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FAA BEGINS UAS CIVIL OPERATIONS APPROVAL PROCESS PAVING THE WAY FOR COMMERCIAL DRONE USE IN INDUSTRIAL DETECTION APPLICATIONS.



Austin, Texas. June 18, 2015 – The FAA releases new rules for unmanned aerial systems (UAS) authorization. Civil operations refer to non-governmental operations and include commercial use in many industries. The approvals come in two methods including Section 333 exemption and Special Airworthiness Certificates. This approval for civil operations paves the way for commercial drone use in industrial and private sector monitoring applications that range from flare stack and pipeline inspection, gas detection, and mapping of ice flows, herd migration and crop status.

Aerial Monitoring and Detection Applications

Unmanned aerial systems may be utilized for a variety of monitoring and detection applications.

- Natural Gas, Methane and VOC's: uncooled thermal cameras using microbolometer focal plane arrays can be used in the mid-wave (3-5 μ m) infrared, long wave infrared (LWIR) spectrum, infrared laser and other laser spectrometers for the optical detection of hydrocarbon gas leaks from oil storage tanks, pipelines for transportation and distribution
- Carbon Monoxide (CO) sensing at 0-500ppm or 20% with non-dispersive infrared (NDIR) and Temperature and Relative Humidity, and Ozone (CO₃) from (20-250ppb). Gases generated from incomplete combustion of fuel in furnaces, generators, power washers, forges, kilns, welding, pumps and generators.
- Carbon Dioxide (10,000ppm) monitoring with non-dispersive infrared (NDIR) and 5% or 10,000ppm resolution with 0.05 second response time. Gases generated from combustion of fuel
- Nitrogen Dioxide (0-20ppm) from combustion processes, such as unvented combustion appliances, e.g. Diesel engines, gas stoves, vented appliances with defective installations, welding,
- Silica and Fine Particulates measurement from 0.3-10 μ m using impingement or diffraction methods
- Radiation: beta, gamma and X-ray to 5.8cpm resolution
- FLIR Thermal Imaging for temperature sensing with LWIR

UAS drone systems are developing rapidly with a corresponding response from detector technology companies. Detection systems are becoming smaller and lighter ideally suited for UAS. Detectors are becoming more sensitive both for qualitative and quantitative measurement from a distance enabling UAS for many applications. Applications such as pipeline and oil storage tank inspection, public transit operations, hydraulic fracturing operations, power generating systems, emergency response and threat analysis.

Juler Group Incorporated offers hazardous agent detection services for various market segments including inspection, industrial hygiene and environmental sustainability. Piloted UAS are fitted with LWIR and may be customized to specific customer requirements.

Juler Group Incorporated is a professional and technical services firm offering total solutions for the occupational health, safety and environmental professional. Juler Group provides risk and hazard assessment services, industrial hygiene monitoring support, safety program design and implementation, health and safety audits, process safety management, leadership and ethics services, and unequaled training development and delivery. We help you manage risk in the workplace.

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