

**55th CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGION**

*Denarau Island, Nadi, Fiji
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AGENDA ITEM 1: THEME TOPIC

**COLLABORATIVE APPROACH TO FACILITATE THE USE OF
REMOTE PILOT AIRCRAFT SYSTEMS (RPAS) FOR THE
MEMBER STATES OF THE PACIFIC AVIATION
SAFETY OFFICE (PASO)**

Presented by PASO and its Member States: Cook Islands, Kiribati, Nauru, Niue,
Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, and
PASO Associate members: Australia, Fiji, New Zealand

INFORMATION PAPER

SUMMARY

This information paper updates the conference on activity being led by the Pacific Aviation Safety Office (PASO) around remotely piloted aircraft systems (RPAS) in the PASO Member States, being the Pacific Island States

The paper sets out the challenges, needs and areas of priority for PASO Member States and the current collaborative efforts being led by PASO in respect of RPAS.

COLLABORATIVE APPROACH TO FACILITATE THE USE OF REMOTE PILOT AIRCRAFT SYSTEMS (RPAS) FOR PASO MEMBER STATES

1. INTRODUCTION

1.1 This paper is submitted on behalf of all current PASO Member States, being the Cook Islands, Kiribati, Nauru, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

1.2 It is well known that aviation regulators around the world are struggling to address the challenges posed by increasing RPAS activity. While most jurisdictions have now introduced rules to govern RPAS, a comprehensive framework that covers the full range of RPAS operations and integration in to existing aviation environments has not yet been developed. Many countries around the world are trialing different approaches to regulatory oversight and management of RPAS and at the same time monitoring international developments.

1.3 The Pacific region is no different. A lack of resources and limited RPAS activity in the Pacific region means that Member States are likely to be policy takers rather than policy makers, learning from other regulators around the world and following international developments closely. However, as small States with limited resources, small bureaucracy, limited aviation activity, and unique operating conditions there are opportunities and a need for the Pacific to be responsive and innovative in the management of RPAS as an emerging technology and as an increasingly important part of the aviation sector. Exploiting the many opportunities that RPAS offers will depend just as much on sensible regulation as on technological progress.

1.4 The increased use of RPAS presents a range of regulatory challenges including the need to ensure that RPAS are operated safely, without harming public and national security, and in a way that balances privacy interests as well as protects areas of national, historical, or natural importance.

1.5 The PASO Council has recognised that there are opportunities and benefits to the region working collaboratively on RPAS-related matters. There is natural focus on harmonization of legislation and standards, but a concurrent priority around capability and capacity building. Accordingly, an RPAS Working Group has been established to deliver better understanding and consider cooperative initiatives that will assist Member States to navigate regulatory challenges associated with RPAS. The Working Group will also be focused on monitoring developments at the International Civil Aviation Organization (ICAO) level and occurring within larger jurisdictions, with the overarching goal of guiding and informing Member States in respect of their domestic regulatory and oversight activities around RPAS.

1.6 The purpose of this paper is to:

1.6.1 Encourage larger States involved in ICAO's RPAS standard development activities to be mindful of the Pacific Regions needs and context;

1.6.2 Provide information to States within the Asia-Pacific region about the collaborative PASO efforts around RPAS;

1.6.3 Invite States within the Asia-Pacific region to consider how they may support or assist PASO and the Pacific region around RPAS challenges.

2. PACIFIC RPAS CHALLENGES

2.1 Like in other jurisdictions, the increasing use of RPAS has the potential to disrupt the current aviation system across the Pacific region. The most significant risk is of course a mid-air collision between an RPAS manned aircraft. There is also a risk of mid-air failure of an RPAS, posing a threat to people and property below. The need for regulation and oversight is obvious.

2.2 Like, in other jurisdiction the key safety challenges associated with RPAS activity in the Pacific are driven by three key factors:

2.2.1 Operational risks inherent to RPAS – RPAS present a unique challenge to an aviation regulatory system which is based on the principle that an aircraft is flown by an on-board pilot-in-command. Basic assumptions relating to the situational awareness of the pilot and their ability to respond to safety risks require reconsideration in the context of RPAS.

2.2.2 Broadening of the aviation participant profile to non-traditional operators – RPAS are now widely available for purchase online, often at very low cost, and there are no restrictions on their importation. Many of the new operators and manufacturers of RPAS have had little experience with the aviation system, and no history of engagement with the CAA or aviation regulations. RPAS also create challenges with tourists/visitors to States who have a lack of familiarity with the jurisdiction in which they are operating.

