

**RTCA PROGRAM MANAGEMENT COMMITTEE
MEETING SUMMARY
May 31, 2017**

The RTCA Program Management Committee (PMC) convened at 8:30 a.m. on May 31, 2017 at RTCA with most members attending via telephone and WebEx. The attendance list (with proxy notes) 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 Official (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.

This was an out-of-cycle meeting to take formal actions upon items discussed at a March 21st gathering of the PMC members. Formal actions were deferred from the March 21 gathering due to a problem with posting a Federal Register notice for that meeting.

AGENDA ITEM 2

Review / Approve

- A. The summary of the December 15, 2016 meeting was approved with no changes (RTCA Paper No. 005-17/PMC-1570).
- B. The summary of the March 21, 2016 working group meeting was discussed and although formal approval is not needed, members were asked to provide any comments to PMC Secretary Karan Hofmann (RTCA Paper No. 099/PMC-1606).
- C. Administrative Special Committee Terms of Reference (TOR) Revision:
 - SC-224 – Standards for Airport Security Access Control Systems – New Designated Federal Official Djhanice Neric (FAA). TOR approved (RTCA Paper No. 138-17/PMC-1613).

AGENDA ITEM 3

Publication Consideration/Approval

A. Final Draft, Revision to DO-262B – *Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS)*, prepared by SC-222/WG-82

This document contains minimum operational performance standards (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 release is a joint RTCA/EUROCAE document and includes a Technique Specific Normative Appendix from INMARSAT. Release date will coordinate with EUROCAE publication of ED-243.

The PMC approved the document. It will be published as DO-262C.

B. Final Draft, Revision to DO-343 – *Minimum Aviation System Performance Standard for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP)*, prepared by SC-222/WG-82

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, RCP240, 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, RSP180 or RSP400 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.

This release is a joint RTCA/EUROCAE document and includes Systems Specific Appendix from INMARSAT. Release date will coordinate with EUROCAE publication of ED-242.

The PMC approved the document. It will be published as DO-343A.

C. Final Draft, New Document – *Detect and Avoid Minimum Operational Performance Standards Phase I (DAA MOPS)*, prepared by SC-228

- Rick Heinrich, SC-228 Co-Chairman, was available to answer further questions.

The Detect and Avoid (DAA) system for Unmanned Aircraft Systems (UAS) flight was developed to assist the Pilot-in-Command (PIC) with his/her duties of operating an aircraft safely in the National Airspace System (NAS). All aircraft flying in the NAS must comply with the operating rules of Title 14 of the Code of Federal Regulations (14 CFR). Specifically, Part 91, §§.3, .111, .113(b), .115, .123 and .181(b), which address see and avoid, collision avoidance, and right-of-way rules. These operating regulations assumed that a pilot would be onboard the aircraft, so he/she would be able to exercise his/her authority to fully comply with these rules.

SC-228 has been tasked to develop MOPS in two separate phases. This document contains Phase 1 Minimum Operational Performance Standards (MOPS) for DAA systems used in aircraft transitioning to and from Class A or special use airspace (higher than 500' Above Ground Level (AGL)), traversing Class D, E, and G airspace in the NAS. It does not apply to small UAS operating in low-level environments (below 500') or other segmented areas. Likewise, it does not apply to operations in the Visual Flight Rules (VFR) traffic pattern of an airport. Future revisions of this document are expected to address other operational scenarios and sensors better suited to meet smaller aircraft needs, as well as other DAA architectures, including ground-based sensors.

The PMC approved the document. It is published as DO-365.

D. Final Draft, New Document – *Minimum Operational Performance Standards (MOPS) for Air-to-Air Radar Detect and Avoid (DAA) Systems Phase I*, prepared by SC-228

- Rick Heinrich, SC-228 Co-Chairman, was available to answer further questions.

This document contains Phase 1 MOPS for the air-to-air radar for traffic surveillance. The intended application is supporting DAA operations for aircraft transitioning to and from Class A or special use airspace, traversing Class D, E, and G airspace in the NAS. It does not apply to small Unmanned Aircraft Systems (sUAS) operating in low-level environments (below 500') or other segmented areas. These standards specify the radar system characteristics that should be useful for designers, manufacturers, installers and users of the equipment.

The intended function of the radar is to detect and generate tracks for all airborne traffic within the radar detection volume. The onboard radar complements other airborne surveillance sensors by providing detection of non-cooperative traffic. The track should be established at sufficient range and with sufficient accuracy to enable the system to plan and execute a maneuver to keep the UAS well clear of other traffic and avoid collisions.

This document has the detailed performance and environmental requirements of the radar along with their verification methods. Verification includes bench tests, flight tests and environmental tests. Recommendations and flight tests for installed performance are also provided.

The PMC approved the document. It is published as DO-366.

E. Final Draft, Interim Report – *Feasibility Study Weather Radar for Ice Crystal Detection, prepared by SC-230*

- Dawn Gidner, SC-230 Co-Chairman, was available to answer further questions

In parallel with the US HIWC and European HAIC projects, the European Organization for Civil Aviation Equipment (EUROCAE) Working Group WG95 (Long Range Awareness subgroup), in association with the RTCA Special Committee SC-230, was tasked with demonstrating the maturity and the feasibility of using an X-band radar system for long-range detection of ice crystal conditions.

This feasibility study document details the context of the study and a description of the intended function (situational display of regions ahead of the aircraft that present potential hazards to the aircraft due to ice crystals). Its goals are:

- To determine if a radar ice crystal awareness function is possible using an airborne X-band weather radar system
- To assess the feasibility of such a function
- To provide guidance on the design and validation of long-range ice crystal awareness functions for X-band radar technology.

This document also provides recommendations going forward.

PMC members recommend engine manufacturers should keep in touch with SC-230 with respect to icing situations in parallel and some cross over. Possible inclusion in TOR (see discussion agenda item 6C).

The PMC approved the document for coordinated publication with equivalent EUROCAE ER style document (similar to RTCA White Paper). Expect release later this summer after the joint report has been approved by EUROCAE's Technical Advisory Committee (TAC) (the PMC counterpart).

F. Final Draft, *Minimum Operational Performance Standards for Terrain Awareness and Warning System (TAWS), prepared by SC-231*

- Rick Ridenour (SC-231 Co-Chairman) and Charisse Green (SC-231 DFO) were available for any further questions

This MOPS defines a Terrain Awareness and Warning System (TAWS). TAWS is an alerting system that is intended to provide alerts to the pilot when a terrain threat is detected. Additionally, Class A systems and other systems that include a Terrain Display are intended to provide awareness to the flight crew regarding the aircraft's proximity to terrain. The

operational goal of TAWS is to reduce the occurrence of controlled flight into terrain (CFIT) accidents.

FAA Technical Standard Order (TSO) C151d references this document.

The PMC approved the document. It is published as DO-367.

