OHIO STATE UNIVERSITY EXTENSION

Law Bulletin

OSU EXTENSION AGRICULTURAL & RESOURCE LAW PROGRAM

March 2015

FAA Proposes Regulations for Small Unmanned Aerial Systems

Peggy Kirk Hall, Asst. Professor and Field Specialist
OSU Extension Agricultural & Resource Law Program

After much anticipation, the Federal Aviation Administration (FAA) has published proposed regulations that would govern the operation of drones used for agricultural and other activities. The proposal would allow farmers and ranchers to operate drones, referred to in the rule as "unmanned aircraft" and "unmanned aircraft systems" (UAS), subject to requirements intended to address public safety and national security concerns.

Under the proposed small UAS rule, operators must comply with a certification process, register and maintain aircraft, and follow limitations on aircraft operation. Of the proposed limitations, agricultural operators might have concerns about a "visual line-of-sight" rule requiring that operators have visual contact with aircraft, a flight ceiling of 500 feet above ground level and prohibitions against night flights. Additionally, the proposal fails to address privacy issues and the potential use of drones for surveillance activities on another person's property.

The following provisions are the major components of the proposed rule, which would apply to unmanned aircraft weighing less than 55 pounds that are used for non-hobby and non-recreational purposes:

Operator Certification and Reporting

Certification. An operator of a UAS must have an "unmanned aircraft operator certificate with a small UAS rating," which requires:

- Meeting eligibility requirements: the applicant is at least 17 years old, speaks English, has no state or federal drug offenses, has no physical or mental condition to prevent safe UAS operation, and the applicant's identity is verified by the FAA.
- Passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center, which covers: (1) applicable regulations relating to small UAS rating privileges, limitations, and flight operation; (2) airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions affecting small UAS operation; (3) official sources of weather and effects of weather on small UAS performance; (4) small UAS loading and performance; (5) emergency procedures; (6) crew resource management; (7) radio communication procedures; (8) determining the performance of small UAS; (9) physiological effects of drugs and alcohol; (10) aeronautical decision-making and judgment; and (11) airport operations.
- Passing a recurrent aeronautical knowledge test every 24 months.

Reporting. An operator must report an accident to the FAA within 10 days of any operation that results in injury or property damage.

Aircraft Requirements

- *Aircraft registration*. A small unmanned aircraft must be registered with the FAA.
- *Markings*. A small unmanned aircraft must display nationality and registration markings.
- *Aircraft condition*. An operator must maintain a small unmanned aircraft in a condition for safe operation.

Operation Requirements

Pre-flight requirements. Before a flight, an operator must conduct a pre-flight inspection and assessment that includes:

- Inspection of the links between the unmanned aircraft and its control station.
- Verification of sufficient power to operate the aircraft at least 5 minutes beyond the intended operational time period.
- Assessment of the operating environment, including local weather conditions, local airspace and flight restrictions, locations of persons and property on the ground and other ground hazards.
- A briefing to all persons involved in the aircraft operation that addresses operating conditions, emergency procedures, contingency procedures, roles and responsibilities and potential hazards.

Visual line of sight requirement. An operator must maintain a "visual line-of-sight" with the unmanned aircraft, using only human vision that is unaided by any device other than glasses or contact lenses.

Use of visual observer. An operator may use "visual observers" to assist with the visual line-of-sight requirement.

- An operator and visual observer must maintain constant communication, which may be made through communication-assisted devices.
- The aircraft must still remain close enough to the operator for the operator to be capable of maintaining the visual line-of-sight.

Operating limitations. An operator must not operate an unmanned aircraft:

- More than 500 feet above ground level.
- More than 100 mph.
- After daylight, which is the time between official sunrise and sunset.
- When there is not minimum weather visibility of 3 miles from the aircraft's control station.
- No closer than 500 feet below and 2,000 feet horizontally away from any clouds.
- Over any persons not directly involved in the operation and not under a covered structure that would protect them from a falling UAS.
- From a moving aircraft or vehicle, unless the moving vehicle is on water.
- Within Class A airspace; or within Class B, C, or D airspace or certain Class E airspace designated for an airport, without prior authorization from the appropriate Air Traffic Control facility.
- Carelessly or recklessly, including by allowing an object to be dropped from the aircraft in a way that would endanger life or property.

"Micro" UAS

In the proposed rule, the FAA also presents the possibility of including regulations in the final rule for "micro-UAS," or unmanned aircraft weighing no more than 4.4 pounds that are composed of "frangible" materials that yield on impact and present minimal safety

hazards. The micro-UAS category would require operators to self-certify their familiarity with the aeronautical knowledge testing areas; would limit operation to: 1,500 feet within the visual line-of-sight of the operator, no more than 400 feet above ground, only in Class G (uncontrolled) airspace and at least 5 miles from an airport; and would allow flight over people not involved in the operation. The agency invites comments on whether to include a micro-UAS category in the final rule.

What's not in the Proposed Rule?

Privacy concerns. Many in the agricultural community worry about the potential use of drones for surveillance activities that violate a property owner's privacy. The FAA states that privacy concerns about unmanned aircraft operations are beyond the scope of this rulemaking and that "state law and other legal protections for individual privacy may provide recourse for a person whose privacy may be affected through another person's use of a UAS."

The agency also notes the recent Presidential Memorandum issued by President Obama, *Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems* (February 15, 2015), which requires the FAA to participate in a multi-stakeholder engagement process led by the National Telecommunications and Information Administration to develop a framework for privacy, accountability, and transparency issues concerning the commercial and private use of UAS in the NAS. The memorandum also requires agencies to "ensure that policies are in place to prohibit the collection, use, retention, or dissemination of data in any manner that would violate the First Amendment or in any manner that would discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity, in violation of law."

External loads and towing operations. The FAA declined to propose new regulations for small unmanned aircraft with towing and external load capabilities. Instead, the agency invites comments, with supporting documentation, on whether external load and towing UAS operations should be permitted and whether their use should require airworthiness certification, higher levels of airman certification or additional operational limitations.

What's Next?

The FAA will accept public comments on the proposed small UAS rule until April 24, 2015. Issuing a final rule could take at least another year after the comment period closes. In the interim, FAA encourages operators to visit http://knowbeforeyoufly.org/ to understand current regulations for the use of small UAS, which remain in place until the FAA issues its final rule.

The proposed small UAS rule is available in the Federal Register online at http://www.gpo.gov/fdsys/pkg/FR-2015-02-23/pdf/2015-03544.pdf. To submit comments for the rule, Docket No. FAA–2015–0150, visit www.regulations.gov.