

**Minutes of 25<sup>th</sup> Meeting**  
**RTCA Special Committee 227**  
**15<sup>th</sup> Meeting**  
**EUROCAE WG-85**  
**17-19 November 2020**  
**Virtual**

Agenda

Tuesday

1. Welcome and Administrative Remarks
2. Introduction
3. Agenda Overview
  - a. Timeline & Organization
  - b. Working Discussion of Proposed Tasks
4. Meeting and Schedule
  
5. Committee Organization Options
6. Working Relationship with EUROCAE WG-85 & 107

Wednesday

1. WG-1 Change Proposal Development

Thursday

1. Discuss & Prioritize Proposed Tasks
2. Next Steps
3. Adjourn

Chairman: Mike Cramer, Mitre  
GAR: Barry Miller, FAA  
Secretary: Dave Nakamura, Mitre  
Program Director: Rebecca Morrison  
EUROCAE Liaison: Alex Engel  
WG85: Okuary Osechas

Attendees

Name	Company/Organization
Aaron Jacobson	Boeing
Alex Capodicasa	CMC
Alex Engel	EUROCAE
Andrew McKenzie	Nav Canada
Andrew Riedel	Boeing
Baptiste Duffourd	Honeywell
Barry Miller	FAA
Benny Hutto	NATCA
Brian Hint	FAA
Tiziano Bernard	Garmin
Bill Forstie	Honeywell
Bill Tuccio	Garmin
Bob Gaul	Garmin
Brad Miller	FAA
Brandon Weaver	DLR
Christine Clausnitzer	FAA
Colin Ogden	Collins
Dale Courtney	FAA
Daniel Nelson	UK NATS
David Jordan	UASC
David DeSmedt	Eurocontrol
Eric Morse	Delta
Erik Ringnes	Honeywell
Florian Buchmann	Austro Control
Frank Wigold	Lufthansa Systems
Gang Feng	Boeing
Gary McMullin	Southwest Airlines
Gary Petty	FAA
Gary Berz	Eurocontrol
Grant Clow	PSA Airlines
Guy Deker	Thales
Steve Horvath	Garmin
Jason Hewes	Garmin
Jeff Kerr	FAA
Jeff Meyers	FAA
Jennifer Ledford	FAA
Joel Dickinson	FAA
John Barry	FAA
Kendal Hershberger	Garmin
Kevin Sivits	Leonardo/Selex
Kirk Kolek	Collins Aerospace
Kurt Stiefel	FAA
Max Nielsen	USAF
Mike Cramer	MITRE

Mike Jackson	Honeywell
Monica Vafiades	USAF
Dave Nakamura	MITRE
Nico De Gelder	NLR
Nick Tallman	FAA
Okuary Osechas	German Aerospace Center
Rebecca Morrison	RTCA
Ron Renk	United Airlines
Ricardo De Sousa	NATS
Russ Ramaker	GE
Ruth Hirt	FAA
Shivathsan Narayanan	DLR
Silviu Ceparu	Bombardier
Tim Geels	Collins
Tim Padden	USAF
Tom Yochum	Boeing
Toyohachi Yokota	JRANSA
Trent Bigler	FAA
Valeriu Vitan	EUROCONTROL
Victor Gordo	Ineco
Vinh Le	Collins Aerospace
Yee Xiong	UASC
Wes Googe	American Airlines

## **Tuesday, November 17**

Mike reviewed the following agenda.

### Tuesday

Welcome and Administrative Remarks

Review of RTCA/EUROCAE Policies

Introduction

Review and approve minutes

Close M1-21

Now only three WGs

Agenda Overview

a. Plenary, Day 1

b. Working Group 1, Day 2 and 3

c. Plenary, Day 3

Review WG-1 Approved Change Proposals

M1-01: Merge Change 1 with Rev C MASPS

M1-02: DME

M1-04: Datalink

M1-05 Aircraft Performance Data

M1-07a: Intro

M1-09: Navigation Database Requirements

M1-13a: RNAV systems requirements

M2-03: Descent Path

Review Status/Plans of WG-3

WG-85 Kickoff Summary and 1<sup>st</sup> Meeting Summary

Review Action Items

New Change Proposal Assignments

Organization and WG Chairs

### Wednesday

Change Proposal Reviews

M1-10 VNAV

M2-02 RNP Hold Entry Visual Cues

M1-13c RNP Hold Size and Alerting

### Thursday

WG-1 Continued

Closing Plenary

Other business

Review New Action Items

Adjourn

## **Welcome and Administrative Remarks**

Mike Cramer opened the plenary Webex session at 9:00 AM, Tuesday, November 17. Mike welcomed the participants. Alex Engel stood in for Rebecca and reviewed both the RTCA and EUROCAE Anti-Trust, Proprietary, and Committee Membership Participation policies. Due to the fact this was a virtual meeting,

the typical individual introductions were not made. It was noted the workspace can be used by members to indicate meeting attendance

### **Review and Approve minutes**

Dave walked through the minutes for the last meeting. They were approved.

### **Change Proposal Review**

The following WG-1 Approved Change Proposals were reviewed.

#### **M1-01: Merge Change 1 with Rev C MASPS**

This change proposal is just a means to track the incorporation of Change 1 into the body of the MASPS for Rev D. It reflects what is contained in EUROCAE ED-75D with some minor updates with regard to material that does not apply e.g. ED-75/DO-236 cross reference.

