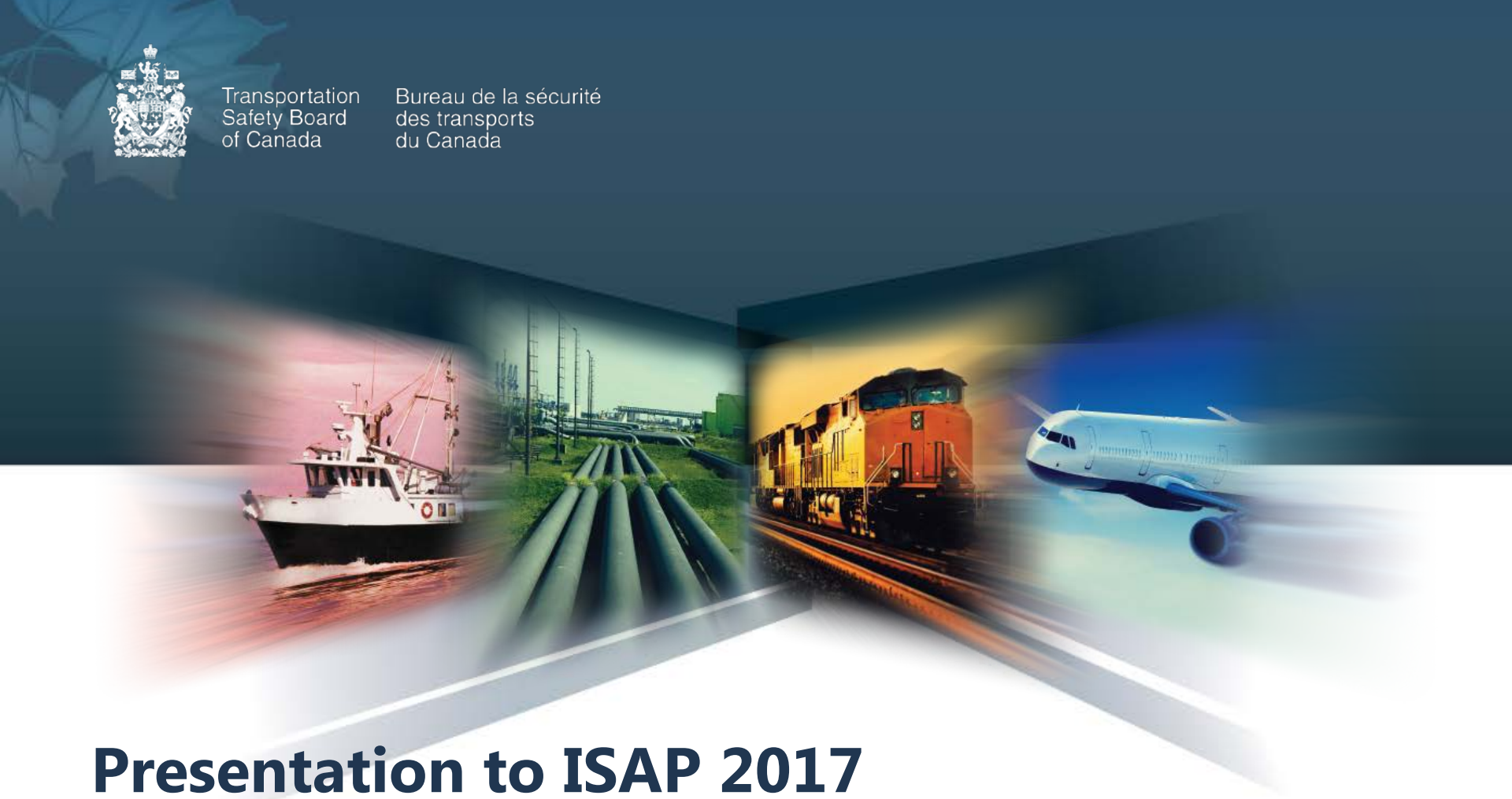
Transportation Safety Board of Canada

Bureau de la sécurité des transports du Canada



Presentation to ISAP 2017

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Chair, Transportation Safety Board of Canada

