



SAFE SKIES.
**SUSTAINABLE
FUTURE.**



| ICAO



ICAO APAC Regional Office Workshop on Unmanned Aircraft System Integration in National and High Seas Airspace

Bangkok, Thailand
November, 2025

ICAO UAS Model Regulations (Overview of Part 101, 102, 149)

Objectives

- Understand the Purpose of ICAO Model Regulations;
- Learn the Structure of Part 101, 102 & 149;
- Discuss Practical Applications & National Adaptations;
- Enable Safe & Legal UAS Operations



SCOPE OF ICAO WORK ON UNMANNED AVIATION

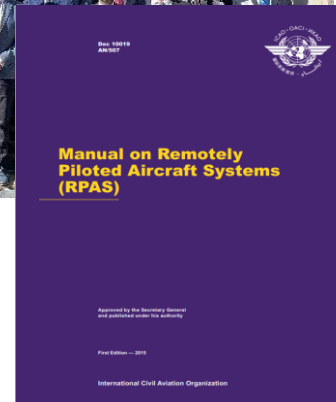
5

UNMANNED AIRCRAFT SYSTEM STUDY GROUP (UASSG) 2008 - 2014



**CIRC 328 – Unmanned Aircraft
Systems (2011)**

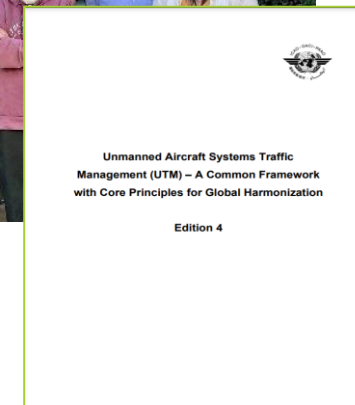
REMOTELY PILOTED AIRCRAFT SYSTEMS PANELS (RPASP) 2014



- ✓ > 130 experts
- ✓ 13 WGs/TFs
- ✓ 19 Annexes

**DOC 10019 – Manual on Remotely
Piloted Aircraft Systems (2015)**

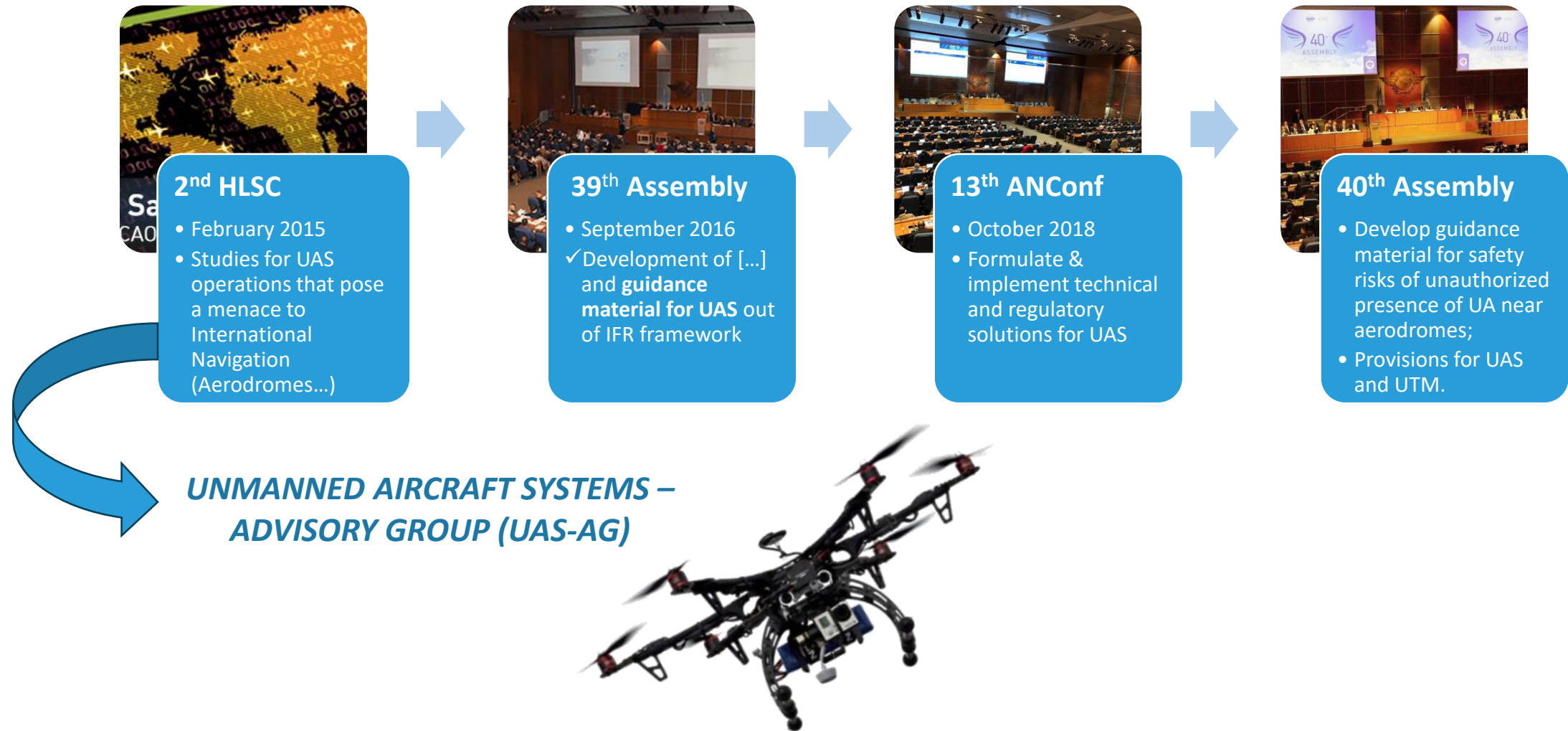
UNMANNED AIRCRAFT SYSTEMS – ADVISORY GROUP (UAS-AG) 2015 - 2023



