



SMS FOR AERODROMES – BLOCK 1A

INTRODUCTIONS

RDIMS# 14605514



Canada



Instructor Information

Andrew Larsen, Program Manager, Regulatory
Coordination & International Aviation

Christine Lodge, Civil Aviation Safety Inspector,
Aerodromes and Air Navigation



Introduction

Andrew Larsen,

Program Manager, Regulatory Coordination & International Aviation

- Biography
- Experience
- Current Role at Transport Canada

3

Details :

- How long at TCCA
- Previous employment
- Current position
- International Coordination Unit & Technical Assistance SMS



Introduction

Christine Lodge,

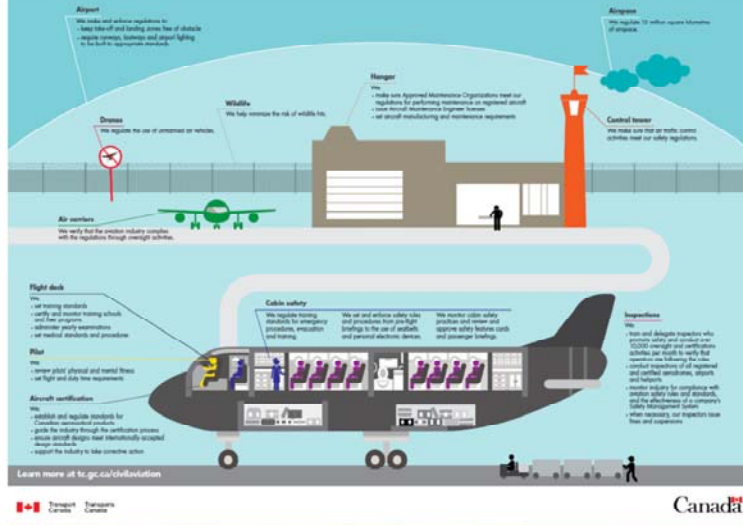
Civil Aviation Safety Inspector, Aerodromes and Air Navigation

- Biography
- Experience
- Current Role at Transport Canada

Details :

- How long at TCCA
- Previous employment
- Current position

TRANSPORT CANADA AND AIR SAFETY: OUR WORK BEHIND THE SCENES





Introduction

- Why SMS?
- How does it relate to the role of the inspector?
- How does it relate to the certification process?
- How does this fit in?

6

Why SMS?

Provides for more informed decision-making;

Improves safety by reducing risk of accidents;

Provides for better resource allocation that will result in increased efficiencies and reduced costs;

Strengthens corporate culture; and

Demonstrates corporate due-diligence

How does it relate to the role of an Inspector?

How does it relate to the certification process?

Where the workshop fits in

Fits in as a component of overall inspection of an aerodrome and a requirement as per the Standards and Recommended Practices outlined in *ICAO Annexes 14 & 19*.

Canadian Context: *Division V, sections 302.500 (1) and (2)* for certificate applicants and

certificate holders.



Forward Thinking...

Participants to start thinking of a problem statement they would like to have addressed during the Group Discussion/Peer Problem Solving & Best Practices Session at the end of the lesson (Thursday).

7

Guidance on what to do:

“A good problem statement is short (two to three sentences at most) and is focused on a single problem only. It should concisely describe and quantify the unsatisfactory condition – consider using charts to illustrate the issue. When crafting the problem statement, consider addressing the four Ws (who, what, where, when) – don’t worry about “Why” now, that work is part of root cause analysis. Problem statements should focus on the current state and recent trends. Finally, the problem statement should never suggest a solution or attribute blame.”



SMS FOR AERODROMES – BLOCK 1B

Regulatory Requirements TCCA vs. ICAO



This is an overview of Transport Canada's Safety Management Systems regulatory requirements with the International Civil Aviation Organization *Safety Management Manual (Doc. 9859 4th Edition)* Chapter 9 requirements.

