



SMS FOR AERODROMES – BLOCK 4

OBSTACLES FOR MANAGERS & INSPECTORS



Canada


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This section gives an overview of the current state of Canadian airports and some of the findings that were discovered during a recent environmental scan. It also focuses on obstacles that were identified as challenging areas for both SMS managers and inspectors.

Transport Canada / Transports Canada

SMS ENVIRONMENTAL SCAN

- SMS – airports: current state
- External findings
- Group 1 and group 2 certificate holders



Canada

The environmental scan we conducted focuses on area not previously assessed.

Summarizes SMS implementation. Offers insight on challenges; best practices etc. from inspectors and SMS managers' perspective.

Intent of scan: to help identify where TCCA may be able to strengthen guidance material or other support for inspectors and airport operators.

TCCA hopes to extend its best practices and share challenges with other countries who are struggling with implementation.

We will highlight here the areas that the scan identified are struggles/challenges with SMS at airports.



SMS – AIRPORTS: CURRENT STATE

- Internally and externally, there was support for the SMS concept.
- Both sides are frustrated with technology and how difficult SMS can be to implement – especially considering that it is not a one-size-fits-all model.
- Quality Assurance is difficult to understand as are the corrective action plans.
- Internal and external stakeholders are both urging additional assistance in the form of greater information; improved technology; clarification and airport specific SMS training.
- Communication between them is open and all stakeholders expressed commitment to improving the safety of airports.

- SMS working well at large airports; smaller ones are struggling.
- CASIs and TTLs interviewed noted that they feel understaffed.
- Technology: applications used for inspections are cumbersome and are not designed for airport SMS inspections.
- Inspectors have observed that many of the consultants are untrained; have limited experience with the field; and produce 'off the shelf products' or 'cookie cutter' manuals that come at a very high price.
- Quality Assurance was the biggest struggle reported by the inspectors with both groups of certificate holders, but in particular with smaller ones.
- Some smaller airports don't know they can do their own QA audit with a letter. Smaller airports are hiring out to do their QA audits and they're struggling.
- Struggles with Corrective Action Plans and Root Cause Analysis were noted.
- The internal scan of the environment overall pointed to the key participants believing in the concept of Safety Management Systems.
- Despite varying degrees of success at airports, inspectors spoke of the airports they

inspect with compassion and concern and a true desire to see airport SMS managers succeed and overcome their challenges.

- Overall the feedback was that SMS is a really great tool and those interviewed supported the concept. Smaller airports however, noted that they are being held to the same standard as larger airports, which was a point of frustration for many.
- Economically, airport managers and inspectors alike commented on the high cost of doing business. Fees for consultants and funds spent on audits and improvements to systems consume a larger portion of their operating budgets.
- Appetite for formal training. Difficult to access SMS training - particularly for airport management. Quality Assurance an area in which they would like to have access to TCCA training.
- Quality Assurance was the biggest struggle reported by the inspectors with both groups of certificate holders, but in particular with smaller ones.
- Struggles with Corrective Action Plans and Root Cause Analysis were noted. Inspectors would like to see formal training provided to SMS managers to educate them on how to oversee this properly.
- Monthly aerodrome CASI teleconferences are working well.
- The internal scan of the environment overall points to the key participants believing in the concept of Safety Management Systems.
- Despite varying degrees of success at airports, inspectors spoke of the airports they inspect with compassion and concern and a true desire to see airport SMS managers succeed and overcome their challenges.

SMS AT AIRPORTS: EXTERNAL FINDINGS

	OPPORTUNITIES	THREATS
EXTERNAL – AIRPORT SMS MANAGERS	<ul style="list-style-type: none">• Airport staff believe in the SMS concept• Relationships with inspectors is good• They are seeing positive results from SMS implementation• Peer support and peer audit programs	<ul style="list-style-type: none">• Little training available• There are no requirements in order to hold the position of Accountable Executive and SMS Manager SMS not adapted for smaller airports• QA and Root Cause Analysis is hard to grasp• Corrective action planning difficult• SMS is costly to implement (consultants, audits etc.)• Consultants are producing cookie-cutter products not suitable to the client

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Here are some examples of areas that are working well and areas where airport managers are struggling.

