RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
December 13, 2018

The RTCA Program Management Committee (PMC) convened at 8:30 a.m. on December 13, 2018 at RTCA. The attendance list and action items are attached.

AGENDA ITEM 1
Welcome and Introductions

A. PMC Chairman Dr. Chris Hegarty welcomed the group, asked attendees to introduce themselves and to note their organization of affiliation. PMC Secretary Karan Hofmann reviewed the anti-trust statement, proprietary policy, and membership policy.

B. New RTCA President and CEO Captain Terry McVenes introduced himself with a short background and his initial comments. He comes to RTCA after spending the past decade at The Boeing Company, where he held the position of Director of System Safety and Regulatory Affairs. He has also served as Executive Air Safety Chairman at Air Line Pilots Association, International. He has been an aviator with multiple type-ratings and over 17,000 flight hours over the past 30 years. He has been a Board Member of the Flight Safety Foundation with the Board of Governors, and a Board Member of the SKYbrary Supervisory Board. Welcome Terry!

AGENDA ITEM 2
Review / Approve

A. The summary of the September 20, 2018 meeting was approved with editorial changes received during the review period (RTCA Paper No. 250-18/PMC-1813).

B. The following administrative Special Committee Terms of Reference (TOR) Revisions were approved:

- SC-135 – Environmental Testing - New Company for Chairman Brad Green (now EaglePicher Technologies, LLC) and new Secretary Jacob VanDyke (Honeywell) (RTCA Paper No. 005-19/PMC-1840)

- SC-209 - Minimum Operational Performance Standards for ATCRBS/Mode S Transponder - New Co-Chairman Matt Erickson (Collins Aerospace) (RTCA Paper No. 006-19/PMC-1841)

AGENDA ITEM 3
Publication Consideration/Approval

A. **New Document –** *MASPS for A Combined Vision Systems for Helicopter Operations* **prepared by SC-213 (Enhanced Flight Vision Systems/Synthetic Vision Systems)**

- Carlo Tiana, (SC-213 Document Owner) presented.

This document addresses Combined Vision Systems (CVS) technologies applied to helicopter operations. While RTCA DO-315x / EUROCAE ED-179x and DO-371 / EUROCAE ED-249 documents are not specialized for a particular type of platform or mission, they were mostly written with fixed-wing platforms and operations in mind. The present document is oriented specifically towards helicopter platforms and operations. It defines performance standards for CVS over head down and transparent displays, whose intended function is to provide a supplemental view of the external scene and visual references to the pilot. Such a CVS does not provide "additional operational credit' and is not intended to change the helicopter's existing operational capability or certification basis. The pilot(s) is expected to follow the existing operational procedures and adhere to all published minimums. This document is technically equivalent to EUROCAE ED-255.

The PMC approved the document. It will be published as DO-375. EUROCAE Council is currently reviewing with publication expected in early January.

B. **Revision to DO-201A –** *User Requirements for Navigation Data* **prepared by SC-217 (Aeronautical Databases***)*

- Brian Gilbert, SC-217 Co-Chairman, presented.

This document provides industry requirements for navigation databases for aeronautical use by identified applications. This document includes the information requirements for users. The expectation is that navigation data originators, navigation data providers, and application integrators would use this document when providing those data to system designers and/or users. This document provides an industry recommended basis for DQRs to facilitate end user development in support of an intended function.

This revision refines the scope to navigation data, provides an overview of Performance Based Navigation (PBN) and System Wide Information Management (SWIM) concepts in relation to navigation data, defines a data catalog, expands the set of data quality requirements, and provides new guidance on procedure design and coding. It addresses applications and related data needs that have emerged since the last revision. Definitions were also reviewed and updated throughout the document to maintain compatibility with other database and data processing standards

The PMC approved the document. It will be published as DO-201B. EUROCAE Council is currently reviewing the document for joint release. Publication will be deferred until the ICAO Doc 1066 (PANS-AIM) is published in early 2019, per SC-217/WG-44 request/recommendation.

