RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
September 26, 2024

The RTCA Program Management Committee (PMC) convened in a hybrid format at 8:30 a.m. EDT on September 26, 2024, 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. Welcome and Introductions

PMC Chair Hegarty welcomed the group, asked PMC attendees to introduce themselves and to note their organization of affiliation.

- o It was noted that this will be last PMC meeting for Member and ICC Chair Clay Barber and RTCA PMC Secretary Karan Hofmann due to upcoming retirements. Chair Hegarty thanked both for their outstanding support over many years.

B. RTCA Opening Remarks

PMC Secretary Rebecca Morrison reviewed the anti-trust statement, export compliance policy, proprietary policy, and membership policy. There were no questions.

AGENDA ITEM 2: WELCOME AND INTRODUCTIONS

B. Meeting Summary June 27, 2024

Ms. Morrison noted Garmin provided inputs that an action item was missed in the summary. PMC members were to review the RTCA Final Review and Comment (FRAC) including the dissenting process, which is posted on the RTCA website. The action item was added to this draft summary and due at the PMC meeting on December 12, 2024. With a motion from Member Hahn and seconded by Member Barber, the June 27, 2024, meeting summary was approved with aforementioned correction.

C. Administrative Terms of Reference Changes

With a motion by Member Madden and a second from Member Hennig, the following administrative Terms of References (ToR) changes were approved:

- o SC-224, Airport Security Access Control Systems – Leadership Change
  Martina Benedikovicova of Charlotte Douglas International Airport was approved as new Secretary of SC-224 and removal of amendments to reflect the new ToR Template.

o SC-231, Terrain Awareness Warning System (TAWS) – Leadership Change
John Barry of the FAA is replacing retiring Rich Adler as GAR and Jim Mulkins from Honeywell was approved as Secretary of SC-231.

o SC-236, Standards for Wireless Avionics Intra-Communication System (WAIC) within 4200-4400 mHz – GAR Change
Barbara Clark of the FAA is replacing retiring Rich Adler as GAR of SC-236.

Member Barber agreed with administration approval but pointed out that the MOPS deliverable date is far later than the date specified in the ToR and recommended this be addressed at the next Plenary. Ms. Morrison (SC-236 PD) said an update on the status will be presented as part of Agenda Item 3I.

o SC-237, Helicopter Terrain Awareness Warning System (HTAWS) – GAR Change
John Barry of the FAA is replacing retiring Rich Adler as GAR of SC-237.

o SC-238, Counter UAS – Leadership Change
Al White of DZYNE Technologies was approved to fill the vacant Chair position of SC-238.

Chair Hegarty thanked Rich Adler for his years of service on many RTCA activities.

AGENDA ITEM 7: DISCUSSION AND STANDING REPORTS

A. RTCA President's Report

Carol Huegel, RTCA President and CEO, presented the following information to the Program Management Committee:

President and CEO Huegel welcomed everyone with apologies for her delayed arrival (traffic was snarled due to the severe weather). Ms. Huegel recognized that Karan Hofmann will be retiring in a few short weeks after 10 years of service to RTCA, including several years as the PMC Secretary. She also recognized that PMC Member Clay is retiring from Garmin and this is his last PMC meeting. We will celebrate Clay today with a hot lunch and cupcakes for dessert. We will celebrate Karan in October, closer to her final day at RTCA.

She shared highlights of RTCA activities since the June PMC meeting:

- Held first Advisory Board meeting on July 31st. It was later than would have liked but will meet again in a few weeks. The role and function of our Advisory Board is going to transition to a thought leadership role. Where should we be investing our resources "left of the TOR" to get in a position to better serve our members and the industry.

- We had a Board meeting in August. An outcome was consensus around our revised By-Laws. Removed all references to RTCA's identify as a Federal Advisory Committee and information that does not belong in a governance document. Our day-to-day business operating norms will be captured in supporting documents such as our Special Committee guidance. The By-Laws will be posted on our website www.rtca.org.

- With respect to changes related to the PMC – we have inserted 3-year terms for SC Chairs and Co-Chairs, with no limit on the number of terms, which we hope makes the roles more attractive to members contemplating taking the positions. We also allocated a 5 year term for the PMC Chair role, with no limit on the number of terms.

- RTCA has attended several industry forums –

  o Ms. Morrison attended the ICAO Frequency Management Spectrum Panel (FSMP) in Montreal. Will influence some of our direction in PMC.

  o Brandi Teel attended the ICAO AAM Symposium in Montreal.

  o President and CEO Huegel attended ALPA Air Safety (ASF) Forum which was well done and was impressed with the content and level of expertise among the panelists and moderators. Had a chance to talk to our members and ALPA's team, and walked away with a much better understanding of ALPA's priorities. The ASF closed with a keynote from The Honorable NTSB Chair Jennifer Homily who did a fabulous job highlighting how important the work of the entire aviation community is, in prioritizing safety across the ecosystem.

  o RTCA also attended the annual NATCA Communicating for Safety (CFS) conference in Vegas.

- RTCA hosted a Webinar in August whereby we sat down to speak with Dr. Pham from the FAA about AI in Aviation and Safety Assurances. We will be holding our second members-only AI/ML workshop on November 13th which will include a discussion on the FAA's concept paper. Dr. Pham will return for this workshop.

- Next week – we are heading to Paris for the annual coordination meeting with EUROCAE whereby we will continue our enduring relationship.

AGENDA ITEM 3: PUBLICATION CONSIDERATION / APPROVAL

A. **DO-292A –** *Assessment of Radio Frequency Interference Relevant to the GNSS L5/E5A Frequency Band –* **Presented by SC-159, Navigation Equipment Using the Global Navigation Satellite System (GNSS)**

Dr. Sai Kalyanaraman, SG-6 Task Lead of SC-159, spoke and remarked that WG-6 was still in the process of implementing the agreed upon comment resolution and the document would be presented at the October 25, 2024, plenary of SC-159.