This completed the deliverable per the SC-231 TOR, but following discussion about putting the committee in temporary limbo/hiatus status until the TSO update is approved in the fall before sun setting the committee was agreed upon. The PMC Members thanked the group for their dedication.

AGENDA ITEM 4 Integration and Coordination Committee (ICC)

A. Suggested Changes to MOPS/MASPS Drafting Guides – Update

The ICC presented wording change recommendations at the March 21st PMC meeting for Section 4 to take out design requirements and provide useful considerations regarding equipment designed to meet these MOPS when equipment is installed and used on an aircraft to meet operational requirements.

PMC members agreed they liked the rewording of Section 4 and wished to specifically thank George Ligler and Rick Heinrich for inputs.

PMC members formally accepted the new wording in the guide and recommended sharing with SC leadership to be part of the drafting guide review (March 21st action item).

AGENDA ITEM 5 Action Item Review.

A. Set Up PMC “Lite” for May - Status

- Karan Hofmann, PMC Secretary, presented.

Meeting was originally scheduled for May 16th, but due to delay in publishing the agenda in Federal Register, the plenary meeting was rescheduled for Wednesday, May 31, 2017. The May 16th window was used as a working group meeting to address SC-214 TOR and DO-311A (with SC-225) matters. Action closed.

B. Support for SC-214 TOR revision - Status

- Karan Hofmann, RTCA Program Director, presented.

SC-214 TOR revision was discussed during the May 16th working group meeting. Results presented with agenda item 6A. Action closed.

C. Redistribution/Relook at EUROCAE WG-106 TOR - Status

- Karan Hofmann, PMC Secretary, presented

TOR distributed and further action rolled into agenda item 5D. Action closed.

D. Cross Cutting Committee (CCC) Membership - Update

- Clay Barber (CCC Chairman) and Al Secen (RTCA Vice President Aviation Technology and Standards), presented.

CCC met April 11th for GADSS familiarization; designed only as an exercise to see how CCC could/would be used

- Received post-meeting inputs from Ron Stroup and Ed Hahn
- Rick Heinrich and Jessie Turner drafted an initial position

Rick attended May 9-11 International Conference: Flight Location & Data Recovery in Hamburg, Germany

- New perspective that a MOPS may not be needed
- CCC has yet to convene to discuss this latest development

Regardless of final outcome, from a process perspective, CCC has benefited from these deliberations and related assessment of concept readiness, standards, global perspectives, ICAO documentation, etc.

CCC will have a final close the loop discussion on GADSS, but there is no formal recommendation forthcoming. Members eagerly await the first official CCC tasking.

There was some discussion about possible Electronic Flight Bag joint work with EUROCAE WG-106 action for CCC. This request would come from RTCA President to CCC and then feedback to PMC. Action already exists for initial evaluation of this effort.

- The briefing is to be posted on Workspace (RTCA Paper No. 133-17/PMC-1612)

E. Implementation Procedures for new MOPS/MASPS Drafting Guides - Status

- Karan Hofmann, PMC Secretary, presented.

As discussed at March 21st meeting, it was recommended and approved that MOPS and MASPS Drafting Guide changes are effective as soon as approved with PMC review on case by case basis if needed. Committees should include acknowledgement during document presentation to the PMC that they followed new definition guidelines in Section 1.8 and considered Section 1.10 to either take into account and included in consensus process or found not to apply. Action closed.

F. PMC Membership Review - Update

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

After discussion from March 21st meeting and adjusting of PMC members for needed areas of expertise, this action may be considered OBE with annual review of composition of members. Action still open.

G. Recommendation for SC-230 Report Publication - Status

- Karan Hofmann, PMC Secretary, presented.

As part of agenda item 3F, the SC-230 report will be published as a white paper concurrently with EUROCAE ER in late summer. Action closed.

H. Availability of documents as reference for selected EUROCAE WGs - Update

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

Mr. Secen reported this is still being worked and coordinated with EUROCAE. Action is still open.

AGENDA ITEM 6

Discussion.

A. SC-214 – Standards for Air Traffic Data Communications Services – Discussion – Revised TOR

- Captain Chuck Stewart (SC-214 Co-Chairman), Dongsong Zeng (SC-214 Secretary), and Thomas Mustach (SC-214 DFO), presented.

SC-214 presented proposals for revised TOR to concentrate focus on VDL, being a joint group with EUROCAE WG-92, and work in coordination with AEEC, and adjust deliverable due dates. After presentation at the March 21st PMC gathering, members pointed out that suggested adjustments appear to change the scope of the group too much and eliminates the stand-by status of the group from last March's document completion (Baseline 2). There was also mention of consideration of cyber security and "Best in Class" considerations from EASA and EUROCAE.

Following the May 16th working group meeting, the following items were added/changed from the March version of the TOR:

- Kept EUROCAE WG-78 joint committee references and explanation of past work done with possible reinitiating as needed in background section
- Made EUROCAE WG-92 joint committee status better defined in background section
- Clarify connection to Link2000+ and ELSA consortium relation for VDL Mode 2
- Provided clarification of use of "connectionless" term

- Coordination with WG-92 deliverables – added an interim version of the MOPS (DO-281C) and the MASPS (DO-224E)
- Added a SC-214 vs. EUROCAE WG-92 publication schedule table
- Added special considerations referencing connectionless VDL2 operations

There were also some last minute administrative comments to be added (action item).

The PMC approved the revised TOR (RTCA Paper No. 139/PMC-1614). PMC members requested a listing of the comparison between the March version and this final approved version (action item).

B. SC-222 – AMS(R)S Systems – Discussion - Revised TOR

The SC-222 TOR revision is mostly cleanup and a proposal to adjust deliverable due dates to accommodate delay in Iridium launch.

The revised TOR was approved (RTCA Paper No. 140-17/PMC-1615).

C. SC-230 – Airborne Weather Detection Systems – Discussion - Revised TOR

- Dawn Gidner, SC-230 Co-Chairman, was available for further discussion.

Proposals for revised TOR to add change one to both MOPS (DO-220A and DO-213A) published last year. These potential changes would come from industry comments / errata received.

PMC members expressed concern of wording of “if warranted”. If there is already some known errata, delete and progress with changes to the two documents.

While work is ongoing, recommend reaching out to RTCA members for possible input on the recommendation from the item 3E (Interim Report - Recommendations on the Feasibility to Standardize In-Flight Radar Long Range Ice Crystals Weather Awareness Function) to develop a MASPS. If the MASPS isn’t warranted, SC-230 will report such back to PMC.

The call out would also invite engine manufactures to participate in SC-230 activities (from agenda item 3E).

The PMC approved the revised TOR (RTCA Paper No. 141-17/PMC-1616).

AGENDA ITEM 7 Other Business.

A. SC-206 Proposed TOR Revision - Discussion

- Tammy Farrar, SC-206 SG4 Co-Chairmen, previously presented.