Dayton, Ohio

10 May 2017

Canada

Outline

- About the TSB
- 2 key questions for today
  - (And why the TSB can't answer the first one)
- A *brief* look at 3 recent TSB investigations
- Conclusions

About the TSB

- Our mandate is to advance transportation safety in the air, rail, marine and pipeline modes of transportation
- An average of 3,200 occurrences reported to us annually
- We conduct independent investigations
  - identifying safety deficiencies
  - identifying causes and contributing factors
  - making recommendations
  - publishing reports
- We do *not* assign fault or determine civil or criminal liability

2 key questions

- What are the most important unaddressed human factors issues you witness in everyday operations?

- What still needs to be fixed?

A13H0002: M'Clure Strait, Northwest Territories

A13H0002: Flight following system

A13H0002: Findings as to cause

- Training did not bring the vessel's crew to the required level of competence to set up the flight-following system and interpret the information displayed.

- There was no aural warning to alert the vessel's crew immediately that the helicopter was no longer transmitting position reports.

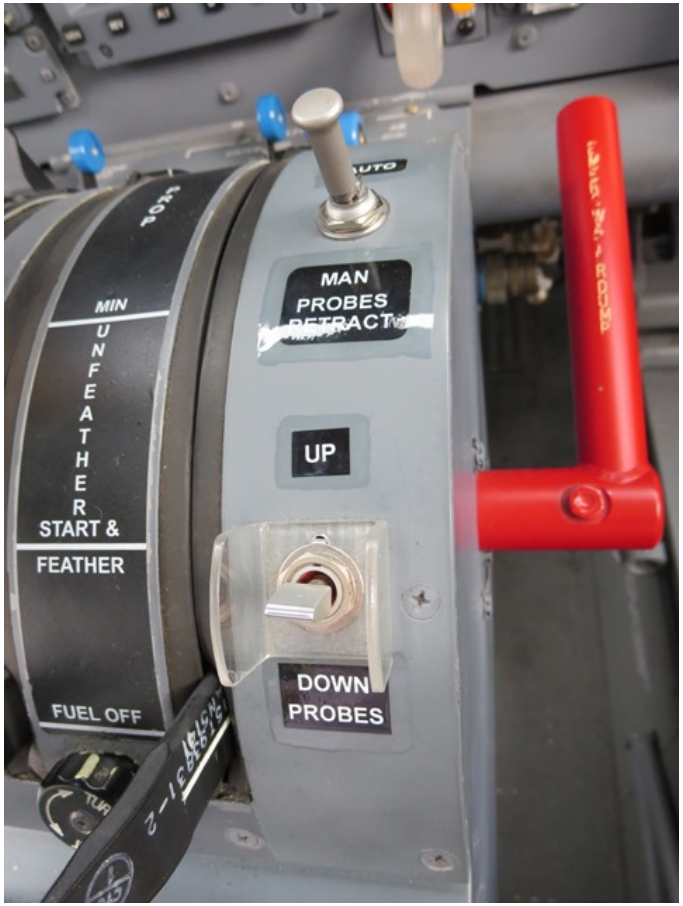
Associated risks

- Developing systems without the benefit of appropriate end-user input and the use of relevant human factors design standards

