

SURVEILLANCE PROCEDURES

Issue No. 10

Transport Canada Transports Canada

Canada

Transport Canada Transports Canada

Staff Instruction

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1.0 Introduction

1.1 Purpose

(1) This document describes the procedures to be used by Transport Canada Civil Aviation (TCCA) personnel when conducting surveillance on enterprises to ensure they effectively comply with their regulatory requirements.

1.2 Applicability

(1) This document applies to Transport Canada Civil Aviation (TCCA) personnel involved in the conduct of surveillance activities.

1.3 Description of changes

(1) Due to the number of changes incorporated into this issue, readers should review the content of the entire document.

(2) The major changes are:

- (a) The document has been reorganized.
- (b) Annexes have been created to provide detailed instructions for completing different types of surveillance, all Annexes are listed in Appendix A:
  - (i) Compliance inspection procedures have been added within Annex 1.
  - (ii) Ramp inspection procedures have been added within Annex 2.
  - (iii) Process inspection procedures have been relocated to Annex 3.
  - (iv) Program Validation Inspection (PVI) and Assessment procedures have been relocated to Annex 4.
- (c) Compliance inspections are now the primary tool for planned inspections, all other inspection types will be used for reactive surveillance only.
- (d) Standalone ramp inspections have been exempted from Surveillance Review Committee requirements.
- (e) A new section on the use of remote surveillance has been added.
- (f) A new requirement for annual enterprise manual validation has been in section 5.4.
- (g) Previous sections 12.0, 13.0, 14.0, 15.0, 16.0 have been removed and incorporated into SI SUR-029.
- (h) The master worksheet for compliance inspections is replaced by new compliance checklists available in Appendix B as well as the Surveillance Analytical Risk Algorithm-Surveillance (SARA-S).
- (i) When an enterprise holds more than one CAD, the scope of a planned surveillance activity is all CADs and therefore the surveillance team will include at least one inspector from each aviation technical discipline/specialty applicable to the CADs held by the enterprise.
- (j) Sampling procedures have been amended and relocated to Appendix C.
- (k) Only the tools and documents prescribed in this staff instruction or its annexes are permitted for use in conducting surveillance activities.

2.0 References and requirements

2.1 Reference documents

(1) It is intended that the following reference materials be used in conjunction with this document:

(a) *Aeronautics Act* (R.S.C., 1985, c. A-2)

(b) Advisory Circular (AC) 107-001 — Guidance on Safety Management Systems Development

(c) Advisory Circular (AC) 107-002 – Safety Management Systems Development Guide for Small Operators/Organizations

(d) Advisory Circular (AC) SUR-002 Root Cause Analysis and Corrective Action for TCCA Findings

(e) *Canadian Aviation Regulations* (CARs)

(f) Civil Aviation Directive (CAD) ADM-005 — Mandatory Training to be Authorized to Act on Behalf of the Minister as a Civil Aviation Safety Inspector

(g) Civil Aviation Directive (CAD) SUR-008 – Surveillance Policy

(h) Civil Aviation Directive (CAD) 107-004 — Aviation Enforcement – Safety Management Systems

(i) Staff Instruction (SI) SUR-002 — Enhanced Monitoring

(j) Staff Instruction (SI) SUR-014 – Suspension or Cancellation of Canadian Aviation Documents for Safety Reasons

(k) Staff Instruction (SI) 103-001 – Enforcement Procedures

(l) Staff Instruction (SI) SUR 027 – Oversight Advisory Board (OAB)

(m) Staff Instruction (SI) SUR 028 – Surveillance Planning Instructions

(n) Staff Instruction (SI) SUR-029 – Addressing Deficiencies Identified Through Surveillance

(o) Staff Instruction (SI) QUA-021 – Surveillance Quality Management Program

(p) Staff Instruction (SI) SUR-034 – Targeted Inspection Program

(q) Staff Instruction (SI) SUR 035 – CADORS Follow-up

(r) Staff Instruction (SI) SUR 036 – Enforcement Record Check Procedures

2.2 Cancelled documents

(1) By default, it is understood that the publication of a new issue of a document automatically renders any earlier issues of the same document null and void.

(2) As of the effective date of this document, the following Internal Process Bulletin (IPBs) are cancelled:

(a) Internal Process Bulletin (IPB) 2020-14 – Remote Surveillance

(b) Internal Process Bulletin (IPB) 2023-04 – SI SUR-001 Sections 12-16 Superseded by SI SUR-029 Issue 03

(c) Internal Process Bulletin (IPB) 2024-03 – FRMS Surveillance and Enforcement

2.3 Definitions and abbreviations

(1) The following **definitions** are used in this document:

(a) **Assessment**: the surveillance activity conducted to evaluate effectiveness and level of compliance with the CARs.

(b) **Canadian Aviation Document (CAD)**: Any licence, permit, accreditation, certificate or other document issued by the Minister under Part I of the *Aeronautics Act* to or with respect to any person or in respect of any aeronautical product, aerodrome, facility or service.

(c) **Certification requirement**: an administrative regulatory provision which must be met to qualify for the issuance of a certificate under the *Canadian Aviation Regulations*. This term is commonly used to refer to a 'condition of issuance'.

(d) **Compliance**: the state of meeting regulatory requirements.

(e) **Compliance Inspection**: An inspection designed to verify that a product or an activity meets applicable regulatory requirement(s) or design standard(s).

(f) **Corrective Action**: Specific action that addresses causes and/or contributing factors, aims to prevent recurrence of an identified issue, and manages associated risks. Corrective action may include short and/or long-term corrective action.

(i) Short-Term Corrective Action - action which corrects the specific issue identified and is preliminary to the long-term action that prevents recurrence of the problem.

(ii) Long-Term Corrective Action – Specific actions which are taken to address underlying causes of identified issues to prevent recurrence.

(g) **Days**: calendar days. When a due date falls on a weekend, TCCA will treat the due date as the next business day.

(h) **Deficiency**: a term used to refer to findings of non-compliance and observations collectively.

(i) **Effective**: completely documented, implemented and consistently accomplishing its designed intent.

(j) **Enterprise**: the holder of one or more TCCA issued Canadian Aviation Document under a single Accountable Executive. For example, a company holds an Approved Maintenance Organization Certificate, an Air Operator Certificate, an Approved Training Organization Certificate and a Design Organization Authority. The term Enterprise is intended to denote that surveillance is conducted on the whole enterprise rather than on an individual Canadian Aviation Document.

(k) **Finding**: a factual account, supported by evidence, of how an enterprise is not in compliance with the regulations.

(l) **Functional area database**: a database used by TCCA to provide information or assist in the surveillance process. (e.g. the National Aviation Company Information System (NACIS), the National Aerodromes Safety Database (NASD).

(m) **Hazard**: A condition or an object with the potential to cause or contribute to an aircraft incident or accident.

(n) **Judgment sampling:** a method of selecting items from a population on the basis of personal opinion as to what is representative of the population under study.

(o) **Lot**: a group of units (persons, records, process outputs, etc.) from which a sample is drawn.

(p) **Non-compliance**: the failure to meet regulatory requirements.

(q) **Procedure**: a fixed, step-by-step sequence of activities or course of action (with definite start and end points) that must be followed in the same order to correctly perform a task.

(r) **Process**: a group of interrelated or interacting activities that convert inputs into outputs.

(s) **Process Inspection**: a review of an enterprise process and its intended outputs to determine if the process is consistently accomplishing its objective(s) in accordance with regulatory requirements. A process inspection may review multiple processes.

(t) **Program Validation Inspection (PVI)**: a process comprised of research and an on-site review of one or more components of a SMS or other regulated areas of an enterprise.

(u) **Ramp inspection**: the systematic inspection of aircraft and its crew on the ground to verify compliance with applicable safety standards, operational procedures, and regulatory requirements.