Ms. Farrar had presented a case to change the current TOR deliverable of a Minimum Operational Performance Standards (MOPS) for Eddy Dissipation Rate (EDR) turbulence computational algorithms to a Guidelines document. This requirement refers to the calculation that use aircraft-derived observations as input. The approach has been independent of how the calculations are done and how the EDR algorithm is implemented – thus defining a very narrow scope to only include the performance of the algorithms in the testing environment (that is real-world data inputs/outputs, software and applications are out of scope). Thus, they are finding it difficult to make verbiage required in the MOPS Drafting Guide to fit this situation. Also, testing each/every EDR implementation in installed application is not feasible. Even if they changed sections/sub-section titles, the document would not truly be a MOPS.

After consultation with the sponsoring FAA office, the group is recommending changing the deliverable from a MOPS document to a Guidelines document to be used to standardize the output of various EDR algorithms to provide accurate and operationally comparable results. The group needed a go-ahead, as the period for Final Review and Comment was scheduled to start before the June PMC meeting.

The PMC approved the use of Guidelines document vs. MOPS document for SG4 and awaits the formal TOR revision at the June PMC meeting.

AGENDA ITEM 8

Schedule for Committee Deliverables and Next Meeting Date

Documents expected for the June 2017 meeting:

- SC-159, Navigation Equipment Using the Global Navigation Satellite System (GNSS)
 - Revision to DO-253C – *Minimum Operational Performance Standards for GPS Local Area Augmentation System Airborne Equipment*
 - Revision to DO-246D – *GNSS-Based Precision Approach Local Area Augmentation System (LAAS) Signal-in-Space Interface Control Document (ICD)*
 - New Document – *Minimum Operational Performance Standards for GPS/GLONASS L1 Only Airborne Equipment*
- SC-206, Aeronautical Information and Metrological Data Link Services
 - New Document – *Guidance for the Usage of Data Linked Forecast and Current Wind Information in Air Traffic Management (ATM) Operations*

NOTE: Due to delay in SC-225 and SC-235 May Plenary agendas in Federal Register, the two battery documents (DO-311A and DO-227A, respectively) have not completed FRAC resolution and are now planned to be presented at the September PMC meeting.

The dates for the next four PMC meetings were confirmed: Thursday, June 22, 2017; Tuesday, September 21, 2017; Wednesday, December 13, 2017; and Thursday, March 22, 2018.

AGENDA ITEM 9
New Action Item Summary

See PMC Action Item Table.

/Signed/

Karan Hofmann, Secretary
RTCA Program Management Committee

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

/Signed/

Christopher Hegarty, Chair
RTCA Program Management Committee

**Program Management Committee – May 31, 2017
ATTENDANCE LIST**

PMC MEMBERS:		
Christopher	Hegarty	The MITRE Corporation Chairman
Clay	Barber	Garmin Ltd (Alternate Member for Robert Grove)
Richard	Heinrich	Rockwell Collins, Inc.
Jens	Hennig	General Aviation Manufacturers Association
Steve	Hofmann	U.S. Air Force
Randy	Kenagy	Air Line Pilot Association
George	Ligler	Project Management Enterprises Inc (proxy to Chris Hegarty)
Jessie	Turner	The Boeing Company
Lou	Volchansky	Federal Aviation Administration (Designated Federal Representative)

OTHER ATTENDEES:		
Moin	Abulhosn	Federal Aviation Administration
Charisse	Green	Federal Aviation Administration
Dawn	Gidner	Honeywell International, Inc.
Allan	Hart	Honeywell International, Inc.
Karan	Hofmann	RTCA, Inc.
Mike	Janus	Quiet Skies, Inc
Rebecca	Morrison	RTCA, Inc.
Thomas	Mustach	Federal Aviation Administration
Gregg	Nesemeier	Federal Aviation Administration
Rick	Ridenour	L-3
Al	Secen	RTCA, Inc.
Chuck	Stewart	United Airlines
Dongsong	Zeng	The MITRE Corporation

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 4A	12/15/2016 – Solicit recommended comments on MOPS/MASPS/SPR Drafting Guides	RTCA Karan Hofmann	Jun 2017	Open
12/15/2016 Agenda Item 7A	12/15/2016 – Conduct PMC and ICC membership reviews	RTCA Margaret Jenny FAA PB Members	Jun 2017	Open
03/21/2017 Agenda Item 1	03/21/2017 – Setup Virtual PMC “Lite” (out of cycle) meeting for 05/16/2017 05/31/2017 – Action Accomplished	RTCA Karan Hofmann	Mar 2017	Closed
03/21/2017 Agenda Item 3E	03/21/2017 – Recommendations needed on format/designation to publish interim report from SC-230 05/31/2017 – Action Accomplished	SC-230 / RTCA / PMC Members	May 2017	Closed
03/21/2017 Agenda item 5E	03/21/2017 – NASA Security Presentation	PMC Steve Hofmann	Jun 2017	Open
03/21/2017 Agenda Item 6A	03/21/2017 – Support SC-214 with TOR revision 5/31/2017 – Action Accomplished	PMC Members	May 2017	Closed
03/21/2017 Agenda Item 6J	03/21/2017 – Relook WG-106 TOR 05/31/2017 – TOR Redistributed – roll to possible CCC action	PMC Members	Jun 2017	Closed
03/21/2017 Agenda Item 6J	03/21/2017 – Look at EFB (WG-106) as possible CCC action	RTCA Margaret Jenny	Jun 2017	Open
03/21/2017 Agenda Item 7B	03/21/2017 – Define process/procedure for availability of RTCA documents as reference for selected EUROCAE WG’s	RTCA Al Secen	Jun 2017	Open
5/31/2017 Agenda Item 6A	05/31/2017 – Include Garmin’s Admin recommendations to SC-214 TOR	RTCA Karan Hofmann	May 2017	Open
05/31/2017 Agenda Item 6A	05/31/2017 – Provide summary of SC-214 TOR revision changes/increments	RTCA Karan Hofmann	May 2017	Open

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

The RTCA Program Management Committee (PMC) convened at 8:30 a.m. on March 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 Official (DFO), read the Public Meeting Announcement that included statement that in accordance with the Federal Advisory Committee Act, this Advisory Committee meeting was supposed to be OPEN TO THE PUBLIC. However, notice of this meeting was not published in the Federal Register and thus this meeting is not recognized as a FACA meeting and thus no official items can be officially approved.

In attempt to not delay approval of items, the PMC members agreed to continue with discussions today and schedule an out of cycle (PMC "Lite") virtual meeting for Tuesday, May 16, 2017. (Action Item)

NOTE: Due to delay in publishing May agenda in Federal Register, the meeting was rescheduled for Wednesday, May 31, 2017.

