

**RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
December 15, 2016**

The RTCA Program Management Committee (PMC) convened at 8:30 a.m. on December 15, 2016 at RTCA. The attendance list and action items are attached.

AGENDA ITEM 1

Welcome and Introductions

PMC Chairman Chris Hegarty welcomed the group, asked attendees to introduce themselves and to note their organization of affiliation. Lou Volchansky, the Designated Federal Official (DFO), read the Public Meeting Announcement that includes the date the Federal Register meeting notice was published, declares the meeting is “Open to the Public” and provides details for persons wishing to present or obtain information pertaining to the meeting.

RTCA introduced Claudia Chaudhari, new Program Director.

AGENDA ITEM 2

Review / Approve

- A. The summary of the September 22nd meeting was approved with no changes (RTCA Paper No. 245-16/PMC-1529).
- B. Administrative Special Committee Terms of Reference (TOR) Revision:
 - SC-216 – Aeronautical Systems Security – New Secretary Siobvan Nyikos (The Boeing Company). TOR approved (RTCA Paper No. 343-16/PMC-1562).
 - SC-186 – Automatic Dependent Surveillance Broadcast (ADS-B) – New Secretary Michael Garcia (Aireon, LLC). TOR approved (RTCA Paper No. 344-16/PMC-1563).
 - SC-224 – Standards for Airport Security Access Control Systems – New Co-Chair Alan Paterno (TSA) and next annual document revision added deliverable (DO-230I). TOR approved (RTCA Paper No. 345-16/PMC-1564).

AGENDA ITEM 3

Publication Consideration/Approval

- A. **Final Draft, New Document – *Minimum Aviation System Performance Standards for Aeronautical Information/Meteorological Data Link Services*, prepared by SC-206**

- Allan Hart and Rocky Stone, SC-206 Co-Chairmen, presented

The purpose of this document is to provide Minimum Aviation System Performance Standards (MASPS) for Aeronautical Information (AI) and Meteorological (MET) Data Link Services systems. It provides guidance on system characteristics and allocation of requirements that support data link services. This guidance material recommends minimum acceptable criteria for authorizing/approving the use of AI and MET Data Link Services systems when authorization/approvals are required to show compliance to civil regulations. This guidance is intended to be useful to designers, manufacturers, installers, service providers, regulators, and users of AI and MET Data Link Services systems.

The requirements contained in this document are necessary to provide adequate assurance that AI and MET Data Link Services systems will function in an acceptable manner. Compliance with this standard is recommended as one means of assuring that AI and MET Data Link Services systems perform satisfactorily under all conditions normally encountered in aeronautical operations.

Mr. Grove (PMC Member) pointed out that this document does not follow new MOPS/MASPS Writing Guide to include specific guidelines for use of “shall”, “must”, “should”, and “may” outlined in Table 1.8 – Terms for use in Performance Requirements. It was pointed out that this document was already into FRAC resolution when that change occurred at the September PMC meeting. Need to determine appropriate timing of implementation of the new guidance (action) and how to educate committees on implementation of any Writing and Drafting guides (action).

The PMC approved the document. It is published as DO-364.

B. Final Draft, New Document - *Guidance for the Development of Portable Electronic Devices (PED) Tolerance for Civil Aircraft*, prepared by SC-234/WG-99

- Billy Martin, SC-234 Chairman, presented.

This report addresses aircraft design to tolerate operation of PEDs. Previous RTCA reports on aircraft interference from PEDs have emphasized risk assessments and then recommended restrictions on the use of PEDs on board the aircraft. This report departs from the earlier RTCA reports, and is directed to aircraft design recommendations that lead to aircraft tolerance to both intentional RF transmissions and spurious RF emissions from PEDs.

There are two aspects to the aircraft design recommendations in this report. One aspect defines aircraft system and equipment RF susceptibility qualification recommendations that provide tolerance to RF from intentionally transmitting PEDs. This is commonly referred to as protection from PED back door coupling. The recommendations closely follow existing practices for aircraft system high intensity radiated field (HIRF) protection. Acceptable test approaches for verifying the aircraft system RF susceptibility qualification are defined.

The second aspect defines acceptable interference path loss (IPL) between aircraft radio receivers and PEDs that emit spurious RF. This is commonly referred to as protection from PED front door coupling. Extensive analysis of measured PED spurious emissions was performed previously so that the interference path loss targets are based on statistics of actual PED emissions rather than regulatory specifications. Interference path loss test methods are defined.

This report also defines recommended approaches for demonstrating tolerance with aircraft design to meet regulatory requirements including aspects of aircraft alteration and continued airworthiness.

