Pan-Pacific Unmanned Aircraft Systems Test Range Complex

Certificate of Authorization: COA is an authorization issued by the Air Traffic Organization to a public operator for a specific unmanned aircraft activity. After a complete application is submitted, FAA conducts a comprehensive operational and technical review. If necessary, provisions or limitations may be imposed as part of the approval to ensure the UA can operate safely with other airspace users. In most cases, FAA will provide a formal response within 60 days from the time a completed application is submitted.

Mission: The mission lasted 5 minutes. It is meant to test whether using an unmanned aircraft with a camera might be used to observe large animals to count them, monitor behavior and gather research information without disturbing them. LARS was chosen because of the East field, which is a contained area and the known number of caribou that live there. LARS is also closer to the Fairbanks International Airport than is generally approved for UAS operations, so this mission also tests the procedures used between Air Traffic Control and the UAS mission.

Unmanned Aircraft System: An unmanned aircraft system consists of the aircraft, its base station, its ground control station, its command and control link, and its crew. The crew typically includes a pilot in command, sometimes a separate pilot, an observer, and in the case of research activities, sometimes also a mission commander.

Aircraft: Aeryon Scout: Small but powerful workhorse, the Scout is an easy to use, battery powered quadcopter. Manufactured in Canada, this tiny helicopter is 8 inches tall, 32 inches in diameter and weighs about five pounds. Powered by a lithium polymer battery, its top speed is 30 mph with a ceiling of 1,500 feet. Made of carbon fiber, this aircraft has a flight duration of 20 minutes. It takes off and lands vertically, can hover and fly lower and slower in confined areas, where a fixed wing aircraft cannot. The operator will control the aircraft with a tablet that uses Window XP and is specifically made for ground control of the Scout. It is manufactured by Aeryon Labs.

Operator: Mike Cook, 30, UAS pilot at Alaska Center for Unmanned Aircraft Systems Integration, six years experience.

Sterile cockpit: No one is to contact or speak to the operator while conducting a mission, except for those designated by or part of the team. At LARS a perimeter will be set up within which Cook will operate the aircraft. His focus will be on watching the aircraft, maintaining line-of-sight, and looking at his tablet to monitor its performance. He has radio contact with specific people who are watching the weather, other airborne obstacles and how the animals are reacting.

Pan-Pacific Unmanned Aircraft Systems Test Range Complex: One of the Federal Aviation Administration's six test sites for bringing UAS into public use. PPUTRC has 58 partners, with key partnerships among Alaska, Oregon and Hawaii. The test site will collect data needed by the FAA to establish public use UAS regulations for both systems and operators. It is part of the Alaska Center for Unmanned Aircraft Integration.
Ro Bailey is PPUTRC's director.

Alaska Center for Unmanned Aircraft Systems Integration: ACUASI, started within the University of Alaska Fairbanks Geophysical Institute in 2001, began experimenting with the technology and is rapidly becoming a world leader in the field. PPUTRC is part of ACUASI.
Marty Rogers is ACUASI director and Ro Bailey is deputy director.

Robert G. White Large Animal Research Station: The station conducts research and also serves in an educational and outreach capacity, providing the opportunity to introduce students—from primary grades through adult continuing education—to wildlife and wildlife research. High school and undergraduate students have the opportunity to conduct research projects under guidance of university faculty and graduate students. Many UAF biology and wildlife instructors incorporate visits to LARS as part of their courses.
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