The next few slides will deal with obstacles identified in the environmental scan and areas you may encounter when inspecting an aerodrome. They present a list of challenges you may be faced with when inspecting an airport and offer areas to of which to be particularly aware.

A Look at: Obstacles

- Quality Assurance vs. Quality Control
- Records
- Accountable Executives
- Root Cause Analysis
- SMS manuals
- Scalability smaller/larger airports





Obstacle #1: Quality Assurance vs. Quality Control

QA was an area that was identified by aerodrome inspectors as a challenging area for smaller airports. Struggling to differentiate between the two.

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Quality Assurance Program.

CARs require that a QA program be in place. (QAP)

What is the difference between QA and Quality Control (QC)?

A QAP is the internal validation function of the SMS. Verifies and validates that the controls it has put in place are effective.

(1) The difference is that QA is process oriented and QC is product oriented. Testing, therefore is product oriented and thus is in the QC domain. Testing for quality isn't assuring quality, it's controlling it. On the other hand, Quality Assurance makes sure you are doing the right things, the right way.

(2) Assuring quality is about confidence. It's about the processes by which we go about

doing what we do. Part of that is knowing that we're doing the right things at the right time, and part of it is that we are doing them the right way. Processes must be established and understood before we start working, not afterwards.

(3) QA aims to prevent defects with a focus on the process used to make our product or provide our service (It is a proactive quality process). QC aims to identify and correct defects in the finished product or after the service is provided. Quality control, therefore, is a reactive process.

QA was an area that was identified by aerodrome inspectors as a challenging area for smaller airports. Struggling to differentiate between the two.

Full QA assessment there are issues, but big ones can handle it. Most of the smaller ones are not always meeting SMS.

Some smaller airports have stopped having passenger service and have turned in their certificates. Now they are aerodromes instead so they don't have to do SMS. QA is the biggest excuse. They don't have the money or resources. SMS ties their hands, they can't do the audit. Didn't have resources to meet the audit findings with only three or four people.

Info will trickle down that the smaller airports will get. They realize that they are going to have to join CAC to get more guidance. Smaller airports don't have training and no where to go.



Obstacle #2: Records

Documenting is a big problem as well. If the information isn't going into the system, then you aren't getting anything out of it.

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How long are records kept?

The records resulting from a system required under paragraph 3g shall be retained for the greater of **a) two audit cycles and b) two years.**

Documenting is a big problem as well. If the information isn't going into the system, then you aren't getting anything out of it.

Records of audits, including auditor selection & training records, completed check sheets, findings and corrective actions become evidence of the QAP functioning and of compliance to QAP regulatory requirements. The enterprise must ensure all QAP records are:

- (a) Legible;
 - (b) Protected from harm and/or degradation;
 - (c) Retained for the required time; and
 - (d) Accessible.
- (2) Timeframes for how long an enterprise must keep records are often given within the

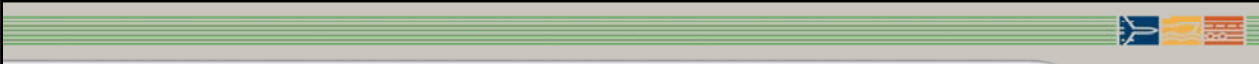
regulation. The timeframe is usually the greater of two audit cycles or two years. The enterprise must follow any specified timeframe. If there is no timeframe specified, the enterprise must select one. As a general rule, where no record retention timeframe is specified, the enterprise should keep records of two complete audit cycles.

(3) An enterprise must keep all QAP records in a way that protects them from damage or degradation and are easily accessible throughout the retention period. An enterprise may wish to store their QAP records electronically. This is acceptable as long as the enterprise complies with the requirements of CAR 103.04 – Record Keeping.

(4) It is a good idea to keep original hard copies in a simple filing cabinet (preferably fire proof). Whether stored electronically or physically, it is advisable to classify the records so they are easy to find and use.


(5) An enterprise should apply this basic record keeping process to confirm and demonstrate its compliance to regulatory requirements. TCCA inspectors will also review records as part of TCCA surveillance activities.

