

**RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
September 21, 2017**

The RTCA Program Management Committee (PMC) convened at 8:30 a.m. on September 21, 2017 at RTCA. The attendance list and action items are attached.

AGENDA ITEM 1

Welcome and Introductions

PMC Chairman Chris Hegarty welcomed the group, asked attendees to introduce themselves and to note their organization of affiliation. Lou Volchansky, the Designated Federal Officer (DFO), read the Public Meeting Announcement that includes the date the Federal Register meeting notice was published, declares the meeting is “Open to the Public” and provides details for persons wishing to present or obtain information pertaining to the meeting.

AGENDA ITEM 2

Review / Approve

- A. The summary of the July 13, 2017 meeting was approved with minor editorial changes (RTCA Paper No. 191-17/PMC-1636).
- B. Administrative Special Committee Terms of Reference (TOR) Revisions:
 - SC-209 – Minimum Operational Performance Standards for ATCRBS/Mode S Transponder – New DFO is Gregg Nesemeier due to Don Walker leaving FAA. The revised TOR was approved (RTCA Paper No. 253-17/PMC-1668).
 - SC-231 – TAWS – Although DO-367 (TAWS MOPS) was approved in May, the PMC delayed sunseting the committee until TSO-C151d was published. TSO-C151d is now signed. PMC Members agreed to sunset SC-231 and once again thanked them for their hard work and great support.

AGENDA ITEM 3

Publication Consideration/Approval

- A. **New Document – *MASPS for Synthetic Vision System for attitude awareness to address CAST SE 200*, prepared by SC-213 (Enhanced Flight Vision Systems/Synthetic Vision Systems)**

This document was pulled from this meeting, as the document had not been fully finalized for presentation. Expect this document to be presented at the December 2017 PMC meeting.

B. Revision to DO-311 – *Minimum Operational Performance Standards for Rechargeable Lithium Battery Systems*, prepared by SC-225 (Rechargeable Lithium Battery and Battery Systems)

- Richard Nguyen (SC-225 Chairman), Stephen Diehl (SC-225 Secretary), Norman Pereira (SC-225 DFO), Brett Williams and James Russell (SC-225 Members) presented

This standard is intended for designers and manufacturers of rechargeable lithium batteries and battery systems, aircraft manufacturers, aircraft equipment installers, and users within the aviation community. Meeting the requirements of this standard provides a means of assuring that the batteries and battery systems will perform their intended function(s) safely under conditions encountered in aeronautical operations. To ensure safe operation on the aircraft, it is imperative that users of this standard thoroughly understand the aircraft performance requirements and the capabilities and limitations of the batteries and battery systems. It is the equipment installers' responsibility to ensure that the batteries and battery systems meet the certification and installation requirements of the aircraft. Any regulatory application of this standard is the responsibility of the applicable government agency.

This standard provides design, testing, and installation guidance for rechargeable lithium battery systems that are permanently installed on aircraft including standalone and embedded batteries. It addresses all sizes of rechargeable lithium battery systems regardless of energy content (watt-hours). Batteries or battery systems that are less than two watt-hours are exempt from this standard if they have met the requirements of applicable UL or IEC standards. Otherwise, the requirements of this standard apply.

There was a strong differing opinion on the thermal runaway test in Section 2.2.2.4. An alternative test was developed as a means to satisfy the original dissenting opinion(s). Per PMC direction, the document presented at this meeting included this alternate test in Appendix C (action closed). Consensus could still not be reached at a follow-on Plenary and a differing dissenting opinion was formally submitted and a committee response was prepared. After much PMC discussion about various positions and possible solutions, the PMC members decided to turn the matter over to an Ad Hoc to come up with a compromise to get the document publishable. (action)

C. New Document – *White Paper for Phase Two DAA MOPS*, prepared by SC-228 (Minimum Performance Standards for UAS)

- Brandon Suarez, SC-228 WG1 Co-Chairman, presented

This White Paper contains the description and plan for development, verification and validation of Phase 2 Minimum Operational Performance Standards (MOPS) for Unmanned Aircraft System (UAS) Detect and Avoid (DAA) systems. The standards will specify performance standards that should be useful to designers, manufacturers, installers and users of the equipment.