(v) **Regulatory Requirements**: the *Canadian Aviation Regulations* (CARs) and standards as well as any documentation required by reference.

(w) **Risk**: the predicted likelihood and severity of the consequence(s) or outcome(s) of a hazard.

(x) **Safety**: the condition to which risks are managed to an acceptable level; where acceptable level from a TCCA perspective is on-going compliance with regulatory requirements.

(y) **Safety Management System (SMS)**: a documented system for managing risks that integrates operations and technical processes with the management of financial and human resources to ensure aviation safety or the safety of the public.

(z) **Statistical sampling**: a process through which a random portion of a larger population is reviewed to draw conclusions about the broader population

(aa) **Service Work**: oversight activities conducted at the request of the recipients, and includes the issuance of certificates, licenses, approvals or other authorizations by the Minister to enable activities regulated by the CARs.

(bb) **Scope**: the areas of the enterprise’s operations that will be subject to a surveillance activity.

(cc) **Surveillance**: oversight activities through which TCCA verifies that aviation licence, certificate, authorization, or approval holders continue to meet the established requirements and function at the required level of competency and safety.

(dd) **Surveillance Analytical Risk Algorithm-Surveillance (SARA-S)**: Web based application linked to applicable databases for the purpose of producing surveillance events and associated checklists for completion by surveillance teams when conducting surveillance activities.

(ee) **Surveillance review committee (SRC)**: Responsible for reviewing the results of an inspection, in particular any deficiencies.

(ff) **System**: a group of inter-dependent processes and people working together to achieve a defined result. A system comprises policies, processes and procedures. It is through systems that enterprises should achieve a state of compliance to their regulatory requirements on an on-going basis.

(gg) **Targeted Inspection**: a surveillance program tool designed to combine CAD- holder compliance monitoring with gathering evaluative information that provides TCCA with data on how certain regulatory requirements, programs, and guidance materials have generally been applied across a larger group or sector.

(hh) **Technical personnel**: anyone employed or contracted by the enterprise to perform functions required by regulatory requirements or approved documentation, including those incorporated by reference.

(2) The following **abbreviations** are used in this document:

(a) **ATIP**: Access to Information and Privacy

(b) **CAD**: Canadian Aviation Document

(c) **CADORS**: Civil Aviation Daily Occurrence Reporting System

(d) **CARs**: *Canadian Aviation Regulation*

(e) **NACIS**: National Aviation Company Information System

(f) **OAB**: Oversight Advisory Board

(g) **OPI**: Office of Primary Interest

(h) **RDIMS**: Records, Documents and Information Management System

(i) **SARA**: Surveillance Analytical Risk Algorithm

(j) **TTL**: Technical Team Lead

(k) **TCCA**: Transport Canada Civil Aviation

3.0 Background

(1) The adoption of Safety Management Systems (SMS) by aviation authorities around the world has fundamentally changed the approach to managing safety risks. For Canada, which implemented SMS regulations in 2008, this shift also transformed how we oversee the industry and led to TCCA's enterprise approach to oversight.

(2) Today, as a result of continuous improvement processes, a changing aviation landscape, and other inputs, TCCA continues to evolve.

(3) Most recently, the 2023 International Civil Aviation Organization (ICAO) Universal Safety Oversight Audit Programme (USOAP) results provided clear direction on how TCCA could align with international standards.

(4) Following the audit, the oversight renewal project (ORP) was established to address systemic issues within the surveillance and certification programs. This project focuses on improving risk-based oversight methodologies, processes, and guidance, with a particular emphasis on standardization and efficiency.

(5) This issue of SI SUR 001 is a direct result of the first phase of the ORP. Phase one focuses on revising surveillance methodologies, introducing comprehensive checklists for each technical area, and providing inspector training on new procedures. We have updated tools and guidance materials to address internal feedback, as well as best practices and lessons learned from international safety organizations and other state civil aviation authorities. The new procedures were piloted in summer 2025, and enhancements will continue to be made based on inspector feedback.

(6) The second phase will focus on long-term improvements to streamline the oversight program as a whole and improve how we conduct oversight of management systems. With the implementation

of these procedures, TCCA aims to enhance our safety program, align oversight principles with the evolving aviation industry, strengthen our safety culture, and reaffirm our position as a global leader in aviation safety.

4.0 Surveillance roles and responsibilities

(1) This section outlines roles and responsibilities specific to surveillance activities. However, please note that the roles and responsibilities are not directly linked to any specific job titles within the organization.

4.1 Convening Authority

(1) The Convening Authority (CA) is the individual that oversees and is accountable for the conduct of a surveillance activity.

(2) The position of CA can be filled by any TCCA staff designated by their regional director civil aviation or the director of the appropriate operational branch. Generally, the role of CA will be filled by TCCA management personnel.

(3) The CA is accountable for the following functions. Specific responsibilities may be delegated as appropriate.

- (a) Manage all budgetary and travel/logistical arrangements;
- (b) Ensure completion of planned surveillance activities in accordance with the National Oversight Plan (NOP) and the procedures in this SI, including all applicable checklists;
- (c) Determine the objective, scope and duration of reactive surveillance activities;
- (d) Assign surveillance team members and ensure team composition covers all specialties required for the activity;
- (e) Review and approve the sampling plan, when required;
- (f) Review, approve and sign the notification letter, when required;
- (g) Attend the entry and/or exit meetings, when required;
- (h) Ensure that action is taken in an appropriate and timely manner for any immediate threat to safety identified by the surveillance manager;
- (i) Coordinate with other regulatory groups as required (e.g. Transportation of Dangerous Goods (TDG), Aviation Security)
- (j) Select membership, initiate, chair and ensure the proper conduct of the surveillance review committee. As a minimum, the surveillance review committee membership will include the CA and the surveillance manager;
- (k) Approve the surveillance report, sign the report cover letter and ensure that the enterprise receives the report within the required timeframe;
- (l) Ensure that appropriate follow-up action is completed after the surveillance activity
- (m) Send a letter to the enterprise confirming that all findings and follow-up activities are complete and that the surveillance activity has been closed.
- (n) Completion of the process control and quality control aspects of a surveillance activity and ensuring any identified deficiencies are rectified.

4.2 Surveillance manager

(1) The Surveillance manager is a person appointed by the CA to be responsible for the planning and conduct of a surveillance activity.

(2) The surveillance manager will:

(a) Report directly to the CA until released from their surveillance duties;

(b) Develop and submit any budgetary and travel/logistical arrangement for approval by the CA;

(c) Conduct all surveillance-related activities in accordance with the surveillance plan, the procedures specified in this SI and other associated guidance material;

(d) Maintain surveillance documentation including, but not limited to, all working notes, copies of surveillance related documents and a copy of the surveillance report;

(e) Develop surveillance activity notification letters for approval by the CA;

(f) Ensure that the pre-site research, sampling tasks and checklists are completed. This includes the allotment of work amongst team members;

(g) Perform research duties, as required, which includes becoming familiar with:

(i) The enterprise's policies, processes and procedures;

(ii) Regulatory requirements associated with the enterprise and surveillance activity; and

(iii) The enterprise's history and risk profile.

