



TSB Recommendation A16-13

Oversight of commercial aviation in Canada: safety management system assessments

The Transportation Safety Board of Canada recommends that the Department of Transport conduct regular SMS assessments to evaluate the capability of operators to effectively manage safety.

Air transportation safety investigation report	A13H0001
Date the recommendation was issued	15 June 2016
Date of the latest response	September 2024
Date of the latest assessment	March 2025
Rating of the latest response	Unsatisfactory
File status	Active

Summary of the occurrence

On 31 May 2013, at approximately 0011 Eastern Daylight Time, the Sikorsky S-76A helicopter (registration C-GIMY, serial number 760055), operated as Lifeflight 8, departed at night from Runway 06 at the Moosonee Airport, Ontario, on a visual flight rules flight to the Attawapiskat Airport, Ontario, with 2 pilots and 2 paramedics on board. As the helicopter climbed through 300 feet above the ground toward its planned cruising altitude of 1000 feet above sea level, the pilot flying commenced a left-hand turn toward the Attawapiskat Airport, approximately 119 nautical miles to the northwest of the Moosonee Airport. Twenty-three seconds later, the helicopter impacted trees and then struck the ground in an area of dense bush and swampy terrain. The aircraft was destroyed by impact forces and the ensuing post-crash fire. The helicopter's satellite tracking system reported a takeoff message and then went inactive. The search-and-rescue satellite system did not detect a signal from the emergency locator transmitter. At approximately 0543, a search-and-rescue aircraft located the crash site approximately 1 nautical mile northeast of Runway 06, and deployed search-and-rescue technicians. However, there were no survivors.

The Board concluded its investigation and released report A13H0001 on 15 June 2016.

Rationale for the recommendation

Transportation companies have a responsibility to manage safety risks in their operations. Compliance with regulations can only provide a baseline level of safety for all operators in a given sector. Since regulatory requirements cannot address all risks associated with a specific operation, companies need to be able to identify and address the hazards specific to their operation.

In the traditional oversight model, companies are not required to have formalized systems in place to continuously manage safety at a systems level. Oversight is accomplished using an inspect-and-fix approach. In this approach, the regulator's role is focused on finding instances of regulatory non-compliance, which the operator must correct. The impact on safety of this approach is limited for 2 main reasons.

First, it is not possible for the regulator to examine continuously all aspects of an operation. Challenges in detecting non-conformances have been identified in a number of previous TSB investigations (e.g. A12W0031, A12C0154, and A13W0120). For example, in A13W0120, although TC had assessed the operator involved as high risk, and was conducting frequent surveillance activities, the focus had not shifted to verifying regulatory compliance, and remained at a systems level. As a result, TC's surveillance did not identify the unsafe operating practices that contributed to the severity of the occurrence.

Secondly, if the systemic causes of non-conformance are not identified and addressed, it is likely that unsafe conditions will persist. The TSB has also previously identified this pattern in a number of investigations (e.g. A10Q0098, A10Q0117, and A13H0002). For example, in A13H0002, the report identified weaknesses in the oversight of an operator with a transitioning safety management system (SMS). In this case, the operator experienced difficulty producing acceptable CAPs and meeting its proposed implementation time frames. This resulted in repeated delays in addressing deficiencies. During this period, TC postponed any additional surveillance activities pending CAP implementation. The suspension of surveillance activities while waiting for the CAP process to run its course effectively reduced the frequency of oversight for an operator that was considered high risk and left the operator with less than the planned level of oversight for an extended period.

When implemented properly, SMS provide a framework for companies to effectively manage risk and make operations safer. Regulatory requirements for companies to implement SMS are the first step in ensuring that all operators are capable of meeting their safety responsibility. It is for this reason that the TSB has echoed calls from ICAO and the worldwide civil aviation industry emphasizing the advantages of SMS.

Still, even with SMS requirements, companies will vary in degrees of ability or commitment to effectively manage risk. Less frequent surveillance, focused on an operator's safety management processes, will be sufficient for some companies. However, the regulator must be able to vary the type, frequency, and focus of its surveillance activities to provide effective oversight to companies that are unwilling or unable to meet regulatory requirements or

effectively manage risk. Further, the regulator must be able to take appropriate enforcement action in these cases.

Operators with a mature, effective SMS, along with a corresponding safety culture and abilities, may be the subject of less-frequent, systems-level oversight. In contrast, companies that have not demonstrated the capability to effectively manage risks at a systems level should be subject to more frequent surveillance, with a greater emphasis on ensuring compliance with regulations. As an operator's systems mature and become more effective, the frequency of oversight may be reduced and the balance of oversight can shift from the compliance-based model to more systems-level surveillance activities.

In the investigation of the Ornge RW accident at Moosonee, Ontario, the TSB found that TC's approach to surveillance activities did not lead to the timely rectification of non-conformances. It also found that TC inspectors believed that tools other than a corrective action plan to guide the operator back into compliance were either unavailable or inappropriate for use with a willing operator. As a result, the operator's willingness to address surveillance findings superseded concerns about the operator's capability to address the deficiencies in post-surveillance decision making. In addition, the investigation found that the training and guidance that was provided to TC inspectors contributed to uncertainty, which led to inconsistent and ineffective surveillance of Ornge. Ultimately, although TC was conducting frequent and detailed surveillance, the approach to returning the operator to a state of compliance was not well matched to the capabilities of the operator.

