RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
December 19, 2017

The RTCA Program Management Committee (PMC) convened at 8:30 a.m. on December 19, 2017 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 Officer (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.

Mr. Robert Grove announced this would be his last PMC. Mr. Clay Barber will be stepping up to the plate as Garmin's representative to the PMC. Ms. Jenny made a presentation as a humble gesture of thanks for the support Mr. Grove has provided to RTCA and, in particular, the PMC over the years. All members extended a special thank you to Mr. Grove.

Mr. Joseph Post, FAA, was welcomed as the new representative from the NAS Systems Engineering and Integration Office due to Michele Merkle's detail as Acting Deputy Assistant Administrator for NextGen.

AGENDA ITEM 2
Review / Approve

A. The summary of the September 21, 2017 meeting was approved with minor editorial changes (RTCA Paper No. 257-17/PMC-1672).

B. Administrative Special Committee Terms of Reference (TOR) Revision:

- SC-206 – Aeronautical Information and Meteorological Data Link Services – Leadership changes with co-chairman Allan Hart (Honeywell) retiring. Secretary Tom Evans (NASA) stepping into co-chairman position and Joseph Bracken (AvMet Applications) taking over secretary duties. Also, deletion of deliverable (agenda item 3A). The revised TOR was approved (RTCA Paper No. 319-17/PMC-1692). On behalf of the PMC, the Chairman extended a thankyou to Allan for his many years of dedication to RTCA and the aviation community.

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AGENDA ITEM 3
Publication Consideration/Approval

A. **New Document –** *Guidelines for In Situ Eddy Dissipation Rate (EDR) Algorithm Performance,* **prepared by SC-206 (Aeronautical Information and Meteorological Data Link Services)**

- Tammy Farrar and Bill Watts, SC-206 SG-4 Co-Chairmen, presented.

This document defines the minimum user performance requirements applicable to in situ Eddy Dissipation Rate (EDR) turbulence computational algorithms (hereafter referred to as "the EDR algorithm"). In situ, as used herein, refers to calculations that use aircraft derived observations, obtained through direct contact with the atmosphere or aircraft, as input (as opposed to remote sensing observations, such as RAdio Detection And Ranging (RADAR) or LIght Detection And Ranging (LIDAR)). It also includes in its supplements the referenced FAA reports, as they would not be available by any other means.

There is also a data file related to this document. It is a zip file archive that contains simulated aircraft data files and other supplementary material described in Section 2. The archive includes 19 sets of test data arranged in directories. Each set contains the data necessary for testing a different turbulence scenario. This file would be available as a separate supplement.

Lou Volchansky commented that the FAA trace is still being considered on this document. It is a very important topic and will be used as much as possible within FAA notices and advisory circulars.

The PMC approved the document and associated supplement. It will be published as DO-370.

SC-206 SG-4 received special praise as they blazed some new territory with the work on this document.

B. **New Document –** *MASPS for Aircraft State Awareness Synthetic Vision Systems (SVS),* **prepared by SC-213 (Enhanced Flight Vision Systems/Synthetic Vision Systems)**

- Trent Prang, SC-213 DFO, presented.

This document expands the previously defined DO-315A intended function of an SVS beyond that of supplemental view of the external scene to include enhanced aircraft attitude and energy state awareness and defines a system that is intended to be presented full-time on the pilots' full color Primary Flight Displays (PFD).

This MASPS supports the desire to provide an industry standard for the CAST SE-200: Virtual day visual meteorological condition (VMC) displays (such as synthetic vision or an equivalent system) with energy state symbology cues.

The PMC approved the document. It will be published as DO-371.

This document was harmonized with EUROCAE Working Group 79 (WG-79) and will be published simultaneously as ED-249.

C. **Revision to DO-230G –** *Standards for Airport Security Access Control Systems***, prepared by SC-224 (Standards for Airport Security Access Control Systems)**

- Jonathan Branker, SC-224 Member, presented.

