



Agenda Item 7: Other business

Surface Safety, Managing Risk of Runway and Taxiway Collision and Runway Excursions

(Presented by the United States)

EXECUTIVE SUMMARY	
The U.S. Federal Aviation Administration leads a national-level runway safety program that is resulting in an overall decrease in the severity of runway safety events.	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety
<i>References:</i>	<ul style="list-style-type: none">• ICAO Global Runway Safety Action Plan

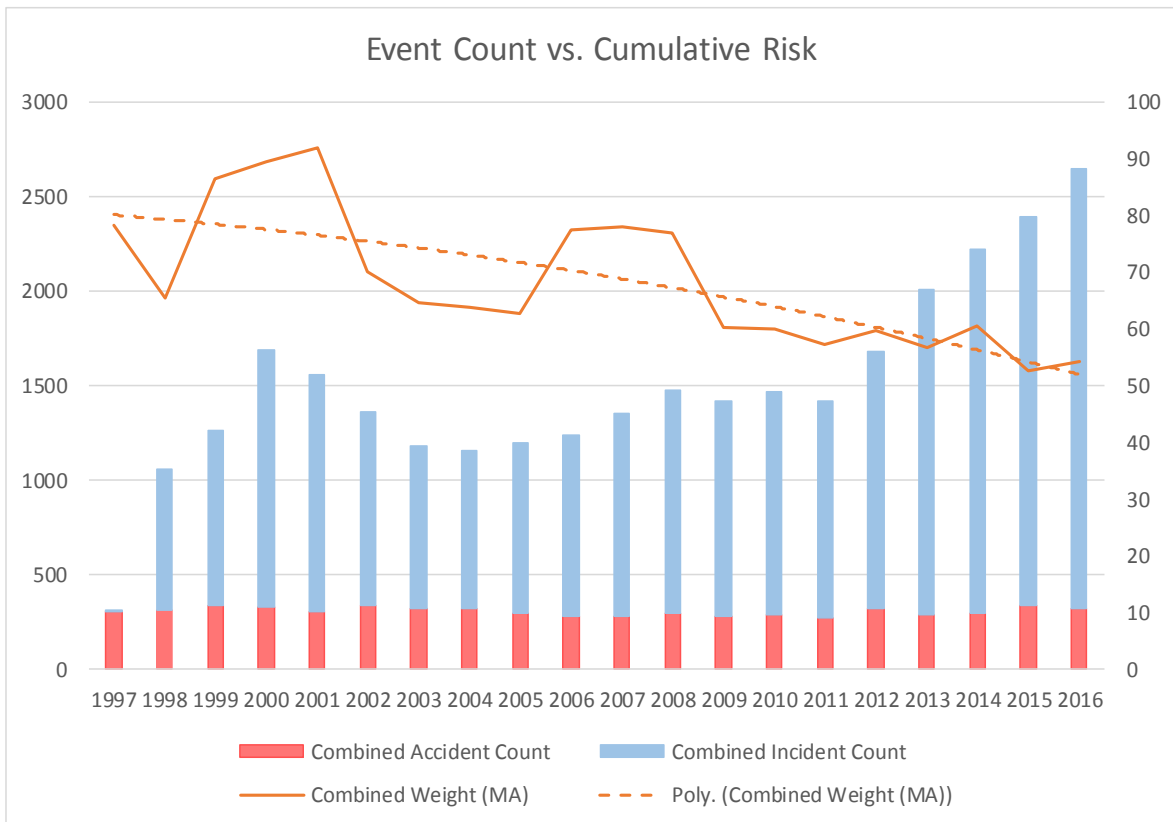
1. Introduction

- 1.1 Consistent with the State actions set in the 2017 Global Runway Safety Action Plan, the Federal Aviation Administration (FAA) leads a national level runway safety program. Using the principles of Safety Management Systems (SMS), the FAA's program brings together airports and industry partners to collaborate on the use of data-driven, risk-based decision-making to enhance the safety of U.S. airspace. This approach is a systemic view of safety, which places more value on discovering why adverse safety events happen and on identifying risks, rather than determining fault.

2. Background

- 2.1 The foundation of the FAA's runway safety program begins at the local level, with the monitoring of surface events, specifically Runway Excursions (REs) and Runway Incursions (RIs). In 2012, the FAA instituted a Mandatory Reporting Requirement to obtain information on REs and RIs that occurred at airports with air traffic control towers. This reporting requirement provides critical surface event data for Local Runway Safety Action Teams (LRSATs) to use to identify surface event trends at their specific airports.
- 2.2 The FAA uses the same reporting data from airports nationwide to identify surface event trends at the national level. The FAA shares this information with airports and industry partners to identify risks and implement specific requirements or technologies to mitigate those risks. Examples include the requirement for airports to have Runway Safety Areas (RSAs) or Engineered Material Arresting System, as well as Runway Status Lights, and Airport Surface Detection Equipment.

- 2.3 In 2018, the FAA will begin measuring safety performance based on all types of relevant safety events that occur in the runway environment. The new Runway Safety Metric (RSM) will measure safety performance based on all types of relevant safety events that occur in the runway environment. By weighting some categories of data collected involving runway excursions, incursion, and surface incidents, the RSM sorts information for a better understanding of what is driving the most risk in the system.
- 2.4 The RSM assumes that the worst possible outcome involves a fatal injury. Therefore, it assigns the highest severity weight to a fatal accident, and all other event types are measured according to their relative “proximity” to a fatal accident. As such, the RSM incorporates all relevant types of events that can occur in the runway environment, including Runway Collisions (RCs), RIs, RE accidents, RE incidents, Surface Collisions (SCs), and Surface Incidents (SIs). By incorporating every type of runway safety event, the RSM reflects the overall safety of the runway environment.
- 2.5 By applying the RSM to current data, the FAA is able to claim an overall decrease in the risk of surface events in U.S. airspace. The graph below illustrates that reporting of accidents and incidents is increasing, while cumulative risk is decreasing.



3. Conclusion

- 3.1 Through collection and analysis of surface event data and collaboration with airports and industry partners, the FAA's national runway safety program is driving mitigations in the U.S. aviation system that are leading to reductions in runway safety events.
- 3.2 The meeting is invited to contact the FAA with questions or requests for additional information.

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