Accepted by plenary for inclusion in Rev D

#### **M1-02: DME R5**

Minor editorial changes were made in 1.5.1 Navigation Infrastructure. With regard to EPU smoothing, there were two views expressed. One is that smoothness is a desirable trait. However, it was also the view that when there is a change in sensor usage, a quick change to reflect the sensor is appropriate and should be acceptable. It was agreed that smoothness was a “should” not a “shall”. The Appendix C paragraphs C.2.2 and C.3.2 will be updated separately following coordination with SG-107. The discussion also touched on original text with regard to navaid designated operational coverage not being included in the reasonableness specification. It was pointed out that the text has caused issues in spectrum and service provision discussions. If the group decides to act on this, the text could either be removed or revised.

Accepted by plenary for inclusion in Rev D.

#### **M1-04: Datalink R3**

Minor editorial changes were made.

Accepted by plenary for inclusion in Rev D

#### **M1-05 Aircraft Performance Data R-**

Accepted by plenary. There is no change to Rev D.

Working Group 2 should review to determine if there is a MOPS requirement.

#### **M1-07a: Intro**

Minor editorial changes were made. The MASPS should add interval management (IM) to the glossary

Accepted by plenary for inclusion in Rev D

#### **M1-09: Navigation Database Requirements R2**

Editorial changes were made to the requirements, mostly for clarity.

Accepted by plenary for inclusion in Rev D

## **Wednesday, November 18, Working Group 1**

### **WG 1 Change Proposal Development**

#### **M1-10 VNAV**

This proposes adding information about advisory and approved VNAV relative to the VNAV function.

Advisory VNAV may be used up to the final approach segment. Approved VNAV is for the final approach segment to LNAV/VNAV minima. The MASPS requirements for VNAV do not make these distinctions and don't need to. The MASPS vertical performance, path and steering requirements support these uses but could also support ones where more extensive vertical path performance requirements are specified.

Action: Barry, Dave and Nico will update the proposal.

#### M2-02 RNP Hold Entry Visual Cues

This raises the issue of possibly insufficient information or cues for the flight crew when entering an RNP hold. Also address hold exit. Don't say anything in the text about the fly-over because of the fly over bit, say something in a note. Not overly specific on solution to allow for manufacturers to determine what is their best solution, or to use what they have.

Action: Dave to revise, coordinate with Bob/Tim.

#### M1-13c RNP Hold Size and Alerting

This provides background for the issue of RNP hold maximum size exceeding the hold protected areas specified by TERPS and PANS-Ops. It explains that this is not new and that the comparison of RNP to RNAV and conventional protected areas is not a reasonable comparison. It suggests that RNP hold protected areas should be specified along with other information regarding the determination of max size. The WG agreed to forward the paper for plenary approval.

### **Thursday, November 19**

Plenary resumes

#### **Review Status/Plans of WG-3**

Andrew reviewed the structure and plans for the working group. The WG is looking for a document owner, volunteers should contact Andrew. DO-257B is expected to be updated to Rev C, with an addition for data driven charts (DDC). It's possible DDC could become a separate DO document depending on the material. The TORs will be revised if this step is taken. The material will reflect changes made in DO-201C. It will address approaches, SIDS/STARS, departures, and arrivals. Kick off of the WG will be Dec 16<sup>th</sup> with completion planned in 2023. The WG will meet biweekly on the off weeks for WG1/WG2.

#### **WG-85 Summary**

There have been three meetings. Issues discussed at the most recent meeting included Geo vs Baro altitude, VOR/DME for RNAV 1, variability in vertical profiles and sensor performance/integrity. It was noted that VOR/DME for RNAV is not a part of the MASPS requirements, although the relationship of VOR to RNP is described in Appendix C. The MASPS also only contains requirements for VNAV descent path construction, excluding climb.

#### **Review Action Items**

The change proposal and action items were reviewed.

#### **Change Proposals Review, continued**

##### M1-13a: RNAV systems requirements

This paper reviews the idea of providing specifications for an RNAV system by referencing requirements contained in the MASPS. However, it is pointed out that while an RNAV system specification is desired by ICAO and others, what is in the MASPS is insufficient with regard to performance and functionality. The amount of work to describe an RNAV system is a big task and beyond the scope of the intended work plan for the committee. The proposal is withdrawn.

Accepted by plenary for inclusion in Rev D

##### M2-03: Descent Path

This paper proposes the addition of material created for the MOPS that clarifies how there will be instances where the VNAV path is sensitive to how the path is constructed e.g. constraints such that there may be minor exceedances of the path profile boundaries. Since this is the same as what is contained in the MOPS which was subject to both working group discussion and plenary approval, and more importantly has been published, it's recommended that the committee accept this for incorporation into the Rev D draft. There is

still opportunity to comment during the FRAC process. It was noted that there is a WG85 issue with vertical path construction that may affect the appendix and MASPS vertical path construction requirements. This will be addressed separately.

Accepted by plenary for inclusion in Rev D

#### M1-13c RNP Hold Size and Alerting

This provides background for the issue of RNP hold maximum size exceeding the hold protected areas specified by TERPS and PANS-Ops. It explains that this is not new and that the comparison of RNP to RNAV and conventional protected areas is not a reasonable comparison. It suggests that RNP hold protected areas should be specified along with other information regarding the determination of max size.

Accepted by plenary for inclusion in Rev D

#### **New Business**

There was no new business

It was noted that WG-107 is seeking information on who manufactures DME interrogators

Everyone was reminded to check attendance on the workspace.

#### **Webex Meeting Adjourned**