrieval
  - General Assessment - Cleanliness, Corrosion, Water
- **Powergen**
  - Foreign Object Removal/ Retrieval
  - Feedwater Line Inspections
  - Cold and Hot Reheat Line Inspections with Magnetic Crawlers
  - Boiler/Furnace Tube Inspections

TRADITIONAL NDE

- Radiography (RT/CR/X-Ray)
- Magnetic Particle (MT)
- Penetrant Testing (PT)
- Ultrasonic Thickness Testing (UTT)
- Visual Testing (VT)
- Post Weld Heat Treatment
- Corrosion Mapping
- Ferrite Testing
- Hardness Testing
- Positive Material Identification (PMI)
- Program and Procedure Development

ADVANCED NDE

- Automated Corrosion Mapping (Internal)
- Automated Corrosion Mapping Laser Profilometry (External)
- Phased Array (PAUT) Manual & Automated
- Full Matrix Capture (FMC)
- Time of Flight Diffraction (TOFD)
- Shear Wave
- Guided Wave Testing (GWT)
- In-Line Inspection (ILI Validation)
- Pulsed Eddy Current
- Weld Quality Inspection

SPECIALTY NDE

- Proprietary Technologies
- Phased Array Sectorial Scanning PASS® Valve Examinations
- Precision Ultrasonic Testing
- Absolute Recordable Manual Ultrasonic Testing (ARMUT®)

RVI

Internal Visual Inspections of anything from ¼" and above.

CERTIFICATIONS AND GUIDELINES

- All Certifications Based on ASNT Guidelines
- Multiple State Licenses for Radioactive Materials
- In-Line Inspection Validation (ILI)
- Compliance to Pressure Equipment Directive 97/23/EC (European Certification)
- Compliance to Pressure Equipment Regulations 1999, ASNT Level III
- IRRSP Certified

SCAN ME

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