

CLIENT ALERT

Alaska Drone Team Achieves Major Regulatory and Operational Milestone

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Last week, the University of Alaska, in partnership with Iris Automation, Skyfront, Echodyne, and Alyeska Pipeline Service Company, completed the first-ever beyond-visual-line-of sight (BVLOS) drone flight without a ground-based visual observer. This successful flight is a breakthrough in both regulatory and operational respects and could pave the way for expanded commercial drone operations in the United States for a variety of drone users, including the energy, agriculture, and insurance industries. The mission also illustrates the gathering momentum for complex BVLOS operations; the FAA's approval for the University of Alaska comes just seven months after insurer State Farm became the first operator to receive FAA approval for nationwide BVLOS flights using a visual observer.

BVLOS operations are among the most complex, high-risk drone operations. FAA regulations generally require that all drone flights be performed within the visual line of sight of the remote pilot in command; waivers allowing BVLOS operations are rarely granted and have previously required the use of a ground-based visual observer to mitigate risk to people and property on the ground and to other aircraft in the airspace. The requirement for a visual observer has significantly limited the possibilities for long-range commercial drone operations. Ensuring that human visual observers are in place along a drone's entire flight path imposes a substantial financial burden on operators and restricts flight distances.

The BVLOS waiver issued to the University of Alaska team is the first time the FAA has permitted the use of a technology, known as detect-and-avoid, to enable a flight without on-the-ground human observers keeping watch. The particular system approved under the University of Alaska waiver is capable of detecting, tracking, and classifying other aircraft; the system can make intelligent decisions about the risk posed by other aircraft, triggering automated course changes to avoid mid-air collisions.

After obtaining the BVLOS waiver, the University of Alaska team safely flew multiple missions with a hybrid electric drone to inspect a four-mile section of the Trans-Alaska Pipeline, beyond the visual line of sight of the remote pilot and without any visual observers. This success demonstrates the operational viability of detect-and-avoid technology in support of BVLOS operations, which are critical for many commercial operations.

By unlocking BVLOS automation, the drone industry and the FAA have opened the door to expanded commercial operations, such as aerial infrastructure and agricultural inspections in the near-term and commercial package delivery in the future.

Companies applying for this "holy grail" of waivers will need to demonstrate to the FAA that the proposed drone flight can be conducted safely, without endangering other aircraft in the air, or people and property on the ground. The waiver application should fully describe how the company's chosen technology will achieve a level of safety that is equivalent to a manned operation, addressing equipment specifications, failure rates, maintenance plans, redundancies, and fail-safes. For BVLOS operations without a ground-based visual observer, this means also proving to the FAA that the detect-and-avoid system employed is capable of accurately and autonomously directing the drone to avoid mid-air collisions with other aircraft.

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