There was discussion on status of SC-217. The group requested to be put on hiatus for at least a year until further assessment of the need to develop new standards or revise current ones to synchronize with upcoming ICAO and ARINC publications. RTCA Staff has been discussing potential of a new type of committee – something between the Forum of Aeronautical Software (FAS) and an SC with a TOR – to keep a collective body connected. Recommend not sunsetting a committee, but meet at least once a year to evaluate and make presentation to the PMC as required. Members agreed they liked the concept with an annual review of all groups in this "active monitor" status (action). PMC members then approved SC-217 to continue in an active monitoring status.

C. **Revision to DO-204A –** *MOPS for 406 MHz ELTs* **prepared by SC-229 (406 MHz Emergency Locator Transmitters (ELTs))**

- Tom Pack, SC-229 Chairman, presented.

This *MOPS for 406 MHz ELTs* update includes NASA research and development considerations for ELT crashworthiness, ELT power sources (primarily lithium), second generation ELTs, and inflight triggered ELT(DT) for Global Aeronautical Distress & Safety System (GADSS). This document was prepared jointly by SC-229 and EUROCAE WG-98.

The PMC approved the document. It will be published as DO-204B. EUROCAE Council approved ED-62B last week, so publication will be immediate. Additionally, PMC members approved SC-229 to continue in an active monitoring status.

D. **Change 1 to DO-363 –** *Guidance for the Development of Portable Electronic Devices (PED) Tolerance for Civil Aircraft***, originally prepared by SC-234 (Portable Electronic Devices (PED))**

The work on this change is not complete and will be presented at March 2019 PMC meeting.

AGENDA ITEM 4
Integration and Coordination Committee (ICC)

No ICC updates reported. See agenda items 6B and 6C for action item updates.

AGENDA ITEM 5
Cross Cutting Committee (CCC)

No CCC updates reported. See agenda items 6B and 6C for action item updates.

AGENDA ITEM 6
Action Item Review.

A.   **DO-374 Changes Prior to Publication – Discussion**

- Rebecca Morrison, RTCA Program Director, presented.

At the September PMC meeting, for the approval of DO-374 members recommended removing references in Section 1.55 that were not referenced in the document. Additionally, since this is not a MOPS, members recommended not including Section 1.4. Also, after a sidebar discussion, it was recommended not to list a specific version of DO-178 in SPR#37 on page 24. The format would be in alignment with the new RTCA Style Guide with sample format of: DO-XXX().

Since this is a joint document, these changes needed to be coordinated with EUROCAE prior to publication. EUROCAE agreed with the first three changes as administrative and changeable prior to publication. However, on the fourth change, EUROCAE recommended keeping the content of Section 1.4 only removing the paragraph in bold which are the instructions. Otherwise, it would require a re-approval by the Council and could delay publication by at least 30 days. An electronic poll was conducted with PMC members and the consensus was to agree with EUROCAE's input and publish DO-374 with the content of Section 1.4 only removing the paragraph in bold which are the instructions. Follow on recommendation is to delete Section 1.4 from the SPR Drafting Guide and possibly the MASPS Drafting Guide currently being revised. Action closed.

We have received input from Boeing on possible MASPS wording for Section 1.4 - Aircraft Vulnerability. It will be included in the proposed revision for the MASPS Drafting Guide.

B.   **Review ICC and CCC Charters - Discussion**

- Dr. George Ligler (ICC Chairman) and Clay Barber (CCC Chairman) presented.

When the ICC formed, Terms of Reference were originally generated for guidance. Dr. Ligler reported this guidance has worked well for the past 9 years, and except for administrative updates on references and possibly changing the document title to Charter to better align with its true purpose, recommends no major changes needed. PMC members agreed. Revised Charter approved (RTCA Paper No. 014-19/PMC-1849). This portion of action closed.

Following discussion on apparent underutilization of the ICC and CCC, it was recommended that possibly only one committee is needed. It was agreed the ICC has been very useful and has served its purpose of having a process for SC's to crossflow tasks. However, the CCC needs to be reviewed from its original purpose to possibly align with the new RTCA Standards Development Organization structure. Possible recommendation for expanding business development purposes and possibly going to RTCA Policy Board with recommendations. PMC members agreed to have CCC members review these ideas and report back to the PMC with recommendation(s) (action redirected).