- ✓ > 20 experts
- ✓ 6 Drone Enable
- ✓ UTM framework

**UTM
A Common Framework with Core Principles for
Global Harmonization (4ed. 2023)**

What Are ICAO Model Regulations?



What Are ICAO Model Regulations?

7

TASKS UAS-AG



a) Review and examine national and regional legal and **regulatory frameworks and initiatives** to identify commonalities and **existing best practices** with a view to **developing guidance material for routine SUAS operations** while maintaining the existing **level of safety of manned aircraft operations and people and property on the ground**;



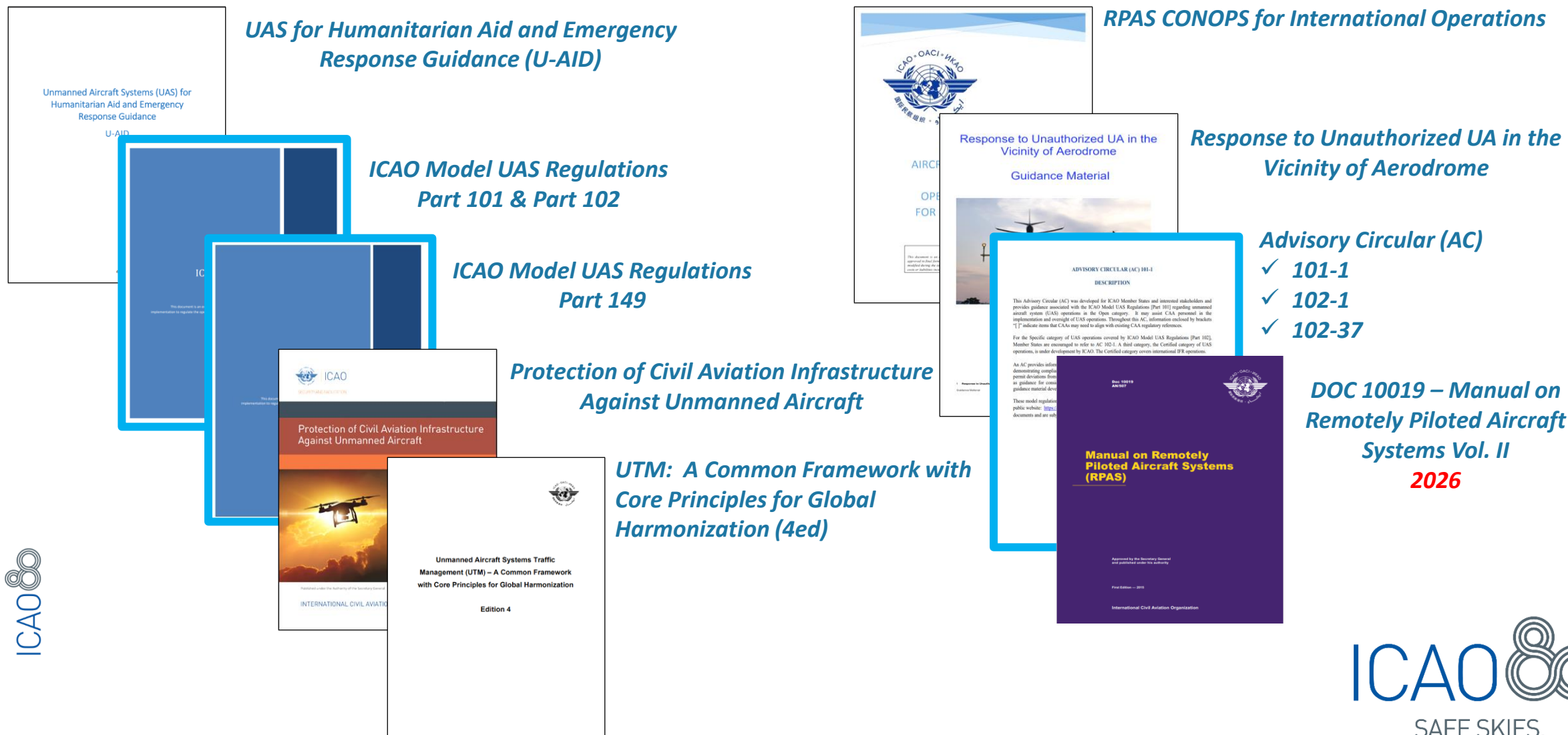
b) **Develop guidance material to assist States with SUAS rulemaking** including assessing requirements for airworthiness, operations, licensing, communications, detect and avoid and air traffic management; and



