



| ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

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Implementation of ICAO Annex 14 Volume 1 SARPs

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Flight plan



Annex 14 in general



Standards vs.
Recommendations



Sates' safety oversight
responsibility

Every flight starts and ends at an aerodrome



Airports – A Complex eco-system requiring multiple and diverse expertise & coordination (RFF, civil, electrical, wildlife, etc.)

Annex 14 and its supporting documents

- **Annex 14, Volumes I and II**
- **PANS - Aerodromes**

- *Aerodrome Design Manual (Doc 9157), Part I — Runways*
- *ADM, Part 2 — Taxiways, Aprons and Holding Bays*
- *ADM, Part 3 — Pavements*
- *ADM, Part 4 — Visual Aids*
- *ADM, Part 5 — Electrical Systems*
- *ADM, Part 6 — Frangibility*
- *Airport Planning Manual (Doc 9184), Part 1 — Master Planning*
- *APM, Part 2 — Land Use and Environmental Control*
- *APM, Part 3 — Guidelines for Consultant/Construction Services*
- *Stolport Manual (Doc 9150)*
- *Operation of New Larger Aeroplanes at Existing Aerodromes (Circ 305)*



Annex 14 and its supporting documents (cont'd)

- *Heliport Manual* (Doc 9261)
- *Manual of Surface Movement Guidance and Control Systems (SMGCS)* (Doc 9476)
- *Manual on Certification of Aerodromes* (Doc 9774)
- *Manual on the ICAO Bird Strike Information System (IBIS)* (Doc 9332)
- *Manual on Civil Aviation Jet Fuel Supply* (Doc 9977)
- *Aeroplane Performance Manual* (Doc 10064)
- *Manual on Ground Handling* (Doc 10121)
- *Assessment, Measurement and Reporting of Runway Surface Conditions* (Cir 329)
- *Airport Services Manual (Doc 9137)*, Part 1 — Rescue and Fire Fighting
- *ASM*, Part 2 — Pavement Surface Conditions
- *ASM*, Part 3 — Wildlife Hazard Management
- *ASM*, Part 5 — Removal of Disabled Aircraft
- *ASM* Part 6 — Control of Obstacles
- *ASM* Part 7 — Airport Emergency Planning
- *ASM* Part 8 — Airport Operational Services
- *ASM* Part 9 — Airport Maintenance Practices

Annex 14, Volume I in general

- The Annex contains SARPs (specifications) for aerodrome design and operations
- Some 1100 SARPs
- Individual facilities are specified against a reference code and/or a type of runway
- The SARPs in the Annex are minimum aerodrome specifications
- Provisions for the accommodation of more demanding aircraft at existing aerodromes can be found in the PANS Aerodromes (Doc 9981)
- Implementation supported by many GMs

Applicability

- The specifications, unless otherwise indicated in a particular context, shall apply to all aerodromes open to public use in accordance with the requirements of Article 15 of the Convention
- Discretion of the appropriate authority in interpreting some of the specifications. For example:
 - 5.2.17.1 Where an information sign would normally be installed and is impractical to install, **as determined by the appropriate authority**, an information marking shall be displayed on the surface of the pavement.

Status of Annex components

- Standard: Any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Convention; in the event of impossibility of compliance, notification to the Council is compulsory under Article 38.
- Recommended Practice: Any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as desirable in the interest of safety, regularity or efficiency of international air navigation, and to which Contracting States will endeavour to conform in accordance with the Convention.
- ...

Contents of Annex 14, Volume I

- Chapter 1: General Information and Definitions
- Chapter 2: Aerodrome Data
- Chapter 3: Physical Characteristics
- Chapter 4: Obstacle Restriction and Removal
- Chapter 5: Visual Aids for Navigation
- Chapter 6: Visual Aids for Denoting Obstacles



Contents of Annex 14, Volume I (cont'd)

- Chapter 7: Visual Aids for Denoting Restricted Use Areas
- Chapter 8: Electrical Systems
- Chapter 9: Aerodrome Operational Services, Equipment and Installations.
- Chapter 10: Aerodrome Maintenance
- Appendices 1, 2, 3, 4, 5
- Attachments A, B

Standards vs. Recommendations

- Annex 14, Volume I contains some 500 Recommendations
- Some provisions have both Standards and Recommendations on the same subject
- Some provisions have only Recommendations

Standards vs. Recommendations (cont'd)

An example on RESA

- **Shall** be provided at each end of a runway strip where:
 - the code number is 3 or 4; and
 - the code number is 1 or 2 and the runway is an instrument one
- **Should** be provided where the code number is 1 or 2 and the runway is a non-instrument one
- Purpose
 - Reduce the risk of damage to an aeroplane undershooting or overrunning the runway

Standards vs. Recommendations (cont'd)

An example on RESA (cont'd)

Length

- As a Standard, 90 m from the end of a runway strip where:
 - the code number is 3 or 4; and
 - the code number is 1 or 2 and the runway is an instrument one
 - If an arresting system is installed, the above length may be reduced, based on the design specification of the system, subject to acceptance by the State.