Emphasis for Phase 2 will be development of standards for UAS equipped to conduct extended Beyond-Visual-Line-of-Sight (BVLOS) operations in the National Airspace System (NAS).

The PMC approved the white paper. It will be published as WP#4.

D. New Document – *White Paper for Phase Two C2, SC-228 (Minimum Performance Standards for UAS)*

- John Moore and Steve Van Trees, SC-228 WG2 Co-Chairmen, presented

This White Paper contains the description and plan for development, verification and validation of Phase 2 activity will define both normative performance standards and informative guidance material for UAS Command and Control (C2) Link Systems and their associated top-level constituent subsystems. These activities are focused on extensions to point-to-point architectures addressed in Phase 1 to address Beyond-Radio-Line-of-Sight (BRLOS) applications and architectures. The primary focus as envisaged in the original TOR is on SATCOM architectures. This will include multiple bands of application, to include selected Ku and Ka sub-bands, and possibly C Band allocations. Additionally, standards for network architectures and performance (SATCOM and terrestrial based) may be developed. Finally, updates/refinements to C2 MOPS (Terrestrial) are anticipated to implement changes consistent with requirements from other standards developed during this phase.

Additionally, there is a need to address emerging requirements driven by changes in the UAS market needs and how they impact required C2 performance and implementation limitations. Specifically, work done in Phase 1 (and foundational work by RTCA Special Committee 203) focused on larger aircraft, with operational sizing, anticipated size, weight, and power (SWAP). There is a need to support smaller UAS, operating BRLOS, which have significant SWAP limitations and are anticipated to be deployed in larger numbers than considered previously

The PMC approved the white paper. It will be published as WP#3.

E. Revision to DO-227 – *Minimum Operational Performance Standards for Lithium Batteries, prepared by SC-235 (Non-Rechargeable Lithium Batteries)*

- John Trela (SC-235 Chairman) and Jeff Densmore (SC-235 Secretary) presented

This standard provides design, testing, and installation guidance for non-rechargeable lithium batteries and battery systems which are permanently installed on aircraft or used in aviation. It contains a set of requirements, tests, and evaluation criteria to establish and assure the safe operation of End Items which are powered by non-rechargeable lithium batteries containing lithium metal or lithium alloys.

The intent of this document is to assist equipment designers and manufacturers in the selection of non-rechargeable cells and battery systems whose safety and performance have been demonstrated as appropriate to the aviation environment. It applies to batteries used as the

main power source or that are used for back-up or stand-by power. Guidance is also provided on design, safety, handling, and storage of these items.

The PMC approved the document. It will be published as DO-227A.

This completed the deliverable per the SC-235 TOR and with the Chairman's recommendation, the PMC agreed to sunset the SC. The Chairman sent out a big thank you to the entire committee for their outstanding effort and dedication.

AGENDA ITEM 4

Integration and Coordination Committee (ICC)

No updates reported.

AGENDA ITEM 5

Cross Cutting Committee (CCC)

No updates reported.

AGENDA ITEM 6

Action Item Review.

A. PMC Membership – Update

- Margaret Jenny, RTCA President, presented.

It is time for annual review of PMC membership to assure an appropriate balance of government and industry perspectives and disciplines. An ad hoc was recommended for this review and to provide recommendations at the December 19th PMC meeting. (Follow on action)

B. NASA Security Presentation – Discussion

Since the NASA research on a secure net-centric aviation communications (SNAC) infrastructure is now on hold, this presentation is delayed until further notice.

Action is OBE.

C. Availability of RTCA documents as reference for EUROCAE WGs – Discussion

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

RTCA and EUROCAE have been discussing, as part of the bi-lateral agreement, that as long as a participant is representing RTCA (on WG) or EUROCAE (on SC) and not their member organization, it will be acceptable for the individual to take part in that group's activities and will be able to share documents. But this will be limited to the one official representative to the SC

or WG and the document accessed will not be shared/widely distributed (per both RTCA and EUROACE document access policies). Details of accessing the needed documents are still being worked. (Action still open)

D. SC-209 Work Hold on ACSS IP Items - Update

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

SC-209 members were informed immediately after the July 13th PMC meeting of the direction that all work in the documents that relate to the patented material of ACSS was to stop.