The PMC observed a moment of silence in remembrance for Tom Kraft, a recently retired FAA member and longstanding supporter of RTCA activities. Tom died in an accident at his home on March 16, 2017. PMC members extended their condolences to the Kraft family.

AGENDA ITEM 2

Review / Approve

- D. The summary of the December 15, 2016 meeting was discussed. Any additional comments should be forwarded to PMC Secretary Karan Hofmann. Expect approval at the next PMC meeting (RTCA Paper No. 005-17/PMC-1570).
- E. Administrative Special Committee Terms of Reference (TOR) Revision:
- SC-224 – Standards for Airport Security Access Control Systems – New Designated Federal Official Djhanice Neric (FAA). No comment and expect TOR to be approved at

next PMC meeting (RTCA Paper No. 058-17/PMC-1591).

AGENDA ITEM 3

Publication Consideration/Approval

G. Final Draft, Revision to DO-262B – *Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS)*, prepared by SC-222/WG-82

- Dr. LaBerge, SC-222 Chairman, presented

This document contains minimum operational performance standards (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 release is a joint RTCA/EUROCAE document and includes a Technique Specific Normative Appendix from INMARSAT.

Expect approval at the next PMC meeting for publication as DO-262C.

H. Final Draft, Revision to DO-343 – *Minimum Aviation System Performance Standard for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP)*, prepared by SC-222/WG-82

- Dr. 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, RCP240, 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, RSP180 or RSP400 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.

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Expect approval at the next PMC meeting for publication as DO-343A.

I. Final Draft, New Document – *Detect and Avoid Minimum Operational Performance Standards Phase I (DAA MOPS)*, prepared by SC-228

- Rick Heinrich and Paul McDuffee, SC-228 Co-Chairmen, presented

The Detect and Avoid (DAA) system for Unmanned Aircraft Systems (UAS) flight was developed to assist the Pilot-in-Command (PIC) with his/her duties of operating an aircraft safely in the National Airspace System (NAS). All aircraft flying in the NAS must comply with the operating rules of Title 14 of the Code of Federal Regulations (14 CFR). Specifically, Part 91, §§.3, .111, .113(b), .115, .123 and .181(b), which address see and avoid, collision avoidance, and right-of-way rules. These operating regulations assumed that a pilot would be onboard the aircraft, so he/she would be able to exercise his/her authority to fully comply with these rules.

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Expect approval at the next PMC meeting for publication with a yet to be designated DO number.

J. Final Draft, New Document – *Minimum Operational Performance Standards (MOPS) for Air-to-Air Radar Detect and Avoid (DAA) Systems Phase 1*, prepared by SC-228

- Rick Heinrich and Paul McDuffee, SC-228 Co-Chairmen, presented

This document contains Phase 1 MOPS for the air-to-air radar for traffic surveillance. The intended application is supporting DAA operations for aircraft transitioning to and from Class A or special use airspace, traversing Class D, E, and G airspace in the NAS. It does not apply to small Unmanned Aircraft Systems (sUAS) operating in low-level environments (below 500') or other segmented areas. These standards specify the radar system characteristics that should be useful for designers, manufacturers, installers and users of the equipment.

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range and with sufficient accuracy to enable the system to plan and execute a maneuver to keep the UAS well clear of other traffic and avoid collisions.

This document has the detailed performance and environmental requirements of the radar along with their verification methods. Verification includes bench tests, flight tests and environmental tests. Recommendations and flight tests for installed performance are also provided.

Expect approval at the next PMC meeting for publication with a yet to be designated DO number.

K. Final Draft, Interim Report – *Feasibility Study Weather Radar for Ice Crystal Detection*, prepared by SC-230

- Dawn Gidner and Jeff Finley, SC-230 Co-Chairmen, presented.

In parallel with the US HIWC and European HAIC projects, the European Organization for Civil Aviation Equipment (EUROCAE) Working Group WG95 (Long Range Awareness subgroup), in association with the RTCA Special Committee SC-230, was tasked with demonstrating the maturity and the feasibility of using an X-band radar system for long-range detection of ice crystal conditions.

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- To determine if a radar ice crystal awareness function is possible using an airborne X-band weather radar system
- To assess the feasibility of such a function
- To provide guidance on the design and validation of long-range ice crystal awareness functions for X-band radar technology.

This document also provides recommendations going forward.

Expect approval at the next PMC meeting for publication in a yet to be designated format/designation (Action Item).

L. Final Draft, *Minimum Operational Performance Standards for Terrain Awareness and Warning System (TAWS)*, prepared by SC-231

- Yasuo Ishihara and Rick Ridenour, SC-231 Co-Chairmen, presented.

This MOPS defines a Terrain Awareness and Warning System (TAWS). TAWS is an alerting system that is intended to provide alerts to the pilot when a terrain threat is detected. Additionally, Class A systems and other systems that include a Terrain Display are intended to provide awareness to the flight crew regarding the aircraft's proximity to terrain. The

operational goal of TAWS is to reduce the occurrence of controlled flight into terrain (CFIT) accidents.

FAA Technical Standard Order (TSO) C151d references this document.

Expect approval at the next PMC meeting for publication with a yet to be designated DO number.

AGENDA ITEM 4

Integration and Coordination Committee (ICC)

B. Suggested Changes to MOPS/MASPS Drafting Guides – Update

- Dr. George Ligler, PMC Member and PMC ICC Chairman, presented

At the December 15, 2016 PMC meeting, the PMC approved the ICC's recommendations on 3 of 4 comments on the RTCA MOPS Drafting Guidelines provided by Don Walker (AIR-130 Surveillance Lead).

An ICC Subgroup, led by Rick Heinrich and included SMEs from Manufacturers, was convened to provide guidance on a recommended resolution on a recommendation with supporting rationale for whether Section 4 should continue to be part of RTCA MOPS.

The working group held two separate teleconferences to discuss continuation of Section 4 and if so to re-draft the section. The group determine in practice, the intent and the intended user of the information seems to be widely misunderstood. In reviewing a subset of MOPS documents, some contain Shall-statements within this section, yet this section is rarely if ever used by the FAA within TSO or other documents.

The group with ICC concurrence recommended keeping Section 4 and making changes to include taking the word "Performance" out of the title and to rewrite the wording of the section to:

This section contains no design requirements. The purpose of this section is to provide useful considerations regarding equipment designed to meet these MOPS when that equipment is installed and used on an aircraft to meet operational requirements.

For the most part, equipment designed to meet these MOPS is expected to meet aircraft operational requirements when installed in an aircraft. However, certain requirements may be affected by specific airspace or operational requirements which should be considered by the equipment manufacturer when designing the equipment. In some cases, there may be multiple classes of equipment corresponding to different operational requirements or in some cases, operational requirements may drive a need for additional equipment.

The equipment design should consider the types and characteristics of aircraft, and the airspace in which they are intended to operate, for which installation of this equipment is intended in addition to the MOPS function at an aircraft level. The equipment should be designed such that the equipment's contribution to aircraft-level operational and functional requirements is adequate.

