



ICAO BANGKOK

UNITING AVIATION

ICAO Asia/Pacific Activities and Regional Guidance on UAS

UAS/RPAS Webinar
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- **APANPIRG/27** – Bangkok, Thailand, September 2016

...the incorporation of a specific UAS Block 1 (ASBU) element within the Asia/Pacific Seamless ANS Plan (2019) to ensure a more harmonized approach across the Asia/Pacific Region.

- **Decision APANPIRG/27/17: Asia/Pacific Unmanned Aircraft Systems Task Force (APUAS/TF)**

Formed to *inter alia* develop the Seamless ANS Plan element, and associated guidance.



RPAS Workshop – Bangkok, Thailand, 12 – 23 November 2016 ([link](#))

- Background, ICAO RPAS Framework, Case Studies.

APUAS/TF/1 – April 2017 ([link](#))

APUAS/TF/2 – March 2018 ([link](#))

APUAS/TF/3 – March 2019 ([link](#))

DRONE ENABLE/2 (global event 2018) ([link](#))





APUAS/TF Outcomes

Background information and a **performance expectation** in the Asia/Pacific Seamless Air Navigation Services Plan Version 3 (2019)

Preferred Aerodrome/Airspace and Route Specifications (PARS) Phase II (expected implementation by 07 November 2019)

Unmanned Aircraft Systems

7.17 States should implement regulations supporting the integration of UAS operations in non-segregated airspace, using a risk-based approach and in accordance with the Asia/Pacific Regional Guidance for the Regulation of UAS, as a minimum.



ASIA/PACIFIC SEAMLESS ANS PLAN

Version 3.0, November 2019

This Plan was originally developed by the Asia/Pacific Seamless ATM Planning Group (APSAPG) and amended when appropriate by APANPIRG.

Approved by APANPIRG/30 and published by the ICAO Asia and Pacific Office, Bangkok



APUAS/TF Outcomes

Asia/Pacific Regional Guidance for the Regulation and Safe Operation of UAS in National Airspace (Version 1.0 August 2019)



[ICAO Asia/Pacific eDocuments web page](#)



ASIA/PACIFIC REGIONAL GUIDANCE FOR THE REGULATION AND SAFE OPERATION OF UNMANNED AIRCRAFT SYSTEMS WITHIN NATIONAL AIRSPACE

Version 1.0, August 2019

This Plan was developed by the Asia/Pacific Unmanned Aircraft Systems Task Force (APUAS/TF)

Approved by ATM/SG/7 and published by the ICAO Asia and Pacific Office, Bangkok



Conclusion ATM/SG/7-9: Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace

*That, the Asia/Pacific Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace **at Appendix H to the Report** be adopted, and uploaded to the ICAO Asia/Pacific Regional Office eDocuments web-page.*



Asia/Pacific Guidance for Regulation of UAS

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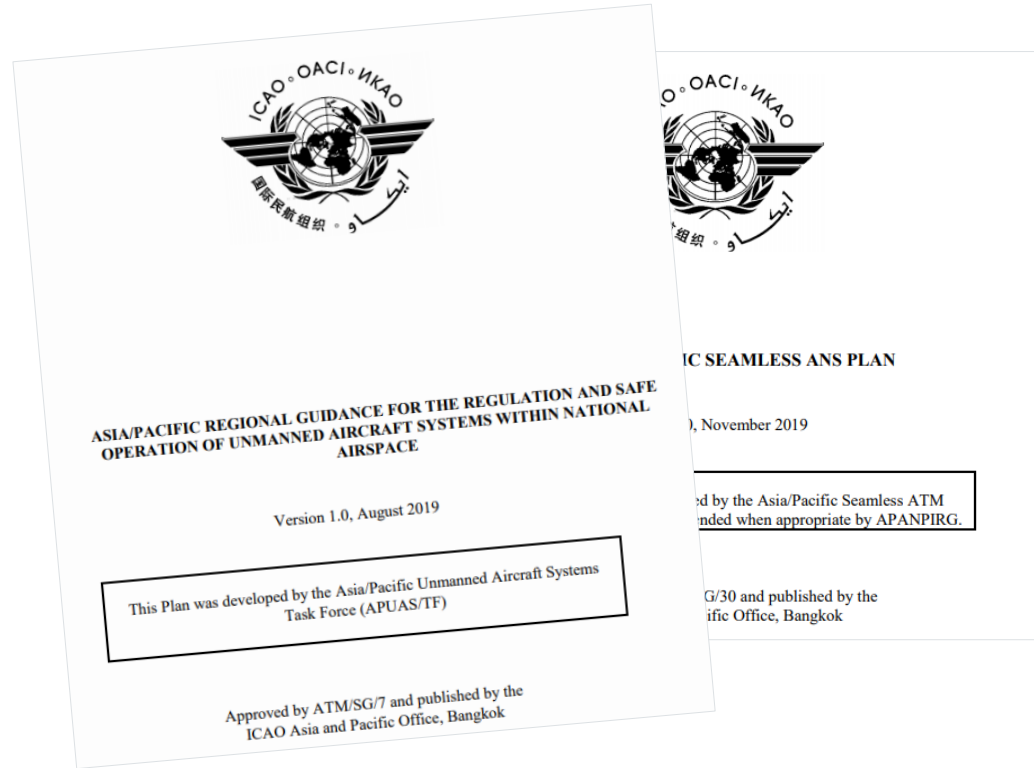
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REGULATORY GUIDANCE SYSTEMS