Action Closed.

E. Provide ACSS Example Commitment to License (CtL) – Discussion

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

After providing example of CtL to ACSS along with artifacts showing a precedent for expectation of no royalties, ACSS requested a formal response “describing rationale for decision not to approve the Phase Mod Commitment to License proposal”. A draft response was prepared and provided to PMC members for review. Any additional comments should be submitted to Al Secen no later than Friday, September 29th. The final reply to ACSS will be an official response from RTCA.

F. Revisit RTCA IP Policy to Remove Ambiguity - Update

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

Associated with the ACSS CtL discussion, PMC members made recommended changes to the RTCA IP Policy to remove ambiguity and clarify the process timeline. A draft with changes was circulated and comments reviewed. Any additional inputs should be submitted to Al Secen no later than Friday, September 29th.

The recommended changes will be presented to the RTCA Policy Board on November 14th for approval and implementation. (new action)

G. Redirect SC-225 on version of DO-311A to Present - Update

- Discussed as part of item 3B.

Action Closed.

AGENDA ITEM 7

Discussion.

A. SC-135 – Environmental Testing – Discussion – Revised TOR

- Brad Green, SC-135 Chairman, presented

The revision indicated:

- SC-135 will work with SC-228 to develop a DO document that specifies ground based equipment environments and qualification procedures. Planned release of new document is May 2020.
- Deleted work on Ground Reference Fluctuations
- Deleted that SC-135 will break section 16 into multiple sections one for AC power systems and one for DC power systems
- Changed release of revision H of DO-160 and the User Guide from December 2019 to December 2021.

The revised TOR was approved (RTCA Paper No. 251-17/PMC-1666)

B. Forum on Aeronautical Software (FAS) – Status Update

- Patty Bath, FAS Co-chair, presented.

Ms. Bath provided an update of the FAS to include what FAS is and what it is not, FAS goals and products, FAS organization, and the group's progress and documents. PMC members asked if membership composition was sufficient and Ms. Bath felt it was just about right.

FAS is listed on both RTCA and EUROCAE websites, and has folders set up on RTCA workspace. Soon to have folders on the new EUROCAE SharePoint site.

C. NextGen Advisory Committee (NAC) – Status Update.

- Andy Cebula, RTCA – Vice President, Strategy and Programs presented.

The next meeting of the NAC will be October 4th, hosted by United Airlines in Chicago, IL. Agenda topics include:

- Northeast Corridor – Implementations
 - <18mths, 18-36mths, +3yrs
 - Benefits & Measurement
- Analysis of Optimized Profile Descent – Boston & DataComm Benefits Assessment
- Regional Equipage – impacts on PBN implementation
- NextGen Integration Working Group – implementation DataComm, Multiple Runaway Operations, PBN, Surface & Data Sharing

PMC members asked about reaction to the Northeast Corridor Study. PBN did introduce new flight paths, but some caused problems with airport-surrounding communities as there was not an adequate environmental check initiated prior to implementation. More outreach to community is needed – pre- and post-implementation.

D. Tactical Operations Committee (TOC) – Status Update.

- Trin Mitra, RTCA Program Director, presented.

The last official meeting of the TOC was held August 22, 2017:

- Approved recommendations on PBN Route System
- Approved recommendations on AIMM Segment 3 (provision of near real-time SAA status and digitized LOA/SOPs)

Two ongoing tasks: impacts of intentional GPS interference and flight plan feedback

Recent Change in Leadership:

- Co Chairmen: Bart Roberts (JetBlue) & Jeff Woods (NATCA)
- Aug 22 final meeting for Lynn Ray as DFO; Jodi McCarthy transitioning in

On the Impacts of Intentional GPS Interference. There are six aspects to this tasking:

- Evaluate GNSS interference events and quantify the NAS impact
- Tracking and metrics to assess impact of GNSS interference events, including economic impact on airports
- Recommend way to define and depict interference based on likelihood of interference, level of impact
- Standard minimum weather requirement/criteria for airfields that have only GNSS approach procedures and/or radar/WAM coverage
- Evaluate effectiveness of alerting process, including NOTAMs used by air traffic and the notification process for pilots
- Recommend guidance/training material for controllers & pilots