(h) Where applicable, develop a surveillance plan and sampling plan for approval by the CA;

(i) Convene a pre-site team meeting prior to going on-site, when required;

(j) Communicate requirements related to Occupational Health and Safety or Personal Protective Equipment to the surveillance team;

(k) Establish contact while on-site with the CA and regional surveillance OPIs to relay fieldwork progress, potential problems, requests to add reactive surveillance activities, and other significant matters;

(l) Co-ordinate and chair the entry meeting with the enterprise as required;

(m) Oversee the proper execution of the surveillance plan, including:

(i) Ensuring staff are assigned to and complete each surveillance task;

(ii) Ensuring potential deficiencies are being identified and appropriately documented;

(iii) Ensuring all potential deficiencies undergo preliminary analysis; and

(iv) Submitting all necessary revisions to the surveillance and/or sampling plan to the CA for approval and communicating those changes to team members;

(n) Advise the CA/ADO if the Enterprise Manual Validation outlined in section 5.4 is not completed prior to the start of pre-site work for all planned inspections;

(o) During on-site activities, advise the CA without delay of any immediate threat to aviation safety and ensure that the CA is aware of any safety issues identified during on-site activities;

(p) Maintain communications with the organization's senior management via enterprise briefings as required;

(q) Ensure on-site team briefings are held as required and include preliminary analysis activities;

(r) Co-ordinate and chair the exit meeting with the enterprise's senior management as required;

(s) Perform and document the analysis of surveillance outputs;

(t) Coordinate and finalize the development of all necessary findings and observations in accordance with SI SUR-029;

(u) Provide a recommendation for TCCA follow-up action in the surveillance report;

(v) Develop and submit for review by the surveillance review committee:

(i) The surveillance report;

(ii) The findings, observations, and their supporting evidence;

(iii) Post-site analysis documentation; and

(iv) TCCA follow-up decision making documentation.

(w) Following any surveillance activity, the surveillance manager is responsible to ensure all applicable TCCA databases are updated to capture the relevant information

(x) Liaise with Civil Aviation Enforcement Standards (AARTE) during onsite activities to assist with the analysis of regulations and the evidence required to support future enforcement action.

4.3 Team leader

(1) The Team leader is an individual appointed to lead a team of inspectors in the conduct a surveillance activity.

(2) The appointment of team leaders will be left to the discretion of the CA. However, generally team leaders would be assigned for surveillance activities of larger, more complex enterprises that require a larger surveillance team.

(3) Team leaders will:

(a) Conduct all surveillance-related matters in accordance with the surveillance plan, the procedures specified in this SI and other associated guidance material;

(b) Direct and control their team's activities as assigned by the surveillance manager and keep the surveillance manager informed of progress;

(c) Prepare a summary of their team's surveillance tasks including, but not limited to, results of sampling, potential deficiencies and supporting evidence and findings;

(d) Perform research duties, as assigned, which includes becoming familiar with:

(i) The enterprise's policies, processes and procedures;

(ii) Regulatory requirements associated with the enterprise and surveillance activity; and

(iii) The enterprise's history.

(e) Where directed by the surveillance manager, provide remarks at the entry, enterprise or exit briefings;

(f) During on-site activities, immediately contact the surveillance manager with a recommendation for action in the event of an immediate threat to aviation safety.

Appropriate Delegation of Authority must be exercised in situations where aviation safety is, or may be, compromised (See SI SUR 014 for further details).

(g) Assist, as required, in the analysis of surveillance outputs as well as the development of:

(i) Findings and observations

(ii) Decisions with respect to TCCA follow-up activities

(iii) The surveillance report

4.4 Team member

(1) A team member is an individual participating in a surveillance activity.

(2) Team members will:

(a) Conduct all surveillance-related matters in accordance with this SI and other associated guidance material

(b) Become familiar with their duties as assigned

(c) Perform research duties, as assigned, which includes becoming familiar with:

(i) The enterprise's policies, processes and procedures;

(ii) Regulatory requirements associated with the enterprise and surveillance activity;

(iii) The enterprise's history and risk profile

(d) Conduct surveillance tasks as directed, including the documentation of all potential deficiencies and the collection of appropriate evidence;

(e) Communicate with the surveillance manager or, where applicable, team leader to ensure that surveillance progress is reported, analyzed and potential problems are addressed;

(f) During on-site activities, immediately contact the surveillance manager, or where applicable, their team leader, with a recommendation for action in the event of an immediate threat to aviation safety. Appropriate Delegation of Authority must be exercised in situations where aviation safety is, or may be, compromised. (See SI SUR 014 for further details.)

(g) Assist, as required, in the analysis of surveillance outputs as well as development of:

(i) Findings and observations;

(ii) Decisions with respect to TCCA follow-up activities; and

(iii) The surveillance report

(h) Communicate concerns related to Occupational Health and Safety hazards to their respective manager per established protocols.

4.5 Surveillance review committee

(1) The surveillance review committee's (SRC) role is to review the results of an inspection, in particular any deficiencies.

(2) It must be convened at the conclusion of any inspection which has identified deficiencies, except for reactive and standalone ramp inspections, where SRC are not required.

(3) The meeting of the surveillance review committee must be held before the surveillance report is issued.

(4) Further details on the surveillance review committee may be located in SI SUR 029 – Addressing Deficiencies Identified Through Surveillance.

4.6 Aviation Enforcement Standards

(1) Aviation Enforcement Standards (AARTE) will:

(a) When requested, provide functional guidance to surveillance teams respecting deficiencies identified during surveillance activities.

(b) Participate as part of the surveillance review committee when requested by the convening authority.

5.0 Surveillance overview

5.1 Annexes

(1) This staff instruction contains the overarching procedures for conducting surveillance to ensure enterprises are compliant with regulatory requirements.

(2) Annexes have been used to provide more detailed instructions on conducting TCCA's various types of surveillance activities.

(3) Each Annex has an identified responsible office that is responsible for the maintenance and program alignment of the specific procedures.

(4) Only the tools, checklists and documents prescribed in this staff instruction and its associated Annexes are permitted for use in conducting surveillance activities.

(5) A complete list of Surveillance Annexes is provided in Appendix A.

5.2 Surveillance initiation

(1) TCCA surveillance planning falls under two categories:

(a) Planned Surveillance; and

(b) Reactive Surveillance

5.2.1 Planned surveillance

(1) TCCA conducts planned surveillance activities at predetermined intervals as outlined in the National Oversight Plan (NOP). The annual surveillance planning process defines the scope for assigned surveillance activities.

(2) Planned surveillance is conducted in accordance with this staff instruction. Exceptions to these procedures is permitted only when conducting unannounced surveillance.

(3) During the conduct of a planned activity, the surveillance team may identify potential deficiencies within an enterprise that do not relate to the scope of the surveillance activity being conducted. Should this situation arise, the surveillance team may choose to:

(a) Request the CA add a reactive surveillance activity related to the safety concern(s). The reactive surveillance activity may be conducted while still on-site, but only if all planned activities can also be completed; or

(b) Inform the appropriate principal inspector(s) associated with the enterprise of the safety concern(s) for their action and follow-up.

(4) If the safety concern(s) are referred to the principal inspector(s), they will, in consultation with appropriate TCCA management, take the necessary action to mitigate the potential risk. Potential interventions include but are not limited to:

(a) communicating with the enterprise to validate the risk;

(b) reactive surveillance;

(c) meeting with senior officials;

(d) limiting enterprise authorities or privileges; or

(e) enforcement action.

5.2.1.1 Unannounced surveillance

(1) Unannounced surveillance may be included as a planned inspection on the National Oversight Plan (NOP).

(2) For unannounced surveillance on the National Oversight Plan, the convening authority will forego the notification letter, and depending on the nature of the surveillance activity may also:

(a) forego entry/exit meetings;

(b) have the surveillance team develop the sampling plan while on-site; and/or

(c) forego the Surveillance Review Committee.

5.2.2 Reactive surveillance

(1) Reactive surveillance includes all inspection activities that are not captured on the National Oversight Plan. It allows TCCA to respond to specific safety related information or events.

(2) Reactive surveillance is a tool that can be used to address identified safety concerns and/or risk indicators at any time between surveillance activities, during surveillance, or as a follow-up to surveillance activities.

(3) Reactive surveillance may include any type of inspection (e.g. targeted inspections, compliance inspections, process inspections, PVIs, or SMS assessments), or a combination thereof. The type of inspection selected is based on which tool is most suitable to respond to the information, risk indicator(s) or event that triggered it and is dependent on the specific circumstances encountered.

