RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
March 26, 2020

The RTCA Program Management Committee (PMC) convened virtually at 8:30 a.m. on March 26, 2020. The attendance list and action items are attached.

AGENDA ITEM 1
Welcome and Introductions

A. PMC Chairman Dr. Chris Hegarty welcomed the group, asked attendees to introduce themselves and to note their organization of affiliation. Proxies were announced (included in attendance list below). PMC Secretary Karan Hofmann reviewed the anti-trust statement, proprietary policy, and membership policy.

AGENDA ITEM 2
Review / Approve

A. The summary of the December 19, 2019 meeting was approved (RTCA Paper No. 228-19/PMC-1943).

B. The following administrative Special Committee Terms of Reference (TOR) Revision was presented and approved:

- SC-228 – Minimum Performance Standards for Unmanned Aircraft Systems – New Co-Chairman Brandon Suarez (from General Atomics) replacing Paul McDuffee (from Boeing Horizon X) and updating to new TOR template – Approved (RTCA Paper No. 086-20/PMC-2004)

AGENDA ITEM 3
Publication Consideration/Approval

A. DO-328B – *Safety, Performance and Interoperability Requirements Documents for Airborne Spacing – Flight Deck Interval Management (ASPA-FIM)* prepared by SC-186, Automatic Dependent Surveillance Broadcast (ADS-B)

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

This document provides the minimum operational, Safety and Performance Requirements (SPR) and Interoperability Requirements (INTEROP) to implement Airborne Spacing (ASPA) - Flight Deck Interval Management (FIM) in support of an identified set of IM Operations. ASPA-FIM is

1

defined as the flight deck component of the Interval Management (IM) System. The IM System includes the ground domain's tools to generate IM Clearance information for the controller to provide to IM equipped aircraft. Then, based upon the IM Clearance provided by the controller and surveillance information received on the aircraft against which the relative spacing is desired (referred to as the Target Aircraft), ASPA-FIM generates guidance for the flight crew to successfully and safely comply with the IM Clearance.

The PMC approved the document. It will be published as DO-328B concurrently with EUROCAE ED-195B.

B. DO-361A – *MOPS for Flight-Deck Interval Management (FIM)* prepared by SC-186, Automatic Dependent Surveillance Broadcast (ADS-B)

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

This document contains the Minimum Operational Performance Standards (MOPS) for Flight-deck Interval Management (FIM). These requirements build on those described in the MOPS for the Aircraft Surveillance Applications (ASA) System, RTCA DO-317C / EUROCAE ED-194B, but are documented separately due to their length and complexity. The requirements in this document are assumed to be integrated in an ASA System that is compliant with all requirements related to the Basic Airborne Situational Awareness (AIRB) application (defined in DO-317C / ED-194B), unless explicitly stated otherwise.

The PMC approved the document. It will be published as DO-361A concurrently with EUROCAE ED-236A

C. DO-210D Change 5 – *MOPS for Geosynchronous Orbit Aeronautical Mobile Satellite Services (AMSS) Avionics* prepared by SC-222, Aeronautical Mobile Satellite (Route) Services AMS(R)S

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

This change note introduces requirements for blocking immunity from International Mobile Telecommunication (IMT) base stations in the bands 1492 to1517 MHz and 1526 to1536 MHz. The system level requirement for blocking immunity has been partitioned between the diplexer/low noise amplifier (DLNA) and the rest of the transceiver so that any installation of an aircraft Earth station (AES) which provides only Classic Aero service (Aero H, Aero H+ or Aero I) may be upgraded by replacing the existing DLNA with a Type H or Type J DLNA.

Similarly, any installation of an AES which provides both Classic Aero service (Aero H, Aero H+ or Aero I) and non-safety Swift Broadband (SBB) or Swift-64 services may be upgraded by replacing the existing DLNA with a Type J DLNA.

Substitution of a DLNA into an installed AES should not require re-testing of the complete AES as long as the superior performance of the replacement DLNA is demonstrated by the test requirements within this change note.

The PMC approved the document. It will be published as DO-210D Change 5.