No presentation was available for this publication at the September 26, 2024, PMC meeting. It is expected final resolution incorporation will be approved at SC-159 October 25th Plenary and the document will be presented at the December 12, 2024, PMC meeting.

B. **DO-407 -** *Minimum Aviation System Performance Standards (MASPS) for Synthetic Vision Systems, Synthetic Vision Guidance Systems and Combined Vision Systems –* **by SC-213, Enhanced Flight Vision Systems/Synthetic Vision Systems, (EFVS/SVS)**

Rebecca Morrison, PMC Secretary, presented.

Ms. Morrison reported RTCA had received questions from EUROCAE on inputs that could require technical changes to this joint document. The group decided to address the questions at the next Plenary in October. DO-407 and DO-408 will be added to the agenda of the PMC meeting scheduled for December 12, 2024. No issues resolving the requested edits from EUROCAE are anticipated.

C. **DO-408 -** *Minimum Aviation System Performance Standards (MASPS) for Enhanced Vision Systems and Enhanced Flight Vision Systems –* **by SC-213 - Enhanced Flight Vision Systems/Synthetic Vision Systems, (EFVS/SVS)**

Inputs under agenda item 3B.

D. **DO-280B -** *INTEROP for Aeronautical Telecommunication Network Baseline 1 (ATN B1 Interop Standard) Change 2 –* **by SC-214, Standards for Air Traffic Data Communication Services**

Claire Robinson, Chair of SC-214, presented this document.

DO-280B Change 2 - The update to the Interoperability Requirements Standard for Aeronautical Telecommunication Network Baseline 1 (ATN B1 Interop Standard), published by RTCA in September 2024 as RTCA DO-280B, includes changes that have resulted in data discrepancies and document deficiencies discovered during its implementation by members of the aviation community. This document rewords the interoperability requirement to not require the repetition of the "CLEARED TO" waypoint. As well, changes have been made to send the Transfer Instruction (UM117 / UM120) not included in the CPDLC-End request.

Chair Hegarty asked for a motion to publish the document. Member Barber moved and Member Hennig seconded. The motion passed. Publication is delayed in order for EUROCAE to complete their work to publish the technically equivalent document. RTCA will publish when EUROCAE confirms they are ready to publish.

E. DO-351B - Interoperability Requirements Standard for Baseline 2 ATS Data Communications (Baseline 2 Interop Standard) Change 1 - by SC-214 - Standards for Air Traffic Data Communication Services

Claire Robinson, Chair of SC-214, presented this document.

This update, Change 1, to the Interoperability Requirements Standard for Baseline 2 ATS Data Communication, ATN (Baseline 2 Interop Standard), published by RTCA in September 2024 as RTCA DO-351B, has been produced to reflect changes that have resulted in data discrepancies and document deficiencies discovered during implementation. This Change 1 to RTCA DO-351B adds the use case for responding to a contract request with the reason code "contract number already in use"; updates the note content to point to the new link for the supplemental material; corrects the CPDLC Message Set Version 4 ASN.1; corrects the ADS-C Message Set Version 3 ASN.1; and updates the CPDLC uplink Message elements and ADS-C messages and parameters P/OICS.

Chair Hegarty asked for a motion to publish the document. Member Barber moved and Member Hennig seconded. The motion passed. Publication is delayed in order to coordinate with EUROCAE. RTCA will publish when EUROCAE has completed their work to publish the technically equivalent document.

F. DO-326B - Airworthiness Security Process Specification - by SC-216, Aeronautical Information Systems Security

Sarah Stern, Co-Task Lead and Patrick Morrissey, SC-216 Co-Chair, presented this document.

This guidance document adds to current guidance for aircraft certification to handle the threat of Intentional Unauthorized Electronic Interaction (IUEI) to aircraft safety. It adds data requirements and compliance objectives, as organized by generic activities for aircraft development and certification, to handle the threat of IUEI to aircraft safety. It can be used to support aircraft and system certification for aircraft information security considerations under EASA AMC 20-42 for CS-E 50, CS-P 230 and CS 25.1319 and the upcoming FAA rules for 14 CFR 25.1319, 33.28 and 35.23.

Member Madden asked if there were differences between industry and authorities on Security Assurance Level (SAL) relative to the EASA and FAA certification processes.

Ms. Stern replied that the FAA does not see a difference between Design Assurance Level (DAL) D and DAL E, as defined in DO-178C. Companies are using the SAL which is a high level of assurance for security. Companies resist using a SAL 3 with DAL E.

Mr. Morrissey added that DAL E is handled differently by EASA and FAA. There is little to no evaluation of the DAL E system by the FAA. EASA requires a demonstration of the function as part of the certification package. When a security function is incorporated at a DAL E, EASA would evaluate the function with the assigned SAL, but the FAA would not. There is concern about equivalence of FAA and EASA acceptance and concern with allowing DAL E to carry a security function.

Ms. Stern added that there is some equivalence between the assignment of a DAL, for hardware and software, and a SAL, but the equivalence doesn't extend to DAL E.

Member Hennig brought up that as part of the work on assessing design changes for cyber security implications, the work of SC-216/WG-72 should be considered as part of 14 CFR 21.101 Designation of applicable regulations. The FAA Changed Product Rule (CPR) Aviation Rulemaking Committee (ARC) will meet over the next two years and plans to host a presentation by the team to discuss CPR in the context of cybersecurity and the standards presented in DO-326B. If that invitation hasn't been issued, Jens will help connect SC-216 and the ARC through RTCA. Ms. Stern and Mr. Morrissey thanked Member Hennig.

Chair Hegarty asked for a motion to publish the document. Member Hennig moved, and Member Barber seconded. The motion passed. Publication is delayed in order to coordinate with EUROCAE. RTCA will publish when EUROCAE has completed their work to publish the technically equivalent document.

