



ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Other issues to be considered by the Technical Commission

IMPLEMENTATION OF OPERATIONAL REQUIREMENTS FOR REMOTELY PILOTED AIRCRAFT SYSTEMS (RPAS) IN THE SAM REGION

(Presented by Peru and supported by the following ICAO SAM States and the Latin American Civil Aviation Commission (LACAC) States²)

EXECUTIVE SUMMARY

This working paper presents to the Assembly the progress made in Peru and other countries of the South American (SAM) Region in regulating the use and operations of remotely piloted aircraft systems (RPAS). It also presents the limitations that exist to date on ensuring control over entry to each country, limitations on the registration and oversight of operations, and a lack of regulation of the establishment of drone pilot schools.

The aim of this paper is to harmonize the SAM Region regulations for the control of entry to States, the registration and oversight of RPAS operations, and the creation of *drone schools*.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective <i>Safety</i> .
<i>Financial implications:</i>	N/A
<i>References:</i>	SAM Region RPAS regulations and draft regulations

1. INTRODUCTION

1.1 Remotely piloted aircraft systems (RPAS) are a new component of the aviation system whose technological development now allows for various applications. The States have begun the process of standardizing RPAS operations amidst benefits to socioeconomic development obtained from these new technologies. At the same time, these technologies present risks to safety and privacy.

¹ Spanish version provided by Peru.

² Belize, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Panama, Uruguay and Venezuela (Bolivarian Republic of).

1.2 Article 8 of the Chicago Convention on International Civil Aviation enshrines operations of pilotless aircraft and sets out the safety measures to be taken by States to obviate danger to civil aircraft.

1.3 Amendment 45 of the International Standards in Annex 2 — *Rules of the Air* of the Convention on International Civil Aviation relates to the *Protection of persons and property, 3.1.9 Remotely piloted aircraft*.

1.4 ICAO Cir 328, *Unmanned Aircraft Systems (UAS)* is a document whose purpose is *to apprise States of the emerging ICAO perspective on the integration of UAS into non-segregated airspace and at aerodromes, inter alia*.

1.5 The Regional Project RLA/99/901 Regional Safety Oversight Cooperation System provides Model Regulations on Remotely Piloted Aircraft Systems (RPAS).

1.6 Supplementary Technical Standard (NTC) No. 001-2015 dated 3 November 2015 establishes the requirements for remotely piloted aircraft systems operations in Peru.

1.7 Act No. 30740 regulates the use and operations of remotely piloted aircraft systems (RPAS) in Peru.

2. ANALYSIS

2.1 NTC No. 001-2015 was the first regulatory experience Peru had with respect to this matter, and it establishes the requirements and restrictions on the operation of RPAS for civil use, among other things.

2.2 In 2018, the Congress of the Republic of Peru promulgated Act No. 30740, establishing a series of requirements for granting licences and registrations, as well as restrictions, exclusions, and prohibited operations, the determination of geographic areas for RPAS tests and the categorization of violations and sanctions. The Act is currently undergoing the regulatory development process.

2.3 Only those RPAS weighing between 2 and 25 kg are considered to fall within the scope of application of NTC No. 001-2015, however Act No. 30740 expressly excluded remotely piloted aircraft weighing less than 2 kg. We do not have regulations for RPAS weighing less than 2 kg.

2.4 Considering current technological advances and the demands of a market imposing greater challenges, “the maximum take-off weight of an RPAS” should not be the sole benchmark, but rather its autonomy must fundamentally be taken into consideration.

2.5 Over the last two years, 4 900 commercial-use RPAS have entered Peru, and 900 have been registered with the Dirección General de Aeronáutica Civil (DGAC) as of June 2019. Of this total, only five requested authorization for operations in urban areas.

2.6 From 2017 to May 2019, 934 remotely piloted aircraft (RPA) pilots registered, with basic instruction provided at civil aviation training centres (CATCs).

2.7 Furthermore, adequate regulations do not exist for continuous control and oversight of RPAs once they enter the country. In this respect, States have two options: first, to prohibit the entry of

RPA, and/or second, to have adequate regulations that make possible continuous oversight and control of RPAs entering the country.

2.8 From our review of the legislation of the SAM Region countries, we see that similar problems arise, in some more than others, but that overall, they have an impact on safety.

2.9 In Brazil, the number of drones is “skyrocketing and according to Agência Nacional de Aviação Civil (ANAC), the number of registered drones jumped by 154 per cent from 13 246 in July 2017 to 33 675 in February 2018. However, the number of drones operating in Brazil is considered to be almost 50 000”, a very conservative number.

2.10 Although Brazil has detailed legislation on the use of drones or RPAs, Manuel Martínez, a specialist from El Salvador and drone consultant for Latin America, indicates that “the aviation authorities have neither the personnel nor the equipment to oversee the entry and use of these aircraft. In Brazil ‘there is no radar that captures the flight’ of these aircraft”³.