D. DO-262E – *MOPS for Avionics Supporting Next Generation Satellite Systems (NGSS)* prepared by SC-222, Aeronautical Mobile Satellite (Route) Services AMS(R)S

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

This document contains MOPS for avionics that provide Aeronautical Mobile Satellite (R) Services (AMS(R)S) by means of satellite communications technologies scheduled to become operational in context of the global and regional ATM and CNS modernization (e.g. ICAO/Global Air Navigation Plan, Europe/SESAR, US/NextGen). Each of these technologies is individually and collectively referred to as a "Next Generation Satellite System" (NGSS), and the NGSS nomenclature will be used throughout this document. This document does not apply to avionics that provide AMS(R)S in accordance with the Standards and Recommended Practices defined in ICAO Annex 10, Part I, Volume III, Chapter 4 (Chapter 4 SARPS). Such equipment is specified in the current version of RTCA DO-210D.

The PMC approved the document. It will be published as DO-262E concurrently with EUROCAE ED-243B.

E. DO-343C - *MASPS for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP)* prepared by SC-222, Aeronautical Mobile Satellite (Route) Services AMS(R)S

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

This document contains Minimum Aviation System Performance Standards (MASPS) for AMS(R)S that provide safety communications to aircraft in airspace where 1) procedural separation is applied or 2) ATS surveillance services are provided. The performance defined in this document is intended to provide (1) data communication services that comply to the RCP130/A1, RCP240/A1, RCP400/A1 or RCP400/A2 standards of Required Communications Performance (RCP) for two-way, bidirectional, Controller Pilot Data Link Communications (CPDLC) and to the RSP160/A1, RSP180/A1 or RSP400/A1 standards of Required Surveillance Performance (RSP) for one-way aircraft-to-Air Navigation Service Provider surveillance-related information, and (2) voice communication services that comply to the RCP400/V standard for two-way, bidirectional voice communications between pilots and controllers and to the RSP400/V standards for one-way voice communications between pilots and controllers.

The PMC approved the document. It will be published as DO-343C concurrently with EUROCAE ED-242B.

F. DO-365A – *MOPS for Detect and Avoid (DAA) Systems* prepared by SC-228, Minimum Performance Standards for Unmanned Aircraft Systems

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

This document contains MOPS for Detect and Avoid (DAA) systems used in aircraft transiting and performing extended operations in Class D, E, and G airspace along with transiting Class B and C airspace. It includes equipment to enable UAS operations near Terminal Areas during approach and departure in Class C, D, E, and G airspace, and off-airport locations, but not operating in the visual traffic pattern or on the surface. It does not apply to small Unmanned Aircraft Systems (UAS) (under 55 pounds) operating in low-level environments (below 400') or other segmented areas.

The PMC approved the document. It will be published as DO-365A.

G. DO-381 (New Document) – *MOPS for Ground-based Surveillance System (GBSS) for Traffic Surveillance* prepared by SC-228, Minimum Performance Standards for Unmanned Aircraft Systems

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

This document contains MOPS for Ground Based Surveillance Systems (GBSS) used for air traffic surveillance in support of DAA operations for unmanned aircraft. The primary applications will be used in terminal, transit, or extended operational areas in the National Airspace System (NAS) as defined in RTCA Document 365A (DO-365A), *Minimum Operational Performance Standards for Detect and Avoid Systems*. These standards specify the GBSS characteristics that should be useful for designers, manufacturers, installers and users of the equipment. Note that in this context, surveillance "systems" includes one or more networked non-cooperative sensors (e.g., radar and lidar, Electro-Optical/Infrared (EO/IR), etc.) needed to meet these MOPS. Also note that these MOPS do not address cooperative ground-based sensors (e.g., radar beacon, Mode Select (Mode S), Automatic Dependent Surveillance-Broadcast (ADS-B), multilateration, etc.).

The PMC approved the document. It will be published as DO-381.

AGENDA ITEM 4
Integration and Coordination Committee (ICC)

No ICC updates reported.

AGENDA ITEM 5
Action Item Review

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

- Karan Hofmann, RTCA Program Director, presented.

Ms. Hofmann reported the company we are working with (Securboration through a Department of Defense effort) is continuing work on their research project. And although progress is being made, things are a little slower with the current situation. Action still open.

There was some discussion on different structures of requirements in documents – this could be misleading in a final product of pulling requirements. Mr. Joel Wichgers volunteered to be part of this project.

B. Conduct Internal (FAA) 4D TBO Coordination

- Doug Arbuckle, PMC Member, presented.

This action is overcome by events relating to the change in SC-227's TOR (agenda item 6D).

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

This action is addressed with the revised SC-227's TOR (agenda item 6D) and directed coordination with SC-186. Action considered closed.

D. Ad Hoc to investigate possible SMOPS Concept

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

Mr. Secen reported this effort has sagged a little with Chip Bulger's retirement. However, it is re-energized with recent discussions with Di Reimold and staff. Hope to have more progress to report at June PMC meeting. Ms. Reimold agreed there is interest on the FAA side in this area and realize next action is on their end. Action still open.

