

**RTCA PROGRAM MANAGEMENT COMMITTEE  
MEETING SUMMARY  
December 19, 2019**

The RTCA Program Management Committee (PMC) convened at 8:30 a.m. on December 19, 2019 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. Proxies were announced (included in attendance list below). PMC Secretary Karan Hofmann reviewed the anti-trust statement, proprietary policy, and membership policy.
- B. The opening included a moment of silence in respect for the passing of Richard (Dick) Hess. He was active on RNP related committee work. PMC member extended their thoughts and prayers to his family.
- C. Mr. Jens Hennig, representative from General Aviation manufacturers Association (GAMA), announced Mr. Jonathan Archer would take over the role of primary PMC presentative from GAMA and he would be the alternate member. Mr. Hennig is now on the PMC Advisory Board.
- D. Mr. McVennes provided an update of RTCA for 2019 with the transition from Federal Advisory Committee to Standard Development Organization. Highlights include:
  - a. Governance: Added members to the Advisory Board to include new areas of interest, such as UTM, Drone, and more academia. Also expanded the Board of Directors from 6 to 8 members.
  - b. Training: Expanding this area to include a new Security Course, signed agreement with Mannarino Systems and Software, Inc. to add five different topic courses, and working on a new human factors course.
  - c. Infrastructure: Changing paint scheme, consolidating to all on 9<sup>th</sup> floor (with refresh of old areas as well), audio visual upgrade, going to digital website, and moving to a customized SharePoint for collaboration and document storage.
    - i. SharePoint timeline include 9 spirals, about 3 weeks each.
    - ii. Heavy membership training is expected

E. Ms. Reimold mentioned that the FAA is focusing on prioritizing and managing standards in conjunction with SAE, ASTM, and RTCA for a start. More coordination is expected in the coming year.

## **AGENDA ITEM 2**

### **Review / Approve**

- A. The summary of the September 12, 2019 meeting was approved (RTCA Paper No. 228-19/PMC-1943).
- B. The following administrative Special Committee Terms of Reference (TOR) Revision was presented and approved:
- SC-206 – Aeronautical Information and Meteorological Data Link Services - New Co-Chairman Mark Libant from NAV CANADA for retiring Tom Evans from NASA (thank you Tom for many years of outstanding support) – Approved (RTCA Paper No. 298-19/PMC-1964)

## **AGENDA ITEM 3**

### **Publication Consideration/Approval**

- A. DO-230J – *Standards for Airport Security Access Control Systems* prepared by SC-224 (Standards for Airport Security Access Control Systems)**
- Dr. Jonathan Branker, SC-224 member, presented.

These guidelines and standards are not regulatory in nature but represent the industry's derived consensus on standards and provisions to be met in achieving consistency and interoperability in an airport access control environment.

This updated document incorporates the latest technological advances with substantive changes in the biometrics, communications, credentialing, physical access control system, and video surveillance sections and minor changes throughout other sections of the document. Advances in Biometrics technology, Artificial Intelligence (AI), neural networks, and facial recognition have been included in the biometrics section including international plans and references. The physical access control section was updated to add suggested guidance on how to address the issue of general aviation (GA) pilots at commercial airports and the credentialing process for unescorted access.

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

## **AGENDA ITEM 4**

### **Integration and Coordination Committee (ICC)**

No ICC updates reported.

**AGENDA ITEM 5**  
**Cross Cutting Committee (CCC)**

No CCC updates reported. Determined this separate group not needed, so will be dropped from future meetings.

**AGENDA ITEM 6**  
**Action Item Review**

**A. Investigate Pulling Requirements from Documents and Making Available in Separate format - Discussion**

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

Mr. Secen reported the company we are working with (Securboratorion through a Department of Defense effort) was just awarded phase two of their research project. Progress is being made. Action still open.

Mr. Barber commented SAE is looking into something similar. Once we finalize MOU we could possibly work together.

**B. Share RTCA-ICAO Document Reference Spreadsheet with PMC Members - Discussion**

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

Spreadsheet posted in Workspace for PMC members. Action closed.

**C. Distribute IP Policy Once Approved by Advisory Board – Status**

- Karan Hofmann, PMC Secretary, presented.

Policy approved and posted in Workspace for PMC members. Action closed.

**D. FAA capture use/need for output of a DO-178C supplement - Status**

- Charles “Chip” Bulger (FAA) presented.

