Web site: ***clacsec.lima.icao.int***
E-mail: ***clacsec@icao.int***

TELEFONO: **(511) 422-6905, 422-9367**
FAX: **(511) 422-8236**

COMISSÃO LATINO-AMERICANA DE AVIAÇÃO CIVIL

CLAC

LATIN AMERICAN CIVIL AVIATION COMMISSION

COMISIÓN LATINOAMERICANA DE AVIACIÓN CIVIL

SECRETARÍA
APARTADO POSTAL 27032
LIMA, PERÚ

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XXII ASAMBLEA ORDINARIA DE LA CLAC

(Ibagué, Colombia, 14 al 17 de noviembre de 2016)

Cuestión 9 del Orden del Día: **Otros asuntos**

- **Integration of Unmanned Aircraft Systems**

(Nota informativa presentada por la FAA/USA)

BACKGROUND

1. In the United States, in addition to procedural requirements and new regulations, successful UAS integration is being achieved through focused outreach efforts to assimilate this new category of operators into the established system. UAS outreach includes a series of actions and programs designed to develop in UAS operators, an aviation safety-based outlook that drives a culture of accountability, and provides them with the information needed to effectively comply with regulations and adhere to best practices.

2. The FAA has collaborated with the UAS industry, traditional aviation stakeholder groups, law enforcement agencies, and other partners to implement a comprehensive UAS outreach campaign that promotes education, safety considerations, and regulatory compliance. This paper outlines the major efforts thus far undertaken by the FAA to safely integrate UAS into the United States.

Discussion

3. Regulatory Framework

In the past two years, the FAA has pursued a number of regulatory actions to integrate UAS effectively in the U.S. national airspace (NAS). In September 2014, the FAA began issuing grants of exemption (known as Section 333 Exemptions) to allow certain UAS operators to perform safe and legal commercial operations. These authorizations are granted on a case-by-case basis and outline specific operational and performance criteria for operating UAS in the national airspace system. In advance of the final rulemaking, these exemptions provide accommodation for UAS utility and innovation while promoting safety and discouraging illegal operations.

4. In December 2015, the FAA implemented a new rule for the registration and marking of certain recreational UAS using a web-based registration system. Registration for recreational UAS opened on December 21, 2015, and for non-recreational UAS – including government and commercial UAS – on March 31, 2016. Recreational operators may register once and apply their registration number to multiple UAS; commercial operators must provide additional information about their UAS and must register each aircraft individually so that each has its own unique registration number. Registration costs $5 and is valid for 3 years. The FAA processed over 400,000 registrations in the first three months of Registry activation, and that number has eclipsed 580,000 as of October 2016.

5. On August 29, 2016, the FAA's new "Part 107" of Title 14 of the United States Code of Federal Regulations, also known as the Small UAS Rule, took effect. Part 107 enables routine use of small UAS (under 55 pounds or 25 kilograms) within visual line-of-sight, limiting flights to daylight hours at or below 400 feet, and prohibiting flight directly over people not directly involved in the operation of the aircraft. The rule also includes requirements for operator certification, optional use of a visual observer, and other operational limits.

6. *Partnering with Industry*

The FAA engages with the UAS community to provide a common understanding of goals and constraints and to develop specific standards needed to support operations and approval processes. This broad engagement provides mutual education of expectations and constraints, and facilitates common approaches and solutions.

7. Drone Advisory Committee (DAC)

The Drone Advisory Committee (DAC) is a federal advisory committee created to help the agency prioritize regulatory actions following the release of the Part 107 Small UAS rule. The purpose of the DAC is to provide an open venue for FAA and UAS stakeholders to work in partnership to identify and recommend a single, consensus-based set of resolutions for issues regarding the efficiency and safety of integrating UAS into the NAS and to develop recommendations to address those issues and challenges. The DAC will also provide the FAA with recommendations that may be used for tactical and strategic planning purposes. The DAC is comprised of senior executives that represent the spectrum of the UAS stakeholder community. RTCA, the DAC Secretariat, held the first public meeting on September 16, 2016. More information on the DAC, members and minutes from the first meeting can be found on http://www.rtca.org/content.asp?pl=216&contentid=216.

8. Unmanned Aircraft Safety Team (UAST)

On August 2, 2016, Administrator Huerta announced the creation of the Unmanned Aircraft Safety Team (UAST) during a UAS workshop hosted by the White House's Office of Science and Technology Policy. Modeled on the highly successful Commercial Aviation Safety Team (CAST), UAST will analyze safety data to identify emerging threats that drones may pose to aircraft, people and property. The team will also develop consensus-based, non-regulatory interventions to mitigate potential causes of accidents involving UAS. UAST is comprised of stakeholders from the UAS and aviation industries. It held its first organization meeting on October 18-19, 2016.

9. Outreach Efforts

The FAA has launched a number of targeted educational campaigns tailored to reach the emerging new sector of UAS operators. These efforts address current legal provisions, best practices, and safety guidelines for both hobby and commercial UAS operators. To reach the widest possible audience, the FAA sends representatives to industry events and conferences, uses social media, manages a web-based

application for personal electronic devices, and leverages internet platforms for sharing information and videos.