This report is intended to supersede previous applicable guideline documents RTCA DO-294 and EUROCAE ED-130. All propositions are intended to be in line with the Revision of RTCA DO-307A/ED-239.

The PMC approved the document. It is published as DO-363.

C. Final Draft, DO-307 Revised – *Aircraft Design and Certification for Portable Electronic Device (PED) Tolerance, prepared by SC-234/WG-99*

- Billy Martin, SC-234 Chairman, presented.

This report addresses aircraft design and certification to tolerate operation of PEDs. Previous RTCA reports on aircraft interference from PEDs have emphasized risk assessments and then recommended restrictions on the use of PEDs on aircraft. This report departs from the earlier RTCA reports, and is directed to aircraft design recommendations that lead to aircraft tolerance to both intentional RF transmissions and spurious RF emissions from PEDs.

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This report also defines recommended approaches for demonstrating compliance with aircraft design certification regulations.

The PMC approved the document. It is published as DO-307A.

Items 3B and 3C completed the deliverables per the SC-234 TOR and with the Chairman's recommendation, the PMC agreed to sunset the SC. This is aligned with EUROCAE sunsetting WG-99. The PMC Members thanked the group for their dedication.

D. Final Draft, Revision to DO-343 – *Minimum Aviation System Performance Standard for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP) in Procedural Airspace, prepared by SC-222*

This document was pulled from this meeting, as the document had not been fully finalized for presentation. Expect this document to be presented to March 2017 PMC meeting.

E. Final Draft, New Document – *Detect and Avoid Minimum Operational Performance Standards (MOPS) Phase I (DAA MOPS), prepared by SC-228*

Document was not approved through Plenary for final release to the PMC. Expect this document to be presented to March 2017 PMC meeting.

F. Final Draft, New Document – *Minimum Operational Performance Standards (MOPS) for Air-to-Air Radar Detect and Avoid (DAA) Systems Phase 1, prepared by SC-228*

Document was not approved through Plenary for final release to the PMC. Expect this document to be presented to March 2017 PMC meeting.

G. Final Draft, Revision to DO-229D with Change 1- *Minimum Operational Performance Standards for Global Positioning System/Satellite-Based Augmentation System Airborne Equipment, prepared by SC-159*

- Dr. George Ligler and Dr. Chris Hegarty, SC-159 Co-Chairmen, presented.

The changes related to the *Minimum Operational Performance Standards for Global Positioning System/Wide Area Augmentation System Airborne Equipment* systems, published by RTCA on December 13, 2006 as RTCA DO-229D, and the Change -1 for RTCA DO-229D are contained herein as RTCA DO-229E. This new version was produced to introduce new PRN codes to manage the existing and planned evolutions of SBAS around the world. On very specific cases, clarifications of a requirement and addition of a new requirement are introduced.

Modifications in this new version of DO-229 include, but are not limited to:

1. Correcting typographical and paragraph reference errors;
2. Adding clarifying text where issues have been raised, or where clarification is needed to enhance understanding, including IPP computation clarifications and the possibility to enable graceful degradation to RAIM/FDE upon SBAS UNHEALTHY designation.

3. Modifying table A-1 to reflect the addition of 20 PRNs and updating other paragraphs in Appendix A where there is relation with the number of PRNs.
4. Modifying Appendix T assumptions and GEO bias tool to reflect the addition of 20 PRNs
5. Adding a new requirement to prevent the use of the Navigation Message Correction Table and added associated verification

A new tool is also available for use with DO-229E. The GEO Bias tool is a MATLAB script. The GEO Bias tool is intended to be used by the manufacturer to demonstrate that their GNSS receiver is compliant with the GEO Bias requirements in DO-229E as described in section 2.1.4.1.5. Appendix T in DO-229E provides a description of this tool and associated test procedure.

The PMC approved the document. It is published as DO-229E.

AGENDA ITEM 4

Integration and Coordination Committee (ICC)

A. Suggested Changes to MOPS/MASPS Drafting Guides – Update

- Dr. George Ligler, PMC Member and PMC ICC Chairman, presented

At the September 2016 PMC meeting, the ICC was asked to address four comments on the RTCA MOPS Drafting Guidelines provided by Don Walker (AIR-130 Surveillance Lead).

The ICC held a teleconference on December 7, 2016 to discuss proposed resolutions to Don's comments. Prior to the ICC teleconference, Rich Jennings and Lou Volchansky (both FAA) had collaborated with Don to develop proposed resolutions for discussion with the ICC. The ICC developed consensus on the resolution of Don's comments with the exception of his recommendation to delete Section 4 (Aircraft Operational Performance Characteristics).