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Categories of Unmanned Aircraft

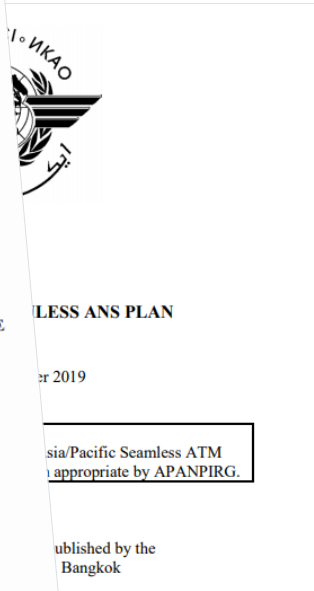
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Appendix A: Example Process for Authorization or Exclusion of UAS - India A-1

Appendix B: Example Process for Authorization or Exclusion of UAS - USA B-1

SEAMLESS ATM LESS ANS PLAN

October 2019

Asia/Pacific Seamless ATM appropriate by APANPIRG.

Published by the Bangkok



APAC Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace

• GENERAL REGULATORY GUIDANCE

- Definitions, General Regulations, operations of UA Beyond Visual Line of Sight (BVLOS), Registration and Identification, responsibilities of approved persons or organizations, contingency procedures

• CATEGORIES OF UNMANNED AIRCRAFT OPERATIONS

- Risk-based approach to regulatory development:
 - Category A – *Low risk* UAS operations
 - Category B – *Regulated minimal risk* UAS operations
 - Category C – *Regulated acceptable risk* UAS operations



Low Risk UAS Operations

UAS Operations in Category A

7.49 Regulations should define Category A – *Low Risk Category UAS Operations* as those that may be operated without licences, operating certificates or similar permissions, and with no requirement for authorization. Typically, such operations:

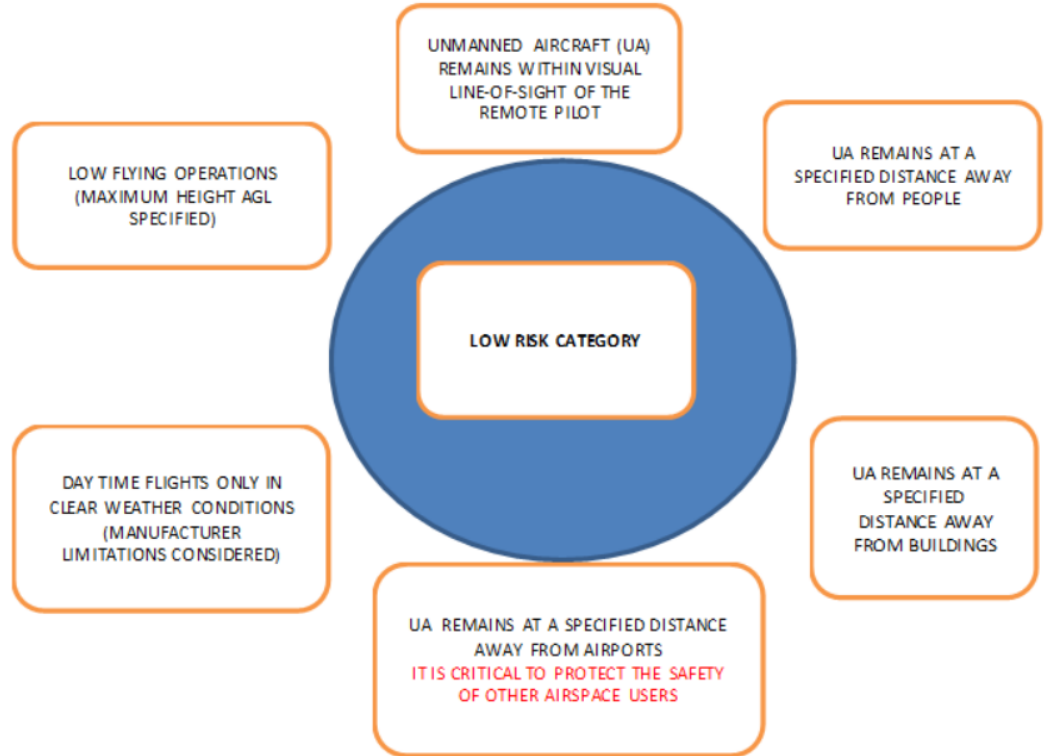
1. are unlikely to result in a fatality or cause serious injury to persons or damage to property on the ground;
2. do not require authorization by the regulatory authority or other approved organization delegated by the regulatory authority to approve UAS operations, except for operations:
 - a. within any prohibited, restricted or danger area, unless authorized by the appropriate authority; or
 - b. in any area where a public safety operation is being conducted, unless authorized by the appropriate authority.
3. are conducted only in airspace that is not normally used by other conventional aircraft;
4. require basic registration of the unmanned aircraft and the particulars of the operator and any person operating the controls of the unmanned aircraft;
5. require that educational material detailing the limitations for Category A operations is provided at the point of sale.

7.50 Typically, Category A operations are limited to unmanned aircraft that are:



Low Risk UAS Operations

Example from the ICAO
UAS Toolkit (more on this
later):





Regulated Minimal Risk UAS operations

UAS Operations in Category B

7.52 Regulations should typically define Category B or *regulated minimal risk* UAS operations as those that:

1. are unlikely to result in a fatality or cause serious injury to persons or damage to property on the ground;
2. require that the operator and any person operating the controls of the unmanned aircraft complies with published regulations relevant to the operation;
3. require that the operator and any person operating the controls of the unmanned aircraft receives education or information on relevant basic aspects of conventional aviation and airspace management, obstacle limitation surfaces and PANS-OPS protection surfaces, and on regulations related to category B operations;
4. do not require authorization by the regulatory authority or other organization designated by the regulatory authority to approve UAS operations; and
5. may operate in airspace that may normally be used by other conventional aircraft, subject to observance of standard limitations specified in the regulations.

7.53 Typical conditions for Category B operations may include operation:



Regulated Acceptable Risk UAS operations

UAS Operations in Category C

7.55 Regulations should define Category C or *regulated acceptable risk* category UAS operations as those that:

1. May not be conducted under Categories A or B;
2. Require specific authorization by the regulatory authority or other organization delegated by the regulatory authority to approve UAS operations;
3. Require the operator to have an appropriate organizational structure and safety management system in place;
4. require that the operator has demonstrated, to the satisfaction of the regulatory authority, or by other approved organization, satisfactory knowledge of technical and operational aspects of unmanned aircraft operations approved by the regulatory authority;
5. may operate in airspace that may normally be used by other conventional aircraft, including controlled airspace and near or over aerodromes, subject to the conditions of the authorization.

7.56 Typically, authorization of Category C UAS operations specifically may require the operation to be limited to unmanned aircraft that:



APAC Regional Guidance for the Regulation and Safe Operation of UAS within National Airspace

- **BUT:**

- APAC Regional Guidance developed when global guidance was still not available or under development;
- Some differences between APAC Regional Guidance and subsequent global guidance;
- Further information on global guidance in separate ICAO (HQ) presentation;
- ATM Sub-Group of APANPIRG may consider retirement of APAC Regional Guidance;
 - Superseded?
 - Differences?
 - **Standardization!**



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THANK YOU