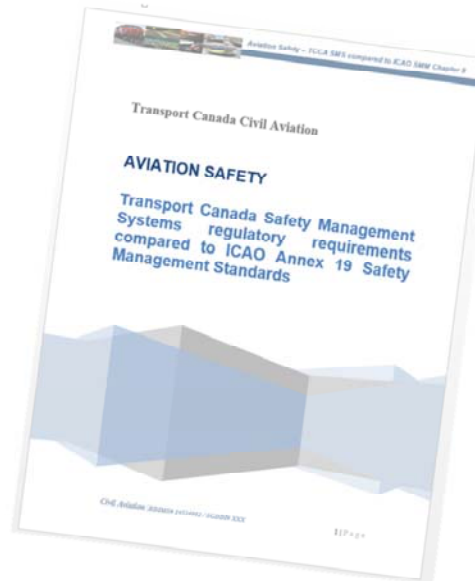
Transport Canada Civil Aviation (TCCA) is a member state of the International Civil Aviation Organization (ICAO). TCCA introduced Safety Management Systems (SMS) requirements for some Service Providers in 2005.

There was a planned phased in approach for some other subparts of regulated providers that have yet to be completed a few years later.

TCCA and ICAO approaches to SMS are very similar, with differences that will be further defined in this unit.

These differences are important when looking at this from an international context.

Regulatory Requirements TCCA vs. ICAO



9

Transport Canada Civil Aviation (TCCA) is a member state of the International Civil Aviation Organization (ICAO). TCCA introduced Safety Management Systems (SMS) requirements for some Service Providers in 2005.

There was a planned phased in approach for some other subparts of regulated providers that have yet to be completed a few years later.

TCCA and ICAO approaches to SMS are very similar, with differences that will be further defined in the next few slides.



ANNEX 19 SMS FRAMEWORK VS. TCCA REQUIREMENTS

ICAO Annex 19	TCCA
Four (4) Components & Twelve (12) Elements	Six (6) Components & Seventeen (17) Elements
<ol style="list-style-type: none">1) Safety Policy & Objectives2) Safety Risk Management3) Safety Assurance4) Safety Promotion	<ol style="list-style-type: none">1) Safety Management Plan2) Documentation3) Safety Oversight4) Training5) Quality Assurance6) Emergency Preparedness

10

ICAO Requirements:

The Annex 19 SMS framework is made up of four major components and twelve elements.

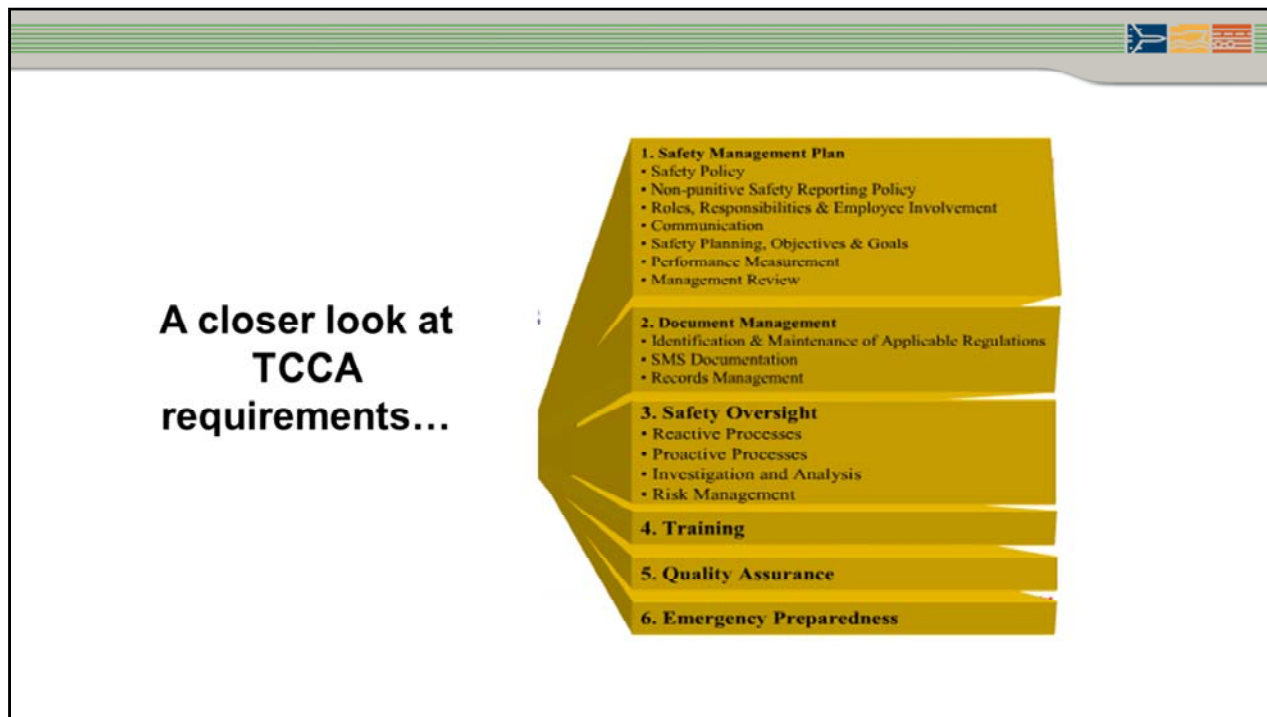
- Safety policy and objectives
- Safety risk management
- Safety assurance
- Safety promotion