An ICC Subgroup, to be led by Rick Heinrich and to include SMEs from Manufacturers, was asked to develop a recommendation with supporting rationale for whether Section 4 should continue to be part of RTCA MOPS. Should Section 4 be recommended to continue to be part of the RTCA MOPS, the Subgroup was asked to provide suggested examples of what might be included in the Section.

Additionally, the ICC was provided further comments on the SPR/Interop/MASPS and MOPS Drafting Guidelines from one of our key Special Committees. Although these were out of scope for the current task, the matter was brought to the PMC members' attention for possible follow on action.

Recommendations:

- The PMC approve the ICC's proposed changes to Sections 1.5 and 2.1.9 of the MOPS Drafting Guidelines
- The PMC endorse the ICC's plan to develop a consensus on whether or not to keep Section 4, Aircraft Operational Performance Characteristics, in our MOPS Outline
- The PMC request from our Special Committees any comments that those SCs might have on the SPR/Interop/MASPS and MOPS Drafting Guidelines, to be provided by the June 2017 PMC meeting, in order to develop, with appropriate coordination with EUROCAE for the development of joint documents, a "5-year update" to these Drafting Guidelines in a manner to be determined by the PMC

Recommendations approved. (Action still open and separate action for soliciting input from all SC's generated.)

AGENDA ITEM 5

Action Item Review.

A. Boeing/ARINC Winds Work - Update

- Jessie Turner, PMC Member, presented

The ARINC standards changes to implement Air Traffic Services (ATS) Wind Service is being implemented in Supplement 5 to ARINC 622, "ATC Data Link Applications Over ACARS Air-Ground Network". This work is planned to be completed in January 2017. However, upon making changes to Supplement 5 to ARINC 622, it was noted by the AEEC Data Link Systems Subcommittee that there are additional changes required to supplemental Datalink ARINC standards in order to completely implement the ATS Wind Service. The additional changes are being implemented in the below supplements to the following datalink ARINC documents:

- Supplement 9 to ARINC Specification 618: Air/Ground Character-Oriented Protocol Specification
- Supplement 5 to ARINC Specification 619: ACARS Protocols for Avionic End Systems
- Supplement 9 to ARINC Specification 620: Data Link Ground System Standard
- Supplement 4 to ARINC Specification 758: Communications Management Unit (CMU) Mark 2

The ATS Wind Service changes are being actively worked with participation from Christine Haissig (FAA Surveillance Broadcast Services) who is on RTCA SC-186 WG-4 working the Advanced – Interval Management (A-IM) MOPS and SPR. (Action closed.)

B. Cross Cutting Committee (CCC) Membership - Update

- Al Secen, RTCA Vice President Aviation Technology and Standards, presented

At the September 22, 2016 PMC meeting, RTCA was tasked to recommend a membership list for the CCC for initiation of the concept. The suggested representation includes:

- 1 Chairman - Clay Barber (Garmin) has graciously volunteered to serve
- 2 FAA members to provide guidance on interrelated NextGen or other programs
- 3 Manufacturers to provide industry view on inter-related activities in production
- 2 Operational folks to represent controllers, operators, and maintainers
- 1 RTCA staff member

Recommended soliciting members from suggested pools of candidates (from the charter for the CCC) with one from PMC; FAA AVS, ATO, and ANG offices; and additional qualified individuals. Subject Matter Experts will be invited to provide input when necessary but not be part of CCC. (Action still open.)

- The briefing is to be posted on Workspace (RTCA Paper No. 335-16/PMC-1558)

C. EUROCAE Harmonization Work with SC-223 and WG-82 - Update

- Al Secen, RTCA Vice President Aviation Technology and Standards, presented

Mr. Secen reported this was a topic of discussion at the recent RTCA-EUROCAE Coordination Meeting. SC-223 will continue to move out, due to FAA contractual commitments. This will not affect WG-82 work and will still allow possible joint work down the road. (Action closed.)

D. PBN Time, Speed, Spacing Task Group Final Report – Presentation

- Daniel Allen, NAC Task Co-Lead, presented

Mr. Allen provided a summary of the PBN Time, Speed, Spacing Task Group Final Report approved by the NextGen Advisory Committee in October 2016. He covered the goal of the group, findings, participating organizations, key policy statements, recommendations, and time frames. (Action closed.)

- The briefing is posted on Workspace (RTCA Paper No. 327-16/PMC-1554).

E. Response to Transportation Safety Board (TSB) of Canada Letter - Update

- Al Secen, RTCA Vice President, Aviation Technology and Standards, presented.

