STANDARDS OVERSIGHT COMMITTEE ACTS ON SAFETY AND EMERGING TECHNOLOGIES

Washington, DC, June 28, 2019 – RTCA’s Program Management Committee (PMC) held its summer meeting approving four critical guidance documents, reviewing workplans for the Special Committees (SC), and incorporating changes to the various committee Terms of Reference (TOR) that reflect leadership and work plan changes.

Chaired by Chris Hegarty of The MITRE Corporation, the PMC is the RTCA oversight body charged with producing timely and robust standards and guidance documents to ensure interoperability of aviation systems and equipment. The standards encourage

continued on page 2
innovation and serve as the basis for meeting Federal Aviation Administration (FAA) regulations. An important responsibility of the PMC is ensuring the operational application of the technical standards.

The Members of the PMC approved four standards covering the following areas:

- **Definition for Signal-in-Space for the Global Navigation Satellite System (GNSS) based Local Area Augmentation System (LAAS).** The LAAS has global application as a Ground-Based Augmentation System (GBAS) to GNSS. This Interface Control Document (ICD) was maintained to be backward compatible with all LAAS Minimum Operational Performance Standards (MOPS) compliant equipment by applicable FAA TSOs. It was prepared by SC-159, Navigation Equipment Using the Global Navigation Satellite System (GNSS).

- **The MOPS for GPS Local Area Augmentation System Airborne Equipment primarily includes changes to the GBAS VHF Data Broadcast (VDB) receiver adjacent channel rejection requirements and the associated test procedures, as well as the rationale for the VDB requirements resulting from coordination of the frequency compatibility with the ICAO Navigation Systems Panel.** It was prepared by SC-206, Aeronautical Information and Meteorological Data Link Services.

- **A new Minimum Aviation System Performance System (MASPS) for Coexistence of Wireless Avionics Intra-Communication (WAIC) within 4200-4400 MHz defines two Performance Requirements (PR) was compiled to ensure WAIC systems meet the titled coexistence criteria. It specifies metrics to verify the aggregate power spectral flux density and interference susceptibility of WAIC systems. This MASPS provides an acceptable means to demonstrate compliance along with corresponding pass/fail criteria.** It was prepared jointly by SC-236 and EUROCAE Working Group (WG) 96.

- **A new Minimum Aviation System Performance System (MASPS) for FIS-B provided by the Federal Aviation Administration (FAA). Functions or components that refer to equipment capabilities that exceed the stated minimum requirements are identified as optional features.** It was prepared by SC-206, Aeronautical Information and Meteorological Data Link Services.

The Committee also approved changing three committees to Active Monitor Status: SC-217, Joint Aeronautical Databases, SC-227, Standards of Navigation Performance, and SC-229, 406 MHz Emergency Locator Transmitters (ELTs); as well as administrative changes to SC-236, Standards for Wireless Avionics Intra-Communication System (WAIC) within 4200-4400 MHz and SC-230, Airborne Weather Detection Systems.

Six special committees received approval for changes to their work plans. These included SC-147, Aircraft Collision Avoidance Systems, SC-186, Automatic Dependent Surveillance Broadcast (ADS-B), SC-209, ATCRBS/Mode S Transponder, SC-214, Standards for Air Traffic Data Communication Services, SC-216, Aeronautical Information Systems Security, and SC-222, Aeronautical Mobile Satellite (Route) Services AMS(R)S.

Details from the June 27, 2019 PMC meeting are contained in a letter from Chairman Hegarty to FAA Associate Administrator for Aviation Safety, Ali Bahrami.
The last week of June was a busy time at RTCA, which included some changes to our corporate governance structure. On June 26, 2019, the RTCA Board of Directors voted to change the name of the Policy Board to the Advisory Board. This will better reflect the role of this body in our overall governance. In addition, to bring more consistency and stability to both the Board of Directors and the Advisory Board, the terms of all board members were changed from one year to alternating every two years.

The Board of Directors also increased the maximum size of the Advisory Board from 23 to 28 members. This will allow RTCA to bring on additional members representing segments of our membership that currently aren’t represented on the Advisory Board and to allow for future growth.