A13A0075: The challenges of automation

Photo: Royal Newfoundland Constabulary

A13A0075: toggle switch



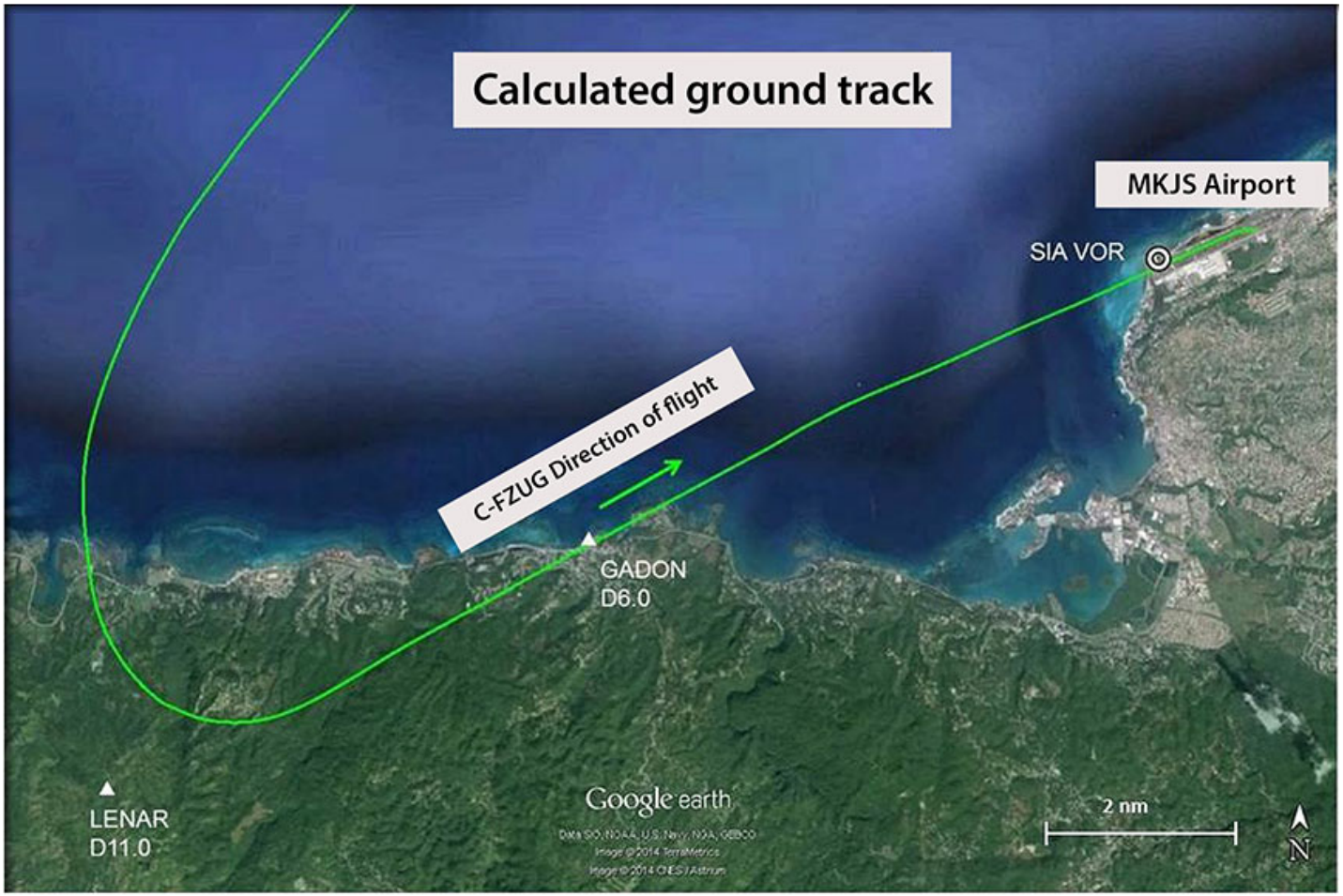
A13A0075: Cause and risk factors

- The PROBES AUTO/MANUAL switch position check was not included on the Newfoundland and Labrador Government Air Services CL-415 checklist.

- During the scooping run, the crew did not notice that the water quantity exceeded the predetermined limit.

- If a checklist does not include a critical item, and flight crews are expected to rely on their memory, then there is a risk that that item will be missed, which could jeopardize the safety of flight.

A14F0065: Unstable approach



A14F0065: Finding as to cause

- Air Canada Rouge did not include autothrust-off approach scenarios in each recurrent simulator training module, and flight crews routinely fly with the automation on. As a result, the occurrence flight crew was not fully proficient in autothrust-off approaches, including management of the automation.

Conclusions

- Consider end user and HF design standards when developing systems
- Don’t introduce automation without **also** including it in SOPs
- Crews must be familiar with the technology they are using (aka: “Practise, practise, practise”).
- Effective safety management processes are critical to identifying and mitigating HF hazards.
- “Your next accident is likely already in your data somewhere.”

QUESTIONS?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