c) Develop **training and outreach material** in order to **educate regulators, industry stakeholders, model aircraft associations and civil operators** and to establish a balanced long-term approach towards the **safe operation of SUAS in national airspace systems**.

What Are ICAO Model Regulations?

8



What Are ICAO Model Regulations?



ICAO Model Regulations are Guidance Materials to be used/consulted by States to develop their own UAS regulatory framework;



ICAO Model Regulations are not intended to be prescriptive, mandatory, or constructed in any way as to pre-empt individual States' legal structure;



States are free to adapt the model regulations, as appropriate, to meet their specific needs. [brackets] spaces to be filled by States;



ICAO Model Regulations are accompanied by Advisory Circulars (AC) and other guidance material to assist CAA personnel in the implementation and oversight of UAS operations.

Overview of the 3 Key Parts

10

PART	FOCUS AREA	APPLIES TO
101 (AC-101)	<ul style="list-style-type: none"> - General Rules Guidance - Focus on Operations - “Open” Risk-Centric Operations 	<ul style="list-style-type: none"> - All UAS users*; - Hobbyists*; - Commercial uses*. <p>* Lower-Risk Operations</p>
102 (AC-102)	<ul style="list-style-type: none"> - Licensing & Certificate Guidance - Focus on Remote Pilot/UAS Operator Certificate - “Specific” Risk-Centric Operations 	<ul style="list-style-type: none"> - UAS users in Moderate-Risk Operations
149	<ul style="list-style-type: none"> - Approved Aviation Organization (AAO) Guidance - Focus on Certificate and Operation of AAO - Safety Management System (SMS) 	<ul style="list-style-type: none"> - Organizations/Companies intending to provide UAS environment services.

Approved Aviation Organization (AAO): AAO means an organization having appropriate expertise in the design, construction or operation of a UA, or appropriate knowledge or airspace designations and restrictions, and that has been **approved by CAA to perform specific tasks, such as remote pilot (RP) qualification, RP training, UA inspection, UA modification,... (Part 101 – 101.21)**

Part 101

11



General Rules

- **Low-Risk Operations;**
- **Visual-Line-Of-Sight (VLOS);**
- **Distance > 30m from not involved person (Exception: consent);**
- **No Pilot Certification Required (Exception: near aerodromes);**
- ...

Airspace

- **Operates below 400ft AGL (Exception: Segregated areas);**
- **Distance > 4km of any aerodrome (Exception: ATS Coordination)**
- **Daylight (Exception: shielded areas);**
- ...