E. Provide outline for Service History and Open Source to PMC Members

- Karan Hofmann, PMC Secretary, presented.

Items were posted in Workspace for PMC members. Action closed.

F. Document Configuration Management Procedure/Process

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

RTCA staff is working a defined process. Project still in progress.

G. Complete SC-238 (Counter UAS) TOR

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

SC-238 completed their recommended TOR at their January 15 Kickoff Plenary and forwarded to RTCA Secretariat for follow on action. Action closed.

H. Electronic ballot PMC members for SC-238 TOR approval

- Karan Hofmann, PMC Secretary, presented.

Per agenda item 5G, the recommended TOR was provided to PMC members for their review and comment. Consensus was reached for approval with some administrative corrections/additions suggested during ballot on February 4th. Action closed.

- The final version of the TOR is posted in Workspace (RTCA Paper No. 024-20/PMC-1973).

I. Provide copy of EUROCAE WG-115 (Counter UAS) TOR to PMC Members

- Karan Hofmann, PMC Secretary, presented.

The TOR was posted on Workspace for PMC Member access. Action closed.

J. Clean up SC-213 (Enhanced Flight Vision Systems/Synthetic Vision Systems) TOR prior to publication

- Karan Hofmann, PMC Secretary, presented.

The administrative corrections suggested at the December 19th meeting were included in the approved SC-213 TOR. Action closed.

- The final version of the TOR is posted in Workspace (RTCA Paper No. 300-19/PMC-1966).

K. SC-186 Leadership consider Garmin's editorial TOR recommendations prior to publication

- Karan Hofmann, PMC Secretary, presented.

Mr. Turner (SC-186 Co-Chairman) accepted the recommended changes and they were included in the approved SC-186 TOR. Action closed.

- The final version of the TOR is posted in Workspace (RTCA Paper No. 301-19/PMC-

1967).

L. Send Call Notice for Support for SC-239 (Low Range Radar Altimeters)

- Karan Hofmann, PMC Secretary, presented.

A Call Notice was sent out February 4th with responses due by February 28th. We received responses from 16 organization members, including a signed letter from The Boeing Company (posted in Workspace). The first meeting is set for June 3-5, 2020. Action closed.

M. Work SC-239 TOR in coordination with EUROCAE WG

- Jean Luc Robin (SC-239 Chairman) and Laurent Azoulai (SC-239 Member) presented.

EUROCAE WG-119 was approved February 6th and is posted in workspace for reference. The first meeting for SC-239 is set for June 3-5, 2020. The agenda includes final review and coordination of the TOR at this meeting. Action still open.

Mr. Azoulai commented there may be a more immediate threat with an FCC public notice of a 5G Spectrum adjustments on the lower end. Mr. Andrew Roy confirmed this was FCC GN Docket No. 18-122 "Expanding Flexible Use of the 3.7 to 4.2 GHz Band" final Report and Order (R&O). This could lead to potential interference to the adjacent 4.2 to 4.4 GHz radar altimeter / WAIC band. As RTCA is no longer a FACA, there was lengthy discussion on possible action for RTCA (to possibly include joint action with EUROCAE) to respond to this situation. PMC members agreed to create an Ad Hoc through the ICC to investigate the matter and make possible near-term recommendations for RTCA to respond to the R&O and long-term recommendations for RTCA's role in protecting aviation spectrum. New Action.

N. Provide copy of RTCA/EUROCAE Joint Procedures to PMC Members

- Karan Hofmann, PMC Secretary, presented.

These procedures are being finalized and will be distributed as soon as finalized. Action still open.

AGENDA ITEM 6
Discussion.

A. SC-135 – Environmental Testing – Revised TOR

- Rebecca Morrison, SC-135 Program Director, presented.

The group requested a number be assigned for their new document for ground equipment for FAA reference; added two revisions to this document (one to include test conditions and procedures for Earthquake and Lightning Direct Effect and a second five years hence to address change proposals); delayed delivery of DO-160H; and associated delay for the supplement User Guide for DO-160H

7

update. Also, they are going to a co-chairman leadership structure. They had requested to remove DO-160 – Bob Saffel's Document: Applying RTCA DO-160() Environmental Conditions and Test Procedures for Airborne Equipment from the TOR, but the PMC preferred to keep the reference in the TOR as useful guidance.

