



**DCI Aerial Division
D&C Inspection Services, Inc.**



DCI Aerial Division
A Division of D&C
Inspection Services, Inc.

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D&C Inspection Services, Inc. is committed to innovation, development and creativity while providing superior service.

Our aerial video and photography services increase safety, lower costs, improve quality and reduce environmental impact.

Our goal with every project is to exceed expectations and ensure complete client satisfaction.

We work with our clients to successfully meet their objectives and goals.

We utilize Unmanned Aircraft Systems (UAS) to augment the visual safety inspections required by industry standards, such as ASME, API, OSHA, NEC and DOT.

Onboard camera and video equipment allow inspectors to view the required areas of inspection from the safety of the ground, which greatly reduces associated risks and hazards.

Employing UAS negates the need for scaffolding, man-lifts, and other devices currently used by inspection personnel.

This relieves inspectors of the extreme liabilities associated with exposure to heights, biologically hazardous gases, energized electrical equipment, and other industrial hazards.

UAS will also be used for civil and law enforcement applications, such as providing elevated views of ongoing police activities, emergency services, fires, and other hazards.

Please call us for consultation regarding your survey, inspection, photography, or video needs.

We tailor innovative solutions to meet your project's specific requirements.

Daniel Harry
President
D&C Inspection Services, Inc.



Unmanned Aerial System (UAS)

UAS is defined as an aerial system, weighing less than 50 pounds, intended for non-military use. D&C Aerial Inspection Services' fleet of UAS aircraft utilizes optimized high-performance flight systems supported by GPS coordinates.

Our aerial systems, which are externally operated by a ground controller or "pilot," carry payloads comprised of the sensor packages best suited for the job at hand. High-resolution cameras mounted on the UAS provide HD video and photography and the UAS flight stabilization is one of the fastest in its class for quality video imaging.

Our UAS wirelessly transmit images to a ground station enabling clients to view a live feed of the images during flight.

UAS Inspection Possibilities

Bridges
Communication towers
Compressor stations
Dams
Distribution lines
Farmland
Flares
Floodgates
Forestland
Gathering systems
Impoundments
Industrial chimneys
Industrial facilities
Petrochemical
Pipelines
Power generation
Power lines
Power plants
Refining
Remote areas
Roadways
Rotor blade components
Routes and corridors
Smoke stacks
Substations
Transmission lines
Wells
Wind farms
Wind turbines



D&C Aerial Inspection Division's primary purpose in any of these industries is providing critical information using aerial optical inspection to augment the various visual inspection programs for our clients.



Refining, Power Generation, Petrochemical and Industrial Facilities

UAS can be used in these facilities if there is adequate airspace for proper maneuverability and filming around the object or area that is to be inspected.

While our systems are extremely stable due to MEMS sensor-based inertial navigation and GPS, other conditions can affect stability.

Our pilots and procedures require a minimum distance of two to three feet from other objects for stability correction and optimal use of the camera zoom feature to take still photographs in the RAW format for software enhancement.

This use of the camera to capture RAW format is in compliance with the 24 inch requirement of ASME Section V, Article 9, section T-952.

Brushless electric motors drive the propellers, meaning the UAS can usually be flown into combustible gases without adverse effects.

The electrical systems and connections primarily use solid state components and are designed to operate without sparking.

There are no thermionic devices in the UAS and its lithium polymer batteries are generally encased in carbon fiber and enclosed in Kevlar to prevent the possibility of a puncture.

Our UAS do not have Class 1, Division 1 or Division 2 certifications. However, with proper permitting, they can be used in these facility areas.

Surveying and Mapping

Our software allows us to perform autonomous flight and create three-dimensional maps to an accuracy of within two inches. In comparison, Google Earth can be as inaccurate as six meters for elevation, longitude and latitude.

Most of our UAS are equipped to transmit the camera “point of view” to a ground station where client representatives can simultaneously view areas of interest.



Personnel Platform Aerial Inspection

During our routine demonstrations, plant management personnel are welcome to be with us on the ground to view the live feed.

Our aerial inspection of a personnel platform uncovered this weld failure (pictured above left) on a column approximately 60 feet above the ground.

At another location, our UAS discovered a total of four support clips on a personnel platform with weld failures of 25, 50, 75 and 100 percent.

These types of discrepancies become more prevalent over time as equipment ages. Routine inspections help protect the personnel that use these platforms.



Internal Pressure Vessel and Storage Tank Inspection

Radio controller waves can't penetrate thick walls, but with the use of a signal extender and the presence of a manway, we can fly inside the vessels and receive a live feed.



Aerial Pipeline Inspections

Flight Ceiling

Our UAS are designed to fly up to 400 feet elevations, as per FAA regulations, and can reach speeds up to 50 mph. Higher elevations can be reached with a FAA approved Flight Plan. UAS are specifically configured for precise, in-depth inspection of pipeline corridors.

GPS Surveying

We use pre-flight programming for grid point photography, meaning our images and data are more accurate than using Google Maps. Our measurements can provide locations within 5 cm.

Versatility

Inspections by UAS are faster, safer and less expensive than other aerial methods to obtain critical data for leaks, damage, overgrowth, and other inspection activities required in pipeline maintenance.

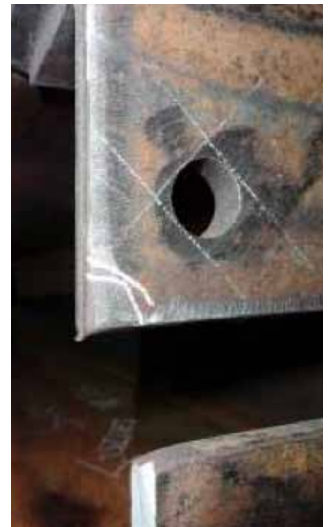
Pre-flight programming specifies the path of the aircraft and the points and elevation at which photos are taken. Photos and locations can then be input into the surveying and mapping software to give an accurate three-dimensional map of the area of interest.





Structural Steel Assembly Inspection

Missing or loose bolting is one of the most common discrepancies found during structural inspections. While aerial inspections cannot verify bolt or stud torquing, it can pinpoint installation discrepancies on new and existing structures.



Towers

Telecommunication towers are some of the most dangerous areas accessed by inspection personnel. Personnel liability skyrockets for every trip made up or down one of these structures. UAS make these trips safer and easier.



Flares, Industrial Chimneys and Smoke Stacks

Our UAS easily attains the information needed on the condition of these 120 foot flares. Damaged equipment and components can be identified and ready to be installed during a scheduled shut-down instead of causing a failure.



Bridges

Our UAS safely maneuver over water and around structures, eliminating the need for costly scaffolding and fall protection. Aerial inspections also eliminate the hours spent preparing for proper inspection of these structures, making our services faster, safer and financially smarter.

We utilize custom-built UAS for bridge inspections.

Our camera's unique "look up" capability allows for views from zero to 90 or 270 degrees.

This provides better vantage points for up-close inspections of the bridge's connections and structural integrity.





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