ICAO UAS Study Group

The Unmanned Aircraft Systems Study Group (UASSG) was established as a result of the Air Navigation Commission's consideration of a Secretariat proposal suggesting a need had been identified for ICAO to serve as a global focal point for the development of common terminology and definitions and non-technical aspects associated with operation of unmanned aircraft systems. States and organizations were requested to nominate experts to support the ICAO Secretariat in developing the necessary Standards and Recommended Practices (SARPS), Procedures and Guidance material for civil unmanned aircraft systems (UAS), to support a safe, secure and efficient integration of UAS into non-segregated airspace and aerodromes.

Study groups are small groups of experts made available by States and organizations for assisting the ICAO Secretariat, in a consultative capacity, in advancing progress of technical tasks of ICAO of the type specified below. The experts work in a close but informal manner with the Secretariat. The results of the work accomplished with the help of a study group are submitted to the Air Navigation Commission for further processing as necessary. The work of a study group may involve the development of initial proposals for the amendment of ICAO Annexes and Procedures for Air Navigation Services (PANS) for consideration by the Air Navigation Commission before their submission to States for comment.

Background

On 12 April 2005, the Air Navigation Commission requested the Secretary General to consult selected States and international organizations with respect to present and foreseen international civil unmanned aircraft system (UAS) activities in civil airspace; procedures to obviate danger to civil aircraft posed by UAS operated as State aircraft; and procedures that might be in place for the issuance of special operating authorizations for international civil UAS operations. During its review of AN-WP/8065 on 8 November 2005 including replies of States, the Commission noted the intention of the Secretariat to convene a meeting of interested States and international organizations on the subject of UAS, with the aim of developing a UAS programme plan and requested the Secretary to report back to the Commission on the outcome of the meeting.

Subsequent to the above, the first ICAO exploratory meeting on UAS was held in Montreal, Canada from 23 to 24 May 2006, with the objective of determining the potential role of ICAO in UAS regulatory development work. The meeting agreed that although there would eventually be a wide range of technical and performance specifications and standards, only a portion of those would be necessary for inclusion as ICAO Standards and Recommended Practices (SARPs) and that ICAO was not the most suitable body to lead the effort to develop specifications. However, it was agreed that there was a need for harmonization of terms, strategies and principles with respect to the regulatory framework and that ICAO should act as a focal point. The meeting requested the Secretariat to bring the following points to the attention of the Commission:

a) UAV work should be given a high priority in ICAO;
b) there is a need for an ICAO focal point;
c) the Commission should endorse the principle tenets of ICAO's role in UAS work; and
d) the Secretariat may need assistance from outside resources if the work increases substantially.

Taking advantage of a meeting of EUROCAE Working Group 73 (WG-73), where a majority of the participants of the first ICAO informal meeting were in attendance, a second informal ICAO meeting on UAS was held on 11 and 12 January 2007 in Palm Coast, Florida. The second informal ICAO meeting concluded that work on technical specifications for UAS operations was well underway within both RTCA and Eurocae and was being adequately coordinated through a joint committee of the two working groups. The main issue for ICAO was therefore, related to the need to ensure safety and uniformity in international civil aviation operations. In this context, it was agreed that there was no specific need for new ICAO SARPs at this early stage. However, there was a need to harmonize notions, concepts and terms. The meeting agreed that ICAO should coordinate the development of a strategic guidance document that would guide the regulatory evolution that, even though non-binding, would be used as the basis for development of regulations by the various organizations and States. As regulatory material developed by States and organizations gained maturity, such material could be proposed for inclusion in the ICAO guidance document. The document would then serve as the basis for achieving consensus in view of later development of SARPs. The meeting felt strongly that the eventual development of SARPs should be undertaken in a well coordinated manner. Because this was a newly emerging technology, it was felt that there was a unique opportunity to ensure harmonization and uniformity at an early stage and that all ICAO work efforts should be based on a strategic approach and should support the emerging work of other regulatory bodies. The meeting also suggested that from this point onwards, the subject should be referred to as unmanned aircraft systems (UAS) (instead of UAV), in line with RTCA and EUROCAE agreements. Finally, it was concluded that ICAO should serve as a focal point with the aim of ensuring global interoperability and harmonization; to develop a regulatory concept; to coordinate the development of UAS SARPS; to contribute to the development of technical specifications by other bodies; and to identify communication requirements for UAS activity. It was felt that eventually there would be a need to amend or develop new SARPs to accommodate UAS activity in non-segregated, controlled airspace. However, there is currently no urgency or clear basis for amending SARPs. It was therefore recommended that no work be assigned to any ICAO panel until a need is clearly identified. On this basis, it was proposed that an ICAO study group be formed to assist the Secretariat in developing a framework for regulatory development, guiding the SARPs development process within ICAO, and to support a safe, secure and efficient integration of UAS into non-segregated airspace. As the study group progresses it's work, items will likely be identified for forwarding to particular panels for advancement.