Ms. Hofmann (SC-216 PD) commended the group for this joint effort and specifically recognized Co-Task Leads Ms. Stern and Mr. Stefan Schwindt, Mr. Morrissey as the subgroup secretary, and document editor Mr. Dave Pierce (former Chair of SC-216 and soon to be retired).

Member Madden stated that DO-355B is a priority of his A4A members. He asked if it was possible to publish sooner than the projected FRAC completion of December 2026 with publication in March of 2027. He further asked Mr. Morrissey if there are more operators participating in the development now.

Mr. Morrissey responded that members frequently advocate for more participation through various means – speaking at forums, etc., and affirmed that SC-216 recognizes the urgency.

Member Madden suggested they talk off-line, as this is very important.

President and CEO Huegel asked if this should be an action, as this has been mentioned now at two PMC meetings. Chair Hegarty and Member Madden responded with preference to gather more information and discuss the issue at the December 2024 PMC meeting.

G. DO-379A - Technical Standard of Aviation Profiles for Internet Protocol Suite Update - by SC-223 - Internet Protocol Suite (IPS) and Aeronautical Mobile Airport Communication System (AeroMACS)

Jonathan Graffe, Chair of SC-223, presented this document.

This revision addresses changes needed to support the recently published DO-404 which is the MASPS for IPS for ATN.

Chair Hegarty asked for a motion to publish the document. Member Barber moved, and Member Kauffman seconded. The motion passed. Publication is delayed in order to coordinate with EUROCAE. RTCA will publish when EUROCAE has completed their work to publish the technically equivalent document.

The group indicated that they would like to add a technical report to their TOR to capture changes needed to DO-379A and DO-404, the MASPS for IPS. Change requests are expected after the completion of a research project, Very Large Scale Demo (VLSD), sponsored by FAA and a demonstration being conducted by SESAR. Details of these demonstrations were not available at the last SC-223 Plenary meeting, so a proposed ToR revision could not be brought to this PMC meeting. More information will be available at the next plenary in January 2025, and the group will bring a proposed TOR revision to the March 2025 PMC meeting.

H. DO-406 - Minimum Operational Performance Standards for Ultra High Frequency Airborne Radio Systems Supporting UAS C2 Link Systems –by SC-228 - Minimum Performance Standards for Uncrewed Aircraft Systems

Jim Williams and Brandon Suarez, Co-chairs of SC-228 presented this document.

This Minimum Operational Performance Standards (MOPS) is needed to support Uncrewed Aircraft (UA) flights within the U.S. National Airspace System (NAS). This standard is envisioned to apply to UAS operated under the 14 CFR Part 91 "General Operating and Flight Rules." The standard is not intended for aircraft operated under 14 CFR Part 107 Small UAS rules. This document is constructed to provide generic standards for any UHF Airborne Radio System (ARS) using the UHF Band.

The Co-Chairs stated one comment was received that dealt with suspected inconsistencies in the MOPS Drafting Guide. These were forwarded to RTCA for consideration/ action. Ms. Morrison explained this deals with section 1 (intended function of MOPS) and section 2.1 (minimum performance requirements for the equipment). Clarification is on the list for consideration in the upcoming 2025 Drafting

Guide Review. (Member Barber remarked he was glad to hear attention to detail was important to others.)

Chair Hegarty asked for a motion to publish the document. Member Hahn moved, and Member Madden seconded.

I. **DO-402 – MOPS for Wireless Avionics Intra-Communication within 4200-4400 MHz -by SC-236, Standards for Wireless Avionics Intra-Communication within 4200-4400 MHz**

Steve Rines and Uwe Schwark, co-chairs of SC-236, presented this topic.

Despite numerous attempts to do so, SC-236 has not been able to find compromises on the non-concur comments from public commenters. They request mediation with the PMC, the EUROCAE TAC, and the non-concur public commenters.

Chair Hegarty agreed with the co-chairs that we need to move forward with the dissent process. This is in alignment with the recommendations from the 2023 PMC/TAC Ad Hoc whereby the handling of non-member non-concur situations was examined.

Mr. Rines stated the TAC had met last week and indicated they are ready to go the same way.

Mr. Hoekema (TAC member) expressed concerns. He commented there is a need for more context to take more of a system wide approach. He further expressed that even if RTCA implements the dissent procedure for this document, the relationship between industries will still need to have some resolution. The problem will not go away by moving forward with the dissent process.

Mr. Rines agreed – there is no way out of this mess. The scope of the effort has changed since the allocation of 4 200-4 400 MHz for WAIC by the ITU. Now there are allocations to the telecom industry that produce signals which leak into our band and now we must state what we will do to protect ourselves. The public commentors are asking to reduce the transmission power of WAIC systems and increase the protection.

Mr. Hoekema replied that he didn't think the group was being asked to do more, other than to provide more context. He expressed that he thinks it may be too soon to jump to the dissent position.

Mr. Rines responded that he is not sure what else can be done by the committee members.

Member Roy asked if in the discussions we have had with telecom folks, whether the committee walked them through the process on how the work of SC-236 is consistent with ITU documents. He asserted that explaining how SC-236 reduced the transmission

level to be consistent with ITU-R M.2059 and how this was aligned with the ICAO SARPs may be helpful, and asked if this has been done.

Mr. Rines replied that the problem you run into with the telecom participants with proposed solutions that reflect the way they do things without a clear understanding of the requirements of the aviation industry. He further stated the group has tried to tell them how the requirements are based on both the SARPs and the ITU-R M.2059 guidance. All of the information must be considered together. Their proposals don't consider the way we, in aviation, do business.

Chair Hegarty asked if we could bring this to closure, as the next step is a mediation meeting.

Ms. Morrison recommended asking Anna Guégan from EUROCAE.

Chair Hegarty asked for EUROCAE input.