(4) Reactive surveillance may be initiated for many reasons. While not limited to the following examples, reactive surveillance may be conducted:

(a) following a specific occurrence, incident, or accident;

(b) after receiving new safety information that warrants inquiry;

(c) as a follow up after a planned surveillance event;

(d) when verifying the implementation of corrective action;

(e) where issues are identified that are better addressed by another type of inspection (e.g. a process inspection identifies issues that are better evaluated through a program validation inspection); and/or

(f) where issues are identified that fall outside the identified scope of an inspection in progress.

Note: As per SI SUR 001, Annex 1, expanding or changing the scope of a compliance inspection is not permitted. If a safety concern is identified outside the scope of the

planned inspection and a separate surveillance activity is required, it must be conducted as a reactive inspection and entered as its own activity in NACIS.

(5) The scope of a reactive inspection should be linked to the specific factors which triggered it.

(6) Regional and operational branches have the discretion to allocate resources to reactive surveillance.

(7) Given the nature of reactive surveillance, the convening authority may alter the instructions in this SI to ensure a timely response. Possible amendments include, but are not limited to:

(a) foregoing enterprise notification;

(b) foregoing entry/exit meetings;

(c) reducing the scope or depth of the surveillance activity;

(d) reducing the time allotted to conduct research or having the research performed on-site;

(e) foregoing the Surveillance Review Committee.

(8) During the conduct of a reactive surveillance activity, the surveillance team may identify potential deficiencies within an enterprise that do not relate to the scope of the surveillance activity. Should this situation arise, the surveillance will inform the appropriate principal inspector(s) associated with the enterprise of the safety concern(s) for their action and follow-up.

(9) If the safety concern(s) is referred to the principal inspector(s), they will, in consultation with appropriate TCCA management, take the necessary action to mitigate the potential risk. Potential interventions include but are not limited to: communicating with the enterprise to validate the risk; reactive surveillance; meeting with senior officials; limiting authorities or privileges; or enforcement action.

5.3 Surveillance categories

(1) TCCA surveillance activities fall into 4 categories:

(a) Compliance level

(b) Process level

(c) Systems level

(d) Targeted inspection campaigns

(2) Requirements specific to each surveillance category are set out in Annexes 1 to 4.

5.3.1 Compliance level

(1) Compliance level surveillance is designed to verify that a product or an activity meets applicable regulatory requirement(s). It assesses whether an output meets an identified standard.

Note: In this context a “standard” refers broadly to a document that includes requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose.

(2) Compliance level surveillance is conducted using compliance inspections (CI) and ramp inspections.

(3) Compliance level inspections can be standalone planned or reactive surveillance events or can be used to supplement system level or process level surveillance.

5.3.2 Process level

(1) Process level surveillance evaluates the processes used by an enterprise to accomplish operational objectives, while still assessing the enterprise through the lens of the systems approach to safety. Process level surveillance is conducted using process inspections (PI).

(2) During a process inspection, inspectors review an enterprise process to develop an understanding of the process and intended outputs. Inspectors then evaluate the process to determine if it is consistently accomplishing its objective(s) in accordance with regulatory requirements. Results of a process inspection may indicate systemic issues. In this case, reactive surveillance at the system-level may be required to further explore and address those concerns.

(3) A process inspection may evaluate one or more enterprise processes depending on the scope of the inspection.

5.3.3 Systems level

(1) Systems level surveillance is conducted to seek assurance that enterprise systems are operating as intended and are effective at achieving operational objectives in accordance with regulatory requirements.

(2) Systems level surveillance is conducted using assessments and/or program validation inspections (PVIs). During these activities, a surveillance team reviews an enterprise's systems to develop an understanding of how they comply with regulatory requirements. Based on this understanding, a sampling plan is developed and executed to determine whether an enterprise is complying with its regulatory requirements and the degree to which they can effectively continue to remain in compliance.

5.3.4 Targeted inspection campaigns

(1) Targeted inspections are a flexible oversight approach that mixes compliance monitoring with gathering evaluative information to gain contextual knowledge on a certain issue, topic, or sector. They allow us to determine operator compliance levels while also collecting data that helps us understand how operators interpret and implement rules, or to understand what factors, elements, or conditions may be missing and/or contributing to unacceptable results. Targeted inspections provide a method of collecting data that supports evaluation questions and methodologies, they provide a method of investigating risk severity and identifying potential risk mitigation options. Results from Targeted Inspections support strategic direction through data collection, analysis, findings and recommendations.

(2) Checklists are pre-developed specific to each campaign with questions and guidance to gain a national or regional perspective on a particular topic. An introduction is provided at the beginning of the checklist to explain the purpose of the targeted inspection. Guidance for each question on the checklist is provided to know exactly what kind of data the question is seeking to give context in case follow up, or re-phrasing is required to suit the operator.

(3) The process and expectation regarding collection of evidence, identifying and issuing findings and escalation of surveillance activity with targeted inspections is the same as with compliance and process level surveillance.

(4) More information on the development of targeted inspection campaigns is found in SI SUR 034 – Targeted Inspection Program.

5.4 Enterprise Manual Validation

(1) Principal inspectors are responsible for validating that enterprise's approved manuals are compliant.

(2) Principal inspectors will:

(a) validate each approved enterprise manual against applicable regulations or standards;

(b) ensure that all regulatory requirements or standards are met and all manuals are compliant;

(c) ensure that manual validation is completed prior to the start of pre-site work for all planned surveillance; and

(d) issue findings where regulatory contraventions are identified, in accordance with SUR 029.

(3) Principal inspectors should begin conducting the manual validation as soon as the annual work plan for their enterprise has been produced. The objective is for the manual validation for a given enterprise to be completed and compliance status updated in SARA-S prior to the pre-site activities commencing.

(4) Principal inspectors may request that the enterprise complete a table of concordance to assist in completing the manual validation.

(5) Information on how to conduct this validation can be found in the SARA-S User Guide.

5.5 National checklists

(1) Checklists ensure that all the required steps involved in a surveillance activity are completed and documented consistently. To ensure national standardization, checklists have been created for all certificate types and specialty areas.

(2) Inspectors must use only the most recently published checklists specified within SI SUR 001 or its Annexes for the activity they are conducting.

(3) Where a surveillance requirement is identified which is not captured within the existing checklists, the inspector must notify the Responsible Office identified in the applicable Annex.

5.6 Remote surveillance

(1) Remote surveillance involves conducting an inspection by means of telecommunications.

(2) Hybrid surveillance involves conducting a portion of an inspection on-site/in-person and a portion by means of telecommunications.

(3) Subsection 6.2(1) of the *Canada Transportation Act* states that the Minister may administer or enforce any federal Act using electronic methods. It also clarifies that anyone the Minister designates to administer or enforce a federal Act may use the electronic means that are made available or specified by the Minister.

(4) While digital technology is a useful tool, it is not desirable to replace on-site surveillance activities with fully remote options. Remote inspections cannot wholly replace on-site inspections. For example, when seizure of evidence is required.

(5) When legislation specifies how enforcement documents must be delivered those requirements must be followed. For example, subsection 7.7(1) of the *Aeronautics Act* requires in-person delivery of detention notices or registered/certified mail. If the legislation does not specify a delivery method, inspectors and officers may deliver enforcement documents electronically.

(6) Enforcement actions based on policy rather than legislation—such as written warnings—may be delivered electronically, as permitted under subsection 6.2(1) of the *Canada Transportation Act* and this policy

(7) Where appropriate, regions and operational branches may:

(a) conduct inspections consisting of both on-site and remote portions (hybrid model); or

(b) conduct inspections fully remotely.