The investigation also noted that although TC was relying heavily on the CAP process, the operator was not required to have an SMS and, as a result, had not demonstrated to TC that it had the processes in place to effectively manage safety.

The TSB has previously identified these issues; safety management and oversight is a multi-modal item on the TSB Watchlist, which identifies those issues posing the greatest risk to Canada's transportation system. The Watchlist proposes the following solutions in this area:

- TC must implement regulations requiring all air operators to have formal safety management processes, and TC must oversee these processes.
- Companies that do have SMS must, in turn, demonstrate that it is working—that hazards are being identified and effective risk mitigation measures are being implemented.
- Finally, when companies are unable to effectively manage safety, TC must not only intervene, but do so in a manner that succeeds in changing unsafe operating practices.

The investigation into this accident and other recent occurrences emphasize the need for operators to be able to effectively manage safety. More than 10 years after introducing the first SMS regulations for airline operators and the companies that perform maintenance on their aircraft, SMS implementation has stalled. While many companies, such as Ornge RW, have recognized the benefits of SMS and voluntarily begun implementing it within their organizations, approximately 90% of all Canadian aviation certificate holders are still not

required by regulation to have an SMS. As a result, TC does not have assurance that these operators are able to effectively manage safety.

Therefore, the Board recommended that

the Department of Transport conduct regular SMS assessments to evaluate the capability of operators to effectively manage safety.

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Previous responses and assessments

September 2016: response from Transport Canada

Transport Canada agrees in principle with this recommendation.

The suite of surveillance tools that TC uses, namely assessments, program validation inspections and process inspections, are effective in verifying compliance with the *Canadian Aviation Regulations*, including SMS requirements.

TC has adopted a systems-based approach to all its surveillance activities. In other words TC has added management system principles and quality assurance techniques to surveillance activities across all sectors not just those subject to safety management system requirements. Under the systems-based approach, TC's civil aviation safety inspectors use the systems as an entry point and sample end products to verify that the system is working effectively and is in compliance with the *Canadian Aviation Regulations*.

While TC continually evaluates its tools to ensure they continue to be effective and makes updates, as required, the department is confident in its approach of using a combination of surveillance tools to verify regulatory compliance.

December 2016: TSB assessment of the response (Satisfactory in Part)

In its response, Transport Canada indicated that it adopted a systems-based approach to all its surveillance activities and that it is using a suite of surveillance tools to verify compliance with the *Canadian Aviation Regulations*, including SMS requirements. TC also indicated that it is confident in its systems-based approach to verifying regulatory compliance. The Board recognizes that TC has undertaken a number of change initiatives aimed at improving its oversight program, and that some progress has been made.

In a recent briefing to the Board, TC has also reiterated its commitment to verifying regulatory compliance at appropriate intervals and effectively carrying out enforcement, as required. The Board is encouraged by the concrete enforcement actions recently taken by TC on issues that were identified through its surveillance activities. However, TC's response does not fully address the underlying safety deficiency that led to this recommendation. Achieving minimum regulatory compliance does not necessarily guarantee that all commercial aviation operators are capable of effectively managing safety within their organization. TC must also confirm that operators have a mature, effective SMS and are managing safety risks effectively.

The Board takes note that TC has recently undertaken a Program Evaluation and Update Project aimed at taking stock of the various transformation and improvement initiatives implemented to date. Once completed, this evaluation project will assist TC in refining the various elements of its surveillance program, including regular SMS assessments of the capability of operators to effectively manage safety. Although the numerous actions taken by TC may address the risk associated with this safety deficiency, more work remains to be done:

Therefore, the response to the recommendation is considered to be **Satisfactory in Part**.

June 2018: response from Transport Canada

TC agrees with the recommendation.

The Department's Evaluation and Advisory Services (EAS) group is evaluating civil aviation related Safety Management Systems (SMS). The report detailing the outcomes of this evaluation will be completed in summer 2019. As part of this evaluation, the EAS has conducted a stakeholder survey in 2017. They will also lead case studies on seven airlines and interview stakeholders and TC staff with SMS requirements.

The Department has also published a variety of guidance materials regarding SMS. For example, in 2016, the Department published information aimed at smaller sized-operations, such as private operators who are also subject to SMS requirements. Further, through a quality assurance review in consultations with industry, TC published material in 2017 outlining the establishment and maintenance of Quality Assurance Programs that comply with the CARs.

September 2018: TSB assessment of the response (Satisfactory in Part)

In its response, Transport Canada (TC) indicated that it has taken actions to address the safety deficiency identified in Recommendation A16-13. These actions include the following:

- In 2016, TC published safety management system (SMS) guidance material, including information aimed at smaller-sized organizations;
- In 2017, TC published material on the establishment and maintenance of quality assurance programs that comply with the Canadian Aviation Regulations; and
- In 2017, TC's Evaluation and Advisory Services (EAS) group conducted a stakeholder survey as part of its evaluation of civil aviation SMS.

