IFALPA
The Global Voice of Pilots

Position

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Unmanned Aerial Systems

Background

This position paper on Unmanned Aerial Systems is intended to protect and enhance aviation safety to the highest standards by promoting a single level of safety worldwide for all users of civilian airspace.

IFALPA believes that UAS technology is not capable of replacing human capabilities, particularly in complex and safety-critical situations. Therefore, IFALPA strongly opposes the use of UAS to supplant the role of pilots in any type of air transport operations.

The safe integration of UAS operations into civilian, non-segregated airspace can only be achieved if UAS are regarded in all ways as aircraft. UAS and their operations must comply with all existing rules and regulations applicable to other aircraft in the same class of airspace. It is not acceptable for such rules and regulations to be changed for manned aviation in order to integrate UAS and their operation.

As a subset of UAS, Remotely-Piloted Aircraft Systems (RPAS) should be fully certified and compliant with the provisions described herein before being allowed to operate in non-segregated public airspace.

Non-compliant UAS will require segregated airspace or mitigation by special authorizations.

Design and Operation

- The design standards and certification regulations for civilian and military UAS that operate in non-segregated, civilian airspace must be subject to the same directives as manned aircraft.

  Note.- The special characteristics of these systems and their operations have to be taken into account.

- A safety assessment with target levels of safety appropriate for the commercial operation must be proven to the certification authorities.Human factors are at least as important in remotely piloted aviation as in manned flight. Human factors shall be considered

- Flight critical components of the communication / data-link and of the ground control station have to be regarded as aircraft parts and therefore included in the certification criteria. They may either be part of a UAS as a whole or under separate type designations.

- Human factors are as important in unmanned aviation as in manned flight. Human factors shall be considered in the design of control stations/devices and in particular the controls, displays, software, and interface as well as the operation of a UAS.

- The operational concept of a UAS should:
  - Provide all information necessary to enable the pilot-in-command to exercise responsibility for the flight, and
  - Enable the pilot to control the flight path as necessary for the safe conduct of the flight.

- Pilots controlling UAS should be free from distractions that compromise safety of operations (“sterile cockpit” concept).

Air traffic control

- A UAS should behave like a manned aircraft and be subject to the Rules of the Air. The operation of UAS in civilian airspace should not make any difference - for example through special flight procedures - to the daily operation of other air traffic participants (commercial and general aviation).
- Each UAS must have a designated pilot-in-command at all times, who shall ensure that the UAS complies with the Rules of the Air and ATC instructions and clearances. A remote pilot shall not operate more than one UAS at any time.
- The response time of a UAS - following ATC instructions - should be comparable to that of a manned aircraft. Delays due to data-link/communication transmission time are not acceptable.
- UAS must be equipped to provide collision avoidance at all times and safe separation when positive ATC separation is not provided (See and Avoid). They must be equipped with Mode C/S transponders, or other approved systems, that are compatible and cooperative with airborne collision avoidance systems installed on manned aircraft.
- UAS have to fit into the existing and future ATM environment and the generally accepted performance criteria for the environment they are operating in.
- State-operated UAS should not be exempt from the above requirements.

Security

- Personnel responsible for preflight preparation, programming, and servicing as well as operating and remotely controlling the UAS shall be security background checked in accordance with standards equivalent to or higher than national laws.
- Persons entering the UAS control/programming station shall be screened in accordance with ICAO Annex 17 provisions for persons other than passengers entering security restricted areas.
- Secure data-link / communication as well as software programming shall be assured to counter cyber-attacks.
- Security controls and procedures shall be in force at the UAS control/programming station in order to prevent unlawful interference and/or potential use of the UAS as a weapon

Licensing and duty time

- The criteria for the selection, licensing, instruction, and training of UAS Operators/Pilots must be established by the Certification Authorities.
- The duty time of remote pilots and associated crewmembers must be adequately limited.
- These criteria and limitations have to be based on the existing regulations for pilots and scientific data.

Legal

- The same legal rules should apply to UAS as manned aircraft.

Dangerous goods

- Dangerous goods shipments shall not be carried on a UAS unless a level of safety equivalent to that of manned aircraft can be achieved.
- UAS carrying dangerous goods must be fitted with an inflight leak/fire detection system, and a fire suppression system.
- Dangerous goods shipments aboard UAS must comply with the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air, including packaging, labelling, per package quantity limitations, notification of pilot-in-command, and reporting requirements.

  Note.- Lower standards for UAS are not acceptable.
- Special attention shall be given to the requirement for notifying the appropriate authorities, including emergency response personnel, of dangerous goods information in case of an incident or accident.
- UAS shall not carry weapons or armaments while operating in civilian airspace.

Ground operations - Airport layout

- The impact of UAS operations at civilian aerodromes should be considered thoroughly.
- UAS operations at civilian aerodromes should not require special procedures causing disruption to normal operations, especially in inclement weather.

Safety Management Systems

- UAS Operators shall implement Safety Management Systems in accordance with ICAO provisions and approved by the State of the Operator.