The document provides guidance on acquiring and designing airport security access control systems, testing and evaluating system performance, and operational requirements. This document is synchronized with Transportation Security Administration guidelines.

This updated document incorporates the latest technological advances in security access control systems and identity management technologies, including smart cards and biometrics. The nature of the changes in available technology, and the need to enhance sections pertaining to perimeter security, security operation support, and identity management requirements, has led to a few changes in this document. Specifically updated are the following sections.
- Introduction and Overview
- Credentialing
- Physical Access Control Systems (PACS)
- Video Surveillance Systems
- Communications Infrastructure

The PMC approved the document. It will be published as DO-230H.

D. **New Document –** *C2 Data Link Minimum Aviation System Performance Standards (MASPS) (SATCOM),* **prepared by SC-228 (Minimum Performance Standards for UAS)**

The delivery date for this document was changed during the last revision of the SC-228 TOR approved at September 21, 2017 PMC meeting. Thus, the MASPS will be presented at the 2019 March PMC meeting.

E. **New Document –** *Addressing Human Factors/Pilot Interface Issues for Avionics***, prepared by SC-233 (Addressing Human Factors/Pilot Interface Issues for Avionics)**

- Susan Taylor and Trish Ververs (SC-233 Co-Chairmen), Cathy Swider (SC-233 Secretary) and Michelle Yeh (SC-233 DFO) presented.

The objective of this document is to increase human factors awareness by the individuals who are responsible for the design and certification of systems and equipment and related interfaces

designed for use by the flightcrew. This applies to systems and equipment that are certified at the box level or installation level. The FAA documented this information previously in expired FAA Notice 8110.98, Addressing Human Factors/Pilot Interface Issues of Complex, Integrated Avionics as Part of the Technical Standard Order (TSO) Process. The original notice only addressed the TSO process, however human factors issues were being regularly identified late in the Type Certificate (TC), Supplemental Type Certificate (STC), and Amended Type Certificate (ATC) processes with installed avionics. This document outlines a process for identifying the flightcrew interface aspects of a system as part of the engineering design and certification process and provides previously approved design examples of how human factors issues have been addressed.

The anticipated implementation of this document is to be acknowledged in a new FAA information-only advisory circular. It is meant to aid in the early identification of human factors aspects and the resolution of pilot interface issues as part of the engineering design and certification process, but is not intended as a means of compliance for certification

The PMC approved the document. It will be published as DO-372.

This completed the deliverable per the SC-233 TOR and with the Chairmen's recommendation, the PMC agreed to sunset the SC. The Chairman thanked SC-233 for their outstanding effort and dedication.

F. **New Document – *GNSS Dual-Frequency (1575/1176 MHz) Antenna Minimum Operational Performance Standards For Airborne Equipment,* prepared by SC-159 (Navigation Equipment Using the Global Navigation Satellite System (GNSS))**

The work on this document is not complete and will be presented at the June 2018 PMC meeting.

G. **Revision to DO-235B – *Assessment of Radio Frequency Interference Relevant to the GNSS L1 Frequency Band,* prepared by SC-159 (Navigation Equipment Using the Global Navigation Satellite System (GNSS))**

The work on this document is not complete and will be presented at the June 2018 PMC meeting.

AGENDA ITEM 4
Integration and Coordination Committee (ICC)

No updates reported.

AGENDA ITEM 5
Cross Cutting Committee (CCC)

No updates reported.

AGENDA ITEM 6
Action Item Review.

A. **PMC Membership – Update**

- Dr. Chris Hegarty, Ad Hoc Chairman, presented.

The Ad Hoc reported on their recommendations for handling PMC membership. A large portion of the recommendation includes assuring an appropriate balance of government and industry perspectives and disciplines, as well as enforcing a regular attendance policy and possibly a membership rotation of industry companies of the same type. PMC member recommended possibly including more General Aviation and/or UAS involvement. It was noted increased concern for Cyber Security should also be considered.

Mr. Volchansky commented that PMC members and Chairman are currently appointed by the RTCA President and that the Secretary of Transportation wants to be aware of PMC members.