After much discussion, PMC members agreed to accept the new wording in the guide and to share with SC leadership to be part of the drafting guide review. Action closed.

AGENDA ITEM 5

Action Item Review.

I. Cross Cutting Committee (CCC) Membership - Update

- Clay Barber (CCC Chairman) and Al Secen (RTCA Vice President Aviation Technology and Standards), presented

Working with the suggested membership representation, the following is the list of volunteer members for the CCC for initiation of the concept

2 FAA members to provide guidance on interrelated NextGen or other programs:

- Ron Stroup
- Jeff Woods (NATCA)

3 Manufacturers to provide industry view on inter-related activities in production:

- Clay Barber (Garmin) – Chairman
- Rich Heinrich (Rockwell Collins)
- Jessie Turner (Boeing)

2 Operational folks to represent controllers, operators, and maintainers:

- Ed Hahn (ALPA)
- Melissa Rudinger (AOPA)

1 RTCA staff member:

- Al Secen

CCC Initial Activities Included:

- Initial Meeting February 28th
- Reviewed Charter, Workspace, and PMC slides explaining CCC
- Discussed performing training exercise to prepare for future task
 - o Understand the CCC does not self-task (task comes from RTCA President)
 - o Decided to use GADSS as example

Action closed but will keep PMC members updated on progress on test case. Additional note: U.S. Army offered up an additional member, Mr. Abe Roman. He has 35 years of operational ATC experience and currently serves as an air traffic and airfields policy expert with HQ Army.

- The briefing is posted on Workspace (RTCA Paper No. 057-17/PMC-1590)

J. Implementation Procedure for New MOPS/MASPS/SPR Drafting Guides - Update

- Karan Hofmann, RTCA Program Director, presented

It was recommended and approved that MOPS and MASPS Drafting Guide changes are effective

as soon as approved with PMC review on case by case basis if needed. Committees should include acknowledgement during document presentation to the PMC that they followed new definition guidelines in Section 1.8 and considered Section 1.10 to either take into account and included in consensus process or found not to apply. Action closed.

- The briefing is to be posted on Workspace (RTCA Paper No 081-17/PMC-1600)

K. SC Leadership Awareness of Guide Changes – Update

- Rebecca Morrison, RTCA Program Director, presented

There are three means of communication for SC Leadership to become aware of Guide Changes:

- Post newly approved version of Guide in Workspace
 - o Special Committee “Tool Box” Group for SC Leads
 - o Individual SC folders in reference folders
- Program Director Relay Information
 - o Electronically
 - o Leadership Tag Up Sessions
- SC Leadership Training Session
 - o Highlight entire Drafter Guides
 - o Emphasize most recent changes

Action closed.

- The briefing is posted on Workspace (RTCA Paper No. 084-17/PMC-1603).

L. Collecting Recommended Changes to MOPS/MASPS Drafting Guides - Update

- Karan Hofmann, PMC Secretary, presented.

A call out was sent January 12th to SC chairmen and secretaries with March 31st suspense. Inputs to date include 10 separate individuals (SC-159, SC-206, SC-209, SC-228, and RTCA Staff). Expect presentation of all SC inputs to PMC in June. PMC designated management of these documents to RTCA staff. Action still open.

- The briefing is to be posted on Workspace (RTCA Paper No. 078-17/PMC-1597)

M. PMC Membership Review - Update

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

Mr. Secen presented and overview of the current RTCA BoD, Policy Board, and PMC membership policy as outlined in the RTCA Bi-Laws. A major concern for membership is to ensure the appropriate areas of expertise are available. A recent high visibility item is cyber –

which the new PMC DoD representative, Mr. Steve Hofmann, provides with his extensive cybersecurity background. Another means is access to tap expertise on-call. Mr. Hofmann mentioned possibility of having Glenn Paul from NASA provide an update on current cybersecurity work (Action).

Members asked if there were any other performance rules or any specifics in writing. None are codified, but RTCA President has authority to ask for a member to depart and performance expectations are included in offer letter to new members. Further discussion is expected at June PMC meeting with slate of members for September meeting. Action still open.

- The briefing is posted on Workspace (RTCA Paper No. 082-17/PMC-1601).

N. Bulk Download From Workspace - Presentation

- Karan Hofmann, PMC Secretary, presented.

After research to include checking with Workspace developer, two possible options were found. Comments were solicited from various PMC members and one was recommended. The procedure was forwarded to all PMC members and implemented for this meeting. The group liked the new process and recommended continuation. Action Closed.

AGENDA ITEM 6

Discussion.

D. SC-214 – Standards for Air Traffic Data Communications Services – Discussion – Revised TOR

- Captain Chuck Stewart, SC-214 Co-Chairman, presented.

SC-214 presented proposals for revised TOR to concentrate focus on VDL, joint work with EUROCAE WG-92, coordination with AEEC, and adjust deliverable due dates. PMC members pointed out that suggested adjustments appear to change scope of group too much and eliminates the stand by status of the group from last March's document completion (Baseline 2). There was also mention of consideration of cyber security and "Best in Class" considerations from EASA and EUROCAE.

It was suggested use of the extra time due to this meeting not being a FACA sanctioned meeting to further refine the TOR with inputs from PMC members (Action).

- The revised TOR and presentation are posted on Workspace (RTCA Paper No. 031-17/PMC-1586).

E. SC-222 – AMS(R)S Systems – Discussion - Revised TOR

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

The SC-222 TOR revision is mostly cleanup and a proposal to adjust deliverable due dates to accommodate delay in Iridium launch.

Expect approval at the next PMC meeting for publication.

- The revised TOR is posted on Workspace (RTCA Paper No. 030-17/PMC-1585).

F. SC-230 – Airborne Weather Detection Systems – Discussion - Revised TOR

- Dawn Gidner and Jeff Finley, SC-230 Co-Chairmen, presented.

SC-230 chairmen presented proposals for revised TOR to add change one to both MOPS (DO-220A and DO-213A) published last year. These potential changes would come from industry comments / errata received. Also, consider the recommendation from the item 3E (Interim Report - Recommendations on the Feasibility to Standardize In-Flight Radar Long Range Ice Crystals Weather Awareness Function) to develop a MASPS. If the MASPS isn't warranted, SC-230 will report such back to PMC.

Expect approval at the next PMC meeting for publication.

- The revised TOR and slides are posted on Workspace (RTCA Paper No. 074-17/PMC-1595).