At its annual meeting of its members on June 27, 2019, seven new members were elected to RTCA’s Advisory Board. Joining for the first time are Randy Kanegy (Air Line Pilots Association, International), Sean Cassidy (Amazon Prime), Richard Stansbury (Embry Riddle University), Jens Hennig (General Aviation Manufacturers Association), Stacy Cordell (University of Kansas), Tom Ferrell (Joby Aviation) and Eric Allison (Uber Elevate).

“This is an exciting time in RTCA’s long history as we continue to shape our future in an ever-changing aviation landscape,” said Terry McVenes, President and CEO of RTCA. “These new members will bring additional insights and perspectives that will further align with the needs of our stakeholders and the overall aviation industry.”

The addition of these new members expands the RTCA Advisory Board to include additional representatives from industry, government, associations, and academia, including new and emerging entrants and technology involved in aviation.
SC-147 met jointly with EUROCAE Working Group (WG) 75 in a virtual plenary session on June 13, 2019. During the meeting, the Committee approved changes to their Terms of Reference (TOR) to add a Change 1 document to their deliverable schedule. The new document details changes in the DO-385, ACAS Xa/Xo Minimum Operational Performance Standards (MOPS) document that was approved for publication in September of 2018 and was coordinated with the EUROCAE versions, which have also been released.

SC-147 and EUROCAE WG-75 developed and published the ACAS XA XO documents and have now begun development of ACAS Xu to support unmanned aerial systems (UAS).

SC-186 met in conjunction with the Combined Surveillance Committee (CSC) in June, at EASA facilities in Brussels Belgium. The Committee continues to make progress on the development of the Minimum Operational Performance Standard (MOPS) for ADS-B. During the meeting the Committee agreed to update their Terms of Reference (TOR) with changes to the delivery date of some documents, as well as updating language to remove obviated scope. They also added clarifying language for deliverables that removes ambiguity in the description of the documents.

SC-186 is a part of the Combined Surveillance Committee which encompasses portions of SC-209, ATCRBS/Mode S Transponder and EUROCAE Working Groups (WG) 51 and 49.

SC-186 is working toward revisions to DO-328, Safety Performance and Interoperability Requirements Document for Airborne Spacing – Flight Deck Interval Management (ASPA-FIM), DO-361, MOPS for FIM, DO-317, MOPS for Aircraft Surveillance Applications System (ASAS), DO-260, MOPS for 1090 MHz ADS-B, and DO-282, MOPS for Universal Access Transceiver (UAT) ADS-B.
AERONAUTICAL INFORMATION AND METEOROLOGICAL DATA LINK SERVICES

SC-206 met for Plenary and sub-group sessions June 10-14, 2019 at Aircraft Owners and Pilots Association Headquarters in Frederick, MD.

Sub-Group (SG) 1 continued work on activities supporting ADS-Wx / Mode S Wx requirements developing addressing the Committee’s Inter-Special Committee Requirements Agreements (ISRAs) with SC-186, Automatic Dependent Surveillance-Broadcast (ADS-B) and SC-209, Air Traffic Control Radar Beacon System/Mode Select (ATCRBS/Mode S) Transponder through the Combined Surveillance Committee (CSC) WxS SG.


SG-6 continues work on revising DO-364, Minimum Aviation System Performance Standards (MASPS) for Aeronautical Information / Meteorological Data Link Services, as a joint document with EUROCAE Working Group (WG) 76 expecting publication in early 2021.

STAFF SPOTLIGHT: BRETT EASTHAM

RTCA welcomes Brett Eastham as the new Vice President of Business Operations. Brett comes to RTCA as an experienced leader in finance, new business development, and data-driven performance management. For the five years before joining RTCA, he was Chief Financial Officer & Vice President of Business Development at the Flight Safety Foundation.

In this role, Brett will be responsible for leading RTCA’s Finance, Contracts, and Human Resources functions, as well as oversee Membership, Marketing, and Communications strategy. He will also serve as the Secretary for the RTCA Board of Directors.