Initial Ad Hoc action closed, but RTCA has task to review recommendations and provide feedback/implementation plan to PMC. (Action)

B. **Availability of RTCA documents as reference for EUROCAE WGs – Discussion**

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

As reported previously, RTCA and EUROCAE have been discussing, as part of the bi-lateral agreement, to allow exchange of documents with Working Groups and members working on joint documents (even if not member of other's organization). Details of accessing the needed documents are being finalized and should be available by the March 2018 PMC Meeting. Action still open.

C. **Provide ACSS Example Commitment to License (CtL) – Discussion**

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

At the September 2017 PMC meeting, it was reported that after providing an example of the CtL to ACSS along with artifacts showing a precedent for expectation of no royalties, ACSS requested a formal response "describing rationale for decision not to approve the Phase Mod Commitment to License proposal". A draft response was prepared and provided to PMC members for review. PMC members were provided additional time to submit comments. A final official RTCA response was sent to ACSS on October 2nd and included the new RTCA IP Policy (reference agenda items 6D and F).

A follow up chat with ACSS revealed they are adjusting their CtL to not include any fees. Action closed.

D. **Revisit RTCA IP Policy to Remove Ambiguity - Update**

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

Associated with the ACSS CtL discussion, PMC members made recommended changes to the RTCA IP Policy to remove ambiguity and clarify the process timeline. A final draft with changes was circulated and comments reviewed. PMC members recommended forwarding to the RTCA Policy Board for approval. The final version was reviewed by the RTCA attorney prior to forwarding to the Policy Board. Action closed.

E. **Ad Hoc to Resolve DO-311A Content**

- Lou Volchansky, Ad-Hoc Chairman, presented.

This document was turned over to an ad hoc at the September PMC meeting to try to resolve the dissention related to this document. Although able to work through 9 comments / recommendations and coordinate with SC-225 members, like SC-225 the ad hoc was unsuccessful in resolving the dissention with any compromise for the thermal runaway test and the alternate test included in Appendix C. Thus, the final document presented back to the PMC members included Appendix C as well as the dissention and committee rebuttal as additional appendixes. Action closed.

There was much additional discussion on concern that the document is not a consensus product and the view from the FAA about not accepting the additional test outlined in Appendix C. Members recommended adding a statement to the executive summary that the FAA has not acknowledged Appendix C as an acceptable means of compliance, or alternate equivalent test for Section 2.4.5.5 (Battery Thermal Runaway Containment Test).

The PMC finally approved the document with the additional statement in the Executive Summary. It will be published as DO-311A.

This completed the deliverable per the SC-225 TOR and with the Chairman's recommendation, the PMC agreed to sunset the SC. PMC Members sent out a huge thank you to the entire committee for their outstanding effort and dedication. Norman Pereira, SC-225 DFO, extended a special shout-out to Steven Diehl who continued under special waiver as the Secretary and lead editor of the document for over a year after his formal retirement from The Boeing Company.

F. **Proposed IP Policy Changes presented to RTCA Policy Board – Discussion**

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

The PMC proposed changes to the RTCA IP Policy were presented to the Policy Board at their November 14, 2017 meeting. The changes were accepted. Action closed.

G. **Follow up On PMC ICAO activity with EUROCAE - Update**

- Margaret, RTCA – President, presented.

RTCA signed an updated MOA – similar to ARINC, SAE, and EUROCAE with ICAO during their Global Air Navigation Industry Symposium (GANIS). This will make RTCA documents available to the ICAO Secretariat and member states. This will allow more global acceptance and influence. RTCA is still working on digital rights management (DRM). A member asked how soon aviation system upgrade information will be available. Reported it is available as requested, but currently only referenced in ICAO SARPs, not open to entire library. Also available for group work to be able to reference RTCA documents. The next step at ICAO is to update references as a rolling process – get referenced and set up DRM for distribution. Although the original action item is closed, PMC members identified a follow-on action to compile a list of RTCA documents for ICAO that should be referenced (action).