Mr. Bulger reported the FAA is continuing its look across the trade-space, to review all aspects, looking at what group procedures produce most effective results. Admittedly it will be some time before complete. He recommended this action be closed. PMC members agreed.

**E. Provide outline for envisioned UAS FAS Supplement - Status**

- Patty Bath, FAS Co-Chairman, presented.

Ms. Bath gave a quick overview of the actions the FAS received from their FAS UAS Ad Hoc Report to the PMC in March 2019.

The FAS is on schedule to complete suggested supplement guidance items through FAS Topic Papers (FTP). Expected publication of all UAS Related FTPs in January 2020.

- FTP 1049 – Memory Management Software Levels – December 2019
- FTP 1050 – Agile Methodology – November 2019
- FTP 1051 – Alternate Development Methodologies – November 2019
- FTP 1052 – Compiler Clarifications - December 2019
- FTP 1053 – Constraints for Supplements – December 2019
- FTP 1054 – Operating Systems Clarifications – November 2019
- FTP 1055 – Tool Qualification Clarifications – November 2019

The report identified the following issues within the category of “supplemental guidance needed”:

- “6.2.1: Commercial Off The Shelf (COTS) Software
  - 6.2.2: Open Source
  - 6.9: Service History
  - 6.10: Levelling of Objectives
- 
- For the first three topics, FAS has proposed to provide the following material:
    - Describe what the problems are for each issue raised by UAS ad-hoc group
    - Remind the sections of DO-178C/ED-12C, DO-278A/ED-109A, and also DO-330/ED-215 provide recommendation for each of the issue
    - Provide alternate recommendations for supplemental guidance (under a form compatible with the existing supplements, DO-278A/ED-109A or in a form yet to be determined)
  - Concerning 6.10 levelling of Objectives topic:
    - Requires consensus definition at System and Safety layer (WG-105, SC-228 and/or WG-63/SAE S-18 positions), as their output is input into SW processes
    - Currently consensus within the FAS Executive has not been reached on the recommendation. Alternatives include:
      - Standard dedicated to UAS (similar to DO-278A/ED-109A)
      - Supplements to existing standards

Outlines for each sub-bullet were provided, though still working on Open Source and Service History. FAS Exec expect these to be complete by end of December 2019 and will provide to PMC members (Action).

- The full presentation is posted on Workspace (RTCA Paper No. 222-19/PMC-1938).

#### **F. MASPS Deviation Request by SC-213**

- Rebecca Morrison, RTCA SC-213 Program Director, presented.

SC-213 has determine a deviation will not be needed and withdraw their request. Action OBE.

#### **G. Conduct Internal (FAA) 4D TBO Coordination**

- Doug Arbuckle, PMC Member, presented.

Mr. Arbuckle said the action it still being worked within the FAA. Action still open.

#### **H. After FAA Coordination, Ad Hoc 4D TBO with SC-227 and SC-186 (w/WG-51) Leadership**

Awaiting closure of item 6G. This action still open.

#### **I. Ad Hoc to determine way forward for possible new Special Committees**

- Terry McVenes, RTCA President, presented.

RTCA is continuing work on MOU's to work together on big items and break into parts to accomplish to safe resources. We still depend on industry's input to be the eyes and ears of what standards are needed.

As such means for starting new committees hasn't changed much but possibly more flexible. Ideas come to the PMC with endorsement from industry/government members with goals in mind for tasks. The PMC will evaluate and take appropriate action. (See agenda item 7A as example of flexibility.)

These actions will allow more open means to start new committees. Action closed.

#### **J. Ad Hoc to investigate possible SMOPS Concept**

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

Mr. Secen reported there have been serval meetings with various stakeholders, with one more scheduled with lower level staff after holidays. Making good progress with discussion leaning towards class base and scalable to risk. Ms. Reimold added internal FAA discussions also on-going. Expect to have good report for March PMC meeting. Action still open.

#### **K. Post email authorization on IETF for DO-379 for PMC Members**

- Karan Hofmann, PMC Secretary, presented.

Email post in Workspace for PMC members. Action closed.

**L. Corrections to SC-223 revised TOR prior to publication.**

- Karan Hofmann, PMC Secretary, presented.

The administrative corrections suggested at the September 12<sup>th</sup> meeting were included in the approved SC-223 TOR. Action closed.

**M. Corrections to SC-228 revised TOR prior to publication**

- Karan Hofmann, PMC Secretary, presented.

The administrative corrections suggested at the September 12<sup>th</sup> meeting were included in the approved SC-228 TOR. Action closed.

