

26 October 2022

Aerospace Industries Association (AIA) Continued Airworthiness Assessment Methodology (CAAM) Standing Working Group

Background

Propulsion system continued operational safety uses Federal Aviation Administration (FAA) Advisory Circular (AC)39-8, *Continued Airworthiness Assessments of Powerplant and Auxiliary Power Unit Installations of Transport Category Airplanes*, and the supporting CAAM data reports as the foundation for propulsion risk management in the commercial transport fleet.

The FAA had requested this AIA stand up committee to collect and codify a new dataset of safety-related operational events at approximately 10-year intervals. This data has been very valuable in creating consistent, data-driven decisions on emerging risks and has contributed to the reduction in propulsion safety event rates over the decades.

Regulators have now expressed a need for more frequent updates of the dataset as the commercial transport fleet grows. The needs of the industry (regulator, Original Equipment Manufacturer, and operator) will be best met by establishing the CAAM committee as a Standing Working Group (also referred to as the CAAM Committee).

Task

The CAAM Committee will:

- Collect data on propulsion safety related events in the commercial transport fleet, to augment the existing CAAM datasets.
- Develop a process of data collection and sanitization which promotes consistent classification, dataset validation, and rationale for event classification.
- Review and revise applicable event and severity grading definitions as deemed appropriate.
- Update data presentation to a publicly accessible web-based database (hosted by the FAA) promoting utility by regulators and industry.
- Make recommendations in companion guidance material based on analysis of the published data, which should also be published at the same online site.
- Evaluate drivers of Level 3, 4, and 5 events for the purposes of data set prioritization, including update timing and frequency.
- Update and augment historical datasets (1982 – 2012), to the extent practicable, utilizing the current severity classification for Level 3, 4, and 5 events to standardize the dataset.
- Analyze the data and make recommendations on proactive safety initiatives indicated by such analysis.
- Collect and publish fleet utilization data to enable rates and trends to be calculated.
- In addition to providing interpretation of published data, be available for consultation regarding data application.

Directions concerning the task

The scope of data collection/analysis is:

- In service safety-related propulsion events from 2012 onward.

- Western built aircraft.
- Commercial transport and commuter operations (not military or public use).
- Consolidation, harmonization, and augmentation of prior CAAM datasets/definitions as determined necessary and practicable.
- Event tallies and summary narratives of the most serious events (Level 3+) and for less severe events where the data and record fidelity allows.
- Recommendations for use of the data to generate hazard ratios.
- Recommendations for further study or safety initiatives as indicated by the data.
- Requests for scope change may be proposed to the Civil Aviation Regulatory and Safety (CARS) Propulsion Subcommittee as needed.

Main stakeholders

The Working Group is comprised of representatives from the following stakeholder organizations either as voting members or observers: Airbus, Boeing, Bombardier, European Union Aviation Safety Agency (EASA), FAA, General Electric, Honeywell, National Transportation Safety Board (NTSB), Pratt & Whitney, Pratt & Whitney Canada, Rolls-Royce, Safran Aircraft Engines, and Transport Canada.

A list of contacts for these organizations will be published in a similar location to that where the group's work products will be available.

- The team will solicit engagement by stakeholder communities not already represented who could bring valuable technical or operational perspectives.

Schedule and Deliverables

- Work products will be made publicly available in an on-line format.
- The Standing Working Group will be continually engaged in the collection, evaluation, and publication of data and guidance material.
- E-meetings will be the primary venue for the group's interactions. Face to face meetings will be scheduled as needed.
- Data set prioritization, including update timing and frequency, will be based on an assessment of the existing data sets combined with data collected after the most recent reporting period with a bias on those event categories that are drivers of Level 3, 4, and 5 consequences. Input from key stakeholders (e.g. regulatory authorities) may also drive data set prioritization.