AGENDA ITEM 7
Discussion.

A. **NextGen Advisory Committee (NAC) – Status Update.**

- Margaret, RTCA – President, presented.

The last meeting of the NAC was October 4, 2017, hosted by United Airlines in Chicago, IL. It was FAA Administrator Michael Huerta's last meeting. Dan Elwell took over the DFO role.

Agenda topics included:
- Northeast Corridor – Implementations
  - <18mths, 18-36mths, +3yrs
- Benefits & Measurement
- Analysis of Optimized Profile Descent – Boston & DataComm Benefits Assessment
- Regional Equipage – impacts on PBN implementation
- NextGen Integration Working Group – implementation DataComm, Multiple Runaway Operations, PBN, Surface & Data Sharing

Key Themes of NEC NIWG Initiatives:
- Recommendations Addressing Community Noise
- Improve Situational Awareness and Flow Management Across NEC
- Deconfliction of Arrivals in the NY Area
- Improving Arrival Throughput to NY/PHL
- Improving Departure Throughput from NY/PHL
- Easing Key Airspace Congestion Points that Restrict NEC Throughput

Key Risks & Pacing Items:
- Controller, support and operator staffing and resources
- Facility-level feedback, constraints and nuances that may impact individual initiatives
- Funding and budget priorities
- Environmental – community issues and concerns
- Cultural issues – i.e. controller, pilots, dispatcher acceptance and implementation
- Mixed equipage of aircraft/differing capabilities

Prioritization:
- Initial constraint of 'what can be done' significant determinant
- T+18-36 months, opportunity to reset and ensure next phase of priorities determined based on target operational 'end state'
  - Address Phase 1 operational goals and capability objectives
  - Seek to remain consistent with and even propel TBO vision

Equipage – Benefit Relationship:
- Individual Aircraft
  - Enhanced route efficiency
  - More flexible airspace use
- Clustered Aircraft
  - Increased Departures
  - Advantages of a common path
- Whole Fleet
  - Trajectory predictability
  - De-conflicted throughput

The next meeting is scheduled for March 14, 2108, hosted by Harris Corp in Melbourne, FL.

B.   Tactical Operations Committee (TOC) – Status Update.

- Trin Mitra, RTCA Program Director, presented.

The last official meeting of the TOC was held December 5, 2017.

Agenda topics included:
- Approved recommendations on Common Support Services – Flight Data
  - Enhanced info exchange, feedback, flt planning collaboration
- Update from Intentional GPS Interference task
  - Topics of interest include collecting data on GPS loss, size of NOTAM, pilot and controller guidance, plans for APNT CONOPs
- FAA responses to recommendations and briefings
  - National Procedure Assessment: developing criteria for cancellation of circling procedures
  - Graphical TFRs

- Awareness and Operational Impact (AOI)
- NOTAMs

Next TOC meeting is slated for March 2018.

C.   Drone Advisory Committee (DAC) – Status Update.

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

Mr. Secen provided a review of the DAC to include:
- Members:
  - 34 Industry Members
  - FAA Deputy Administrator (DFO)
- DAC Subcommittee (160+ participants) formed three task groups
  - Roles and Responsibilities
  - Access to Airspace
  - UAS Funding
- Held 4 meetings in 2017 (one virtual)
- Delivered both Interim and Final recommendations

DAC Status:
- New DFO (Dan Elwell) joined in early summer
- DAC Meetings receive updates and recommendations from the subcommittee task groups
  - TG1: Roles and Responsibilities of the Local/State/Federal Government
    - Analyze State or Local Government Interests
    - Provide Recommendations on relative roles & responsibilities for making and enforcing rules and regulations
  - TG2: Access to Airspace
    - Provide Recommendations on UAS Operations/Missions Beyond Those Currently Permitted; Define Procedures for Access to the Airspace
  - TG3: Funding of UAS Integration
    - Analyze Potential Mechanisms Funding the Activities and Services Required
    - Provide Recommendations on Preferred Method for funding Federal Activities and Services