**N. Corrections to SC-229 revised TOR prior to publication**

- Karan Hofmann, PMC Secretary, presented.

The administrative corrections suggested at the September 12<sup>th</sup> meeting were included in the approved SC-229 TOR. Action closed.

**O. Further Review of TOR Template**

- Karan Hofmann, PMC Secretary, presented.

PMC members conducted open discussion and editing of TOR Template. It was agreed to change wording from “Due Date” to “FRAC Completion Due Date” in deliverables table and add wording: Note: Final Review and Comment (FRAC) Completion Due Date refers to the date that the committee plenary approves the document after completing the FRAC Process. SCs should submit the final document at least 45 days before the PMC meeting where it will be considered for approval.

There was discussion on document configuration management. It was determined it is an RTCA staff action to outline this procedure and document it. (Action)

Template was approved and will be used after today for all new and revised TORs. It will be posted on Workspace in the “Special Committee “Tool Box”” Group. Action closed.

**P. Distribute DO-325 Errata to PMC Members**

- Karan Hofmann, PMC Secretary, presented.

Errata posted in Workspace for PMC members. Action closed.

## **AGENDA ITEM 7**

### **Discussion.**

#### **A. New Committee – Counter UAS - Discussion.**

- Terry McVenes, RTCA President, presented.

After receiving 3 letters of support and EUROCAE requesting a joint committee with newly created WG-115, an electronic vote was conducted for PMC approval to establish SC-238 Counter UAS Special Committee. This was approved on December 6<sup>th</sup> with Max Fenkell of AIA as Chairman. EUROCAE conducted their kickoff meeting on December 12<sup>th</sup>. RTCA will follow with its own kickoff meeting on January 15<sup>th</sup>. From there forward activities will be joint with EUROCAE WG-115.

Final TOR will be completed during January Plenary and then approved electronically by PMC members. (Action)

PMC members requested a copy of WG-115 TOR. (Action)

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

- Patrick Kohn (SC-213 Chairman) and Trent Prange (SC-213 Government Authorized Representative (GAR)), presented.

The group is working jointly with WG-79. They requested delayed delivery for their two new MASPS (Synthetic Vision Systems and Enhanced Vision Systems) by one year and to add one new MASPS for Combined Vision System for Helicopter Operations for Low Visibility Operational Credit to harmonize with the EUROCAE WG-79 TOR. Additionally, they requested a change to DO-374 (Safety, Performance and Interoperability Requirements Document Defining Takeoff Minima by Use of Enhanced Flight Vision Systems) to clarify confusion in a Table 1-1.

The PMC recommended placing the deliveries in chronological order, updating the Envisioned and Specific Guidance sections to focus on the current documents (specifically to include need for DO-374 Change 1), and move text from delivery table “Note” to Envisioned Use section.

The revised TOR was approved with the discussed cleanups. (Action) (RTCA Paper No. 300-19/PMC-1966).

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

- Dr. Chris Hegarty, SC-159 Co-Chairman, presented.

The group updated wording of background section and requested delivery delay of two documents. Additionally, the GNSS (SBAS) MOPS description for both versions changed for clarification and assigning a month with year vs. general year for delivery.

The revised TOR was approved with the administrative corrections (RTCA Paper No. 297-19/PMC-1963).

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

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

The group requested delivery date changes and an additional change to a previously released document.

Mr. Kauffman (Honeywell) questioned if it made sense to continue to schedule the release of FIM documents while the speed constraint inconsistency remains between the Controlled Time of Arrival requirements in the recent Navigation standard (SC-227, DO-236C – Change 1) and the FIM requirements in the SC-186 documents. This is the issue being addressed in Action Item 6G (4D TBO Coordination). He also made the observation that as more and more features get added in new MOPS and result in new TSOs, more equipment will be built and fielded that may need to be modified after the action item is completed and the changes to either the Nav or FIM standards are released. Mr. Arbuckle pointed out that it is likely the Nav standard that will be modified and not the FIM standards.

Mr. Barber (Garmin) had provided inputs on changing the wording of DO-361A Change 1 description in the Deliverables Table. Mr. Turner will review. (Action)

The revised TOR was approved with the administrative corrections and once Mr. Barber's comments were considered (RTCA Paper No. 287-19/PMC-1959).

#### **E. SC-236 – Standards for Wireless Avionics Intra-Communication System (WAIC) within 4200-4400 MHz – Discussion – SARPS for WAIC**

- Steve Rines, SC-236 Chairman, and SC-236 members Uwe Schwark and Radek Zakrzewski presented.