Mark Watson (EUROCAE Representative) said that further discussion is needed and the subject is on the agenda of the RTCA/EUROCAE coordination meeting scheduled to take place in France next week.

Chair Hegarty commented that mediation is most likely, and while RTCA and EUROCAE will discuss the subject next week, we need to proceed prior to the next PMC meeting. If we continue asking the SC to come up with solution, it may lead to WAIC not being useful to aviation.

Mr. Rines indicated he and Co-Chair Uwe Schwark could be available for meetings to help communicate the constraints.

RTCA President and CEO Huegel asked if data could be provided prior to next week's coordination meeting. The background would be very helpful to prepare for the discussion. Ms. Morrison indicated we have it and would be glad to provide to anyone who needs it.

Action for RTCA to meet with EUROCAE to determine the path forward at the annual RTCA/EUROCAE coordination meeting next week. It is noted that SC-236 believes it is time to initiate the dissent process, but they would support a mediation effort.

AGENDA ITEM 4: INTEGRATION and COORDINATION COMMITTEE (ICC)

A. Accolades to Retiring ICC Chair Clay Barber

Carol Huegel, RTCA President and CEO, presented.

At the occasion of Clay Barber's final PMC as he readies for retirement, RTCA recognized his many years of service and support to the aviation industry and

particularly to RTCA. President and CEO Huegel named Mr. Barber the Inaugural PMC Member Emeritus. President and CEO Huegel recognized not only Mr. Barber's technical expertise and impact on the industry, but also his outstanding professionalism and leadership. Ms. Huegel remarked that the way in which Mr. Barber conducts business is inspirational, and he is a role model for future generations of aviation professionals.

Mr. Barber thanked President and CEO Huegel and RTCA for the honor.

The presentation of the plaque was followed by warm remarks from many members in the room and on the Webex.

B. Replacement ICC Chair

Chair Hegarty asked if it was time to name a replacement for Mr. Barber's role as ICC Chair. An option would be wait to select a Chair until special business comes up, as the ICC is only active when there is an action. For now, the PMC agreed to hold on this matter.

AGENDA ITEM 5: PAST ACTION ITEM REVIEW

A. RTCA to form SC-239 PMC Ad Hoc with EUROCAE TAC Assigned 06/27/2024

Carol Hugel, RTCA President and CEO, presented.

President and CEO Huegel provided a brief overview of the purpose of the Ad Hoc.

At the June meeting of the PMC, President and CEO Huegel presented that the members of SC-239, working with EUROCAE WG-119, no longer agree on the appropriate scope and technical products for RTCA to create and integrate Radar Altimeters into the global airspace. While the group was making progress capturing the technical requirements and test procedures, two issues had arisen whereby the committee could not reach consensus after months of trying to do so:

- The level of effort to validate the requests and test cases to be completed prior to publication of the MOPS, and
- whether the ITM document could be/should be finalized prior to finalizing performance requirements.

In order to facilitate consensus on these two issues, President and CEO Huegel requested/proposed – Engage the PMC and the TAC to identify (1) at strategic level, the desired technical products, (2) the level of requirements validation needed, and (3) expected delivery dates

On July 9, 2024, Chair Hegarty sent a letter to the EUROCAE TAC Chair, signed by himself and President and CEO Huegel, inviting the TAC to join RTCA for the Ad Hoc discussion and deliberations.

The Ad Hoc has met four times: July 15th, August 6th, August 29th, and September 23rd. A fifth meeting is being planned in October.

The goal of the Ad Hoc remains to be providing technical expertise and leadership to the members of SC-239 to help them come to consensus on updates to the schedule identified in the ToR. The Ad Hoc continues to encourage and advise SC-239 leadership with the goal of maintaining the scope currently defined in the ToR and urgently produce a robust MOPS that will be suitable for use by regulators.

President and CEO Huegel expressed appreciation for SC-239 being at RTCA for their working meetings and plenary this week.

Chair Hegarty stated that while RTCA invited the TAC to participate, due to the differences in working hours, there has been limited TAC involvement to date.

President and CEO Huegel shared that at the most recent meeting of the Ad Hoc the SC-239 leadership shared a detailed plan for the work of the group this week at RTCA The leadership also reviewed the risk matrices they developed and committed to provide a report to the Ad Hoc summarizing their progress this week.

This topic is continued under Agenda Item 7-L with the status presentation by the leadership of SC-239.

B. RTCA to Provide Export Compliance Policy Wording Assigned 06/27/2024

Carol Huegel, RTCA President and CEO, presented.

Following discussion with RTCA's General Counsel, the RTCA Export Compliance Wording has been finalized. It will be included as part of the opening Plenary slides along with other RTCA policies. The slide was included in the RTCA policy presentations for this meeting.

C. RTCA to Report back to PMC on implementation of Ops Inputs to SC's – Assigned 03/2024 (Due 12/2024)

This results of this action will be shared at the December 2024 PMC meeting.

AGENDA ITEM 6: OUT of CYCLE ACTIONS SINCE MARCH 2024 PMC MEETING

PMC Secretary Morrison reported there had been no out of cycle approvals since the June 2024 PMC Meeting.

AGENDA ITEM 7: DISCUSSION AND STANDING REPORTS

A. RTCA President's Report

Summary found after Agenda Item 2-B on page 2 of this summary.

B. FAA Actions Taken on Previously Published Documents – Report

Cecelia Shaw, FAA Representative, presented.

Ms. Shaw reported no publications since last PMC and stated the FAA hopes to have some to report in December and early 2025.

Member Hennig stated the Notice of Proposed Rulemaking (NRPM) on Equipment, Systems, and Network Information Security Protection published in August with SC-216 references and said that was appreciated by the aviation community.

PMC Chair Hegarty thanked Ms. Shaw for the report.

C. EASA Action Status Summary – Report

Hette Hoekema, EASA Representative, stated that there was no update since the June meeting of the PMC.