TCCA Requirements:

The TCCA SMS framework is made up of six components and seventeen elements.

- Safety Management Plan
- Documentation
- Safety Oversight
- Training
- Quality Assurance

Emergency Preparedness



In examining TC guidance on SMS, the components and elements are articulated as shown. This framework has been used to develop the SMS assessment protocol.

TCCA requirements

Transport Canada publishes on its website via its Technical Program Evaluation and Co-ordination (TPEC) section, an Easy Reference Guide of Safety Management System-and related Documents (*4)

The following subpart regulated Service Providers have requirements:

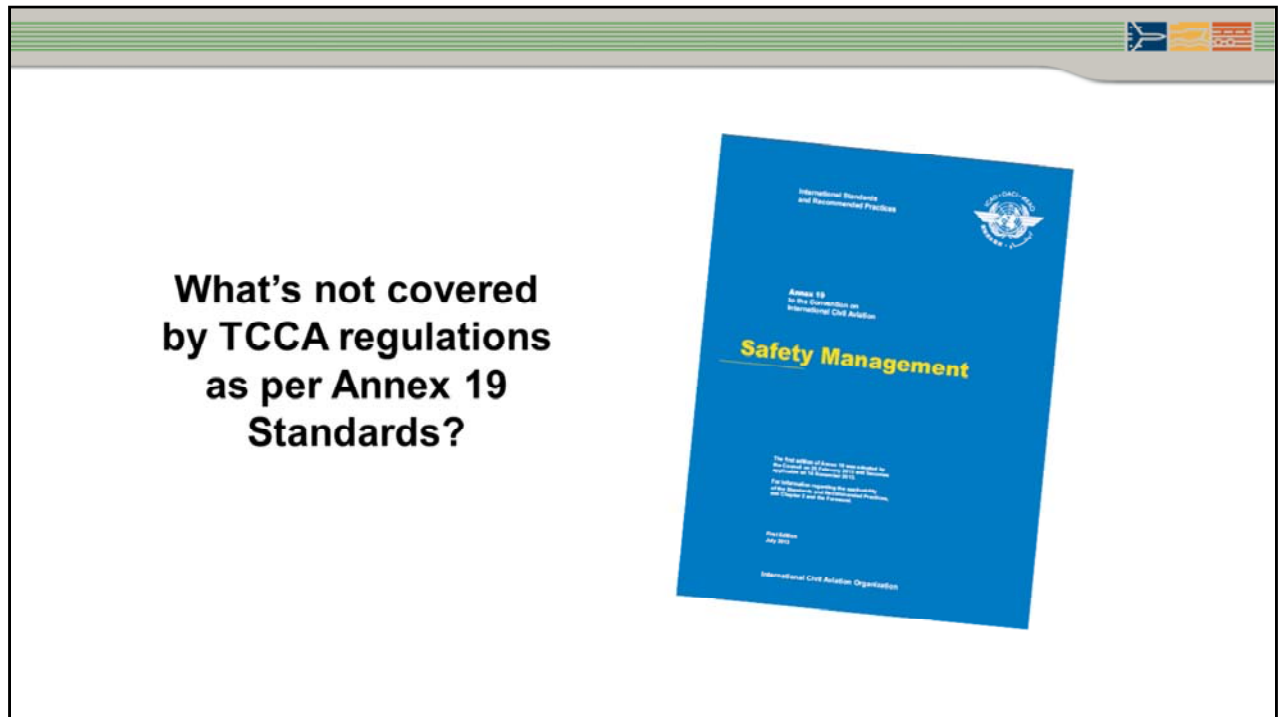
CAR 106 relates to Accountable Executive which is concurrent with section 9.3.5.1 of the SMM