The group requested a revision to DO-378 to include additional requirements that have been identified by ICAO FSMP. This requires quick release for coordination with ICAO SARPs. Additionally, Rich Adler is taking over as GAR

The revised TOR was approved (RTCA Paper No. 299-19/PMC-1965).

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



- John Moore, SC-228 Co-Chairman, will present.

As the group is coming to completion of Phase 2 deliverables, they are looking ahead to next steps for Phase 3 activity. Potential topics / initial seed ideas:

WG1: ACAS Xr, ACAS sXu, Urban Air Mobility, Solar HALE, En Route GBSS performance, DAA for single pilot commercial, obstacle/terrain/weather, non-cooperative small UAS

WG2: LTE taxonomy/relationships, SATCOM updates, L band updates, international harmonization, 3GPP harmonization

There has also been recent key stakeholder input for significant expansion of the TOR scope that includes standing up two operational working groups with industry and government participation. One to draft design guidance and procedures for operators, pilots, and ATC to follow when a UA goes lost link. And the other to draft navigation performance requirements for UA operating Part 91. This broadens the scope from GNSS only.

A revised TOR is expected for June PMC meeting.

They also reported that DO-365A – C2 Link System MASPS that was to be presented to this PMC meeting for approval is delayed as the group was unable to fully resolve all comments as anticipated. Additionally, due to the extensive changes with the FRAC, a second/extended FRAC period started December 13<sup>th</sup> and will close January 10<sup>th</sup>. Final presentation to the PMC is expected at March 2020 meeting.

Additionally, Paul McDuffee is stepping down as Co-Chairman. The PMC extended a huge thank you to Paul for his many years of service to the group.

#### **G. Possible Update to DO-155 (Low Range Radar Altimeters) – Discussion.**

- Laurent Azoulai and Jean Luc Robin, Airbus, presented.

Mr. Azoulai and Mr. Robin presented a request to re-open DO-155 (and ED-30 for joint effort). The current RF environment is more utilized than when DO-155 was developed (1974). Specifically:

1. Broadband based system (e.g 5G) are about to broadcast in the RA adjacent bands: 5G (3700–4200 MHz), DA2G China (4400–5000 MHz). Moreover, 280 MHz bandwidth in the C band (3700–4200 MHz) has already been allocated by FCC to 5G telecommunication industries.
2. WAIC (Wireless Avionics Intra Communication) systems have been granted to share the RA band (4200–4400 MHz) as per 2015 World Radiocommunication Conference - footnote 5.436 of the Radio Regulations -

3. Some other systems operating OOB (Out of Band) especially installed onboard aircraft have shown that they cause adverse effect on RA like EAN European Aviation Network (operating in 1980–1995 MHz band).

The new rad alt spec would seek to optimize the use of the band while keeping it dedicated to aviation use. It would also seek to define the parameters for side band interference to protect aviation spectrum

PMC members commented that new requests usually are presented with letters of endorsement and a proposed TOR. The presenter provided a suggested TOR and plan on presenting to the EUROCAE TAC. They understood need for getting endorsements. The PMC recommended a call out to RTCA membership for participation, possibly with specialists beyond current membership needed. (Action)

The PMC agreed with the overall idea of updating the document with specification that it will only apply to future equipment, no retrofit requirements. The PMC approved creation of the committee SC-239 Low Range Radar Altimeter but wanted to see the endorsements and refinement on the TOR to synchronize with the proposed EUROCAE WG. (Action)

Mr. Bulger indicated the GAR would most likely be Charisse Green.

#### **H. Private Workspace Concerns – Discussion.**

- Aloke Roy, SC-223 Chairman, presented.

SC-223, jointly with EUROCAE WG-108, has some concerns with availability of sensitive information to all members with no vetting of a need to know for certain risk analysis work. They are working to create a MASPS for ATN/IPS. As part of the MASPS, security risk assessment of the end-to-end IPS system, including the aircraft must be performed to develop requirements. The risk assessment and the derived requirements need to be discussed among key stakeholders and draft document shared among contributors. Members of the committee have concerns that anyone can join RTCA and/or EUROCAE and have access to the detailed risk/vulnerability analysis. ANSPs and airframers want to limit distribution only to stakeholders with a need to know.

SC-223/WG-108 requested a dedication workspace group with limited access to control distribution of the risk analysis. Any new members who want to join the workspace would have to establish a need-to-know and would need to be approved by either the SC-223 chair or the WG-108 chair prior to having access to the documents. Of course, this would need to be coordinated with EUROCAE prior to implementation.