C.   **Annual review of ICC and CCC Membership - Discussion**

- Dr. George Ligler (ICC Chairman) and Clay Barber (CCC Chairman) presented.

PMC members approved the following ICC and CCC membership slates for a one-year term to include:

ICC:
- Dr. George Ligler, ICC Chairman
- Clay Barber, Garmin
- Bob Hekl, MITRE
- Karan Hofmann, RTCA
- Bob Lee, Collins Aerospace
- Darrell Pennington, ALPA
- Ron Stroup, FAA

CCC:
- Clay Barber, CCC Chairman
- Rune Duke, AOPA
- Ed Hahn, ALPA
- Bob Lee, Collins Aerospace
- Al Secen, RTCA
- Ron Stroup, FAA
- Jessie Turner, The Boeing Company
- Jeff Woods, NATCA

Follow up will be discussed as needed pending the result of CCC review from agenda item 6B. Action closed.

D. **Work to suggest correct mapping and outline configuration management in coordination with ICAO – Discussion**

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

This original action item resulted from a presentation by former PMC member Rick Heinrich at the March 2018 meeting. He had investigated possible traceability of RTCA document use in ICAO Panel deliberations. He found the only traceable alignment was in the Aviation System Block Upgrade Call-outs (ASBUs). Possible follow action was thought necessary, but has been overcome by events. Action OBE.

RTCA Staff is compiling a spreadsheet of RTCA document references per ICAO request. Once this task is complete, the sheet will be made available to PMC members (action).

E. **Investigate feasibility of providing redlined version of completed documents - Status**

- Clay Barber (Garmin PMC Member) and Al Secen (RTCA Vice President, Aviation Technology and Standards) presented.

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Mr. Secen reported at September meeting that providing redline versions of documents to PMC members for their consideration for approval of a document could be a possibility. However, the original request from Mr. Barber was looking for making redline versions available to everyone after a document was approved and published. Follow on discussion between Mr. Secen and Mr. Barber came to conclusion that this was not a good idea to put those versions on the store, but rather try to find a means to capture requirements out of documents and make that available. Chairman Hegarty asked the group if there would be interest in such a "product" and received positive inputs. There was comment that part of doing this would be a need to have a specified format/structure for requirements in documents. Members thought this would be helpful to committees in the long run. Action redirected.

AGENDA ITEM 7
Discussion.

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

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

The committee requested delaying update to DO-235C for updating L1 interference report, adding a minor update to the Local Area Augmentation System (LAAS) Signal-in-Space Interface Control Document (ICD) to correct notes in Appendix B of DO-246E (to be published as a change), delaying DO-292 for update on L5 interference environment report, and delaying new MOPS for GNSS-aided inertial navigation systems. Delays are attributed to delays in expected completion of technology research.

The revised TOR was approved (RTCA Paper No. 307-18/PMC-1839).

B. **SC-186 – Automatic Dependent Surveillance Broadcast (ADS-B) – Discussion – Revised TOR.**

- Jessie Turner, SC-186 Co-Chairman, presented.

The committee asked for some administrative clean up on document designation and a delay of DO-317C delivery to add scope of horizontal figure of merit (HFOM) metrics for surface application, correct cockpit display of traffic information (CDTI) Assisted Visual Separation (CAVS) test scenario/vector errors, and develop the ADS-B velocity error model and TSAA test vectors.

The revised TOR was approved (RTCA Paper No. 007-19/PMC-1842).

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

- Tim Etherington, SC-213 Co-Chairman, presented.

The committee requested addition of two new MASPS deliverables - one for Synthetic Vision Systems (SVS)/Synthetic Vision Ground System (SVGS)/Combined Vision System (CVS) and one for Enhanced Vision Systems (EVS)/Combined Vision System (CVS)/Enhanced Flight Vision Systems (EFVS). This would consolidate similar guidance material for SVS and EVS/EFVS, as well as clarifying CVS in both documents depending on which source is primary for operational concepts. This would align work with envisioned AC and would eliminate circular references, provide better guidance material, and would facilitate better alignment and incorporation of additional CONOPS.

The revised TOR was approved (RTCA Paper No. 008-19/PMC-1843).

D. **SC-214 – Standards for Air Traffic Data Communication Services – Discussion – Revised TOR.**

- Captain Chuck Stewart, SC-214 Chairman, presented.