UAS

- **Weight $\leq 25\text{Kg}$ (Note: $15\text{Kg} < \text{UAS} \leq 25\text{Kg}$ requires AAO approval or DoC)**
- **Not allowed to drop any object;**
- **Shall not put person and property in danger;**
- ...

Part 102

12

** Operations not subject to Part 101 (Moderate-Risk)*



Remote Pilot Certification

- **Aeronautical Knowledge;**
- **RP Training, Flight Test by CAA, ...;**
- **Shall not operate more than an UA at a time;**
- ...

UAS Operator Certificate (UOC)

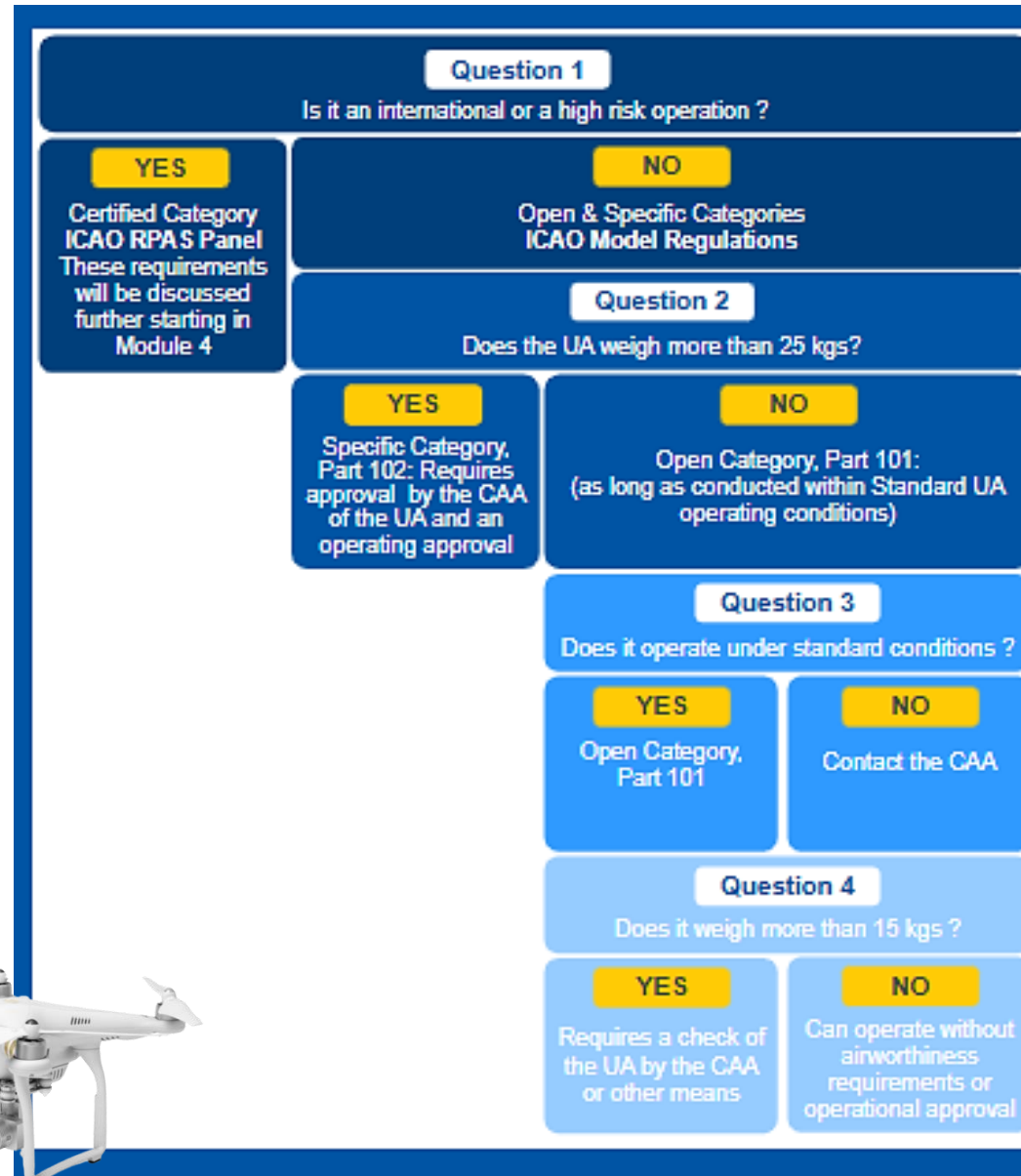
- **Local (Base) of Operations Details;**
- **Operational Risk Assessment and Mitigation Measures;**
- **Control System Details;**
- **Procedures of Maintenance;**
- ...