“Brett brings a wealth of experience to RTCA that will serve our organization and our membership in the aviation community,” says RTCA President and CEO, Terry McVenes. “He will be a valuable resource to the RTCA team as we continue to enhance success for our stakeholders and discover opportunities for growth in our business and membership base.”
STANDARDS FOR AIR TRAFFIC DATA COMMUNICATION SERVICES

SC-214 VDL Sub Group (SG) met June 11-14, 2019 at EUROCAE Headquarters in Saint-Denis, France. The meeting was a joint collaboration with EUROCAE Working Group (WG) 92, VDL Mode 2 and ARINC Airlines Electronic Engineering Committee (AEEC) Data Link (DLK) Systems Sub Committee.

The group continues work on DO-224E, *Signal-In-Space Minimum Aviation System Performance Standards (MASPS) For Advanced VHF Digital Data Communications Including Compatibility with Digital Voice Techniques* and DO-281D/ED-92D, *Minimum Operational Performance Standards (MOPS) for Aircraft VDL Mode 2 Physical Link and Network Layer*. Both documents scheduled for completion in late 2020. They are also working on a new companion document to cover ground equipment associated with the VDL Mode 2 systems.

SC-214 also held a virtual Ad Hoc Plenary with WG-78 in July, to release a change to DO-290/ED-120, *Safety and Performance Requirements Standard for Air Traffic Data Link Services in Continental Airspace*, for Final Review and Comment/Open Consultation (FRAC). The groups are expecting to present to the Program Management Committee (PMC) and EUROCAE Council for September 2019 publication release.
Ampaire
Hawthorne, California USA

Ampaire is designing and developing high performance zero-emission aircraft to help improve efficiency and reduce aviation’s impact on climate change. Their jet will be the first commercial, 9 passengers, all electric aircraft. It achieves the comfort of a business jet without the high cost, noise and pollution. Their custom propulsion system is the heart of their aircraft and is scalable to planes of various sizes. Combined with innovations in lightweight, swappable battery packs, they are optimizing their system for integration into turboprop airframes that are in the air today. They are satisfying current market needs for short flights and they will reduce costs by around 25% while producing zero emissions and less noise.

AMSL Aero
Stanmore, New South Wales AUSTRALIA

AMSL Aero is building Vertiia, an electric Vertical Take Off and Landing aircraft. The company is developing an autonomous two-seat aircraft intended to improve the way for the future of human mobility. The company’s aircraft can take off and land vertically and fly horizontally at 300 km per hour making it safer, faster, quieter and less expensive than helicopters, enabling customers to have an electric and emissions-free experience.

Fachhochschule Aachen
Aachen, GERMANY

The FH Aachen ranks as the first best among the Universities of Applied Sciences in Germany in the fields of Electrical and Mechanical engineering. Ten Faculties offer 48 Bachelor’s, 22 Master’s and three cooperative degree programs.

Dayton-Granger, Inc.
Fort Lauderdale, Florida USA

Dayton-Granger, Inc. (DG), a leader in the design, testing, and manufacture of antennas, electrostatics and lightning protection products ranks among the most experienced suppliers of avionics products worldwide.

With more than 75 years of experience, DG has an unmatched reputation for supplying high quality, competitive products that satisfy military and commercial avionic industry standards.

Route Dynamics Corp.
Amber, Pennsylvania USA

Route Dynamics Corp. was formed to fill the unmet market need of providing automated dynamic rerouting technology to commercial and general aviation airline fleets.

Skydrive, Inc.
Tokyo, JAPAN

Skydrive Inc. is a start-up for development / manufacturing / sales of the “Flying cars”. Designed by Cartivator, a Tokyo- and Toyota City-based non-profit run by a team of 30 volunteers. The three-wheeled Skydrive car is powered by four rotors and uses drone technology. The car aims to deliver a seamless transition from driving to flight.

The team’s “first target” is to build the flying car and use it to light the Olympic flame at Tokyo’s 2020 Summer Olympics.

Skydrive has a projected top speed of 93 miles (150 kilometres) per hour on land, and 62 miles (100 kilometres) per hour when airborne. It should fly at an altitude of up to 10 metres (33 feet).