As a joint committee with EUROCAE WG-92, SC-214 requested adjusting delivery date for joint Very Large-Scale Demonstration (VDL) Mode 2 (VDL2) MOPS (DO-281D/ED-92D) and adding a new "companion" document on VDL2 ground system improvements to align with WG-92 TOR deliveries. Additionally, the group requested delivery of update to VDL2 MASPS (DO-224D) be adjusted to align with these joint deliverables.

The revised TOR was approved (RTCA Paper No. 009-19/PMC-1844).

E. **SC-216 – Aeronautical Systems Security – Discussion – Revised TOR**

- Dave Pierce, SC-216 Chairman, presented.

As DO-355 is a joint document, a revision was requested to align with EUROCAE WG-72 TOR. An additional guidance document on security events management was also requested to align with another EUROCAE deliverable.

The revised TOR was approved (RTCA Paper No. 010-19/PMC-1845).

F. **SC-228 – Minimum Performance Standards for Unmanned Aircraft Systems – Discussion – Revised TOR.**

- John Moore, SC-228 Co-Chairman, presented.

The TOR presented included proposed refinements to phase 2 scope of work and deliverables (Detect and Avoid MOPS scope and change SATCOM standard type from MOPS to MASPS) and considerable work on wording on addressing any reference to Part 91 operations in Class C/B airspace per ALPA's request.

The revised TOR was approved (RTCA Paper No. 011-18/PMC-1846) with a follow-on to have ALPA (Randy Kenagy) clarify reasoning for including the specific language (action).

G. **Terrain Awareness and Warning System (TAWS) – Discussion – Possible New Committee.**

- Lou Volchansky, PMC GAR – FAA, presented.

The FAA requests RTCA review National Transportation Safety Board (NTSB) accident reports, recommendations from the General Aviation Joint Safety Committee (GAJSC) CFIT working group, and the current TAWS standard. After reviewing NTSB Safety Recommendations, please determine whether RTCA/DO-367 needs to be updated to prescribe more current system inhibit requirements and TAWS envelope protections, based on current part 135 operating rules. No single solution may be found, but recommendations are needed.

Thoughts on how to address this request under the new RTCA structure. PMC members agreed a package similar to what is needed to start an SC would be appropriate. RTCA can assist the FAA with preparing a TOR and request letter (action). Once TOR received, there can be an electronic approval of this TOR by PMC members is completed prior to the March PMC meeting (action). To support this effort, RTCA will send a call out to members for possible interest in participation of TAWS investigation SC (action).

H. **Helicopter Terrain Awareness and Warning System (HTAWS) – Discussion – Possible New Committee.**

- Lou Volchansky, PMC GAR – FAA, presented.

EUROCAE has started an effort on HTAWS. Currently, some PMC members felt this effort was sufficient, as their companies were supporting this activity and RTCA effort was not needed. However, some members felt it a good idea to poll RTCA members as a whole for possible support (action).

I. **Actions Taken on Previously Published Documents – Report and Government Authorized Representative (GAR) List –Update.**

- Lou Volchansky, PMC GAR – FAA, presented

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. Original document is posted in Workspace (RTCA Paper No. 289-18/PMC-1828).

RTCA Document	Developed By	FAA Guidance	Approval Date	Comment
DO-257B, MOPS for the Depiction of Navigational Information on Electronic Maps	SC-227	TSO-C165b	28 Nov 2018	Supports updated requirements for the electronic display of an RNP system's outputs IAW DO-236C and DO-283B. Updates embrace new display technologies and revised human factors considerations.