Current Task Group Status:
- Expecting updated tasking for TG1
  - New TG will be formed based upon the tasking
- Current Status
  - TG1: Roles and Responsibilities of the Local/State/Federal Government
    - Interim report delivered at November DAC
    - Nine Common Principles: 5 consensus; 4 non-consensus
    - New local/county/state representatives added

- TG2: Access to Airspace
  - Final report delivered at November DAC
  - Five recommendations submitted
- TG3: Funding of UAS Integration
  - Status only at November DAC
  - Work begun on Long-term (greater than 24 months) recommendations

TG2 Recommendations Summary:
1. Prioritize sUAS BVLOS operations within the Mode C Veil below 400 ft AGL
2. Develop technology-neutral navigation performance requirements
3. Evaluate the minimum requirements needed to meet low altitude UAS command and control (C2) operations
4. Establish a FAR Part 135 regulatory "pathfinder" program for commercial UAS low-altitude (<400') BVLOS Operations
5. Beyond 24-month Timeframe Recommendations

There was a question about TG1's role being OBE with DOT giving control to state/local authorities. The FAA is working a new task for TG1 to accommodate this program.

D.   Actions Taken on Previously Published Documents – Report and Designated Federal Officer (DFO) List –Update.

- Lou Volchansky, PMC DFO – FAA, presented (FAA Guidance based on RTCA Documents – RTCA Paper No. 274-17/PMC-1677)

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
DO-363, Guidance for the Development of Portable Electronic Devices (PED) Tolerance for Civil Aircraft; also: DO-307A, Aircraft Design and Certification for Portable Electronic	SC-234	AC 91.21-1D, Use of Portable Electronic Devices Aboard Aircraft	October 27, 2017	Provides aircraft operators with guidance for compliance to Title 14 CFR part 91, section 91.21 Portable Electronic Devices

Device (PED) Tolerance.				
DO-365, Detect and Avoid MOPS Phase I	SC-228	TSO-C211, *Detect and Avoid (DAA) Systems*	September 25, 2017	Design standard
DO-366, Air-to-Air Radar Detect and Avoid MOPS Phase I	SC-228	TSO-C212, *Air-to-Air Radar (ATAR) for Traffic Surveillance*	September 22, 2017	Design standard

RTCA Published Documents - FAA Pending Guidance

RTCA Document	Developed By	FAA Guidance	Planned Release Date	Comment
DO-362, Command and Control Data Link MOPS	SC-228	TSO-CNPC	January 2018	UAS C2 Equipment design standard
		AC 20-187	February 2018	Airworthiness installation guidance. (Delay from May 2017 to align with proposed TSO.)
DO-365, Detect and Avoid MOPS Phase I	SC-228	AC	April 2018	Airworthiness installation of a UAS DAA system
DO-227A, MOPS for Non-Rechargeable Lithium Batteries	SC-235	TSO-C142b	March 2018	Design standard for non-rechargeable lithium batteries
		AC	July 2018	Airworthiness installation criteria for non-rechargeable lithium batteries

DO-262C, MOPS for Avionics Supporting Next Generation Satellite Systems	SC-222	TSO-C159d	May 2018	Includes improvements to test cases for Iridium Next Short Burst Data testing
DO-343A MASPS for AMS(R)S Data and Voice Communications Supporting Required Communications Performance and Required Surveillance Performance	SC-222	None at this time	N/A	Includes Swift Broad Band ground gateway-to-aircraft VPN tunneling. Needed for engineering/ scoping purposes
DO-368, MOPS for GPS/GLONASS (FDMA + Antenna) L1-only Airborne Equipment	SC-159	Under review	—	—
DO-246E, GNSS-Based Precision Approach Local Area Augmentation System Signal-in-Space Interface Control Document	SC-159	None	—	This document is a reference for DO-253D. It is published by RTCA for the convenience of avionics OEMs.

