



## REASSESSMENT OF THE RESPONSE TO TSB RECOMMENDATION A17-02

### In-flight breakup

#### Background

On 13 April 2015, Carson Air Ltd. flight 66 (CA66), a Swearingen SA226-TC Metro II (registration C-GSKC, serial number TC-235), departed Vancouver International Airport (CYVR), British Columbia, with 2 pilots on board for an instrument flight rules flight to Prince George, British Columbia. At 0709 Pacific Daylight Time (PDT), approximately 6 minutes after leaving Vancouver, the aircraft disappeared from air traffic control radar while climbing through an altitude of 8700 feet above sea level in instrument meteorological conditions, about 4 nautical miles north of the built-up area of North Vancouver. Deteriorating weather conditions with low cloud and heavy snowfall hampered an air search; however, aircraft wreckage was found on steep, mountainous, snow-covered terrain by ground searchers at approximately 1645 PDT. The aircraft had experienced a catastrophic in-flight breakup. Both pilots were fatally injured, and the aircraft was destroyed. Although the aircraft's 406-megahertz emergency locator transmitter activated, the antenna was damaged and no signal was received by the Cospas Sarsat (international satellite system for search and rescue). The accident occurred during daylight hours.

Although the investigation could not determine why the aircraft descended at high speed and broke up in flight, given the captain's high blood-alcohol content, alcohol intoxication almost certainly played a role in the events leading up to the accident.

The Board concluded its investigation and released report A15P0081 on 02 November 2017.

#### TSB Recommendation A17-02 (September 2017)

A number of countries, including the United States, Australia, and the United Kingdom, have identified the hazards to aviation posed by drug and alcohol use and have implemented programs to help ensure that individuals are not impaired while carrying out safety-sensitive functions. In the United States, random testing for both drugs and alcohol is mandatory for all transportation workers, as well as for others employed in safety-sensitive occupations. In Australia, random breath-testing is now carried out in all transportation modes, including aviation, marine, rail, and public transport. In the United Kingdom, all air operator certificate holders and air navigation service providers are required to include a drug and alcohol policy in their safety management systems.

In addition to the *Criminal Code of Canada* prohibition against operating an aircraft while impaired, Transport Canada (TC) regulations prohibit pilots from operating aircraft while unfit for duty. TC has issued a framework for medical standards for pilots along with guidelines for civil aviation medical examiners, pilots, and other licensed employees in safety-sensitive

functions. The framework relies significantly on self-policing by such personnel and, to a large extent, an expectation that they will voluntarily report a health issue (including a mental health issue such as drug or alcohol dependence) to their medical examiner and will remove themselves from active duty if medically unfit or impaired.

The TSB has identified drug and alcohol use as a factor in previous investigations. As well, several incidents involving pilots who reported for work while impaired have been covered prominently in the media. In a number of cases, it was an airport employee or a co-worker of an impaired pilot who ultimately served as the last line of defence and prevented the impaired pilot or pilots from operating an aircraft. While effective in those cases, this defence is insufficient on the whole.

Existing laws, regulations, standards, and guidance may be effective at mitigating some of the risks associated with substance use among pilots and others in safety-sensitive functions; however, there continue to be occurrences in which impaired individuals are not identified or prevented from operating an aircraft.

If there is no regulated drug- and alcohol-testing requirement in place to reduce the risk of impairment of persons while engaged in safety-sensitive functions, employees may undertake these duties while impaired, posing a risk to public safety. Although random drug and alcohol testing can be an effective way to identify individuals who may be at risk of performing safety-sensitive duties while impaired, it is only one aspect of a comprehensive response to inappropriate drug and alcohol use in aviation. Testing programs are most effective when complemented by other initiatives, including education, employee assistance programs, rehabilitation and return-to-duty programs, and peer support.

Therefore, the Board recommended that

the Department of Transport, in collaboration with the Canadian aviation industry and employee representatives, develop and implement requirements for a comprehensive substance abuse program, including drug and alcohol testing, to reduce the risk of impairment of persons while engaged in safety-sensitive functions. These requirements should consider and balance the need to incorporate human rights principles in the *Canadian Human Rights Act* with the responsibility to protect public safety.

