



Transportation  
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Canada



# **TSB Watchlist 2020 and Key Recent Investigations**

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HAC Virtual Safety Forum and AGM

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# The day following every major news story in 2020

**[Internet memes: But wait, there's more!]**





## **Aircraft parked at CYHZ during 9/11**

**[Image: aircraft parked at CYHZ, September 2001]**



## Empty airports ...

**[Image: empty airport terminal]**



# What's Next?



# WATCHLIST 2020

## KEY SAFETY ISSUES IN CANADA'S TRANSPORTATION SYSTEM





## Watchlist 2020: Issues

### WATCHLIST 2020



Commercial fishing safety

Following railway signal indications

**New!**

Uncontrolled movement of rail equipment

**Risk of collisions from runway incursions**

**Runway overruns**



~~Slow progress addressing TSB recommendations~~

**Fatigue management**

**Safety management**

**Regulatory oversight**







## Watchlist 2020: Multi-Sector Issues



Fatigue Management



Regulatory Surveillance



Safety Management





## Fatigue Management

*Crews often work long and irregular schedules*

- ❖ *sometimes crossing multiple time zones or*
- ❖ *in challenging conditions that are not always conducive to proper restorative sleep.*

*Fatigue poses a risk to the safety of operations because of its potential to degrade several aspects of human performance.*





# Fatigue Management

## ACTIONS REQUIRED

The issue of fatigue management in air transportation will remain on the Watchlist until the following actions are taken:

- ❖ Canadian air operators that operate under CARs subparts 703, 704 and 705 implement, and comply with, the new regulations on flight crew fatigue management.
- ❖ The impact of these new regulations on aviation operations in Canada is assessed by the TSB.





## Safety Management

*Some transportation operators are not managing their safety risks effectively, and many companies are still not required to have formal safety management processes in place. Moreover, those operators that have implemented a formal Safety Management System (SMS) are not always able to demonstrate that it is working and producing the expected safety improvements.*





# Safety Management

## ACTIONS REQUIRED

This issue will remain on the Watchlist for the air transportation sector until:

- ❖ TC implements regulations requiring all commercial operators to have formal safety management processes; and
- ❖ Transportation operators that do have an SMS demonstrate to TC that it is working—that hazards are being identified and effective risk-mitigation measures are being implemented.





## Regulatory Surveillance

*Regulatory surveillance has not always proven effective at verifying whether operators are, or have become, compliant with regulations and able to manage the safety of their operations.*

*Furthermore, Transport Canada hasn't always intervened on a timely basis to ensure transportation operators in the air, marine and rail sectors take appropriate corrective actions.*





## Regulatory Surveillance

### ACTIONS REQUIRED

This issue will remain on the Watchlist until the following measures have been taken:

- ❖ In the Air sector, TC demonstrates, through surveillance activity assessments, that the new surveillance procedures are identifying and rectifying 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 operations.







## Accident statistics: last 5 years

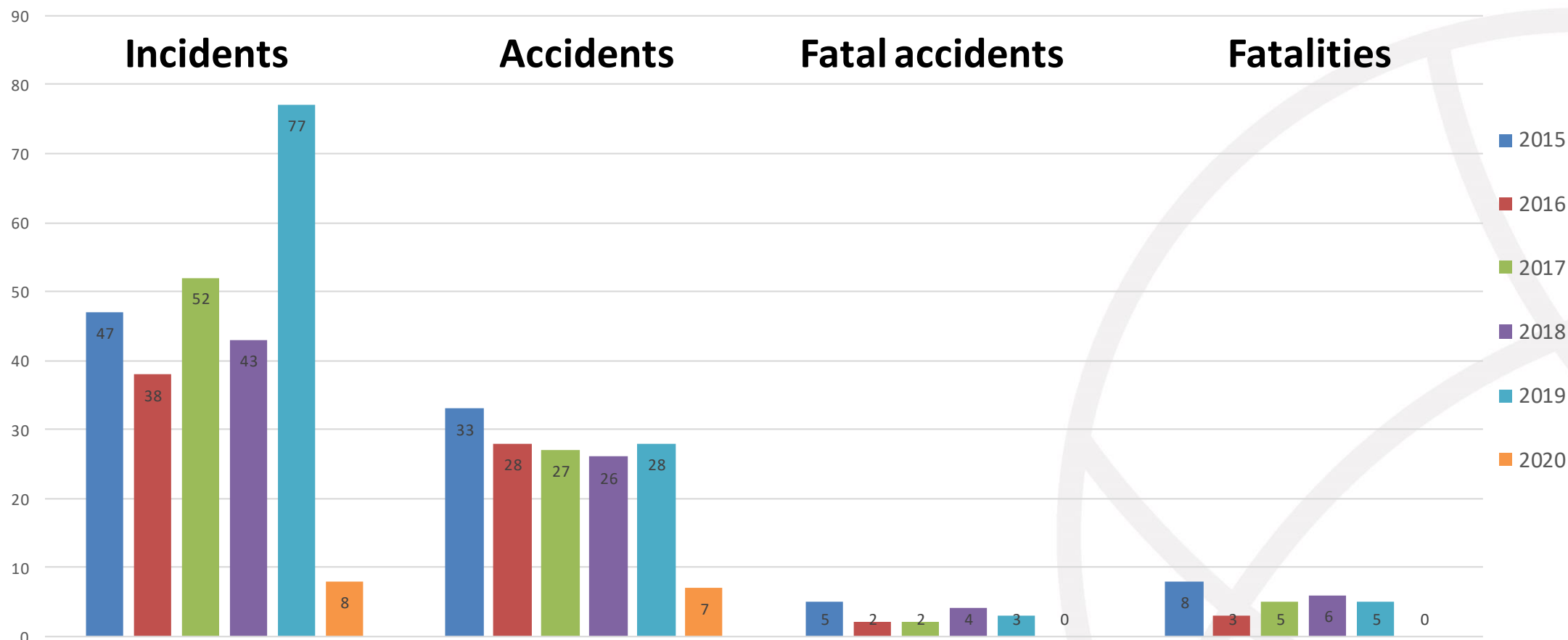
Occurrences Involving Helicopters	2015	2016	2017	2018	2019	(Jan-June) 2020	Total
Incidents	47	38	52	43	77	8	265
Accidents	33	28	27	26	28	7	149
Fatal accidents	5	2	2	4	3	0	16
Fatalities	8	3	5	6	5	0	27