While several other flying car models are also under development – by firms such as Uber, Ehang and Airbus, to name just a few – Cartivator claims that its Skydrive model will be the world’s smallest at just 2.9 metres (9.5 feet) by 1.3 metres (4.3 feet).

The firm envisions that Skydrive will be an infrastructure-free mode of transportation, able to take off and land anywhere. The team also hope that it will be accessible to all using ridesharing.

Stellar Solutions, Inc.
Palo Alto, California, USA

Stellar Solutions is a global system engineering service provider solving the most complex issues that commercial and government clients face today. A woman-owned small business founded in 1995, Stellar Solutions, Inc. has been providing high impact engineering services, end-to-end technical expertise and creative solutions to significant national and international customers for over 20 years. With sister companies Stellar Solutions Aerospace Limited, based in the United Kingdom, and Stellar Solutions Aerospace France, based in France, the Stellar constellation of companies operates seamlessly together to serve customers’ critical needs across global markets.

If you want to find out more about getting your electronics hardware certified for use on aircraft, then you should attend this comprehensive RTCA training course.

If you are thinking of taking DO-254 training?

- Have you been assigned the task of preparing a PHAC without knowing what you are expected to include?
- Do you know if your project is for a simple or complex device and what it will mean to your plan for certification?
- Do you need to communicate why following DO-254 could help save your project time and money?

- Three days of instruction focused on the details of DO-254
- Registration discount for RTCA members
- Online registration on RTCA’s DO-254 Training site.

Next Class: September 9-11, 2019

Classes start at 8am and end at 5pm each day.

Questions? Contact training@rtca.org

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HELI OPTER TERRAIN AWARENESS WARNING SYSTEM (HTAWS)

New special committee (SC)-237, met jointly with EUROCAE Working Group (WG) 110 for its first plenary in late June at EUROCAE headquarters in St. Denis, France.

The group will work together to create a Minimum Operating Performance Standard (MOPS) to identify requirements for overwater operations. They are expected to complete their work at the end of 2020.

COMMITTEE
SC-237, Helicopter Terrain Awareness Warning System (HTAWS)

CHAIR
Michael Deer, Bell Helicopter

NEXT MEETING
September 4-6, 2019 at RTCA in Washington DC
RTCA has teamed with Wichita State University’s National Institute for Aviation Research (WSU-NIAR) to offer another high quality training course covering the RTCA Security Suite: DO-326A, Airworthiness Security Process Specification; DO-355, Information Security Guidance for Continuing Airworthiness; and DO-356A, Airworthiness Security Methods and Considerations. This course describes what Airworthiness Security is and why it is important. It also explains which FAA Regulations, standards, etc. will require these documents and procedures as well as how to use these standards. The course will also cover what the standards are meant to prevent and how these standards and processes fit into the aviation system.

Member Price: U$1,935.00
Non-Member Price: U$2,472.50

For additional questions email training@rtca.org
In late July, SC-222, met jointly with Working Group (WG) 82, chaired by Armin Schlereth, DFS GmbH, at RTCA, Washington, DC. The groups are nearing Final Review and Comment (FRAC) / Open Consultation (OC) Release for DO-343C/ED-242B, Minimum Aviation System Performance Standard (MASPS) for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP) and DO-262E/ED-243B, Minimum Operational Performance Standards (MOPS) for Avionics Supporting Next Generation Satellite Systems (NGSS). The groups are expecting to present to the Program Management Committee (PMC) and EUROCAE Council for March 2020 publication releases.

**AERONAUTICAL MOBILE-SATELLITE (R) SERVICE**

SC-222 met jointly with Working Group (WG) 82, chaired by Armin Schlereth, DFS GmbH, at RTCA, Washington, DC. The groups are nearing Final Review and Comment (FRAC) / Open Consultation (OC) Release for DO-343C/ED-242B, Minimum Aviation System Performance Standard (MASPS) for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP) and DO-262E/ED-243B, Minimum Operational Performance Standards (MOPS) for Avionics Supporting Next Generation Satellite Systems (NGSS). The groups are expecting to present to the Program Management Committee (PMC) and EUROCAE Council for March 2020 publication releases.

