

Minutes of the Thirty-First Plenary Meeting
SC-213 Enhanced Flight Vision Systems/ Synthetic Vision Systems (EFVS/SVS)
Joint Meeting with EUROCAE WG79

Date: May 10 - 12, 2016

Place: Thales, Bordeaux France

Host: Bruno Aymeric, Thales

I. Welcome and Introduction

Bruno Aymeric welcomed visitors to Thales. EUROCAE membership requirements were presented along with the RTCA public meeting announcement and RTCA proprietary references and membership policies. Minutes from the thirtieth meeting were shared and approved. Brief overviews of previous action items were discussed. Terry Stubblefield is acting FDO as Trent Prange was ill.

II. SVGS Update

FAA is current doing research with training requirements with respect to SVGS operations. Current thought is that there would be training to support the operation, but that it will not be CAT II training.

III. WG1

It was discussed that WG1 related to SVGS to 100ft will be put on hold until SVGS 150 is fielded and experience gained.

IV. EFVS and LED Airfield Lighting

Sébastien Mirouze, STAC, Sara Bergsten, ADB Safegate Group and Carlo Tiana, Rockwell Collins, presented and facilitated a discussion relative to EFVS and LED technology compatibility issues.

V. EASA AWO Project

Frans van Gorkum, EASA, presented an overview of the AWO project to enable the safety and efficiency benefits of new vision systems: SVS, EVS, CVS, HUDs and equivalent systems to introduce a new approach category between CATI and CATII. The goal is to have a deliverable for each of the four domains by the end of the year. They are planning to then allow one year for public comment to meet the EASA goal of having new rule within 2 years for this EASA pilot project. No rule or guidance material has yet been drafted.

VI. WG3

Thea Feyereisen, Honeywell, led a discussion of the draft MASP for Aircraft Situation Awareness SVS.

VII. NASA LaRC Sensor Study

Tim Etherington, Rockwell Collins, presented an overview of the NASA studies evaluating dual sensor (EVS and MMWR) enhanced flight vision systems to enable equivalent visual operations for approach and landing.

VIII. NASA LaRC ASA Research

Kyle Ellis, NASA, presented display concept and upcoming experiment review in support of the CAST Safety Enhancement Research for SE200.

IX. Lower than Standard Takeoff Minima

Janet Greenwood, AFS410, presented an expanded IFR lower than standard takeoff minima proof of concept to determine if IFR lower than standard can be expanded. Four phases proposed include: (1) HUD guided takeoff using CAT I/II ILS (no centerline lights); (2) credit for EFVS for takeoff (WG2); (3) HUD guided takeoff using LPV or GLS; and (4) takeoff guidance from head down displays or SVGS.

X. Helicopter Operations

Dr. Thomas Münsterer, Airbus Helicopters, presented the NATO Industrial Advisory Group SG193 interim report on degraded visual environment (DVE) flights with helicopters. Cliff Johnson, FAA, made a presentation on research effort to look at Advanced Vision Systems for rotorcraft safety and operational credit operations. The FAA is looking to revise 91.175 and 91.176 along with several orders. Carlo Tiana, Rockwell Collins, presented WG79 WG4 helicopter progress.

XI. Air Transport SVS

Fabrice Bousquet, Airbus, presented Airbus recent work on SVS. Trent Prange suggested that lessons learned from recent SVS certification by the FAA and from in-service use could be fed back into DO315 and/or SVS ASA MASPS.

XII. EFVS for Take-off credit

Randy Bailey, NASA, introduced the NASA research work program for EFVS for take-off credit. The objective is to develop an SPR and INTEROP document by applying the classical OSED/OSA/OPA methodology. The study assumes an existing certified EFVS system and aims to define what the requirements are on ground infrastructure (lighting, guidance, etc.) that could enable take-off operations under various visibility conditions.

XIII. Action Items

- a. Confirm if WG3 ASA will be a joint document between SC213 and WG79 -- Patrick Krohn and Bruno Aymeric.
- b. Finalize coordinated schedule for RTCA FRAC / EUROCAE Open Consultation process for SVS ASA MASPS - - Patrick Krohn and Bob Darby
- c. Revise WG-79 TOR with updated deliverable dates - - Bruno Aymeric.

XIV. Other

The next meeting (thirty-second plenary) will be at RTCA Washington DC. It will be a four day joint meeting with WG-79, and is scheduled for week of October 17, 2016 or potentially week of October 24, 2016. The first day would be dedicated to WGs work.

XV. Attendees

Joël Astruc, Airbus	Lukas Kistler, Rega
Bruno Aymeric, Thales	Patrick Krohn, <i>Universal</i>
Tony Barber, <i>Bombardier</i>	Olivier Lemoine, Thales
Olivier Baudson, Dassault	Sébastien Mirouze, DGAC
Sara Bergste, ADB SafeGate	Thomas Muensterer, Airbus
Alain Boucher, <i>Dassault</i>	Laurence Mutuel, Sierra Nevada
Fabrice Bousquet, <i>Airbus</i>	Lance Prinzel, <i>NASA</i>
Kevin Burnett, <i>Sierra Nevada</i>	Trent Prange, <i>FAA</i>
Daniel Chiew, <i>Rockwell Collins</i>	Phillippe Salmon, Rockwell Collins
Bob Darby, EUROCAE	Mitch Serber, <i>Mitre</i>
Dale Dunford, <i>FAA</i>	Tetsu Shimizu, <i>Japan International</i>
Kyle Ellis, <i>NASA</i>	<i>Transport Institute</i>
Tim Etherington, <i>Rockwell Collins</i>	Paul Snow, <i>Boeing</i>
Thea Feyereisen, <i>Honeywell</i>	Carol Tiana, Rockwell Collins
Serge Germanetti, Airbus	Frans van Gorkum, <i>EASA</i>
Simone Gobbi, Finmeccanica	Brian Watson, <i>FAA</i>
Janet Greenwood, <i>FAA</i>	Mike Webb (telephone), <i>FAA</i>
Simon Innocent, <i>Honeywell</i>	John Wright, <i>GE</i>
Terry King, <i>FAA</i>	Dror Yahav, <i>Elbit</i>

Prepared by Thea Feyereisen, RTCA SC213 scribe