Terms of Reference of UAS Study Group

In light of rapid technological advances, the UAS Study Group is to assist the Secretariat in coordinating the development of ICAO Standards and Recommended Practices (SARPS), Procedures and Guidance material for civil UAS, to support a safe, secure and efficient integration of UAS into non-segregated airspace and aerodromes.

UAS Study Group Work Programme

The work programme of the ICAO UAS Study Group will:
- Serve as the local point and coordinator of all ICAO UAS related work, with the aim of ensuring global interoperability and harmonization;
- Develop a UAS regulatory concept and associated guidance material to support and guide the regulatory process;
- Review ICAO SARPS, propose amendments and coordinate the development of UAS SARPS with other ICAO bodies;
- Contribute to the development of technical specifications by other bodies (e.g., terms, concepts), as requested;
- Identify bandwidth and frequency spectrum requirements for UAS command and control and make recommendations to the ICAO Aeronautical Communications Panel (ACP) in support of a common position for International Telecommunications Union (ITU) World Radio Conference (WRC) negotiations.

The First Meeting of the Unmanned Aircraft Systems Study Group (UASSG/1) was held at ICAO Headquarters in Montreal, Canada from 7 to 10 April 2008. Nancy J. Graham, Director of the ICAO Air Navigation Bureau welcomed the participants, providing a brief synopsis of the expectations being placed on the Study Group and thanking the members and their advisors for undertaking the work to review, develop and recommend amendments to ICAO Standards and Recommended Practices (SARPs) and associated procedures for air navigation services necessary to accommodate civil UAS in nonsegregated airspace. Leslie Cary, Technical Officer, Air Traffic Management (ATM) Section of the ICAO Air Navigation Bureau, was Secretary, supported by Vince Galotti, Chief, Air Traffic Management Section.

At this meeting the objectives, role and working methods of the study group were discussed, the chairmen were elected (Doug Davis, FAA & Holger Matthiesen, EUROCONTROL), the role of the secretary (Leslie E. Carry, ICAO) was explained, regulatory activities currently underway were reviewed, and a work programme was agreed on. Furthermore, topics relative to a coordination and cooperation framework for interaction with other standardsmaking organizations and the development of a regulatory guidance document related to UAS were discussed. Seventeen members, thirteen advisers and two observers from fourteen States and seven international organizations attended the meeting (see below).

- Australia
  Civil Aviation Safety Authority
- Czech Republic
  Ministry of Transport
- Italy
  Civil Aviation Authority (ENAC)
- Singapore
  Civil Aviation Authority
- United Kingdom
  Civil Aviation Authority
- EUROCONTROL - European Org.
  for the Safety of Air Navigation
- IFALPA - International Federation
  of Airline Pilots Associations

- Austria
  Austrocontrol
- France
  Direction Générale de l'Aviation Civile
- Netherlands
  Civil Aviation Authority (IVW)
- South Africa
  Civil Aviation Authority
- United States
  Federal Aviation Administration (FAA)
- IAOPA - International Aircraft
  Owners & Pilots Association
- IFATCA - International Federation
  of Air Traffic Controllers

- Canada
  Transport Canada
- Germany
  Deutsche Flugsicherung (DFS)
- Russian Federation
  GOSNIIAS
- Sweden
  Civil Aviation Authority (LFV)
- CANSO - Civil Air Navigation
  Services Organisation
- ICCAIA - International Coordinating
  Council of Aerospace Industries
  Associations
- UVS International