



INTERNATIONAL CIVIL AVIATION ORGANIZATION

A United Nations Specialized Agency

ICAO/FAA Workshop for Aerodrome Certification Inspector

Kingston, Jamaica

24 - 26 May 2016

Objectives

- ✈️ Certification – what, why and how.
- Outline:
 - ✈️ - ICAO requirements and guidance associated with aerodrome certification.
 - Requirements of and process for a certification programme.
 - Review some States' aerodrome certification documentation.
- Difference between Regulator and Service Provider obligations.
- Status of aerodrome certification in the CAR Region

Aerodrome Certification

What ?



A process by which a State can demonstrate:

- ✦ That airports in its territory meet regulatory safety requirements on a continuing basis.
- ✦ That it is providing uniform conditions for aircraft of all other States, as required by Article 15 of the Chicago Convention.

Aerodrome Certification

Why ?



- Ownership and management of aerodromes differs between States.
- More aerodromes being privatized.
- Standardization of procedures and technical aerodrome elements is critical; without it the necessary level of standardization is less likely.
- Certification facilitates standardization; and standardization enhances safety.
- ICAO Chicago Convention Article 15 and Annex SARPs.

Convention: Article 15

Requires that all airports in a contracting State that are open to public use, shall provide uniform conditions for aircraft of all other contracting states.

How do you do that?
Through the Aerodrome Certification process!



MARKINGS AND SIGNS



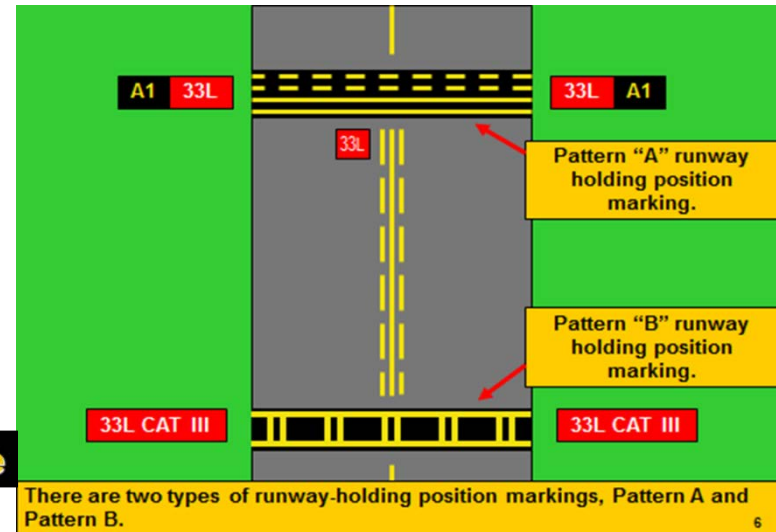
Runway holding position marking – Enhanced taxiway centre line.



Enhanced Taxiway Centre Line Marking



The enhanced taxiway centre line marking is an extension of the hold position markings.



Aerodrome Certification

How ?



With the necessary national primary and secondary framework, supported by appropriate guidance documentation, all of which reflect ICAO Annexes.

With a meaningful, demanding but realistic process, that reflects the national requirements of the State

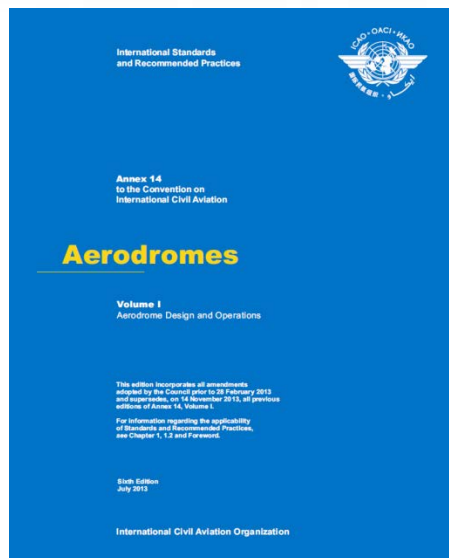
Summary of ICAO USOAO results

- ✈️ A summary of the audit results conducted through the ICAO Universal Safety Oversight Audit Program reveal that a large number of the States audited have not yet certified or established a process for the certification of aerodromes.
- ✈️ Most States have not ensured that aerodrome operators implement a safety management system (SMS) as part of their aerodrome certification process
- ✈️ Other high percentages of non-satisfactory questions stem from weaknesses in a State's surveillance programme, including a lack of formal inspection procedure used for the continuing surveillance of aerodrome certificate holders and a lack of expertise in highly specialized areas such as rescue and fire fighting and wildlife/bird hazard control.