- 265 incidents
- 149 accidents
- 24 detailed investigations completed or ongoing
- 16 fatal accidents resulted in 27 fatalities





## Accident statistics: last 5 years

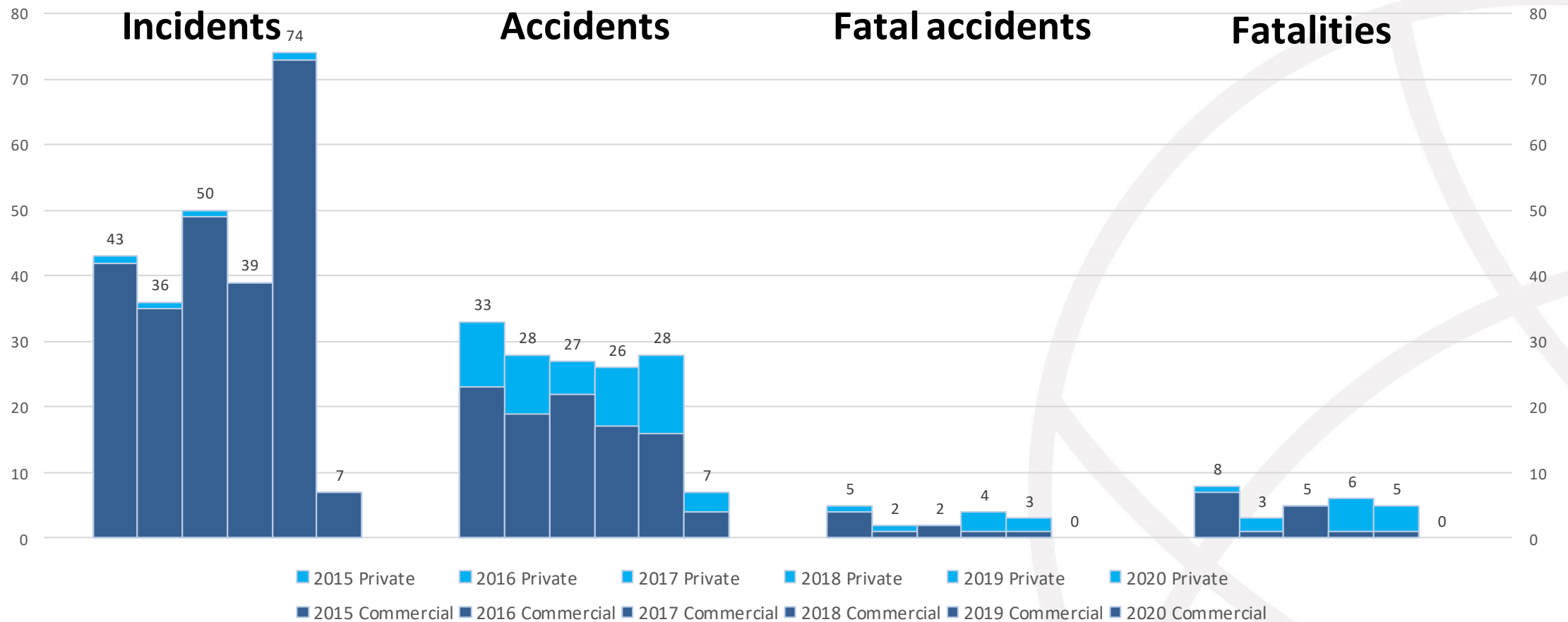


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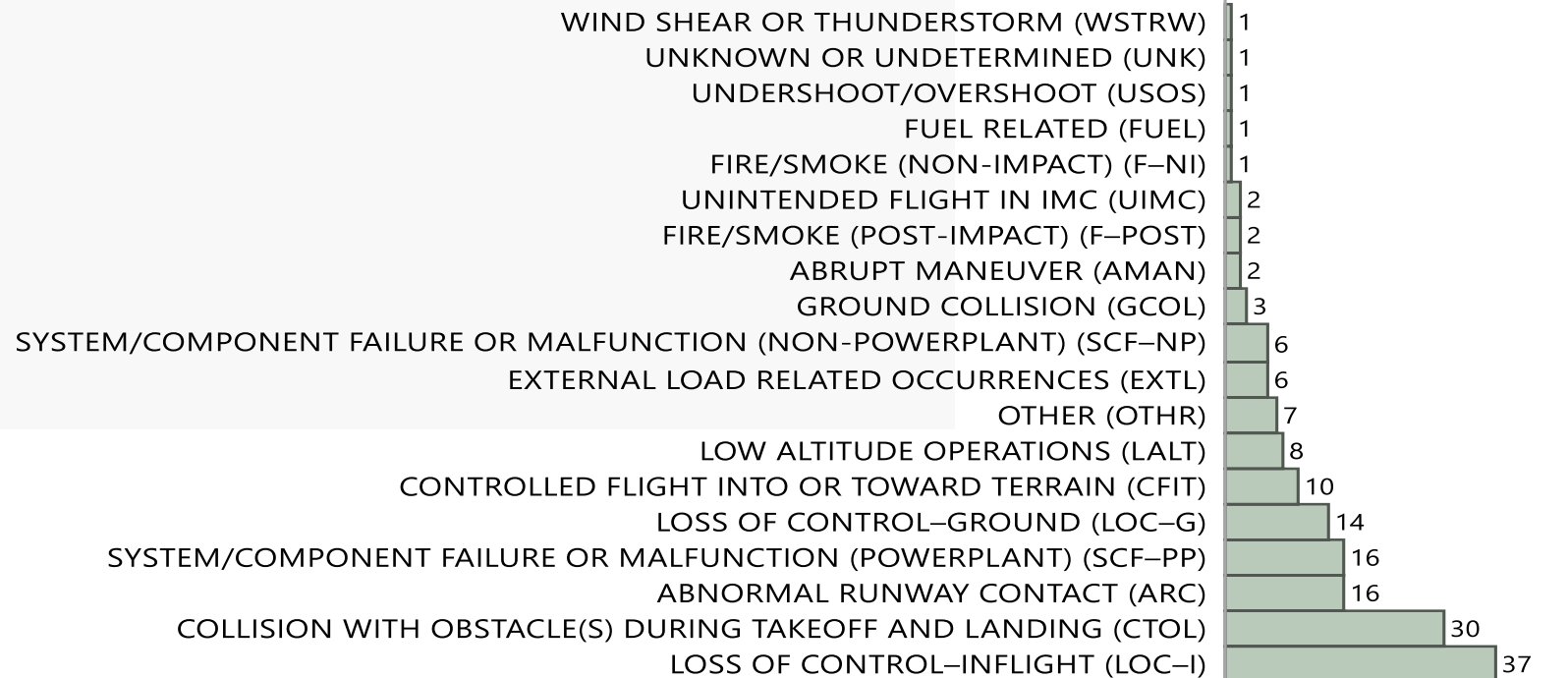