PUT SOME BULLETS ON THE SLIDE ABOUT THESE POINTS



Obstacle #3: Accountable Executives

Who is the airport accountable executive ?



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Who is the airport accountable executive:

They have control of the financial and human resources that are necessary for the activities and operations authorized under the certificate.

How does TC communicate with them?

Inspectors will provide info to the AE's in the form of a letter. Some airports are run by regional district or municipality. They may not have an aviation background. Sometimes airports are offshoots and the AE is sometimes the same person that is in charge of say, snow removal or grass cutting, waste management for the municipality. This can often present challenges when communicating information from TC to these individuals.

What is their role?

106.02 (1) The applicant for, or the holder of, a certificate referred to in section 106.01 shall

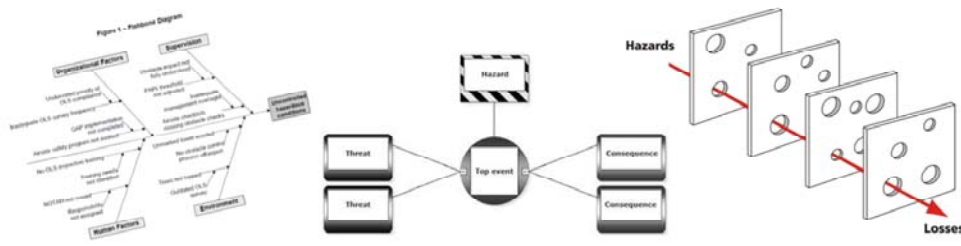
(a) appoint an individual as accountable executive to be responsible for operations or activities authorized under the certificate and accountable on their behalf for meeting the requirements of these Regulations;

(b) notify the Minister of the name of the person appointed; and

(c) ensure that the accountable executive submits to the Minister a signed statement that they accept the responsibilities of their position within 30 days after their appointment.

(2) No person shall be appointed under subsection (1) unless they have control of the financial and human resources that are necessary for the activities and operations authorized under the certificate.

Obstacle #4: Root Cause Analysis



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Root Cause Analysis has been identified as a big area in which airports large and small often struggle.

Identifying root causes requires everyone to look beyond the obvious causes at other possible contributing factors, including, (but not limited to), organizational issues. Key operational staff must be properly trained to conduct safety investigations and have appropriate management support. Their findings should be disseminated throughout the organization.

Lessons learned about safety are more beneficial when they include a focus on root causes ('why?') rather than on a description of the accident or incident only ('what?').

Transport Canada has developed an Advisory Circular AC SUR-002- Root Cause Analysis and Corrective Action for TCCA Findings that can help the enterprise develop its QAP root cause analysis and preventative corrective action process.

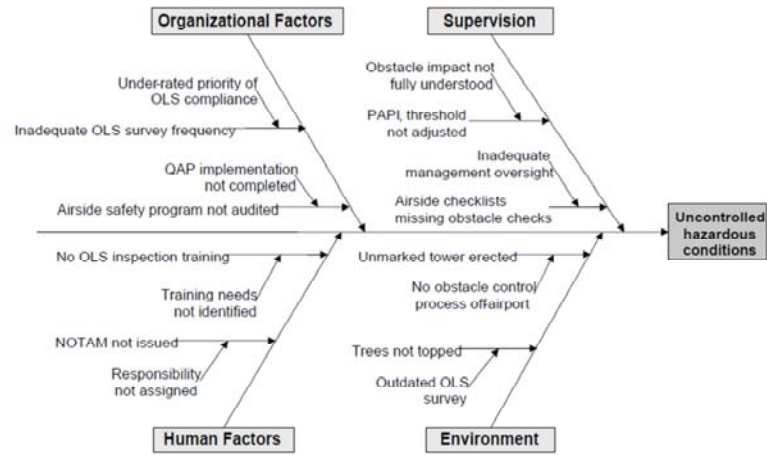
Worksheets available in SUR-002 to help with root cause analysis

Problem Statement – Since July 15 last year, the airside safety program was not conducted in compliance with regulatory requirements, leading to uncontrolled and unreported conditions hazardous to aviation safety around the airport.