(8) Remote surveillance should be conducted during regular business hours

(9) Remote surveillance must be conducted with the knowledge and participation of the regulated entity, and in accordance with the *Privacy Act.*

(10) The convening authority must approve the use of remote surveillance if it is being used to fully replace on-site presence.

(11) When determining if hybrid or remote surveillance is appropriate, a suitability assessment must be conducted based on the following:

(a) Does the enterprise possess the technology necessary to transmit information electronically?

(b) Is the enterprise capable of using the technology necessary for the confirmation activity? (e.g., operate a video camera). Can the use of remote technology reasonably accomplish the task?

(c) Does the inspector have concerns related to privacy risks associated with the transmission of information electronically?

(d) Is the enterprise compliance history strong enough that a remote inspection could reasonably be considered?

(e) Are there any unique variables/extenuating factors that would make a remote inspection less favourable? (location, site safety, language/translation requirements, type of work, time zone, etc.)

(f) Will the decision to employ digital technology in the surveillance activity compromise the quality of the inspection in determining level of compliance?

(g) What kind of inspection must be completed? Can the relevant surveillance information be adequately gained through this activity?

(12) The suitability assessment must be conducted before an inspection activity is performed remotely.

(13) If the surveillance team is not confident that compliance has been sufficiently demonstrated using digital technology, the CA will be notified. If the CA determines that an on-site activity is needed, a reactive surveillance activity will be scheduled.

(14) Where technological or other issues prevent the satisfactory completion of the inspection, the Convening Authority will assess the specific circumstances and determine the best course of action to complete the surveillance activity.

(15) Remote surveillance must be conducted in accordance with the Transport Canada Policy on the Use of Remote Inspections for Compliance Verification and Enforcement RDIMS #19376061

5.6.1 Remote documentation review

(1) Requesting regulated entities to submit required documents digitally is now a common and accepted practice.

(2) Inspectors and officers do not need approval before starting remote documentation reviews. Although it is technically a remote surveillance activity, a suitability assessment is not required.

(3) For reporting purposes, documentation review is not counted as a remote surveillance activity. For example, if an inspector reviews documents remotely and then conducts an on-site inspection, the inspection is recorded as “on-site,” not “hybrid.”

(4) As a best practice, inspectors should strive to conduct document-review and related tasks remotely wherever possible.

5.7 Immediate threats to aviation safety

(1) TCCA inspectors must act immediately should they observe any immediate threats to aviation safety, and have a duty to take action when they observe non-compliant behavior which is actively and currently either:

(a) posing a threat;

(b) causing harm; or

(c) posing a threat of harm.

(2) Where actual harm is present or a threat to safety is reasonably foreseeable, inspectors must act to immediately reduce the harm or threat to safety as quickly as is reasonably practicable.

(3) Duty of care always takes precedence over the planned scope of the surveillance activity.

(4) Refer to SI SUR 014 for further details concerning immediate threats to aviation safety.

5.7.1 Harm reduction strategies

(1) To determine if there is a requirement to employ immediate harm reduction strategies, inspectors must ask themselves:

(a) **Is there a risk of actual harm?** In the inspector’s opinion, is the harm identifiable in concrete terms? Would a reasonable inspector or the Minister conclude that the harm is quantifiable and fact-based?

(b) **Is the threat immediate?** Is the harm either happening at present, or is it imminent?

(c) **Will your actions benefit the public?** The inspector must be exercising this authority on behalf of the public good.

(2) Harm reduction strategies are designed to immediately reduce the harm or risk of harm. The focus is on remedying the event or harm and NOT on the person responsible.

(3) Unlike typical enforcement decisions, criteria for employing immediate harm reduction strategies **does not include consideration of:**

(a) Compliance history of the person responsible for the event or transportation undertaking;

(b) Intent of the person responsible for the event or transportation undertaking; or

(c) Mitigation, assistance to the regulator, economic benefit or reporting of the event by the person responsible for the event or the transportation undertaking.

(4) These factors will be taken into account should the matter be referred to enforcement.

5.7.2 Assessing risk of immediate harm

(1) To assess the risk, inspectors are expected to examine the likelihood and severity of the existing harm or risk of harm. Inspectors will use the TCCA Risk Analysis Tool in Appendix E to assist them in determining the risk of actual harm.

(2) Where the Risk Indicator falls within the High or Very High Risk level (i.e. 3E, 4D, 5C or 4E, 5D, or 5E); actions to reduce immediate harm must be taken.

5.7.3 Taking action to reduce immediate harm

(1) Actions which may be taken to reduce immediate harm include, but are not limited to:

- (a) Issuing a Confirmation Request Form 26-0672 to ensure the enterprise is aware of the safety concern and is addressing it.
- (b) Issuing a 24-0019 Notification Letter to outline a potential airworthiness issue on a specific aircraft to the owner/ operator
- (c) Seizing evidence – for example aircraft components – as per section 8.7(1)(c) of the *Aeronautics Act*
- (d) Issuing an on-site finding where corrective action is required immediately or prior to the completion of the surveillance activity
- (e) Detaining aircraft, as per section 8.7(1)(d) of the *Aeronautics Act*
- (f) Suspending a Canadian Aviation Document (CAD), as per section 7(1) of the *Aeronautics Act* and in accordance with the instructions in SI SUR-014 or SI SUR-016.

5.8 Seeking functional guidance

5.8.1 Civil Aviation Program

(1) Civil Aviation Standards Branch is the functional authority for technical guidance, which ensures a standardized approach to the application of the civil aviation program. This includes interpretation and application of the *Aeronautics Act* and CARs, Civil Aviation Directives, Staff Instructions, Internal Process Bulletins, and enforcement action.

(2) All requests for functional guidance should be addressed to the appropriate Division:

- (a) Aircraft Certification Standards
- (b) Aviation Enforcement Standards
- (c) Commercial Flight Standards
- (d) Flight Standards
- (e) Operational Airworthiness
- (f) Pilot Training and Licensing
- (g) Safety Oversight Systems & Operations Integration

5.8.2 Transportation of Dangerous Goods

(1) For Transportation of Dangerous Goods related concerns, contact: TC.TDGAviationInquiries-DemandesDeRenseignementsAviationTMD.TC@tc.gc.ca

5.8.3 Aviation Security

(1) For Aviation Security related concerns, contact:
TC.AviationSecurity-Sureteaerienne.TC@tc.gc.ca

6.0 Post-site activities and surveillance activity closure

(1) Detailed information on how to identify and address regulatory contraventions may be found in SI SUR 029 - Addressing Deficiencies Identified Through Surveillance.

(2) Post-site activities are detailed in individual annexes.

(3) Surveillance activities must be formally closed within 12 months of corrective action acceptance. This applies for all inspections, even in cases where long term corrective action verification hasn't yet occurred.

7.0 Information management

(1) When conducting surveillance using SARA-S, the surveillance team will save all records from their surveillance activity within the SARA-S Surveillance Event.

(2) When conducting surveillance outside of SARA-S, the surveillance team will save all records from their surveillance activities in RDIMS in the applicable company files, except aircraft specific records, which will be placed in the appropriate aircraft file.

(3) Inspectors are reminded that notes and other handwritten documents created during the surveillance process are official records and are to be preserved in the official files by scanning or paper profiling according to regional and divisional policies.

(4) At the conclusion of all surveillance activities, inspectors will update all applicable TCCA databases in accordance with:

(a) Civil Aviation Guidance: NACIS Data Entry (RDIMS #17757241)

(b) Civil Aviation Guidance: Minimum Data Fields for NACIS Surveillance Entries (RDIMS #18005679).

Note: For surveillance activities conducting using SARA-S the system will automatically update the applicable NACIS fields. All information management practices will respect applicable privacy issues where appropriate.