**TSB Recommendation A17-02**

### **Transport Canada's response to Recommendation A17-02 (February 2018)**

Transport Canada (TC) agrees in principle with the aviation safety recommendation (A17-02).

Aviation safety is of paramount importance to TC. To that end, the department is committed to continuing to strengthen aviation safety by working in consultation with its stakeholders from industry as well as its international partners to prevent and remedy impairment in the aviation sector.

TC is committed to building upon its established medical substance abuse program and work is currently underway to examine ways to enhance measures to detect, prevent and treat impairment in the transportation sector. In addition to this program, TC will further examine the development of additional mechanisms to protect the travelling public from impaired individuals performing safety-sensitive functions.

Pursuant to the *Aeronautics Act* and the *Canadian Aviation Regulations* (CARs), Canada has strict rules, regulations, and medical standards in place governing the consumption of drugs and alcohol.

TC will address this recommendation under the following separate action streams:

### **1. TC's Civil Aviation Medical Substance Abuse Protocol**

TC has a robust medical protocol in place for substance abuse disorders. This protocol is underpinned by a strict medical assessment and certification process.

To obtain a pilot license, all candidates must first obtain a Medical Certificate issued by the Minister of Transport. The process begins with an examination by a Civil Aviation Medical Examiner (CAME). The CAME conducts a medical examination and prepares a medical examination report, including a recommendation regarding medical fitness. This is submitted to the Minister's medical advisors in the Transport Canada Civil Aviation Medicine Branch (TC CAM). Once received, TC CAM assesses all required medical reports submitted regarding the applicant. Should the candidate meet the medical standards for the category of medical certificate requested, a Medical Certificate will be issued.

#### *Identifying Substance Use and Abuse Issues:*

The *Aeronautics Act* requires all physicians to report medical conditions that may constitute a hazard to aviation safety to TC. This mandatory disclosure to the regulator is one of the most robust medical reporting systems among member states of the International Civil Aviation Organization (ICAO).

These disclosure requirements allow all medical professionals to alert TC CAM of identified medical concerns or conditions. Once TC CAM has been made aware, either through a CAME examination, a treating medical professional, or the applicant, the following process is initiated:

1. The individual is advised and TC CAM requests the medical assessment to determine whether the individual has a diagnosable condition of a substance use disorder or that a pattern of substance use presents as a high enough concern to warrant medical attention.
2. When a diagnosis is made or the concern is high enough, TC CAM requires appropriate treatment from an addictionologist, and follow-up which often involves a thirty-day, in-patient session.
3. TC CAM will then assess the success of the treatment according to the expert addictionologists associated with the in-patient facility.
4. If treatment is judged to be successful, TC CAM arranges for follow-up within the local medical community which involves ongoing medical assessment and monitoring (initially monthly) and attendance (initially daily, then weekly) at a program similar to Alcoholics Anonymous (AA).
5. Following successful compliance with these steps, a favourable assessment by the medical treatment team, and acceptance by the treated pilot that he or she will continue with long-term treatment as well as a monitoring plan, an application for a re-instatement of the medical certificate can then be made.
6. Once TC CAM is satisfied that treatment has been successful, the monitoring program is sufficiently rigorous, and that the pilot is complying with this monitoring program, CAM may recommend a "with or as" medical certificate (i.e., the treated

individual must always fly with another pilot fully qualified on the aircraft type) with additional conditions which include compliance with treatment, attendance at AA or a similar program, no-notice drug and alcohol testing (initially quarterly), and total abstinence for a minimum of two years. If the clinical situation warrants, the testing may go on for a longer duration of time.

Pilots employed by the larger air carriers, may have access to a Tri-partite program which is an oversight management committee consisting of a medical treatment physician, union representation, and an employer representative. These programs treat pilots with substance abuse issues to reduce the risk of impairment within the aviation sector. TC has participated and supported Tri-partite programs since 1980, since which time the model has evolved into a comprehensive substance abuse management protocol which addresses the needs and concerns of all interested parties.

The Tri-partite approach is oriented to the three-fold process to:

- a) Identify those with a substance abuse disorder;
- b) Refer those with a disorder for treatment and rehabilitation through an Employee Assistance Program (EAP); and
- c) Provide continuous monitoring and follow-up.