10. "Know Before You Fly"

The FAA, in partnership with industry, developed a multimedia effort to educate users about the safe and responsible operation of UAS. This campaign educates prospective operators who want to fly for personal or business use, but lack the understanding of what regulations may prohibit the operation of UAS in specific locations or for specific purposes. The "Know Before You Fly" website provides prospective users with information and guidance to fly safely and responsibly. The website includes information for recreational, commercial and government users and features an interactive map, videos, quizzes, and downloadable materials such as a pre-flight checklist and flying safely poster. This campaign receives support from industry partners who use it to help educate their customers, and who direct UAS operators to the website for information and resources. Most notably, the FAA worked in collaboration with UAS manufacturers who have voluntarily agreed to include "Know Before You Fly" materials in product packaging.

11. B4UFLY

The FAA is concerned about increasing reports of unsafe operations of unmanned aircraft near airports, over populations, and in close proximity to manned aircraft. In an effort to help prevent conflicts between manned and unmanned aircraft through increased awareness, the FAA developed the B4UFLY application. This is a smartphone application, available for the iPhone and Android operating systems, provides real-time situational awareness to UAS operators by letting them know about potential conflicts, such as nearby airports, temporary flight restrictions, or restricted airspace in their current or planned location. The interface provides an interactive map with filtering options, and includes information about nearby airports, temporary flight restrictions, and restricted airspace. It has been downloaded on over 120,000 devices to date, and the FAA has received positive feedback from both UAS operators and law enforcement personnel who also need real-time information about flight restrictions and requirements pertaining to UAS.

12. FAA Safety Team

The FAA Safety Team (FAASTeam) is the FAA's flight safety educational outreach mechanism. The FAASTeam program managers, working with operations inspectors from FAA Flight Standards Service District Offices (FSDOs) around the country, and more than 4,000 volunteer representatives from outside the FAA, bring the latest safety information to the public through individual contacts, online courses, FAA Safety Briefing magazine, seminars, and webinars. In addition to providing information to the general public about UAS safety best practices, the FAASTeam has joined with the Academy of Model Aeronautics and other industry partners to promote safe and compliant operation of UAS to their members.

13. Public Service Announcements (PSAs)

The FAA has partnered with industry leaders, UAS organizations, professional sports teams, and airports to release PSAs on television, via internet videos, and other media. As an example, the FAA worked with a. U.S. football team from one of the largest cities to develop a PSA that broadcasts during games to crowds of up to 75,000 people. This PSA informs the public about the prohibition of flying over sports stadiums, as well as the prohibition and dangers of interfering with emergency responders dealing with wildfires. Additionally, the FAA has developed PSAs for over 20 of the nation's airports to display on media throughout their terminals.

14. "No Drone Zone"

The FAA has marketed the phrase "No Drone Zone" to simplify and streamline the communication of certain flight restrictions to potential UAS operators wishing to fly in security sensitive areas or at high capacity events. The "No Drone Zone" campaign has been used to educate the public about temporary flight restrictions during large sporting events and in disaster response areas. The campaign is also used to describe the standing flight restrictions in and around the U.S. capital region. "No Drone Zone" campaign materials are available to government officials and other partners to use to educate UAS operators about local flight restrictions. For example, the U.S. National Park Service displays them around tourist spots in Washington, DC.

15. Compliance and Enforcement Activities

FAA aviation safety inspectors conduct surveillance and inspection of UAS operations as they would any other aircraft with regard to safety and compliance. By providing oversight of certain UAS operations, FAA aviation safety inspectors are able to gain exposure to various types of UAS operations that are being conducted in order to determine regulatory compliance, and to make safety assessments and recommendations on-site. If found non-compliant, inspectors are able to immediately educate UAS operators and, when necessary, initiate enforcement action. As part of the enforcement process, inspectors can send an educational letter to UAS operators who may not be in compliance with the registration requirement or other regulations but pose no direct threat to the airspace system. This letter serves as another means of outreach in an effort to enable UAS operators to achieve and maintain compliance.

16. Law Enforcement Resources

The FAA recognizes that state and local Law Enforcement Agencies (LEAs) are usually in the best position to deter, detect, investigate, and pursue enforcement actions to stop unauthorized or unsafe UAS operations. There is often a connection between aviation regulations and other laws or ordinances as they relate to unsafe and unauthorized UAS operations, and that shared interests are best served through collaboration. To support the partnership between the FAA and U.S. LEAs, the FAA issued the Law Enforcement Guidance for Suspected Unauthorized UAS Operations. This guidance assists LEAs in understanding the legal framework that serves as the basis for FAA legal enforcement action against UAS operators for unauthorized and/or unsafe UAS operations. The FAA also developed a quick reference card as a tool to help law enforcement officers utilize the procedures presented in the full-text guidance and in other FAA materials in a real world environment. The reference card informs these officers as to what information should be gathered on-scene, simplifies the reporting process to the FAA, answers common questions, and provides a basis from which officers can form a situational risk assessment.

Conclusion

17. Collaboration between the United States government and industry is essential to the successful integration of UAS into the U.S. national airspace system. Such collaboration extends to the development of regulatory frameworks, guidance materials, media outreach, and educational information to the UAS user community.

18. The United States has found that regular solicitation of perspectives from non-traditional stakeholders is essential to the successful integration of UAS into the national airspace system. Entities such as law enforcement, major event planners, and large commercial entities that do not traditionally have a stake in aviation will have direct involvement in the integration of UAS. Therefore, the perspectives of these stakeholders will be critical in effectively integrating UAS operations in a safe and efficient manner.