RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
June 22, 2023

The RTCA Program Management Committee (PMC) convened in a hybrid format at 8:30 a.m. on June 22, 2023, with some members present at RTCA and others participating via Webex. The attendance list and action items are attached.

AGENDA ITEM 1
Welcome and Introductions

A. Chair Hegarty welcomed the group, asked attendees to introduce themselves and to note their organization of affiliation. Proxies are noted in the attendance list.

B. Secretary Hofmann reviewed the anti-trust statement, proprietary policy, and membership policy.

C. Chair Hegarty welcomed new PMC member Jeff Troy from the Aviation Information Sharing and Analysis Center replacing Terrance (Terry) Kirk. Chair Hegarty extended thanks to Terry for his valuable input.

AGENDA ITEM 2
Review / Approve

A. Following discussion, members agreed to adjust the draft summary of the March 16, 2023 meeting to add an action for EASA (Item 6F); delete an action for FAA (item 6F); and add a comment on a follow-up activity for RTCA with its Board of Directors but no formal action (Item 7E). With a motion to approve from Member Turner and seconded by Member Roy, the revised summary was approved. (RTCA Paper No. 067-23/PMC-2410)

B. The following administrative SC Terms of Reference (ToR) revisions were presented. Approval was moved by GAR DeCleene, seconded by Member Hahn. The revisions were approved.

-   SC-216 – Aeronautical Information Systems Security – Changing Co-Chair from retiring Dave Pierce (GE Aviation) to Siobvan Nyikos (The Boeing Company). (RTCA Paper No. 159-23/PMC-2445) Thank you to Dr. Pierce for long time support!

AGENDA ITEM 3
Publication Consideration/Approval

A. DO-385A – Minimum Operational Performance Standards (MOPS) for Airborne Collision Avoidance System X (ACAS X) (ACAS Xa and ACAS Xo) Volume I and II, presented by SC-147, Traffic Alert and Collision Avoidance System (TCAS)

- Ruy Brandao and Stuart Searight, SC-147 Co-Chairs, presented.

This document sets forth minimum operational performance standards for the Airborne Collision Avoidance System X (ACAS X) equipment, including both Active surveillance (Xa) and special Operations (Xo) functions. ACAS X is intended to improve air safety by acting as a last-resort method of preventing mid-air collisions or near mid-air collisions (NMAC) between aircraft. By utilizing surveillance information from Secondary Surveillance Radar (SSR) and ADS-B technology, ACAS X equipment operates independently of ground-based aids and air traffic control (ATC). Incorporated within these standards are system characteristics that should be of value to users, designers, manufacturers, and installers. These characteristics are intended to accommodate the requirements of various users.

- Approval was moved by GAR DeCleene, seconded by Member Turner. The PMC approved the document. It will be published as DO-385A, Volume I and II. It will be published concurrently with EUROCAE ED-256A, Volume I and II.

A separate SC-147 topic related to DO-385A surfaced. This MOPS includes recommended use of Julia Code. Julia is a general-purpose programming language, designed for numerical/technical computing. The TCAS FAA Office is asking for RTCA to be the holder for this material. Chair Searight indicated there is nothing proprietary about this code and it could be considered a supplement to the document. Sr Director Morrison pointed out that any supplement material is made available during Final Review and Comment (FRAC). Chair Hegarty recommended SC-147 agree to including a supplement in Plenary and then come back to the PMC for handling. President McVenes commented we need to ensure from a liability stand-point there are no issues. Chairs Brandao and Searight assured the group that it is normative and would have to indicate use is at own risk.

B. White Paper – *Turbulence Observations and Related Needs*, presented by SC-206, Aeronautical Information and Meteorological Data Link Services

- Tammy Flowe, Tim Rahmes, and Mark Phaneuf, SC-206 SG4 Task Leads, presented.

The purpose of the presented white paper was to provide recommendations to the RTCA Program Management Committee (PMC) and EUROCAE Technical Advisory Committee (TAC) on examining RTCA DO-370, *Guidelines for In Situ Eddy Dissipation Rate (EDR) Algorithm Performance,* to determine if an update to the document is needed. The white paper also provides an examination of whether RTCA Special Committee (SC) 206 (SC-206)/EUROCAE Working Group (WG) 76 (WG-76) should pursue a joint supplementary document addressing new technologies that have emerged since RTCA DO-370 was published.

With turbulence being the leading cause of accidents/injuries involving Part 121 aircraft, the group did not want to leave anything out. The task went beyond just the evaluation of DO-370. A group of highly qualified subject matter experts, including members of international government agencies, commercial airlines, aircraft manufacturers, airline industry professionals, and other professionals developed this white paper and propose recommended actions with justification.

The result of the deliberations among the members was to recommend the development of a new Minimum Aviation Systems Performance Standards (MASPS) that identifies performance requirements for automated atmospheric turbulence derivation techniques. This recommendation was presented as part of the revised ToR for SC-206 (agenda item 6C). The objective would be to have an invokable document (i.e., leads to an Advisory Circular) with regulatory involvement with its development.