Following the identification of a substance abuse disorder case, the requirements listed above must be met; however, whenever available, this is accomplished through the Tri-partite program.

Approximately 90 percent of pilots found with a substance use disorder have returned to flight deck duties after successful treatment and management of their disorder. TC's comprehensive substance abuse protocol is effectively finding, treating, and returning pilots with substance use disorders to flying duty.

TC CAM also continues to participate in, and support, international efforts to promote and raise awareness to reduce the risk of impairment in aviation. More specifically, this work takes place through ICAO and other international working groups, as well as follow up on any noted activities with a view to harmonizing standards and practices.

## **2. TC's continuing engagement and collaboration with the Canadian aviation industry and employee representatives**

To ensure that safeguards and safety standards continue to be effective, in early January 2017, the Minister of Transport wrote to all airlines operating in Canada requesting that they confirm that their safety protocols are up-to-date, including measures intended to confirm pilots are fit to fly. The top eight major Canadian airlines confirmed that they have the safety protocols in place to deal with alcohol and drug abuse. Some of the tools and practices adopted by the airlines include: internal workplace drug and alcohol policies, education materials and operating manuals.

In addition, as part of TC's ongoing approach to engage stakeholders on safety issues, the department held a Fit to Fly workshop in early June 2017, which brought together over 200 stakeholders from across the aviation industry, including pilot unions, NAV CANADA, aviation associations, aviation personnel, other federal departments, and health professionals. The aim of the workshop was to promote aviation safety culture within the aviation

community, raise awareness about mental health and substance abuse, provide information about best practices and programs, as well as share practical methods of promoting a healthy workforce.

At the Fit to Fly Workshop, TC also heard about the proactive role that industry and pilot unions are taking to address substance abuse, including Employee Assistance Programs (EAP) and peer-to-peer support programs in the workplace. For example, larger Canadian airlines have implemented EAP to help their employees treat alcohol, drugs, and mental health issues. These programs provide referrals to health professionals for counselling, treatment, and rehabilitation. In addition, establishing peer-to-peer support networks (i.e., a collection of smaller operators) and/or programs administered by industry associations could assist smaller air carriers in aiding their pilots and employees in addressing substance abuse. Since EAPs are not mandatory and are industry-led initiatives, there are no government regulatory standards or guidelines.

In fall 2018, TC will launch an awareness campaign on substance abuse in aviation. The campaign will promote the concept that the well-being of employees and peers is a shared responsibility. The TSB's report indicates that some co-workers suspected that the Captain had an alcohol problem, but no one reported their concerns. The campaign will educate the aviation community in recognizing substance abuse related symptoms and provide guidance in addressing possible problems.

### **3. Current Testing Practices in Aviation**

Currently, operators may administer alcohol and drug testing on flight crew members based on reasonable grounds of suspicion of impairment ("for cause" testing), as well as following an accident or incident.

At this time, Canadian medical certificate holders (i.e. pilots) with a known diagnosis of substance abuse may be subject to no-notice drug and alcohol testing to ensure compliance with the abstinence provisions of their certificate. However, TC does not have the legislative authority to mandate random testing of flight crews as a screening measure. Mandating random drug and alcohol testing will require further study, evaluation and justification to determine the most effective means to address the recommendation while at the same time taking into account privacy and human rights issues, as well as legislation and principles, including the *Canadian Human Rights Act* and the *Canadian Charter of Rights and Freedoms*.

### **4. TC's Further Policy Analysis Work**

Recognizing that substance abuse is an issue that can affect all modes of transportation, Transport Canada is proactively engaging in policy work on impairment across all modes – air, marine and rail, as well as motor vehicle safety. Prompted in part by Bill C-45 and Bill C-46, this policy analysis will consider the prevalence and impact of impairment while on duty, approaches employed by other nations, privacy issues, human right issues under the Canadian Charter of Human Rights (and associated legislation), employer-employee occupational health and safety standards for impairment under the purview of Employment and Social Development Canada, and the capacity of sectors of the transportation system to bear the costs of new obligations. Any potential new requirements for a comprehensive substance abuse program would be based on a balance of considerations, as well as the overarching safety of the Canadian transportation system, in the policy analysis.