Standards vs. Recommendations (cont'd)

An example on RESA (cont'd)

Length

- As a Recommendation, 240 m where:
 - the code number is 3 or 4; or a reduced length when an arresting system is installed;
 - 120 m where the code number is 1 or 2 and the runway is an instrument one; or a reduced length when an arresting system is installed; and
 - 30 m where the code number is 1 or 2 and the runway is a non-instrument one.

Standards vs. Recommendations (cont'd)

An example on RESA (cont'd)

Width

- As a Standard, at least twice that of the associated runway
- As a Recommendation, equal to that of the graded portion of the associated runway strip



Standards vs. Recommendations (cont'd)

An example on taxiway width

- Wheel to edge clearance (as a Standard)

OMGWS				
	Up to but not including 4.5 m	4.5 m up to but not including 6 m	6 m up to but not including 9 m	9 m up to but not including 15 m
Clearance	1.50 m	2.25 m	3 m ^{a,b} or 4 m ^c	4 m
^{a.} On straight portions. ^{b.} On curved portions if the taxiway is intended to be used by aeroplanes with a wheel base of less than 18 m. ^{c.} On curved portions if the taxiway is intended to be used by aeroplanes with a wheel base equal to or greater than 18 m.				

- Taxiway width (as a Recommendation)

OMGWS				
	Up to but not including 4.5 m	4.5 m up to but not including 6 m	6 m up to but not including 9 m	9 m up to but not including 15 m
Taxiway width	7.5 m	10.5 m	15 m	23 m

Standards vs. Recommendations (cont'd)

An example on runway width

- Runway width (as a Recommendation only)

Outer Main Gear Wheel Span (OMGWS)				
Code number	Up to but not including 4.5 m	4.5 m up to but not including 6 m	6 m up to but not including 9 m	9 m up to but not including 15 m
1 ^a	18 m	18 m	23 m	–
2 ^a	23 m	23 m	30 m	–
3	30 m	30 m	30 m	45 m
4	–	–	45 m	45 m

a. The width of a precision approach runway should be not less than 30 m where the code number is 1 or 2.

States' Safety Oversight Responsibility

- While recognizing the fundamental principle that every State has complete and exclusive sovereignty over the airspace above and within its territory, the Chicago Convention also establishes the privileges and obligations of all Contracting States on civil aviation activities.
- It is the articles of the Chicago Convention and its 19 Annexes, covering the entire spectrum of civil aviation operations, that underpin the safety oversight responsibility of Contracting States.

States' Safety Oversight Responsibility (cont'd)

- The responsibility of Contracting States to regulate and supervise all their aviation activities to ensure the safe, efficient and regular operation of air services is underscored in particular by three articles of the Chicago Convention.



States' Safety Oversight Responsibility (cont'd)

- Article 37 specifies that “each contracting State undertakes to collaborate in securing the highest practical degree of uniformity in regulations, standards, procedures and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation”.
- This uniformity is achieved by integrating the SARPs adopted and amended by ICAO into the national legal framework and practices of the Contracting States and by implementing them in a timely manner for the safety, regularity and efficiency of air navigation worldwide.

States' Safety Oversight Responsibility (cont'd)

- Article 12 of the Chicago Convention requires its Contracting States to implement and enforce the SARPs contained in the Annexes to the Convention.



States' Safety Oversight Responsibility (cont'd)

- Article 12 explicitly states that: “Each contracting State undertakes to adopt measures to insure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under this Convention...Each contracting State undertakes to insure the prosecution of all persons violating the regulations applicable.”

States' Safety Oversight Responsibility (cont'd)

- Under Article 38 of the Convention, a Contracting State “shall give immediate notification to the International Civil Aviation Organization of the differences between its own practice and that established by the international standard” in case:
 - it finds it impracticable to comply with any international standard or procedure; or
 - it finds it impracticable to bring its own regulations or practices into full accord with any international standard or procedure after amendment of the latter; or
 - it deems it necessary to adopt regulations or practices differing from those established by international standard.



Filing of differences

- Article 38 of the Chicago Convention: States shall notify ICAO of the differences between its own practice and that established by the international standard
- Assembly Resolution A39-22: The ICAO Assembly has resolved that the Council should urge States to notify the ICAO of any differences that exist between their national regulations and practices and the provisions of SARPs, as well as the date or dates by which they will comply with the SARPs
- Annex 15 — Aeronautical Information Services, 5.2.2: AIP shall include a list of significant differences between the national regulations and practices of the State and the related ICAO Standards, Recommended Practices and Procedures



Key messages

- Annex 14, Volume I contains minimum SARPs (specifications) for aerodrome design and operations.
- Implementation of Recommendations is important.
- Global uniformity will facilitate and improve air navigation; and this uniformity is achieved by integrating the SARPs into the national legal framework and practices of the Contracting States and by implementing them in a timely manner for the safety, regularity and efficiency of air navigation worldwide.
- The ultimate responsibility of ensuring safety, regularity and efficiency rests with States.



Thank You!