Summary of ICAO USOAO results

- ✈️ Many States have not provided sufficient guidance to regulatory staff and aerodrome operators on obstacle control and management.
- ✈️ The provisions relating to runway friction, runway end safety areas, pavement use and the periodic testing and review of aerodrome emergency plans show a lack of compliance by a high percentage of the audited States.
- ✈️ The second edition, expected to be available in 2018, will describe the processes and actions involved in the day-to-day operations of an aerodrome such as but not limited to runway and apron safety, airside inspections and wildlife hazard management.

Annex 14 Requirements



27-NOV-03, Annex 14, 1.4.1

“States shall certify aerodromes used for international operations in accordance with the specifications contained in this Annex as well as other relevant ICAO specifications through an appropriate regulatory framework.”

Annex 14 Requirements (cont)



- The certification process establishes the baseline for continued monitoring of compliance with the specifications.
- Information on the status of certification of aerodromes would need to be provided to the AIS for promulgation in the AIP.
- As part of the certification process, States shall ensure that an aerodrome manual which will include all pertinent information on the aerodrome site, facilities, services, equipment, operating procedures, organization and management including a safety management system, is *submitted by the applicant for approval/acceptance prior to granting the aerodrome certificate.*



Scope of ICAO Safety Management SARPs


Annex 19 — Safety Management, First Edition 2013.

The SARPS contained in this Annex shall be applicable to safety management functions related to, or in direct support of, the safe operation of aircraft.

Safety management provisions are applicable:

- for States and relate to a State safety programme*
- for specified aviation service providers and operators and relate to safety management systems (SMSs)*

State Safety Programme (SSP)

 Each State shall establish an SSP for the management of safety in the State, in order to achieve an acceptable level of safety performance in civil aviation. The SSP shall include the following components:

- a) State safety policy and objectives;
- b) State safety risk management;
- c) State safety assurance; and
- d) State safety promotion.

Safety Management System (SMS)



As part of its SSP, each State shall require that the following service providers under its authority implement an SMS:

- a) approved training organizations in accordance with Annex 1 that are exposed to safety risks related to aircraft operations during the provision of their services;
- b) operators of airplanes or helicopters authorized to conduct international commercial air transport, in accordance with Annex 6;
- c) approved maintenance organizations providing services to operators of airplanes or helicopters

Safety Management System (SMS)



- d) organizations responsible for the type design or manufacture of aircraft, in accordance with Annex 8;
- e) air traffic services (ATS) providers in accordance with Annex 11; and
- f) operators of certified aerodromes in accordance with Annex 14.

Safety Management System (SMS)



The SMS should as a minimum include:

- a) a process to identify actual and potential safety hazards and assess the associated risks;*
- b) a process to develop and implement remedial action necessary to maintain an acceptable level of safety; and*
- c) provision for continuous monitoring and regular assessment of the appropriateness and effectiveness of safety management activities.*

Aerodrome Certification: Initial Requirements



Promulgation of basic aviation law

- Establish a State entity responsible for aviation (normally the CAA), having the authority to ensure compliance with established regulations
- Develop and promulgate CAA regulations, and within those aerodrome certification requirements, criteria and technical specifications.

Aerodrome Certification Requirements

Continued



Within a CAA's functional area for Aerodrome Regulation:
Assess staffing levels, skill sets and training requirements
(initial and continuing)

Develop policies on:

- Type and duration of certificates
- Exemption procedures
- Transfer and amendment of certificates
- Obligations under certificates
- Cancellation or surrender of certificates

Aerodrome Certification Requirements

Continued



Processes, procedures and technical guidance for:

Communicating with stakeholders

Responding to expressions of interest and assessing applications, including submitted Aerodrome Manuals.

Granting, refusing and cancelling certificates, including the setting of any general or aerodrome specific conditions.

Initial and continuing safety oversight, in relation to certification.

Obligations of the State, Regulator and Service Providers



They are not the same and the differences are important. Doc 9734, the Safety Oversight Manual, spells out some of these.

State Responsibilities



Establishing a Safety Policy and setting the certification and standards for safety management, including Acceptable levels of Safety (Doc 9859 Third Edition 2013 refers).

