

SAFE SEPARATION: NEW STUDY PROVIDES OBJECTIVE COLLISION AVOIDANCE GUIDANCE FOR UNMANNED AIRCRAFT FLIGHTS

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Toxic Tort Alert

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Recent government-sponsored research provides operators of small unmanned aircraft systems (sUAS) helpful guidance for legally operating in proximity to manned aircraft. The Federal Aviation Administration's first comprehensive set of regulations permitting commercial small unmanned aircraft operations took effect within the past year and is codified as Part 107 of the Federal Aviation Regulations.^[1] While Part 107 is generally favorable for commercial users, it contains ambiguities that can confuse or frustrate operators who want to operate their unmanned aircraft safely and legally. New government research helps clarify one of those ambiguities—aircraft separation, or what an operator must do when sharing the sky with other manned aircraft.

The Unmanned Aircraft Systems Executive Committee (EXCOM) Science and Research Panel (SARP) recently presented research that provides a helpful working standard of what constitutes safe separation between sUAS and manned aircraft. The working standard defines safe operation of a sUAS as requiring minimum separation distances as follows:

	Minimum Distance for sUAS Separation from Manned Aircraft ^[2]
Horizontal Separation	2,000 feet
Vertical Separation	250 feet

The findings are helpful in clarifying the regulations governing operations near other aircraft and the right-of-way rules set forth in Part 107. Part 107 requires that small unmanned aircraft must remain "well clear" of other aircraft and prohibits anyone from operating "a small unmanned aircraft so close to another aircraft as to create a collision hazard."^[3] The Federal Aviation Regulations do not define "well clear" or "collision hazard." This new research provides objective guidance to commercial drone operators uncertain of what the vague "well clear" and "collision hazard" standards permit. Compliance with these separation distances will be an important factor in determining if the operator exercised reasonable care in any lawsuit or FAA enforcement action.

The FAA has broad discretion to charge aircraft operators, including unmanned aircraft, for alleged "careless or reckless operation" pursuant to 14 C.F.R. 91.13(a). Violations can subject operators to suspensions of their pilot certificates and civil fines. Developing operating procedures adopting these separation recommendations will

help operators avoid or defend against charges of "careless or reckless operation." Moreover, developing flight operations obviously intended to promote regulatory compliance and safe operations will prove to be helpful in any future disputes with insurance carriers.

EXCOM is an interagency partnership tasked with identifying solutions to problems associated with integrating unmanned aircraft into the national airspace system. [4] SARP's working standard remains subject to continued research and validation before it would be codified into regulation.[5] However, it provides an objective benchmark for commercial sUAS operators in their efforts to comply with Federal Aviation Regulations, as well as with their general duty of care.

Operators may also be excited to learn that the SARP working standard may allow for freer operation of commercial sUAS than some observers may have thought. By way of comparison, for large UAS (> 55 lbs.), SARP recommended a 4,000 foot horizontal and 450 foot vertical separation standard with a 700 foot advisory alert.[6] Moreover, the working standard is also an important step toward the design and testing of "sense and avoid" systems that will be required for beyond-line-of-sight operations, once approved by the FAA.

Given the risks and penalties associated with a UAS collision, commercial UAS operators should take care to develop standard operations policies that comply with the latest regulations and standards. Additionally, as regulators race to keep pace with developing UAS technology, interested stakeholders should evaluate how new rules and proposed standards may affect their business and pay attention for future developments.

Notes:

[1] Stephen A. Martinko, et al., New Commercial Drone Rules Take Flight: Understanding Implications, Opportunities, and What's Next, K&L Gates (July 5, 2016), <http://www.klgates.com/new-commercial-drone-rules-take-flight-understanding-implications-opportunities-and-whats-next-07-05-2016/> (last visited June 1, 2017).

[2] Andrew Weinert, et al., "Small UAS Well Clear Study," Lincoln Laboratory (2016).

[3] 14 C.F.R. 107.37.

[4] EXCOM is a partnership between the Department of Defense, the FAA, the NASA, and the Department of Homeland Security.

[5] SARP is comprised of a panel experts that supports EXCOM through scientific and technical research of UAS, and through recommending standards and criteria for UAS operations.

[6] Ronald Weibel, "UAS Well Clear," Lincoln Laboratory Air Traffic Control Workshop (November 18, 2014), available at https://conferences.ll.mit.edu/atc/sites/default/files/2014-11-18_LL%20ATC%20Workshop_Weibel_Presentation_104473.pdf.

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