To work this task, the Task Group is working to validate impacts of GPS interference based on:

- Field experience/reports
- Operator experience/reports
- Impacts expected by OEMs
- Actual measurements from ADS-B towers or other sources

Additionally, the Task Group is working to understand OEM perspective on expected equipment impacts from intentional interference events:

- Rockwell Collins, Garmin volunteer to populate following matrix as 1st step
- Next step is to distribute to appropriate OEMs and/or SCs/WGs for additional input and validation

Future TOC meetings are slated for November 2017 and March 2018

E. Drone Advisory Committee (DAC) – Status Update.

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

The DAC met on July 21, 2017. It was the first meeting with the new DFO Dan Elwell. It was a virtual meeting to receive and approve an interim report from TG3 on Funding of UAS Integration. TG3 is analyzing potential mechanisms for funding the activities and services required and to provide recommendations on preferred method for funding federal activities and services.

The group is expecting an updated tasking in September and a new TG will be formed based on the tasking.

Current status of all TG’s:

- TG1: Roles and Responsibilities of the Local/State/Federal Government
 - Interim report due for November DAC
 - New local/county/state representatives added
- TG2: Access to Airspace
 - Final report due for November DAC
- TG3: Funding of UAS Integration
 - Status only at November DAC
 - Begun work on Long-term (greater than 24 months) recommendations

The next meeting of the DAC will be November 8th, hosted by Amazon Prime in Seattle, WA.

F. Actions Taken on Previously Published Documents – Report and Designated Federal Officer (DFO) List –Update.

- Lou Volchansky, PMC DFO – FAA, presented (FAA Guidance based on RTCA Documents – RTCA Paper No. 203-17/PMC-1642)

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.

FAA Published Guidance (Since Previous PMC)

| RTCA Document | Developed By | FAA Guidance | Approval Date | Comment |
|--|---------------------|---------------------|----------------------|---------------------------------------|
| DO-346, MOPS for Aeronautical Mobile Airport Communication System (AeroMACS) | SC-223 | TSO-C207a | August 2017 | Revise AeroMACS TSO to be used by ATS |

| | | | | |
|--|--------|------------|-------------|--|
| Change 1 to DO-300A; Change 2 to DO-300 | SC-147 | AC 20-151C | July 2017 | Airworthiness installation guidance |
| DO-367, MOPS for Terrain Awareness and Warning System (TAWS) | SC-231 | TSO-C151d | August 2017 | Updates TSO design standard (new MOPS documentation) |

RTCA Published Documents - FAA Pending Guidance

| RTCA Document | Developed By | FAA Guidance | Planned Release Date | Comment |
|--|---------------------|---|-----------------------------|---|
| DO-362, Command and Control Data Link MOPS | SC-228 | TSO-CNPC | December 2017 | UAS C2 Equipment design standard |
| DO-362, Command and Control Data Link MOPS | SC-228 | AC 20-187 | February 2018 | Airworthiness installation guidance. (Delay from May 2017 to align with proposed TSO.) |
| DO-363, Guidance for the Development of Portable Electronic Devices (PED) Tolerance for Civil Aircraft | SC-234 | AC 91-21.1D, Use of Portable Electronic Devices Aboard Aircraft | October 2017 | Provides aircraft operators with guidance for compliance to Title 14 CFR part 91, section 91.21 Portable Electronic Devices |
| DO-262C, MOPS for Avionics Supporting Next Generation Satellite Systems | SC-222 | TSO-C159d | TBD | Includes improvements to test cases for Iridium Next Short Burst Data testing |

