Welcome to RTCA
Program Management Committee Meeting
June 11, 2020
Welcome

Chairman

Chris Hegarty, MITRE
Anti-Trust Policy

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• Individuals from Non-RTCA member organizations may attend Committee Plenary meetings that are announced on the web. Non-member attendees have the option of requesting permission to be recognized to speak during the plenary meeting. Meeting summaries and related information from previous plenary meetings will be available to the public via RTCA’s website. Documents undergoing final review can be obtained by contacting RTCA. Members of the public may also submit comments on documents undergoing final review.
Introductions

Chairman
Chris Hegarty, MITRE
Welcome “Fill In” Member

Don Kauffman, Honeywell
Agenda Item 2A: Review / Approve Meeting Summary
March 26, 2020

RTCA Paper No. 102-20/PMC-2011
Agenda Item 2A:
Review / Approve Meeting Summary
December 19, 2019

RTCA Paper No. 003-20/PMC-1968
Agenda Item 2B: Review / Approve Administrative SC TOR Revision

SC-159 – New Secretary
Agenda Item 3A: Environmental Test
   SC-135
   DO-380

PMC Meeting – June 11, 2020
RTCA Paper No.: 125-20/PMC-2014
Committee Membership

SC-135 Leadership

• Co-chairs
  • Brad Green
  • Kyle McMullen
• Government Authorized Representative
  • Lee Nguyen
• RTCA Program Director
  • Rebecca Morrison
• Secretary
  • Jake Van Dyke
Committee Membership

SC-135 Participants

• Avionics manufacturers: Honeywell Aerospace, Collins Aerospace, Garmin International
• Aircraft Manufacturers: Boeing, Airbus, Gulfstream, Textron Aviation
• Government: FAA
• UAS Participants: General Atomics, Cahon Systems
Purpose

• Defines ground environment for UAS for purpose of test.
• Defines test procedures for UAS ground environments.
• 21 environments.
• 2 reserved sections (see later slide)
• DO-160 for the ground!
Final Review and Comment Summary

- 21 Editorial
- 0 Low
- 6 Medium
- 0 High
- 0 Non-concur

All comments either resolved, withdrawn or deferred with commenter’s comment.
Follow on Work

- Two environments (sections) did not make the original release
  - Earthquake Vibration
  - Direct Effects of Lightning

- Requested by FAA for inclusion
  - Revision A of DO-380 will address these two environments only

- Future work
  - Possible revision B, once document has been in the industry
Agenda Item 3B: SC-159 Navigation Equipment Using the Global Navigation Satellite System (GNSS) 
June 11, 2020

RTCA Paper No. 126-20/PMC-2015
Presentation of new document, DO-229F for approval and publication:

“Minimum Operational Performance Standards (MOPS) for Global Positioning System/Satellite-Based Augmentation System Airborne Equipment”

– RTCA Paper No. 126-20/PMC-2015
SC-159 Committee Status

- SC-159 is developing a DFMC (SBAS) MOPS and will map to performance requirements in DO-229 (GPS L1)
  - Requirement tagging is necessary to facilitate this

- PMC Approved Updated SC-159 TOR on March 26, 2020 with new product “Update to DO-229E to introduce requirement tags for use in the new GNSS L1/L5 MOPS”, with FRAC Completion Date Due of April 29, 2020

- SC-159 held a special plenary on April 30, 2020 and approved DO-229F
Overview of Changes in DO-229F

- DO-229F is an equivalent technical baseline to DO-229E
- This new version of DO-229 was produced solely to introduce performance requirements tags
  - Facilitates requirements tracking and the development of future dual frequency, multi-constellation (DFMC) MOPS; makes it easier to reference and compare the single frequency (L1) GPS/SBAS requirements in this MOPS with the future DFMC requirements
  - Some editorial sentence structure changes needed to insert tags

- Appendix G and J are the only appendixes that received tag numbers
  - Requirements in Appendix R were not tagged because a new MOPS for GNSS-aided internal navigation systems is expected to soon be approved by RTCA that will supersede them

- Two notes (Sections 2.1.1.6 and 2.1.2.3) were updated to reflect additional guidance resulting from recent operational experience
DO-229F FRAC

- FRAC began on March 30, 2020 and all comments were due on April 29, 2020

- Received a total of 155 comments at end of FRAC
  - Note that an additional 3 comments were received and withdrawn before end of FRAC and not included in the final count

- The disposition of the 155 comments was addressed at the SC-159 Plenary on April 30, 2020
  - The disposition of all high and medium comments were resolved at that time
  - The SC-159 Committee recommended DO-229F be published with the remaining low and editorial comments resolved between the editors and commenters.

- The updated draft of DO-229F was forwarded to RTCA on May 8, 2020
FRAC Results

**Category Breakdown**
- Low, 34, 21.94%
- Medium, 5, 3.23%
- High, 3, 1.94%

**Resolution Breakdown**
- Fixed, 113, 72.90%
- Rejected, 34, 21.94%
- Withdrawn, 4, 2.58%
- For RTCA Editor, 4, 2.58%

- Three comments were withdrawn before FRAC ended and not included in this breakdown
SC-159 recommends that the PMC approve and publish the:

Minimum Operational Performance Standards (MOPS) for Global Positioning System/Satellite-Based Augmentation System Airborne Equipment

[RTCA Paper No. 126-20/PMC-2015]
Significant Contributors

Pre-FRAC Development

- Kevin Bean (MITRE), Denis Bouvet (Thales), John Foley (Garmin), Sai Kalyanaraman (Collins Aerospace), Yi Ding (CMC Electronics), Barbara Clark (FAA), Hamza Abduselam (FAA), and John Barry (FAA)

Editors

- Kevin Bean (MITRE), Barbara Clark (FAA), and Joel Wichgers (Collins Aerospace)
Agenda Item 3C:
SC-229 - ELTs
DO-204B Change 1
PMC Meeting – June 11, 2020
RTCA Paper No.:127-20/PMC-2016
Committee Membership

SC-229 Leadership

- Co-chairs
  - Thomas Pack
  - Philippe Platin de Hugues
- Government Authorized Representative
  - Charisse Green
- RTCA Program Director
  - Rebecca Morrison
- Secretary
  - Stuart Taylor
Committee Membership

SC-229 Participants

• Avionics manufacturers:
• Aircraft Manufacturers:
• Government:
• Joint Committee with EUROCAE WG-98
DO-204B Change 1, Minimum Operational Performance Standard for Aircraft Emergency Locator Transmitters 406 MHz

The MOPS will ensure that ELTs:

• meet the activation specifications,
• meet environmental test conditions,
• meet Cospas-Sarsat system requirements for satellite processing of a distress signal (primary alert),
• be compatible with homing devices used for Search And Rescue not adversely affect aircraft operations,
• not be adversely affected by the aircraft operations.
Scope of the Change 1 Content

Key Issues

- Correction of Editorial and References
- Allows for multiple combinations of ELT types
- Clarification of controls and interfaces
- Conditions for “activation upon loss of communication”
- Clarifications of crash activation testing
- Configurations for RF Testing
- Revised Figures for clearer comprehension

Plan

- Implement Changes
- Enter in to FRAC,
- Review and Disposition Comments,
- Publish the Change1
Final Review and Comment Summary

- Comments Received:
  - 11 Editorial
  - 0 Low
  - 0 Medium
  - 2 High
  - 0 Non-concur

- All comments either resolved or withdrawn
Two Corrections in Final PDF

Two corrections were discovered during the preparation of DO-204B Change 1/ED-62B Change 1

- Section 4.4: Should state to remove Table 5-4 not Table 5-3 Table 5-4
- Section 5.2 – the statement was moved under the section heading
- Updated version sent to PMC on June 8th.
The work of SC-229 has resulted in a new type of ELT which is triggered in flight and provides distress tracking.