There was much discussion on the request and possible solutions to handle the risk assessment information (including legalities for RTCA and EUROCAE as organizations and associated with current modes of operation). Members agreed there is no current policy (including handling of the information (such as markings) and any activities to support this request would set precedence

that neither organization really wants to support at the current time. Overall practices (such as FRAC) would be affected. It was suggested to pick one regulator and let them control the information. Possibly have assessment done on government side and then go to RTCA/EUROCAE for requirements. But who is really authorized to do vetting/policing? RTCA is not a certified Sensitive Compartmented Information Facility (SCIF), nor is it desired. All agreed this matter needed to be addressed, but it is currently counter to the process followed by RTCA committees creating open standards.

**I. Actions Taken on Previously Published Documents – Report –Update.**

- Charles “Chip” Bulger, 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. 257-19/PMC-1948).

*FAA Published Guidance (Since Previous PMC)*

RTCA Document	Developed By	FAA Guidance	Approval Date	Comment
DO-253D Change 1, MOPS for GPS Local Area Augmentation System Airborne Equipment	SC-159	TSO-C161b	17 Dec 2019	
DO-253D Change 1, MOPS for GPS Local Area Augmentation System Airborne Equipment	SC-159	TSO-C162b	17 Dec 2019	

*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	TBD	Installation standard for rechargeable lithium batteries
DO-227A, MOPS for Non-Rechargeable Lithium Batteries	SC-235	AC 20-192	TBD	Airworthiness installation criteria for non-rechargeable lithium batteries
DO-315A, DO-359, MASPS for SVGS, MASPS for ASA-SVS	SC-213	AC 20-185A	TBD	Consolidates synthetic vision (SVS), synthetic vision guidance system

				(SVGS), and airplane state awareness guidance
DO-315A, MASPS for EVS, SVS, CVS, EFVS	SC-213	AC 20-167B	TBD	Consolidates enhanced and combined vision system airworthiness criteria. No new criteria.
DO-220A, Change 1, MOPS for Airborne Weather Radar Systems	SC-230	AC 20-182B	TBD	Aircraft weather radar installation guidance
Multiple RTCA data comm references from AC 20-140C	SC-214	AC 20-140D	TBD	Incorporates clarification memo from Dec 2017 and policy for partial FANS-1/A installations
DO-362, Command and Control Data Link MOPS	SC-228	AC 20-187	TBD	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	TBD	Airworthiness installation of a UAS DAA system
DO-356A, Airworthiness Security Methods and Considerations	SC-216	AC	TBD	Supports Special Conditions
DO-370, Guidelines for the In Situ Eddy Dissipation Rate (EDR) Algorithm Performance	SC-206	TBD	N/A	FAA solicits industry feedback on need for FAA guidance on use of this document
DO-373, MOPS for GNSS Active Antenna in the L1/E1 and L5/E5A Bands	SC-159	TSO-C215	TBD	New TSO. (Need DO-292A (2020) for interference environment)
DO-385 MOPS for ACAS X <sub>a</sub> System and ACAS X <sub>a/o</sub> Functionality (Class 1 ACAS X & Class 2 ACAS X)	SC-147	TSO	TBD	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	TBD	

DO-281C, MOPS for aircraft VDL Mode 2 Physical Link and Network Layer	SC-214	TSO	2021	SC-214/WG-92/AEEC DLK recommends TSO/ETSO-C160a not be revised until publication of DO-281D/ED-92D planned in late 2020
DO-201B – User Requirements for Navigation Data	SC-217	AC 20-153B Change 1	TBD	Updates navigation data quality requirements (DQRs).
DO-317B Change 1	SC-186	Note to Manufacturers for TSO-C195b	TBD	Note to Manufacturers will post on FAA RGL with TSO-C195b, announcing availability of MOPS change.
DO-262D MOPS for Next Gen Satellite Systems	SC-222	None	N/A	TSO revision will synch with subsequent MOPS update
New C2 Link MASPS	SC-228	AC 20-187A	TBD	
DO-358A – MOPS FIS-B	SC-206	TSO-C157c	TBD	

***RTCA Documents Pending PMC Approval***

<b>RTCA Document</b>	<b>Developed By</b>	<b>Planned FAA Guidance</b>	<b>Planned Release Date</b>	<b>Comment</b>
DO-230J – <i>Standards for Airport Security Access Control Systems</i>	SC-224	N/A	N/A	FAA Orders referencing DO-230 won't require update for revision.

