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WORKING PAPER

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Second NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/2)
Puntarenas, Costa Rica, 1 to 4 June 2015

Agenda Item 3: Global/Regional Air Navigation Developments

UNMANNED AIRCRAFT SYSTEM (UAS) AND REMOTE PILOTED AIRCRAFT SYSTEM (RPAS)

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This Working Paper presents guidelines for integrating UAS into the ATS airspace, so as to ensure safety air operations between Air Navigation Service Providers (ANSP) and users.

Action:	Suggested action in Paragraph 3
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>Reference:</i>	<ul style="list-style-type: none">• Final report of the Fourteenth Directors of Civil Aviation of the Central Caribbean Meeting (C/CAR/DCA/14), Kingston, Jamaica, 11 to 13 May 2015.

1. Introduction

1.1 The Fourteenth Directors of Civil Aviation of the Central Caribbean Meeting (C/CAR/DCA/14), held in Kingston, Jamaica, 11 to 13 May 2015, took an incremental approach for the Unmanned Aircraft System (UAS) integration into the ATS airspace considering operational issues.

1.2 The High-level Safety Conference (HLSC) 2015 acknowledged the need for the States and ICAO Regional Offices to continue focusing on Remotely Piloted Aircraft Systems (RPAS) integration in the civil airspace in safe conditions and the continuous adoption of proactive safety management approaches. HLSC 2015 issued recommendations are available in <http://www.icao.int/Meetings/HLSC2015/Pages/default.aspx>.

1.3 The C/CAR/DCA/14 Meeting, approved the Conclusion 14/8, attached in the **Appendix** to this Working Paper urging the C/CAR States to develop a *Remote Piloted Aircraft System (RPAS) Operations Regulatory Framework*.

2. Discussion

2.1 UAS are used for public missions such as disaster relief, search and rescue, law enforcement, border patrol, scientific research, and testing and evaluation. UAS operate potentially range from ground level to above 50,000 feet, depending on the type of aircraft.

2.2 Unmanned aircraft (UA) are, indeed, aircraft; therefore, existing SARPs apply to a very great extent. In addition, according to the Article 12 to the Chicago Convention, the rules of the air apply to all aircraft, manned or unmanned. Furthermore, they oblige contracting States to maintain national regulations uniform with ICAO Standards, to the greatest possible extent, and to prosecute all persons violating them.

2.3 These Standards apply over the high seas without exception. Annex 2 is applicable to aircraft bearing the nationality and registration marks of a contracting State, wherever they may be, to the extent that the marks do not conflict with the rules published by the State having jurisdiction over the territory overflown.

2.4 Annex 11 — *Air Traffic Services* relates to the establishment of airspace, ATS units and services necessary to promote a safe, orderly and expeditious flow of air traffic which, along with Annex 2, is intended to ensure that flying on international air routes, is carried out under uniform conditions designed to improve the safety and efficiency of air operation.

2.5 Air operators must have approval from the State of the Operator before conducting operations in high seas airspace. They must likewise coordinate their operations with the ATS provider responsible for the airspace concerned.

2.6 The introduction of RPAs must not increase the risk to other aircraft or third parties and should not prevent or restrict access to airspace. ATS procedures for RPA should mirror those for manned aircraft whenever possible. ATC must receive pre-flight notification/application that an aircraft is remotely-piloted.

2.7 Aircraft operating without a pilot on board present a wide array of hazards to the air operations in the civil airspace. These hazards must be identified and the safety risks mitigated, just as with introduction of an airspace redesign, new equipment or procedures.

2.8 In order for UAS to integrate into non-segregated airspace and at non-segregated aerodromes, there shall be a pilot responsible for the UAS operation. Pilots may utilize equipment such as an autopilot to assist in the performance of their duties; however, under no circumstances will the pilot responsibility be replaced.

2.9 States should take action for timely integration of the UAS into the ATS airspace, as well as determining training requirements for operational personnel, as acquiring a better understanding of airworthiness issues and other emerging tools. These aspects should cover daylight flights, visual-line-of-sight operations and height restrictions, as needed.

3. Suggested Action

3.1 The Meeting is invited to:

- a) take note of the information presented in this Working Paper;
- b) urge States to take appropriate actions based on the Conclusion 14/8 of the CCAR/DCA/14 Meeting; and
- c) recommend other actions as deemed necessary.

APPENDIX**CONCLUSION
C/CAR/DCA/14/8****REMOTE PILOTED AIRCRAFT SYSTEM (RPAs) OPERATIONS
REGULATORY FRAMEWORK**

That:

- a) C/CAR States, in coordination with ACSA/COCESNA and CASSOS, establish a regulatory and operational framework in the ATS airspace and international aerodromes under their jurisdiction in order to:
 - i. facilitate the implementation of safety risk management tools related to Remote Piloted Aircraft System (RPAs) operation;
 - ii. utilize the existing mechanisms for the purpose of sharing critical information related to RPAs operations and airspace use restrictions;
 - iii. facilitate educational means by media and other tools for users regarding RPAs operations;
 - iv. conduct risk assessment of non-regulated use of RPAs in the vicinity of aerodromes;
 - v. support coordination between Civil/Military authorities to ensure the safety of civil aircraft operations as outlined in ICAO Cir 330 — *Civil/Military Cooperation in Air Traffic Management*; and
 - vi. request assistance to ICAO NACC Regional Office regarding regulatory framework as outlined in ICAO Cir 328 — *Unmanned Aircraft Systems (UAS)*.
- b) the ICAO NACC Regional Office coordinate the organization of a CAR/SAM forum on RPA by **31 July 2015**; and
- c) the ICAO NACC Regional Office report on the progress of regulatory development and implementation of RPAs to the C/CAR/DCA/15 meeting.

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