- The ELT(DT) is one of the more viable solutions available to comply with the Autonomous Distress Tracking requirements in ICAO Annex 6.
- Updates to industry specification (C/S,AEEC) and pending EU Regulations add to the quickly changing landscape.
- Many of SC-229 members are involved across these efforts.

Consequently, The SC-229 leadership requests to remain intact and in active monitoring mode.
Agenda Item 3D:
Activity Report
RTCA SC-230 WG11-LIDAR

Feasibility study
Airborne LIDAR for
Clear Air Turbulence Detection

RTCA Paper No. 128-20/PMC-2017
June 11, 2020
Venkata Sishtla (Collins Aerospace)
Shumpei Kameyama (Mitsubishi Electric Corporation)
SC-230 WG-11 LIDAR Feasibility For Clear Air Turbulence

- SC-230 Co-chairs:
  - Jeff Finley (Collins Aerospace)
  - Dawn Gidner (Honeywell International)

- WG-11 Co-chairs:
  - Venkata Sishtla (Collins Aerospace)
  - Shumpei Kameyama (Mitsubishi Electric)

- RTCA Manager: Karan Hofmann

- Government Authorized Representative: Lee Nguyen (FAA)

- 33 WG-11 members out of 70 total SC-230 members
Scope

- Determine realistic goals for an airborne LIDAR system for use as a clear air turbulence detection function
- Explore the feasibility of LIDAR to meet aircraft manufacturer needs.

Deliverable: Feasibility report for clear air turbulence detection using airborne LIDAR systems
Aircraft manufacturers have expressed the following operational goals for a LIDAR-based CAT detection function:

- **Range:** Minimum of 12 NM detection and display
- **Angular Display Extent:** +/- 25 degrees from longitudinal axis or aircraft track.
- **Consistency** with WXR-based ATA/Turbulence for the following:
  - Display thresholds
  - Precision/refresh rates
  - Must and must not-detect requirements
FRAC

- FRAC ended April 08, 2020 with a total of 23 comments.
- All comments have been successfully addressed.
- Committee consensus achieved to recommend publishing feasibility report
Conclusions

- Coherent LIDAR using current technology is not capable of meeting OEM goals for clear air turbulence.

- Numerical simulations suggest Direct Detection LIDAR can meet OEM goals for clear air turbulence detection.

  - Further validation of these numerical simulations via flight tests in real environment is needed.
Recommendations and Next Steps

- It is recommended that the PMC approve this feasibility report (RTCA Paper No. 041-20/SC 230-047) for publication.

- Discussion with FAA and the committee reveals potential additional needs:
  - Development of MOPS for clear air turbulence detection using LIDAR.
  - Consider further research and MOPS for use of LIDAR for precision altitude measurement.
  - Consider further research and MOPS for coupling LIDAR to flight control systems for gust load alleviation.

Discussion of potential additional needs will occur in future SC-230 plenary sessions.
Agenda 3E:
SC-TAWS
Recommendation Paper
PMC Meeting – June 11, 2020
RTCA Paper No. 129-20/PMC-2018
Summary of Committee Current Scope

- SC-231 was asked to provide recommended solutions based on consideration of NTSB recommendations A-17-035 and A-18-015 and recommendations from the GAJSC WG and report back by May 2020.

- RTCA Paper No. 129-20/PMC-2018 provides the committee’s recommendations.
NTSB Recommendations

A-17-35

“Implement ways to provide effective terrain awareness and warning system (TAWS) protections while mitigating nuisance alerts for single-engine airplanes operated under 14 Code of Federal Regulations Part 135 that frequently operate at altitudes below their respective TAWS class design alerting threshold.”

A-18-15

“Modify the terrain awareness and warning system requirements in Technical Standard Order C151 such that, once the alerts are manually inhibited, they do not remain inhibited indefinitely if the pilot does not uninhibit them.”
GAJSC Recommendations

SE-54 Output 1:
RTCA to explore the use of existing Class C TAWS for unique operations such as mountainous/low altitude operations.

SE-54 Output 2:
1. RTCA to explore whether or not H-TAWS algorithms could be helpful in preventing CFIT accidents in certain environments for fixed wing aircraft. Incorporate analysis into final recommendation.

2. If the RTCA analysis indicates H-TAWS could benefit fixed-wing aircraft the FAA should update regulations and policies, as necessary, to allow for installation.

SE-54 Output 3:
1. RTCA SC-231 to explore hardware/technology solutions that ensure protections against the permanent inhibiting of TAWS ‘nuisance’ alerts, such as a time-limited uninhibit switch.

2. Issue recommendation

Note: Only TAWS-related outputs are listed. GAJSC recommendations have not yet been published, but are not expected to change.
Current Committee Participation

Adler, Richard (FAA)
Bleakley, Timothy (General Atomics)
Blom, Stefan (Saab Group)
Chism, Linda (Alaska Airlines)
Dean, Mr. Garfield (EUROCONTROL)
Duke, Rune (AOPA)
Franzen, Mr. Paal (Astronautics)
Green, Charisse (FAA) [GAR]
Hahn, Mr. Edward (ALPA)
Ishihara, Yasuo (Honeywell) [Co-chair]
Jacky, Mr. Tom (NTSB)
Johnson, Steve (Honeywell)
Judge, John (Lockheed)
Kirtz, Jon (Collins)
Korns, Peter (NBAA)
Labay, Mr. Marcus (FAA)
Lawrence, Mr. Tom (Universal)
Lokatt, Mikaela (Saab Group)
Lorey, Janiece (Gulfstream)
Morrison, Rebecca (RTCA) [PD]
Ostrom, Gary (Honeywell)
Prosser, Kevin (Gulfstream)
Reynolds, Zach (L3Harris) [Secretary]
Ridenour, Rick (L3Harris) [Co-chair]
Rossi, Mr. Angelo (MITRE)
Stone, Capt. Rocky (United Airlines)
Tubb, Nicholas (Boeing)
Williams, Shaun (NTSB)
Wilson, Garry (Gulfstream)
Zapoluch, Steven (Garmin)
Committee Activities

The committee had three face-to-face meetings, including one in Anchorage with several Alaskan operators in attendance, and 11 WebEx meetings.
Committee Process

- The committee brainstormed potential improvements.
- Short papers were written to summarize the impact of each idea on aspects such as installation effort, development effort, training, regulatory impact, and so forth.
- The list was then narrowed to the dozen-or-so most promising ideas.
- The candidate ideas were then reviewed with Alaskan operators to get their perspective.
- The ideas were then ranked, based on input from both the operator community and the committee.
Recommended Solution

The solution that was the clear favorite, particularly from the user community, was a situational awareness tool based on the NASA-developed Ground Collision Avoidance System (GCAS). NASA has demonstrated a version of the tool implemented on a cell phone at the EAA AirVenture fly-in at Oshkosh.