DO-253D, MOPS for GPS Local Area Augmentation System Airborne Equipment	SC-159	TSO-C161b and TSO-C162b	April 2018	New design standard to support Category II/III operations; maintenance updates to legacy standards
DO-315A, MASPS for EVS, SVS, CVS, EFVS	SC-213	AC 20-167B	June 2018	Consolidates enhanced and combined vision system airworthiness criteria. No new criteria.
DO-315A; and, DO-359, MASPS for Synthetic Vision Guidance System	SC-213	AC 20-185A	June 2018	Consolidates synthetic and synthetic vision guidance system airworthiness criteria. No new criteria.

RTCA Documents Pending PMC Approval

RTCA Document	Developed By	Planned FAA Guidance	Planned Release Date	Comment
DO-311A, MOPS for Rechargeable Lithium Batteries and Battery Systems	SC-225	TSO-C179a	March 2018	Design standard for rechargeable lithium batteries
		AC 20-184A	June 2018	Installation standard for rechargeable lithium batteries
MASPS for Aircraft State Awareness Synthetic Vision Systems	SC-213	AC 20-185A	June 2018	Incorporated into single AC for non-enhanced vision criteria.

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Guidelines for the In Situ Eddy Dissipation Rate (EDR) Algorithm Performance	SC-206	TBD	N/A	N/A

E.   Special Committees - Chairmen's Reports, Active Inter-Special Committee Requirements Agreements (ISRA) – Review.

- Rebecca Morrison, RTCA Program Director, presented overall information.

Highlights from the Chair Reports for several selected Special Committees were reviewed. Reports were received from SCs 135, SC-147, SC-216, SC-217, SC-223, SC-224, SC-227, SC-230, and SC-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. 275-17/PMC-1678).

F.   European/EUROCAE Coordination – Status Update.

- Rebecca Morrison, RTCA Program Director, presented overall information.

Topics of Note:
- New Documents Released by EUROCAE since last PMC
    - ED-103 Rev A – *MOPS for Inflight Icing Detection Systems* – WG-96
- New Working Group
    - WG-1XX: WG for ATN/IPS being considered for approval by the Council
        - Council approval is ongoing by e-voting - deadline 22 December
        - If approved, Call for Participation followed by kick off meeting Feb 1-2, Toulouse
        - SC-223 In discussions to amend their TOR to align with the new WG on the IPS standards
        - First Joint meeting could be the week of March 5, 2018
- Technical Advisory Committee (TAC) Future Meetings:
    - TAC#71: January 16-17,2018
    - EUROCAE Symposium 27 April 27, 2018
    - TAC#72: May 15-16, 2018

G.   Annual Joint European/EUROCAE Meeting – Summary.

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

Annual meeting held at EUROCAE, November 29-30, 2017

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- Attendees
  - RTCA: Margaret Jenny, Chris Hegarty, Al Secen
  - EUROCAE: Christian Schliefer, Anna Von Groote, Alex Engel, Eric Bouchard
- Agenda:
  - Welcome
  - Review Joint EUROCAE – RTCA Technical Work Programs (EUROCAE)
  - Presentation of RTCA Work Program (Non-joint) (RTCA)
  - Presentation of EUROCAE Work Program (Non-joint) (EUROCAE)
  - 2017 Joint Work Program Status Update & Progress Report
    - Cyber Security
    - RPAS (RTCA DAC and SC-228; EUROCAE WG 105, EUASCG)
    - Other new activities (EUROCAE SWIM; RTCA AIM Brainstorming; UAS Software FAS)
    - SESAR/NextGen Briefings (RTCA NAC Briefing; EUROCAE -TBD)
  - Joint Procedures (Group discussion)
    - Access to published ED / DO for joint committee participants
    - Liaison between non-joint committees (EUROCAE)
    - Illegal distribution of published ED / DO
  - Organisation updates
    - Update of EUROCAE IT infrastructure
    - Agreements with other organisations (MoUs/MoCs,etc.) (EUROCAE & RTCA) (RTCA FAA Charter Process)
    - New EUROCAE ToR template (EUROCAE)
  - Periodic MOC Review (Required by both organizations' MOC)
  - Symposium Joint International Award
    - Review of Experience
    - Planning for 2018
  - ICAO
    - MoU
    - Preparation GANIS/SANIS
    - ANC 13 (2018) Proposed working paper jointly developed (EUROCAE/RTCA/SAE)

AGENDA ITEM 8
Documents Open for Final Review and Comment (FRAC)

None

AGENDA ITEM 9
Other Business.