G. SC-225 – Rechargeable Lithium Batteries and Battery Systems – Discussion – Status Update on DO-311 Revision and Revised TOR

- Richard Nguyen (SC-225 Chairman), Stephen Diehl (SC-225 Secretary), and Norman Pereira (SC-225 DFO), presented

SC-225 leadership provided an update on SC-225 status. They held a virtual Plenary on February 7th and hosted 23 working group meetings since December PMC report. They have completed dispositioning all 661 FRAC comments (330 Accepted, 274 Rejected, 47 Duplicate, and 10 closed by originator (based on previous comments)). They have received a dissenting opinion endorsed by three companies. The Working Group continues to meet twice weekly to create matrices to compare documents (DO-311 vs. DO-311A and DO-347 vs. DO-311A) and work on dissenting opinion response. The group felt all dissention and non-concurs were resolved at the November 28 – December 1 Plenary.

The final version of DO-311A was forwarded to SC-225 Ad Hoc members for review. Inputs are requested by Friday, April 7th.

The PMC members highly encouraged the group to resolve the dissention for presentation to the June 2017 PMC for approval. Mr. Volchansky reminded members this document publication will close out an NTSB recommendation.

H. NextGen Advisory Committee (NAC) - Status Update

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

The last NAC meeting was February 22nd, hosted by MITRE in McLean, VA. The new Chairman is David Bronczek, President and CEO of FedEx Express and liaison role with other airline CEOs. And the new DFO is Deputy Administrator Victoria Wassmer.

Meeting Highlights:

- Pre-meeting Lab tour – Time, Speed, Spacing Tools
- Approval: Interim Report – Enhanced Surveillance Task Group - evaluating the needs and benefits of enhanced surveillance for oceanic airspace controlled by the FAA
- Approval Joint Analysis Team Wake
 - o Wake ReCat
 - Indianapolis >\$2M in annual savings
 - Philadelphia ~\$800K in annual savings
 - o North Texas Metroplex Fuel Analysis
 - DFW arrivals saved \$4.5-6.5M annually from reduced level outs; slightly increased overall fuel cost for DAL
- Consensus to move forward on New York/NE corridor - continuous improvement
- Value of NextGen and NAC – Communications AdHoc Task Group
- Northeast Corridor:
 - o Feedback solicited from NAC members
 - What are the goals?
 - Major opportunities?
 - Significant challenges?
 - Success criteria?
 - o NACSC Discussion March 7th
 - o FAA-RTCA developing appropriate mechanism for moving forward by April 2017
 - o Success Criteria to include Metric driven outcomes
 - o Include airport authority
 - o Plan to NAC Oct 2017
- The remaining NAC meetings scheduled for 2017 are June 28th (Washington, DC) and October 4th (United, Chicago, IL).

PMC members asked about possibility of a task flowing from NACSC to TOC. Will happen as needed/stipulated.

I. Tactical Operations Committee (TOC) - Status Update

- Trin Mitra, RTCA Program Director, presented

Recent TOC Activity:

- March 1st tour of Mike Monroney Aeronautical Center in Oklahoma City, OK. Visits to:
 - Controller Training
 - Flight Standards
 - Instrument Flight Procedures
- March 2nd TOC meeting in OKC
 - Review of PBN Route System recommendations
 - FAA response to previous Airport Construction and overview of Caribbean initiative
 - Discussed potential tasks on Intentional GPS interference and Airspace Information Management Modernization Segment 3 focus on Special Activity Airspace information

PBN RS Recommendation (Some Highlights):

- High Altitude
 - Support segment level need for structure
 - NRS grid of high value
 - Need consistent application of criteria across NAS for structure
- Low Altitude CONUS
 - Structure still required with balance of terrain and icing
 - VOR MON a significant driver of route system evolution
 - Continue embracing P2P – waypoints and information on lowest alt for IFR nav
 - Opportunity/need to grow route system for helicopter community
- Low Altitude Alaska
 - Significant infrastructure and resources required, particularly in terminal
 - Weather, terrain and reliance on aviation elevate need for solid route system
 - Letdown fixes to break out of clouds a key concept of interest

Anticipated Future TOC Tasks:

- Operational impacts of intentional GPS interference
- Operational Concept for Provision of SAA, LOA, and SOP Information (AIMM S3)

The next TOC meetings: TDB to Consider PBN RS (Virtual), June 22nd (RTCA) and October 26th (RTCA).

PMC members asked about possible GPS interference topic. Mr. Mitra indicated they were expecting task. Members also asked about controller training to comment on PBN outcome. Nothing else is planned at the moment.

J. Drone Advisory Committee (DAC) – Status Update

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

The second DAC meeting took place on January 31st in Reno, NV, hosted by Reno-Tahoe Airport Authority at the University of Nevada Campus. The next DAC meeting will be on May 3rd in Washington, DC (ALPA).

Take Aways:

- Task Group 1 (Roles and Responsibilities) Task Statement Approved
- Task Group 2 (Access to Airspace) Task Statement Approved
- Task Group 3 (Funding) Task Statement to be amended for shorter timeframe and defined work scope

Action Items:

- TG1 Actions
 - o Fact Finding and Analysis and recommendations in
 - Defining Low Altitude UAS airspace
 - Relative Roles and Responsibilities of Federal, State, and Local Government
 - Enforcement
 - Education
 - Technological Tools and Solutions
 - Local Government Operational Issues
- TG2 Actions
 - o Provide Recommendations for Roles and Responsibilities of UAS, Pilot, Operator, and ANSP
 - o Provide Recommendations for Safe Expedited UAS Airworthiness
 - o Provide Recommendations on Minimum Essential Aircraft Equipment, Public/Private Infrastructure Beyond Part 107
 - o Provide Recommendations on Methods of Communication for Command and Non-Payload Communications
- TG3 Actions
 - o Develop Recommendations as to the UAS Community's Preferred Method for Funding Federal Activities and Services Required to Support UAS Operations for the Next Two Years and Beyond

Chairman Hegarty asked about output from the DAC to possibly advising SC-228. Mr. Secen reported there is an action for SC-228 leadership to brief the DAC to begin this communication.

K. FAA Actions Taken on Previously Published Documents – Report

- Lou Volchansky - PMC DFO presented (FAA Guidance based on RTCA Documents –

RTCA Paper No. 274-16/PMC-1541)

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
Change 2 to DO-300 - Minimum Operational Performance Standards (MOPS) for Traffic Alert and Collision Avoidance System II (TCAS II) Hybrid Surveillance	SC-147	Note to manufacturers posted on RGL (rgl.faa.gov)	November 2016	DO-300 Change 2 can be used by manufacturers in support of their justification package for a TSO-C119d deviation.