Mr. Secen indicated RTCA received a copy of TSB Final Report A13H0001 (A1507) including a recommendation for RTCA to establish specifications for emergency locator transmitter (ELT) system in our documents. During the September PMC, RTCA was directed to respond back to the TSB to send the request to the FAA Office of Accident Investigation and Prevention. (Action closed.)

- The briefing is posted on Workspace (RTCA Paper No. 339-16/PMC-1560).

AGENDA ITEM 6

Discussion.

A. SC-159 – Navigation Equipment Using the Global Navigation Satellite System (GNSS) – Ligado Tasking - Discussion

- Dr. George Ligler, SC-159 Co-Chairman, presented.

The FAA forwarded a request to RTCA to review two documents provided by Ligado Networks on the compatibility between their proposed cellular network and certified Global Positioning System (GPS) receivers. RTCA, in turn, asked SC-159 to review the technical aspects of the proposal and the Tactical Operations Committee (TOC) to address the operational aspects of the proposal. SC-159 held a special Plenary on December 13 that unanimously approved a technical review summary developed by SC-159's Working Group 6 (Interference). The technical review document is being provided strictly as information for the PMC. PMC members thanked SC-159 for their quick response and stellar job.

- Discussion papers and recommended response are posted on Workspace (RTCA Paper No. 310-16/PMC-1551 and 340-16/PMC-1561).

B. SC-159 – Navigation Equipment Using the Global Navigation Satellite System (GNSS) – Discussion – Revised TOR

- Dr. George Ligler, SC-159 Co-Chairman, presented.

SC-159 presented a proposed TOR revision to adjust deliverable due dates for the new MOPS for GPS/GLONASS (FDMA +antenna) L1-only airborne equipment to October 2017 and the new MOPS for GNSS-aided inertial navigation systems to October 2019.

There was also discussion about potential joint documents between EUROCAE's WG-62 and SC-159 for dual-frequency, multi-constellation GNSS receiver MOPS and antenna MOPS. There is a leadership meeting December 20th. Expect recommendations (possibly revised TOR for both groups) to align their efforts.

The PMC approved the revised TOR (RTCA Paper No. 346 -16/PMC-1565).

C. SC-206 – Aeronautical Information and Meteorological Data Link Services – Discussion – Revised TOR

- Allan Hart and Rocky Stone, SC-206 Co-Chairman, presented

SC-206 presented proposals for a revised TOR to account for the completion of MASPS (agenda item 3A), and recommended a change delivery date for Guidance for the Usage of Data Linked

Forecast and Current Wind Information in Air Traffic Management Operations by six months due to slow response from industry to a questionnaire and more time to do the analytical tasks associated with the 3 major drives. They also added a reference in specific guidance section to SC-209 due to an ISRA submitted by SC-206 (which was accepted).

SC-206 also presented potential future efforts to include FAA's SBS Office consideration of adding two more products to the FIS-B UAT MOPS and possible joint work with EUROCAE WG-76. EUROCAE would need to consider the use of DO-364 as part of their MASPS effort and must accept that going forward DO-364 requirements is going to be used for developing SC-209's DO-181 MOPS and SC-186's DO-260 MOPS. If these or other efforts become reality, revised TOR will be presented.

The PMC approved the revised TOR (RTCA Paper No. 347-16/PMC-1566).

D. SC-225 – Rechargeable Lithium Batteries and Battery Systems – Discussion – Status Update on DO-311 Revision and Revised TOR

- Richard Nguyen (SC-225 Chairman), Stephen Diehl (SC-225 Secretary), and Norman Pereira (SC-225 DFO), presented

The DFO provided an update on SC-225 status and requested a TOR revision for delivery date. The SC completed FRAC in mid-October with 661 comments received (32 non-concur). They held FRAC resolution Plenary November 28 – December 1 where all non-concurs were resolved. Since then, they continue twice weekly WG sessions to resolve remaining comments. The next Plenary is scheduled for February 7th, but realize they will not meet timeline for presentation to the March 2017 PMC meeting so requested delivery in April for June 2017 PMC approval.

The PMC approved the revised TOR (RTCA Paper No. 348-16/PMC-1567).

It was also recommended the final version of DO-311A be reviewed by the SC-225 Ad Hoc before coming to PMC to ensure all concerns for additional work were addressed.

The DFO also added a special shout out to Steve Diehl as he has already retired from Boeing, but continues in an active role as secretary to see DO-311A to completion. PMC concurred.