Additionally, TC expects to complete the EAS evaluation report in summer 2019.

The Board recognizes that TC continues to take steps to improve its oversight program; however, TC's response does not address the need to conduct regular SMS assessments to evaluate the capability of operators to effectively manage safety. As a result, TC's actions to date do not significantly reduce or eliminate the safety deficiency associated with Recommendation A16-13.

Therefore, the response to Recommendation A16-13 is assessed as **Satisfactory in Part**.

October 2019: response from Transport Canada

TC agrees in principle with this recommendation.

Following the Surveillance Program Evaluation and Update undertaken in 2016, several initiatives have been implemented to improve the way in which Transport Canada Civil Aviation (TCCA) evaluates the capability of operators to effectively manage safety and employs enforcement methods that [are] commensurate with the operator's willingness and abilities.

TCCA has made adjustments to the surveillance program, and is using more efficient oversight tools to effectively determine compliance and risk. In addition, the risk based planning methodology has been updated and surveillance is being conducted on a broader range of operators at more frequent intervals. In particular:

- Systems level inspections are no longer the default surveillance methodology. Instead, process inspections are conducted which target specific areas of higher risk. Process inspections involve a combination of compliance verification and an evaluation of processes to ensure that results are consistent. The scope of the process inspections is selected to target areas of higher risk or areas of concern specific to individual operators. In the event that issues are identified, surveillance teams may broaden the scope of the inspection or recommend that reactive surveillance be initiated.
- Reactive surveillance may include compliance inspections, process inspections, Program Validation Inspections (PVIs), or Safety Management System (SMS) assessments. The type of inspection selected is based on which tool is most suitable to respond to the information or event that triggered it, and is dependent on the specific circumstances encountered.
- SMS Process Inspections worksheets are now available. These worksheets are designed to confirm that established Safety Management Systems processes within an enterprise are: being used, producing consistent results and that those results are meeting the objectives set by the CAR.

As a result of these changes, surveillance teams are better equipped to vary the type, frequency, and focus of surveillance activities to address the operator's needs and provide effective oversight.

Guidance materials, inspector tools, and training has been amended to reflect surveillance program enhancements. This includes updates to SI SUR 001 — Surveillance Procedures¹; SI SUR 028— Surveillance Planning Instructions - Fiscal Year 2019-2020²; SI SUR 029— Writing Findings for Non-Compliance³; the development of new process inspection surveillance

¹ Transport Canada, Staff Instruction SI SUR-001: Surveillance Procedures, Issue 08, Effective 21 June 2019.

² Transport Canada, Staff Instruction SI SUR-028: Surveillance Planning Instructions — Fiscal Year 2019-20, Issue 04, Effective 29 October 2018.

³ Transport Canada, Staff Instruction SI SUR-029: Writing Findings for Non-Compliance, Issue 01, Effective 01 April 2018.

worksheets for all disciplines; and the development and delivery of Surveillance Update Training for all TCCA inspectors.

As of September 2019, 388 inspectors, managers and officers have received the surveillance update training. It is expected that the majority of inspectors will have received the training by the end of this fiscal year.

March 2020: TSB assessment of the response (Satisfactory in Part)

The Board is pleased that Transport Canada (TC) continues to undertake efforts to improve its oversight program, in particular that guidance, tools and training have been improved to assist inspectors in their oversight duties. To date, TC has taken the following actions:

- In October 2017, published Staff Instruction (SI) SUR-027 — *Oversight Advisory Board (OAB)*;
- In April 2018, published SI SUR-029 — *Writing Findings for Non-Compliance*;
- In January 2019, updated SI SUR-001 — *Surveillance Procedures*;
- In January 2019, updated SI SUR-028 — *Surveillance Planning Instructions — Fiscal Year 2019-2020*;
- Developed new process inspection worksheets; and
- Developed and delivered surveillance update training to Transport Canada Civil Aviation (TCCA) inspectors, managers and officers.

When safety management systems (SMS) were introduced in 2005, the original intent was to serve as an additional layer of oversight, helping ensure the safety of the travelling public. However, almost 15 years later, SMS is still not mandatory in all sectors of commercial aviation. Since assessments apply to SMS enterprises, companies must first be required to have an SMS in order for TC to conduct an assessment on that company. Therefore, the underlying safety deficiency associated with this recommendation is not being addressed for operators currently not required to have an SMS.

In its response, TC stated that SMS assessments have been replaced by process inspections as the default surveillance methodology. While there are benefits to an increased focus on regulatory compliance, which may be easier to accomplish through process inspections, this approach does not address the underlying safety deficiency associated with this recommendation. Simply verifying regulatory compliance and processes in a cross-section of an organization does not guarantee that commercial aviation operators are capable of effectively managing safety within their organization. Although TC has the ability to broaden the scope through reactive surveillance, there is a risk that problem areas may be overlooked by limited-scope surveillance activities. TC must also confirm that operators have a mature SMS that is capable of managing safety risks effectively.