Advantages of this option include its envisioned relative low cost and quick time-to-market, non-mandatory nature, the avoidance of regulatory changes, and non-impact to current TAWS operators who do not have the types of operations that conflict with the current TAWS standards.
Honorable Mentions

Other possible changes that were well received include the following:

- Re-enabling alerts at power up
- Allowing Class C TAWS for Class B Operations
- Ensuring that the terrain display remained active even when the inhibition function was selected
- Defining a height-based inhibition function that still provided last moment alerts
Next Steps

- Based on the committee’s recommended solution, DO-367 does not need to be updated at this time.

- The committee suggests the PMC set the committee’s status to Active Monitor for one year while we wait to see if the FAA has any additional requests of the committee.
Agenda Item 3F:
New Document – Minimum Aviation System Performance Standards (MASPS) for the Interoperability of Airborne Collision Avoidance Systems (CAS)
SC-147 Aircraft Collision Avoidance Systems

Will change with Agenda Item 6A
Agenda Item 3G:

Delay until September 2020 PMC
Agenda Item 3H:
DO-378A – Minimum Aviation System Performance Standard (MASPS) for Coexistence of Wireless Avionics Intra-Communication Systems within 4200-4400 MHz

SC-236 Standards for Wireless Avionics Intra-Communication System (WAIC) within 4200-4400 MHz

Delay until September 2020 PMC
Agenda Item 3I:
Automatic Dependent Surveillance – Broadcast (ADS-B)
SC-186

PMC Meeting – June 11, 2020
RTCA Paper No. 141-20/PMC-2025
Brenda Perez, Task Lead
Jessie Turner, SC-186 Co-Chair
Rocky Stone, SC-186 Co-Chair
Committee Status

SC-186 Leadership
- Co-Chairs
  - Rocky Stone – United Airlines
  - Jessie Turner – The Boeing Company
- Government Authorized Representative
  - Matt Haskin
- Secretary
  - Michael Garcia – Aireon
- Program Director
  - Al Secen

Participants
- ~250 members from multiple industry stakeholders

Documents have successfully gone through FRAC
- DO-317C – Aircraft Surveillance Applications (ASA) Minimum Operational Performance Standards (MOPS)
Joint RTCA / EUROCAE Document

DO-317C is a joint document between RTCA SC-186 WG-4 and EUROCAE WG-51 SG-3 (ED-194B)

Committee and Document Leads

- Lesley Weitz (SC-186 WG-4 Chair)
- Bogdan Petricel (WG-51 Lead)
- Brenda Perez (ASA MOPS Lead)
- Greg Comstock (SC-186 WG-4 Secretary)
- Nico de Gelder (WG-51 Secretary)
SC-186 TOR Deliverables

ASA MOPS (DO-317C) updates include:

- Updated requirements for CDTI-Assisted Visual Separation (CAVS) enabling smaller minimum surveillance range if ownship and traffic data are compliant with US ADS-B Out Rule
- Updates to Traffic Prioritization to include interface between surveillance processor and ADS-B Receiver
- Optional Geometric Altitude requirements are now required
- TSAA changed to ATAS (ADS-B Traffic Advisory System)
- Added test scenarios for ATAS
- Updated requirements for ACAS designation (consistent with DO-385)
- Various updates for consistency with DO-260C, DO-282C, and DO-361A
FRAC

- FRAC opened December 16, 2019
- FRAC closed February 14, 2020
  - DO-317C – 607 comments
- FRAC/Open Consultation comments assessment completed during 76th Plenary Meeting March 20, 2020
FRAC Comment Summary

- 15 commenters from RTCA and EUROCAE (from 12 organizations)
- Comments received:
  - 1 Non-Concur
  - 69 High
  - 122 Medium
  - 105 Low
  - 310 Editorial
There was a Non-Concur Comment on requirement 3198:

- If the traffic category is displayed, the CDTI **shall** (3198) avoid the use of terms of Light, Small, Medium, Large, High Vortex, Heavy, and Super.

The Traffic Category (aka Emitter Category) requirements are all optional; requirement 3198 applies only if Traffic Category is implemented.

The Non-Concur Comment outlined several concerns (summarized below):

- This information is used by the flight crew for situation awareness. The flight crew has been using emitter category for over a decade and finds this information useful.
- Introducing new terminology along with the old terminology to describe emitter category will create confusion for the flight crew without any operational benefit.

The FAA provided a position paper on the history of wake terminology in ATC-to-pilot communications to highlight potential source of confusion if incorrect wake vortex terminology is displayed on the CDTI.

Committee agreed to remove requirement 3198 and add the following note in its place:

**Note:** If the traffic category is displayed, the CDTI **should** avoid use of terms that have specific meaning for Wake Vortex category, since ADS-B Emitter Category definitions do not align with ICAO wake vortex classification definitions.
Conclusion

- SC-186 has reached consensus on the following documents
  - DO-317C: Minimum Operational Performance Standards (MOPS) for Aircraft Surveillance Applications (ASA) System

- SC-186 recommends PMC approve this document for release to RTCA for publication
Agenda Item 4A:
ICC Ad Hoc Report to PMC:
Near and Long Term Recommendations with Respect to Aviation Spectrum

PMC Meeting – June 11, 2020
RTCA Paper No. 135-20/PMC-2024
Clay Barber, ICC Chair
March 26, 2020 PMC included agenda item to discuss SC-239 Radar Altimeter plans for ToR including joint EUROCAE WG-119 coordination

PMC discussion referenced:
- FCC 3.7-4.2 GHz band final Report and Order (R&O)* and potential interference to 4.2-4.4 GHz radar altimeter / WAIC band
- LightSquared / Ligado network’s potential to interfere with GPS L1 receivers
- Other potential threats to aviation spectrum

Background (2 of 2)

• ICC ad hoc given action to assess:
  • Near-term: Should SC-239 be tasked with supporting and/or participating in the R&O multi-stakeholder group (MSG)?
  • Long-term: What is RTCA’s role in protecting aviation spectrum?
  • Provide recommendations at June 2020 PMC or potentially sooner for SC-239

