

**MEETING MINUTES  
PLENARY TELECON OF SPECIAL COMMITTEE 231**

**Terrain Awareness Warning System (TAWS)  
RTCA Paper No. 139-20/SC231-034**

**Date:** May 12, 2020

**Time:** 1000 EDT to 1130 EDT

**Place:** Webex/Phone Call

**Co-Chairs:** Yasuo Ishihara                      Rick Ridenour

**Government Authorized Representative:** Charisse Green

**Attendees:**

<b>Name</b>	<b>Company/Agency</b>	<b>Attendance</b>
Adler, Richard	Federal Aviation Administration (FAA)	<b>Attended</b>
Baker, James (Kirk)	Federal Aviation Administration (FAA)	
Bleakley, Timothy	General Atomics Aeronautical Systems, Inc.	
Blom, Stefan	Saab Group	<b>Attended</b>
Bradley, Capt. Mark	Delta Air Lines, Inc.	
Bulger, Chip	Federal Aviation Administration (FAA)	
Burgeles, Mr. Brett	The Boeing Company	
Bykov, Vladimir	International Aeronavigation Systems (IANS Inc.)	
Caruhel, Mrs. Camille	Airbus	
Chism, Linda	Alaska Airlines	
Cros, Xavier	Airbus	
Dean, Mr. Garfield	EUROCONTROL	
Dhulipudi, Mr. Durga	Honeywell International, Inc.	
Duke, Rune	Aircraft Owners and Pilots Association	
Dunagan, Mr. Joseph (Pat)	Raytheon	
Fisch, Wayne	Universal Avionics Systems Corp.	
Fleury, Stephane	Thales Group	

<b>Name</b>	<b>Company/Agency</b>	<b>Attendance</b>
Forrest, Joseph	Collins Aerospace	
Franzen, Mr. Paal	Astronautics Corporation of America	
Geoghagan, William L	National Air Traffic Controllers Association (NATCA)	
Goddard, David	Garmin Ltd.	
Gosselin, Eustis	Jacobs Technology	
Green, Charisse	Federal Aviation Administration (FAA)	<b>Attended</b>
Hahn, Ed	Airline Pilots Association	<b>Attended</b>
Hennig, Jens	General Aviation Manufacturers Association (GAMA)	
Hogestad, Marie	Federal Aviation Administration (FAA)	
Ishihara, Yasuo	Honeywell International, Inc.	<b>Attended</b>
Jacky Tom	NTSB	<b>Attended</b>
Johnson, Chuck	NASA	
Johnson, Steve	Honeywell International, Inc.	
Judge, John	Lockheed Martin Corporation	
Kapytov, Vasily	International Aeronavigation Systems (IANS Inc.)	
Kindred, Rob	National Air Traffic Controllers Association (NATCA)	
King, Mr. Matt	Alaska Airlines	
Kirtz, Jon	Collins Aerospace	<b>Attended</b>
Koffink, Michael	Intertek Testing Services NA	
Korns, Peter	National Business Aviation Association	
Labay, Mr. Marcus	Federal Aviation Administration (FAA)	
Lawrence, Mr. Tom	Universal Avionics Systems Corp.	<b>Attended</b>
LE CANN, Mr. Alexandre	Airbus	
Lokatt, Mikaela	Saab Group	<b>Attended</b>
Luipersbeck, Tom	Federal Aviation Administration (FAA)	
Lorey, Janiece	Gulfstream Aerospace Corporation	<b>Attended</b>
Meunier, Hugues	Thales Group	