**AIRPORT SECURITY ACCESS CONTROL SYSTEMS**

SC-224 met June 20th and August 8th to continue work on DO-230J, Standards for Airport Security Access Control System. This version primarily updates the credentialing, procurement, biometrics and video sections. This document is currently out for Final Review and Comment (FRAC) and is expected to be presented to the Program Management Committee for publication in December 2019.

SC-224 Secretary, Art Kosatka received his RTCA Significant Contributor award for his work on DO-230I, Standards for Airport Security Access Control Systems.
INTERNET PROTOCOL SUITE (IPS) AND AEROMACS

SC-223 met jointly with EUROCAE Working Group (WG)108 hosted by Collins Aerospace in Toulouse, France. The group is in the process of drafting, Minimum Aviation System Performance Standard (MASPS) for the IPS used in Aviation A-G Communication System. They plan to work on the two documents concurrently over the next three months.

In September, the group will present to the Program Management Committee (PMC) and request to publish its document, Internet Protocol Suite Profiles, which will be published as a joint document with EUROCAE.

ATCRBS/MODE S TRANSPONDER

SC-209 met in conjunction with the Combined Surveillance Committee (CSC) in June at EASA facilities in Brussels Belgium. The Committee is working on operational requirements based upon the airborne and ground user needs for a Mode S system. The development activities of SC-209 coordinates with ICAO Panels, FAA/CAAs, EUROCAE, AEEC, SAE, and other RTCA Special Committees, and works closely with SC-186, the ADS-B special committee (specifically SC-186 Working Group (WG) 3 and WG 4). SC-209 also coordinates closely with EUROCAE and ICAO representatives.

At the plenary meeting in Brussels, the group updated their Terms of Reference (TOR) to update the due date of their document and remove scope that is not planned for delivery.

SC-209 is a part of the Combined Surveillance Committee which encompasses portions of SC-186 and EUROCAE Working Groups 51 and 49. The CSC meets regularly to align surveillance standards internationally.

SC-209 is working toward revisions to DO-181E, Minimum Operational Performance Standards (MOPS) for Air Traffic Control Radar Beacon System/Mode Select (ATCBS/Mode S) Airborne Equipment third quarter of 2020.
AIRBORNE WEATHER DETECTION SYSTEMS

NASA Langley hosted SC-230’s June Plenary in Hampton, VA as they continued work on their two projects. The first is conducting a feasibility study on clear air turbulence detection using Airborne LIDAR Systems with a projected completion date in early 2020. The second is an update to DO-220A Change 1, Minimum Operational Performance Standards (MOPS) for Airborne Weather Radar Systems to add detection requirements for High Altitude Ice Water Conditions using Airborne Weather Radar Systems with a completion date in early 2021.

SC-228 MINIMUM PERFORMANCE STANDARDS FOR UNMANNED AIRCRAFT SYSTEMS

SC-228 met on July 25, 2019 for its 20th plenary session at the RTCA Headquarters in Washington DC. During the meeting, the Committee heard from the two working groups (WG) on the progress of the documents being updated. The first, DO-365, Minimum Operational Performance Standards (MOPS) for Detect and Avoid (DAA) Systems) Rev A. This document is expected to enter Final Review and Comment (FRAC) by September 2019. The Committee provisionally approved the WG to enter FRAC with the caveat that 5 outstanding concerns raised by members are addressed.

WG-2 discussed the progress made at their Face-to-Face meeting held the same week. They also provided status on the update of DO-362, Command and Control (C2) Data Link MOPS (Terrestrial) (Rev A). While there will be some changes to the delivery dates of some of the DO-362 A material, the end date of the final publication will not change.