Therefore, the Board considers the response to the recommendation to be **Satisfactory in Part**.

September 2020: response from Transport Canada

TC agrees with this recommendation.

TC is currently conducting a review of SMS implementation with consideration for the future extension of the program in mind, as stated in the response to Recommendation A16-12.

An SMS assessment is used as a reactive surveillance tool when safety intelligence gathered through planned surveillance or other means warrants it. TC continues to update and improve its surveillance methodology to enhance its capacity to evaluate the effectiveness of safety management systems as well as compliance with regulations:

- A new Process Inspection tool aimed at verifying the integrity of critical SMS processes within an enterprise, without having to resort to a full SMS Assessment, is now available;
- Improvements are being made in the field of safety data collection and analysis with the consolidation of the databases containing surveillance information and the introduction of business intelligence and data visualization technologies;
- A methodology to enable the conduct of remote surveillance activities is being developed in response to the challenges posed by the COVID-19 pandemic.⁴ It is expected remote surveillance will remain an option for the future and will further enhance TC's capability to acquire the safety and compliance intelligence required to support its risk-based surveillance program.

TC actively monitors the effectiveness of its surveillance program and is committed to continuously improve its capability to monitor the safety and performance of all its certificate holders.

March 2021: TSB assessment of the response (Satisfactory in Part)

In its most recent response, Transport Canada (TC) states that it is conducting a review of safety management system (SMS) implementation with consideration for extension of the program. In addition, TC's response highlights the following:

- A new process inspection tool, which is designed to look at critical SMS processes without having to conduct a full SMS assessment, is now available;
- Improvements are being made in the way safety data is collected and analyzed; and
- A methodology for remote surveillance activities is being developed.

The Board is encouraged by TC's efforts to update and improve its surveillance methodology; however, until TC demonstrates, through surveillance activity assessments, that the new surveillance methodology is identifying non-compliances, and that TC is ensuring that a company returns to compliance in a timely fashion and is able to manage the safety of its

⁴ Transport Canada (2020), Internal Process Bulletin 2020-09 – *Conducting Onsite activities during the COVID-19 Pandemic*.

operations, the risks associated with the safety deficiency identified in Recommendation A16-13 remain.

Therefore, the response to Recommendation A16-13 is assessed as **Satisfactory in Part**.

September 2021: response from Transport Canada

Transport Canada (TC) agrees with the recommendation.

Since the recommendation was issued in 2016, TC completed several actions and published a variety of guidance materials regarding Safety Management System (SMS) assessments. Namely, TC undertook a quality assurance review in consultations with industry and published material in 2017 outlining the establishment and maintenance of Quality Assurance Programs that comply with the *Canadian Aviation Regulations* (CARs) and published Staff Instruction (SI) SUR-027 — *Oversight Advisory Board* (OAB).⁵

Guidance materials, inspector tools, and training have also been amended in 2018 and 2019 to reflect surveillance program enhancements which include updates to SI SUR-001 — *Surveillance Procedures*,⁶ SI SUR-028 — *Surveillance Planning Instructions — Fiscal Year 2019-2020*⁷ and SI SUR-029 — *Writing Findings for Non-Compliance*.⁸

In our last update in September 2020, the Department committed to:

- Continue to update and improve its surveillance methodology to enhance its capacity to evaluate the effectiveness of safety management systems as well as compliance with regulations;
- Improve safety data collection and analysis with the consolidation of the databases containing surveillance information and the introduction of business intelligence and data visualization technologies; and,
- Develop a methodology to enable the conduct of remote surveillance activities in response to the challenges posed by the COVID-19 pandemic.

Since the previous update, TC reviewed the oversight tools within the surveillance methodology and is now developing new ones to more effectively communicate non-compliances to Canadian Aviation Directive (CAD) holders. To monitor implementation, TC formed the Finding Review Committee. This initiative performs quality assurance on 100% of findings entered by TC inspectors. Results have informed updates to SI-SUR-029 — *Writing Findings for Non-Compliance*,⁹ for which a national consultation is planned for Fall/Winter 2021, emphasizing

⁵ Transport Canada (2020), Staff Instruction (SI) SUR-027 – *Oversight Advisory Board* (OAB).

⁶ Transport Canada (2020), Staff Instruction (SI) SUR-001 – *Surveillance Procedures*.

⁷ Transport Canada (2019), Staff Instruction (SI) SUR-028 – *Surveillance Planning Instructions — Fiscal Year 2019-2020*.

⁸ Transport Canada (2019), Staff Instruction (SI) SUR-029 – *Writing Findings for Non-Compliance*.