The revised TOR was approved (RTCA Paper No. 090-20/PMC-2006).

B. SC-147 – Aircraft Collision Avoidance Systems – Revised TOR

- Ruy Brandao and Stuart Searight (SC-147 Co-Chairmen) presented.

The group, working jointly with EUROCAE WG-75, requested a delivery delay for their MASPS from December 2019 to December 2020. They also requested an additional new MASPS to specify the ACAS $_sX_U$ in response to interest and desires of the UAS community. The suggested due date is December 2022.

There was some discussion on input comments from Garmin to include some explanation of how sXu will be different than previous Xu in regard to DAA vs ACAS MOPS content; this explanation would aid understanding how this new sXu MOPS deliverable will be used. There was further discussion on need to coordinating $_sX_U$ with SC-228.

Although PMC Members recommended changes be made related to the discussion, they agreed to allow SC-147 to begin $_sX_U$ work. SC-147 will present at the June 11th PMC meeting.

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

- Eldridge Frazier, SC-206 Government Authorized Representative, presented.

The group requested delivery date changes for both of their documents and updated wording in background section. The efforts are taking more effort than originally estimated.

The revised TOR was approved (RTCA Paper No. 089-20/PMC-2005).

D. SC-227 – Standards of Navigation Performance – Revised TOR

- Mike Cramer, SC-227 Chairman, presented.

The group requested to move from Active Monitor Status with updates to several documents. They suggested updating two documents (both MASPS DO-236D and MOPS DO-283C) to include new standards for DME navigation to offer more resilient RNP and eliminate inconsistencies between existing RTA & TOAC requirements vs. those for FIM. Also, they want to develop the first public standards for presentation of data derived charts on electronic displays in the flight deck in MOPS DO-257C. Additionally, there is a new Secretary, Dave Nakamura (MITRE).

Garmin had submitted comments prior to the meeting and appropriate wording adjustments had been included. PMC members also requested the wording under termination section be adjusted to match the new TOR template.

Mr. Cramer also clarified that the wording of this TOR agrees with the SC-186 TOR to encourage discussion with respect to 4D TBO as needed. Additionally, this activity has been coordinated with SC-217 and WG-44.

The revised TOR was approved (RTCA Paper No. 091-20/PMC-2007).

E. SC-228 – Minimum Performance Standards for Unmanned Aircraft Systems – Discussion – Status Update

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

As the group is coming to completion of Phase 2 deliverables, they are looking ahead for next steps for possible Phase 3 activity. Many new topics have been proposed for Phase 3, which would increase diversity in stakeholder group. Additionally, the risk projected with DO-362A has been realized. To handle these items, SC-228 has added a new Plenary vs. delaying a currently scheduled one. A revised TOR is expected to be presented at the June PMC meeting.

F. SC-231 – Terrain Awareness Warning System (TAWS) – Status Update

- Rick Ridenour, SC-231 Co-Chairman, presented.

The group is tasked to consider NTSB recommendations A-17-035 & A-18-015, along with GAJSC recommendations and report back to the PMC by May 2020. Although the SC has received a final draft of the GAJSC document, it has not been released for publication. The SC asked if they should proceed with due date or ask for extension.

PMC members agreed to press with current timeline, but if GAJSC report is not published prior to the June PMC meeting to ask for a delay. Current policy is to not reference unpublished items within RTCA documents/papers.

G. Possible Update to DO-227A – Discussion

- Norman Pereira, SC-235 Government Authorized Representative, presented.

The group requested to move into from Sunset to Active Monitor Status. RTCA has received some suggested chances to DO-227A (published September 21, 2017) and SC-235 Leadership thought it would be best to have the committee meet to discuss them to make possible recommendations.

The revised TOR was approved (RTCA Paper No. 093-20/PMC-2009).

H. Possible Software Special Committee – Discussion

- Al Secen (RTCA Vice President, Aviation Technology and Standards) and Rebecca Morrison (RTCA Program Director), presented.

Following the FAS UAS Ad Hoc recommendations and the PMC review of these recommendations, RTCA and EUROCAE sent out Interest Calls and are proposing creation of a new joint special committee with two deliverables concerning topics of software advancement.

RTCA received 7 letters of support and although the FAA initially indicated not in favor, they are now supportive. EUROCAE presented their proposed new committee (WG-117) to both TAC and the Council and have received approval.

After discussion PMC members approved the formation of SC-240 – Topics on Software Advancement. However, they recommended further refinement by the group on the proposed TOR. Ms. Morrison pointed out that the TOR needs to align with WG-117 for the joint effort. Action.