Specifically for the aviation sector, TC is currently reviewing policy, regulatory, and enforcement approaches to enhance the deterrence and prevention measures for flight crew reporting to duty impaired. The approaches being considered include: reviewing alcohol limits; performing pre-employment testing for substance use; performing mandatory random substance use testing accompanied by a comprehensive EAP; and increasing the minimum time between consuming alcohol and beginning duty for safety-sensitive positions. Furthermore, as a result of the Fit to Fly workshop and TC's initial policy work, the department envisions employers taking on a greater role in establishing testing regimes and developing EAP programs for employees conducting safety-sensitive functions. TC understands that these are complex issues and will therefore engage with stakeholders to better understand the challenges for the aviation safety sector and to develop effective programs.

TC is also examining whether the current regulations are adequate to prevent flight crew from reporting to duty while under the influence. Furthermore, TC is working to enhance deterrent measures by:

- Amending the current 8 hour “bottle to throttle” regulation to 12 hours, prohibiting flight crew from working within this extended timeframe after consuming an alcoholic beverage (this initiative is currently proceeding as part of the actions being undertaken to address the issue of fatigue);
- Prescribing an actual blood-alcohol limit to align with international counterparts; and
- Implementing stricter approaches to punitive and enforcement actions for those individuals who try to purposely deceive the system.

This in-depth analysis, expected to be completed by fall 2018, will help inform development of an impairment policy to reduce the risk of flight crew in safety sensitive positions reporting to duty impaired.

### **TSB assessment of Transport Canada's response to Recommendation A17-02 (March 2018)**

TC has made the following undertakings to address the safety deficiency identified in Recommendation A17-02, regarding the development and implementation of a comprehensive substance abuse program in the aviation industry:

- By fall 2018, TC intends to complete an in-depth policy analysis on impairment in the aviation industry in order to examine whether it can establish a comprehensive substance abuse program that effectively balances safety with other policy considerations. TC also intends to implement more stringent regulatory and enforcement measures for detecting, preventing and treating impairment in the aviation industry, namely by:
  - prohibiting pilots from consuming alcohol within 12 hours of any flight, rather than the current limit of 8 hours;
  - setting a blood-alcohol content limit consistent with regulations in other countries; and
  - implementing stricter approaches to punitive and enforcement actions for those individuals who try to purposely deceive the system.
- In fall 2018, TC intends to hold an awareness campaign on substance abuse in aviation. The campaign will promote the concept that the well-being of employees and peers is a shared responsibility; and

- TC intends to continue working with the International Civil Aviation Organization and participate in international working groups in order to harmonize standards and practices with respect to impairment in aviation, and raise awareness on the risks associated with substance abuse.

The Board is encouraged that TC acknowledges the safety benefits of a comprehensive substance abuse program that includes drug and alcohol testing. However, until TC reaches conclusions as to the most effective means of addressing the risks underpinning this recommendation and provides the TSB with its plan of action moving forward following those conclusions, it is unclear when or how the safety deficiency identified in Recommendation A17-02 will be addressed.

Therefore, the Board considers Transport Canada's response to Recommendation A17-02 to show **Satisfactory Intent**.

### **Transport Canada's response to Recommendation A17-02 (March 2019)**

TC agrees in principle with this recommendation.

TC has reviewed policies and regulations regarding impairment and is in the process of developing policy and regulatory options to promote the continued safety of the aviation system. TC is taking a multi-modal approach to address impairment issues and aims to develop a common platform across all transportation modes.

#### **Cannabis:**

In 2018, TC consulted with a number of its aviation stakeholders and other government departments on cannabis legalization prior to it coming into force. TC sent letters on October 10, 2018, to all aviation stakeholders and pilot's unions emphasizing its existing prohibitions under the Canadian Aviation Regulations (CARs) regarding drug use. A copy of the letters sent to aviation stakeholders and pilot's unions are attached in Annex 2 and 3.

In the interest of aviation and passenger safety, TC does not intend to ease restrictions on the use of cannabis or other substances that cause impairment. TC remains committed to ensuring a robust evidence and risk based approach to preventing aviation document holders from undertaking aviation activities while impaired by any illegal or legal drug, including cannabis.