## Accident statistics: last 5 years (Commercial vs Private)





## Accident statistics: causal factors (January 2015 to June 2020)

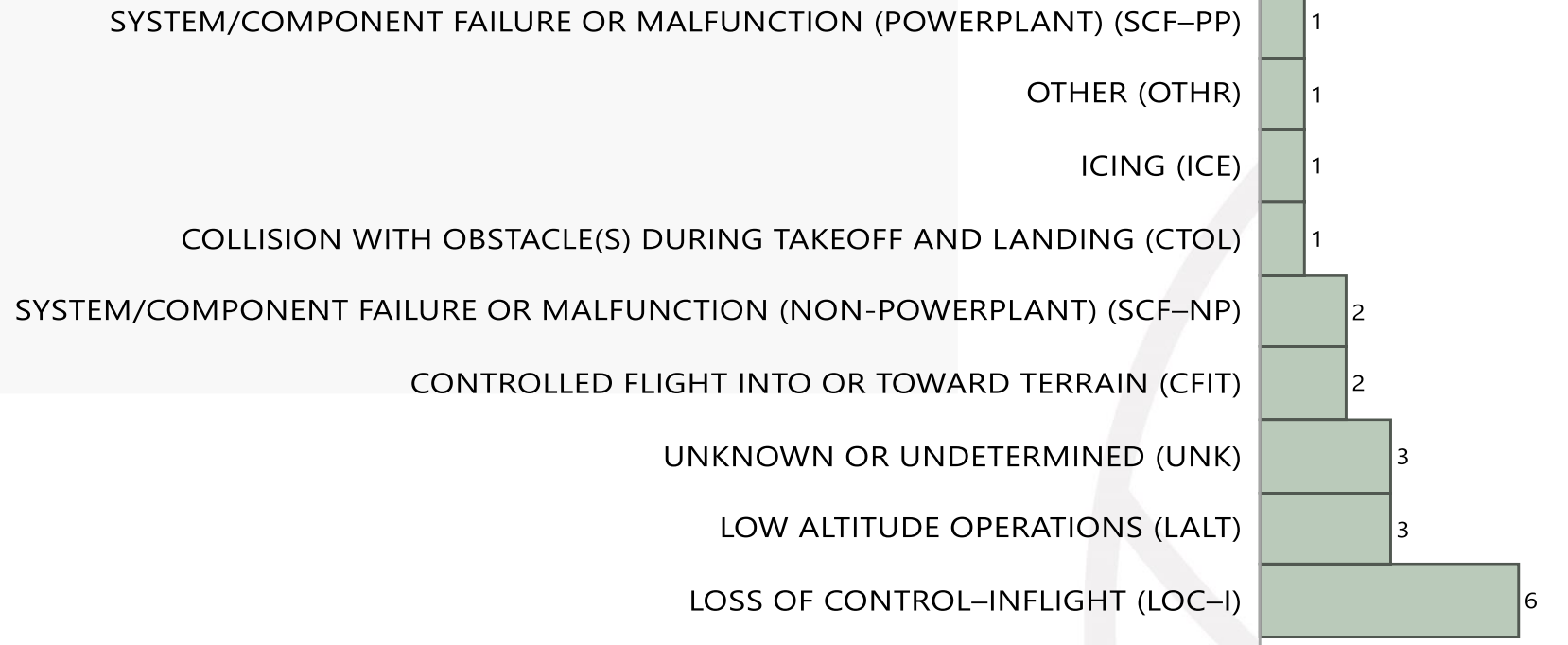


**n = 133 non-fatal accidents**





## Accident statistics: causal factors (January 2015 to June 2020)



**n = 16 fatal accidents**



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## Ongoing investigation of interest: A19A0055

### Key issues under examination:

- Establishing robust stabilized approach procedures for offshore instrument and visual approaches
- Recognizing the risks, and implementing defences such as automation, for operations in degraded visual environments
- Enhanced GPWS/TAWS, optimized for offshore helicopter operations (i.e., modes 1-7), as a defence against CFIT
- Protecting CVR audio





## TSB air investigation report A18O0134







## A1800134: Safety issues

- The helicopter was not equipped with a flight data recorder or cockpit voice recorder, nor were these required by regulation.
- The investigation was unable to determine what weather information the pilot had reviewed *prior* to the flight. However, first responders described the weather at the time as foggy and misty with light rain.
- Loss of visual reference with the ground can result in a pilot becoming disoriented and losing control of the helicopter.
- Flying in deteriorating weather conditions is challenging, especially when flying at low altitudes.





## Air transportation safety issue investigation A15H0001

Air taxi operations take place in a **very** different context from other sectors of commercial aviation.

### Key causal factors in air taxi accidents:

- An acceptance of unsafe practices
- The inadequate management of operational hazards





## A15H0001: recommendations

### A19-02

TC: “collaborate with industry associations to develop strategies, education products, and tools to help air-taxi operators and their clients eliminate the acceptance of unsafe practices.”

**Status as of 2020: Satisfactory intent**

### A19-03

Industry associations: “promote proactive safety management processes and safety culture with air-taxi operators” by “training and sharing of best practices, tools, and safety data” specific to their operations.

**Status as of 2020: Unable to assess**





## A15H0001: recommendations (continued)

### A19-04

TC: "review the gaps identified in this safety issue investigation ... and update the relevant regulations and standards."

**Status as of 2020: Unable to assess**

### A19-05

TC: "require all commercial operators to collect and report hours-flown and movement data for their aircraft by Canadian Aviation Regulations sector and aircraft type, and that [TC] publish those data."

**Status as of 2020: Unable to assess**





## The challenge

We **know** that the helicopter industry is doing good work:

- some operators are proactively implementing SMS; and
- others are assessing risks posed by fatigue.

But the TSB can't assess what we don't know about.

***So ... spread the word, and then tell us!***





# QUESTIONS?



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