8.0 Document history

(1) This document has the following history:

(a) SI SUR 001 Issue 09 RDIMS 15356470 (E), RDIMS dated 15862376 (F) 2020-08-04 – Surveillance Procedures

(b) SI SUR-001 Issue 08, RDIMS 15074633 (E), RDIMS 15095792 (F), dated 2019-06-21 – Surveillance Procedures

(c) SI SUR-001 Issue 07, RDIMS 13712630 (E), RDIMS 13940514 (F), dated 2018-04-01 – Surveillance Procedures

(d) SI SUR-001 Issue 06, RDIMS 12007004 (E), RDIMS 12728497 (F), dated 2016-06-22 – Surveillance Procedures

(e) SI SUR-001 Issue 05, RDIMS 7625781 (E), RDIMS 7731049 (F), dated 2013-06-28 – Surveillance Procedures

(f) SI SUR-001 Issue 04, RDIMS 6022986 (E), 6092935 (F), dated 2010-11-17 – Surveillance Procedures;

(g) SI SUR-001 Issue 03, RDIMS 4650769 (E), 5091756 (F), dated 2010-02-08 – Surveillance Procedures;

(h) SI SUR-001 Issue 02, RDIMS 4374969 (E), 4470802 (F), dated 2009-02-06 – Safety Management System Assessment and Program Validation Inspection Procedures; and

(i) SI SUR-001 Issue 01, RDIMS 3984036 (E), 3984153 (F), dated 2008-03-07 - Safety Management System Assessment and Program Validation Procedures.

9.0 Contact us

For more information, please contact:
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E-mail : TC.SOSOIinquiries-requetesSSSIO.TC@tc.gc.ca

We invite suggestions for amendments to this document. Submit your comments to:
AART Documentation Services
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Original signed by Yvan Chabot for

Jamie-Lee MacDermid
Executive Director, Standards Branch
Civil Aviation

Appendix A — Surveillance annexes

Annex	Title	Issue	Date
Annex 1	**Compliance Inspection Procedures (RDIMS #21408756)**	**1**	**2026-06-01**
Annex 2	**Ramp Inspection Procedures (RDIMS #21409130)**	**1**	**2026-06-01**
Annex 3	**Process Inspection Procedures (RDIMS #21408770)**	**1**	**2026-06-01**
Annex 4	**Systems Level Inspection Procedures (RDIMS #21408786)**	**1**	**2026-06-01**
Annex 5			
Annex 6			
Annex 7			
Annex 8			
Annex 9			
Annex 10			

Appendix B — Surveillance checklists, worksheets, templates and forms

(1) Surveillance process flowcharts are available in RDIMS #21350117

(2) Surveillance checklists and worksheets are available in the collector document RDIMS #11933930

(3) Surveillance templates:

- (a) Letter of notification, RDIMS # 8514764
- (b) Entry briefing form, RDIMS # 8511217
- (c) Exit briefing form, RDIMS # 8511431

(4) Surveillance report templates

- (a) Long version (Assessment and PVI), RDIMS # 8519932
- (b) Short version (PI, CI), RDIMS # 8521494

(5) Surveillance forms:

- (a) Evidence Log, form # 26-0679
- (b) Confirmation Request Form, form # 26-0672
- (c) Confirmation Request Tracking Form, form # 26-0673

Appendix C — Sampling

(1) Sampling helps inspectors gain confidence that a system, process, or procedure under review is in control and producing the desired output.

(2) Inspections rely on reviewing evidence to assess compliance. Each inspection checkpoint must have a sampling task. Sampling tasks can include personnel interviews, inspection of manuals, records, products, aircraft, airside, facilities, activities, etc.

(3) Inspectors need to obtain sufficient, appropriate evidence to meet the objectives of the inspection and support their findings and conclusions.

(4) There are many methods of sampling, and the method will have a direct impact on the type and accuracy of the conclusions that can be drawn. Because of this, it is important to understand the differences between different sampling methods. They can be split into two broad categories: statistical sampling and non-statistical sampling.

C1. Statistical Sampling

(1) Statistical sampling involves selecting a random sample from a population and using information from that sample to draw conclusions about the broader population. It is designed to be unbiased because every unit in the population has a known, non-zero chance of being selected.

(2) Statistical sampling involves using techniques from which mathematically constructed conclusions about the population can be drawn. For example, 3% of non-compliance within a properly constructed statistical sample could be reasoned to indicate 3% of non-compliance within the entire population.

(3) For statistical sampling to produce reliable and unbiased estimates about a population, all of the following conditions must be met:

- (a) the population needs to be clearly defined;
- (b) the sampling frame needs to be complete, accurate, and aligned with the population definition;
- (c) the selection needs to be truly random;
- (d) the sample size needs to be adequate; and
- (e) the process being sampled needs to be stable.

(4) There are several types of statistical sampling, for example:

- (a) **Simple random sampling:** In this method, every unit in the population has an equal chance of being selected. To draw a simple random sample, you need a complete list of all units in the population. If this list doesn't already exist, making one can be time-consuming or impractical.
- (b) **Stratified sampling:** This method divides the population into homogeneous, mutually exclusive groups called strata. Independent samples are then drawn from each stratum. A population can be stratified using any variable for which information is available for all units in the sampling frame (For example, aircraft type, scheduled vs. unscheduled maintenance records, personnel qualifications, period, location etc.) An advantage of stratified sampling is that it helps ensure sufficient representation of important subgroups. Once the population is stratified, each stratum is treated as its own population, and a sample size is calculated for each one.
- (c) **Systematic sampling:** This method selects units at regular intervals from an ordered list. It is commonly used in industrial settings, where items are tested at fixed intervals to monitor quality. For example, a tester might inspect every 20th product on an assembly

line. The tester would choose a random starting point between 1 and 20 and then inspect every 20th item thereafter

(d) **Cluster sampling:** Cluster sampling divides the population into naturally occurring groups, or clusters. Several clusters are randomly selected, and all units within those selected clusters are included in the sample. Units in clusters that aren't selected aren't sampled; they are represented by those in the chosen clusters. This differs from stratified sampling, where units are selected from every stratum. Examples of clusters include regional offices, maintenance bases, geographic areas, or specific routes.

C2. Advantages and limitations of statistical sampling

(1) In general, statistical sampling is more complex and resource-intensive than non-statistical sampling. If the conditions needed to produce accurate statistical sampling are not met, the conclusions drawn from the sample can be flawed.

(2) Statistical sampling is most effective in environments where large numbers of similar, predictable items are produced under stable conditions with strong internal controls. A classic example is a manufacturing process that generates identical components or parts. Because the process is tightly controlled and the items are highly uniform, a statistical sample can reliably represent the quality or compliance of the entire production run. In this type of system, the assumptions underlying statistical inference—consistency, repeatability, and low variability—are largely met.

(3) In contrast, because aviation is a complex socio-technical system, the conditions required for statistical inference aren't always present. Aviation operations involve different aircraft, technologies, maintenance programs, operating environments, and human roles. These elements interact dynamically, creating a system where variability is normal, and human performance continually adapts to shifting demands. Human decision-making, organizational culture, and operational context introduce forms of variability that aren't random or stable and therefore may not align with the assumptions required for statistical sampling to produce meaningful or generalizable results.

(4) Aviation statistical datasets also tend to be small, unevenly distributed, or highly context-dependent, which can also limit the usefulness of statistical techniques. As a result, statistical sampling can create a misleading sense of precision without improving understanding of system performance.

C3. Non-statistical sampling

(1) Non statistical sampling is a method of selecting items from a population using a subjective method, such as judgment and experience. Since non-statistical sampling doesn’t require a formal sampling plan, it is the simplest, fastest and least resource-intensive way to evaluate compliance.

(2) Non-statistical sampling can help inspectors identify specific issues, such as individual contraventions, risk management weaknesses, or other characteristics that are considered in an inspection.

