

Recent Experiences – ITSA Round Table 2018

Transportation Safety Board of Canada (TSB)

Introduction

The following summarizes the highlights of TSB activities and challenges faced from September 2017 until April 2018.

There have been no significant changes to the Board or senior executives since the last ITSA meeting in September. The terms of two Board members (including the Chair) expire in the next few months. A selection process is underway that is open to the public; both members have applied for re-appointment.

Since the last ITSA meeting, the TSB has issued over 35 investigation reports into air, rail, marine and pipeline occurrences and started 25 new investigations.

Occurrence Statistics

The TSB also issued [preliminary occurrence statistics](#) for 2017. Here are some highlights:

In 2017, 239 **aviation** accidents were reported to the TSB, which is slightly lower than the 5-year average of 259. After a five-year decline, the number of accidents among commercial operators increased in 2017, partly due to a higher number of flight training accidents. The December 2017 accident involving an ATR-42 in Fond-du-Lac, Saskatchewan (in which one person later succumbed to his injuries), was the first fatal accident in Canada involving a Canadian airliner since the B737 accident in Resolute Bay, Nunavut, in 2011 which killed 12 passengers and crew.

There were 276 **marine** accidents reported to the TSB in 2017, down 10% compared to 2016, but close to the 5-year average of 284. There were 10 fatal accidents, which resulted in 11 fatalities. Three of those fatalities occurred in the fishing industry. Although this number has decreased in the last two years, so have the number of registered fishing vessels and the number of fishermen.

In 2017, 1,090 **railway accidents** were reported to the TSB, a 21% increase over 2016 but close to the 5-year average of 1,028. There were 77 rail-related fatalities – 11 more than the previous year but close to the 5-year average of 75. Among these, 53 involved **trespassers**, compared to 47 in 2016 and to the 5-year average of 39.

Among all TSB-reported railway accidents, 115 involved **dangerous goods**, up from 100 in 2016 but a 9% decrease compared to the 5-year average of 127. Five of those accidents in 2017 resulted in a dangerous goods release.

One area of particular note is the increase in uncontrolled railway movements. Although the number of occurrences involving uncontrolled movements decreased to 51 in 2016, it increased to 62 in 2017. When compared to the ten-year average (2008-2017) of 54.1 uncontrolled movements per year, the average number of occurrences involving uncontrolled movements for the most recent 5 years (2013-2017) increased by 10% to 59.8, with 2017 having the second-highest number of uncontrolled movements (62). Uncontrolled movements continue to pose a risk to the rail transportation system and can result in an adverse outcome. Therefore, the TSB is concerned that the current defences are not sufficient to reduce the number of uncontrolled movements and improve safety.

Effective April 24, 2018

The number of pipeline occurrences reported to the TSB involving a release of product in 2017 was up following five consecutive years of decrease. Only one of the 72 occurrences in 2017 involved a release from the pipeline body. There was one serious injury related to a federally regulated pipeline occurrence in 2017, the first since 2012. There was also a larger than usual number of incidents involving soil erosion. This is likely due, in part, to the unusually wet weather in 2017.

Recommendations

The TSB has recently assessed or re-assessed 68 outstanding recommendations. Significant success has been achieved in closing 26 older air recommendations, undoubtedly spurred by the TSB placing “TC’s slow progress in addressing TSB recommendations” on the 2016 TSB Watchlist.

The TSB also issued two new recommendations.

Air

On 13 April 2015, a Swearingen SA-226-TC Metro II was carrying freight from Vancouver International Airport to Prince George Airport, British Columbia, with a crew of two pilots on board. About six minutes after departure, the aircraft disappeared from radar. When found several hours later, the aircraft had experienced a catastrophic in-flight breakup. Both the captain and first officer were fatally injured, and the aircraft was destroyed ([A15P0081](#)).

The investigation determined that the aircraft had entered a steep dive in the direction of flight at high speed until it exceeded its structural limits, which led to the in-flight breakup. Due to the absence of recorders, the investigation was unable to determine why the aircraft entered the dive.

Subsequent toxicology testing indicated that the captain had consumed a significant amount of alcohol on the day of the occurrence (BAC of 0.24%). Three plausible scenarios were identified including a failure of the aircraft’s pitot-system, pilot incapacitation or an intentional act. In any case, alcohol intoxication almost certainly played a role in the events leading up to the accident.