RTCA Published Documents - FAA Pending Guidance (through April 2017)

RTCA Document	Developed By	FAA Guidance	Planned Release Date	Comment
Change 1 to DO-300A; Change 2 to DO-300	SC-147	AC 20-151C	April 2017	Airworthiness installation guidance
C2 Data Link MOPS and V&V (Terrestrial)	SC-228	AC 20-187	April 2017	Airworthiness installation guidance
DO-346, MOPS for Aeronautical Mobile Airport Communication System (AeroMACS)	SC-223	TSO-C207a	May 2017	Revise AeroMACS TSO to be used by ATS

RTCA Documents Pending PMC Approval

RTCA Document	Developed By	Planned FAA Guidance	Planned Release Date	Comment
DO-307A, Aircraft Design and Certification for PED Tolerance	SC-234	AC 20-164A	April 2017	Provides guidance on designing and demonstrating aircraft tolerance to PEDs
DO-229E, MOPS for GPS/SBAS Airborne Equipment	SC-159	TSO-C145e TSO-C204a TSO-C205a TSO-C146e	June 2017 June 2017 June 2017 June 2017	Updates 4 TSO design standards
DO-xyz, MOPS for Terrain Awareness and Warning System (TAWS)	SC-231	TSO-C151d	August 2017	Updates TSO design standard
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	September 2017	Provides aircraft operators with guidance for compliance to Title 14 CFR part 91, section 91.21 Portable Electronic Devices

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

- Rebecca Morrison, RTCA Program Director, reported

Highlights from the Chair Reports for several selected Special Committees were reviewed. Reports were received from SCs 159, 206, 214, 216, 217, 222, 223, 224, 233, and 236. Other information was included in other presentations during this PMC.

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

- SC-229-ISRA-001 - update DO-227 – expect completion April 2017
- 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. 019-17/PMC-1580).

M. European/EUROCAE Coordination – Status Update

- Rebecca Morrison, RTCA Program Director, reported

Topics of Note:

- New Documents Released by EUROCAE since last PMC
 - o ED-130A: *Guidance for the Development of Portable Electronic Devices (PED) Tolerance for Civil Aircraft* -- WG-99/SC-234
 - o ED-239: Aircraft Design and Certification for Portable Electronic Device (PED) Tolerance -- WG-99/SC-234
 - o ED-244: UAS / RPAS Flight Crew Licensing Skill Test and Proficiency Check Report Form -- WG-73/WG-93
- Coordination Activities:
 - o Al Secen Representing RTCA on the Global Harmonization Award
 - WG-99/SC-234 (PEDs) was unanimously selected
 - o EUROCAE Symposium
 - 27-28 April 2017, London, England
 - o RTCA Symposium
 - 13-14 June 2017, Crystal City, Virginia, USA
 - o A list of Technically Equivalent Documents
 - Requested by EASA, RTCA/EUROCAE are working comprehensive list of technically equivalent documents
- New Working Group
 - o WG-106: Electronic Flight Bag (EFB) (proposed as joint)
 - Although no RTCA committee anticipated for this subject, after much discussion PMC members agreed to review the WG-106 TOR (Action) emphasizing the need to agree on a definition of EFB.
 - Another point was if standard, how administer? Membership suggested potential for CCC action (Action)
- TAC Meetings in 2017:
 - o TAC#68: 26 April 2017, London, BAE Systems
 - o TAC#69: 29 – 30 August 2017, Paris, EUROCAE
 - o TAC#70: 17 – 18 October 2017, Toulouse, DSNA

International Civil Aviation Organization (ICAO) Update:

- RPASP 7 held in Montreal March 12-17

- The panel is hitting its stride in development of SARPS dealing with UAS
- RTCA members are active in WG1 (DAA), WG2 (Comm), and WG5 (Airworthiness/OpsCon)
- RPASP 8 scheduled for June of 2017
- RPASP 9 plenary planned for November
 - Final coordination with/endorsement by other expert groups by Aug 2017 (for the candidate SARPS)
 - Final drafts presented

The RTCA staff will continue to keep the PMC apprised of developments.

N. RTCA Award Nominations – Consideration / Approval of Nominations

- Karan Hofmann, RTCA Program Director, Presented

As this action was not FACA related, the PMC was able to approve the nominations for Outstanding Leader Awards and Significant Contributor Awards. There were some minor adjustments to delay recognition for some work that was not completed before the end of 2016. Presentations will occur at the RTCA 2017 Global Aviation Symposium, June 13, 2017.

AGENDA ITEM 7

Other Business.

B. RTCA Style Guide - Discussion

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

Mr. Secen presented a short synopsis of the RTCA Style Guide, including its purpose, comparison/contrast with the Drafting Guides, and the usefulness of the Style Guide to committee authors and editors. The Style Guide is owned and controlled by the editor/publisher at RTCA, while the Drafting guides are owned by the PMC but managed by RTCA staff.

- Briefing is posted on Workspace (RTCA Paper No. 083-17/PMC-1602).

C. SC-228/WG-105 Coordination - Discussion

- Rick Heinrich and Paul McDuffee, SC-228 Co-Chairmen, presented.

Although WG-105's TOR is broader than SC-228's TOR, the leadership of these two groups are in coordination to try to harmonize a global standard. The question of sharing RTCA documents with WG-105 has come up. This is not a formal joint effort, so the normal joint committee sharing of RTCA and EUROCAE document rules do not apply. One PMC member suggested using a similar aspect of the EUROCAE limited membership to those WG-105 members that need access to RTCA documents. The RTCA membership structure is less complex and there is

no means for a limited membership. Certain exemptions can and have been granted for focused purposes. Further investigation is needed (Action).

D. SC-206 Proposed TOR Revision - Discussion

- Tammy Farrar, SC-206 SG4 Co-Chairmen, presented.

Ms. Farrar presented a case to change the current TOR deliverable of a Minimum Operational Performance Standards (MOPS) for Eddy Dissipation Rate (EDR) turbulence computational algorithms to a Guidelines document. This requirement refers to the calculation that use aircraft-derived observations as input. The approach has been independent of how the calculations are done and how the EDR algorithm is implemented – thus defining a very narrow scope to only include the performance of the algorithms in the testing environment (that is real-world data inputs/outputs, software and applications are out of scope). Thus, they are finding it difficult to make verbiage required in the MOPS Drafting Guide to fit this situation. Also, testing each/every EDR implementation in installed application is not feasible. Even if they changed sections/sub-section titles, the document would not truly be a MOPS.

After consultation with the sponsoring FAA office, the group is recommending changing the deliverable from a MOPS document to a Guidelines document to be used to standardize the output of various EDR algorithms to provide accurate and operationally comparable results. The group needs a go-ahead at this time for this action, as the period for Final Review and Comment and resolution is before the June PMC meeting (or even before the May PMC “Lite” meeting).

After some debate on use of Guidelines document vs. MOPS document for regulatory items vs. advisory means of compliance, the PMC gave a head nod for SG4 to proceed with the Guidelines format.

Expect TOR revision to reflect this adjustment to be formally presented at the June PMC meeting.

- Briefing is posted on Workspace (RTCA Paper No. 079-17/PMC-1598).

E. SC-216 Possible TOR Revision - Discussion

- Lou Volchansky, PMC DFO, presented.

