



NPF/SIP/2010-WP/14

International Civil Aviation Organization

Unmanned Aircraft Systems

Update from the UASSG

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**Workshop on the development of
National Performance Framework for
Air Navigation Systems
(Nairobi, 6-10 December 2010)**

Overview

- > Background on UASSG
- > ICAO function re UAS
- > Evolving concepts
- > UAS Circular



UASSG

- Established by the ANC in November 2007
- Membership: Australia, Austria, Brazil, China, Czech Republic, France, Germany, Italy, Netherlands, New Zealand, Russian Federation, Singapore, South Africa, Sweden, U.K., U.S., CANSO, EASA, EUROCAE, EUROCONTROL, IAOPA, ICCAIA, IFALPA, IFATCA, UVS Intl.

UASSG

- Focal point for all UAS issues within ICAO
- TORs: ...to assist the Secretariat in coordinating the development of ICAO 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.

Convention on International Civil Aviation

Article 8

Pilotless aircraft

on board

No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State undertakes to insure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.

ICAO Focus

- International operations
 - > assure safety, security, efficiency
 - > harmonize across all States, airspaces, aerodromes
- Controlled airspace/aerodromes
- Civil aviation
 - > State aircraft (military, customs, police) exempt

The background features a large, light-colored watermark of the International Civil Aviation Organization (ICAO) logo. The logo consists of a globe with latitude and longitude lines, flanked by olive branches, and surrounded by the text 'ICAO', 'OACI', and 'ИКАО' at the top, and '国际民航组织' and 'المنظمة الدولية للطيران المدني' at the bottom.

Recent developments in UASSG

Evolving concepts

- RPA + Remote Pilot Station + C2 = RPAS
 - > RPAS is subset of UAS
 - > RPA needs registration and CofA
 - > CofA considers entire system
 - > State of Design of RPA includes remote pilot station(s) on Type Certificate Data Sheet
 - > State oversight of remote pilot station essential
 - > QOS/RCP for C2/C3
 - > UAS Operator Certificate details specificities

Evolving concepts

- Remote pilot
 - > Licensing by State of the RPA or remote pilot station - ?
 - > License specifies type of RPA(s) and remote pilot station type of RPA
 - > Requires many new arrangements
 - > Remote pilots not “airmen” or “flight crew”; outside purview of Article 32

Assembly Resolution A36-13, Appendix G

The Assembly resolves that:

2. pending the coming into force of international Standards respecting particular categories, classes or types of aircraft or classes of **airmen**, certificates and licences issued or rendered valid, under national regulations, by the Contracting State in which the aircraft is registered shall be recognized by other Contracting States for the purpose of flight over their territories, including landings and take-offs.

Terminology

Unmanned aircraft system	UAS	(umbrella term)
Remotely-piloted aircraft	RPA	
Remote pilot station		
Remotely-piloted aircraft system	RPAS	(RPA+[rps]+C2)
Remote pilot		
Remote crew		
UA observer		
UAS operator certificate	UOC	(AOC comp.)
Pilot handover		
Detect and avoid		

ICAO *Unmanned Aircraft Systems (UAS)* *Circular (Cir 328)*

- Overview of UAS wrt ICAO framework
- Terminology
- Legal considerations (re Articles of the Convention)
- Operations (rules of the air, ATM, SAR, AVSEC, aerodromes, environment)
- Equipment (aircraft, remote pilot station, ANS infrastructure)
- Personnel (remote pilot, remote crew, ATCO)

Unedited version now available on ICAONET

Conclusion

- Developing concepts for UAS integration
- Laying foundation for development of SARPs, PANS and guidance material
- Comprehensive approach
- Collaborating with States, industry associations, technical specifications-making bodies
- Multi-year undertaking
- **UAS Symposium (3-5 April 2013)**

The background features a large, faint watermark of the International Civil Aviation Organization (ICAO) logo. The logo consists of a globe with wings, surrounded by the acronym 'ICAO' in English and Chinese, and the full name 'OACI' and 'ИКАО' in French and Russian respectively.

*Unmanned Aircraft Systems (UAS)
Circular (Cir 328)*

<http://www.icao.int/icaonet/>

(restricted website)