Mr. Bulger commented there continues to be delays for AC release due to lengthy legal reviews. We hope to have a schedule update by next PMC meeting. He also announced he would be retiring at the end of this month. PMC members thanked him for his support and wish him well on his next adventure.

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

- Rebecca Morrison, RTCA Program Director, presented.

Reports were received from SC-231, SC-230, SC-216, SC-206, and SC-135.

SC-236 – Presented today on their TOR (agenda item 7E).

SC-228 – Presented today on their TOR status (agenda item 7F).

SC-224 – Presented today on DO-230J (agenda item 3A).

SC-223 – Presented today on an item of concern (agenda item 7H).

SC-214 – Presented today on their TOR status (agenda item 8A).

SC-213 – Presented today on their TOR (agenda item 7B).

SC-186 – Presented today on their TOR (agenda item 7D).

SC-159 – Presented today on their TOR (agenda item 7C).

The complete matrix and individual committee reports are posted on Workspace (RTCA Paper No. 258-19/PMC-1949).

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

- Terry McVennes (RTCA President) and Al Secen (RTCA Vice President, Aviation Technology and Standards), presented.

RTCA and EUROCAE Secretariats held annual joint meeting November 14-15, 2019 at EUROCAE Headquarters, St Denis, France. Attendees included:

- EUROCAE
  - Christian Schleifer
  - Anna von Groote
  - Alex Engel
  - Jean-Christophe Albouy (Council Chair)
  - Eric Bouchard (TAC Chair)
- RTCA
  - Terry McVenes
  - Al Secen
  - Steve Brown (Board of Directors Chair)
  - Chris Hegarty (PMC Chair)

Topics of discussion included:

- Organization updates
- Review Technical Work Programs
- Specific areas for discussion
  - Future of SW standards/FAS/Ad Hoc
    - Recommendation for update – probably more supplements to primary documents (such as DO-178 and DO-254)
  - Cyber Security
  - UAS

- Urban Air Mobility
- Training
- Periodic MOC Review
- Joint Procedures (PMC Members requested a copy of the Joint Procedures (Action).
  - To include FAQ
- Relationship with other SDOs
- ICAO
- Symposium
  - Joint Global Harmonisation Award – will be presented at the RTCA Symposium
  - Cross participation Program

The general consensus was a better feeling on collaboration between the two organizations.

EUROCAE Upcoming Meetings:

- TAC#80 – January 14-15, 2020, Brussels, EASA
- TAC#81 – April 28, 2020, Geneva, IATA

#### **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. As this will continue to be a living document, we expect to release shortly and then continue to adjust as needed. Documents will be made available to PMC members for possible inputs.

#### **AGENDA ITEM 8**

##### **Other Business.**

#### **A. SC-214 – Standards for Air Traffic Data Communication Services– Discussion – Possible TOR Change.**

- Dongsong Zeng, SC-214 Secretary, presented.

The group, working jointly with EUROCAE WG-92, are advising the PMC and TAC of anticipated delayed delivery of DO-281D/ED-92D and DO-224E. They are still evaluating dependency of IPS under development that will lead to new requirements and validating the improvement to ensure smooth deployment of VDL Mode 2.

- The presentation is posted on Workspace (RTCA Paper No. 278-19/PMC-1953).

#### **B. Spectrum Considerations Update - Presentation.**

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

Mr. Roy provided a summary of the International Telecommunication Union Radiocommunication (ITU-R) World Radiocommunication Conference 2019 (WRC-19) Summary for Aviation held October 28<sup>th</sup> to November 22<sup>nd</sup> in Sharm el-Sheikh, Egypt. He covered WRC-19 Agenda Items Relevant to Aviation, WRC-23 Future Agenda Items and implications from the WRC. Mr. Roy will provide another spectrum update at the March PMC meeting.

- The presentation is posted on Workspace (RTCA Paper No. 280-19/PMC-1955).