I. FAA Actions Taken on Previously Published Documents – Update

- Gregg Nesemeier (FAA) presented

FAA Published Documents that reference published RTCA Documents, FAA Pending Documents for RTCA Documents Published, and FAA plans for RTCA Documents pending PMC approval were reviewed. Original document is posted in Workspace (RTCA Paper No. 034-20/PMC-1979).

FAA Published Guidance (Since Previous PMC)

RTCA Document	Developed By	FAA Guidance	Approval Date	Comment
RTCA DO-385, MOPS for ACAS Xa/o	SC-147	TSO-C219	02/28/2020	Performance standard and installation guidance for Class 1 ACAS X (basic collision avoidance functionality) and Class 2 ACAS X (closely spaced runway operations and do not alert)

RTCA Published Documents - FAA Pending Guidance

RTCA Document	Developed By	FAA Guidance	Planned Release Date	Comment
DO-373, MOPS for GNSS Active Antenna in the L1/E1 and L5/E5A Bands	SC-159	TSO-C215	TBD	New TSO. (Need DO-292A (2021) for interference environment)

DO-315A, DO-359, MASPS for SVGS, MASPS for ASA-SVS	SC-213	AC 20-185A	TBD	Consolidates synthetic vision (SVS), synthetic vision guidance system (SVGS), and airplane state awareness guidance
DO-315A, MASPS for EVS, SVS, CVS, EFVS	SC-213	AC 20-167B	TBD	Consolidates enhanced and combined vision system airworthiness criteria. No new criteria.
DO-356A, Airworthiness Security Methods and Considerations	SC-216	AC -XX	TBD	Rule draft is currently in internal FAA comment; AC to follow
DO-355A, Information Security Guidance for Continuing Airworthiness	SC-216	AC-XX	TBD	Revision has been completed; currently in public comment resolution
DO-311A, MOPS for Rechargeable Lithium Batteries and Battery Systems	SC-225	AC 20-184A	TBD	Installation standard for rechargeable lithium batteries
DO-362, Command and Control Data Link MOPS	SC-228 WG-2	AC 20-187	TBD	Airworthiness C2 installation guidance.
DO-365, Detect and Avoid MOPS Phase I. DO-366, MOPS for Air-to-Air Radar for Traffic Surveillance	SC-228 WG-1	AC 20-DAA	TBD	Airworthiness installation of a UAS DAA system
DO-365B	SC-228, WG-1	TSO-C211b	TBD	DAA supports ACAS Xu, Low Swap Non-Cooperative (LSNC), and Electro-Optical
DO-XXX, EO-IR MOPS	SC-228 WG-1	TSO-CXXX	TBD	Adds EO/IR Sensor to DAA System
DO-XXX, Ground Based Surveillance System MOPS	SC-228, WG-1	TSO-CXXX	TBD	Adds GBSS Sensor to DAA System
DO-366A, Air-to-Air Radar(ATAR) MOPS	SC-228, WG-1	TSO-C212a	TBD	Adds ATAR Classes to support DAA ACAS Xu and DAA LSNC
DO-220A, Change 1, MOPS for Airborne Weather Radar Systems	SC-230	AC 20-182B	TBD	Aircraft weather radar installation guidance

Program Management Committee
March 26, 2020

DO-227A, MOPS for Non-Rechargeable Lithium Batteries	SC-235	AC 20-192	TBD	Airworthiness installation criteria for non-rechargeable lithium batteries
DO-385 MOPS for ACAS X_a System and ACAS $X_{a/o}$ Functionality (Class 1 ACAS X & Class 2 ACAS X)	SC-147	AC	TBD	Performance standard and installation guidance for Class 1 ACAS X (basic collision avoidance functionality) and Class 2 ACAS X (closely spaced runway operations and do not alert)
DO-201B – User Requirements for Navigation Data	SC-217	AC 20-153B Change 1	TBD	Updates navigation data quality requirements (DQRs).
DO-317B Change 1	SC-186	Note to Manufacturers for TSO-C195b	TBD	Note to Manufacturers will post on FAA RGL with TSO-C195b, announcing availability of MOPS change.
DO-262D MOPS for Next Gen Satellite Systems	SC-222	None	N/A	TSO revision will synch with subsequent MOPS update
New C2 Link MASPS	SC-228 WG-2	AC 20-187A	TBD	
DO-358A – MOPS FIS-B	SC-206	TSO-C157c	09/2020	
DO-370, Guidelines for the In Situ Eddy Dissipation Rate (EDR) Algorithm Performance	SC-206	TBD	N/A	FAA/Stakeholders discussion to be held at Turbulence workshop Oct 2020
Multiple RTCA data comm references from AC 20-140C	SC-214	AC 20-140D	TBD	Incorporates clarification memo from Dec 2017 and policy for partial FANS-1/A installations
DO-281C, MOPS for aircraft VDL Mode 2 Physical Link and Network Layer	SC-214	TSO	2021	SC-214/WG-92/AEEC DLK recommends TSO/ETSO-C160a not be revised until publication of DO-281D/ED-92D planned in late 2020