- Acceptance of this internal white paper was moved by Member Hahn, seconded by Member Turner. The PMC accepted. (RTCA Paper No. 075-22/PMC-2416).

C. DO-400 – *Guidance Material for Lost C2 Link UAS Behavior*, presented by SC-228, Minimum Performance Standards (MPS) for Uncrewed Aircraft Systems

- Randy Willis and Paul Albuquerque, SC-228 WG Task Leads, presented.

This document provides guidance to stakeholders that could be affected by UAS operations that may encounter a Lost C2 Link (LC2L) while operating in the United States National Airspace System. Although worldwide Unmanned Aircraft Systems (UAS) standards discussions identify a LC2L event as a rare event, standardized operating procedures to follow when/if this type of event occurs have yet to be established.

Having such procedures would (a) help air traffic controllers ensure predictability while providing air traffic services, (b) help remote pilots ensure the Uncrewed Aircraft (UA) follows a safe and predictable course, and (c) help aircraft manufacturers to build products that can be utilized worldwide. The guidance provided by this document is intended as a first step toward this standardization effort and would contribute to ensuring safety and efficiency in the evolving highly complex airspace system environment.

This document is focused on UAS operations flying under an Instrument Flight Rules (IFR) flight plan and taxi operations on the airport movement areas. It has a near-term emphasis (within 4 years) and aligns with the International Civil Aviation Organization (ICAO) standards produced on LC2L procedures and the consequential amendments to ICAO Annexes and Procedures for Air Navigation Services documents.

- Approval was moved by Member Hahn, seconded by GAR DeCleene. The PMC approved the document. It will be published as DO-400.

D. DO-220B – *Minimum Operational Performance Standards for Airborne Weather Radar Systems***, and Reference Supplement, presented by SC-230, Airborne Weather Detection System**

- Jeff Finley, SC-230 Chair, presented.

This document adds requirements and test procedures for a high-altitude ice crystal detection function for airborne weather radar. Any of the functions in the document may be implemented individually or in combination with any others. This document has been designed such that the requirements and test procedures for each function are grouped into distinct sections to facilitate testing and showing of compliance. Some references are available in the DO-220B Reference Supplement.

- Approval was moved by Member Hahn, seconded by Member Roy. The PMC approved the document. It will be published as DO-220B and a separate DO-220B Supplement.

E. DO-399 – *Guidance Document on Radar Altimeter Radio Frequency (RF) Interference Rejection and Tolerance***, presented by SC-239, Low Range Radar Altimeter**

This document was not completed to meet this PMC meeting. Discussion on this document is covered under agenda item 6G.

AGENDA ITEM 4
Integration and Coordination Committee (ICC)

A. Action Report on Suggestion of Possible Plan to Review RTCA Documents for Relevance and Currency

- Clay Barber, ICC Chair, presented.

The ICC reported on action from the March PMC meeting. It was pointed out that as part of their quality management system (QMS), EUROCAE regularly reviews documents after five years to determine if each document is still serving the needs of aviation and if updates are needed. RTCA has not formally conducted this review in the past but understands the need for such activity. The PMC members agreed a formal review of some kind would be beneficial and tasked the ICC to assist the program director team to define a method to review standards and bring recommendations to the PMC.

The ICC met and discovered that RTCA has over 450 documents in its catalog. The oldest was published in 1953, while the oldest document referenced by an FAA TSO was published in 1970. It was also noted that the FCC adopted a policy statement on efficient use of spectrum that includes "Operators and users should not assume that receivers designed for their original RF environment will remain categorically protected in the future…performing receivers, particularly when it is technically feasible and practical, over an appropriate amount of time, for receivers to perform their required functions with significantly more interference immunity."

The group recommends:
- Alignment with EUROCAE 5-year review cycle
- Review process for a given year should consider most recent version of documents published in a year that aligns with 5-year cycle
    - E.g., in 2023, review documents published in 2018, 2013, 2008, 2003, etc.
    - E.g., DO-257B (2018) could be reviewed in 2023, but DO-257A (2003) and DO-257 (2000) should be removed from list of documents that need review
- If time is an issue, review process could consider prioritizing documents referenced by certification authorities over other documents
    - E.g., documents referenced by (E)TSOs or A(M)Cs
- Additional consideration may be needed for standards with RF performance characteristics
    - E.g., if a standard is intended to be used by spectrum that comes under threat of reallocation, an out-of-cycle review may be appropriate
    - While FCC Policy Statement is focused on receiver performance, standards with transmitter performance also should be considered
- Stakeholder input should be required for any affirmation that a document is still serving the needs of the aviation industry or needs an update
- Affirmation that a document is good "as is" should be a viable conclusion
- RTCA members should express interest in making any update
- Documents that are joint with EUROCAE should have joint decision
- EUROCAE identifies documents for review in next year in Dec timeframe
- Suggest RTCA Staff cull list of 450 documents to those that are:
    - Used by active (E)TSOs, A(M)Cs, etc. or those cert authorities have indicated are planned to be used
    - These include MOPS, process documents like DO-178, DO-254, and DO-160, and others
    - Of historical significance (e.g., MASPS, OSEDs, SPRs, etc. used to develop MOPS)
- Once culled list is available, identify documents that:
    - Are already under revision (e.g., DO-257C, DO-160H)
    - Have RF performance (can leverage SC-242 document survey list)

After discussion, the group agreed to the approach. Initial action closed. Going forward, the first step is for the RTCA Secretariat to assemble a list of documents for possible review (action).