The committee agreed to update their Terms of Reference (TOR) in several areas including administrative changes, document delivery dates, and scope of work to be done. The final acceptance of these changes will be discussed at the September Program Management Committee (PMC) meeting.
Aeronautical Data

DO-358A, Minimum Operational Performance Standards (MOPS) for Flight Information Services - Broadcast (FIS-B) with Universal Access Transceiver (UAT)

Issued 06-27-2019 | Prepared by SC-159

This document contains Minimum Operational Performance Standards (MOPS) for Flight Information Services Broadcast-System (FIS-B) with Universal Access Transceiver (UAT). These standards specify system characteristics that should be useful to designers, manufacturers, installers and users of the equipment. This document considers an equipment configuration consisting of the airborne processing and cockpit display of aeronautical and meteorological data known as FIS-B provided by the Federal Aviation Administration (FAA). Functions or components that refer to equipment capabilities that exceed the stated minimum requirements are identified as optional features. This document supersedes DO-358.

The data "Supplement to DO-358A" is a zip file archive that contains test group files described in Section 2.4. The archive includes 24 sets of test group zip files. Each test group zip file includes a test procedures document, test stimulus timing information, and binary data input files for conducting the tests. This supplement is available only by electronic download.

DO-358A, Supplement

Issued 06-27-2019 | Prepared by SC-159

The data "Supplement to DO-358A" is a zip file archive that contains test group files described in Section 2.4 of DO-358A, Minimum Operational Performance Standards (MOPS) for Flight Information Services Broadcast-System (FIS-B) with Universal Access Transceiver (UAT). The archive includes 24 sets of test group zip files. Each test group zip file includes a test procedures document, test stimulus timing information, and binary data input files for conducting the tests. This supplement is available only by electronic download.

Communications

DO-378, Minimum Aviation System Performance Standard (MASPS) for Coexistence of Wireless Avionics Intra-Communication Systems within 4200-4400 MHz

Issued 07-01-2019 | Prepared by SC-236

EUROCAE and RTCA have defined this Minimum Aviation System Performance Standard (MASPS) that applies to Wireless Avionics Intra-Communications (WAIC) systems utilizing the frequency band 4200 - 4400 MHz as allocated by the World Radiocommunication Conference (WRC) in 2015. Key criteria for allocation of the band by the WRC were (i) coexistence between WAIC systems and (ii) coexistence between WAIC systems and Radio Altimeters (RA), both on board neighboring aircraft.

This MASPS defines two Performance Requirements (PR) that ensure WAIC systems meet the above coexistence criteria. The first PR specifies the aggregate power spectral flux density allowed to be emitted by WAIC systems on board an aircraft. The second PR specifies tolerance of WAIC systems to Radio Frequency (RF) emissions from RA and WAIC systems from neighboring aircraft. Both PRs were derived after significant work by the Aerospace Vehicle Systems Institute (AVSI), EUROCAE and RTCA organizations to understand and characterize the worst-case conditions that may be experienced during the normal course of operation of the worldwide aircraft fleet.

This MASPS then specifies metrics to verify the aggregate power spectral flux density and interference susceptibility of WAIC systems.

Finally, this MASPS provides an acceptable means to demonstrate compliance along with corresponding pass/fail criteria.

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Global Positioning System (GPS)

DO-246E Change 1, GNSS-Based Precision Approach Local Area Augmentation System (LAAS) Signal-in-Space Interface Control Document (ICD)

Issued 06-27-2019 | Prepared by SC-159

This document includes a few corrections to RTCA DO-246E. The content of the Interface Control Document (ICD) was maintained to be backward compatible with all LAAS Minimum Operational Performance Standards (MOPS) compliant equipment specified in DO-253 as amended by applicable FAA TSOs.

This ICD defines the Signal-in-Space for the Global Navigation Satellite System (GNSS) based Local Area Augmentation System (LAAS). The LAAS has global application as a Ground-Based Augmentation System (GBAS) to GNSS. The GNSS/GBAS Signal-in-Space is composed of three signals:

1. the navigation signal transmitted from the GNSS satellites to the ground subsystem,
2. the navigation signal transmitted from the GNSS satellites to the airborne subsystem, and
3. the VHF Data Broadcast (VDB) transmitted from the GBAS ground subsystem to the airborne subsystem.

Please also purchase DO-246E for complete content.