| | | | | |
|--|--------|--|----------------|--|
| DO-343A MASPS for AMS(R)S Data and Voice Communications Supporting Required Communications Performance and Required Surveillance Performance | SC-222 | None at this time | N/A | Includes Swift Broad Band ground gateway-to-aircraft VPN tunneling. Needed for engineering/ scoping purposes |
| DO-368, MOPS for GPS/GLONASS (FDMA + Antenna) L1-only Airborne Equipment | SC-159 | Under review | — | — |
| DO-246E, GNSS-Based Precision Approach Local Area Augmentation System Signal-in-Space Interface Control Document | SC-159 | None | — | This document is a reference for DO-253D. It is published by RTCA for the convenience of avionics OEMs. |
| DO-365, Detect and Avoid MOPS Phase I | SC-228 | TSO-C212 | September 2017 | Design standard |
| | | AC | January 2018 | Airworthiness installation of a UAS DAA system |
| DO-366, Air-to-Air Radar Detect and Avoid MOPS Phase I | SC-228 | TSO-C211 | September 2017 | Design standard |
| DO-253D, MOPS for GPS Local Area Augmentation System Airborne Equipment | SC-159 | New TSOs and/or modifications to TSO-C161 and TSO-C162 | January 2018 | New design standard to support Category II/III operations; maintenance updates to legacy standards |

RTCA Documents Pending PMC Approval

| RTCA Document | Developed By | Planned FAA Guidance | Planned Release Date | Comment |
|--|---------------------|-----------------------------|-----------------------------|---|
| DO-311A, MOPS for Rechargeable Lithium Batteries and Battery Systems | SC-225 | TSO-C179a | March 2018 | Updates design standard for rechargeable lithium batteries |
| | | AC 20-184A | June 2018 | Update installation standard for rechargeable lithium batteries |
| DO-227A, MOPS for Non-Rechargeable Lithium Batteries | SC-235 | TSO-C142b | June 2018 | Updates design std non-rechargeable lithium batteries |
| | | AC | September 2018 | Updates installation std for non-rechargeable lithium batteries |

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

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

Highlights from the Chair Reports for several selected Special Committees were reviewed. Reports were received from SCs 135, SC-206, SC-217, SC-224, SC-230, and SC-233. Other information was included in other presentations during this PMC.

There are four ISRA’s active at the current time:

- SC-228-ISRA-003 – UAS Surface-Based Equipment Environmental Qualification Requirements
- SC-206-ISRA-186-01 – Coordination with Combined Surveillance Committee SC
- SC-206-ISRA-209-01 – Coordination with Combined Surveillance Committee SC
- SC-186/003 (5) – FIMS-S Datalink Standards

The complete matrix, individual committee reports, and ISRA matrix are posted on Workspace (RTCA Paper No. 204-17/PMC-1643).

H. European/EUROCAE Coordination – Status Update.

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

Topics of Note:

- New Documents Released by EUROCAE since last PMC
 - ED-246 – *Process Specification for Wireless On-board Avionics Networks* – WG-96
 - ED-242 – *Minimum Aviation System Performance Standard for AMS(R)S Data and Voice Communications Supporting Required Communications (RCP) and Required Surveillance Performance (RSP)* – WG-82/SC-222
 - ED-243 – *Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS)* – WG-82/SC-222
 - ED-245 – *MASPS for Installation of Fuel Cell Systems on Large Civil Aircraft* – WG-80/AE-7
 - ED-147A – *ATM Validation Platforms Interoperability Specification* – WG-81
 - ED-137/1C – *Interoperability Standards for VoIP ATM Components – Volume 1: Radio* – WG-67
 - ED-238 – *Operational Services and Environment Definition (OSED) for Traffic awareness and Collision Avoidance in Class A, B and C Airspace under Instrument Flight Rules* – WG-73
 - ED-244 – *USA / RPAS Flight Crew Licensing Skill Test and Proficiency Check Report Form* – WG-73/WG-93
 - ED-241 – *Minimum Operational Performance Specification For Altimetry Function* – WG-68
- New Working Group
 - WG-107: WG RNP Reversion based on DME/DME – Kickoff in November 2017
 - SC-227 Amending their TOR to monitor SG-107's activities
- Current Joint SCs/WGs:
 - Joint Committees:
 - SC-213/WG-79
 - SC-214/WG-78
 - SC-214/WG-92
 - SC-216/WG-72
 - SC-217/WG-44
 - SC-222/WG-82
 - SC-229/WG-98
 - SC-236/WG-96
 - FAS
 - Special Relationships:
 - SC-186/SC-209/WG-51/WG-59
 - SC-135/WG-14*
 - SC-159/WG-62**
 - SC-223/WG-82**