## **AGENDA ITEM 9**

### **Schedule for Committee Deliverables and Next Meeting Date**

Documents expected for the March 26, 2020 meeting:

- SC-147, Aircraft Collision Avoidance Systems
  - New Document – *MASPS for the Interoperability of Airborne Collision Avoidance System (CAS)*
- SC-186, Automatic Dependent Surveillance Broadcast (ADS-B)
  - DO-328B – *Safety, Performance and Interoperability Requirements Documents for Airborne Space – Flight Deck Interval Management (ASPA-FIM)*
  - DO-361A – *MOPS for Flight-Deck Interval Management (FIM)*
- SC-222, Aeronautical Mobile Satellite (Route) Services AMS(R)S
  - DO-210D Change 5 – *MOPS for Geosynchronous Orbit Aeronautical Mobile Satellite Services (AMISS) Avionics*
  - DO-262E – *MOPS for Avionics Supporting Next Generation Satellite Systems (NGSS)*
  - DO-343C – *MASPS for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP)*
- SC-228, Minimum Performance Standards for Unmanned Aircraft Systems
  - DO-365A – *MOPS for Detect and Avoid (DAA) Systems* (Note: Delay from December PMC presentation due to need for second FRAC)
  - New Document – *MOPS for Ground-based Surveillance System (GBSS) for Traffic Surveillance*

The dates for the next four PMC meetings were confirmed: Thursday, March 26, 2020; Thursday, June 11, 2020 (NOTE: Change from June 25<sup>th</sup> due to FAA/EASA Safety Conference conflict); Thursday, September 10, 2020; and Thursday, December 17, 2020.



**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, Chairman  
RTCA Program Management Committee

**Program Management Committee – December 19, 2019  
ATTENDANCE LIST**

**PMC MEMBERS:**

Christopher	Hegarty	The MITRE Corporation Chairman
Doug	Arbuckle	Federal Aviation Administration
Jonathan	Archer	General Aviation Manufacturers Association
Clay	Barber	Garmin, Ltd
John	Craig	Aviation Information Sharing and Analysis Center
Rune	Duke	Aircraft Owners and Pilots Association
Jeffrey	Hausmann	Gulfstream Aerospace Corporation
Robert	Ireland	Airlines for America
Richard	Kahne	U.S. Air Force
Donald	Kauffman	Honeywell (Proxy for Randy Robertson)
Robert	Lee	Collins Aerospace
Terry	McVenes	RTCA, Inc.
Di	Reimold	Federal Aviation Administration Government Authorized Representative
Al	Secen	RTCA, Inc.
Ron	Stroup	Federal Aviation Administration (Proxy for Joseph Post)
Jessie	Turner	The Boeing Company
Heidi	Williams	National Business Aviation Association

**OTHER ATTENDEES:**

Laurent	Azoulai	Airbus
Patty	Bath	Avistain
Jonathan	Branker	Federal Aviation Administration
Chip	Bulger	Federal Aviation Administration
James	Daum	Federal Aviation Administration
Ed	Hahn	Air Line Pilots Association
Jens	Hennig	General Aviation Manufacturers Association
Karan	Hofmann	RTCA, Inc.
Patrick	Krohn	Universal Avionics Elbit
John	Moore	Collins Aerospace
Rebecca	Morrison	RTCA, Inc.
Thomas	Mustach	Federal Aviation Administration
Steve	Rines	Safran Aerospace
Jean Luc	Robin	Airbus

Aloke	Roy	Honeywell International, Inc.
Andrew	Roy	ASRI
Uwe	Schwark	Airbus
Anna	von Groote	EUROCAE
Christer	Wilkinson	AECOM
Radek	Zakrzewski	Collins Aerospace
Dongsong	Zeng	The MITRE Corporation

**PMC ACTION ITEM TABLE**

<b>TRACKING NUMBER</b> (Meeting Date and agenda item from which original action resulted)	<b>ACTION</b>	<b>ACTION ASSIGNED TO</b>	<b>DUE DATE</b>	<b>STATUS</b>
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 03/21/2019 – More structure format needed for requirements in MOPS and MASPS – prototype forthcoming 12/19/2019 – Research project has reached phase 2 funding – work continues	Al Secen	Mar 2020	Open
12/13/2018 Agenda Item 6D	12/13/2018 – Once complete, share RTCA-ICAO document referenced spreadsheet with PMC 09/12/2019 – Project determined to be too difficult and abandoned at this time. Will provide what was accomplished with PMC members. 12/19/2019 – Spreadsheet distributed	Al Secen	Sep 2019	Closed
03/21/2019 Agenda Item 6N	03/21/2019 – Ad Hoc review IP Policy (coordinate with EUROCAE) and recommend action for SC-159 GNSS-aided inertial navigation systems MOPS 06/27/2019 – Ad Hoc recommendations reviewed; being coordinated with EUROCAE and then to RTCA Advisory Board for approval; recommend SC-159 not include info without CtL 09/12/2019 – EUROCAE coordination complete and IP Policy scheduled for Dec RTCA Advisory Board Review 12/19/2019 – New Policy distributed	Terry McVenes, Al Secen, George Ligler, Mats Brenner, EUORCAE Rep	Dec 2019	Closed
03/21/2019 Agenda Item 7A	03/21/2019 - FAA capture their use/need for output of a DO-178C supplement 12/19/2019 – Part of larger FAA review. Recommended closing for now.	FAA Chip Bugler	Dec 2019	Closed
03/21/2019 Agenda Item 7A	03/21/2019 - UAS FAS Ad Hoc provide an outline for the envisioned supplement	UAS FAS Ad Hoc	Dec 2019	Closed

