



DGP-WG/2011-IP/4
18/10/12

**DANGEROUS GOODS PANEL (DGP)
MEETING OF THE WORKING GROUP OF THE WHOLE**

Montreal, 15 to 19 October 2012

Agenda Item 6: Other business

REGULATORY FRAMEWORK FOR REMOTELY PILOTED AIRCRAFT SYSTEMS

(Presented by the Secretary)

SUMMARY

The attached presentation is for the information of the DGP.

APPENDIX

REGULATORY FRAMEWORK FOR REMOTELY PILOTED AIRCRAFT SYSTEMS

ICAO - OACI - ICAO
International Civil Aviation Organization


Regulatory Framework for Remotely Piloted Aircraft Systems

Leslie Cary
Technical Officer, Air Traffic Management Section, ICAO

Dangerous Goods Panel Working Group of the Whole
18 October 2012

Overview

- Why the interest?
- Article 8
- Integration of RPA
- Priorities
- New Standards
- Circular and Manual
- DGS Panel




Panel Briefing: Regulatory Framework for Remotely Piloted Aircraft Systems 2

Why the interest?



**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.

Panel Briefing: Regulatory Framework for Remotely Piloted Aircraft Systems 4

UAS Study Group



- Focal point at ICAO
 - All issues except frequency spectrum (+++)
 - Collaborates with Panels, SG, external bodies
- Develop regulatory framework for UAS to integrate in non-segregated airspace/aerodromes
- Expertise in:
 - Airworthiness
 - ATM
 - Pilot
 - Legal / rule-making

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Integration requirements

- Certification: RPA, operator, remote pilot
- Approval: RPAS as a complete system
- Collision and hazard avoidance
- Interact with ATC and other aircraft
- Security: data links, RPA, remote pilot station
- Predictable actions
- Contingency procedures

Ability to act like any other aircraft!


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ICAO Priorities

- Terminology
- Special authorizations (Article 8 mandate)
- Airworthiness and operational certifications / approvals
- Personnel licensing
- Frequency spectrum (WRC-2015)
- Communication requirements (C2, C3)
- Detect and avoid / ACAS

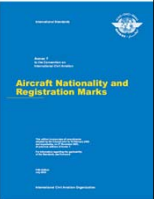
Panel Briefing: Regulatory Framework for Remotely Piloted Aircraft Systems 9

Annex 7 – Aircraft Nationality and Registration Marks




Applicable 15 November 2012

- An aircraft intended to be operated with no pilot on board shall be classified as unmanned
- RPA: an unmanned aircraft which is piloted from a remote pilot station
- Nationality, common and registration marks
- Identification plate




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Annex 2 – Rules of the Air




Applicable 15 November 2012

- RPA “shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the conditions specified in Appendix 4”:
 - > authorization from State of departure
 - > special authorization from all States affected
 - > coordination with ATS provider of high seas airspace
 - > operated in accordance with conditions specified by State of Registry, State of Operator and States overflown
 - > **payload information included in SA request**




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Annex 13 – Aircraft Accident and Incident Investigation




Applicable November 2010

- Definition of “accident” expanded to include unmanned aircraft.

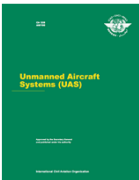


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Unmanned Aircraft Systems (UAS)
(Cir 328)




- 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, ATCO)



Will become obsolete once guidance manual is published. (mid 2014)

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DGS Issues



- RPA will be utilized for cargo, including dangerous goods
 - > Approvals from States
 - > Notification of remote pilot-in-command
 - > Notification of ground handlers
 - > Notification of other stakeholders
- ...
- To be addressed by DGS Panel

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ICAO
Uniting Aviation on
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