NACC/WG/7 — WP/35
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**Seventh North American, Central American and Caribbean Working Group Meeting (NACC/WG/7)**
ICAO NACC Regional Office, Mexico City, 30 August - 1 September 2022

**Agenda Item 4:**     **NACC/WG Work Programme Update to 2024**
4.5     Emerging technologies and regional challenges

**INTEGRATION OF UNMANNED AIRCRAFT SYSTEMS**

(Presented by the Secretariat)

| EXECUTIVE SUMMARY | |
|---|---|
| This working paper provides a summary of the available information regarding the integration of unmanned aircraft systems. | |
| **Action:** | Suggested actions are presented in Section 2. |
| *Strategic Objectives:* | • Safety |
| *References:* | • Sixth North American, Central American and Caribbean Working Group Meeting (NACC/WG/6), online, 25 – 27 August 2021 https://www.icao.int/NACC/Pages/meetings-2021-naccwg6.aspx. |

**1.          Information**

1.1          Unmanned aircrafts systems (UAS) are increasingly used around the world to support emergency and rescue missions, urban fires, wildfires, floods, and earthquakes, operations with UAS assist firefighters, police, paramedics/medics, and during the pandemic of COVID-19 have seen its applications in many other activities, from socialization, sanitation, shipment of supplies and medicines, etc.

1.2          Operations with unmanned aircrafts and services that they provide are exponentially growing and one fundamental concern is that States are not prepared for these operations and their implications. One of the biggest challenges that the States are facing is the establishment of a regulatory frame for the UAS operations that are integrated into the civil aviation State regulation, especially the establishment between the regulations and the requirements of the RPAS and UAS operations, and the preparation and development of the capacity of national inspectors.

1.3         ICAO has developed a series of documentation to support the States in the development process or their regulations, procedures among other tools, for the integration of these operations in their airspace. This documentation will support the States in the establishment of harmonization in the development of their regulation, the establishment of security for the integration of unmanned aircraft systems operations and, overall, to establish the documentation on how the States must address this issue and, in line with ICAO documentation, integrate the requirements and regulations for its operations.

1.4         ICAO has established the following documentation for unmanned aircraft systems operations:

Categorization

a.  Open category and specific categories: *ICAO Model for UAS regulations* Part-101 and Part-102, which is an example for ICAO Member States to establish a regulation for unmanned aircraft operations. The document under the following link: https://bit.ly/3e46ayN
b.  Certified category: All ICAO annexes apply.
c.  Aviation Organization Approval (AOA): For unmanned aircraft operators, example for regulation development: *ICAO Model for UAS regulations* Part-149: https://bit.ly/3RqPaB4
d.  In addition to information and guides that ICAO has developed to support States in dealing with the operation of unmanned aircraft due to the diversity of applications.

*ICAO regulatory model for unmanned aircrafts*



1.5         In the case of the certified aircrafts category, the here-under requirements are followed in accordance with the ICAO Annexes.

1.6         All ICAO Annexes are affected by these operations, therefore, at the time of development of the national regulation, procedures, and others, these requirements must be integrated and their applicability analyzed according to the type of operation:

| Annexes | Provisions | Area |
|---|---|---|
| Annex 1: Personnel licenses | Remote pilot licenses | *Safety (SAF)* |
| Annex 2: Rules of the Air | General rules and additional documentation under development. | *Air Navigation (ATM)* |
| Annex 3: Meteorological services for international air navigation | Requirements for operations | *Air Navigation (MET)* |
| Annex 4: Aeronautical charts | Requirements for operations | *Air Navigation (AIM)* |
| Annex 5: Units of measurement to be used in air and land operations. | To be determined | *Air Navigation (AIM)* |
| Annex 6: Aircraft operations | New volume in development | *Safety (SAF)* |
| Annex 7: Aircraft nationality and registration marks | Unmanned aircraft registration and marking | *Air Navigation (AIM)* |
| Annex 8: Airworthiness | Requirements according to the type of aircraft | *Safety (SAF)* |
| Annex 9: Facilitation | Entry and take-off of aircraft and transport operations | *Security and facilitation (AVSEC/FAL)* |
| Annex 10: Aeronautical Telecommunications | New volume under development for links required for unmanned aircraft operations | *Air Navigation (CNS)* |
| Annex 11: Air Traffic Services | Provisions for unmanned aircraft operations | *Air Navigation (ATM)* |
| Annex 12: Search and Rescue | According to the operations and type of aircraft | *Air Navigation (ATM)* |
| Annex 13: Aviation Accident and Incident Investigation | Requirements for unmanned aircraft operations | *Safety (SAF)* |
| Annex 14: Aerodromes | Requirements for unmanned aircraft operations | *Air Navigation (AGA)* |
| Annex 15: Aeronautical Information Services | Requirements for unmanned aircraft operations | *Air Navigation (AIM)* |
| Annex 16: Environmental protection | Requirements for unmanned aircraft operations | *Air Navigation (MET)* |
| Annex 17: Security | Cybersecurity and Physical Security Requirements | *Security and facilitation (AVSEC/FAL)* |
| Annex 18: Safe transport of dangerous goods by air | Transport of dangerous goods in unmanned aircraft | *Safety (SAF)* *Security and facilitation (AVSEC/FAL)* |
| Annex 19: Safety management | Risk management and analysis for unmanned aircraft operations | *Air Navigation (AIM, AGA, ATM, CNS, MET)* *Safety (SAF)* |

**2.**      **Suggested actions:**

2.1      The Meeting is invited to:

    a) establish mechanisms within the States that ensure covering the different needs to regulate the operations of unmanned aircraft systems; and

    b) other applicable action.

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