2.11 Colombia has updated its RPAS regulation through an amendment of Appendix 13 of RAC 91 as of 5 February 2019. We did not find any regulation establishing a way to control the entry of drones to the country or tools enabling drone flights in areas considered “safety areas” to be controlled, although the regulation does not allow operations in restricted areas. We consider it progress that various authorities such as the national police are granted the authority to investigate, examine and confiscate drones lacking the corresponding authorization from the aviation authority.

2.12 Another significant advance is the fact that although registration is required from 250 g to 150 kg, there has been a relaxation of open operations (Class A) for RPAs weighing between 250 g and 25 kg, and for those regulated as Class B, namely aircraft weighing between 25 kg and 150 kg. Although they specify what areas such drones must and must not fly in, it is not sufficient for their control and oversight.

2.13 On 28 May 2019, the Republic of Argentina published draft Regulation No. 37375 on unmanned aerial vehicles (UAVs) and unmanned aerial vehicle systems (UAVS) in order to obtain comments from the users. Despite being a draft regulation involving considerable treatment of the classification, registration and authorization of operations from 500 g to 150 kg and above, it suffers from the same lack of regulations for the entry of various types of drones to the country, for tools for the oversight of operations in restricted and safety areas, and for the creation of schools specialized in training drone pilots.

2.14 On 28 August 2014, in the Eastern Republic of Uruguay, Dirección Nacional de Aviación Civil e Infraestructura Aeronáutica (DINACIA) approved Resolution 291 of 28 August 2014, which is undoubtedly one of the first regulations in the SAM Region. This regulation established three types of drones: small (up to 25 kg), medium (between 25 and 260 kg) and large (above 260 kg). At the same time, it makes a distinction between the types of operations the operators wish to carry out, i.e. sport and recreation or remunerated activity. For all of the categories of drones conducting remunerated activities registration is required, as is an aviation licence or operator permit requiring theoretical or practical exams to have been passed, depending on the case, and an airworthiness certificate, if relevant. In the case of sporting activity or recreation, small drones are not required to register or have a licence, but their operations are limited in terms of height, geographical location, visual meteorological conditions (VMC) and line of sight. For the medium category, registration is required, as is an operator permit requiring

³ <https://www.diariolasamericas.com/america-latina/los-drones-se-multiplican-brasil-y-se-salen-del-control-las-autoridades-n4147180>

theoretical and practical exams to have been passed, and height restrictions are also imposed. Drones in the large recreational category are also considered aircraft and in order to operate, they must comply with all of the applicable OPS, PEL and AIR regulations. There are areas prohibited for drone operations and others declared free flight areas. The training of drone operators at CATCs is planned. A draft Letter of Agreement is currently being developed with the Ministry of the Interior, to the effect that the Ministry will be able to oversee the operation of drones and confiscate those operating outside the established regulations. There are 370 registered operators, and it is estimated that there are about 7 000 drones on the market, ranging from micro drones to medium-sized drones.

2.15 In the case of Paraguay, on 21 November 2017, DINAC issued Regulation No. 2170/2017 approving Dirección Nacional de Aeronáutica Civil (DINAC) Regulation R.1103 on RPA and RPAS. The regulation is very detailed with respect to a glossary of terms, classification, operations, registry, crew members and insurance. Nevertheless, it lacks tools for control and oversight, not only for operations, but also for the entry of drones and for pilot training schools.

2.16 Ecuador has had regulations on drones since 15 September 2015 and considers areas prohibited for the operation of drones to be those close to military bases or aerodromes, places where aeroplanes take off and land. Similarly, there are no regulations to control the entry of drones to the country or for the creation of drone pilot schools.

2.17 On 24 August 2016, Venezuela issued Administrative Ruling No. PRE-CJU-GDA-474-16, a standard regulating the granting of permits and aerial work. However, they lack regulations on drone registry in general, operating permits at a general level, as well as regulations on the entry of drones to the country, pilot schools, and on other issues that are also lacking in the other SAM Region countries.

2.18 With the above in mind, taking into consideration the exponential growth of RPAS in the region in terms of both number and autonomy, harmonized regulations are needed that enable States to control the entry of RPAs into their States, and to ensure safety in the airspace through procedures for monitoring and oversight of operations, as well as personnel trained in duly certified schools.

3. CONCLUSIONS

3.1 The SAM Region requires standardized regulations and tools for maintaining control over the entry of RPAS into their territories. ICAO should provide the countries of the SAM Region with appropriate tools that enable each State to be able to monitor and oversee the operations of the RPAS registered on their territories.

3.2 ICAO should provide the States of the SAM Region with certification tools, taking into account all of the aspects required by the current technology.

3.3 It is recommended that the States of the SAM Region consider incentivizing the creation of RPAS Training Centres in their regulations by establishing a minimum of courses that should be required for drone pilot training.