RTCA Document	Developed By	Planned FAA Guidance	Planned Release Date	Comment
DO-328B – Safety, Performance and Interoperability Requirements (SPR) for Airborne Space – Flight Deck Interval Management (ASPA-FIM)	SC-186	N/A	N/A	
DO-361A – MOPS for FIM	SC-186	N/A	N/A	This document is referenced in DO-317C. TSO-C195c requires that ADS-B ASA systems and equipment must meet the Minimum Performance Standards (MPS) of DO-317C.
DO210D Change 5 – MOPS for AMISS, Aeronautical Mobile Satellite (Route) Services AMS(R)S	SC-222	TSO-132b	TBD	New TSO to show new DLNA (amplifier) which seems optional as of now.
DO-262E Mops for NGSS, Aeronautical Mobile Satellite (Route) Services AMS(R)S	SC-222	TSO-C159e	TBD	MOPS changes are only on INMARSAT specific appendix.
DO-343C – MASPS for AMS(R)S and RCP	SC-222	None	N/A	Minor change to SATVOICE dialing operation, which is not part of AC 20-150B.
DO-365A – MOPS for Detect and Avoid (DAA) Systems	SC-228	TSO-C211a	TBD	DAA Supports GBSS and Terminal Operations
DO-381 (New Document) – MOPS for Ground-based Surveillance System (GBSS) for Traffic Surveillance	SC-228 WG-1	TSO-CXXX	TBD	Adds GBSS Sensor to DAA Systems

Mr. Nesemeier commented that AC's are still an issue, as an artifact of new processes adding legal review of all items.

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

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

Reports were received from SC-238, SC-237, SC-236, SC-230, SC-229, SC-224, SC-223, SC-216, and SC-209.

SC-231 – Presented today on their TOR deliverable status (agenda item 6F)

SC-228 – Presented today on two completed documents (agenda items 3F and 3G), their administrative TOR change (agenda item 2B), and status on TOR deliverables (agenda item 6E).

SC-227 – Presented today on their TOR (agenda item 6D).

SC-222 – Presented today on three completed documents (agenda items 3C, 3D, and 3E).

SC-206 – Presented today on their TOR (agenda item 6C).

SC-186 – Presented today on two completed documents (agenda items 3A and 3B).

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

SC-147 – Presented today on their TOR (agenda item 6B).

SC-135 – Presented today on their TOR (agenda item 6A).

The complete matrix and individual committee reports are posted on Workspace (RTCA Paper No. 035-20/PMC-1980). ISRA spreadsheet needs to be posted. Action.

K. European/EUROCAE Coordination – Status Update.

- Rebecca Morrison, RTCA Program Director, presented.

Update on RTCA and EUROCAE Secretariats committee coordination:
- RTCA and EUROCAE will continue to make use of remote meetings to facilitate progress on the documents.
- Joint meetings will be scheduled to be the least disruptive across time zones, but we ask for your patience and flexibility.
- If you feel the execution of the meetings can be improved, or you have any questions or concerns, reach out to your TPM/PD.

New EUROCAE Documents:
- ER-020 – Consideration for Hydrogen Fuel Cells in Airborne Applications
  - WG-80, Dec 2019

New Committees at EUROCAE:
- WG-117 Topics on Software Advancement
  - TOR for WG-117 is available
  - Requested to be joint with RTCA
  - Kick off May 2020
- WG-118 Crash-protected and lightweight Flight Recorders
  - Plan is to update ED-112B by Mid 2022
- WG-119 Radar Altimeters
  - TOR for WG-119 is available
  - Requested to be joint with RTCA SC-239
  - Kick of June 2020

EUROCAE Upcoming Meetings:
- TAC#81 – April 28, 2020, Virtual Meeting

L. RTCA Drafting Guides – Status Update.

- Karan Hofmann, RTCA Program Director, presented.