D. Special Committees - Chair's Reports – Review

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

Chair Reports were received from SC-135, SC-206, SC-216, SC-222, SC-223, SC-227, SC-235, SC-242, and SC-244. Four late reports from SC-224, SC-230, SC-240, and SC-231 will be provided at the conclusion of this PMC Meeting.

Ms. Morrison stated that the inputs from Member Barber concerning consistency of reports with respect to content, listing of participants, and length of the reports are being addressed and we should see improvements with each cycle.

E. International Coordination – Status Update

Anna Guégan (EUROCAE) and Rebecca Morrison (RTCA) presented.

Ms. Guégan identified the publications from EUROCAE since the last PMC and the scheduled meeting dates of the EUROCAE TAC and Council.

Ms. Morrison presented the activities RTCA is undertaking at international events including participation in the ICAO FSMP, Transport Canada TSO Conference, and the ICAO Remotely Piloted Aircraft Systems Panel.

Chair Hegarty also mentioned the annual RTCA/EUROCAE coordination meeting will be 2-3 October at EUROCAE.

PMC Chair Hegarty thanked Ms. Guégan and Ms. Morrison for the updates.

F. Possible Documents for Review – Status Update

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

RTCA will reach out to the five active committees (SC-213, SC-214, SC-216, SC-228, and SC-230) whereby document reviews are needed. Feedback can be expected at the March 2025 PMC meeting.

As a standing agenda item in March, RTCA will provide a list of documents to be considered for revision and their status. It will be in March that RTCA requests PMC Member's help to review topics that are no longer supported by an Active or Active Monitor committee.

PMC Chair Hegarty thanked Ms. Morrison for the presentation.

G. SC-135 - Environmental Testing- Revised ToR

Kyle McMullen, Chair of SC-135, presented.

The group requested a modification to their ToR to add an internal report dealing with testing issues of high voltage for airborne equipment. The Task Lead for this project will be Brad Green, former SC-135 Chair. Chair McMullen asked the PMC to adjust the date for RAC to October 2025 vs. March 2025.

This will not be a joint effort with EUROCAE WG-14.

SC-135 has a Secretary Change from Jake VanDyke from Amazon Prime Air to Vicky Kapetanos from Honeywell.

Garmin inputs were reviewed and accepted. Garmin approved adjustments.

Chair Hegarty called for a motion to approve the ToR change with the Garmin inputs. Member Hahn moved and Member Barber seconded.

The ToR update was approved.

Chair Hegarty extended a thank you to Jake VanDyke for his service as Secretary for the group.

H. SC-186 – Automatic Dependent Surveillance Broadcast (ADS-B) – Revised ToR

Jessie Turner, Chair of SC-186, presented.

The group requested an extension for Change 2 of DO-260C and a deliverable of DO-260C with Change 1 and Change 2 integrated. He also noted that the position of secretary is now vacant.

Member Kauffman moved to approve the ToR with the October 2024 FRAC completion date. Member Hennig seconded. The motion passed.

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

Tammy Flowe, Task Lead, presented.

The group requested to change the ToR including date changes for three of their technical products. They also requested a change in the Automated Atmosphere Turbulence Derivation Techniques to be a Technical Standard instead of a MASPS.

There was a question submitted to clarify the difference between MASPS and Technical Standards. Ms. Flowe explained that the contents of both a MASPS and a Technical Standard are essentially the same; the difference is a Technical Standard describes "state of the art" from an industry perspective and a MASPS is a more formal document typically used to serve as an accept means of compliance. She noted that the ultimate invocation of any technical product is a regulator decision.

Chair Hegarty suggested possibly including Technical Standard in the types of RTCA documents. Ms. Morrison agreed and noted for future action.

Moin Abulhosn (FAA) commented that a technical standard is a legal term. This is much more appropriate for the document. A MASPS is describing a big system. It is not used as a technical term for the FAA. And a technical standard would be useable.

Ms. Flowe also reported joint document DO-364A / ED-XXX was approved for FRAC/OC release at last week's SC-206/WG-76 Plenary. The EUROCAE designation is now ED-335.

Ms. Flowe stated that she will become the GAR after December 2024 when Eldridge Frazier retires. Chair Hegarty expressed thanks to Mr Frazier for his many years of support of RTCA activities.

Hette Hoekema, as a member of the TAC, reported that last week at the EUROCAE TAC there was a discussion on the topic of the proper content and scope of this document. EASA has concerns with using the approach taken here where data is used from sensors with no qualification or approval and providing information on an application on an Electronic Flight Bag. The TAC approved the ToR change, but they assigned an action to Alexander Engel (WG-76 TPM) and the group to consider and address a list of concerns at their next meeting.

Mr. Abulhosn added that he had already discussed the matter with FAA upper management and would be reaching out to EASA to discuss. Mr. Hoekema said thank you.

Chair Hegarty also asked about Garmin's comment on the presentation provided prior to the PMC meeting. Member Barber said the comment had been addressed with a reference in a backup slide. Ms. Flowe had corrected it.

Member Hahn moved to approve the ToR as presented and it was seconded by Member Barber. The motion passed.

J. SC-228 – Minimum Performance Standards for Uncrewed Aircraft Systems - Revised ToR

Jim Williams and Brandon Suarez, Co-Chair of SC-228, presented.

SC-228 requested to add a Change 1 to DO-365C to incorporate only DO-366B Class B2. They also requested to adjust FRAC and delivery dates for DO-365D to coordinate with SC-147's ACAS Xr MOPS. These changes will stagger FRAC cycles to space out the documents.

SC-228 is currently working in three working groups as WG-3 completed its work on Lost Link Procedures. The subgroups of SC-228 remain in need of secretaries for its two working groups and invited interested members to join committee leadership.

Member Hennig asked about an issue from six months ago regarding FAA reducing the funding for ACAS Xr and if the issue had been resolved.