⁹ Ibid.

findings of clear violations of rules-of-conduct in order to build an aviation record and be able to demonstrate re-occurrence. Repeated contraventions can be evidence of systemic failure and are used to trigger system level surveillance, enforcement action, and/or certification action in accordance with SI-SUR-006 - *Safety Management Systems - Civil Aviation Non-Compliance Event Review*.¹⁰

Also, TC is seeking to improve the effectiveness of SMS oversight as it acknowledges this is a current weakness in the program. TC is developing a proposal for effective safety oversight of management systems, which is currently undergoing internal review and consultation. This proposal includes consistent tools, processes and training for safety oversight of SMS, Quality Assurance Plan (QAP), and Fatigue Risk Management System (FRMS), with a proposed development timeframe over the next two years.

March 2022: TSB assessment of the response (Satisfactory in Part)

Transport Canada (TC) agrees with the recommendation.

Since 2016, TC has amended guidance material, inspector tools, and training to reflect updates to surveillance procedures.

In its most recent response, TC indicated that it is:

- developing oversight tools to more effectively communicate non-compliances to Canadian Aviation Document (CAD) holders. This is being monitored by the Finding Review Committee, which reviews all findings entered by TC inspectors to ensure findings related to violations of rules-of-conduct are clearly documented. This will assist in building an aviation record and in identifying re-occurrence, which can be evidence of a systemic failure used to trigger system-level surveillance, enforcement action, and/or certificate action.
- seeking to improve the effectiveness of safety management system (SMS) oversight, which it acknowledges is a current weakness in the program. TC is developing a proposal for effective safety oversight of management systems, which is currently undergoing internal review and consultation. This initiative is planned to be completed over the next 2 years.

The Board is encouraged by TC's efforts to update and improve its surveillance methodology; however, the Board is concerned that, as per TC's surveillance planning and procedures, SMS assessments are only conducted as a reactive surveillance tool. According to TC's Staff Instruction (SI) SUR-001 - *Surveillance Procedures*, assessments "will be conducted as a reactive surveillance activity only invoked by the Oversight Advisory Board (OAB)."¹¹ In addition to TC's four categories of surveillance activities (system vs process level, targeted vs compliance level

¹⁰ Transport Canada (2010), Staff Instruction (SI) SUR-006 – Safety Management Systems – Civil Aviation Non-Compliance Event Review.

¹¹ Transport Canada (2020), Staff Instruction (SI) SUR-001 – *Surveillance Procedures*.

inspections), the Board continues to recommend the use of regular SMS assessments as part of TC's planned (and reactive) surveillance activities to ensure that SMS are evaluated regularly and updated based on results of integrated and fulsome evaluations and to ensure that an operator has the ability to effectively manage safety. As TC indicated it will not be conducting regular SMS assessments, the risks associated with the safety deficiency identified in Recommendation A16-13 remain.

Therefore, the response to Recommendation A16-13 is assessed as **Satisfactory in Part**.

October 2022: response from Transport Canada

Transport Canada (TC) agrees with the recommendation.¹²

Since the recommendation was issued in 2016, TC completed several actions and published a variety of guidance materials regarding Safety Management System (SMS) assessments. Namely, TC undertook a quality assurance review in consultations with industry and published material in 2017 outlining the establishment and maintenance of Quality Assurance Programs that comply with the *Canadian Aviation Regulations* (CARs) and published Staff Instruction (SI) SUR-027 — *Oversight Advisory Board (OAB)*.¹³

Guidance materials, inspector tools, and training are also amended on a regular basis to reflect surveillance program enhancements which include updates to SI SUR-001 — *Surveillance Procedures*,¹⁴ SI SUR-028 — *Surveillance Planning Instructions*¹⁵ and SI SUR-029 — *Writing Findings for Non-Compliance*.¹⁶

TC reviewed the oversight tools within the surveillance methodology and developed new ones to communicate non-compliances more effectively to Canadian Aviation Document (CAD) holders. To monitor implementation, TC formed the Finding Review Committee in 2021. This initiative performs quality assurance on 100% of findings entered by TC inspectors.

In TC's September 2021 update, the Department committed to:

- Continue to update and improve its surveillance methodology to enhance its capacity to evaluate the effectiveness of safety management systems as well as compliance with regulations.

¹² All responses are those of the stakeholders to the TSB in written communications and are reproduced in full. The TSB corrects typographical errors and accessibility issues in the material it reproduces without indication but uses brackets [] to show other changes or to show that part of the response was omitted because it was not pertinent.

¹³ Transport Canada (2020), Staff Instruction (SI) SUR-027 – *Oversight Advisory Board (OAB)*.

¹⁴ Transport Canada (2020), Staff Instruction (SI) SUR-001 – *Surveillance Procedures*.

¹⁵ Transport Canada (2022), Staff Instruction (SI) SUR-028 – Issue 07 – *Surveillance Planning Instructions*.

¹⁶ Transport Canada (2019), Staff Instruction (SI) SUR-029 – *Writing Findings for Non-Compliance*.

- Develop a methodology to enable the conduct of remote surveillance activities in response to the challenges posed by the COVID-19 pandemic.

Since the previous update, TCCA has developed a modernization initiative¹⁷ for effective safety oversight of management systems, which is currently being finalized. This represents a delay from the original planned timelines due to issues with resources and competing priorities.