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. ([A17-02](#))

Transport Canada (TC) agrees in principle with this recommendation and has committed to a number of actions to address the underlying safety deficiency including:

- completion of an in-depth policy analysis on impairment to examine whether it can establish a comprehensive substance abuse program that effectively balances safety with other policy considerations;
- implementation of more stringent regulatory and enforcement measures, such as prohibiting pilots from consuming alcohol within 12 hours of any flight;
- prescribing a blood-alcohol limit consistent with regulations in other countries;
- holding an awareness campaign; and
- working with ICAO to harmonize standards and practices with respect to impairment in aviation.

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TC has not indicated yet whether it intends to introduce any form of mandatory drug and alcohol testing. The Board has assessed TC's response as showing "Satisfactory Intent".

Rail

On 27 July 2016, at approximately 0143 Atlantic Daylight Time, a Canadian National Railway Company freight train struck and killed a pedestrian in a wheelchair at a public crossing in the city of Moncton, New Brunswick. The crossing was equipped with flashing lights, bell, and gates ([R16M0026](#)).

The individual's motorized wheelchair became immobilized in the gravel at the edge of a sidewalk at the Robinson Street public crossing. The investigation found that several crossing conditions contributed to the accident, including a void in the asphalt and the lack of visual cues to navigate safely, especially at night.

Therefore, the Board recommended that

The Department of Transport work with stakeholders to identify engineering options for the improvement of crossings designated for persons using assistive devices, conduct an assessment of their effectiveness, and update its regulatory provisions as appropriate. ([R18-01](#))

The Board will assess TC's response to this recommendation once received and publish it on our website.

The Board plans to release three more recommendations in the next few weeks. One is related to the mandatory installation of lightweight flight data recording systems in commercial and business aircraft not currently required to have these systems. The TSB will make a presentation at ITSA comparing results from two accident investigations, where one aircraft was equipped with such a system and the other was not. The other 2 marine recommendations deal with the need for fatigue awareness training and formal fatigue management plans for watchkeepers.

Locomotive Voice and Video Recorders

The Minister of Transport recently introduced draft legislation in the Canadian Parliament to require the installation of voice recorders and inward-facing video recorders in locomotive cabs for all lead locomotives operating on main track. In addition to making this information available to the TSB for occurrence investigations, the legislation would permit railway companies and Transport Canada to access these recordings for the purpose of investigating reportable occurrences which are not being investigated by the TSB, and, subject to strict safeguards that will be defined in regulations, for purposes of pro-active safety management or to verify compliance with the regulations. This draft legislation has stirred numerous debates about the possible mis-use of such data by the railways and concerns about infringement of workers right to privacy. The TSB will provide a separate presentation on the status of this legislation at ITSA.

Effective April 24, 2018

Other activities

In addition, the TSB has:

- Continued to implement our 5-year strategic plan with a focus on streamlining our business processes, while also adopting strategies to promote employee diversity, good mental health, and a respectful workplace, free from harassment. The TSB will share highlights of its work updating its OHS policies and procedures and looks forward to a broader discussion at ITSA on employee wellness.
- Updated our Occurrence Classification Policy. In particular, the TSB has completed a pilot project focused on conducting limited-scope, fact-gathering investigations for more straight-forward occurrences and publishing short, factual summaries and is preparing to formally introduce these new products.
- TSB work continues on our 2 special investigations into: air taxi safety in Canada; and the high number of runway incursions at the Toronto/Lester B. Pearson International Airport's (CYYZ) south runway complex.

Challenges

The TSB once again faces a significant financial challenge at the start of the new fiscal year (April 1, 2018-March 31, 2019). Permanent additional funding requested to cover increased salary and other operating costs was not included in the federal government's budget tabled in Parliament in February. Discussions are underway with central agencies to address this gap, failing which there could be a significant impact on the TSB's ability to achieve its mandate. We are cautiously optimistic that this situation will be addressed in the near future.

The TSB is currently investigating a few occurrences that happened on First Nations territory. At times, it has been challenging to engage with these communities. We have seen everything from non-participation (e.g. when offered the opportunity to review draft reports) to demanding full participation in the investigation. We have encountered difficulty interviewing people affected by the occurrence to obtain necessary information (e.g. first responders from the community, or accident survivors to obtain data on personal injuries and survivability issues, or to share the final results of our investigation). The TSB is currently researching the best ways to improve and enhance our working relationship with First Nations communities.

We are also receiving more frequent legal challenges – related to collecting data in conjunction with our investigations, the scope of our investigations or protecting data that has been collected during the investigation. Notably, we are currently dealing with a first judicial review case since the TSB's inception. We would be pleased to discuss these issues in person at the meeting, to share experiences and best practices.

Future

We will be updating and releasing our Watchlist before the end of 2018 and will share with ITSA members at that time.

We look forward to engaging in productive discussions in Baku and look forward to welcoming you to Canada in 2019.