Mr. Suarez confirmed the issues are resolved, but added the funding is only available through calendar year 2025. The goal is to complete in the timeframe provided in the ToR which is aligned with the FAA funding for SC-147 efforts. These funding efforts are dependent on the FAA TCAS Program Office. Mr. Willians remarked that 6 months ago the FAA funding was constrained.

Ms. Morrison thanked Garmin for their comments on the ToR – all were accepted by SC-228 leadership.

Chair Hegarty asked if FCC ruling would cause requirements to change and what effect it might have on the committee's work.

Mr. Williams indicated the recent FCC ruling was aligned with the committee's publications. The original objective was to create a standard by which the C-Band User Rules could be accomplished. The FCC has referenced the document to support FCC certification. The additional requirement is about the way the band will be managed and dynamic frequency band administrators. What wasn't expected was the ground radio as a proxy with the managers monitoring to ensure it is being used according to allocation. This drove a requirement on how to make information available to allow monitoring. While the committee did not know this requirement was proposed, and the group will need to cover it in the requirements for the ground radio, it will not be difficult to accomplish.

Member Barber thanked group for acceptance of Garmin comments. Mr. Barber also noted that the ToR now included a report, but it did not have a comment as to whether the committee would engage in RAC or FRAC. Mr. Williams said the report will go through FRAC as the group hopes that the FAA will recognize it under the Part 108 Beyond Visual Line of Sight (BVLOS) means of compliance.

Chair Hegarty commented if no note indicated in delivery table, it will be going through FRAC. Member Barber recommended a report should have some kind of note for clarification, as most of the previous reports have not gone through FRAC. Member Barber added they had a similar question on SC-230 ToR. Chair Hegarty indicated no strong feeling but suggested this be considered for the next ToR template change.

Chair Hegarty called for a motion to approve the ToR.

Member Barber moved, and Member Kauffman seconded the approval of the ToR as presented.

Mr. Suarez thanked Member Barber and RTCA for their continued support.

Member Roy asked about the FCC Report and Order, saying DO-362A is a reference document in the regulations. Notice mentions document is available for inspection at FCC Reference Information Center or National Archives and Records Administration (NARA). Mr Roy asked how RTCA handles this requirement.

Ms. Morrison responded that RTCA is working with the FCC to apply the proper marking for hard copy for a possible physical review.

Member Roy then asked about Part 88 referencing DO-362A. If the document is revised, what happens to the reference? Mr. Williams indicated that the report and

Order (R&O) says the update is delegated for approval to the sections of the FCC without going back to R&O. Member Roy indicated he will come back if there are questions directly.

Chair Hegarty thanked Mr. Suarez and Mr. Williams and asked that they send thanks to the whole committee.

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

Venkata Sishtla, Co-Chair SC-230, presented.

The group requested their report on the susceptibility of airborne weather radar systems be delivered as a report in two releases - first with engineering analysis and then a revision that will include test data. This request is due to the unavailability of resources to conduct the testing until next year. They indicated that the first release would not include a FRAC to expedite publication, and the members of SC-230 would like the second version to go through FRAC.

Chair Hegarty asked if Member Roy's presentation (agenda item 8A) should be done as part of this discussion or kept as a separate topic. Member Roy stated it was a separate discussion.

Member Roy asked about the assurance of June 2025 for the completion of the second release, as we need concrete data for action. Mr. Sishtla responded that the team is working on getting equipment and supports the June 2025 date. If the equipment is obtained earlier, the report could move to the left however the goal is June 2025.

Member Roy mentioned we have missed two deadlines already (Note for clarification: US National Spectrum Strategy (NSS) and ITU-R WRC-27 Agenda Item 1.7. Both are assessing 6G up to 8.4 GHz and this may be of concern for the airborne weather radar. NSS has begun assessments already and WRC deadline for system characteristics is end of 2024.). This report could have been used for these discussions in August of this year. From his perspective, it is important to move fast with the data as soon as possible. He identifies this as a major risk that could be as serious as the radar altimeter in spectrum allocations.

Mr. Sishtla said the group is intending to do some form of analysis to figure out how susceptible the radars are, and document the level of expected interference for first release. It will give some numbers that will show how bad it is going to be. Member Roy's help is paramount, as the group did not realize how fast this was moving. Member Roy replied he is pleased to support the work of the group.

Member Hahn indicated he didn't want to belabor the situation, but ALPA strongly supports the need to get this done as soon as possible.

Dr. Kalyanaraman asked if there were aspects of the waveform details of telecom signaling needed to address the interference? He inquired if there was a need to know more details on 6G waveforms that are different from 5G waveforms.

Mr. Sishtla expressed he agreed 100%. Next Monday, 30 September, SC-230 scheduled a plenary to discuss how we are simulating the waveform. The members of SC-230 are currently using the 5G waveforms. SC-230 would benefit from having more information to understand the susceptibility.

Member Roy indicated he couldn't make Monday, but ITU Working Party 5D – should have some of the requested characteristics. They have a meeting next month and will produce a preliminary specification to provide the conceptual parameters needed. He said he would provide output documents when they become available. Mr. Sishtla said thank you.

Chair Hegarty commented there is a lot of energy on this topic and the PMC is available as needed.

Member Barber reiterated his point about indicating FRAC and RAC is still ambiguous in the ToR with respect to Reports (as mentioned under agenda item 7J).

Member Barber moved, and Member Hennig seconded the approval of the ToR as presented for the two versions of the report.

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

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

Co-Chair Robin reported the group has held several long and intensive virtual sessions. As mentioned during agenda item 5A discussion, they are meeting this week at RTCA and hoping to have another in-person Plenary meeting in 2024 at EUROCONTROL.

The group expressed appreciation to President and CEO Huegel for initiating the Ad Hoc.

The group was tasked to come with a schedule and the delivery date as soon as practical. They are now assessing validation which is a pre-requisite to build the schedule.