CAR 107 relates to:

- (1) An approved maintenance organization (AMO) certificate issued under section 573.02 authorizing the holder to perform maintenance on an aircraft operated under Subpart 5 of Part VII;

- (2) An air operator certificate issued under section 705.07;
- (3) An airport certificate issued under section 302.03; and
- (4) An ATS operations certificate issued under section 801.05.

There are Advisory Circulars (AC) AC 107-001 (*5) and AC 107-002 (*6) that explain the principals that are required.



TC differences

1) These Service Providers are not covered by TCCA regulation as per Annex 19 Standards:

- (1) Approved training organization are not yet regulated in Canada.
- (2) Certified operator of aeroplanes or helicopters authorized to conduct international commercial air transport. Although 705 Operators are covered, 702, 703 and 704 Operators that do international transport are not covered.
- (3) Approved maintenance organization providing services to operators of aeroplanes or helicopters engaged in international commercial air transport. Although some AMO's for 705 Operators are covered, 702, 703 and 704 AMO's for Operators that do international transport are not covered.
- (4) Organization responsible for the type design of aircraft, engines or propellers, are not

yet regulated in Canada.

(5) Organization responsible for the manufacture of aircraft, engines or propellers, are not yet regulated in Canada.

2) The Annex 19 SMS elements are mostly covered in TC's AC 107-002 with the following elements:

Safety policy and objectives.

- (a) Management commitment (TC 1a);
- (b) Safety accountability and responsibilities (TC 1c);
- (c) Appointment of key safety personnel (TC CARs 106);
- (d) Coordination of emergency response planning (TC 6a) and
- (e) SMS documentation (TC 2b).

Safety risk management.

- (a) Hazard identification (TC 3b) and
- (b) Safety risk assessment and mitigation (TC 3d).

Safety assurance.

- (a) Safety performance monitoring and measurement (TC 1f);
- (b) The management of change (TC 3d) and
- (c) Continuous improvement of the SMS (TC 5a).

Safety promotion.

- (a) Training and education (TC 4a) and
- (b) Safety communication (TC 1d).

3) Some terminology could benefit to be matched to ICAO's definitions.