- The presentation is posted on AerOpus (RTCA Paper No. 128-23/PMC-2428).

AGENDA ITEM 5
Action Item Review

A. Regroup between RTCA and EUROCAE Secretariats on Way Forward for SC-240/WG-117

- Rebecca Morrison, Senior Director, Standards and Technologies, presented.

Sr Director Morrison provided a short history of the situation with SC-240 and the Forum for Aeronautical Software (FAS). Report included the following EUROCAE actions:

- EUROCAE has decided to descope SG-1 from the work of WG-117 and stand up a new EUROCAE WG-127, Lower-risk Aviation Applications
- EUROCAE is proposing a ToR update for WG-117 where the scope of the FAS will be added to the scope of WG-117
- The new group WG-127, is not requested to be joint with RTCA at the present time
- RTCA will monitor the work of WG-127 and keep the membership of SC-240 informed
- The first deliverable of WG-117 related to the work of the FAS is a document that defines what publication the joint committee believes are appropriate at this time

Timeline:
- PMC consideration at this meeting, June 22, 2023
- EUROCAE TAC presentation, June 27, 2023
- EUROCAE Council E-approval in July 2023
- PMC Final approval options:
  o Approve proposed ToR today
  o Wait for EUROCAE TAC result and conduct Out-of-Cycle (OOC) consideration
  o Come back to September PMC meeting

RTCA Recommendations:
- Approve proposed revised SC-240 ToR that removes SG-1 work and adds scope of FAS work
  o This would merge SC-240 and FAS (as a sub-group) into one group
- Add RTCA Report (RR) to ToR to be technically equivalent to document proposed for WG-117 ToR
- Monitor WG-127 to see if there is the potential for joint effort

After discussion, Chair Hegarty recommended inputs would be welcome with an OOC expected after EUROCAE approval of WG-117 revised ToR.

SC-240 Chair Russ Uthe brought up point of the service history being part of higher-level COTS and open-source software. Chair Uthe suggested the possibility of moving service history to be addressed separately. Possibly remove service history from title. Member Turner asked about removing altogether or just putting on back burner. Chair Uthe indicated not necessarily back burner but handle separately. Sr Director Morrison indicated that this would be scope change and is not Plenary-approved so not part of this suggested revision nor what is going through EUROCAE. Chair Hegarty suggested a future ToR change. Member Turner asked about stakeholders' support. Chair Uthe indicated there was such support.

- The presentation, the proposed draft ToR, and a bio from proposed Co-Chair are posted on AerOpus (RTCA Paper No. 134-23/PMC-2429).

B. SC-186 Present Summary of ADS-B in Discussion Group Activities White Paper recommendations to NextGen Advisory Committee (NAC)

- Brandi Teel, SC-186 Program Director, presented.

The recommendations from the SC-186 White Paper were delivered to the NAC Coordinator for distribution to NAC members. The SC is standing by if more information is needed or a formal presentation to the NAC. Action is closed.

C. DO-361A Change 1 Test Case on Document Change Format

- Brandi Teel, SC-186 Program Director, presented.

The group is expecting to have a draft MOPS document with change 1 items incorporated by the end of June. It will be shared with PMC members when completed and we expect a report on this effort at the September PMC meeting. Action still open.

D. SC-214 Provide Feedback on Tagging Timeline Impact to Deliverable

- Rebecca Morrison, Senior Director, Standards and Technologies, presented.

Director Morrison shared three proposed means of requirement tagging that have been used in various RTCA documents. SC-214 and EUROCAE WG-92 are meeting in Plenary the last week in June and will determine which means to use and determine time needed to accomplish the tagging. They will present final input at the September PMC meeting.

- The presentation and samples presented to SC-214 are posted on AerOpus (RTCA Paper No. 141-23/PMC-2434).

E. RTCA Make FAA Status Summary Available on RTCA Website

- Karan Hofmann, PMC Secretary, presented.

The FAA Document Status Report for the March 16, 2023 meeting was made available through the RTCA PMC public website – just like the agendas and summaries. Future reports will be posted in the same manner. Action closed.

AGENDA ITEM 6
Discussion

A. Out of Cycle Actions since last PMC Meeting – Presentation Summary

- Karan Hofmann, PMC Secretary, presented.

No such actions since last PMC meeting.

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

- Chris Hegarty, SC-159 Co-Chair, presented.

The group requested delivery date changes for four of their documents – DO-292A, DO-373A, and two new documents for RTCA working jointly with EUROCAE WG-62 on MOPS for certification of the receivers for aviation use with GPS, Galileo, and SBAS.

- Approval was moved by Member Turner, seconded by Member Madden. The proposed revised ToR was approved (RTCA Paper No. 157-23/PMC-2443).