Co-Chair Frick illustrated the overall process the group is working with to complete the MOPS with separate validation blocks. Final validation by manufacturers will take place prior to entering OC/FRAC. The RAC process will have a stable requirements baseline and execute validation of that baseline. He noted that other special committees have published a validation baseline. SC-239 will not. There is some development work to get to RAC, but the biggest uncertainty is how long validation is going to take.

The driving issues that have been identified include: requirements for the antenna, flight test validation activities for the transceiver, new requirements, and requirements around data security. Each activity will be targeted to multiple procedures. Prototype development, testing, flight testing, etc. will be the critical path drivers for the activities.

As discussed in the Ad Hoc, the members of SC-239 are building a schedule contingent on having the identified resources to support the validation activities. The schedule will be contingent on the availability of resources to do the flight testing and prototyping.

There will be an outbrief of this week's work at the next Ad Hoc meeting.

President and CEO Huegel praised the group for a job well done recognizing the tremendous progress the group has made completing the validation matrices this week.

Member Hahn recognized the committee and the leadership for this work and the level of effort expended across organizations.

Chair Hegarty mentioned that the TAC Chair has indicated they are ready to support possibly recommending a joint PMC/TAC meeting or an electronic approval of the ToR once finalized. This may be discussed in the coordination meeting next week.

AGENDA ITEM 8: OTHER BUSINESS

A. Special Topic: Supporting Evidence for Interference Issues with Weather Radar Equipment

Andy Roy, PMC Member, presented.

Member Roy said the SC-230 ToR discussion (agenda item 7K) addressed most of what he wanted to talk about - wanted to raise the implications. From SC-242, there is an RF study to determine what parameters need to be in standardized system – either middle or advanced.

He raised a question for PMC membership, given what we have seen with SC-230 situation and our radalt experience, SC-242 is going to be looking at more comprehensive guidance on spectrum considerations. He asked what other PMC members thoughts were concerning the need to address spectrum compatibility short term until SC-242 completes their work and if there is an urgent need to do more for the sudden changes in spectrum allocation and implementation.

Chair Hegarty stated we are all concerned about these issues. As Member Roy mentioned, SC-242 was stood up to get ahead of these sorts of issues to the extent possible. He remarked he was not sure what else we could do.

Member Madden commented that he agreed with the premise.

Member Roy replied possibly raising a problem statement. What are the options for it? His initial idea is that maybe the characteristics coming out from the ITU in the next month should be provided to the committees as preliminary information. Asking what they would do with these characteristics -maybe need a statement from the SCs on what the effect is on the SCs (possibly survey the SCs).

Member Madden asked if there was an action here on how we could bring something to the next PMC as to how much we address that.

Chair Hegarty replied this was a good idea. Suggested action item to have Member Roy lead an activity to brainstorm potential items. Member Roy will seek suggestions from fellow PMC members to consider in December. Member Roy expressed he'd be happy to be the coordinator. After discussion, the group decided this would not be a formal PMC action other than to present to the PMC in December and not have it be under new business.

Mr. Hoekema proposed SC-242 should be discussing and propose to the PMC a plan to ask each and include every working group that is involved with developing and maintaining standards related to spectrum. Include task with endorsement from PMC and TAC (so would include WG-124).

Member Hahn commented that he doesn't disagree with the possibility of SC-242 to be the committee that works that question with Member Roy. He was wondering whether there are people that do not participate in SC-242 who should be part of the discussion. They would be welcome to do so.

Chair Hegarty reminded members that the original input for the SC-230 work came out of the discussions in SC-242. The feedback will be further discussed at the next PMC meeting.

Chair Hegarty thanked Member Roy for bringing up the topic.

B. True North Advisory Group

Jens Hennig, PMC Member, presented.

A True North Advisory Group was stood up under ICAO. The focus is on implementing a shift from Magnetic to True north for navigation. ICAO would like to undertake a scrub of the RTCA and EUROCAE standards that will need to be addressed. This idea has been raised before, and it is a pending action item. RTCA should be informing the ICAO group.

Mr. Hennig suggested this could be a job for the ICC to identify how we would need to address moving to true north versus magnetic north in RTCA technical products. It

is a complex task to implement and a task that needs to be addressed for everyone. Although the dates are "fuzzy" and moving, it could be as soon as 2025 for the group.

Member Hahn asked if this being done by the NAV panel?

Member Hennig replied it was stood up as a standalone advisory group by the Flight Ops panel.

Member Hahn commented that members with legacy type airplanes will have some glitches without an IRS installed on the airplane.

C. GNSS Spoofing

Hette Hoekema, EASA Representative, presented.

Mr. Hoekema mentioned there was a brief discussion during the TAC meeting in the category of making the environment more resilient against GNSS spoofing. Believe it might be good to bring the chairs and secretaries of all the groups together to have less of an overlap/duplication between activities. For example: SC-227 work on making the navigation more resilient is independent of SC-159, and the TAWS group might also need to be involved. We may want to get a more consolidated result.

Chair Hegarty mentioned there has been interest expressed within SC-159 for the development of an adaptive antenna standard, and also a recent EUSPA market consultation.

AGENDA ITEM 9: SCHEDULE for COMMITTEE DELIVERABLES and NEXT MEETING DATE

The following documents are scheduled to be presented at the September 26, 2024 PMC meeting for publication.