#### **Alcohol:**

In 2017, TC proposed amendments to paragraph 602.03(a) of the Canadian Aviation Regulations (CARs) prohibiting crew members from working within 12 hours after consuming an alcoholic beverage (an increase from the current limit of 8 hours). The regulations came into force on December 12, 2018 (SORJ20 18-269).

#### **Ongoing Work:**

Work is ongoing in 2018-2019 to review policy and regulatory approaches to enhance current regulatory authorities, such as defining safety sensitive positions, prescribing a blood alcohol limit, and continuous work with industry to expand the use of Employee Assistance programs to treat employees with substance abuse and mental health issues.

## **TSB reassessment of Transport Canada's response to Recommendation A17-02 (May 2019)**

In its response, Transport Canada (TC) indicates that it has taken the following actions to address the safety deficiency identified in Recommendation A17-02, regarding the development and implementation of requirements for a comprehensive substance abuse program, including drug and alcohol testing, to reduce the risk of impairment of persons while engaged in safety sensitive functions:

- In 2017, the *Canadian Aviation Regulations* (CARs) were amended to prohibit crew members from working within 12 hours after consuming an alcoholic beverage (an increase from the previous limit of 8 hours). This regulation came into effect on 12 December 2018;
- In 2018, consultation with stakeholders and other government departments took place concerning cannabis legalization. TC reminded all aviation stakeholders and pilot unions of its existing drug use prohibitions under the CARs; and
- Work is ongoing to define safety sensitive positions, prescribe a blood alcohol limit, and encourage industry to expand the use of employee assistance programs to treat employees with substance abuse and mental health issues.

The Board is encouraged by the actions taken to date. However, in its latest response, TC has not provided any information regarding the development and implementation of requirements for a comprehensive substance abuse program, including drug and alcohol testing, which is the intent of Recommendation A17-02. As such, it is unclear if the safety deficiency identified in Recommendation A17-02 will be fully addressed.

Therefore, the Board considers Transport Canada's response to Recommendation A17-02 to be **Satisfactory in Part**.

### **Transport Canada's response to Recommendation A17-02 (December 2019)**

TC agrees in principle with the recommendation.

TC currently has a comprehensive substance abuse program in place which includes regulations and medical standards that govern the consumption of drugs and alcohol pursuant to the *Aeronautics Act* and the *CARs*. This program is in continuous development in coordination with stakeholders to keep pace with changes in the regulatory environment.

In addition to the changes in alcohol policy described in TC's previous update, in the past year TC has responded to the legalization of cannabis by introducing a new cannabis policy<sup>1</sup> to strengthen its medical certification and assessment process. The cannabis policy sets a 28-day prohibition on cannabis consumption for the purposes of issuing, renewing, and maintaining the validity of medical certificates. The policy applies to aviation license holders (i.e., pilots, flight engineers and air traffic controllers). The cannabis policy is evidence-informed, supports

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<sup>1</sup> Transport Canada (2019), Staff Instruction 404-002, Civil Aviation Medicine Cannabis Policy. Available at [https://www.tc.gc.ca/eng/civilaviation/opssvs/management-services-reference-centre-documents-400\\_series-404-002-13919.html](https://www.tc.gc.ca/eng/civilaviation/opssvs/management-services-reference-centre-documents-400_series-404-002-13919.html)



self-disclosure of cannabis use, and provides the basis for educating aviators and controllers to enable accurate self-assessment for fitness for duty requirements.

In considering the potential safety benefits of drug and alcohol testing, TC has reviewed the testing practices that are currently permitted under Canadian Human Rights Legislation and Policy on Alcohol and Drug Testing<sup>2</sup>. Commercial aviation in Canada has an excellent safety record and there is no evidence of a widespread impairment issue in the industry. Mandating a random testing regime for any organization in Canada would need to be justifiable and clearly demonstrate that there is an impairment issue such that a random testing regime was necessary to maintain aviation safety. Without evidence of a widespread issue and a clear link to aviation safety, TC and any other organization would have difficulty defending challenges to a random testing regime brought under human rights legislation.

While TC is not ruling out the random testing option, the effective use of permitted testing practices will be reinforced in an updated substance use policy for aviation medical certification which is in development. The policy will clarify TC's position on random testing and it will be shared with the TSB once completed in early 2020.