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

- Tammy Flowe, Tim Rahmes, and Mark Phaneuf (SC-206 SG4 Task Leads), as well as Eldridge Frazier (SC-206 GAR) presented.

As a result of the white paper presented under agenda item 3B, the group (working jointly with EUROCAE WG-76) requested to add a Minimum Aviation Systems Performance Standards (MASPS) that identifies performance requirements for automated atmospheric turbulence derivation techniques that 1) allow for providing output in EDR format, and 2) are validated to within an acceptable level of operational comparability to support new in-situ data sources.

- Approval was moved by Member Hahn, seconded by GAR DeCleene. The proposed revised ToR was approved (RTCA Paper No. 153-23/PMC-2440).

D. SC-217 – Aeronautical Databases – Revised ToR

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

The group (working jointly with EUROCAE WG-44) requested delivery date changes for both of their documents.

- Approval was moved by GAR DeCleene, seconded by Member Barber. The proposed revised ToR was approved (RTCA Paper No. 158-23/PMC-2444).

E. SC-230 – Airborne Weather Detection Systems – Revised ToR

- Jeff Finley, SC-230 Chair, presented.

With the completion of all current deliverables the group recommended going to Active Monitor Status. They have identified three specific topics they would like to possibly investigate that may impact their documents. These topics are Spectrum Interference relating to airborne radars; Auto mode for airborne radars; and Guidance for windshear detection using small antennas, on rotorcraft,

and/or unmanned aircraft. They may also revisit current windshear detection requirements and verification criteria for modern large aircraft.

PMC members expressed interest in the group formalizing the analysis of spectrum issues, particularly possible interference with weather radar systems. There was much discussion on whether this objective could be accomplished in active monitor status or whether the ToR should be updated with a new document.

- The PMC did not approve the revised ToR. Instead, the group was tasked to meet in Plenary and discuss possibilities for formal inclusion in current documents and propose new ToR with these items in mind. (action)

F. SC-238 – Counter UAS – Revised ToR

- Adam Robertson, SC-238 Chair, presented.

The group (working jointly with EUROCAE WG-115) requested to combine the SPR and INTEROP into one document with a slight delivery delay and title change, and then develop an INTEROP as follow-on separate document, as well as add a revision to the OSED published in 2019.

Chair Robertson mentioned the separate INTEROP would be more detailed. PMC members asked if that would make the INTEROP portion included with the SPR obsolete and replace it fully. The indication was that would be managed, and an appropriate title for the INTEROP would be needed to make the distinction clear.

Chair Robertson also put in a "plug" for participation and expressed concern that the FAA ARC appears to be doing parallel work. President McVenes mentioned that RTCA is involved with the ARC and the outcome may impact future SC-238 work. In fact, the ARC is asking for a briefing from SC-238 leadership on the group's activity. The ARC is actually a short period activity (only through November 2023). The ARC is closed to non-roster members while the RTCA activity is more open – so SC-238 would only be invited to present, not participate. GAR DeCleene mentioned the ARC will ask for input from the SC. The ARC differs also in that it is addressing policy and RTCA/EUROCAE work is more technical, focusing on equipment standards. Also, the ARC is US focused, while the standards development work of SC-238/WG-115 is joint. So, the SC-238 and ARC efforts are aligned, but separate. President McVenes indicted it was good that the ARC was stood up, as it gives gravitas to SC-238's work.

- Approval was moved by Member Turner, seconded by Member Madden. The proposed revised ToR was approved (RTCA Paper No. 156-23/PMC-2442).

G. SC-239 – Low Range Radar Altimeter – Update

- Jean Luc Robin and Seth Frick, SC-239 Co-Chairs, presented.

DO-399 (related to agenda item 3E) FRAC comment resolution is not complete based on correspondence received in the week leading up to the May plenary meeting from multiple non-member commenters (including an unresolved Non-Concur from CTIA). Thus, no motion to close FRAC resolution and recommend DO-399/ED-310 for publication was considered in that May plenary as originally planned. SC-239/WG-119 will prioritize continued progress on the MOPS while the comment resolution process is worked.

All comment resolutions are implemented in a draft DO-399/ED-310 according to agreements-in-principle with the non-member commenters (based on previous meetings/correspondence), and available for review by the full committee. Working with the public commenters to resolve their comments did lead to changes to the document, which make it a better document.

Member Turner asked about the correspondence just prior to the May plenary – were they related to comments already submitted? Co-Chair Frick said the input from non-members were in response to trying to reach consensus. Most of the items brought forward were out of scope.

The MOPS schedule was reviewed by the full committee at May plenary – no comments or concerns were raised. President McVenes asked regarding MOPS if the group foresaw protection up to only 3.98 GHz as being necessary or whether proposals to implement 5G up to 4.0 or 4.1 GHz were considered. Co-Chair Robin indicated up to 4.2 GHz. Want to provide the best as we can with current technology in the entire 3-6 GHz band. Co-Chair Frick indicated trying to reach consensus on feasibility, yes at least up to 4.1/4.2 GHz. Looking at upper band edges, technology may be a limiting factor.