A. SC-209 – Minimum Operational Performance Standards for ATCRBS/Mode S Transponder - Discussion – Revised TOR

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- Gregg Nesemeier, SC-209 DFO, presented.

The group requested leadership affiliation corrections, specifying the delivery date for the Revisions to Transponder MOPS (DO-181E) to December 2019 vs. just 2019, including work with SC-206 per requested ISRA, and updating acronym list.

The revised TOR was approved (RTCA Paper No. 322-17/PMC-1695).

B. **SC-222 – AMS(R)S – Discussion – Revised TOR**

- Dr. Charles LaBerge (SC-222 Chairman) and David Robinson (SC-222 DFO), presented.

The proposed TOR revision requested adjustments to delivery dates to better align with program development and availability of data. Additionally, adding support to SC-228 ISRA regarding use of L-Band Satcom systems for the UAS C2 application.

The revised TOR was approved (RTCA Paper No. 321-17/PMC-1694).

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

- Dr. George Ligler (SC-159 Co-Chairman) will present.

The revised TOR requested adjustments to delivery dates to better align with program development (trouble with GNSS link budget closing (DO-235C), L5 delay (DO-292C), and SBAS and GBAS delays) and availability of data (GNSS L1/L5 Antenna MOPS having trouble getting inputs from antenna manufacturers). Also clarifying the use of the deliverables by other State Authorities in addition to the FAA as appropriate in certification guidance material including Technical Standard Orders (TSOs) or other national documents.

The revised TOR was approved (RTCA Paper No. 320-17/PMC-1693).

AGENDA ITEM 10
Schedule for Committee Deliverables and Next Meeting Date

Document expected for the March 2018 meeting:

- SC-227, Standards of Navigation Performance
  - Revision to DO-257A - *Minimum Operational Performance Standards for the Depiction of Navigational Information on Electronic Map*

The dates for the next four PMC meetings were confirmed: Thursday, March 22, 2018; Thursday, June 21, 2018; Thursday, September 20, 2018; and Thursday, December 13, 2018.

AGENDA ITEM 11
New Action Item Summary

See PMC Action Item Table.

/Signed/
Karan Hofmann, Secretary
RTCA Program Management Committee

<u>CERTIFIED</u> to be a true and accurate report of the meeting.

/Signed/
Christopher Hegarty, Chair
RTCA Program Management Committee

Program Management Committee – December 19, 2017 **ATTENDANCE LIST**		
PMC MEMBERS:		
Christopher	Hegarty	The MITRE Corporation Chairman
Doug	Arbuckle	Federal Aviation Administration
Steve	Brown	National Business Aviation Association
Chris	Benich	Honeywell International, Inc.
Robert	Grove	Garmin Ltd.
Richard	Heinrich	Rockwell Collins, Inc.
Jens	Hennig	General Aviation Manufacturers Association
Steve	Hofmann	U.S. Air Force
Margaret	Jenny	RTCA, Inc
Randy	Kenagy	Air Line Pilots Association
George	Ligler	Project Management Enterprises Inc
Joseph	Post	Federal Aviation Administration
Jessie	Turner	The Boeing Company
Lou	Volchansky	Federal Aviation Administration (Designated Federal Officer)