RTCA Published Documents - FAA Pending Guidance

RTCA Document	Developed By	FAA Guidance	Planned Release Date	Comment
DO-311A, MOPS for Rechargeable Lithium Batteries and Battery Systems	SC-225	AC 20-184A	December 2018	Installation standard for rechargeable lithium batteries
DO-227A, MOPS for Non-Rechargeable Lithium Batteries	SC-235	AC 20-192	December 2018	Airworthiness installation criteria for non-rechargeable lithium batteries
DO-315A, DO-359, MASPS for Synthetic Vision Guidance System, MASPS for Aircraft State Awareness Synthetic Vision Systems	SC-213	AC 20-185A	December 2018	Consolidates synthetic vision, synthetic vision guidance system, and airplane state awareness guidance

DO-315A, MASPS for EVS, SVS, CVS, EFVS	SC-213	AC 20-167B	January 2019	Consolidates enhanced and combined vision system airworthiness criteria. No new criteria.
DO-220A, Change 1, MOPS for Airborne Weather Radar Systems	SC-230	TSO-C63f	January 2019	Aircraft weather radar design approval guidance.
		AC 20-182B	March 2019	Aircraft weather radar installation guidance. Likely reference for DO-213A, Change 1, MOPS for Nose-Mounted Radomes
Multiple RTCA data comm references from AC 20-140C (see last page of this file)	SC-214	AC 20-140D	February 2019	Incorporates clarification memo from Dec 2017 and policy for partial FANS-1/A installations
DO-372, Addressing Human Factors/Pilot Interface Issues for Avionics	SC-233	AC	March 2019	Best practices, informational AC (00-HF)
DO-362, Command and Control Data Link MOPS	SC-228	AC 20-187	March 2019	Airworthiness C2 installation guidance.
DO-365, Detect and Avoid MOPS Phase I. DO-366, MOPS for Air-to-Air Radar for Traffic Surveillance	SC-228	AC 20-DAA	June 2019	Airworthiness installation of a UAS DAA system

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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	Update for SATCOM Performance Class B supporting RCP130 including ground gateway-to-aircraft gateway VPN capability
DO-368, MOPS for GPS/GLONASS (FDMA + Antenna) L1-only Airborne Equipment	SC-159	None at this time	—	—
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	September 2019	VDB issue being resolved in MOPS. Will incorporate updated GAST-D design standard to support Category II/III operations; maintenance updates to legacy standards.
DO-356A, Airworthiness Security Methods and Considerations	SC-216	AC	September 2019	Supports Special Conditions

DO-370, Guidelines for the In Situ Eddy Dissipation Rate (EDR) Algorithm Performance	SC-206	TBD	N/A	N/A
DO-373, MOPS for GNSS Active Antenna in the L1/E1 and L5/E5A Bands	SC-159	TSO	TBD	New TSO. (Need updated interference environment, estimated Q4CY2019)
DO-230I, Standards for Airport Security Access Control Systems	SC-224	N/A	N/A	Provides guidance on acquiring and designing systems, testing and evaluating system performance, and operational requirements. Incorporates the latest technological advances. Adds a credentialing operational checklist.
New MOPS to Specify the ACAS X_a System and ACAS $X_{a/o}$ Functionality (Class 1 ACAS X & Class 2 ACAS X)	SC-147	TSO	November 2019	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)
		AC	February 2020	
SPR for Vision Systems for Takeoff	SC-213	None	N/A	Establish safety case for the takeoff operation.

				SC-214/WG-92/AEEC DLK recommends the MPS defined in TSO/ETSO-C160a not be revised until publication of DO-281D/ED-92D planned in late 2020.
DO-281C, MOPS for aircraft VDL Mode 2 Physical Link and Network Layer	SC-214	TSO	2021	

RTCA Documents Pending PMC Approval

RTCA Document	Developed By	Planned FAA Guidance	Planned Release Date	Comment
DO-204B – MOPS for 406 MHz ELTs (406 MHz Emergency Locator Transmitters (ELTs))	SC-229	TSO-C126c	March 2019	Updated design guidance for ELTs
DO-201B – User Requirements for Navigation Data	SC-217	AC 20-153B Change 1	September 2019	Specifically updates navigation data quality requirements (DQRs). (ICAO PANS-AIM Data Catalog, Doc 10066, publication date unknown.) Recommend Doc 10066 publication precede DO-201B posting.
MASPS - Combined Vision System for Helicopter Operations	SC-213	AC 20-167C	December 2020	CVS installation guidance for helicopters (for situation awareness)

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

- Rebecca Morrison, RTCA Program Director, presented.

Highlights from the Chair Reports for several selected Special Committees were reviewed. Reports were received from SC-135, SC-159, SC-206, SC-209, SC-216, SC-217, SC-224, SC-228, and SC-236. SC-227 did not meet in Plenary session since last PMC meeting.

