



EUROCAE Paper No EUR 115-20/ WG79-74
RTCA Paper No. 116-20/SC213-124

Minutes of Meeting
EUROCAE WG-79 #33 meeting/ RTCA SC-213 Joint Plenary #42
Enhanced Vision Systems (EVS) and Synthetic Vision Systems (SVS)

Date	April 21-23, 2020
Place	Virtual
Venue	Virtual
Host	RTCA
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Attendance: Please see attached PDF document for complete attendance list.

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Agenda

Tuesday, April 21

Administrative Plenary at 9am EDT

WG-4 10am-10:30am: Helicopter Survey Status – Cliff Johnson

10:30am-11:30am: Status CVS MASPS for Helicopter for Operational Credit.

Wednesday, April 22

WG-2 9am-1pm EDT (includes visual advantage)

Thursday, April 23

WG -1 9am-10am EDT

Administrative plenary at 10am EDT

Welcome and Introduction

Rebecca Morrison, RTCA, reviewed the RTCA anti-trust, proprietary and membership policies along with the EUROCAE IPR and participation policy. She also reviewed the Errata, Change and Revision policy. She also presented the TOR and publication dates. Sergiu Marzac, EUROCAE, reviewed the EUROCAE policies. Carlo Tiana, Collins, called the meeting to order.

Participants on the call introduced themselves. There were over 40 participants on the call.

Previous meeting minutes from the plenary held in Washington, DC in October 2019 meeting were reviewed and approved.

WG4

CVS Helicopter MASPS milestone is scheduled for January 2021., This requires delivery of the document to RTCA in October. This activity is delayed and a request for a later date will be made.

Cliff Johnson, FAA Tech Center, provided an overview of their activities to investigate how visual system technologies can be used to improve the safety of flight and provide operational credit for certain operations. FAA Tech Center is in the process of engaging helicopter operators to confirm those operations that would benefit from such technologies. Air Medical, Offshore, Charter, and Corporate operators will be engaged through small group meetings or virtual telecons. Future activities will likely include an electronic survey.

Trish Ververs, Honeywell, provided an overview of the current state of the CVS Helicopter MASPS document. Discussion included the initial focus on the Offshore Operations (OSAP) since the procedures are well-defined and required helicopter equipment is outlined. Comments were offered regarding the requirements for visual references, obstacle databases, and positional and navigation systems.

WG2

Randy Bailey, NASA LaRC, discussed the AC 20-167B draft in which visual advantage of EFVS in a slant ranges of flight visibilities in 1400 ft to obtain

operational authorization. Test conditions shouldn't contain more than 25% test points greater than 1200 ft. Reported visibility must be less than 1800ft or less than ½ sm. Slant range is measured to a steady light in the ALS as a reference. There was significant discussion around the use of the flashers in determining the visual advantage. No resolution was reached.

For the data collection purposes, the test must be conducted using instrument approach procedures allowable by 91.176 only. Minimum 10 approaches from at least two different test locations. Currently for the US testing, there is no need to test against LED ALS. Data collection should include video recording of the sensor output, the HUD image including symbology that the pilot sees, and the out-the-window view from the pilot's design eye reference point. Flight log should include date and time of events. Touchdown and rollout to safe landing speed are not required.

WG1

Khambrel Simpson, MITRE, presented an overview of an operational concept of using SVGS with EFVS/CVS during the approach phase on a PFD (HUD or HDD). There was a discussion about expanding the concept to include other forms of SVS including ASA SVS. Feedback included that the SVGS is used on published instrument approaches. It was highlighted that SVGS includes required elements including additional monitoring, approach symbology and better visual cues for enhanced spatial awareness. EASA and FAA have harmonized on SVGS allowing SVGS to 150ft on SA Cat I approaches but not LPV approaches due to the concerns on the signal integrity. Concerns were expressed around lowering DA/DH on the instrument approach due to requirements such as TERPS. Trent Prange, FAA, noted that the FAA doesn't want to publish any more approaches. Janet Greenwood noted that LPV may need to wait for multiple satellites or multi-constellations systems to improve integrity. There were discussions around considering systems that could demonstrate independent position integrity. In addition, there was discussion on expansion of SVGS scope to including credit on other type operations including PBAON and lowering minimums on LPV approaches that were higher than 200ft.

Thea Feyereisen, Honeywell, presented a review of Section 1 of the MASP. There was a discussion about scope of the document on whether to included non-PFD instances of SV that are current covered by DO-315B. Trent Prange, FAA, will provide a recommendation at a subsequent working group meeting.

Actions Items

1. Change to the TOR for the due date of WG4's document, DO-375X (Carlo, Rebecca)
2. Identify the government "sponsor" for the SAE Rotorcraft Vision Systems committee (Carlo)
3. Check on availability for hosting the July-August meeting at Eurocae or ICAO (Sergiu)
4. Send out a form on availability for the next two plenary meetings (Rebecca)

Next Meeting

The next plenary is planned for July/Aug 2020 in Europe. COVID-19 leaves some uncertainty around travel for the meeting. This meeting assumes the EUROCAE Paris location. EUROCAE can only host the last two weeks of July or the first week of August

unless someone else can host. The October meeting is assuming a meeting at RTCA in Washington. Rebecca will send out a form to collect feedback on preferences. The leadership will meet in 2 weeks to review feedback and decide on dates.