OTHER ATTENDEES:		
Jonathan	Archer	General Aviation Manufacturers Association
Moin	Abulhosn	Federal Aviation Administration
Chris	Baker	Acme-Aero
Clay	Barber	Garmin Ltd.
Joe	Bracken	AvMet
Jonathan	Branker	Federal Aviation Administration
Eldridge	Frazier	Federal Aviation Administration
Stephen	Diehl	Consultant
Tim	Etherington	Rockwell Collins
Tammy	Farrar	Federal Aviation Administration
Karan	Hofmann	RTCA, Inc.
Tammy	Jones	Federal Aviation Administration
E.F. Charles	LaBerge	EFCLEA
Trin	Mitra	RTCA, Inc.
Rebecca	Morrison	RTCA, Inc.
Dan	Mulally	Panasonic
Richard	Nguyen	The Boeing Company
Gregg	Nesemeier	Federal Aviation Administration
George	Percival	Open Geospacial
Norman	Pereira	Federal Aviation Administration

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Trent	Prange	Federal Aviation Administration
Jason	Rice	Delta
Dave	Robinson	Federal Aviation Administration
Jim	Russell	The Boeing Company
Al	Secen	RTCA, Inc.
Leire	Segura	Airbus
Tim	Steiner	Federal Aviation Administration
Ronald	Stroup	Federal Aviation Administration
Rocky	Stone	United
Cathy	Swider	Federal Aviation Administration
Susan	Taylor	Gulfstream
Brandi	Teel	RTCA, Inc.
John	Trela	The Boeing Company
Bill	Watts	Delta
Brett	Williams	True Blue Power

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PMC ACTION ITEM TABLE

TRACKING NUMBER (Meeting Date and agenda item from which original action resulted)	ACTION	ACTION ASSIGNED TO	DUE DATE	STATUS
12/15/2016 Agenda Item 7A	12/15/2016 – Conduct PMC and ICC membership reviews 06/22/2017 – Discussion postponed until September PMC 09/21/2017 – Ad Hoc Formed for 2018 Membership Recommendations 12/19/2017 – Ad Hoc recommendations presented and discussed	Ad Hoc (Chris Hagerty, Jens Hennig, George Ligler, Al Secen)	Dec 2017	Closed
03/21/2017 Agenda Item 7B	03/21/2017 – Define process/procedure for availability of RTCA documents as reference for selected EUROCAE WG's 06/22/2017 – Still being worked 09/21/2017 – Still being worked 12/19/2017 – Documentation of process being finalized	RTCA Al Secen	Mar 2018	Open
07/13/2017 Agenda Item 7B	07/13/2017 – Provide ACSS an example CtL with inputs from ICAO and MIT LL 09/21/2017 – Written reply per ACSS request – final comments welcome NLT 9/29 – then forward to ACSS 12/19/2018 – Response sent	PMC Members & Al Secen	Dec 2017	Closed
07/13/2017 Agenda Item 7B	07/13/2017 – Revisit RTCA IP Policy to remove ambiguity 09/21/2017 – Final comments welcome NLT 9/29 12/19/2017 – RTCA IP Policy finalized	PMC Members	Dec 2017	Closed
09/21/2017 Agenda Item 3B	09/21/2017 – Ad Hoc to resolve DO-311A Content 12/19/2017 – Action concluded	Ad Hoc (Lou Volchansky, Jens Hennig, Jessie Turner)	Dec 2017	Closed
09/21/2017 Agenda Item 6F	09/21/2017 – Present IP Policy change recommendations to Policy Board 12/19/2017 – RTCA Policy Board approved revision of IP Policy	Al Secen	Dec 2017	Closed
09/21/2017 Agenda Item 9B	09/21/2017 – Follow up with PMC suggestions on ICAO activity with EUROCAE during Nov Joint Meeting	Margaret Jenny & Al Secen	Dec 2017	Closed
12/19/2017 Agenda Item 6A	12/19/2017 – RTCA review PMC Membership recommendations and provide feedback/implementation plan to PMC	Margaret Jenny, Al Secen, Karan Hofmann	Mar 2018	Open
12/19/2017 Agenda Item 6G	12/19/2017 – Compile list of RTCA documents for ICAO reference	Rick Heinrich, Al Secen, Jens Hennig	Mar 2018	Open

Program Management Committee
December 19, 2017