E. SC-213 – Enhanced Flight Vision Systems/Synthetic Vision Systems – Discussion – Revised TOR

- Trent Prange, SC-213 DFO, presented

The SC is now reestablished as a Joint Committee with EUROCAE WG-79 and the recommended changes better align the joint deliverables. These include: the new MASPS for Synthetic Vision System for Attitude Awareness now due August 2017; new SPR (vs. MASPS) for Vision Systems for Takeoff due in February 2018; and the new MASPS for a Combined Vision Guidance System for Rotorcraft Operations for February 2018.

The PMC approved the revised TOR (RTCA Paper No. 349-16/PMC-1568).

F. SC-223 – Internal Protocol Suite (IPS) and AeroMACS – Discussion – Revised TOR

- Brent Phillips, SC-223 DFO, presented

The SC proposals for revised TOR included cleaning up the wording to include more specifics about the added IPS deliverables and a request for a new delivery date for the MOPS for IPS to December 2019.

The PMC approved the revised TOR (RTCA Paper No. 350-16/PMC-1569).

G. NextGen Advisory Committee (NAC) - Status Update

- Andy Cebula, RTCA Vice President, Strategy and Programs, presented

The last NAC meeting was October 5th, hosted by JetBlue in Orlando, FL. It was Richard Anderson's (CEO Delta Airlines) last meeting as Chairman. The new Chairman is David Bronczek, President and CEO of FedEx Express. And the new DFO is Deputy Administrator Victoria Wassmer. Administrator Michael Huerta also attended.

Items discussed included NAC Work Projects:

- OEM & Operator C/N/S Fleet Plans and ADS-B Update
 - o American, United, Sky West, and Airbus complete
 - o Future: Bombardier, Embraer, Primary Avionics – Supply Chain, Added focus on Regional Equipage
- PBN Time, Speed, Spacing Task Group – Final Report presented and approved
- Operator Operational Briefings – Denver Established on RNP – Southwest and United Airlines
- Joint Analysis Team:
 - o Final Report Performance Based Navigation Procedures: North Texas Metroplex, Denver Established on RNP presented and approved
 - o Future: Fuel Analysis for North Texas; PBN – EOR DEN IMC, OPD (BOS and Gary, IN); Wake ReCat 2.0 (LAX, IND) and DataComm Benefits Review
- Community Engagement for PBN and Metroplex
- Value of NextGen and NAC – Communications AdHoc Task Group
- Enhanced Surveillance Task Group (Oceanic Airspace) – Interim Report presented
- The NAC meetings scheduled for 2017 are February 22nd (MITRE, McLean, VA), June 28th (Washington, DC) and October 4th (United, Chicago, IL).

H. Tactical Operations Committee (TOC) - Status Update

- Andy Cebula, RTCA Vice President, Strategy and Programs, presented

The last TOC meeting was October 27th at RTCA.

Items of discussion included:

- Updates on Previous TOC Recommendations
 - o NorCal Noise Initiative, Caribbean Operations, Airport Construction, Class B Airspace, National Procedure Assessment
- Updates on Ongoing Tasks
 - o Graphical TFRs – response expected December 2016
 - o PBN Route Structure – response due March 2017
- Overview of Aviation in Alaska
- Discussion Ideas for future TOC effort
 - o FAA Anticipated Tasks
 - o Industry Ideas on Critical Issues

New FAA Tasks:

- Review of Ligado Proposal
 - o Requested TOC perspective on operational impact of Standoff Cylinders in Ligado proposal
 - o Planned completion date: mid-December 2016
- Commercial Space
 - o Expecting request for TOC to provide recommendations on sharing of airspace between traditional aviation and commercial space operators

TOC Chairs polled industry for key operational issues that may be appropriate for the TOC.

Ideas include:

- Local coordination tools and process during disruptive weather
- Evaluate DoD GPS interference events and assess impacts, notification process, guidance material, etc.
- Process for evaluation and approval of off-airport obstacles given impacts on arrival/departure procedures
- NY Metro operations and use of PBN/Datacomm to improve SWAP events in NY
- Adaptive use of Special Activity Airspace
- Operator engagement in procedures / noise
- TBFM implementation

The TOC meetings scheduled for 2017 are OKC on March 2nd and RTCA for June 22nd and October 26th.

I. Drone Advisory Committee (DAC) – Status Update

- Al Secen, RTCA – Vice President, Aviation Technology and Standards, presented

The last DAC meeting took place on September 16th in Washington, DC.

The next DAC meeting will be on January 31st in Reno, NV hosted by Reno-Tahoe Airport Authority at the University of Nevada Campus. The agenda is being developed and will include briefings from the DAC Subcommittee (DACSC) and public registration similar to the first DAC meeting will be provided.