Currently, drug and alcohol testing of flight crew members may be administered in specific circumstances including: for aviation medical certification, for reasonable suspicion of impairment ("*for cause*" testing), as well as following an accident or incident. Canadian medical certificate holders (i.e. pilots, flight engineers and air traffic controllers) in treatment for substance use disorders may be subject to additional long-term no-notice (random) drug and alcohol testing to ensure compliance with the abstinence provisions of their certificate.

TC is also continuing its education and outreach efforts in this area including:

- TC is planning a second "*Fit to Work*" workshop in spring 2020. The title was changed to now encompass not only pilots, but all of the aviation industry. This workshop will build off of 2017 "*Fit to Fly*" workshop topics and look at incorporating further education about drugs (i.e. cannabis).
- TC will continue the "*Fit to Work*" campaigning at industry events, updating the tool kit and using social media to reach the aviation community. The specific focus will be on employers and employees sharing responsibility for cultivating a culture that embraces colleagues speaking up for each other in times of need, and feeling confident reporting incidents of impairment ("*see something; say something*").

TC also presented a working paper<sup>3</sup> at the 40<sup>th</sup> ICAO Assembly in September 2019 on promoting a healthy aviation culture through education and awareness surrounding substance use disorders and mental health. The objective of the working paper was to draw greater attention to these issues and implement adequate responses to the global challenge of mental health and substance use disorders to enable effective prevention, early identification, and

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<sup>2</sup> Canadian Human Rights Commission (2009), Canadian Human Rights Commission's Policy on Alcohol and Drug Testing. Available at: [http://publications.gc.ca/collections/collection\\_2009/ccdp-chrc/HR4-6-2009E.pdf](http://publications.gc.ca/collections/collection_2009/ccdp-chrc/HR4-6-2009E.pdf)

<sup>3</sup> ICAO (2019) « Fit to work » - Promoting a Healthy Aviation Culture through Education and Awareness Surrounding Substance Use Disorders and Mental Health ». Available at: [https://www.icao.int/Meetings/a40/Documents/WP/wp\\_256\\_en.pdf](https://www.icao.int/Meetings/a40/Documents/WP/wp_256_en.pdf)

proper management of these issues to minimize the threat to global aviation safety. The working paper was well-supported and States agreed to place greater emphasis on promotion of education and awareness around mental health and substance use disorders of aviation personnel.

The aviation industry has education and training programs for employees and supervisors on impairment and its impacts on aviation safety; and the large air carriers offer support for employees with alcohol and drug substance use disorders including employee assistance programs, return-to-work programs, and peer support programs. In addition to the provisions in the CARs on drug use and impairment, the Canadian aviation industry is responsible for developing its own internal policies and guidelines. The aviation industry has workplace drug and alcohol policies (not required under statute/regulation) in place that its employees are in a fit state to perform safety sensitive functions as part of its obligations to ensure a safe work environment.

### **TSB reassessment of Transport Canada’s response to Recommendation A17-02 (February 2020)**

In its response, Transport Canada (TC) indicates that it has taken additional steps to address the safety deficiency identified in Recommendation A17-02. These steps include the following:

- the introduction of a new cannabis policy designed to strengthen the medical certification and assessment process for aviation licence holders;
- the presentation of a working paper on the promotion of a healthy aviation culture at the 40<sup>th</sup> ICAO Assembly in September 2019; and
- the review of the testing practices currently permitted, as described in the Canadian Human Rights legislation and Policy on Alcohol and Drug Testing.

In addition, TC indicates that it is in the process of

- updating a substance use policy for aviation medical certification, which should be completed in early 2020; and
- planning a “Fit to Work” workshop encompassing all of the aviation industry, to be presented in the spring of 2020.

The Board is encouraged by the actions taken to date and what is proposed for 2020. The Board also recognizes the continuing challenges of implementing random drug and alcohol testing in the context of Canadian Human Rights legislation. However, until the proposed actions are fully realized, the risks identified in recommendation A17-02 will persist.

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

### **Next TSB action**

The TSB will monitor the progress of TC’s proposed actions for 2020, and will reassess the deficiency on an annual basis or when otherwise warranted.

This deficiency file is **Active**.