Causal Analysis – The organization used a fishbone diagram to brainstorm possible factors and causes, as shown in Figure 1



Figure 1 – Fishbone Diagram



Obstacle #5: SMS Manuals



Contents

Manual needs to be present, suitable, in use, and effective. Often contracted out to consultants to create for airports. Cookie cutter manual that isn't appropriate for the operation.

Are they approved by TC? No.

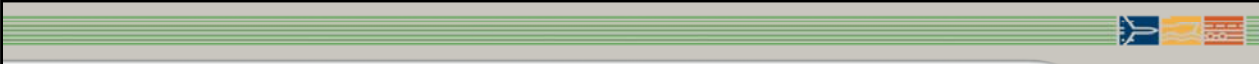
There has been some confusion about whether or not the manual needs to be approved by TC. TC only sees it during an oversight activity.

The way the regulations are currently written, we need to approve SMS manuals in an Air Operator's company operations manual. This is not the case in the Aerodrome world; a legal review of the same requirements in the Aerodrome world identified that there *is no requirement for Minister to approve SMS components in an Aerodrome Operations*


Manual.

DISCUSSION QUESTION:

Q) Some states approve aerodrome SMS manuals. Does yours?



Obstacle #6: Scalability of SMS Smaller/Larger Airports



Contents

Manual needs to be present, suitable, in use, and effective. Often contracted out to consultants to create for airports. Cookie cutter manual that isn't appropriate for the operation.

Are they approved by TC? No.

There has been some confusion about whether or not the manual needs to be approved by TC. TC only sees it during an oversight activity.
Where they fit in and why they are required



SMS – SCALED TO SUIT SIZE

- Important that an SMS is scaled to suit the size and complexity of an airport
- What works for a large airport does not necessarily work for a smaller airport
- Smaller airports may have informal components in place. These need to be tracked and documented/tracked/tweaked to be effective.
- SMS is a living system

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Important to note as well that unique to aerodrome SMS: Construction Work

The aerodrome operators need to put in place a process, relevant procedures and a system of control measures for safety-related clauses in the contracts for construction work at the aerodrome. This should include evaluation of projects by the Safety Committee and identification of rectification measures, as necessary.

BIG PART OF CULTURAL SHIFT WITHIN REGULATOR FRAMEWORK. CAN'T JUST HAVE A MANUAL ON THE SHELF ANYMORE – IT'S NOW ALL PERFORMANCE BASED



SMS – CHALLENGES FACED BY SMALLER AIRPORTS

- One person performs many roles
- Struggling with implementation
- Consultants hired to create manuals (unsatisfactory – doesn't fit the airport)
- Lack of training and funding
- Peer evaluations (smaller airports auditing each other leads to duplication of errors and misinformation).
- Accountable Executives wear more than one hat.



The Canadian Airports Council (CAC) and the Airport Community



What CAC is Doing About SMS

- New program known as CANAP
- Airports conduct peer audits within the program against the regulation.
- Looking at timing TC inspections with the peer audits so that they complement one another. TC could push their inspections out further if CAC's own internal audits are done and corrective action is being taken.

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CANAP is a program just launched by the Canadian Airports Council where airports conduct peer audits within the program against the regulations. It focuses primarily on SMS and QA with plans to have a 'train the auditor' component as part of the program.

Airports pay consultants a lot of money to do audits, but they do not work at airports and they don't have the expertise for the areas they are addressing in their reports. Previously there was less TC activity in the way of audits before and so CAC wanted to start doing their own.

Guidance on SMS for aerodromes also produced by the ACI – Airports Council International in their Airside Safety Handbook



Summary of Key Points

- Why SMS at an airport is important
- Challenging areas for SMS Managers
- Canadian Airports Council initiative (peer auditing)
- Things to remember

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SMS grew out of industry's need to integrated safety management.

Based on the recognition of human limitations.

Required communication between all parts of an organization and continuous improvement goals for safety within the aviation industry.



End of SMS Module Confirmation

- Why SMS is important/what the advantages are
- Challenging areas for SMS Managers
- Industry implementation, corrective action, PVI
- Other information and resources Skybrary, CASA Kit, etc.

- Up next...