• Potential noted for ad hoc discussions to inform briefing to April 28, 2020 EUROCAE Technical Advisory Committee

• Held 4 Webex Meetings
  • 15 to 30 attendees at each meeting representing FAA, aircraft and equipment manufacturers, various associations, and RTCA
• Near-Term Action Meetings
  • April 3, 2020:
    • Agreement that SC-239 should be tasked with producing a report assessing 5G telecom potential interference impact on radar altimeter operations
    • Smaller ad hoc to draft updates to SC-239 ToR
  • April 10, 2020:
    • Reviewed SC-239 updated draft ToR
    • Agreement that draft ToR tasking was generally appropriate with some adjustments to be made by smaller ad hoc
    • Goal of completing PMC electronic ballot within one week
    • **Complete**: SC-239 ToR approved*

Meetings Summary (2 of 2)

• Long-Term Action Meeting Outcomes
  • May 5, 2020:
    • Background presented on threats to aviation spectrum and technical impediments to characterizing the threat potential
    • Agreement that RTCA has a role in protecting aviation spectrum and that gaps exist in performing this role
    • Small group to draft PMC briefing including recommendations to be finalized in another webex
  
  • May 27, 2020:
    • Reviewed draft PMC briefing
    • Agreement on briefing for June 11, 2020 RTCA PMC

• Backup slides include more meeting details
Long-Term Summary

• RTCA has a role in protecting aviation spectrum
  • Need for an independent body to provide “true facts” on technical matters
  • RTCA can advise the advocacy organizations (AIA, ASRI, GAMA, etc.) in their work on influencing policy
  • Advice can be used to characterize potential incompatibilities, resulting system performance and potential mitigation strategies and trade offs
  • RTCA clearly has the technical experts for this role

• Gaps exist in performing this role
  • RTCA has limited awareness / access to non-aviation system performance documentation, especially for new / emerging systems
    • Accurate deployment and implementation information is needed to characterize system performance to analyze compatibility
  • Older RTCA system documents included detail sufficient for spectrum environment that existed at the time, but now may need additional detail for assessing potential incompatibilities
  • Understanding status relative to potential incompatibilities that exist, are emerging, and those that can be anticipated
Long-Term Recommendations

1. Triage known and anticipated potential incompatibilities; e.g., could classify as near and longer term risks

2. Establish actions for each group of risks; e.g.:
   • New near-term risks may require more immediate ad hoc action
   • Longer term risks could focus on characterizing system performance

3. Establish guidelines for system performance characterization (propagation, operational environment parameters, realistic worst-case, etc.)

4. Maintain/improve relationships with ICAO FSMP and advocacy organizations to ensure timely awareness of potential incompatibilities that results in efficient consensus-based RTCA response with needed information that can be used to support those organizations

5. Define method for non-aviation entities to actively participate and collaborate in system performance characterization efforts
   • Need non-aviation expertise (e.g., 5G telecoms) when modeling systems compatibility
   • May need mechanism for sharing proprietary information to support system compatibility assessments
Request to ICC:
MASPS Drafting Guide
Mitigation Means

PMC Meeting – June 11, 2020
RTCA Paper No. 158-20/PMC-2032
Mitigation Means

- Section 2.3.3 of the MASPS Drafting Guide defines the term, “Mitigation Means” and how it should be used in the MASPS

- Recently, committees working on MASPS have expressed confusion with the instructions

- RTCA Staff would request the ICC, with our participation, look at this wording and see if clarification is appropriate
Mitigation means are procedures, alerts, or other aspects that are put in place to help reduce the frequency of exposure to hazards and/or to alleviate the consequences of hazards when encountered.

Some mitigations are fallback procedures or capabilities. These are called External Mitigation Means (EMM) as they are mitigations that are outside (NAME OF SYSTEM/APPLICATION).

Other mitigations are internal to (NAME OF SYSTEM/APPLICATION), and are therefore called Internal Mitigation Means (IMM).

Both External and Internal Mitigation Means constitute operational requirements if procedural. If technical, they are included in Appendix A.

All requirements specified in this document are done so within the context of these mitigation means being present. The removal or changing of any of these will require proof that other mitigations are at least equivalent, or that corresponding requirements are more stringent so that the relevant hazards are still properly accounted for.
Agenda Items 5D, 5E, and 5G
Actions Closed

Karan Hofmann, PMC Secretary
Agenda Item 5A: Investigate Pulling Requirements from Documents and making available in Separate Format

Karan Hofmann, RTCA Program Director
Agenda Item 5B:
Ad Hoc to Investigate possible sMOPS Concept

Al Secen, RTCA Vice President,
Aviation Technology and Standards
Agenda Item 5C: Document Configuration Management Procedure/Process

Al Secen, RTCA Vice President, Aviation Technology and Standards
Agenda Item 5F:
SC- 240
Topics on Software Advancement

PMC Meeting – June 11, 2020
RTCA Paper No. 154-20/PMC-2030
Summary of Committee Current Scope

- **Software Considerations in Lower Risk Applications, Equipment Certifications and Approvals**
  - Tailored software development and verification methodology for developers of UAS who are targeting the EASA specific category for certification, and for other lower risk aviation applications (e.g., certain general aviation applications, etc.).

- **Integration of COTS, Open Source and Service History into Software**
  - Additional considerations for manufacturers of software to integrate and use COTS, Open Source and Service history following the DO/ED documents and/or the new process guidance defined by the Lower Risk Applications.
## Current Committee Leadership

<table>
<thead>
<tr>
<th>RTCA SC-240</th>
<th>EUROCAE WG-117</th>
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<tbody>
<tr>
<td>Steve Cook (Northrop Grumman), Chair</td>
<td>Burak Ata (Volocopter), Chair</td>
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<tr>
<td>Andy Hoag (Aireon), Secretary</td>
<td>Fabrice Ferrand (Safran), Secretary</td>
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<td>Barbara Lingberg (FAA), GAR</td>
<td>Guillaume Soudain (EASA)</td>
</tr>
<tr>
<td>Al Secen and Rebecca Morrison (RTCA), Managers</td>
<td>Anna Von Groote and Sebastian Reschenhofer (EUROCAE), Managers</td>
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- Sub-group leadership being finalized
Current Committee Participation

- 60 voters on SC-240 roster
- 76 people participated in combined SC-240/WG-117 virtual kick-off Plenary meeting 19-20 May 2020

Main agenda items
- Welcome - RTCA President and EUROCAE Secretary General
- Member introductions
- Review of 60 comments received to TOR
- Review of existing material
- Draft Work Plan, Schedule, Request for sub-group leadership

Next combined virtual Plenary 20-23 July 2020
Changes to TOR

Key issues:

- “Low Risk” -> “Lower Risk” Applications
  - SC/WG to define “Lower Risk”
  - Non-UAS applications in scope
- COTS, Open Source, and Service History guidance apply to referenced DO/ED documents and new Lower Risk Applications guidance
- Intersection of safety and security requirements
- Document titles
- Schedule milestones (discussed but not changed)
Agenda 6A: SC-147 TORs Update Proposal