The group is still planning on MOPS completion by the end of next year (2024). A request was made at the May meeting to affirm the scope and intent of the MOPS in relation to ongoing Continued Operational Safety (COS) efforts concerning 5G interference to current Radar Altimeter equipment. The committee consensus, in alignment with the ToR, is that the MOPS shall specify requirements that yield a robust long-term solution that includes RF spectrum compatibility of future Radar Altimeter equipment.

No modifications or constraints will be made to the requirements specifically to enable more expedient implementations of potentially less robust equipment in support of COS activities. It is not within the scope of SC-239/WG-119 to dictate or predict any particular timelines for development and implementation of equipment compliant to the new MOPS.

Member Hoekema indicated some confusion on long-term matters. Requirements will require the re–design of all radar altimeters – more robust but keep current equipment viable. But for long term, improve RF section or more than that? Co-Chair Frick indicated they were not looking at the short vs. long term. Just implementation with no specific dates in mind; want more robust level of performance with respect to technology.

Member Hoekema added that this document FRAC may receive similar comments from non-members. Member Roy cautioned the Frequency Spectrum Management Panel (FSMP) SARPS for radio altimeters could fall in same situation as SC-236 with WAIC. High RF performance in

annex. Sr Director Morrison added that they were presenting to the FSMP and EUROCAE was submitting a paper.

GAR DeCleene expressed gratitude to the group for the work being done.

Chair Hegarty brought the discussion back to handling of DO-399. President McVenes indicated it was important how we close these comments. It needs to be a deliberate and thoughtful defense. The strength of RTCA documents is the FRAC process. Traditionally comments on RTCA document all originate from the aviation community with a common objective of ensuring a good document. Comments that are out of scope need to be properly dispositioned. Some external communities want this document to be published but are not being supportive of aviation needs and constraints. The work conducted by RTCA and EUROCAE will not be lost.

President McVenes and Director General von Groote proposed to create an ad hoc with 2-3 participants from each side that are neutral parties (i.e., don't have a dog in the fight). For RTCA, President McVenes is proposing getting two Advisory Board members and CEO Eastham for an objective view. We want a process in place and maintain the quality of the document. Member Roy agreed this is a good idea. It will provide guidance to address future activity as needed. DO-399 is the steppingstone to the new MOPS. We need to move on.

Member Turner asked from process perspective, how we should handle late comments even if an RTCA member (vs external party) submitted. Chair Hegarty said we have always been open to late comments when they are found to be necessary to ensure the correctness of our products. Maybe we should handle it as non-concur. This is an important topic. President McVenes said yes, violates process. But this will set precedence to dealing with other industries. The easy answer is not really the right answer. Member Turner agreed we need to work with them, but we have processes as well as they have processes. President McVenes added this is a topic on the Advisory Board meeting for next week. We want to work as quickly as possible on this matter. (action)

- The presentation is posted on AerOpus (RTCA Paper No: 137-23/PMC-2430)

H. Advanced Air Mobility Activity and other Topics from RTCA President – Update

- Terry McVenes, RTCA President, presented.

President McVenes provided an update and discussion on several topics:

- Advanced Air Mobility (AAM)
    - RTCA has hosted 4 AAM Workshops YTD and a 3-Part Webinar Series on AAM
    - Next Steps:
        - Forum for Industry Presentation on ConOps to drive avionics standards requirements and determine spectrum needs for AAM
        - White Paper to capture industry needs for standards and address DoT RFI questions
        - Safety Consortium
- White Papers – need to develop process on handling them when they are completed

11

- Flight Safety Foundation Richard Teller Crane Founders Award – jointly awarded to RTCA and EUROCAE
  - Thank you to all as this is really an award to all contributors to RTCA and EUROCAE!
- ICAO AAM Study Group – RTCA is represented on 3 of the subgroups
- Counter UAS Aviation Rulemaking Committee (discussed extensively as part of agenda item 6F)
- RTCA Advisory Board and Annual Meeting of Members – Wednesday, June 28, 2023
  - Introducing new advisory board members
  - Leadership, Significant Contributor, and William E. Jackson Awards Ceremony
- Future RTCA Leadership – President McVenes wanted all to know he is stepping down January 2024
  - The Board of Directors have begun a search with the goal of having a new President on board with some overlap starting in October

- The presentation will be posted on AerOpus (RTCA Paper No. 147-23/PMC-2439).

I. Digital Flight Operations Activity - Update

- Brandon Suarez, SC-228 Co-Chair, presented.

Co-Chair Suarez provided a short overview on the evolution of existing FAA Digital Flight (DF) Concepts. There is a need for DF as an operating mode. Although AAM is an umbrella term encompassing many use cases and technologies/capabilities, the need for DF lies in the gap between VFR and IFR. Both of these rely on human decision-making to cover everything not explicit in the rules. Operating Mode can form the framework for these operations to integrate, not just be accommodated.

RTCA is hosting a Forum for DF. It is organized in three topic areas (Operations, Third Party Service Providers, and Aircraft Capabilities).