SC-236 and SC-228 had Final Review and Comment (FRAC) periods close since last PMC meeting. SC-222 has two documents open for FRAC until early January. And SC-206 and SC-223 will have document open for FRAC in January. PMC members will be included in these FRAC release notification and invited to participate. Other information on SC activity was included in presentations during this PMC meeting.

The complete matrix and individual committee reports are posted on Workspace (RTCA Paper No. 290-18/PMC-1829).

K. **European/EUROCAE Coordination – Status Update.**

- Rebecca Morrison, RTCA Program Director, presented.

Topics of Note:
- New Documents Released by EUROCAE since last PMC
  - ED-240A – *Minimum Aviation System Performance Standards (MASPS) for Remote Tower Optical Systems* – WG-100, November 2018
  - ED-357/DO-374 – *Safety Performance and Interoperability Requirements Document Defining Takeoff Minima by Use of Enhanced Flight Vision Systems* – WG-79/SC-213, October 2018
  - ED-019 – *Inputs to RPAS AMC 1309* – WG-105, October 2018
  - ED-92C/DO-291C – *Minimum Operational Performance Standard (MOPS) for an Airborne VDL Mode-2 System Operating in the Frequency Range 118-136.975 MHz* – WG-92/SC-214, September 2018
- EUROCAE/RTCA Coordination Meeting - November 13-14, 2018 Hosted by RTCA
  - General Agenda topics:
    - Discuss the status of the joint programs
    - Presentations on the work that is being done by EUROCAE and RTCA which is non-joint
    - Discussion of specific emerging technologies
    - Review of Memorandum of Cooperation
  - Dr. Hegarty and Mr. Secen provided a summary of the meeting. Highlights included:
    - Reinforcement of relationship between RTCA and EUROCAE
    - Acknowledged our approval processes differ slightly, but we will continue to coordinate and work together for joint publication

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- With respect to interaction with ICAO, we will coordinate responses
- Starting review of MOU for updates
  - PMC Member Discussion:
    - On things going to ICAO through Europe and FAA blindsided at times
      - Since FAA is member of EUROCAE, possible list of FAA members on EUROCAE WG (action)
    - Other areas not related to TSO/ACs – but could be beneficial to participate
    - PMC members should bring any interest in EUROCAE activity to RTCA staff attention – members seemed to be in favor of possible expansion of RTCA role
- EUROCAE Upcoming Meetings:
  - TAC #76: January 15-16, 2019, St Denis, France (EUROCAE)
  - TAC #77: April 24, 2019, Toulouse, Airbus

L. **RTCA Drafting Guides – Status Update.**

- Karan Hofmann, RTCA Program Director, presented.

The RTCA staff continues working on updates to the drafting guides in coordination with EUROCAE to align the guides as much as possible. The plan forward is to share with PMC members for a FRAC period in early 2019.

AGENDA ITEM 8
Other Business.

A. SC-222 – Aeronautical Mobile Satellite (Route) Services (AMS(R)S) – Discussion – Revised TOR.

- Dr. Chuck LaBerge, SC-222 Chairman, presented.

Dr. LaBerge presented revised TOR to adjustment deliveries per request of three major industry members to accommodate Ancillary Terrestrial Component (ATCt) related issues. Also, Iridium needs to slip their inclusion in the joint documents by a year.

The revised TOR was approved (RTCA Paper No. 012-19/PMC-1847) with correct designations for types of document deliverables (change vs. revision).

B. Unmanned Aircraft System (UAS) Traffic Management (UTM) – Discussion – Possible New Joint Committee.

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

Mr. Secen provided a report from the UAS Technical Analysis and Applications Center (TAAC) Conference held last week (4-6 Dec). A topic that came up was that of how to intermix large Predator with small UAS in the lower level airspace. EUROCAE is starting a working group to

address and ASTM admits they would not be able to do alone. RTCA needs to determine if we want to get involved in UTM. Follow up discussion at March PMC meeting recommended (action).

C. Spectrum Considerations for Aviation Standards Presentation – Update

- Andrew Roy, Director, Engineering Services, Aviation Spectrum Resources, Inc., presented.