(3) The key limitation with non-statistical sampling is that the results can't be generalized to the entire population. For example, inspectors can't use non-statistical sampling to estimate the rate of contraventions of a specific operator. Findings apply only to the items reviewed, so inspectors need to be aware that conclusions are limited to the sample and can't be projected more broadly.

(4) The non-statistical sampling method used in the surveillance program is judgement sampling. With this method, items are selected by an expert with knowledge of the population, past issues, or areas of concern. In other words, the inspector purposely selects a representative sample.

(5) Since judgment sampling doesn’t result in an inference about the population, the sample sizes aren't derived mathematically. Inspectors use their professional judgment, expertise, and

knowledge to identify areas of focus, specific items sampled, as well as how much to sample. Inspectors consider the scope and objectives of the inspection as well as the characteristics of the regulated entity when determining areas of focus and sample size.

C4. Advantages and limitations of judgement sampling

(1) Non-statistical sampling is flexible and efficient, making it well suited to complex and variable environments like aviation. It allows inspectors to focus on areas of highest relevance or risk and to follow emerging patterns as the inspection unfolds.

(2) However, this approach has important limitations. As discussed, the results can't be projected to the entire population.

(3) Judgement sampling is also vulnerable to selection bias, where an inspector's choices— consciously or unconsciously— may favour certain types of evidence or overlook others, which can skew findings.

C5. Inspector guidelines for selecting sampling method

(1) When deciding which sampling method to use, inspectors should consider the following factors to determine which sampling method to use and the depth of sampling. These considerations help ensure that the sampling approach aligns with the inspection's objectives and available resources.

(2) It is not always immediately evident which method to select, and sometimes the conditions required to permit statistical sampling may exist but setting up statistical sampling may not be practicable due to other factors. When in doubt, the decision should be made after weighing all considerations.

(3) **Inspection type:**

(a) Planned inspections may be more likely to provide the conditions required for statistical sampling.

(b) Reactive inspections may lend themselves more towards judgement sampling.

(c) Ramp inspections rarely present the ideal scenario required to build a good statistical sampling frame. Judgement sampling should be used in most cases.

(d) Compliance inspections are usually more suited to judgment sampling due to factors such as limited time on-site, availability of aircraft, personnel, weather or operational conditions that could limit the ability to use other sampling methods. However, certain checklist questions, for example those related to training records – may be candidates for statistical sampling.

(e) Certain elements of system level inspections, including assessments and PVIs, may be more suited to statistical sampling methods to provide information about how enterprise systems are performing more broadly. Statistical sampling can support inspection checkpoints where populations are stable and well-defined. For checkpoints related to more dynamic or variable operational contexts, non-statistical, risk-based sampling may provide more meaningful insight.

(f) Targeted inspections will provide specific instructions on TI worksheets related to what is being evaluated and the suggested inspection methodology, according to SI SUR 034 – Targeted Inspection Program.

(4) **Inspection objectives**

(a) When sampling, it is important to consider that the objective of an inspection is to determine whether a system, process, or activity is functioning as intended and meeting regulatory requirements, rather than hunting for violations.

(b) A violation-hunting mindset can introduce confirmation bias, where inspectors look for evidence that supports an assumption of non-compliance while overlooking information that shows the system is functioning properly. It can also shift attention towards minor issues while overlooking deeper systemic weaknesses.

(c) Sampling should be fair, purposeful, proportionate, and aligned with the inspection objectives —not driven by an effort to accumulate findings. By choosing sampling methods that reflect the context, constraints, and characteristics of the enterprise, inspectors avoid over-generalizing isolated issues or drawing conclusions that aren't supported by the evidence.

(d) Proper use of statistical sampling methods will produce unbiased results.

(5) **Criteria being assessed:**

(a) Individual checkpoint criteria may impact the type of sampling used and the depth of sampling required. Inspectors should consider what evidence is needed to properly assess the checkpoint question and to support any potential findings, if they arise.

(6) **Enterprise risk profile:**

(a) Inspectors should consider what is known about the enterprises' risk profile to help determine sampling methodology.

(b) The principal inspector, SARA-Q Enterprise Qualitative Questionnaire (RDIMS #18810054)) results, and the information gathered during the pre-site activities are good resources to help inspectors assess the enterprise risk profile and determine what level of sampling is required during the inspection, as well as areas of focus.

(7) **Statute of limitations:**

(a) The statute of limitations under section 26 of the Aeronautics Act prevents enforcement action 12 months after a violation occurs. Because of this, inspectors should limit inspection activities and sampling for the previous 12 months from the date of inspection.

(b) In some cases, the regulations require an activity to be performed at intervals greater than 12 months. (For example, full-scale emergency response exercises are required for international airports by CAR 302.208 (2)(a) at least every 2 years.) In these cases, inspectors should sample the most recent records, regardless of the statute of limitations.

(8) **Time and resource constraints:**

(a) Inspectors should consider how much time is available on site and how the inspection team should allocate its effort to accomplish the inspection objectives.

(b) The inspection activity should be considered as a whole, including all checkpoint questions that must be completed.

C6. Using Statistical Sampling

(1) When using statistical sampling to assess an inspection checkpoint, inspectors must:

(a) ensure the conditions in section C1(3) of this appendix are met;

(b) document a formal sampling plan;

(c) use the chart below to determine the number of items to be sampled based on lot size;

(d) review the entire sample for compliance to draw accurate conclusions related to the population as a whole;

Lot size	1-13	14-150	151-280	281-500	501-1200	1201-3200
Sample size	All	13	20	29	34	55

(2) Where population sizes are unknown, the inspection team will either:

(a) contact the enterprise to confirm lot sizes or confirm once on-site.

(b) If population cannot be determined, statistical sampling may not be used. Inspectors must use judgment sampling.

(3) A tool that can be used to assist in the development of random sampling plans has been developed by Measurement Canada and can be found at the following link: http://strategis.ic.gc.ca/app/mc/rndm/RndmMn?lang=eng

C7. Using judgement sampling

(1) When using judgement sampling to assess an inspection checkpoint, inspectors must:

(a) avoid confirmation bias (selecting only items that support an initial assumption). Include examples of normal operations as well as areas of concern.

(b) ensure the sample is sufficient to meaningfully address the checkpoint question but not excessive.

(c) avoid over-generalizing; conclusions apply only to the items reviewed, they can't be projected to the entire population

Appendix D — Interview guidelines

(1) Interviews play a key role in surveillance. The following are guidelines to consider when preparing for an interview:

(a) Prepare an interview schedule as part of the sampling plan and provide a copy to the enterprise.

(b) Prior to the interview, carefully prepare questions which address the regulatory requirement(s) applicable to the interview;

(c) Explain why the interview is taking place;

(d) Use open ended questions and avoid complex questions or phrases;

(e) The use of “yes” or “no” questions should be avoided. If “yes” or “no” questions are used they should be supplemented with additional questions requesting further explanation;

(f) Ensure that questions are understood, paraphrase where necessary or restate the question;

(g) Listen carefully to answers and allow the interviewee to do most of the talking;

(h) Have two people attend the interview, so that one can ask questions and the other can record responses. If a second person is not available to assist, explain to the interviewee that you will be pausing to take notes to ensure the accuracy of recorded information;

(i) Avoid being side-tracked from your original objectives;

(j) Terminate the interview if the atmosphere becomes highly negative; and

(k) Thank the interviewee at the conclusion of the interview.

(l) Surveillance team members responsible for conducting interviews will provide a written summary of the interview to the surveillance manager. This summary along with all other notes taken during interviews must be retained in accordance with Section 7.0 – Information Management.

(m) Interview notes will accurately reflect the information obtained and must not refer to the interviewee by name. The interview list will be kept up to date by the surveillance manager throughout the surveillance activity. Names of those interviewed will not be entered in the surveillance report.