PMC Member Kauffman asked how this forum relates to AAM. President McVenes answered that it is a subset of the AAM world's current focus, but with broader impact. Member Kauffman also asked about the deliverables from the forum, Co-Chair Suarez indicated the overall goal is a white paper as a means to provide consensus for the need – different to access and understand may not include specific standard recommendations.

President McVenes said this was an opportunity for industry to come together to say how this will benefit us. We'll see where the forum goes, as there are lots of moving parts, particularly with respect to AAM. This may help the FAA with future rule making.

- The presentation is posted on AerOpus (RTCA Paper No. 145-23/PMC-2437).

J. FAA Actions Taken on Previously Published Documents – Update

- Bruce DeCleene, Federal Aviation Administration, presented.

The FAA report was reviewed and discussed. The summary of items presented include:

FAA Closed Actions since previous PMC:
- Deliverable Use of Standard Complete (DO-361A): 1 TSO
- DO-365C (TSO-C211a), DO-366A (TSO-C212a), and DO-387 C1 – Not currently planning to update TSOs or develop new TSO
- DO-381A – Currently evaluating strategies and guidance for future TSO/AC
- DO-386 Vol I and II. DO-393, DO-396 – no plans to invoke or use these standards directly

RTCA Published Documents Pending PMC Approval:
- Deliverable Use of Standard in development: 1 AC and 1 TSO
- DO-400 – Currently evaluating how to use standard
- White Paper – Not planning to use, as internal RTCA PMC deliverable

RTCA In Work Documents:
- Revised ACs Expected: 17
- Revised TSOs Expected: 9
- Still TBD: 5
- Expected N/A: 6

RTCA Published Documents Pending FAA Action:
- Revised ACs Expected: 16
- Revised TSOs Expected: 4
- Still TBD: 4
- Expected N/A: 5
- Not Use: 1

- Report is posted on AerOpus (RTCA Paper No. 146-23/PMC-2438).

K. Special Committees - Chairmen's Reports – Review

- Rebecca Morrison, Senior Director, Standards and Technologies, presented.

Reports were received from SC-135, SC-186, SC-206, SC-213, SC-214, SC-216, SC-222, SC-223, SC-224, SC-227, SC-235, SC-236, SC-237, and SC-242.

Special notes from:

SC-222 – A DO-262F Change 2 is needed. Expect an OOC ToR revision approval request and then near September PMC an OOC change approval for publication.

SC-235 – Expect a second FRAC for their DO-227B due to the number of changes made to the document due to initial FRAC Resolution.

SC-242 – Expect first deliverable in late December 2023 with the current plan of a RAC in July, with presentation to the PMC in the fall. Expect a ToR revision.

Other Reports:

SC-147 – Presented a revised document (agenda item 3A).

SC-159 – Presented a ToR revision (agenda item 6B).

SC-206 – Presented a white paper and a ToR revision (agenda items 3B and 6C).

SC-217 – Presented a ToR revision (agenda item 6D).

SC-227 – Presented a ToR revision (agenda item 7B).

SC-228 – Presented a new document (agenda item 3C).

SC-230 – Presented a revised document and a ToR revision (agenda items 3D and 6E).

SC-238 – Presented a ToR revision (agenda item 6F).

SC- 239 – Presented on group status (agenda items 3E and 6G).

SC-240 – Presented a ToR revision (agenda Item 5A).

- The individual committee reports are posted on AerOpus (RTCA Paper No. 139-23/PMC-2432).

L. International Coordination – Status Update

- Rebecca Morrison, Senior Director, Standards and Technologies, presented.

EUROCAE published two non-joint documents since the last PMC meeting.

The next TAC meeting is 27-28 June 2023 at Airbus.

Updates on WG-51 (ADS-B) (working jointly with RTCA SC-186), WG-126 (VCS – ATC Systems Interoperability for ATM Information Exchange), and WG-127 (Lower-risk Aviation Applications) were received.

- The EUROCAE update is posted in AerOpus (RTCA Paper No. 138-23/PMC-2431)

AGENDA ITEM 7
OTHER BUSINESS

A. Operational Inputs to Special Committees - Discussion

- Wes Googe, Technical Pilot, American Airlines, presented.

Technical Pilot Googe presented an idea of setting up some type of advisory committee or other mechanism to bring as much flight operational input to the work that many of the SCs are doing today in RTCA. Flight operational expertise is vital for valid standards development. But resources are very limited for this SME experience as tasked to fly for the respective companies yet also fulfill the role of providing operational input to the standards for the equipment used every day. The idea is to get the best utilization from these SMEs for the benefit of all the pertinent SCs that are currently active.

Various ideas were discussed (e.g., using pilots that aren't flying due to medical grounding or possibly relying on "retired" technical pilots that stay on). PMC members seemed positive about establishing a new group as proposed. It was agreed to form an ad hoc to lay out a charter for such a group with report back to PMC (action).

- The presentation is posted on AerOpus (RTCA Paper No. 140-23/PMC-2433).

B. SC-227 – Standards for Navigation Performance – Revised ToR

- Ellen McGaughy, SC-227 Chair, presented.