Differences to be reconciled

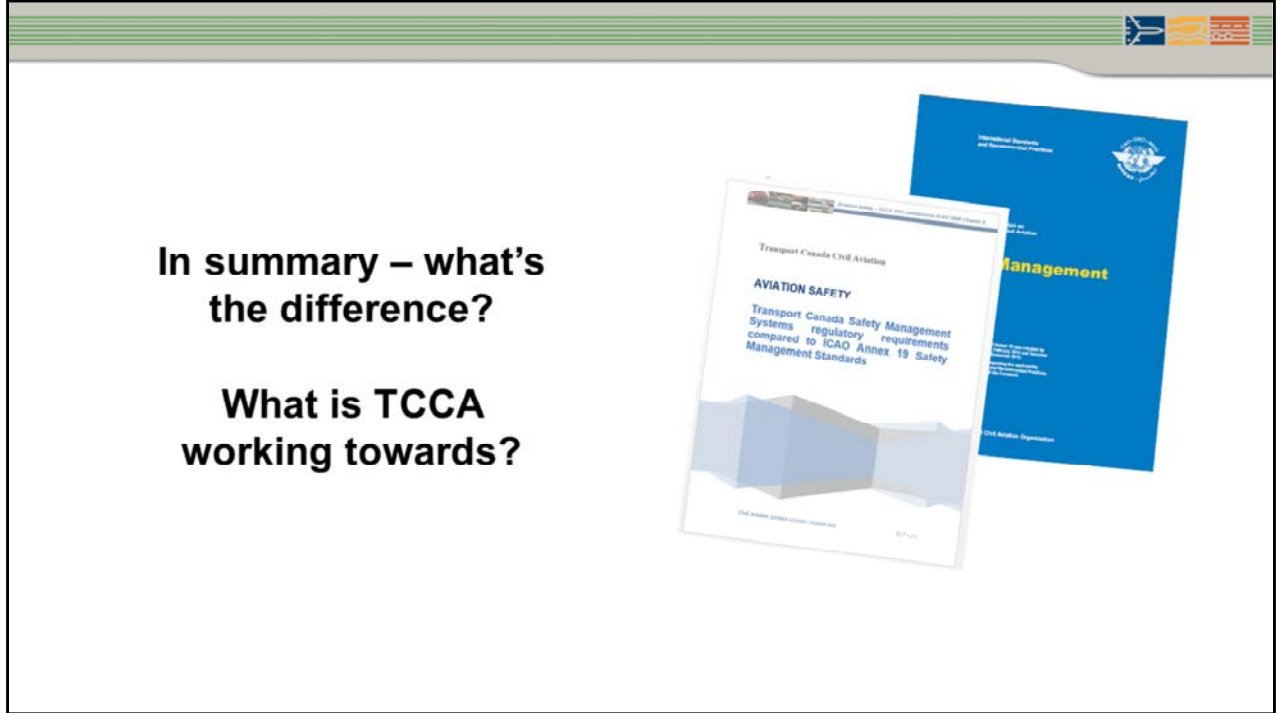
TCCA has been from the start of SMS implementation, a leader, and most requirements are in line with ICAO Annex 19 Standards.

1) The following Service Providers would need to be regulated or differences filed to meet ICAO:

- 1) Approved training organization.
- 2) Certified operator of aeroplanes or helicopters authorized to conduct international commercial air transport.
- 3) Approved maintenance organization providing services to operators of aeroplanes or helicopters engaged in international commercial air transport.
- 4) Organization responsible for the type design of aircraft, engines or propellers.
- 5) Organization responsible for the manufacture of aircraft, engines or propellers.

2) Although Annex 19 SMS elements are covered in Canada, the regulation, especially CAR 107 is not specific on how to meet the ICAO specific requirements. AC 107-002 could be harmonized to match ICAO's SMM Chapter 9, transferred in a Technical Publication (TP) and be enabled through the CARs like the MEL examples in CAR 605.07.

3) TCCA SMS terminology could benefit to be harmonized with ICAO's definitions.



Transport Canada Civil Aviation is implementing a State Safety Program (SSP) that meets ICAO's Annex 19 *Safety Management* and Global Aviation Safety Plan (GASP) implementation

These differences could be summarized and addressed as:

- Additional Canadian aviation industry Service Providers would need to be regulated under an SMS or TCCA needs to file differences to ICAO Annex 19 Standards;
- Technical Publications could be developed and enabled through regulation;
- Terminology and language used in TCCA documentation could be harmonized to ICAO. A common Canadian civil aviation safety lexicon could be developed.

Differences to be reconciled

TCCA has been from the start of SMS implementation, a leader, and most requirements are in line with ICAO Annex 19 Standards.

1) The following Service Providers would need to be regulated or differences filed to meet ICAO:

- 1) Approved training organization.
- 2) Certified operator of aeroplanes or helicopters authorized to conduct international commercial air transport.
- 3) Approved maintenance organization providing services to operators of aeroplanes or helicopters engaged in international commercial air transport.
- 4) Organization responsible for the type design of aircraft, engines or propellers.
- 5) Organization responsible for the manufacture of aircraft, engines or propellers.