This initiative includes harmonized tools, processes and inspector training to assess management system requirements (SMS, Quality Assurance Programs, and Fatigue Risk Management Systems) and is planned to commence in November 2022, with a development timeframe over the next several years.

Also, by publishing Internal Process Bulletin (IPB) 2020-14 *Remote Surveillance During the COVID-19 Pandemic*¹⁸ in December of 2020, TC enabled the conduct of remote surveillance activities in response to the challenges posed by the COVID-19 pandemic. The IPB gives guidance on determining whether remote surveillance is appropriate for the activity being performed and the CAD holder involved as well as the process for initiating remote surveillance with them.

Remote surveillance is still new and as such the full range of its use and effectiveness is not yet known. Preliminary results suggest that it is well suited to certain activities such as document/record review and interviews. To allow for future analysis of remote surveillance, TC has begun tracking which surveillance activities are conducted on-site, remotely, or a combination of both (hybrid). An assessment of the effectiveness of remote surveillance is planned for fiscal year 2023-24.

March 2023: TSB assessment of the response (Satisfactory in Part)

In its latest response, Transport Canada (TC) stated that it agrees with the recommendation.

Since the previous update in September 2021, TC has developed a modernization initiative for effective safety oversight of management systems. Following TC's response in October 2022, TC has confirmed that this comprehensive initiative includes harmonized tools, processes, and inspector training to assess management system requirements and is undergoing management review.

Furthermore, TC has confirmed that, with respect to improving safety management system (SMS) surveillance tools, it intends to align this work with the SMS regulatory modernization initiative and to take into consideration the results of the upcoming Canadian 2023 Universal Safety Oversight Audit Programme audit by the International Civil Aviation Organization to address any gaps.

¹⁷ Transport Canada (2022), Safety Oversight of Management Systems: Modernization Initiative.

¹⁸ Transport Canada (2020), Internal Process Bulletin (IPB) 2020-014 – *Remote Surveillance During the COVID-19 Pandemic*.

Lastly, TC will be reviewing the range and effectiveness of conducting remote surveillance, such as during the COVID-19 pandemic. TC has begun tracking which types of surveillance activities are conducted on-site, remotely, or a combination of both. An assessment of the effectiveness of remote surveillance is planned for fiscal year 2023-24.

While the Board is encouraged by TC's planned activities to address regulatory oversight of SMS, it is unclear how it plans to conduct regular SMS assessments to evaluate the capability of operators to effectively manage safety. Furthermore, the Board remains concerned by the prolonged delays towards meaningful progress. The issue of safety management has been on the TSB Watchlist since 2010. As noted in Watchlist 2022, some industry associations are promoting and providing tools for the development of SMS to their members. Additionally, industry feedback to the TSB indicates that those operators that are not required to have an SMS are nonetheless making efforts to implement scaled versions of SMS; however, TC does not monitor the effectiveness of these operators' SMS, and operators' efforts are sometimes hindered by insufficient human resources or expertise, cost, and complexity.

Therefore, the Board considers the response to Recommendation A16-13 to be **Satisfactory in Part**.

September 2023: response from Transport Canada

Transport Canada (TC) agrees with the recommendation.

Since the recommendation was issued in 2016, TC completed several actions and published a variety of guidance materials regarding Safety Management System (SMS) assessments. Namely, TC undertook a quality assurance review in consultation with industry and published material in 2017 outlining the establishment and maintenance of Quality Assurance Programs that comply with the *Canadian Aviation Regulations* (CARs) and published Staff Instruction (SI) SUR-027 — *Oversight Advisory Board (OAB)*.¹⁹

Guidance materials, inspector tools, and training are also amended on a regular basis to reflect surveillance program enhancements which include updates to SI SUR-001 — *Surveillance Procedures*,²⁰ SI SUR-028 — *Surveillance Planning Instructions*²¹ and SI SUR-029 - *Writing Findings for Non-Compliance*.²²

TC reviewed the oversight tools within the surveillance methodology and developed new ones to communicate non-compliance more effectively to Canadian Aviation Document (CAD) holders. To monitor implementation, TC formed the Finding Review Committee in 2021. This initiative performs quality assurance on 100% of findings entered by TC inspectors.

¹⁹ Transport Canada (2020). Staff Instruction (SI) SUR-027 - *Oversight Advisory Board (OAB)*.

²⁰ Transport Canada (2020). Staff Instruction (SI) SUR-001 - *Surveillance Procedures*.

²¹ Transport Canada (2022). Staff Instruction (SI) SUR-028 – Issue 07 - *Surveillance Planning Instructions*.

²² Transport Canada (2019). Staff Instruction (SI) SUR-029 - *Writing Findings for Non-Compliance*.

As TC previously noted in October 2022's update, the Department committed to:

- Continue to update and improve its surveillance methodology to enhance its capacity to evaluate the effectiveness of safety management systems as well as compliance with regulations.
- Develop a methodology to enable the conduct of remote surveillance activities in response to the challenges posed by the COVID-19 pandemic.