Whilst States have some discretion on what aerodromes under its jurisdiction should be certified they must remember that Annex 14 says that all aerodromes used for international operations shall be certified.

State Regulators Certification Duties and Responsibilities



- Establishing Aerodrome Manual and Safety Management requirements
- Safety oversight, including the use of initial and continuing safety inspections, in order to seek satisfaction that aerodromes are operationally competent and are complying with national standards and practices, including safety performance agreed between the Regulator and airport, data accuracy and promulgation and occurrence reporting.



State Regulators Certification Duties and Responsibilities (cont)

- To be as competent in its role as the regulator expects of the industry in carrying out its operation and obligations.
- Work with the industry in the pursuit of common goals on safety.

Airports' Obligations and responsibilities



- To be and remain operationally competent as an organisation (implied by SARP 1.4.4, a regulatory requirement in some States).
- Working with the regulator in pursuit of common goals on safety, establish measurable safety performance, to be agreed with the Regulator, and then met.

Airports' Obligations and responsibilities (cont)



To comply with national requirements, including obligations placed upon it by its aerodrome certificate, including agreed safety performance, and conditions that may have been imposed, either initially or subsequently.

Current Airport Status in the CAR Region (Central America and Caribbean)

- Based on the new Air Navigation Plan (ANP), CAR/SAM Facilities and Services Implementation Document (FASID) (Doc 8733), there are 149 international aerodromes in the CAR Region.

States / Territories CAR Region	No. Aerodromes (Doc.8733, ANP Vol. II, FASID, Table - AOP 1)	Responsible	Number of Aerodromes			
			Certified	On – going process	Planned	Remarks
21/18	130	CAA	30	8	4	23% (2012)
21/18	149	CAA	53	10	12	36% (2015)

Aerodrome Safety Issues Identified by ICAO USOAP Audits

Why Few Airports are Certified

- Based on the USOAP global audit results in the area of aerodromes, a large number of audited States have not yet certified or established a process for the certification of aerodromes
- In particular, 83% of the audited States have not ensured that aerodrome operators receiving international flights implement an SMS as part of their aerodrome certification process.
- Other high “not satisfactory” percentages stem from deficiencies in the surveillance programme established by audited States, including the lack of expertise in highly specialized areas such as rescue fire fighting, bird-hazard control and aerodrome emergency planning.

Major deficiencies and Risks

- The various specialist disciplines involved in the certification and surveillance of aerodromes and the training needed for those disciplines are not considered and these are related to:
- Airport operation
- Rescue and fire fighting – Removal of disable aircraft plan
- Bird/wildlife management
- Aeronautical studies
- Risk assessments
- Enforcement
- Airfield signs, markings and lighting
- Obstacle evaluation
- Acceptance and oversight of safety management system SMS

Major deficiencies and Risks

In some cases, airport management views safety activities as a cost instead of an investment or benefit (dilemma: protection vs. production)



One example of safety related costs incurred by airports is the removal of a disabled aircraft after an accident



What does an accident cost?



Aircraft recovery event

If contractor fails to complete runway work and return the runway for operational use as scheduled:

\$3,000 USD,
first 15-minute
interval

\$4,500 USD
for the second
15-minute
interval

\$6,000 USD
for the third
15-minute
interval

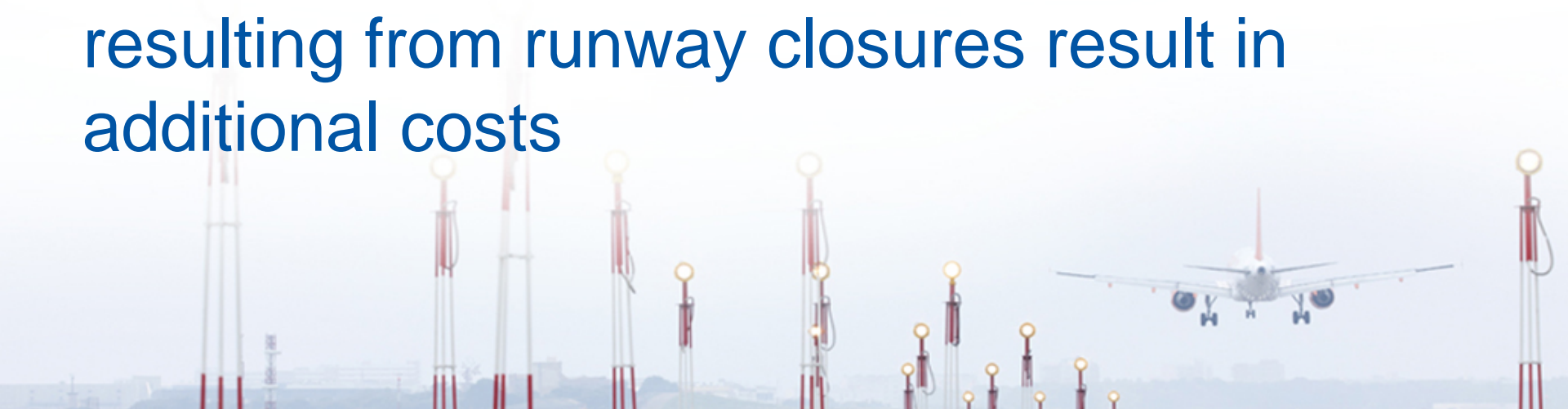
**\$300,000 per
day after the
first day**