- SC-227/WG-107***
- SC-228/WG-105***
- NOTE:

*Publishes technically equivalent documents but does not meet jointly

**Pending future joint work

***Monitoring progress

- Technical Advisory Committee (TAC) Future Meetings:
 - TAC#70: 17 – 18 October 2017, Toulouse, DSN
 - TAC#71: 16-17 January 2-18
 - TAC#72: 15-16 May 2018
- Annual Joint RTCA/EUROCAE Meeting
 - Last week of November hosted by EUROCAE in Paris
 - Chris Hegarty, Margaret Jenny, and Al Secen will attend

International Civil Aviation Organization (ICAO) Update:

- RPASP 9 Plenary (Oct 30th -Nov 3rd)
 - Final coordination with/endorsement by other expert groups by Aug 2017 (for the candidate SARPS)
 - Final drafts presented
- Second Global Air Navigation Industry Symposium (GANIS/2) and First Safety and Air Navigation Implementation Symposium (SANIS/1) Dec 11th-15th
- Al Secen attending meetings and coordinating ICAO for RTCA

AGENDA ITEM 8

Documents Open for Final Review and Comment (FRAC)

None

AGENDA ITEM 9

Other Business.

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

- Jessie Turner (SC-186 Co-Chairman) presented.

The group requested new delivery dates and change to new DFO Gregg Nesemeier due to Don Walker leaving FAA. These changes included:

- Advanced Flight-deck based Interval Management (FIM) SPR, Interop (DO-328B). Change from “2018” to Dec. 2019. The “2018” was only an initial estimate made back in 2014.
- Advanced Flight-deck based Interval Management (FIM) MOPS.
- Identified initial FIM MOPS release (DO-361).

- Change DO-361A update from “2018” to Dec. 2019. The “2018” was only an initial estimate made back in 2014.
- 1090 MHz ADS-B MOPS update (DO-260C). Change from “2019” to Dec. 2019. The “2019” was only an initial estimate made back in 2014.
- Split out the Universal Access Transceiver (UAT) MOPS update (DO-282C) from the 1090 MHz MOPS (DO-260C) deliverable line, since it is a separate deliverable getting worked under a separate task within SC-186 WG-3 (recognizing that many of the changes made in DO-260C will likely get folded into DO-282C). Current plan is to complete DO-282C by Dec. 2019

The revised TOR was approved (RTCA Paper No. 252-17/PMC-1667)

B. ICAO Interaction – Discussion – PMC Direction

- Margaret Jenny, RTCA President, presented.

Discussion centered on increased requests from ICAO for RTCA support and PMC direction on how to handle these requests. The original RTCA/ICAO MOU was completed in 2009 and expect update signed in December. Margaret is speaking at GANIS/SANIS in December and welcomes inputs from PMC members on overall priorities.

Suggestions provided:

- Standard Roundtable – more work referencing RTCA documents
- Surveillance Panel – very technical
- More recognition of RTCA at ICAO, possibly observer or participant
 - RTCA has had Observer status for about 3 years
 - Not staffed for Panel participation
- Survey of Panels that industry participates in
 - Reviewed list with EUROCAE – possibly run by PMC
- Observation: Appears SARPs have gone from what needs to be done to more technical on how to be done – maybe too far
- Not just SARPs, but some SC’s provide regular updates to panels (such as SC-159 and ADS-B)
- Possibly Forum every so often
- ECs are hard-coded SARPs to become law

There are a lot of new players and some “education” may be needed. Noted that standards can be changed much quicker than TSO vs. ICAO documentation.

Possible follow up with EUROCAE during November joint meeting (action).

C. SC-227 – Standards of Navigation Performance - Discussion – Revised TOR

- Mike Cramer (SC-227 Chairman) presented.

The revision indicates after they deliver the revised Moving Map MOPS in December 2017, they will continue to meet virtually in order to monitor the work of WG-107 (DME/DME).

The revised TOR was approved (RTCA Paper No. 254-17/PMC-1669)

D. AIR and AFS Reorganization – Presentation – Discussion

- David Hempe (FAA/AIR) and Jim Viola (FAA/AFS) presented overviews of the AIR and AFS reorganization and reasoning behind changes.