J. Stuart Searight, FAA/ANG
Ruy Brandao, Honeywell, Inc.

RTCA Paper No. 130-20/PMC-2019
Background

- SC-147 Presented proposed TOR updates to PMC in March to:
  - Include MOPS development for ACAS sXu
    - DAA/CA Compliant system for smaller UAS
  - Reflect schedule slip for CAS Interoperability MASPS

- PMC agreed to TOR updates in principle, but wanted to see requested edits from Garmin review implemented before official approval.
SC-147 TOR Additions: sXu Overview

- ACAS sXu will provide a DAA capability for smaller UAS (sUAS), which are outside of the scope of the current Phase 2 SC-228 DAA MOPS, and operating Beyond Visual Line of Sight (BVLOS).
- Designed to be flexible in adapting to airspace beyond the existing Part 107 restrictions;
- Complementary to the UAS Traffic Management (UTM) concept, but can also support operations outside of UTM if allowed.
- Allows for various equipage combinations; the logic as well as surveillance sources can either be located entirely on ownship, entirely on the ground (with avoidance commands uplinked to the vehicle) or split between ownship and the ground.
Garmin Comments

- Don’t use subscripts for ACAS X variants.
- Spell out a few acronyms when used for first time.
- Delete sentence that can be become inaccurate as time passes and new events occur.

- All requests implemented in new TOR version distributed to PMC in May, 2020.
Conclusion

- With approved TORs, SC-147 will begin development of ACAS sXu MOPS, scheduled for approval in December, 2022.

- SC-147 leadership will continue to work closely with our SC-228 counterparts and be fully coordinated with Phase 3 DAA MOPS.
  - SC-147 & SC-228 leadership agrees a formal ISRA is not necessary at this time.

- Request final approval of SC-147 TOR updates
Agenda 6B: SC-228 Phase Three / TOR Rev. 10
RTCA Paper No. 131-20/PMC-2020

John R. Moore & Brandon Suarez, Co-Chairs
Presented to RTCA Program Management Committee, Virtual
June 11, 2020
SC-228 – Standards Completed

Committee Leadership

RTCA Program Director

WG1 Detect and Avoid

DO-365 Minimum Operational Performance Standards (MOPS) for Detect and Avoid (DAA) Systems, Issued 05-31-17

DO-366 Minimum Operational Performance Standards (MOPS) for Air-to-Air Radar for Traffic Surveillance, Issued 05-31-17

DO-365A Minimum Operational Performance Standards (MOPS) for Detect and Avoid (DAA) Systems, Issued 03-26-20

DO-381 Minimum Operational Performance Standards (MOPS) for Ground Based Surveillance Systems (GBSS) for Traffic Surveillance, Issued 03-26-20

WG2 Command & Control

DO-362 Command and Control (C2) Data Link Minimum Operational Performance Standards (MOPS) (Terrestrial), Issued 09-22-16


Phase 1

Phase 2

6/11/2020 SC-228 Phase 3 TOR Presentation to PMC
SC-228 – Standards In Process

Committee Leadership

RTCA Program Director

WG1 Detect and Avoid

- DO-366A Minimum Operational Performance Standards (MOPS) for Air-to-Air Radar for Traffic Surveillance
- DO-365B Minimum Operational Performance Standards (MOPS) for Detect and Avoid (DAA) Systems
- DO-XXX Minimum Operational Performance Standards (MOPS) Airborne EO/IR Sensor

WG2 Command & Control

- DO-362A Command and Control (C2) Data Link Minimum Operational Performance Standards (MOPS) (Terrestrial)
There was a series of stakeholder telecons held in late 2019 / early 2020 to identify and prioritize potential working topics for Phase 3, including two new topics based on recommendations from the FAA’s UAS in Controlled Airspace ARC.

- Guidance and behavior to follow when a UA enters a Lost C2 Link State.
- Navigation performance requirements that would enable (augmented) GNSS based systems for all phases of flight.

Our thanks go out to Don Walker for organizing and leading these discussions which helped build consensus and establish stakeholder buy in that led to quick TOR plenary approval.

Related Terms of Reference (TOR) Update Schedule / Process

- SC-228 Leadership Meeting 11/7/19
- SC-228 Steering Committee 11/20/19
- SC-228 Plenary Approval 4/23/20
- RTCA PMC Approval 6/11/20

Initial Draft → Interim Working Drafts → SC-228 Coordination Draft → Final Formatting & Editing → SC-228 Phase 3 TOR Presentation to PMC
Ad Hoc Working Group

- To initiate the Phase Three activities SC-228 will stand up an ad hoc working group of stakeholders with a focus on the operational framework for setting the foundation for all working groups. Some key characteristics of this group:
  - Will be chaired by the SC-228 Plenary Co-Chairs
  - Will include representatives from current and future UAS Operators, FAA Air Traffic Organization, air traffic controllers, airspace user community, research organizations, and UAS OEMs
  - Will include some members across the current standing working groups to seed the initial Phase Three activity

- Create a normalized set of use cases for use across the Special Committee in Phase Three. These are expected to include (but are not limited to):
  - High Altitude Pseudo-Satellite (HAPS) UAS
  - Linear Infrastructure Survey / Low Altitude Controlled Airspace
  - UAS Cargo Operations Under Part 135
  - Advanced Air Mobility (AAM) / Vertical Takeoff and Landing (VTOL) UAS

- Use Cases will serve to:
  - Clearly link Operation to standardized Technology/Capabilities
  - Create common Operational Services & Environment Description (OSED) components to align work of SC-228 WG’s
  - Identify Operators and OEM’s willing to support development, data collection, and operational trials
WG1 Detect and Avoid

• Develop DAA capabilities that address more specialized UAS operations that require more tailored performance or constrained guidance
  • These operations are expected to take place in all classes of airspace with the exception of surface operations and Class E above A which remain out of scope
  • These operations will be prioritized according to community needs and support

• DO-365B will be revised to incorporate any modifications necessary to accommodate minor changes to Phase 1 and 2 functionality in support of these new use cases
  • Major functions (e.g. ACAS sXu) will be captured in new documents

• DO-381 will be revised to add a class of performance to support en-route DWC operations that is less stringent than the performance needed in the terminal environment

• Close coordination with SC-147 for future variants of ACAS X:
  • Updates to ACAS Xu
  • ACAS sXu
  • ACAS Xr

6/11/2020 SC-228 Phase 3 TOR Presentation to PMC
• Updates to DO-362A
  • Incorporate changes required to harmonize SATCOM compatibility with EUROCAE Standard
  • Add additional C-band waveforms as presented by proponents who bring resources to validate those proposed waveforms
  • Updates required as a result on initial implementation of A revision