The DACSC was formed by direction of the DAC. The DACSC will receive tasking from the DAC and will do the staff-level work of providing detailed recommendations and data to the DAC.

- Co-chairs: Nancy Egan (3DRobotics), Bryan Quigley (United Airlines)
- Members: 69
- Meetings since November 2nd, 2016:
 - o November 2
 - o November 18
 - o December 1
- Formed Task Groups to further refine the work structure and will report progress to the DAC on January 31st

J. FAA Actions Taken on Previously Published Documents – Report

- Lou Volchansky - PMC DFO presented (FAA Guidance based on RTCA Documents – RTCA Paper No. 274-16/PMC-1541)

FAA Published Documents that reference published RTCA Documents, FAA Pending Documents for RTCA Documents Published, and FAA plans for RTCA Documents pending PMC approval were reviewed.

FAA Published Guidance (Since Previous PMC)

RTCA Document	Developed By	FAA Guidance	Approval Date	Comment
Chg 1 to DO-262B - MOPS for Avionics Supporting Next Generation Satellite System (NGSS) Iridium Specific Apdx D	SC-222	TSO-C159c	September 2016	DO-262B Appendix D will be used by Iridium manufactures in support of their TSOA for Iridium Technique Specific Equipment.
DO-350 (SPR ATNB2); DO-351 (Interop Std for ATNB2); DO-352 (Interop Std ATNB2,	SC-214	AC 20-140C	September 2016	ATN B1 Interop Standards improvements for CPDLC at Oceanic/ Continental boundaries. AC 20-140C includes B2.

FANS 1/A); DO-353 (Interop Std for ATNB2, FANS 1/A)		AC 20-160A	September 2016	Onboard recording of CPDLC Communication in Crash Survivable Memory
DO-220A – MOPS for Airborne Weather Radar Systems	SC-230	TSO-C63e; AC 20-182A	October 2016	Aircraft weather radar design approval; weather radar installation guidance

RTCA Published Documents - FAA Pending Guidance (through April 2017)

RTCA Document	Developed By	FAA Guidance	Planned Release Date	Comment
DO-315A - Minimum Aviation System Performance Standards (MASPS) for Enhanced Vision Systems, Synthetic Vision Systems, Combined Vision Systems and Enhanced Flight Vision Systems	SC-213	AC 20-167A	2016	Plan to release AC 20- 167A after EFVS rule is published
Change 1 to DO- 300A; Change 2 to DO-300	SC-147	AC 20-151C	March 2017	Airworthiness installation guidance
Change 2 to DO-300 - Minimum Operational Performance Standards (MOPS) for Traffic Alert and Collision Avoidance System II (TCAS II) Hybrid Surveillance	SC-147	Note to manufacturers posted on RGL (rgl.faa.gov)	February 2017	DO-300 Change 2 can be used by manufacturers in support of their justification package for a TSO deviation.
DO-346, MOPS for Aeronautical Mobile Airport Communication System (AeroMACS)	SC-223	TSO-C207a	April 2017	Revise AeroMACS TSO to be used by ATS

C2 Data Link MOPS and V&V (Terrestrial)	SC-228	AC on UAS C2 Equipment	March 2017	Airworthiness installation guidance
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RTCA Documents Pending PMC Approval

RTCA Document	Developed By	Planned FAA Guidance	Planned Release Date	Comment
DO-307A, Aircraft Design and Certification for PED Tolerance	SC-234	AC 20-164A	March 2017	Provides guidance on designing and demonstrating aircraft tolerance to PEDs
DO-229E, MOPS for GPS/SBAS Airborne Equipment	SC-159	TSO-C145e TSO-C204a TSO-C205a TSO-C146e	March 2017 April 2017 April 2017 June 2017	Updates 4 TSO design standards
Guidance for the Development of Portable Electronic Devices (PED) Tolerance for Civil Aircraft	SC-234	AC 91-21.1C, Use of Portable Electronic Devices Aboard Aircraft	September 2017	Provides aircraft operators with guidance for compliance to Title 14 CFR part 91, section 91.21 Portable Electronic Devices

K. Special Committees – Chairmen’s Reports and Active Inter-Special Committee Requirements Agreements (ISRA) - Review

- Rebecca Morrison, RTCA Program Director, reported

Highlights from the Chair Reports for several selected Special Committees were reviewed. Reports were received from SCs 135, 147, 186, 209, 216, 217, 224, 227, 228, 230, 231, 233, 235, and 236. Other information was included in other presentations during this PMC. The complete matrix and individual committee reports are posted on Workspace (RTCA Paper No. 275-16/PMC-1542).