Mr. Volchansky reported the FAA is reviewing the Aviation Rulemaking Advisory Committee (ARAC) Aircraft System Information Security / Protection (ASISP) working group final report for potential adjustments to the SC-216 TOR. Hope to be able to report at May PMC meeting, but will most likely delay until June meeting.

AGENDA ITEM 8
Schedule for Committee Deliverables and Next Meeting Date

Documents expected for the June 2017 meeting:

- SC-159, Navigation Equipment Using the Global Navigation Satellite System (GNSS)
 - Revision to DO-253C – *Minimum Operational Performance Standards for GPS Local Area Augmentation System Airborne Equipment*
 - Revision to DO-246D – *GNSS-Based Precision Approach Local Area Augmentation System (LAAS) Signal-in-Space Interface Control Document (ICD)*
 - New Document – *Minimum Operational Performance Standards for GLONASS for L1 Only*
- SC-206, Aeronautical Information and Metrological Data Link Services
 - New Document – *Guidance for the Usage of Data Linked Forecast and Current Wind Information in Air Traffic Management (ATM) Operations*
- SC-225, Rechargeable Lithium Battery and Battery Systems
 - Revision to DO-311 – *Minimum Operational Performance Standards for Rechargeable Lithium Battery Systems*
- SC-235, Non-Rechargeable Lithium Batteries
 - Revision to DO-227 – *Minimum Operational Performance Standards for Lithium Batteries*

The dates for the next five PMC meetings were confirmed: Tuesday, May 16, 2017 (NOTE: Meeting delayed to May 31, 2017 due to delay of agenda posting in Federal Register); Thursday, June 22, 2017; Tuesday, September 21, 2017; Wednesday, December 13, 2017; and Thursday, March 22, 2018.

AGENDA ITEM 9
New Action Item Summary

See PMC Action Item Table.

/Signed/

Karan Hofmann, Secretary
RTCA Program Management Committee

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

/Signed/

Christopher Hegarty, Chair
RTCA Program Management Committee

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

PMC MEMBERS:		
Christopher	Hegarty	The MITRE Corporation Chairman
Doug	Arbuckle	Federal Aviation Administration
Steve	Brown	National Business Aviation Association
Lawrence	Dibble	U.S. Army
Chris	Durkin	Honeywell International, Inc.
Robert	Grove	Garmin Ltd.
Richard	Heinrich	Rockwell Collins, Inc.
Jens	Hennig	General Aviation Manufacturers Association
Steve	Hofmann	U.S. Air Force
Margaret	Jenny	RTCA, Inc.
George	Ligler	Project Management Enterprises Inc
Jessie	Turner	The Boeing Company
Lou	Volchansky	Federal Aviation Administration (Designated Federal Representative)

OTHER ATTENDEES:		
Moin	Abulhosn	Federal Aviation Administration
Clay	Barber	Garmin Ltd.
Andy	Cebula	RTCA, Inc.
Stephen	Diehl	The Boeing Company (ret)
Tammy	Farrar	Federal Aviation Administration
Jeffery	Finley	Rockwell Collins, Inc.
Eldridge	Frazier	Federal Aviation Administration
Alina	George	RTCA, Inc
Dawn	Gidner	Honeywell International, Inc.
Christophe	Hamel	L-3
Allan	Hart	Honeywell International, Inc.
Karan	Hofmann	RTCA, Inc.
Yasuo	Ishihara	Honeywell International, Inc.
Chuck	LaBerge	EFC LaBerge Engineering & Analysis, LLC
Paul	McDuffee	Insitu
Trin	Mitra	RTCA, Inc
Rebecca	Morrison	RTCA, Inc.
Thomas	Mustach	Federal Aviation Administration
Andrew	Pasztor	Wall Street Journal
Norman	Pereira	Federal Aviation Administration

Rick	Ridenour	L-3
Friedhelm	Runge	EASA
Al	Secen	RTCA, Inc.
Ron	Stroup	Federal Aviation Administration
Dongsong	Zeng	The MITRE Corporation

PMC ACTION ITEM TABLE

TRACKING NUMBER (Meeting Date and agenda item from which original action resulted)	ACTION	ACTION ASSIGNED TO	DUE DATE	STATUS
09/22/2016 Agenda Item 4A	09/22/2016 – Include possible MOPS/MASPS Drafting Guide changes provided by Don Walker 12/15/2016 – Partial acceptance with further work required 03/21/2017 – Rewrite of Section 4 presented and approved for inclusion	ICC	Dec 2016 Mar 2017	Closed
09/22/2016 Agenda Item 4B	09/22/2016 – CCC Initiation (membership) 12/15/2016 – Provided named chairman and recommended sources for others	RTCA Al Secen	Dec 2016 Mar 2017	Closed
12/15/2016 Agenda Items 3A, 3B, 3C, 4A	12/15/2016 – Draft implementation procedure/timeline for new MOPS/MASPS Writing Guides	RTCA Karan Hofmann	Mar 2017	Closed
12/15/2016 Agenda Item 3A	12/15/2016 – Determine appropriate means to educate SC's on changes to MOPS/MASPS Writing and Drafting Guides	RTCA Rebecca Morrison	Mar 2017	Closed
12/15/2016 Agenda Item 4A	12/15/2016 – Solicit recommended comments on MOPS/MASPS/SPR Drafting Guides	RTCA Karan Hofmann	Jun 2017	Open
12/15/2016 Agenda Item 7A	12/15/2016 – Conduct PMC and ICC membership reviews	RTCA Margaret Jenny FAA PB Members	Jun 2017	Open
12/15/2016 Agenda Item 7B	12/15/2016 – Investigate file bulk download possibilities from workspace 3/21/2017 – Researched, tested, and recommended implementation.	RTCA Karan Hofmann	Mar 2017	Closed
03/21/2017 Agenda Item 1	03/21/2017 – Setup Virtual PMC “Lite” (out of cycle) meeting for 05/16/2017	RTCA Karan Hofmann	Mar 2017	Open
03/21/2017 Agenda Item 3E	03/21/2017 – Recommendations needed on format/designation to publish interim report from SC-230	SC-230 / RTCA / PMC Members	May 2017	Open
03/21/2017 Agenda item 5E	03/21/2017 – NASA Security Presentation	PMC Steve Hofmann	Jun 2017	Open
03/21/2017 Agenda Item 6A	03/21/2017 – Support SC-214 with TOR revision	PMC Members	May 2017	Open
03/21/2017 Agenda Item 6J	03/21/2017 – Relook WG-106 TOR	PMC Members	Jun 2017	Open
03/21/2017 Agenda Item 6J	03/21/2017 – Look at EFB (WG-106) as possible CCC action	RTCA Margaret Jenny	Jun 2017	Open
03/21/2017 Agenda Item 7B	03/21/2017 – Define process/procedure for availability of RTCA documents as reference for selected EUROCAE WG's	RTCA Al Secen	Jun 2017	Open