The group requested a delivery delay of one quarter for the MOPS for Required Navigation Performance (RNP) and recommended a revision to the MASPS for RNP too coincide with this new delivery date. The group was reminded to add any scope to these documents that they would have to come back to PMC for approval. The changes are more for scope clarification Chair Hegarty pointed out that the current ToR specifies to add one feature, Data Driven Charting (DDC), whereas additional changes are being considered to Electronic Map Displays (EMD). SC-227 may want to bring back a ToR revision that allows for some freedom to consider additional changes/features for EMD. Chair McGaughy indicated that SC-227 would be discussing and if needed would come back to the PMC. All agreed the delivery date allowed plenty of time for such considerations.

- Approval was moved by Member Turner, seconded by Member Barber. The proposed revised ToR was approved (RTCA Paper No. 155-23/PMC-2441).

C. MOPS Drafting Guide – Suggested Addition

- Rebecca Morrison, Senior Director, Standards and Technologies, presented.

A suggestion was made to improve the security inputs in the MOPS drafting guide. The presentation was not ready for this meeting, so will be presented at the September PMC meeting. Regarding the Drafting Guide, Chairman Hegarty suggested for the next update to the guide that more details be provided on requirement tagging. (Noted for separate RTCA Secretariat action.)

D. Miscellaneous Items

Member Hahn mentioned Randy Kenagy will be retiring from ALPA with Stacey Bechdolt as the new Director, Engineering & Air Safety.

A note of sympathy to the families of Andy Zeitlin and Don Bateman on their recent passing of these aviation pioneers.

AGENDA ITEM 8
Schedule for Committee Deliverables and Next Meeting Date

Documents expected for the September 21, 2023, meeting:

- SC-159, Navigation Equipment Using the Global Navigation Satellite System (GNSS)
    - DO-401 – *Minimum Operational Performance Standard for GALILEO – Global Positioning System – Satellite-Based Augmentation System Airbourne Equipment*

- SC-214, Standards for Air Traffic Data Communication Services
    - DO-350B – *Safety and Performance Requirements Standard for Baseline 2 ATS Data Communication (Baseline 2 SPR Standard) Vol I & II*
    - DO-351B – *Interoperability Requirements Standard for Baseline 2 ATS Data Communication (Baseline 2 INTEROP Standard) Vol I & II*
    NOTE: Will be OOC approval request prior to September 2023 Meeting for both documents per March PMC Meeting request

- SC-223, Internet Protocol Suite (IPS) and AeroMACS
    - DO-404 – *Minimum Aviation System Performance Standard for ATN/IPS*

- SC-228, Minimum Performance Standards for Uncrewed Aircraft Systems
    - DO-381A - *MOPS for GBSS for Traffic Surveillance*

- SC-242, Spectrum Compatibility
    - Report #1 – *Survey on Radio Frequency (RF) Performance of Standards for Aeronautical RF Systems*
    NOTE: May be delayed, possibly expect ToR revision request at September meeting.

The dates for the next four PMC meetings were confirmed: Thursday September 21, 2023; December 14, 2023; Thursday, March 14, 2024; and Thursday, June 20, 2024.

AGENDA ITEM 9
New Action Item Summary

See PMC Action Item Table.

/Signed/
Karan Hofmann, Secretary
RTCA Program Management Committee

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

/Signed/
Christopher Hegarty, Chair
RTCA Program Management Committee

Program Management Committee – June 22, 2023 **ATTENDANCE LIST**		
PMC MEMBERS:		
Christopher	Hegarty	The MITRE Corporation Chair (Partial Proxy for Jens Hennig and Nancy Mendonca)
Clay	Barber	Garmin, Ltd.
Bruce	DeCleene	Federal Aviation Administration Government Authorized Representative (Proxy for Doug Arbuckle)
Edward	Hahn	Air Line Pilots Association
Jens	Hennig	General Aviation Manufacturers Association
Hette	Hoekema	European Union Aviation Safety Agency
Karan	Hofmann	RTCA, Inc. Secretary
Richard	Kahne	U.S. Air Force (Proxy for Ed Wright)
Donald	Kauffman	Honeywell International, Inc.
Justin	Madden	Airlines For America
Jim	McClay	Aircraft Owners and Pilots Association
Mike	McDowell	Collins Aerospace
Terry	McVenes	RTCA, Inc.
Nancy	Mendonca	National Aeronautics and Space Administration
Andrew	Roy	Aviation Spectrum Resources, Inc.
Jessie	Turner	The Boeing Company
Heidi	Williams	National Business Aviation Association

OTHER ATTENDEES:		
Moin	Abulhosn	Federal Aviation Administration
Mohammed	Ahmed	The Boeing Company
Paul	Albuquerque	Federal Aviation Administration
Burak	Ata	Volocopter
Odile	Auzary	Safran Group
Patty	Bath	AVISTA
Ruy	Brandao	Federal Aviation Administration
Julien	Bourdeau	Aviadal Consultants
Gilbert	Ceballos	Federal Aviation Administration
Christophe	Cucuron	Airbus
Mark	Eden	Air Line Pilots Association
Jeff	Finley	Collins Aerospace
Tammy	Flowe	Federal Aviation Administration