L. European/EUROCAE Coordination – Status Update

- Rebecca Morrison, RTCA Program Director, reported

Topics of Note:

- EUROCAE/RTCA Coordination Meeting
 - Took Place Oct 15-16, 2016 at MITRE (Bedford, MA)
 - Reviewed Joint and non-Joint activities:
 - Proposed for Joint Activity: WG-106 Electronic Flight Bag
 - (Note: PMC members asked for access to WG-106 TOR; Document posted in workspace under PMC folder for this meeting, agenda item 6L)
 - Cyber-security and Drones Coordination
 - Possible WG-76/WC-206 discussion for possible joint work going forward
 - EUROCAE Update from TAC (Efficiency Task Force, Periodic Review of ED)
 - Reviewed Procedural Points (Pricing, IT Infrastructures)
 - ICAO
 - Symposiums
 - Joint Awards
- New Documents Released by EUROCAE since last PMC
 - ED-240, *MASPS for Remote Tower Optical Systems* by WG-100, Sep 29, 2016
 - ED-227, *MASPS AeroMACS* by WG-82, Sep 29, 2016
 - ED-117A, *MOPS for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS)* by WG-41, Sep 30, 2016
- TAC
 - New Working Groups Approved:
 - WG-105: UAS
 - Kickoff meeting mid-November
 - Ambitious target dates starting mid-2017 for Deliverables
 - WG-106: Electronic Flight Bag (proposed as joint)
 - Target date closed December 9th for industry support
 - Group kickoff mid-January
- Organization Dates and Coordination
 - Al Secen representing RTCA on Joint Awards Committee
 - Nominations open until January 31, 2017
 - Next TAC Meetings
 - February 1-2, 2017, Frankfurt, Frankfurt Airport
 - April 26, 2017, London, England at BAE
 - EUROCAE Symposium: April 27-28, 2017, London, England

International Civil Aviation Organization (ICAO) Update:

- Standards Round Table
 - October 4, 2016
- 39th Triennial Assembly
 - September 27 – October 7, 2016

The RTCA staff will continue to keep the PMC apprised of developments.

AGENDA ITEM 7

Other Business.

A. Annual Review of PMC and ICC Membership - Discussion

- Margaret Jenny, PMC President, presented.

The RTCA FAA Charter stipulates the RTCA President and the FAA members of the RTCA Policy Board will review Committee membership (including the PMC) yearly to ensure a balanced and equitable representation of the points of view and roles performed by the committees and to the extent feasible of the aviation community. We have been remiss in conducting this review of late.

Additionally, per the ICC Charter, the ICC consists of “Core Members,” all members of the PMC (ex-officio), and invited Subject Matter Experts on specific issues the ICC is to address. The ICC Core Membership should be approved by the PMC and is to be reviewed annually. The last ICC membership review occurred on September 9, 2015, with one member change on March 16, 2016.

Recommend both reviews be conducted, starting with PMC membership and follow with ICC membership. (Action)

B. Additional Item - Discussion

PMC members requested possible changes to make it easier to download multiple documents posted in workspace. RTCA tasked to investigate. (Action)

AGENDA ITEM 8

Schedule for Committee Deliverables and Next Meeting Date

Documents expected for the March 2017 meeting:

- SC-222 AMS(R)S Systems
 - Revision to DO-343 – *Minimum Aviation System Performance Standard for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP) in Procedural Airspace (coordinated with EUROCAE WG-82 To include System Specific Attachment from INMARSAT)*
- SC-228 Minimum Performance Standards for Unmanned Aircraft Systems
 - New Document – *Detect and Avoid Minimum Operational Performance Standards Phase I (DAA MOPS)*

- New Document – *Minimum Operational Performance Standards (MOPS) for Air-to-Air Radar Detect and Avoid (DAA) Systems Phase 1*
- SC-230 Airborne Weather Detection Systems
 - Interim Report – *Recommendations on the Feasibility to Standardize In-Flight Radar Long Range Ice Crystals Weather Awareness Function*
- SC-231 TAWS
 - New Document – *Minimum Operational Performance Standards (MOPS) for TAWS*

The dates for the next four PMC meetings were confirmed: Tuesday, March 21, 2017; Thursday, June 22, 2017; Tuesday, September 21, 2017; and Wednesday, December 13, 2017

AGENDA ITEM 9

New Action Item Summary

See PMC Action Item Table.

/Signed/

Karan Hofmann, Secretary
RTCA Program Management Committee

CERTIFIED to be a true and accurate report of the meeting.