SC #	Committee Name	Document
SC-159	Navigation Equipment Using the Global Navigation Satellite System (GNSS)	DO-292A – Assessment of Radio Frequency Interference Relevant to the GNSS L5/E5A Frequency Band
SC-213	Enhanced Flight Vision Systems/Synthetic Vision Systems, (EFVS/SVS)	DO-407 - MASPS for Enhanced Vision Systems, Synthetic Vision Guidance Systems and Combined Vision Systems
SC-213	Enhanced Flight Vision Systems/Synthetic Vision Systems, (EFVS/SVS)	DO-408 - MASPS for Enhanced Vision Systems and Enhanced Flight Vision Systems
SC-214	Standards for Air Traffic Data Communication Services	DO-353B Change 1 – Interoperability Requirements Standard for Baseline 2 ATS Data Communication, ATN Baseline 1 Accommodation

SC #	Committee Name	Document
SC-227	Standards of Navigation Performance	DO-283C – MOPS for Required Navigation Performance for Area Navigation
SC-227	Standards of Navigation Performance	DO-236E – MASPS: Required Navigation Performance for Area Navigation
SC-235	Non-Rechargeable Lithium Batteries	DO-227B - MOPS For Non-Rechargeable Lithium Batteries
SC-236	Wireless Avionics Intra-Communication System	DO-402 - MOPS for Wireless Avionics Intra-Communication within 4200-4400 MHz
SC-242	Spectrum Compatibility	Report #2: Report on Aeronautical Radio Frequency Systems, their Regulatory Framework, and operational Considerations
SC-243	Airborne Electronic Hardware (AEH) Development Assurance	RTCA Report: Strategy for updating DO-254/ED-80 Design Assurance Guidance for Airborne Electronic Hardware
SC-244	Take-off Performance Monitoring System Strategy	RTCA Report: Technology Assessment of Take Off Performance Monitoring (TOPM) Systems to inform Standards Development

Scheduled PMC Meetings:
- December 12, 2024
- March 13, 2025
- June 26, 2025
- September 25, 2025

AGENDA ITEM 10: SUMMARY of ACTION ITEMS TAKEN DURING MEETING

RTCA to carry over action item missed from June 2024 PMC meeting for PMC members to review the comment resolution process on the RTCA website.

RTCA to add agenda item to the PMC meeting on December 12, 2024 for Member Roy to report on potential avenues RTCA can take to address the issue of the level of evidence needed by the aviation industry with respect to documenting interference.

Following the annual RTCA/EUROCAE Coordination meeting, RTCA to communicate SC-236 path forward.

Member Hennig to provide an introduction between the leadership of SC-216 and the leadership of the FAA Changed Product Rule (CPR) Aviation Rulemaking Committee.

AGENDA ITEM 10: ADJOURNMENT

Chair Hegarty recognized move by Member Barber and second by Member Hahn for PMC meeting adjournment at 1:15 p.m. EDT.

Program Management Committee – September 26, 2024

ATTENDANCE LIST

PMC MEMBERS: (ATTENDEES IN BOLD)			IN PERSON
Dr. Christopher	**Hegarty**	**The MITRE Corporation** **Chairman (also proxy for Heidi Williams)**	**X**
Carleen	Adams	Federal Aviation Administration	
Clay	**Barber**	**Garmin, Ltd.**	**X**
Bruce	**DeCleene**	**Federal Aviation Administration** **Government Authorized Representative**	**X**
Edward	**Hahn**	**Air Line Pilots Association**	**X**
Jens	**Hennig**	**General Aviation Manufacturers** **Association**	**X**
Karan	**Hofmann**	**RTCA, Inc.** **Retiring PMC Secretary**	**X**
Carol	**Huegel**	**RTCA, Inc. President and CEO**	**X**
Richard	**Kahne**	**U.S. Air Force (proxy for Edgar Wright)**	
Donald	**Kauffman**	**Honeywell International, Inc.**	**X**
Matt	Langridge	Gulfstream Aerospace Corporation	
Justin	**Madden**	**Airlines For America**	**X**
Jim	McClay	Aircraft Owners and Pilots Association	
Mike	**McDowell**	**Collins Aerospace**	**X**
Nancy	**Mendonca**	**National Aeronautics and Space** **Administration**	
Rebecca	**Morrison**	**RTCA, Inc** **PMC Secretary**	**X**
Andrew	**Roy**	**Aviation Spectrum Resources, Inc.**	
Jeff	Troy	Aviation Information Sharing and Analysis Center	
Jessie	**Turner**	**The Boeing Company**	
Heidi	Williams	National Business Aviation Association	
Edgar	Wright	U.S. Air Force	
OTHER ATTENDEES:			
Moin	Abulhosn	FAA	X
Dan	Bednar	FAA	
Daniel	Chiew	Collins Aerospace	
Ann	Cihon	FAA	
Barbara	Clark	FAA	X
Ben	Cluff	CASA (Australia)	

Program Management Committee – September 26, 2024

ATTENDANCE LIST

Tammy	Flowe	FAA	X
Eldridge	Frazier	FAA	
Seth	Frick	Honeywell International, Inc	X
Dawn	Gidner	Oliver Wyman LLC	
Yahya	Golestani	Honeywell	
Jonathan	Graefe	Collins Aerospace	
Anna	Guégan	EUROCAE	
Hette	Hoekema	EASA	
Marie	Hogestad	FAA	
Steve	Horvath	Garmin, Ltd	X
Dr. Sai	Kalyanaraman	Collins Aerospace	X
Kyle	McMullen	NIAR	
Patrick	Morrissey	Collins Aerospace	
Ted	Peterson	Collins Aerospace	
Trent	Prange	FAA	
Timothy	Rahmes	The Boeing Company	
Steve	Rines	Safran	
Jean-Luc	Robin	Airbus	X
Claire	Robinson	Universal Avionics	
Travis	Rose	FAA	
Cecelia	Shaw	FAA	X
Venkata	Sishtla	Collins Aerospace	
Robert	Steinle	FAA	
Sarah	Stern	The Boeing Company	
Brandon	Suarez	Reliable Robotics	X
Brandi	Teel	RTCA, Inc	
Chenelle	Tyack	FAA	
Stephen	Van Trees	FAA	
James	Venslauskas	RTCA, Inc	X
Mark	Watson	EUROCAE	
Jim	Williams	JHW Unmanned Solutions	