DO-253D Change 1, Minimum Operational Performance Standards (MOPS) for GPS Local Area Augmentation System Airborne Equipment

Issued 06-27-2019 | Prepared by SC-159

This document is the complementary avionics standard to the International Civil Aviation Organization (ICAO) Annex 10 Volume I Ground Based Augmentation System standards and recommended practices (SARPs) for Ground based augment system Approach Service Types C (GAST C) and D (GAST D) as well as the differentially corrected positioning service (DCPS). Together, GAST C and GAST D support all categories of approach and landing operations with vertical and lateral guidance, as well as guided takeoff. DCPS supports horizontal positioning in local airport and terminal area environments. This change 1 of RTCA DO-253D primarily includes changes to the GBAS VHF Data Broadcast (VDB) receiver adjacent channel rejection requirements (Section 2.2.8) and the associated test procedures (Section 2.5), as well as the rationale for the VDB requirements (Appendix K) resulting from coordination of the frequency compatibility with the ICAO Navigation Systems Panel. This change 1 also includes a correction to the embedded synchronization and ambiguity resolution sequence test message (Table 2-26) contained in the VDB Training Sequence and Message Failure Rate Test (Section 2.5.2.2.5.4).

RTCA DO-253D Change 1 supersedes RTCA DO-253D.

For additional information and to order documents, visit RTCA’s store at https://my.rtca.org/nc__store. RTCA Members may download electronic documents at no cost and qualify for a 60% discount on paper documents.
Do you know how the Software Life Cycle at your organization relates to the Software Development Process that supports producing software which can approved?

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2019 COURSE CALENDAR*

TRAINING CENTER

DO-178C, SOFTWARE CONSIDERATIONS IN AIRBORNE SYSTEMS AND EQUIPMENT CERTIFICATION, TRAINING COURSE

September 9-11 at RTCA  
December 2-4 at RTCA

RTCA, Inc. has teamed up with The MITRE Aviation Institute to offer high quality and relevant training for the aviation industry in understanding the requirements and parameters for avionics software development necessary to obtain FAA certification.

The two world class organizations are using their collective experience and expertise to provide training on the new standards and recommended practices contained in the DO-178C, Software Considerations in Airborne Systems and Equipment Certification.

In addition to the comprehensive course manual developed by the experts at The MITRE Aviation Institute, each training course attendee will receive the latest standards developed over a six-year period by RTCA Special Committee 205.

The course is led by instructors who will provide a thorough understanding of the requirements and the applicability of DO-178C; the fundamental techniques of software development considerations in airborne systems and equipment certification; and an introduction and overview of Software Tool Qualification Considerations, Formal Methods Supplement to DO-178C, Model-Based Development and Verification Supplement to DO-178C, and Object Oriented Technology and Related Techniques Supplement to DO-178C.

SUPPLEMENTS TO DO-178C, SOFTWARE CONSIDERATIONS IN AIRBORNE SYSTEMS AND EQUIPMENT CERTIFICATION, TRAINING COURSE

September 12 at RTCA  
December 5 at RTCA

As an adjunct to DO-178C, this course will provide the background and scope on the four documents supporting DO-178C:

• DO-330, Software Tool Qualification Considerations
• DO-331, Model-Based Development and Verification Supplement to DO-178C and DO-278A
• DO-332, Object-Oriented Technology and Related Techniques Supplement to DO-178C and DO-278A
• DO-333, Formal Methods Supplement to DO-178C and DO-278A

Attendees will receive detailed instruction on DO-331 covering the objectives, activities, explanatory text and software life cycle data that should be applied when model-based development and verification are used as part of the software life cycle.

In addition, the training will cover the systems requirements linkage to the DO-178C and Supplement processes through an explanation of the interface to ARP 4754A, Guidelines for Development of Civil Aircraft and Systems.

*Unless otherwise noted, all training courses will take place at RTCA Headquarters, located conveniently in downtown Washington, DC. For additional information, please visit www.rtca.org or email training@rtca.org.
DO-254, DESIGN ASSURANCE GUIDANCE FOR AIRBORNE ELECTRONIC HARDWARE, TRAINING COURSE

September 9-11 at RTCA
December 9-11 at RTCA

RTCA is hosting a three-day training course, tailored specifically to design/verification engineers and project/certification managers requiring DO-254 compliance.