The drafting guides are being formatted to match the RTCA Style Guide. Documents will be made available to PMC members for possible inputs.

AGENDA ITEM 7
Other Business.

A. RTCA Award Nominations – Consideration / Approval of Nominations.

- Karan Hofmann, RTCA Program Director, presented.

The PMC approved all nominations for Outstanding Leader Awards and Significant Contributor Awards. Presentations are scheduled to occur at the RTCA 2020 Global Aviation Symposium.

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

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

The group requested delivery date changes. Additionally, the group asked for a new product for the tagging of requirements in DO-229E for referencing in the Dual Frequency Multi Constellation (DFMC) SBAS Receiver MOPS that is being developed by WG-2 jointly with EUROCAE WG-62. The document is ready for FRAC release as approved through SC-159 Plenary along with the

revised TOR. Thus, the group is requesting the PMC to approve not only the TOR change but the FRAC Release to support the MOPS work.

The revised TOR was approved (RTCA Paper No. 092-20/PMC-2008) and FRAC release of DO-229F.

AGENDA ITEM 8
Schedule for Committee Deliverables and Next Meeting Date

Documents expected for the June 11, 2020 meeting:

- SC-135 Environmental Testing
  - DO-380 (New Document) – *Environmental Conditions and Test Procedures for Ground Equipment*

- SC-147 Aircraft Collision Avoidance Systems – later with new TOR agenda item 6B
  - New Document – *Minimum Aviation System Performance Standards (MASPS) for the Interoperability of Airborne Collision Avoidance Systems (CAS)*

- SC-159 Navigation Equipment Using the Global Navigation Satellite System (GNSS)
  - DO-229F – M*inimum Operational Performance Standards for Global Positioning System/Satellite-Based Augmentation System Airborne Equipment*

- SC-213 Enhanced Flight Vision Systems/Synthetic Vision Systems – At Risk
  - DO-374 Change 1 – *Safety, Performance and Interoperability Requirements Document Defining Takeoff Minima by Use of Enhanced Flight Vision Systems*

- SC-229 406 MHz Emergency Locator Transmitters (ELTs)
  - DO-204B Change 1 – *Minimum Operational Performance Stand for Aircraft Emergency Locator Transmitters 406 MHz*

- SC-230 Airborne Weather Detection Systems
  - New Document – *Feasibility Study Airborne LIDAR for Clear Air Turbulence Detection*

- SC-236 Standards for Wireless Avionics Intra-Communication System (WAIC) within 4200-4400 MHz – (Post meeting note: Will be delayed due to number of non-concur comments)
  - DO-378A – *Minimum Aviation System Performance Standard (MASPS) for Coexistence of Wireless Avionics Intra-Communication Systems within 4200-4400 MHz*

The dates for the next four PMC meetings were confirmed: Thursday, June 11, 2020; Thursday, September 10, 2020; Thursday, December 17, 2020; and March 18, 2021.

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, Chairman
RTCA Program Management Committee

Program Management Committee – March 26, 2020 **ATTENDANCE LIST**		
PMC MEMBERS:		
Christopher	Hegarty	The MITRE Corporation Chairman
Doug	Arbuckle	Federal Aviation Administration
Jonathan	Archer	General Aviation Manufacturers Association
Clay	Barber	Garmin, Ltd
John	Craig	Aviation Information Sharing and Analysis Center
Jeffrey	Hausmann	Gulfstream Aerospace Corporation
Donald	Kauffman	Honeywell
Terry	McVenes	RTCA, Inc.
Joseph	Post	Federal Aviation Administration
Di	Reimold	Federal Aviation Administration Government Authorized Representative
Al	Secen	RTCA, Inc.
Jessie	Turner	The Boeing Company
Joel	Wichgers	Collins Aerospace (Proxy for Bob Lee)
Heidi	Williams	National Business Aviation Association

OTHER ATTENDEES:		
Laurent	Azoulai	Airbus
Robert	Bouza	Federal Aviation Administration
Ruy	Brando	Federal Aviation Administration
Steve	Cook	Northrop Grumman
Michael	Cramer	The MITRE Corporation
Nico	De Gelder	National Aerospace Laboratory
Eldridge	Frazier	Federal Aviation Administration
Charisse	Green	Federal Aviation Administration
Ed	Hahn	Air Line Pilots Association
Jens	Hennig	General Aviation Manufacturers Association
Karan	Hofmann	RTCA, Inc.
Yasuo	Ishihara	Honeywell
Ravi	Jain	Federal Aviation Administration
Charles	LaBerge	INMARSAT
George	Ligler	GTL Associations
Kyle	McMullen	NIAR
John	Moore	Collins Aerospace