2) Although Annex 19 SMS elements are covered in Canada, the regulation, especially CAR 107 is not specific on how to meet the ICAO specific requirements. AC 107-002 could be harmonized to match ICAO's SMM Chapter 9, transferred in a Technical Publication (TP) and be enabled through the CARs like the MEL examples in CAR 605.07.

3) TCCA SMS terminology could benefit to be harmonized with ICAO's definitions.

REGULATORY REQUIREMENTS – CANADIAN AVIATION REGULATIONS



The **Canadian Aviation Regulations** are a compilation of regulatory requirements designed to enhance safety and the competitiveness of the **Canadian aviation** industry.

The Aeronautics Act

The

Standards Documents

Many of the regulatory provisions made under the Act incorporate "standards" publications by reference.

There are two principal types of standards: those which set out criteria and conditions to be met for the issuance and maintenance of a Canadian aviation document; and those which set out the "how-to" of complying with a specific rule of conduct. Aeronautics Act (Act) is an act of Parliament providing the basis for the regulation of aeronautics. The Act empowers the Governor in Council (Special Committee of the Cabinet) to make regulations to carry out the Minister's mandate.



CANADIAN AVIATION REGULATIONS

- Part I – General Provisions
 - Subpart 7 – Safety Management System Requirements
 - Division V – Safety Management System
- Group 1 – Large certified* airports (SMS Regs. in force 2008)
- Group 2 – Smaller certified* airports (Remaining airports 2009)

***Aerodromes**/an airport certificate issued under section 302.03

15

A phased implementation program was put in place. SMS regulations for large certified airports and providers of air navigation services came into force in 2008, and for all remaining small certified airports in 2009.

TALK ABOUT ICAO IMPLEMENTATION DATES- SHOW THEM THAT WE ARE LEADERS IN SMS BASED ON THE IMPLEMENTATION DATES

The ICAO implementation date for Aerodrome SMS-related requirements were applicable 01 January 2009. As you can see TCCA is a leader in SMS s we



CANADIAN AVIATION REGULATIONS

- Part III – Aerodromes, Airports and Heliports
 - Subpart 2 – Airports
 - Division V – Safety Management System
- Group 1 – Large certified* airports (SMS Regs. in force 2008)
- Group 2 – Smaller certified* airports (Remaining airports 2009)

***Aerodromes**/an airport certificate issued under section 302.03

16

A phased implementation program was put in place. SMS regulations for large certified airports and providers of air navigation services came into force in 2008, and for all remaining small certified airports in 2009.



ADVISORY CIRCULARS

AC 107-001 *Guidance on Safety Management Systems Development*
(larger more complex organizations).

AC 107-002 *SMS Development Guide for Smaller Aviation Organizations*

AC QUA-001 *Quality Assurance Programs*

AC SUR-002 *Root Cause Analysis and Corrective Action for TCCA Findings*

AC SUR-004 *Canadian Aviation Surveillance Program*

17

The Advisory Circulars offer good examples, and sample forms and exercises.



Group Discussion – Compare and Contrast

Q1. How do Latin American regulations compare to that of TCCA's regulatory requirements when it comes to SMS?

Q2. What do you like or dislike about how TCCA has grouped their requirements compared to that of ICAO's?

18

Q1. How do Latin American regulations compare to that of TCCA's regulatory requirements when it comes to SMS?

Q2. What do you like or dislike about how TCCA has grouped their requirements compared to that of ICAO's?



Group Discussion – Compare and Contrast

Q3. Where do the Latin American regulations fall, when looking at the other two? What advantages or disadvantages do you see with the way they are organized?

Q4. Having reviewed both TCCA and ICAO's requirements, what do you think could be improved in state's regulations or in your employer's policy that you haven't considered before?

19

Q1. How do Latin American regulations compare to that of TCCA's regulatory requirements when it comes to SMS?

Q2. What do you like or dislike about how TCCA has grouped their requirements compared to that of ICAO's?



Conclusion

- Review of main points
- Final thoughts
- Next learning block

Review of main points

Questions from group or clarifications

Final thoughts

Next learning block after the break: *Surveillance 2.0 & Transition to a System based Approach*