This three-day course will:

• Provide an overview and application of RTCA DO-254, as defined by current FAA and EASA guidance in airborne electronic systems.
• Describe how to apply the DO-254 lifecycle and supporting processes; understand system safety assessments and the design assurance level (DAL); and set up a project correctly through proper planning and standards.
• Present techniques and writing requirements for electronic hardware, and how to optimize requirements for verification processes.
• Describe how to efficiently and effectively verify requirements with simulation and hardware tests.
• Address specific considerations for programmable logic devices (PLDs) such as FPGA/ASIC versus all electronics; commercial off-the-shelf (COTS) components usage; and tool assessment and qualification.

DO-160G, ENVIRONMENTAL CONDITIONS AND TEST PROCEDURES FOR AIRBORNE EQUIPMENT, TRAINING COURSE

October 8-11 at WSU
December 2-5 at RTCA

RTCA, in partnership with Wichita State University’s National Institute for Aviation Research (WSU-NIAR), offers high quality training covering RTCA’s DO-160G, Environmental Conditions and Test Procedures for Airborne Equipment. The course will provide an understanding of the use of DO-160G and how it fits in with the greater picture of requirements, design, certification and TSOs.

Course participants will gain a clear and relevant understanding of the applicable FAA regulations, advisory material, certification procedures, design approaches/trade-offs, inspection and conformity requirements, as well as details of the necessary parts of a test plan, test report, compliance plan and compliance report. A strong focus is placed on the reduction of risk, cost and schedule throughout the design/certification process, by use of targeted design and increased first-pass success on design and testing. In addition to a comprehensive course manual, each training course attendee will receive a copy of RTCA’s DO-160G, supporting material, and will participate in real-world exercises applying the knowledge learned from the class.

*Unless otherwise noted, all training courses will take place at RTCA Headquarters, located conveniently in downtown Washington, DC. For additional information, please visit www.rtca.org or email training@rtca.org.
RTCA CALENDAR

August

August 8
SC-224, Airport Security Access Control Systems
Hosted by RTCA
Washington, DC

August 8
SC-147, Traffic Alert & Collision Avoidance System
Hosted by RTCA
Washington, DC

August 8
SC-229, 406 MHz Emergency Locators Transmitters (ELTs)
Hosted by RTCA
Virtual

August 12
SC-186, Automatic Dependent Surveillance Broadcast
Hosted by RTCA
Washington, DC

September

September 4-6
SC-237, Helicopter Terrain Awareness Warning System
Hosted by RTCA
Washington, DC

September 6
SC-214, Standards for Air Traffic Data Communication Services
Hosted by RTCA
Washington, DC

September 9-11
DO-254 Training
Hosted by RTCA
Washington, DC

September 9-11
DO-178C Training
Hosted by RTCA
Washington, DC

September 9-13
SC-206, Aeronautical Information and Meteorological Data Link Services (SG-5)
Hosted by Harris
Herndon, VA

September 9-13
SC-206, Aeronautical Information and Meteorological Data Link Services (SG-1 & SG-6)
Hosted by Airbus
Toulouse, France

September 9-13
SC-216, Aeronautical System Security
Hosted by EUROCAE
St. Denis, France

September 12
Program Management Committee (PMC)
Hosted by RTCA
Washington, DC

September 12
Supplements to DO-178C Training
Hosted by RTCA
Washington, DC

September 19-20
SC-222, AMS (R) S
Hosted by RTCA
Washington, DC

September 24-25
SC-230, Airborne Weather Detection System
Hosted by RTCA
Washington, DC

September 24-25
SC-231, Terrain Awareness Warning System
Hosted by RTCA
Washington, DC

September 30-October 4
SC-223, Internet Protocol Suite (IPS) and AeroMACS
Hosted by RTCA
Washington, DC

October

October 4
Hosted by RTCA
Washington, DC

October 25
SC-135, Environmental Testing
Hosted by Garmin
Salem, Oregon