Source: ACRP Synthesis 38, Expediting Aircraft Recovery at Airports – Transportation Research Board of the National Academies Sponsored by the FAA

Delay Costs



✈ Although delay costs (in terms of lost airport revenues or expense to the airlines) are difficult to predict accurately, it is clear that delays resulting from runway closures result in additional costs



There are several available airport safety initiatives :

- ✈ Regional Aviation Safety Group – Pan America (RASG-PA)
- ✈ ICAO Runway Safety Programme
- ✈ ACI-LAC APEX
- ✈ ICAO USOAP – CMA
- ✈ GREPECAS Projects: F1 and F2

NACC Strategic priorities/goals 2016-2017

Port of Spain Declaration - Regional Safety Targets:

4.- Aerodrome Certification

- 48% of international aerodromes in the CAR Region to be certified by December 2016.

ICAO NACC Regional Office

- 60% of international aerodromes in the CAR Region to be certified by December 2017.

There Are Many Challenges Ahead:

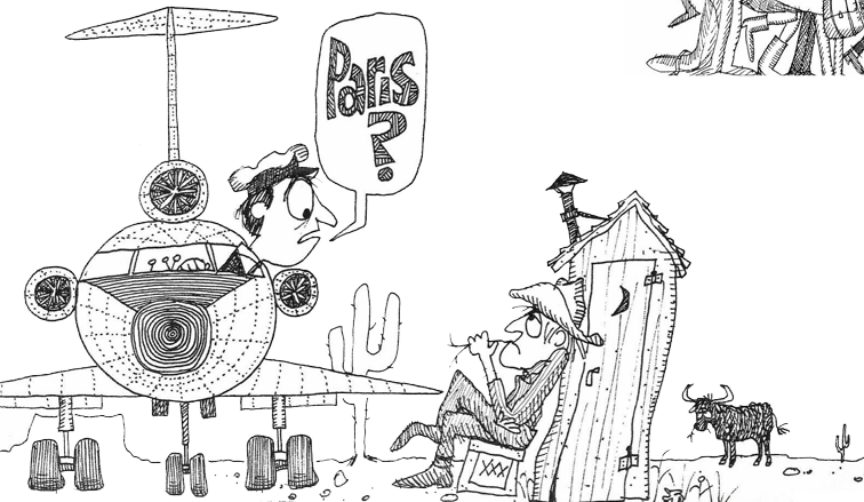
- ✈️ **Strong traffic growth**
- ✈️ **New operators**
- ✈️ **Significant number of new aircraft orders**
- ✈️ **Demand for skilled aviation personnel**
- ✈️ **Training capacity**
- ✈️ **Attractiveness of aviation**
- ✈️ **Aviation safety improvement**
- ✈️ **Attrition related impact**
- ✈️ **Infrastructure deficiencies**



Airports in the process of certification

- At present there are 53 aerodromes certified from 149, which means 36%.
- It is required additional 20 aerodromes to reach the PoS Declaration safety target of 48% for 2016.
- Currently Mexico will end up with 15 airports in 2016
- Dominican Republic has the commitment to certify 3
- Honduras is in the process of certification of MHLM
- Saint Lucia is in the process of certification of TLPL
- Costa Rica is in the process of certification of 2 airports
- Bahamas is in the process of certification of MYNN

**Without international rules
air travel would be in chaos.**





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(SAM) Office
Lima

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Central African
(WACAF) Office
Dakar

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North Atlantic
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Thank You

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