UAS Manufacturer

- **Means Of Compliance (MOC);**
- **Declaration of Compliance (DOC);**
- **Documentation;**
- ...

MOC: shall consist of data (tests, analysis, industry consensus standards) and the results or justification used to demonstrate the UAS meets the predetermined level of safety the [CAA] has established as acceptable.

Part 101 & 102 Flow Chart



Advisory Circular (AC) 102-37

14

Scope

- **UAS transporting Dangerous Goods.**



Dangerous Goods

- **Articles or substances that are capable of posing a hazard to health, safety, property or the environment and which are shown in the list of dangerous goods;**
- **Annex 18;**
- **Technical Instructions for the Safe Transport of Dangerous Goods (Doc 9284).**



Annex 18 – The Safe Transport of Dangerous Goods by Air

Doc 9284



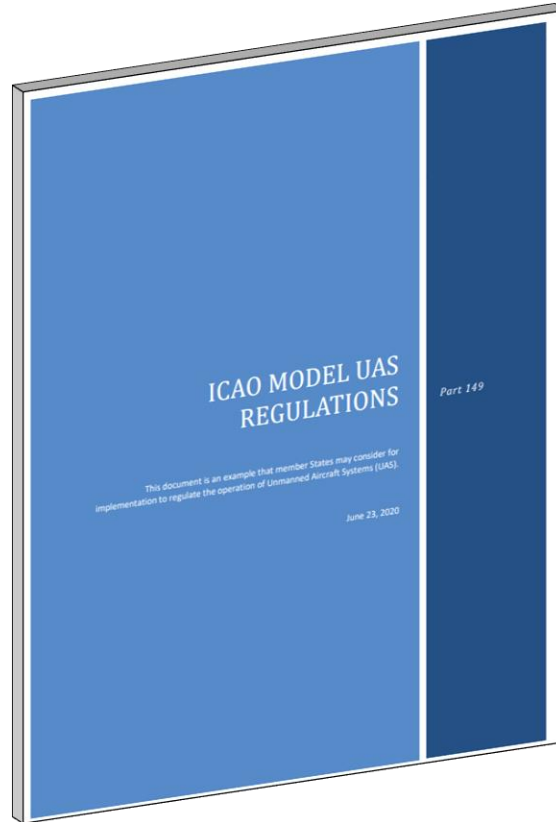
Content

- **Classes and Divisions of Dangerous Goods;**
- **Dangerous Goods Standard Operating Procedures (DG-SOP);**
- **Safety Risk Management.**



Part 149

15



Approved Aviation Organization (AAO)

- **Administration Functions;**
- **Key Personnel;**
- **Requirements for a Safety Management System;**
- **Requirements for Audit and Surveillance System;**
- **Application Submission.**

Certification Requirements

- **A Qualified Person to Act as Chief Executive;**
- **Qualified People to Carry Out the Activities;**
- **Adequate Facilities to Carry Out the Activities;**
- **Hold Copies of All Relevant documents (manuals, Tech Bulletins, Legislations,...);**
- **Capacity to Manager and Record Data of Operations;**

Safety Management System (SMS)

- **Establishment of an internal SMS;**
- **Safety Policy;**
- **Quality Indicators;**
- **Procedures for Corrective and Preventive Actions;**
- **Internal Audit;**
- **Management Review.**

Comparison Table

FEATURE	APPLICABILITY		
	PART 101	PART 102	PART 149
Operation "Category"	"Open"	"Specific"	N/A
Risk Level	Low	Moderate	N/A
UAS Weight Applicable	UA ≤ 15Kg 15Kg < UA ≤ 25Kg	Depends	N/A
Hobbyists	Yes	Maybe	N/A
Shielded Operation	Yes	Maybe	N/A
Operator`s Org Require Certification	No	Yes	Yes
Safety Management System	No	Yes*	Yes
UAS Operator Certificate	No	Yes	N/A
Organization UAS Services Interest	Yes	Yes	Yes



SCAN HERE TO ACCESS ICAO
MODEL REGULATIONS WEBPAGE

N/A: Not Applicable

Shielded Operation: operation of an aircraft within 100m of, and below the top of, a natural or artificial object.



Summary

17



Thank You