03/21/2019 Agenda Item 7C	03/21/2019 – SC-213 present to June PMC mtg on MASPS deviation request	SC-213	Sep 2019	OBE
03/21/2019 Agenda Item 8F	03/21/2019 – Internal FAA 4D TBO coordination	Doug Arbuckle	Mar 2020	Open
03/21/2019 Agenda Item 8F	03/21/2019 – After FAA coordination, Ad Hoc with SC-227 and SC-186 (w/WG-51) leadership on 4D TBO	Doug Arbuckle	Mar 2020	Open
06/27/2019 Agenda Item 7A	06/27/2019 – Ad Hoc to determine follow on COA for possible new SC’s (Counter UAS, HEE, & AI) 12/19/2019 – Process remains same, but more flexible	Terry McVenes, Jens Hennig, Jessie Turner, Bob Lee, and Randy Robertson	Dec 2019	Closed
06/27/2019 Agenda Item 8D	06/27/2019 – Ad Hoc to investigate possible SMOPS concept	Terry McVenes, Al Secen, Jens Hennig, Bob Lee, and Dan Elgas	Mar 2020	Open
09/12/2019 Agenda Item 3B	09/12/2019 – Post email authorization on IETF for DO-379	Karan Hofmann	Oct 2019	Closed
09/12/2019 Agenda Item 7B	09/12/2019 – Incorporate revised SC-223 TOR to include correct title for DO-379 in reference prior to publication	Karan Hofmann	Oct 2019	Closed
09/12/2019 Agenda Item 7C	09/12/2019 – Incorporate revised SC-228 TOR admin changes (dates and document versions) prior to publication	Karan Hofmann	Oct 2019	Closed
09/12/2019 Agenda Item 7D	09/12/2019 – Incorporate revised SC-229 TOR admin change prior to publication	Karan Hofmann	Oct 2019	Closed
09/12/2019 Agenda Item 8A	09/12/2019 – Further review of TOR template 12/19/2019 – completed and approved	RTCA Members	Dec 2019	Closed
09/12/2019 Agenda Item 8B	09/12/2019 – Distribute the DO-325 Errata to PMC members	Karan Hofmann	Oct 2019	Closed
12/19/2019 Agenda Item 6E	12/19/2019 – Provide FAS outlines for Service History and Open Source to PMC members	FAS Exec	Jan 2020	Open
12/19/2019 Agenda Item 6O	12/19/2019 – Document Configuration Management Procedure/Process	RTCA Staff	Jun 2020	Open
12/19/2019 Agenda Item 7A	12/19/2019 – Complete SC-238 TOR	SC-238	Jan 2020	Open
12/19/2019 Agenda Item 7A	12/19/2019 – Electronic ballot PMC members for SC-238 TOR approval	Karan Hofmann	Feb 2020	Open
12/19/2019 Agenda Item 7A	12/19/2019 – Copy of EUROCAE WG-115 TOR to PMC members	Karan Hofmann	Jan 2020	Open
12/19/2019 Agenda Item 7B	12/19/2019 – Clean up SC-213 TOR prior to publication	Karan Hofmann	Jan 2020	Open

12/19/2019 Agenda Item 7D	12/19/2019 – Consider Garmin’s SC-186 TOR edit change	Jessie Turner	Jan 2020	Open
12/19/2020 Agenda Item 7G	12/19/2019 – Send Call Notice for support to SC-239	RTCA	Mar 2020	Open
12/19/2019 Agenda Item 7G	12/19/2019 – Work SC-239 TOR in coordination with EUROCAE WG	SC-239	Mar 2020	Open
12/19/2019 Agenda Item 7K	12/19/2019 –Copy of the RTCA/EUROCAE Joint Procedures to PMC members	Al Secen	Mar 2020	Open