/Signed/

Christopher Hegarty, Chair
RTCA Program Management Committee

**Program Management Committee – December 15, 2016
ATTENDANCE LIST**

PMC MEMBERS:		
Christopher	Hegarty	The MITRE Corporation Chairman
Doug	Arbuckle	Federal Aviation Administration
Robert	Grove	Garmin Ltd.
Richard	Heinrich	Rockwell Collins, Inc.
Jens	Hennig	General Aviation Manufacturers Association
Margaret	Jenny	RTCA, Inc.
Randy	Kenagy	Air Line Pilots Association
George	Ligler	Project Management Enterprises Inc
Michelle	Merkle	Federal Aviation Administration
Thomas	Shields	U.S. Air Force
Jessie	Turner	The Boeing Company
Lou	Volchansky	Federal Aviation Administration (Designated Federal Representative)

OTHER ATTENDEES:		
Moin	Abulhorn	Federal Aviation Administration
Clay	Barber	Garmin Ltd.
Jonathan	Branker	Federal Aviation Administration
Bill	Carson	The MITRE Corporation
Andy	Cebula	RTCA, Inc.
Claudia	Chaudhari	RTCA, Inc.
Steve	Darr	Dynamic Aerospace
Stephen	Diehl	The Boeing Company (ret)
Tammy	Farrar	Federal Aviation Administration
Eldridge	Frazier	Federal Aviation Administration
Alina	George	RTCA, Inc
Christophe	Hamel	L-3
Allan	Hart	Honeywell International
Bob	Hekl	The MITRE Corporation
Karan	Hofmann	RTCA, Inc.
Sai	Kalyanaraman	Rockwell Collins, Inc.
Rebecca	Morrison	RTCA, Inc.
Richard	Nguyen	The Boeing Company
Andrew	Pasztor	Wall Street Journal
Norman	Pereira	Federal Aviation Administration
Brent	Phillips	Federal Aviation Administration

Trent	Prange	Federal Aviation Administration
Al	Secen	RTCA, Inc.
Ron	Stroup	Federal Aviation Administration
Brandi	Teel	RTCA, Inc.
Don	Walker	Federal Aviation Administration

PMC ACTION ITEM TABLE

TRACKING NUMBER (Meeting Date and agenda item from which original action resulted)	ACTION	ACTION ASSIGNED TO	DUE DATE	STATUS
03/17/2016 Agenda Items 3A-D	03/17/2016 – Report back on Boeing/ARINC ATC Winds work and results 06/21/2016 – Update provided; follow on in Dec	PMC Jessie Turner	Jun 2016 Dec 2016	Closed
09/22/2016 Agenda Item 4A	09/22/2016 – Include possible MOPS/MASPS Drafting Guide changes provided by Don Walker 12/15/2016 – Partial acceptance with further work required	ICC	Dec 2016 Mar 2017	Open
09/22/2016 Agenda Item 4B	09/22/2016 – CCC Initiation (membership) 12/15/2016 – Provided named chairman and recommended sources for others	RTCA Al Secen	Dec 2016 Mar 2017	Open
9/22/2016 Agenda Item 6B	09/22/2016 – Follow up discussion with EUROCAE on harmonization work with SC-223 and WG-82 12/15/2016 – Completed and determined no effect	RTCA Margaret Jenny Al Secen	Dec 2016	Closed
09/22/2016 Agenda Item 6D	09/22/2016 – PBN, Speed, Spacing Task Group Final Report Presentation 12/15/2016 – Presentation provided	NAC Task Leads	Dec 2016	Closed
09/22/2016 Agenda Item 6H	09/22/2016 – Response to Transportation Safety Board of Canada letter in coordination with EUROCAE 12/15/2016 – RTCA reported action complete	RTCA Al Secen	Oct 2016	Closed
12/15/2016 Agenda Items 3A, 3B, 3C, 4A	12/15/2016 – Draft implementation procedure/timeline for new MOPS/MASPS Writing Guides	RTCA Karan Hofmann	Mar 2017	Open
12/15/2016 Agenda Item 3A	12/15/2016 – Determine appropriate means to educate SC's on changes to MOPS/MASPS Writing and Drafting Guides	RTCA Rebecca Morrison	Mar 2017	Open
12/15/2016 Agenda Item 4A	12/15/2016 – Solicit recommended comments on MOPS/MASPS/SPR Drafting Guides	RTCA Karan Hofmann	Jun 2017	Open
12/15/2016 Agenda Item 7A	12/15/2016 – Conduct PMC and ICC membership reviews	RTCA Margaret Jenny FAA PB Members	Jun 2017	Open
12/15/2016 Agenda Item 7B	12/15/2016 – Investigate file bulk download possibilities from workspace	RTCA Karan Hofmann	Mar 2017	Open