• Updates to DO-377A
  • Incorporate needed revisions from DAA system changes/additions.
  • Address safety risk requirements for operations in Class E above A airspace and operations on the surface at public use airports
  • If additional scope is added by the Ad Hoc team (e.g. C2 Link Systems supporting AAM or small package delivery) the deadline would be assessed and adjusted if necessary with consent of the PMC

• New C2 Scope
  • Create standard for use of LTE commercial networks for C2 Links used for type certificated UAS
WG3 Lost Link

- This will begin by standing up a new working group for this new scope after completion of initial plenary level guidance material work
  - This group will have a stronger operational focus than our other groups.
  - Will build on coming work products from:
    - ICAO RPAS Panel and ATMOPS Panel
    - FAA-NATCA Working Group and FAA ATO

- Guidance Material for Lost Link
  - Create guidance material that will regularize the lost link behavior of UAS operating in controlled airspace. This tasking addresses Recommendation Two from the Unmanned Aircraft System (UAS) Controlled Airspace Aviation Rulemaking Committee (ARC) dated 30 May 2019
  - This activity will have a more directed operational focus than many RTCA technical standards
    - Strong involvement from FAA Air Traffic Organization, air traffic controllers, non-UAS airspace users and related activities will be the key to timely progress
    - Enable OEM’s and Operators by providing “next level” of detailed considerations to build on forthcoming international framework and national policy/procedures
WG4 Navigation

• This will begin by standing up a new working group for this new scope after completion of initial plenary level guidance material work
  • This work will have a more technical focus similar to WG1 and WG2
  • Will work in close coordination with other RTCA committees
    • SC-227: Performance Based Navigation
    • SC-159: GNSS
    • SC-217: Aeronautical Databases (Joint with EUROCAE WG-44)

• Guidance Material for UAS Navigation Systems
  • Navigation Standards Working Group established to enable GNSS-based UAS operations to meet navigation requirements for all phases of flight without the use of legacy ground-based navigation aids, including precision approach capability with auto-takeoff and auto-land features
    • This tasking addresses Recommendation Five from the Unmanned Aircraft System (UAS) Controlled Airspace Aviation Rulemaking Committee (ARC) dated 30 May 2019. This will include creation of a standard approach to evaluate equivalent level of safety for Part 91 operations under Instrument Flight Rules (IFR) for all phases of flight
    • This activity will also identify and recommend changes to existing RTCA MASPS and MOPS that address navigation system standards that are not consistent with the UAS Navigation Guidance Material, which may address specific technical areas:
      • E.g., Anti-Jam, Anti-Spoof, Inertial coupling
# Phase 3 Proposed Deliverables

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>FRAC Complete</th>
<th>WG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidance Material &amp; Considerations for UAS (DO-304A)</td>
<td>This guidance material summarizes the operational use case / scenarios to be used by all the standing working groups in conducting Phase Three. This would a major update to DO-304 Guidance Material and Considerations for Unmanned Aircraft Systems.</td>
<td>April 2021</td>
<td>AH</td>
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<tr>
<td>GBSS MOPS (DO-381A)</td>
<td>Revision to include a class of reduced performance consistent with enroute DWC requirements.</td>
<td>April 2021</td>
<td>WG1</td>
</tr>
<tr>
<td>GM for Lost C2 Link UAS Behavior</td>
<td>Prepare guidance material that will regularize the lost link behavior of UAS operating in controlled airspace.</td>
<td>April 2022</td>
<td>WG3</td>
</tr>
<tr>
<td>GM for UAS Navigation Systems</td>
<td>Create standard equivalent level of safety guidance material for Part 91 operations under IFR.</td>
<td>April 2022</td>
<td>WG4</td>
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<tr>
<td>C2 Link MOPS (Terrestrial) (DO-362B)</td>
<td>Incorporate any changes required to harmonize SATCOM compatibility with EUROCAE Standard. Updates required as a result on initial implementation of the A revision.</td>
<td>July 2022</td>
<td>WG2</td>
</tr>
<tr>
<td>DAA MOPS (DO-365C)</td>
<td>Future revision of the DAA MOPS to accommodate new functionality from completed SPR and/or OSED material.</td>
<td>October 2022</td>
<td>WG1</td>
</tr>
<tr>
<td>C2 Link MOPS for LTE Networks</td>
<td>Create standard for use of LTE commercial networks for C2 Links used for type certificated UAS.</td>
<td>January 2023</td>
<td>WG2</td>
</tr>
<tr>
<td>C2 Link Systems MASPS (DO-377B)</td>
<td>Incorporate needed revisions from DAA system changes/additions. Address safety risk requirements for operations in Class E above A airspace.</td>
<td>April 2023</td>
<td>WG2</td>
</tr>
</tbody>
</table>
SC-228 Leadership recommends PMC approval of Phase 3 (TOR Revision 10) as adopted by the Plenary Committee at the 23rd Plenary Meeting held April 23, 2020.
Agenda 6C:
SC-229 – 406 MHz Emergency Locator Transmitters (ELTts)
Revise TOR to Active Monitor Status

PMC Meeting – June 11, 2020
RTCA Paper No. 159-20/PMC-2029
Agenda 6D:
SC-231 – TAWS
Revise TOR to Active Monitor Status

PMC Meeting – June 11, 2020
RTCA Paper No. 148-20 PMC-2027
Agenda 6E:
SC-217 Aeronautical Databases
Plan for TOR Update
PMC Meeting – June 11, 2020
RTCA Paper No. 152-20/PMC-2028
Committee Membership

SC-217 Leadership

• Co-chairs
  • Brian Gilbert (Boeing)
  • Stéphane Dubet (DGAC)
• Government Authorized Representative
  • Brad Miller (FAA)
• RTCA Program Director
  • Rebecca Morrison
• Secretary
  • Sasho Neshevski (Eurocontrol)

Joint with EUROCAE WG-44
Committee Membership

SC-217 Participants

- Avionics manufacturers: CMC, Collins, Garmin, GE Aviation, Honeywell, Universal Avionics
- Aircraft Manufacturers: Airbus, Boeing
- Data Providers: Jeppesen, Lufthansa Systems, Navblue, AeroNavData
- International organizations: EASA, EUROCONTROL, EUROCAE
- Other: Jacobs, MITRE
Current status

Since Oct 2019, 3 web meetings to gather proposals and information on potential work topics

- Data quality requirements related to UAS geofencing and geocaging applications
  - Coordination with EUROCAE WG-105
  - Potential coordination with SC-228
- Data Driven Charting (DDC)
  - Coordination with SC-227
- Data alteration – provide additional guidance to help with industry issues on items not directly addressed in DO-200B
  - Started weekly web meetings to start preparing material for a new RTCA guidance document
- Data Process Assurance Level (DPAL) granularity – would open DO-200B (Standards for Processing Aeronautical Data)
- Commercial space ports – potential new data elements for DO-201B (Navigation data) and/or DO-272D (Aerodrome data)?
- Preferred taxi routes – would open DO-272D and DO-291C
- ARINC 424 updates that may drive additions/revisions to DO-201B
- List of 53 open action items related to DO-272D, DO-276C (Terrain and Obstacle), and DO-291C (Data Interchange)

Topics identified that could result in new documents as well as revisions to DO-200B, DO-201B, DO-272D, DO-276C, and DO-291C.
Plan for TOR Update

Currently holding periodic meetings towards defining scope and content of a proposed new Data Alteration guidance document

- Goal is to have a draft (public artifact) released in Sept 2020, which would serve as the basis for assigning DO document number
- Target FRAC in 1st half 2021, submit for approval at Sept 2021 PMC
- Working title: “Considerations for Aeronautical Data Alteration”
Plan for TOR Update

- For other documents and revisions, completion dates will depend on statement of work – expect they will generally be targeted for 2023.