Mr. Roy provided an update since his presentation at the March PMC meeting. The ICAO Spectrum Handbook (Doc 9718) has become a reference for other aviation sources, but it needs a rewrite. The ICAO Frequency Spectrum Management Panel is evolving the document to make the material more accessible to the reader, reviewing characteristics for ICAO systems, and provide guidance for spectrum in aviation standards. He will provide further feedback after the January ICAO meeting.

PMC members thanked Mr. Roy for presentation and leaning forward in keeping us updated. It is a topic that cannot be ignored. It is coming up more often in SC's discussion on how it affects our standards.

- Briefing is posted on Workspace (RTCA Paper No. 303-18/PMC-1837).

D. SC-159 WG-2C Document IP Justification - Discussion

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

The committee presented at the March 2018 PMC meeting that they would like to include examples in an appendix in their new MOPS for GNSS-aided inertial navigation systems. The PMC requested more detailed justification before further action.

The document has been delayed a year per the SC-159 revised TOR (agenda item 7A). After discussion, PMC members agreed to go forward with inclusion of examples, on the condition a Commitment to License (CtL) is received prior to final publication approval. If a CtL is not received, the information will be pulled prior to final document approval. Thus, the information can be included in such a way as to be easily pulled and the working group needs to realize they are proceeding at risk. Recommend follow up by task lead at March PMC meeting (action).

AGENDA ITEM 9
Schedule for Committee Deliverables and Next Meeting Date

Documents expected for the March 21, 2019 meeting:

- SC-147, Aircraft Collision Avoidance Systems – Likely to be delayed
  - New Document – *MASPS for Collision Avoidance System Interoperability*

- SC-186, Automatic Dependent Surveillance Broadcast (ADS-B)
  - DO-317B Change 1 – *MOPS for Aircraft Surveillance Applications (ASA) System*

- SC-222, Aeronautical Mobile Satellite (Route) Services (AMS(R)S)
  - DO-343A Change 1 – *AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP)*
  - DO-262C Change 1 – *Minimum Operational Performance Standards Avionics Supporting Next Generation Satellite Systems*

- SC-223, Internet Protocol Suite (IPS) and Aeronautical Mobile Airport Communication System (AeroMACS) – at risk for March
  - New Document – *Aviation Profiles for Internet Protocol Suite*

- SC-228, Minimum Performance Standards for Unmanned Aircraft Systems
  - New Document – *C2 Link Systems MASPS*

- Originally prepared by SC-234, Portable Electronic Devices (PED)
  - Change 1 to DO-363 – *Guidance for the Development of Portable Electronic Devices (PED) Tolerance for Civil Aircraft*

- SC-236, Standards for Wireless Avionics Intra-Communication System (WAIC) within 4200-4400 MHz
  - New Document – *MASPS for Coexistence of Wireless Avionics Intra-Communication within 4200-4400 MHz*

The dates for the next four PMC meetings were confirmed: Thursday, March 21, 2019; Thursday, June 27, 2019; Thursday, September 12, 2019; and Thursday, December 19, 2019.

AGENDA ITEM 10
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 13, 2018 ATTENDANCE LIST		
PMC MEMBERS:		
Christopher	Hegarty	The MITRE Corporation Chairman
Doug	Arbuckle	Federal Aviation Administration
Clay	Barber	Garmin, Ltd
John	Craig	Aviation Information Sharing and Analysis Center
Rune	Duke	Aircraft Owners and Pilots Association
Jens	Hennig	General Aviation Manufacturers Association
Robert	Ireland	Airlines for America
Robert	Lee	Collins Aerospace
George	Ligler	Project Management Enterprises Inc.
Terry	McVenes	RTCA, Inc.
Joseph	Post	Federal Aviation Administration
Randy	Robertson	Honeywell International, Inc.
Al	Secen	RTCA, Inc.
Jessie	Turner	The Boeing Company
Lou	Volchansky	Federal Aviation Administration (Government Authorized Representative)
Heidi	Williams	National Business Aviation Association