In the previous update, TC mentioned finalizing a modernization initiative²³ for effective safety oversight of management systems. This initiative includes harmonized tools, processes, and inspector training to assess management system requirements (SMS, Quality Assurance Programs, and Fatigue Risk Management Systems) and was planned to commence in November 2022, with a development timeframe over the next several years. The updates and improvements to the surveillance methodology, along with the modernization initiative, have been paused for strategic realignment to take into consideration the results of the 2023 ICAO USOAP [Universal Safety Oversight Audit Programme] audit to direct TCCA efforts in addressing any gaps.

Also, with the publication of Internal Process Bulletin (IPB) 2020-14 *Remote Surveillance During the COVID-19 Pandemic*²⁴ in December of 2020, TC enabled the conduct of remote surveillance activities in response to the challenges posed by the COVID-19 pandemic. The IPB gives guidance on determining whether remote surveillance is appropriate for the activity being performed and the CAD holder involved as well as the process for initiating remote surveillance with them. Measures were also put in place to ensure that TCCA maintains appropriate oversight of the industry while also encouraging an alternate, and flexible means of conducting surveillance such as remote or hybrid. TC continues to track and report on which surveillance activities are conducted on-site, remotely, or a combination of both (hybrid). The assessment of the effectiveness of remote surveillance that was planned for fiscal year 2023–24 has been postponed due to the recent ICAO audit, with plans to resume the exercise over the next couple of months.

Finally, with respect to improving SMS surveillance tools, TCCA intends to align this work with the SMS regulatory modernization initiative and take into consideration the results of the 2023 ICAO USOAP audit to direct TCCA efforts in addressing any gaps.

February 2024: TSB assessment of the response (Unsatisfactory)

In its latest response, Transport Canada (TC) reaffirmed that it supports Recommendation A16-13.

²³ Transport Canada (2022). Safety Oversight of Management Systems: Modernization Initiative.

²⁴ Transport Canada (2020). Internal Process Bulletin (IPB) 2020-014 – *Remote Surveillance During the COVID-19 Pandemic*.

The Board notes that TC's latest response consists almost entirely of information that has been previously assessed. In addition to a lack of notable progress since its 2022 response, TC has indicated that updates and improvements to the surveillance methodology, along with the modernization initiative, have been paused to take into consideration the results of the 2023 International Civil Aviation Organization (ICAO) Universal Safety Oversight Audit Programme audit.

According to TC, measures have been put into place to maintain appropriate oversight; however, it provides no explanation of what those measures are or how they work. In 2022, TC indicated that an assessment of the effectiveness of remote surveillance was planned for fiscal year 2023–24. TC's latest response states that this assessment has been postponed due to the recent ICAO audit.

The Board acknowledges that TC has taken steps to improve oversight; however, this recommendation calls on TC to conduct regular safety management system assessments to evaluate the capability of operators to effectively manage safety. TC's response provides no clear indication as to when and how TC plans to do this. The Board is concerned that TC is not making adequate progress to address the safety deficiency associated with this recommendation.

Therefore, the Board considers the response to Recommendation A16-13 to be **Unsatisfactory**.

Latest response and assessment

September 2024: response from Transport Canada

Transport Canada (TC) agrees with the recommendation.

Since the recommendation was issued in 2016, TC completed several actions and published a variety of guidance materials regarding Safety Management System (SMS) assessments. Namely, TC undertook a quality assurance review in consultation with industry and published material in 2017, outlining the establishment and maintenance of Quality Assurance Programs that comply with the *Canadian Aviation Regulations* (CARs) and published Staff Instruction (SI) SUR-027 — *Oversight Advisory Board (OAB)*.²⁵

Guidance materials, inspector tools, and training are also amended on a regular basis to reflect surveillance program enhancements which include updates to SI SUR-001 — *Surveillance*

²⁵ Transport Canada (2020). Staff Instruction (SI) SUR-027 - *Oversight Advisory Board (OAB)*. Available at: RDIMS 16129754.

Procedures,²⁶ SI SUR-028 — *Surveillance Planning Instructions*²⁷ and SI SUR-029 — *Writing Findings for Non-Compliance*.²⁸

TC reviewed the oversight tools within the surveillance methodology and developed new ones to communicate non-compliance more effectively to Canadian Aviation Document (CAD) holders. To monitor implementation, TC formed the Finding Review Committee in 2021. This initiative performs quality assurance on 100% of findings entered by TC inspectors.

In the previous update in September 2023 (RDIMS 19764552), TC outlined the finalization of a modernization initiative²⁹ designed to enhance safety oversight for management systems, including Safety Management Systems (SMS), Quality Assurance Programs, and Fatigue Risk Management Systems (FRMS). This initiative involved the development of harmonized tools, processes, and inspector training, with a phased implementation planned to begin in November 2022. However, progress was temporarily paused to allow for strategic realignment and to incorporate findings from the 2023 ICAO Universal Safety Oversight Audit Programme (USOAP) audit.