- All updates will be joint with EUROCAE WG-44 and associated ED-documents.

- Web meeting on June 25 to start putting together new Terms of Reference
  - Will make plans for a virtual plenary in 3Q 2020 to finalize TOR
  - Follow-on coordination with SC-227, SC-228, and WG-105

- Present new TOR at Sept 2020 PMC

- Assuming virtual meetings only for at least remainder of 2020
Agenda Item 6F: Discussion FAA Actions on Previously Published Documents

RTCA Paper No. 132-20/PMC-2021

June 11, 2020
## FAA Published Guidance (Since Previous PMC)

<table>
<thead>
<tr>
<th>RTCA Document</th>
<th>Developed By</th>
<th>FAA Guidance</th>
<th>Approval Date</th>
<th>Comment</th>
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<td>None</td>
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<tr>
<td>RTCA Document</td>
<td>Developed By</td>
<td>FAA Guidance</td>
<td>Planned Release Date</td>
<td>Comment</td>
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<td>------------------------------------------------------------------------------</td>
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<tr>
<td>DO-373, MOPS for GNSS Active Antenna in the L1/E1 and L5/E5A Bands</td>
<td>SC-159</td>
<td>TSO-C215</td>
<td>TBD</td>
<td>New TSO. (Need DO-292A (2021) for interference environment)</td>
</tr>
<tr>
<td>DO-315A, DO-359, MASPS for SVGS, MASPS for ASA-SVS</td>
<td>SC-213</td>
<td>AC 20-185A</td>
<td>TBD</td>
<td>Consolidates synthetic vision (SVS), synthetic vision guidance system (SVGS), and airplane state awareness guidance</td>
</tr>
<tr>
<td>DO-315A, MASPS for EVS, SVS, CVS, EFVS</td>
<td>SC-213</td>
<td>AC 20-167B</td>
<td>TBD</td>
<td>Consolidates enhanced and combined vision system airworthiness criteria. No new criteria.</td>
</tr>
<tr>
<td>DO-311A, MOPS for Rechargeable Lithium Batteries and Battery Systems</td>
<td>SC-225</td>
<td>AC 20-184A</td>
<td>TBD</td>
<td>Installation standard for rechargeable lithium batteries</td>
</tr>
<tr>
<td>DO-365A</td>
<td>SC-228, WG-1</td>
<td>TSO-C211a</td>
<td>TBD</td>
<td>Adds DAA supporting Ground Based Surveillance System (GBSS)</td>
</tr>
<tr>
<td>DO-XXX, Ground Based Surveillance System MOPS</td>
<td>SC-228, WG-1</td>
<td>TSO-CXXX</td>
<td>TBD</td>
<td>GBSS Sensor to support DAA System</td>
</tr>
<tr>
<td>Document Code</td>
<td>SC Number</td>
<td>AC Number</td>
<td>Date</td>
<td>Description</td>
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<tr>
<td>DO-227A, MOPS for Non-Rechargeable Lithium Batteries</td>
<td>SC-235</td>
<td>AC 20-192</td>
<td>TBD</td>
<td>Airworthiness installation criteria for non-rechargeable lithium batteries</td>
</tr>
<tr>
<td>DO-385 MOPS for ACAS X&lt;sub&gt;a&lt;/sub&gt; System and ACAS X&lt;sub&gt;a/o&lt;/sub&gt; Functionality (Class 1 ACAS X &amp; Class 2 ACAS X)</td>
<td>SC-147</td>
<td>AC</td>
<td>2021</td>
<td>Performance standard and installation guidance for Class 1 ACAS X (basic collision avoidance functionality) and Class 2 ACAS X (closely spaced runway operations and do not alert)</td>
</tr>
<tr>
<td>DO-201B – User Requirements for Navigation Data</td>
<td>SC-217</td>
<td>AC 20-153B Change 1</td>
<td>TBD</td>
<td>Updates navigation data quality requirements (DQRs).</td>
</tr>
<tr>
<td>DO-317B Change 1</td>
<td>SC-186</td>
<td>Note to Manufacturers for TSO-C195b</td>
<td>TBD</td>
<td>Note to Manufacturers will post on FAA RGL with TSO-C195b, announcing availability of MOPS change.</td>
</tr>
<tr>
<td>DO-358A – MOPS FIS-B</td>
<td>SC-206</td>
<td>TSO-C157c</td>
<td>September 2020</td>
<td>FIS-B system that supports display of new weather products being broadcast by the FIS-B service provider</td>
</tr>
<tr>
<td>DO-370, Guidelines for the In Situ Eddy Dissipation Rate (EDR) Algorithm Performance</td>
<td>SC-206</td>
<td>TBD</td>
<td>N/A</td>
<td>FAA/Stakeholders discussion to be held at Turbulence workshop Oct 2020</td>
</tr>
<tr>
<td>Multiple RTCA data comm references from AC 20-140C</td>
<td>SC-214</td>
<td>AC 20-140D</td>
<td>TBD</td>
<td>Adds support for future ATN/IPS network and other miscellaneous changes</td>
</tr>
<tr>
<td>DO-281C, MOPS for aircraft VDL Mode 2 Physical Link and Network Layer</td>
<td>SC-214</td>
<td>N/A</td>
<td>N/A</td>
<td>SC-214/WG-92/AEEC DLK recommends TSO/ETSO-C160a not be revised until publication of DO-281D/ED-92D planned in late 2020</td>
</tr>
<tr>
<td>DO-328B – Safety, Performance and Interoperability Requirements (SPR) for Airborne Space – Flight Deck Interval Management (ASPA-FIM)</td>
<td>SC-186</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
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</tbody>
</table>