OTHER ATTENDEES:		
Jonathan	Archer	General Aviation Manufacturers Association
Stephane	Dubet	DSNA
Tim	Etherington	Rockwell Collins, Inc.
John	Fisher	Federal Aviation Administration
Ed	Hahn	Air Line Pilot Association
Karan	Hofmann	RTCA, Inc.
Chuck	LaBerge	EPL LaBerge Engineering
John	Moore	Collins Aerospace
Rebecca	Morrison	RTCA, Inc.
Hal	Moses	RTCA, Inc. (Ret)
Thomas	Mustach	Federal Aviation Administration
Siobvan	Nyikos	The Boeing Company
Tom	Pack	ACR Electronics
Dave	Pierce	General Electric
Andrew	Roy	ASRI
Kate	Ryan	Securboration

Program Management Committee
December 13, 2018

Chuck	Stewart	United Airlines
Ron	Stroup	Federal Aviation Administration
Carlo	Tiana	Collins Aerospace

	PMC ACTION ITEM TABLE			
TRACKING NUMBER (Meeting Date and agenda item from which original action resulted)	**ACTION**	**ACTION ASSIGNED TO**	**DUE DATE**	**STATUS**
09/20/2018 Agenda Item 3B	09/20/2018 – Make approved changes to DO-374 prior to publication	RTCA Staff	Sep 2018	Closed
12/13/2018 Agenda Item 3B	12/13/2018 – Setup procedure for annual review of committees in "active monitor" status	RTCA Staff	Mar 2019	Open
09/20/2018 Agenda Items 4 & 5	09/20/2018 – Review ICC and CCC Charters wrt RTCA SDO status 12/13/2018 – Revised ICC Charter approved; CCC Charter further investigation	George Ligler Clay Barber	Mar 2019	½ Closed / ½ Redirect
09/20/2018 Agenda Items 4 & 5	09/20/2018 - Annual review of ICC and CCC memberships	George Ligler Clay Barber	Dec 2018	Open
03/22/2018 Agenda Item 6C	03/22/2018 – RTCA & FAA work to suggest correct mapping and outline CM in coordination w/ICAO	Lou Volchansky, Chris Hegarty, Doug Arbuckle, Brent Phillips, Al Secen	Jun 2018	OBE
12/13/2018 Agenda Item 6D	12/13/2018 – Once complete, share RTCA-ICAO document referenced spreadsheet with PMC	Al Secen	Jun 2018	Open
09/20/2018 Agenda Item 7C	09/20/2018 – Follow up w/EUROCAE for further clarification on objectives/purpose of WG-109	RTCA Staff	Mar 2019	Open
12/13/2018 Agenda Item 7F	12/13/2018 – Clarification on wording request included in SC-228 revised TOR	ALPA Randy Kenagy	Mar 2019	Open
12/13/21018 Agenda Item 7G	12/13/2018 – Prepare request package (including TOR) for SC to investigate possible TAWS actions	Lou Volchansky, RTCA Staff	Feb 2019	Open
12/13/2018 Agenda Item 7G	12/13/2018 – Conduct electronic approval for TAWS SC creation (with TOR)	Karan Hofmann	Feb 2019	Open
12/13/2018 Agenda Item 7G	12/13/2018 –Send call out to RTCA members for interest in supporting TAWS SC activity	RTCA Staff	Mar 2019	Open
12/13/2018 Agenda Item 7H	12/13/2018 – Send call out to RTCA members for possible interest in support a joint HTAWS effort	RTCA Staff	Mar 2019	Open
12/13/2018 Agenda Item 7K	12/13/2018 – Obtain list of FAA participants on EUROCAE WG's	Lou Volchansky	Mar 2019	Open

12/13/2018 Agenda Item 8B	12/13/2018 – Further discussion on UTM involvement by RTCA	Al Secen	Mar 2019	Open
06/21/2018 Agenda Item 8C	06/21/2018 – Investigate feasibility of providing redlined versions of completed documents 09/20/2018 – Update provided, but further questions 12/13/2018 – Redirect to pulling reqs from documents and making available separate format	Al Secen	Mar 2019	Open
12/13/2018 Agenda Item 8D	12/13/2018 – Obtain CtL from Safron for SC-159 WG-2C MOPS and follow up at next PMC mtg	SC-159 WG-2C	Mar 2019	Open