2.2.3 A lack of information about RPAS activity in Member States – The civilian use of RPAS is novel in terms of the traditional oversight of the National Aviation Authorities (NAAs). Further, the RPAS industry is new and rapidly developing, with considerable uncertainty around its current and projected size and activity. Almost all States internationally have a lack of information on the RPAS sector. Without a reasonable understanding of the nature and extent of activity in the sector, State are unable to appropriately address, and plan for, the safety risks associated with RPAS.

2.3 As with other States, the proliferation of the remotely piloted aircraft systems (RPAS) is proceeding at an uncontrollable speed within the Pacific region, leading to ‘growth pains’ within NAAs.

2.4 In the Pacific context NAAs are not currently equipped or resources to keep pace with the need to:

2.4.1 Effectively monitor and implement ICAO and overseas developments;

2.4.2 Introduce primary and secondary level legislation to respond to, better accommodate and deal with RPAS;

2.4.3 Undertake domestic-focused and contextualized policy and standard development to manage the safety and security risks associated with RPAS;

2.4.4 Train and upskill existing regulatory personnel to deal with RPAS;

2.4.5 Implement education and awareness measures;

2.4.6 Effectively and efficiently enforce requirements;

2.5 This may inhibit the ability of the Pacific to harness the benefits offered by RPAS technology.

2.6 PASO believes that the key barriers to successfully harnessing RPAS technology are:

2.6.1 Absence of harmonized RPAS standards relevant to the Pacific islands environment that could be used consistently across the PASO member States immediately;

2.6.2 Non-availability of skilled personnel to guide and provide RPAS advice and oversight for the member States;

2.6.3 The limited financial resources required to strengthen and sustain PASO and its member States capacity to effectively manage and mitigate safety and security risks and

2.6.4 Lack of State funds to maintain public awareness of the safety and security requirements and enforcement capacity.

3. DISCUSSION

3.1 PASO is well aware that ICAO is in the process of developing guidance material and Standards and Recommended Practices (SARPs) for RPAS. It is acknowledged that this is a long-term and ongoing project which will have a significant impact on RPAS regulation internationally and in the Pacific region. As the development of ICAO SARPs continues, they will have an impact on the nature of Member States' regulatory frameworks for RPAS.

3.2 We acknowledge that ICAO has already released an advisory circular and amendments to ICAO Annexes concerning RPAS. The guidance provided by ICAO so far has mainly focused on identifying issues that will need to be considered in order to integrate RPAS into the civil aviation system. More detailed guidance from ICAO to assist states with the development of a regulatory framework for RPAS will come, and the Pacific region needs to be positioned to respond and adapt.

3.3 The Pacific Islands, on their own, lack the resources and capacity to develop a consistent and harmonised RPAS safety and security rules to manage RPAS in the region. This presents some serious and immediate challenges for Pacific Island States who have to mitigate these diverse differences and challenges while harnessing the enormous benefits that RPAS offers to the Pacific Island economies.

3.4 Promoting the ongoing and regular adoption, into domestic civil aviation legislation, of the relevant ICAO Annex amendments that relate to RPAS will bring PASO Member States into compliance with ICAO standards. While it is acknowledged that ICAO standards do not apply to domestic aviation activities, it would be impractical and undesirable to have a separate set of regulatory requirements for domestic and international operations. The application of consistent RPAS standards to both international and domestic operations will ensure a consistent implementation of global best practice regulation for all RPAS activities conducted in Member States.

3.5 The ICAO SARP development must be cognisant of how smaller, less resourced States, are likely to respond to and adopt ICAO guidance and SARPs. The nature and degree of civil aviation systems and activity will also be relevant. By way of example, most PASO member States do not have the domestic airspace available for uncontrolled RPAS operation. In fact, in some cases-controlled airspace for aviation purposes covers more than fifty percent of total national domestic airspace. In some States, the location of international airports means entire Islands are within controlled airspace.

3.6 The purpose of this paper is to remind ICAO and those States actively contributing to standard development that international RPAS standards are likely to be adopted as domestic requirements. For this reason, ICAO and contributors should be mindful of the needs and circumstances of all States, including Pacific States, which do not have the same maturity in regulatory system, nor the same operating conditions as larger States. Put simply, the Pacific does not want to be left behind during or after this key phase of RPAS standard development.