TC also reported on the introduction of remote surveillance capabilities through the publication of Internal Process Bulletin (IPB) 2020-14,³⁰ which provided guidance for conducting remote surveillance during the COVID-19 pandemic. TC planned to assess the effectiveness of these remote surveillance activities during the 2023–24 fiscal year, but this assessment was postponed due to the ICAO audit.

Since then, TC has conducted a thorough review of the audit results and developed Corrective Action Plans (CAPs) to address identified gaps in oversight. These plans will also include the development and tracking of a methodology for remote surveillance activities as part of the broader initiative. The improvements to the surveillance methodology will be fully implemented by December 2025 to ensure timely compliance with all relevant standards.

Regarding the SMS Modernization initiative, significant progress has been made in developing a new regulatory framework for SMS. A consultation period for the Notice of Proposed Amendment (NPA-2024-002)³¹ was held from 04 January to 04 March 2024. Additionally, TC is

²⁶ Transport Canada (2020). Staff Instruction (SI) SUR-001 - *Surveillance Procedures*. Available at: RDIMS 15356470.

²⁷ Transport Canada (2022). Staff Instruction (SI) SUR-028 – Issue 07 - *Surveillance Planning Instructions*. Available at: RDIMS 18810129.

²⁸ Transport Canada (2019). Staff Instruction (SI) SUR-029 - *Writing Findings for Non-Compliance*. Available at: RDIMS 15396819.

²⁹ Transport Canada (2022). Safety Oversight of Management Systems: Modernization Initiative. Available at: RDIMS 17554559.

³⁰ Transport Canada (2020). Internal Process Bulletin (IPB) 2020-014 – *Remote Surveillance During the COVID-19 Pandemic*. Available at: RDIMS 16871073.

³¹ Transport Canada (2024). Notice of Proposed Amendment (NPA) No. 2024-002 – *Safety Management Systems*. Available on the CARAC Website at: <https://wwwapps.tc.gc.ca/Saf-Sec-Sur/2/NPA-APM/npaapmr.aspx?id=3046&GoCTemplateCulture=en-CA> (last accessed on 15 May 2025).

exploring and trialling a new methodology for SMS surveillance, which will focus on evaluating the effectiveness of an enterprise's system. This approach aligns with the broader regulatory modernization efforts and ensures compliance with international standards.

March 2025: TSB assessment of the response (Unsatisfactory)

In its latest response, Transport Canada (TC) reaffirmed that it supports Recommendation A16-13.

The majority of TC's recent response consists of information that has been previously assessed. TC explained that the phased implementation of the modernization initiative, intended to enhance safety oversight for management systems, including safety management systems (SMS), quality assurance programs (QAP), and fatigue risk management systems (FRMS), was temporarily paused to allow for strategic realignment and to incorporate findings from the 2023 International Civil Aviation Organization (ICAO) Universal Safety Oversight Audit Programme (USOAP) audit. Also, TC's plan to assess the effectiveness of its remote surveillance activities during the 2023–24 fiscal year was postponed due to the ICAO USOAP audit.

Since TC's previous update in September 2023, the Department stated that following a thorough review of the ICAO USOAP audit results, corrective actions plans (CAPs) were drafted and will include the development and tracking of a methodology for remote surveillance activities to be implemented by December 2025.

Additionally, TC indicated that progress has been made in developing a new SMS regulatory framework. A consultation period for Notice of Proposed Amendment (NPA) 2004-002 – *Safety Management Systems* - was held from January to March 2024. According to TC's supporting NPA document,³² the NPA seeks to improve Canada's aviation safety framework by consolidating all requirements for SMS under one subpart (107) of the *Canadian Aviation Regulations* (CARs) and extending SMS applicability to certain aviation design and manufacturing organizations (under CARs subparts 521 and 561). It also proposes to harmonize regulatory requirements for SMS QAPs under Subpart 107, as well as to better align the language and structure of the SMS regulatory framework with the ICAO Standards and Recommended Practices (SARPs) in Annex 19 of the *Convention on International Civil Aviation*. To that end, TC is exploring a new methodology for SMS surveillance to ensure compliance with international standards.

While the Board is encouraged by TC's planned activities to address regulatory oversight of SMS, it is unclear how it plans to conduct regular SMS assessments to evaluate the capability of operators to effectively manage safety. Furthermore, TC's response provided no clear indication as to when TC plans to do this. The Board remains concerned by the prolonged delays toward meaningful progress to address the underlying safety deficiency associated with this recommendation.

³² Transport Canada (2024). What We Heard: NPA-2024-002 - Safety Management Systems (SMS), TC Response to general themes. Available at: <https://wwwapps.tc.gc.ca/Saf-Sec-Sur/2/NPA-APM/npaapmr.aspx?id=3046&GoCTemplateCulture=en-CA> (last accessed on 15 May 2025).

Therefore, the Board considers the response to Recommendation A16-13 to be **Unsatisfactory**.

File status

The TSB will continue to monitor the progress of TC's planned actions to mitigate the risk associated with the safety deficiency identified in Recommendation A16-13, and it will reassess the response to the recommendation on an annual basis or when otherwise warranted.

This deficiency file is **Active**.