Appendix E — Confirmation request forms

(1) Confirmation requests forms (CRF) are used where the surveillance team needs to:

(a) Request a piece of information (e.g. document, record, etc.) from the enterprise; or

(b) Confirm, via enterprise signature, that a piece of information does not exist.

(2) Communications are entered on the Confirmation Request Form (CRF), form 26-0672, and forwarded to the enterprise with a request that the information be provided by a specified date/time.

(3) Surveillance team members will forward CRFs to the surveillance manager who will review the document, ensure that it is warranted. Should it be warranted, the surveillance manager will record the CRF in surveillance event documentation and forward it to the appropriate person within the enterprise for resolution.

(4) All CRFs should be cleared prior to the completion of on-site activities. The SM will ensure a response is received for each CRF.

(5) For example, if an airworthiness problem may exist that could impact an enterprise's entire fleet, a confirmation request form may be sent to the enterprise to request that they immediately confirm whether or not the issue is present on the other aircraft. If the problem is confirmed to exist, further action must be taken.

Appendix F — TCCA risk analysis tool

Risk Measurement Formula
When conducting a Risk Analysis, the Risk Level is based on an evaluation of the following two factors: **Likelihood** that a risk scenario will occur, and **Severity** of the events. The Risk Level is a subset of a two-digit Risk Indicator (number and letter) resulting from the intersection of LIKELIHOOD and SEVERITY on the Risk Matrix as identified in Figure 1 below.

Likelihood What is the Likelihood of that sequence of events/situation/activities happening during the exposure interval?	
1 – Improbable - Rare	• Almost inconceivable that the event will occur during the exposure interval
	• Statistically impossible [10^9 and below]
	• Event is almost never expected to occur
2 – Remote - Unlikely	• Unlikely, but possible to occur during the exposure interval
	• Statistically 10^7 – 10^9
	• Event is not expected to occur very often
3 – Occasional	• Likely to occur sometimes during the exposure interval
	• Statistically 10^5 – 10^7
	• Event is expected to occur in some circumstances
4 – Probable - Likely	• Will occur several times during the exposure interval
	• Statistically 10^3 – 10^5
	• Event is expected to occur in majority of circumstances
5 - Frequent - Almost Certain	• Likely to occur often during the exposure interval
	• Statistically 10^1 – 10^3
	• Event is expected to occur in almost all circumstances
Note: - Qualitative or quantitative measures can be used as deemed appropriate. - The numerical values for the statistics found above were obtained from engineering certification standards. These quantitative values may not apply in cases where there is no available data or the values may have to be adjusted appropriately to the activity. - The descriptors above do not all have to be met to identify the level of likelihood. They are meant to help differentiate between the different levels.	

Severity The sequence of events has happened. How serious is the severity of the consequences?	
A **Negligible**	• Little to no impact on TCCA program or system objectives • Less than minor injury and/or less than minor system damage ***Personnel***: No injuries. ***Operations***: Minor operational delay with no immediate costs. ***Equipment***: No damage or minor technical delay with no immediate costs. ***Environment***: Minor contained release that does not significantly threaten the quality of life of humans and/or the habitat. ***Media attention:*** No media attention. ***Public confidence:*** No loss of public confidence.
B **Minor**	• Minimal questioning of TCCA program or system objectives • Nuisance / Operating limitations / Use of emergency procedures / Minor incident • Minor injury and/or Minor system damage ***Personnel:*** First aid injury, no disability or lost time. ***Operations:*** May result in operating limitations, or emergency procedures; operational delay incurring relatively minimal costs. ***Equipment:*** Technical delay requiring grounding of aircraft and causing the operator to incur relatively minimal costs. ***Environment:*** Contained release that may reduce the quality of life of humans and the habitat. Full recovery period will be less than 5 years ***Media attention:*** Media attention that requires Briefing and/or Question Period notes and Minister's attention. ***Public confidence:*** May be lowered, but public accepts situation.
C **Moderate**	• Significant questioning of TCCA program or system objectives • Injuries to persons / Serious incident / Significant reduction in safety margins / Reduction in the capacity to cope with adverse operating conditions / Increase in workload **Personnel**: Lost time injury or passenger injuries (i.e. broken bone), no disability. Difficult for crew to cope with adverse conditions. **Operations**: Operational delay requiring grounding of an aircraft and causing the operator substantial costs. May result in significant reduction in safety margins. **Equipment**: Technical delay requiring grounding of an aircraft and causing the operator relatively substantial costs. **Environment**: Small uncontained release that threatens lives of humans and the habitat with effects lasting up to 15 years **Media attention**: Media attention that elevates occurrence to High profile status requiring Minister's action and/or results in Parliamentary debates. **Public confidence**: Significantly lowered with high profile media coverage and numerous ATIP requests.
D **Major – Critical**	• Necessitates modifications to TCCA program or system objectives • Major damages to equipment / Serious injuries / large reduction in safety margins / Physical distress or excessive workload such that the operation cannot be conducted safely, accurately or completely • Severe injury and/or major system damage

	Personnel: Disability or severe injuries. Crew extended because of workload or environmental conditions. **Operations**: Operational delay grounding air operator's fleet. May result in a large reduction in safety margins. **Equipment**: Technical delay grounding aircraft fleet causing substantial costs and long delays to return the aircraft to service. **Environment**: Moderate uncontained release that kills and/or threatens lives of humans and the habitat with effects lasting up to 30 years. **Media attention**: Media attention that initiates legal action against the Crown and/or public servants, Parliamentary debate. • **Public confidence**: Decreased; significant reduction in travelling public flying on a particular aircraft type or airline.
E **Catastrophic - Extreme**	• Necessitates a significant change to and/or revocation of portions of TCCA program or system objectives • Equipment destroyed / multiple fatalities • Results in fatalities and/or loss of the system **Personnel**: Fatal injuries to personnel or passengers. Public exposed to life threatening hazard. **Operations**: Operational delay grounding all operating certificates for the subject aircraft/ engine/ major component. Removal of the operating certificate for subject aircraft/engine/major component or airline. **Equipment**: Loss of aircraft. **Environment**: Large uncontained release that kills and threatens lives of humans and the habitat with irreversible effects lasting for more than 50 years. **Media attention**: Media attention having severe repercussion for the Minister, and/or public servants. **Public confidence**: Public demonstrations organized against the Crown.
Note: Where the level of media and public levels are speculated operational and technical consequences should be considered (and stated). These descriptors are meant to help differentiate between levels it is not necessary to have all descriptors to determine a level.	

Risk Indicator	Risk Level	Suggested Decision
4E, 5D, 5E	Very High	**Stop the activity**: Extensive management of situation is essential 1. Safety action will be taken to reduce the risk to an acceptable level: ***Use Delegation of Authority (DoA) and take immediate action as required.*** 2. Do not proceed until sufficient control measures and action plans have been managed to an acceptable level.
3E, 4D, 5C	High	**Immediate actions will be taken** to reduce the Risk Level. These actions will include tangible measures to mitigate the likelihood and/or the severity.
2E, 3D, 4C, 5B	Medium-High	**May proceed**: risk elements must be considered carefully to prevent the situation from escalating to a higher level. Considerable management is required. In the case of 2E, specific measures must be taken in order to reduce the severity. The same approach must be followed in the case of 5B, but in order to reduce the likelihood.

1E, 2D, 3C, 4B, 5A	Medium	**May proceed** after considering risk elements; manage and monitor risk. However, as much as possible, 1E and 5A might be subjected to a special attention to have respectively their severity and likelihood reduced.
1D, 2C, 3B, 4A	Low-Medium	**Proceed** after considering risk elements. Management effort worthwhile.
1C, 2B, 3A	Low	**Proceed**: risk may be worth accepting with monitoring. Consideration of mitigation strategy optional.
1A, 1B, 2A	Very Low	**Proceed**: Accept risk

Figure 1- Risk Matrix
Risk Level = Intersection of Likelihood and Severity