The presentations are posted on Workspace (RTCA Paper Nos. 245-17/PMC-1663 and 246-17/PMC-1664).

E. SC-228 – Minimum Performance Standards for Unmanned Aircraft Systems - Discussion – Revised TOR

- Richard Heinrich and Paul McDuffee (SC-228 Chairmen) presented.

The group presented a revision to indicate changes based on the two white papers (agenda items 3C and 3D). These changes included separating Ground-based Non-Cooperative Radar MOPS and DAA MOPS into two deliveries, separating Airborne EO/IR Sensor MOPS and Air-to-Air Radar MOPS into two deliveries, adding an additional revision to the DAA MOPS, changing reference of Data Link to Link Systems, deleting Data Link MASPS (Network) and replacing with C2 Link Systems MASPS revision and a revision to the yet to be delivered C2 Link System MOPS (SATCOM).

The revised TOR was approved (RTCA Paper No. 255-17/PMC-1670).

F. EUROCAE and RTCA Liaison

Member suggested liaison from EUROCAE attend PMC meeting and someone from RTCA attend TAC meetings. EUROCAE member (Anna von Groote) usually calls in for PMC meetings. Also, Al Secen and Anna have monthly coordination calls. Lou Volchansky brought up point that FAA and EASA fill in any gaps.

AGENDA ITEM 10

Schedule for Committee Deliverables and Next Meeting Date

Documents expected for the December 2017 meeting:

- SC-206, Aeronautical Information and Meteorological Data Link Services
 - New Document – *Guidelines for In Situ Eddy Dissipation Rate (EDR) Algorithm Performance*

- SC-213, Enhanced Flight Vision Systems/Synthetic Vision Systems
 - New Document – *MASPS for Synthetic Vision System for attitude awareness to address CAST SE 200*
- SC-224, Standards for Airport Security Access Control Systems
 - Revision to DO-230G – *Standards for Airport Security Access Control Systems*
- SC-228, Minimum Performance Standards for UAS
 - New Document - *C2 Data Link Minimum Aviation System Performance Standards (MASPS) (SATCOM)*
- SC-233, Addressing Human Factors/Pilot Interface Issues for Avionics
 - New Document – *Addressing Human Factors/Pilot Interface Issues for Avionics*

Possible Early Delivery Documents expected for the December 2017 meeting:

- SC-159, Navigation Equipment Using the Global Navigation Satellite System (GNSS)
 - New Document – *GNSS Dual-Frequency (1575/1176 MHz) Antenna Minimum Operational Performance Standards for Airborne Equipment*
 - Revision to DO-235B – *Assessment of Radio Frequency Interference Relevant to the GNSS L1 Frequency Band*

The dates for the next four PMC meetings were confirmed: Tuesday, December 19, 2017; Thursday, March 22, 2018; Thursday, June 21, 2018; and Thursday, September 20, 2018.

AGENDA ITEM 11
New Action Item Summary

See PMC Action Item Table.

/Signed/
 Karan Hofmann, Secretary
 RTCA Program Management Committee

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

/Signed/
 Christopher Hegarty, Chair
 RTCA Program Management Committee

**Program Management Committee – September 21, 2017
ATTENDANCE LIST**

| PMC MEMBERS: | | |
|---------------------|------------|---|
| Christopher | Hegarty | The MITRE Corporation Chairman |
| Chris | Benich | Honeywell International, Inc. |
| Larry | Dibble | U.S. Army |
| Robert | Grove | Garmin Ltd. |
| Richard | Heinrich | Rockwell Collins, Inc. |
| Jens | Hennig | General Aviation Manufacturers Association |
| Margaret | Jenny | RTCA, Inc |
| Randy | Kenagy | Air Line Pilots Association |
| George | Ligler | Project Management Enterprises Inc |
| Thomas | Shields | U.S. Air Force |
| Jessie | Turner | The Boeing Company |
| Lou | Volchansky | Federal Aviation Administration (Designated Federal Officer) |

