ICCI E^4 Precommissioning Cleaning Services:
EXPERT. EXPERIENCED. EFFICIENT. EFFECTIVE.

CAMERA INSPECTION SERVICES

KNOW—WITH CERTAINTY—YOUR SYSTEM'S STATE OF CONTAMINATION, AND GET PROOF OF POST-CLEANING RESULTS.

Even in plants built with the most stringent efforts to prevent contamination, adhered debris such as mill scale and non-adhered debris from construction such as particles, welding rods, bolts, and tools invariably remain in the system. Often, the extent of contamination is unknown, and assumptions are made. This can result in making the wrong choice of cleaning technique and cleaning sequence. Our proven and cost-effective video and still-camera inspection services give you the ability to literally see inside your system. You will know—with certainty—its state of contamination. And, after it's cleaned, you can get proof of post-cleaning results. Our drone capability is unsurpassed; we can even conduct special-purpose drone-conveyed camera inspection internally to give you an additional, cost-effective option for quick data collection.

APPLICATIONS

In partnership with Aqua Drill International, ICCI-ADI combined camera inspection services are used in a wide variety of applications. The following applications are typical, but there are many more:

- All lines up to 48-in. diameter.
- Vessels, exchangers, valve internals, rotating equipment internals and other confined spaces.
- Intrinsic and non-intrinsically safe systems.
- Pushrod, track-mount, magnetic-crawler, and aerial systems.

ADVANTAGES


Before


After

Optimize your cleaning program. How dirty is your system? This question can be impossible to answer with certainty. Knowing what's inside the pipework enables selection of the cleaning method best suited to the contamination present.

Define the correct cleaning sequence. ICCI often use a clean system to move contamination to a location where it can be removed more easily. Fluids and gasses transfer from one system to the next, cascading contamination to an exit point. Use of cameras can greatly optimize the sequence to address a specific contamination problem.

Prevent unnecessary cleaning. Does the system need to be cleaned? In every construction project, some lines and systems are clean enough. The cost of camera inspection is far lower than the cost of cleaning a system that doesn't need it.

Inspect the un-inspectable. Our video scopes can enter a system with as small as ¼-in. entry point. Durable, steel-braided tethers facilitate moving in and out of the system. High-definition cameras have articulating heads, zoom, and stereo measurement capability.

A choice of conveyance options for complex systems. Three conveyance options for camera inspection give you unsurpassed capability: pushrod, magnetic crawler, and track-mount. These options, combined with our range of camera systems, give you cost-effective choices for a wide variety of inspection applications even in systems with multiple diameters and bends, complex configurations, limited entry access, and vertical applications.

Permanent visual record of contamination or system cleanliness. All ICCI-ADI camera systems can record and export still images, giving you a permanent visual record of contamination or system cleanliness. Ordinary visual inspections offer line of sight at the exit point only. They are also subjective in that they rely on a written testimony.

Unsurpassed drone capability gives you more inspection options. Flown by FAA licensed pilots, ICCI-ADI drones can operate within a 4.5 mile range in line of sight. This reduces downtime between assets and increases safety of launch and recovery from remote locations. Long-range aerial inspection drones are approved for harsh industrial environments. External drones can be outfitted with 4K HD cameras as well as FLIR® for thermal applications.

Internal drones offer special-purpose capability. Flown within a confined space by experienced pilots, these systems can be deployed through entries as small as 18 inches. The carbon fiber exoskeleton surrounding the rotors allows operation in close proximity to equipment and personnel, without the risk of injury or damage. The dual camera system records video or images, in either 4K HD or thermal (with the use of the on-board FLIR) resulting in a high resolution photo with a thermal overlay. These systems reduce personnel risk by eliminating confined-space entry for visual inspections, and greatly reduce the cost of quick data collection.

ADDITIONAL INFORMATION

Pushrod systems. Ideal for inspecting 1-in. to 12-in. pipe systems. Camera heads have tether lengths up to 400 ft. Intrinsically safe models can work in hazardous atmospheres.

Magnetic crawler systems. Versatile in 6 in. and greater pipe diameters. Crawlers can travel up to 600 ft and easily navigate 45° and 90° bends in piping systems 12 in. and greater. System is 100% waterproof. Rated to depths up to 100 ft.

Track-mounted systems. Ideal for 12-in. pipes and greater. A 200-lb payload enables carrying pumps or hoses for water removal within a piping system. Extremely strong tracks enable travel distances up to 600 ft while carrying additional weight onboard or dragging equipment behind it.

External drones. IP43 ingress rating permits harsh environment use. Maximum flight time of 40 minutes. An array of onboard obstacle avoidance sensors. Operated in accordance with CFR 107 regulations.

Internal drones. Can be flown in confined spaces and deployed in entries as small as 18 in. Can operate in close proximity to equipment and personnel, without risk of injury or damage.

When you choose camera inspection services from Aqua Drill International or ICCI, you'll know—with certainty—the true state of your system. Contact us today for more information, and to schedule your next inspection.

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Precommissioning Cleaning Done Right