Rebecca	Morrison	RTCA, Inc.
Gregg	Nesemeier	Federal Aviation Administration
Norman	Pereira	Federal Aviation Administration
Rick	Ridenour	L3Harris
Jean Luc	Robin	Airbus
Andrew	Roy	ASRI
Stuart	Searight	Federal Aviation Administration
Ron	Stroup	Federal Aviation Administration
Brandon	Suarez	General Atomics Aeronautical Systems, Inc.
Michelle	Swearingen	Federal Aviation Administration
Steve	Van Trees	Federal Aviation Administration
Anna	von Groote	EUROCAE

Program Management Committee
March 26, 2020

	PMC ACTION ITEM TABLE			
TRACKING NUMBER (Meeting Date and agenda item from which original action resulted)	**ACTION**	**ACTION ASSIGNED TO**	**DUE DATE**	**STATUS**
06/21/2018 Agenda Item 8C	06/21/2018 – Investigate feasibility of providing redlined versions of completed documents 09/20/2018 – Update provided, but further questions 12/13/2018 – Redirect to pulling reqs from documents and making available separate format 03/21/2019 – More structure format needed for requirements in MOPS and MASPS – prototype forthcoming 12/19/2019 – Research project has reached phase 2 funding – work continues 03/26/2020 – some delays with COVID-19	Al Secen	Jun 2020	Open
03/21/2019 Agenda Item 8F	03/21/2019 – Internal FAA 4D TBO coordination	Doug Arbuckle	Mar 2020	OBE
03/21/2019 Agenda Item 8F	03/21/2019 – After FAA coordination, Ad Hoc with SC-227 and SC-186 (w/WG-51) leadership on 4D TBO	Doug Arbuckle	Mar 2020	Closed
06/27/2019 Agenda Item 8D	06/27/2019 – Ad Hoc to investigate possible SMOPS concept	Terry McVenes, Al Secen, Jens Hennig, Bob Lee, and Dan Elgas	Jun 2020	Open
12/19/2019 Agenda Item 6E	12/19/2019 – Provide FAS outlines for Service History and Open Source to PMC members	FAS Exec	Jan 2020	Closed
12/19/2019 Agenda Item 6O	12/19/2019 – Document Configuration Management Procedure/Process 03/26/2020 – still in progress	RTCA Staff	Jun 2020	Open
12/19/2019 Agenda Item 7A	12/19/2019 – Complete SC-238 TOR	SC-238	Jan 2020	Closed
12/19/2019 Agenda Item 7A	12/19/2019 – Electronic ballot PMC members for SC-238 TOR approval	Karan Hofmann	Feb 2020	Closed
12/19/2019 Agenda Item 7A	12/19/2019 – Copy of EUROCAE WG-115 TOR to PMC members 03/26/2020 – Posted	Karan Hofmann	Jan 2020	Closed

12/19/2019 Agenda Item 7B	12/19/2019 – Clean up SC-213 TOR prior to publication	Karan Hofmann	Jan 2020	Closed
12/19/2019 Agenda Item 7D	12/19/2019 – Consider Garmin's SC-186 TOR edit change	Jessie Turner	Jan 2020	Closed
12/19/2019 Agenda Item 7G	12/19/2019 – Send Call Notice for support to SC-239	RTCA	Mar 2020	Closed
12/19/2019 Agenda Item 7G	12/19/2019 – Work SC-239 TOR in coordination with EUROCAE WG 03/26/2020 – Will be completed at first meeting in June	SC-239	Jun 2020	Open
12/19/2019 Agenda Item 7K	12/19/2019 – Copy of the RTCA/EUROCAE Joint Procedures to PMC members 03/26/2020 – Procedures not finalized yet	Al Secen	Jun 2020	Open
03/26/2020 Agenda Item 5M	03/26/2020 – Ad Hoc for recommended actions WRT FCC R&O 5G Spectrum (Near) and RTCA role for protecting aviation spectrum (Long)	ICC & SME's	Jun 2020	Open
03/26/2020 Agenda Item 6H	03/26/2020 – Rework SC-240 TOR	SC-240	Jun 2020	Open
03/26/2020 Agenda Item 6K	03/26/2020 – Post ISRA Table for PMC members	Karan Hofmann	Jun 2020	Open

Program Management Committee
March 26, 2020