

Summary of the Sixth Meeting

Special Committee 221

**AIRPLANE SECONDARY BARRIERS AND ALTERNATIVE FLIGHT DECK
SECURITY PROCEDURES**

The sixth meeting of the SC-221 was held on June 15th and 16th, 2010 at the RTCA Headquarters, 1828 L Street, NW, Suite 805, Washington, DC 20036. The attendees were the following:

Ed Folsom (Co-Chairman)	United Airlines, Inc.
Rick Schiefelbein (Co-Chairman)	The Boeing Company
Pat Hemen (DFO)	Federal Aviation Administration

Members:

Chris Baur	Continental Airlines, Inc.
David Bernier	DHS/TSA
Edward Bradford	DHS/TSA/FAMS
Christine Carter	Federal Aviation Administration
Russ Cooper	Air Canada Pilots Association (ACPA)
Bill Crooks	Allied Pilots Association
Colleen Donovan	Federal Aviation Administration
Scott Graham	Air Line Pilots Association
Candace Kolander	Association of Flight Attendants
Harold Moses	RTCA, Inc.
Charles Stewart	United Airlines, Inc.
Mary Smith	NCTC
Norm White	NCTC

The June 2010 plenary meeting of RTCA SC221 began with a review of the Plenary 5 meeting summary. The plenary decided the action item log should be included in the plenary meeting report, and with this addition, the meeting summary was approved unanimously.

Next, the committee did a line by line review of the action item log. The following actions were taken:

- closed out log items 2, 5, 8, 10, 15, 16
- additional guidance given on log items 1, 2, 3, 12, 16, 17
- new log item: 26

The remainder of the action items were either deferred due to the fact that those committee participants were not in attendance, or because the items have not yet been completed.

IPSB report

Chuck Stewart gave a presentation on the IPSB working group, including a review of his report. The committee discussed the details of the report. Leadership asked for and the committee agreed that an additional section should be included which provided for specific design guidelines for the IPSB. The purpose for these guidelines is to give an air carrier a clear understanding of what would constitute an accepted best design practice for the IPSB. It was acknowledged that currently there is only one vendor building IPSBs, Northwest Aerospace Technologies (NAT). NAT's IPSB is built to standards provided by United Airlines. In the future we anticipate that other vendors, including Boeing and Airbus, will design and build IPSBs to be retrofitted onto current aircraft designs. The intent of the committee is for current best practices that meet guidelines to be highlighted, while giving leeway to other vendors to design their own version of an IPSB.

Final Report Format

The committee discussed ideas on how the final report should be formatted. We reviewed past RTCA reports, as well as other industry-standard formats for similar types of reports. There was a general discussion of how best to organize the committee's work. Specific sections were assigned to committee members to produce a draft.

The consensus of the group thus far was to organize the report as follows:

- Forward
- Executive Summary
- Introduction
- Scope/Applicability
- Background
- Human Factors considerations
- Design Recommendations
 - - General Criteria
 - -IPSB
 - -Alternate Methods
- Appendixes
- Tables

Review of Working Groups and Additional assignments

Our main discussion revolved around whether we had enough data to make conclusions and recommendations concerning alternate methods of complying with the current FAA rules. Scott Graham, the Alternate Methods Working Group leader discussed his data with the group. After some discussion it was the consensus of the group that the following additional testing should be accomplished:

The committee decided to continue to look for an aircraft that has both a curtain system and a camera system. Although we have some data collected under a scenario of simulated camera and a substitute curtain, the committee felt it was necessary to validate those earlier tests with testing using actual deployed curtains and camera systems. This action item was given to Scott Graham. Scott will contact colleagues in Canada to set up this test before the next plenary meeting in September.

The committee decided to validate earlier alternate method tests with one more set of tests of various alternate methods of compliance:

- galley cart plus crewmember: validate current data on single galley cart with crewmember/s on one or both sides of the cart,
- test a new procedure that is currently not being used- two galley carts in a T-configuration plus crewmember
- crewmember/procedures only. The current data is not currently supporting a recommendation of this method as being adequate, so there was extended discussion about how we can determine a baseline of training that might be acceptable (see discussion below).

Finding a baseline for crewmember/procedure-only alternate method

There was a great deal of discussion about crewmember-only defense of the forward cabin and flight deck. Based on our current tests, it had been difficult to demonstrate that crewmembers alone, without some kind of physical barrier, (IPSB or galley cart), could effectively defend the flight deck.

We discussed the guidelines that we used for previous tests, where we used professional role players at a reduced intensity. Before we were prepared to make conclusions as to the efficacy of a crewmember-only method, we decided to do another set of tests. The guidelines for this test is to use test subjects that represent the high end of qualifications in defensive tactics. Our assumption was that if highly trained defenders could not adequately defend the flight deck in the timeframe we were evaluating, then we could safely say that a crewmember-only solution is not recommended.

Ed Folsom and Scott Graham wrote up a proposal, requesting the FAMS assist the committee in testing this method. The text of the proposal is as follows:

RTCA Special Committee 221 leadership would like to offer the following proposal for your consideration:

Problem Statement:

We don't know if a procedures-only methodology can consistently delay a threat to the flight deck long enough for the flight deck door to be closed.

Proposal:

FAMS represent the top-end level of defensive training in this environment. We request assistance in determining how effective a procedures-only methodology will be. By using a highly trained pool of role-players, we will seek to determine the upper end of capability of a procedures-only methodology for protecting the flight deck.

Specific request:

We would like to look at 4 specific scenarios:

1. one attacker versus one defender
2. one attacker versus two defenders
3. two attackers versus one defender
4. two attackers versus two defenders

Start timing ---> attacker/attackers attempt to get past defender/defenders and reach flight deck door. Stop timing when attacker reaches door or 8 seconds, whichever occurs first.

Collect at least 10 tests per scenario.

Requested information from tests:

1. total number of tests per scenario
1. observed time to tenth of a second for each test

Ted Bradford/FAMS is taking this proposal to FAMS leadership for consideration and will report back to SC221 leadership as soon as he gets an answer.

If the FAMS decline to participate in these tests, the committee will seek alternate avenues to accomplish this additional testing.

Human Factors considerations

Pat Hempen, the committee's Designated Federal Official, invited Colleen Donovan, the FAA's human factors specialist (AIR-120) to discuss with the committee the human factors considerations of determining the time needed to defend the flight deck. The committee also discussed how best to express the data that is collected. Committee members shared their perspectives based on the committee's past work and member's individual experience. Colleen committed to compile additional available research on the subject, and to write a report for the committee's consideration.

Schedule and Timeline

The committee reviewed the master timeline. We agreed that we would make a goal to have an initial draft report for the committee ready for review at the September plenary meeting. A revised draft will be complete by December and a final draft will be complete by May 2011. These goals are aggressive and are subject to modification. Our goal is to have a final report delivered to RTCA by June 2011.

Respectfully submitted,

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Ed Folsom
Captain, United Airlines
Co-Chairman, RTCA SC221