*DO-201B, DO-317B, and DO-358A are from the RTCA DO-385 MOPS for ACAS X<sub>a</sub> System and ACAS X<sub>a/o</sub> Functionality (Class 1 ACAS X & Class 2 ACAS X).*
<table>
<thead>
<tr>
<th>Document</th>
<th>New/Change Type</th>
<th>Issue Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO-361A – MOPS for FIM</td>
<td></td>
<td></td>
<td>*TSO-C195c will add FIM as a new ASA, and will invoke DO-361A as the MPS for the new FIM application.</td>
</tr>
<tr>
<td>DO210D Change 5 – MOPS for AMISS, Aeronautical Mobile Satellite (Route) Services AMS(R)S</td>
<td></td>
<td>September 2020</td>
<td>New TSO for system with new DLNA (diplexer-low noise amplifier) with new EMI filters.</td>
</tr>
<tr>
<td>DO-262E MOPS for NGSS, Aeronautical Mobile Satellite (Route) Services AMS(R)S</td>
<td></td>
<td>October 2020</td>
<td>MOPS changes to INMARSAT specific appendix only.</td>
</tr>
<tr>
<td>DO-343C – MASPS for AMS(R)S and RCP</td>
<td></td>
<td>N/A</td>
<td>Minor change to SATVOICE dialing operation, which is not part of AC 20-150B.</td>
</tr>
<tr>
<td>DO-365A – MOPS for Detect and Avoid (DAA) Systems</td>
<td></td>
<td>TBD</td>
<td>DAA Supports GBSS and Terminal Operations</td>
</tr>
<tr>
<td>DO-381 (New Document) – MOPS for Ground-based Surveillance System (GBSS) for Traffic Surveillance</td>
<td></td>
<td>TBD</td>
<td>Adds GBSS Sensor to DAA Systems</td>
</tr>
<tr>
<td>RTCA Document</td>
<td>Developed By</td>
<td>Planned FAA Guidance</td>
<td>Planned Release Date</td>
</tr>
<tr>
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</tr>
<tr>
<td>DO-317C - MOPS for Aircraft Surveillance Applications (ASA) System</td>
<td>SC-186 WG-4</td>
<td>TSO-C195c</td>
<td>2021</td>
</tr>
<tr>
<td>DO-343D MASPS to include ATN/IPS, VoIP, dual dissimilar operation required communication technical performance (RCTP) functionality, and IRIDIUM Certus service capability</td>
<td>SC-222</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td>DO-262F MOPS: Airborne equivalent MOPS to include ATN/IPS, VoIP, and IRIDIUM Certus requirements</td>
<td>SC-222</td>
<td>TSO-C159f</td>
<td>TBD</td>
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</table>
6-G: Discussion
RTCA PMC
June 11, 2020
Special Committees – Chairmen Reports
RTCA Paper No. 133-20/PMC-2022
Agenda Item 6-H: Discussion
RTCA PMC
June 11, 2020
Report on RTCA / EUROCAE Cooperation to PMC
RTCA Paper No. 134-20/PMC-2023
<table>
<thead>
<tr>
<th>Standard</th>
<th>Title</th>
<th>Working Group</th>
<th>Date of Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED-266</td>
<td>Guidance on Spectrum Access Use and Management for UAS</td>
<td>WG-105 SG-22</td>
<td>27/03/2020</td>
</tr>
<tr>
<td>ED-195B</td>
<td>Safety and Performance and Interoperability Requirements Document for Airborne Spacing Flight-deck Interval Management (ASPA-FIM)</td>
<td>WG-51 SG-3</td>
<td>31/03/2020</td>
</tr>
<tr>
<td>ED-243B</td>
<td>Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS)</td>
<td>WG-82</td>
<td>01/04/2020</td>
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<tr>
<td>ED-247A</td>
<td>Technical Standard for Virtual Interoperable Simulation for Tests of Aircraft Systems in Virtual or Hybrid Bench</td>
<td>WG-97</td>
<td>01/04/2020</td>
</tr>
<tr>
<td>ED-236A</td>
<td>Minimum Operational Performance Standards (MOPS) for Flight-deck Interval Management (FIM)</td>
<td>WG-51 SG-3</td>
<td>06/04/2020</td>
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<tr>
<td>ED-242B</td>
<td>MASPS for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP)</td>
<td>WG-82</td>
<td>06/04/2020</td>
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<tr>
<td>ED-158</td>
<td>User Manual for certification of aircraft Electrical and Electronic systems for the indirect effects of lightning</td>
<td>WG-31</td>
<td>15/04/2020</td>
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# New EUROCAE Documents

<table>
<thead>
<tr>
<th>Standard</th>
<th>Title</th>
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<tbody>
<tr>
<td>ED-137C_1 Ch. 1</td>
<td>Interoperability Standard for VOIP ATM Components - Volume 1 Radio - Change 1</td>
</tr>
<tr>
<td>ED-137C_2 Ch. 1</td>
<td>Interoperability Standard for VOIP ATM Components - Volume 2 Telephone - Change 1</td>
</tr>
<tr>
<td>ED-137C_4 Ch. 1</td>
<td>Interoperability Standard for VOIP ATM Components - Volume 4 Recording - Change 1</td>
</tr>
<tr>
<td>ED-269</td>
<td>Minimum Operational Performance Standard for UAS Geo-Fencing</td>
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<table>
<thead>
<tr>
<th>Working Group</th>
<th>Date of Publication</th>
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<tbody>
<tr>
<td>WG-67</td>
<td>10/05/2020</td>
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<td>WG-67</td>
<td>10/05/2020</td>
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<tr>
<td>WG-67</td>
<td>10/05/2020</td>
</tr>
<tr>
<td>WG-105 SG-33</td>
<td>02/06/2020</td>
</tr>
</tbody>
</table>
New Committees at EUROCAE

New committees under discussion at TAC:

- Virtual Centre
- Technical Means for identifying Covid-19 carriers among passengers
Reactivated Committees at EUROCAE

- The Council has approved WG-85 to be reactivated to work with SC-227 on the revision of ED-75D / DO-236 Rev C MASPS
EUROCAE TAC Meetings in 2020

- TAC#82  2-3 July 2020 – Virtual Meeting
- TAC#83  26-27 August 2020
DISCUSSION
Agenda Item 6-I: Discussion
RTCA PMC
June 11, 2020
RTCA Drafting Guides
Agenda Item 7A: RTCA Status Update with COVID-19
Agenda Item 7B: Notification of Chairman Status
Agenda Item 8: Next Meeting

Documents


SC-214 Standards for Air Traffic Data Communication Services

- DO-382 (New Document) – Guidance on Air to Ground VDL Mode 2 Interoperability
Agenda Item 9: Next Meeting

Documents (page 2)

- **SC-216** Aeronautical Information Systems Security
  - DO-355A – *Information Security Guidance for Continuing Airworthiness*

- **SC-228** Minimum Performance Standards for Unmanned Aircraft Systems
Agenda Item 9: Next Meeting

Documents (page 3)

- SC-236 Standards for Wireless Avionics Intra-Communication System (WAIC) within 4200-4400 MHz
  - DO-378A – Minimum Aviation System Performance Standard (MASPS) for Coexistence of Wireless Avionics Intra-Communication Systems within 4200-4400 MHz
Future Meetings

PMC:

- September 10, 2020
- December 17, 2020
- March 18, 2021
- June 17, 2021?
June Action Item Review
ADJOURN