Eldridge	Frazier	Federal Aviation Administration
Brian	Gilbert	The Boeing Company
Anna	Guégan	EUROCAE
Dietmar	Freese	European Union Aviation Safety Agency
Seth	Frick	Honeywell
Ritesh	Ghimire	Federal Aviation Administration
Wes	Googe	American Airlines
Mark	Hammond	Technology Providers
Andreas	Hartl	Telecoadvice Consulting
Camden	Hurst	Air Line Pilots Association (Intern)
Sai	Kalyanaraman	Collins Aerospace
Ellen	McGaughy	Collins Aerospace
Rebecca	Morrison	RTCA, Inc.
Josh	Murdeck	Air Line Pilots Association (Intern)
Thomas	Mustach	Federal Aviation Administration
Taku	Nakagawasai	SCLABAIR
Thuc	Nguyen	EUROCAE
Malkit	Rai	General Atomics Aeronautical
Adam	Robertson	Fortem Technologies
Mark	Phaneuf	Air Line Pilots Association
Timothy	Rahmes	The Boeing Company
Jean Luc	Robin	Airbus
Cecilia	Shaw	Federal Aviation Administration
Stuart	Searight	Federal Aviation Administration
Paul	Siegmund	Federal Aviation Administration
Brandon	Suarez	Reliable
Brandi	Teel	RTCA, Inc.
Queron	Thompson	Federal Aviation Administration
Spencer	Thompson	Aircraft Owners and Pilots Association (Intern)
Alain	Vailee	EUROCAE
Edwin	van de Sluis	Netherlands Aerospace Centre (formally National Aerospace Laboratory (NLR))
Steve	Van Trees	Federal Aviation Administration
James	Venslauskas	RTCA, Inc.
Mark	Watson	EUROCAE
Randy	Willis	NGC
Janet	Young	Federal Communication Commission

Program Management Committee
June 22, 2023

PMC ACTION ITEM TABLE

TRACKING NUMBER (Meeting Date and agenda item from which original action resulted)	ACTION	ACTION ASSIGNED TO	DUE DATE	STATUS
12/16/2021 Agenda Item 6I	12/16/2021 – Regroup between Secretariats on way forward on SC-240/WG-117 03/17/2022 – Conditional approval of revised ToR – more work needed 06/23/2022 – Workshop held for inputs 09/15/2022 – Coordination continues 06/22/2023 – Way Forward presented – awaiting ToR approval on EUROCAE side to press forward	RTCA and EUROCAE Staffs & SC-240 Leadership	Sep 2023	Open
12/15/2022 Agenda Item 3B	12/15/2022 – Present White Paper recommendations to NAC 03/16/2023 – Still being worked 06/22/2023 – Recommendations forwarded to NAC Coordinator	SC-186 and RTCA	Jun 2023	Closed
12/15/2022 Agenda Item 3D	12/15/2022 – Fix inconsistencies in White Paper before posting 03/16/2023 – Actions accomplished; but not noted as completed at this meeting 06/22/2023 – Noted action completed	SC-228 and RTCA	Jan 2023	Closed
12/15/2022 Agenda Item 5G	12/15/2022 – Test Case of two types of Change format for store – DO-361 Change 1 03/16/2023 – Still being worked 06/22/2023 – Being finalized	SC-186 and Doug Arbuckle	Sep 2023	Open
03/16/2023 Agenda Item 6B	03/16/2023 – Provide feedback on tagging timeline impact to deliverable 06/22/2023 – Material provided by RTCA; SC-214 evaluating	SC-214	Sep 2023	Open
03/16/2023 Agenda Item 6F	03/16/2023 – Investigate possibility of EASA Status Summary type report similar to FAA report	EASA (Hette Hoekema)	Sep 2023	Open
03/16/2023 Agenda Item 6F	03/16/2023 – RTCA make FAA Status Summary available on RTCA Website 06/22/2023 – RTCA posted FAA Status summary with PMC Summary and will continue to do so	RTCA	Jun 2023	Closed
03/16/2023 Agenda Item 7D	03/16/2023 – ICC Ad Hoc to suggest possible plan to review RTCA documents for relevancy and currency	ICC	Jun 2023	Closed

Program Management Committee
June 22, 2023

06/22/2023 Agenda Item 4A	06/22/2023 – Assemble list of documents possible for review	RTCA Staff	Sep 2023	Open
06/22/2023 Agenda Item 6E	06/22/2023 – SC-230 reevaluate inclusion of possible spectrum related matters in their documents	SC-230	Sep 2023	Open
06/22/2023 Agenda Item 6G	06/22/2023 – Ad Hoc to address how to handle FRAC non-concur or out of scope comments from non-members	RTCA and EUROCAE	Sep 2023	Open
06/22/2023 Agenda Item 7A	06/22/2023 – Ad Hoc to draft Charter for a possible Technical Pilot Advisory Committee to serve all active SCs	Wes Googe, Ed Hahn, Justin Madden	Sep 2023	Open

Program Management Committee
June 22, 2023