| OTHER ATTENDEES: | | |
|-------------------------|-----------------|---------------------------------|
| Moin | Abulhosn | Federal Aviation Administration |
| Marcia | Alexander-Adams | Federal Aviation Administration |
| Chris | Baker | Acme Aerospace |
| Patty | Bath | Esterline AVISTA |
| Andy | Cebula | RTCA, Inc. |
| Mark | Christianson | L3 |
| Mike | Cramer | The MITRE Corporation |
| Jeff | Densmore | Radiant Power Corp |
| Stephen | Diehl | Consultant |
| Brad | Green | Honeywell International, Inc. |
| Christophe | Hamel | L3/ACSS |
| David | Hempe | Federal Aviation Administration |
| Karan | Hofmann | RTCA, Inc. |
| Nazih | Khaily | Federal Aviation Administration |
| Trin | Mitra | RTCA, Inc. |
| Dunkar | Mokadam | AFA-CWA |
| Rebecca | Morrison | RTCA, Inc. |
| Richard | Nguyen | The Boeing Company |
| Andrew | Pasztor | Wall Street Journal |
| Norman | Pereira | Federal Aviation Administration |
| Jim | Russell | The Boeing Company |

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| Al | Secen | RTCA, Inc. |
| Leire | Segura | Airbus |
| Ronald | Stroup | Federal Aviation Administration |
| Brandon | Suarez | The Boeing Company |
| John | Trela | The Boeing Company |
| Stephen | Van Trees | Federal Aviation Administration |
| Jim | Viola | Federal Aviation Administration |
| Anna | von Groote | EUROCAE |
| Brett | Williams | True Blue Power |

PMC ACTION ITEM TABLE

| TRACKING NUMBER (Meeting Date and agenda item from which original action resulted) | ACTION | ACTION ASSIGNED TO | DUE DATE | STATUS |
|--|---|--|-----------------|---------------|
| 12/15/2016 Agenda Item 7A | 12/15/2016 – Conduct PMC and ICC membership reviews 06/22/2017 – Discussion postponed until September PMC 09/21/2017 – Ad Hoc Formed for 2018 Membership Recommendations | Ad Hoc (Chris Hagerty, Jens Hennig, George Ligler, Al Secen) | Dec 2017 | Open |
| 03/21/2017 Agenda item 5E | 03/21/2017 – NASA Security Presentation 06/22/2017 – Delayed until next meeting 09/21/2017 – External situation has changed and inappropriate to present until further notice | PMC Steve Hofmann | Sep 2017 | OBE |
| 03/21/2017 Agenda Item 7B | 03/21/2017 – Define process/procedure for availability of RTCA documents as reference for selected EUROCAE WG’s 06/22/2017 – Still being worked 09/21/2017 – Still being worked | RTCA Al Secen | Dec 2017 | Open |
| 07/13/2017 Agenda Item 7B | 07/13/2017 – Direct SC-209 hold on any further work referencing ACSS IP Items | Al Secen | Sep 2017 | Closed |
| 07/13/2017 Agenda Item 7B | 07/13/2017 – Provide ACSS an example CtL with inputs from ICAO and MIT LL 09/21/2017 – Written reply per ACSS request – final comments welcome NLT 9/29 – then forward to ACSS | PMC Members & Al Secen | Dec 2017 | Open |
| 07/13/2017 Agenda Item 7B | 07/13/2017 – Revisit RTCA IP Policy to remove ambiguity 09/21/2017 – Final comments welcome NLT 9/29 | PMC Members | Dec 2017 | Open |
| 07/13/2017 Agenda Item 8 | 07/13/2017 – Redirect SC-225 on version of DO-311A to present | SC-225 | Sep 2017 | Closed |
| 09/21/2017 Agenda Item 3B | 09/21/2017 – Ad Hoc to resolve DO-311A Content | Ad Hoc (Lou Volchansky, Jens Hennig, Jessie Turner) | Dec 2017 | Open |
| 09/21/2017 Agenda Item 6F | 09/21/2017 – Present IP Policy change recommendations to Policy Board | Al Secen | Dec 2017 | Open |
| 09/21/2017 Agenda Item 9B | 09/21/2017 – Follow up with PMC suggestions on ICAO activity with EUROCAE during Nov Joint Meeting | Margaret Jenny & Al Secen | Dec 2017 | Open |