3.7 PASO, and its members, encourage ICAO and contributing members to prioritise efforts to develop and introduce the necessary SARPs and guidance, to ensure that the regulatory environment is not compromised because of the pace of technology development.

3.7.1 PASO is also advocating for ICAO to ensure that its work programme considers how States can proactively mitigate and prevent the use of RPAS for malicious activities that could endanger lives, aircraft and vital public and private infrastructures.

4. PASO RPAS COLLABORATION AND WORKING GROUP

4.1 The PASO council in 2017 with the support of World Bank funding established the RPAS Working Group consisting of representatives from the Cook Islands, New Zealand, Niue, Samoa and PASO to provide advice to States on the best approach to harmonise the management and coordination of the safety and security of RPAS operations in Pacific Island States PIS.

4.2 The primary aim is for PASO to facilitate the collaboration amongst Members States to share their experiences and challenges through the Working Group. The Working Group was tasked to develop a work programme to achieve a harmonised approach to the safety and security oversight of RPAS operation in the PASO Member countries.

4.3 Funding of \$500,000 USD via the World Bank has been allocated for collaborative RPAS activities in the Pacific region.

4.4 The RPAS Working Group Terms of Reference were endorsed by the PASO council in May 2018.

4.5 The Working Group is at any early stage having only met several times since establishment. The key focus has been on developing a program design to guide the Working Group’s activities over the next 3 years.

4.6 The Goals and outcomes of the PASO RPAS Working Group are:

Goal	<ul style="list-style-type: none"> • That a safe aviation environment is achieved through a collaborative program that supports aviation and economic security in the Pacific.
Long Term Outcomes	<ol style="list-style-type: none"> 1. That clear, appropriate, consistent, and enforceable RPAS legislation and/or aviation rules are in place in PASO Member States 2. That the RPAS capacity of Civil Aviation Departments is improved 3. That PASO is providing RPAS services to its Members 4. That the general public and other key stakeholders have improved awareness of RPAS in the Pacific.
Intermediate Outcomes	<ol style="list-style-type: none"> 1. That State legislation and policy concerning RPAS (importation, security, disaster relief, medicine, etc) are enacted and implemented in the region 2. That RPAS aviation rules are reviewed for appropriateness and applied where required 3. That RPAS training plans are in place for NAA staff 4. The general public and other key stakeholders have improved awareness about RPAS in the Pacific 5. RPAS expertise is brought on to the PASO Pool of Inspectors

4.7 PASO and the RPAS Working Group would welcome support and assistance from the States with training and funding resources available as well those States that are advanced in RPAS standard development.

4.8 The work completed by ICAO around RPAS to this point is acknowledged and supported. However, we accept that a harmonized RPAS regulatory framework and guidelines are unlikely to be available soon. While some Members States have adopted and adapted New Zealand RPAS Civil Aviation Rules as their own, many have not, and have no regulatory framework for RPAS within their jurisdictions. These States need urgent assistance, in the form of access to expertise and overseas learnings, funding and training of personnel. While the Working Group will take a lead role in assisting in this space, external support is desirable and needed.

4.9 In the absence of the ICAO standards and recommended practices, the PASO working group is working to establish a work programme to assist States in managing their oversight of RPAS in the interim.

4.10 Proposed activities of the Working Group (subject to approval by the World Bank and PASO Council in December 2018) include:

4.10.1 Engagement of legal expertise to assess RPAS legislation (namely Rule sets) in place in all of the PASO Member States, and the availability of supplementary technical guidance;

4.10.2 Engagement of technical expertise to develop uniform operating requirements for RPAS in post-disaster situations;

4.10.3 Capability and capacity building within NAAs;

4.10.4 A public awareness and information campaign within the Pacific (including targeting tourists), potentially utilizing existing available materials and expertise within the region.

5. ACTION BY THE CONFERENCE

5.1 The Conference is invited to:

5.1.1 **NOTE** the contents of the paper;

5.1.2 **NOTE** the collaborative approach that PASO and Member States are applying to RPAS in the region;

5.1.3 **NOTE** that ICAO other contributors are requested to prioritise and increase their efforts to conclude their work on RPAS SARPS development, while also keeping the interests and needs of all States (including those in the Pacific region) in mind; and

5.1.4 **NOTE** that measures to prevent and mitigate the use RPAS for malicious purpose should be included in future proposals.

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