<b>Name</b>	<b>Company/Agency</b>	<b>Attendance</b>
Morrison, Rebecca	RTCA, Inc.	<b>Attended</b>
Mulkins, Jim	Honeywell International, Inc.	
Ostrom, Gary	Honeywell International, Inc.	<b>Attended</b>
Parikh, Mr. Ajay	Ligado Networks	
Philbin, Mr. John	Northrop Grumman Corporation	
Pippard, Mr. Nigel	Saab Group	
Prosser, Kevin	Gulfstream Aerospace Corporation	<b>Attended</b>
Resnick, Mr. Boris	International Aeronavigation Systems (IANS Inc.)	
Reynolds, Zach	L3 Harris Technologies	<b>Attended</b>
Ridenour, Rick	L3 Harris Technologies	
Ringnes, Mr. Erik	Honeywell International, Inc.	
Rossi, Mr. Angelo	The MITRE Corporation	
Ryan, Wes	NASA	
Sadilov, Mr. Vsevolod	International Aeronavigation Systems (IANS Inc.)	
Sauter, Michael	Lufthansa	
Sheng, Randy	Honeywell International, Inc.	
Skoog, Mark	NASA	
Stevens, Aubrey	Delta Air Lines, Inc.	
Stone, Capt. Rocky	United Airlines, Inc.	<b>Attended</b>
Sun, Hui	Honeywell International, Inc.	
Tubb, Nick	The Boeing Company	
Vafiades, Monica	U.S. Air Force	
Williams, Shaun	NTSB	
Wilson, Garry	Gulfstream Aerospace Corporation	
Zapoluch, Steve	Garmin Ltd.	<b>Attended</b>

**Working Group Discussion:**

**Wednesday, May 06:**

Yasuo Ishihara and Rebecca Morrison led the discussion.

As this is a plenary, Rebecca Morrison walked through 3 RTCA policies:

- Anti-trust policy
- Proprietary policy
- Committee participation membership policy

Yasuo opening the meeting and noted that the previous telecons actions appear to have responses:

- Zach to provide updated Membership list
- Rick will propose an update to A.5.3.1 and discuss it with the author(s).
- Charisse will review update to A.7.

Rebecca reminded us that we are not publishing the white paper through the RTCA website nor issued for sale. An email clearance has been provided by Mark Skoog of NASA which Rich Adler has and will pass on to Rebecca Morrison so that she can add any copyright information.

The group continued walking through each of the remaining six comments, and applied the associated change in the White Paper, and reached consensus that the change was appropriate.

One comment did not result in an agreement with the 6 May telecon. For comment in Row 44, Appendix A.5. **Subject:** 'Terrain Threats'; **Comment:** 'The stated logic would result in a terrain caution when flying down a straight valley when today there would be no alert.' In an email response and also in discussion, Kevin Prosser pointed out that the multiple escape route proposal would correctly produce a terrain caution if the majority of escape path had conflicts. As part of this discussion, a disadvantage section was added to Appendix A.5. However, the multiple escape path itself is not considered to have a unique disadvantage that isn't already present with currently TAWS systems, where a circle-to-land can produce alerts from an assumed wings level trajectory.

Only the "4. MEMBERSHIP" section still had an action.

**ACTION:** Rebecca to update the Membership action per Yasuo's e-mailed attendee spreadsheet, column H of the "Consolidated" tab. She will complete this by Friday, 15 May on workspace in order to post both a red line and clean copy of the recommendation paper onto the SC-231 website.

With the one action outstanding, a show of hands was taken to ask the question, "do you concur with the one change remaining, to submit the paper as is to the PMC." No objections were made from the attendees.

One co-chair was not able to attend the Plenary. Rick Ridenour will be given an opportunity to view the white paper as a redline version and as a final version on Monday, 18 May. Upon his approval or any slight wording changes, the paper will be submitted. This meeting with Rick is set up for 3:00 PM Eastern, with Yasuo, Rebecca and Charisse in attendance.

The GAJSC has not yet released their final report. They do not project completing this by PMC.

Rebecca secured an extension for the completion of the document. It must now be completed by 18 May. The document then proceeds to the PMC. The PMC meeting is scheduled for Thursday, 11 June.

Rebecca suggested that the committee go into active monitor status rather than sunseting the committee, given that an update to DO-367 would likely emerge from this white paper. This is

an advantage in keeping the website active for SC-231 members. The group concurred with this recommendation.