SIXTY - EIGHTH MEETING

SC-186

AUTOMATIC DEPENDENT SURVEILLANCE - BROADCAST (ADS-B)

DATE: March 23, 2018
TIME: 9:00 a.m. – 1:00 p.m. (EDT)
PLACE: RTCA HQ
1150 18th NW, Suite 910
Washington, DC 20036

The attendees included:

SC-186 Co-Chairmen
Rocky Stone United Airlines, Inc.
Jessie Turner Boeing

SC-186 Secretary
Michael Garcia Aireon

SC-186 Designated Federal Official
Gregg Nesemeier FAA

Members (Present in the room and on the Teleconference/WebEx)

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<td>Arbuckle, Doug</td>
<td>Federal Aviation Administration (FAA)</td>
<td>Darr, Stephen</td>
<td>Dynamic Aerospace, Inc.</td>
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<td>Baker, Charles</td>
<td>Federal Aviation Administration (FAA)</td>
<td>Daskalakis,</td>
<td>Aurora Innovations</td>
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<td>Berckefeldt, Richard</td>
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<td>Bone, Randy</td>
<td>The MITRE Corporation</td>
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<td>Bowman, Stuart</td>
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<td>Brooks, Kimberly</td>
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<td>Comstock, Greg</td>
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1. Chairman's Introductory Remarks.
   - Rocky convened the March 23, 2018 meeting by welcoming all in attendance. Participants introduced themselves and the FAA DFO and RTCA VP read several standard policy statements. (*RTCA Kickoff Slides.pdf*)

2. Review of Meeting Agenda.
   - Rocky reviewed the agenda for informational briefings.
   - Al Secen stated that the ACSS has completed their Commitment to license Phase Modulation to RTCA.

3. Review/Approval of the Sixty-Sixth Meeting Summary
   - The minutes from the July 28th / August 22nd, 2017 plenary (#67) were posted and Rocky requested that the participants review them at their earliest convenience.
   - The minutes were approved during the March 23rd plenary.

4. FAA Surveillance and Broadcast Services (SBS) Program – Status. (*SC-186 SBS Briefing.pdf*)
   - David Gray presented the SBS Status brief.
   - 43 airports will have ADS-B services by the end of 2018
   - Over 45,000 aircraft are ADS-B rule compliant
o Over 35,000 aircraft are ADS-B IN capable
o Several heat maps were shown conveying equipage and operations by various FAA airspaces.
o The concept of “No Services Aircraft List” (NSAL) was presented to the group that represents a list of aircraft that are not eligible for SBS services due to equipage issues. There are about 284 ICAO codes currently on the list.
o Rolling ICAO Code program is planned for implementation by CY2018
o ASSC Upgrade process planned for completion by 2019
o Interval Management MOPS is progressing. A demonstration of partial IM spacing applications is being conducted in collaboration with ACSS
o SBS ASEPS has 2 potential solutions: Space Based ADS-B (SBA) and ADS-C. ATOP automation enhancements have begun ahead of the FID planned for Nov 2018
o Greg Orrell and David Gray presented on Exercising TSAA Algorithms with Operational SBS Data for Helicopter v. Helicopter Interactions
o Three encounters exercised TSAA successfully: Hudson, Las Vegas, Seminole County
o TSAA algorithm performed as intended with the sample inspections performed

5. WG-3 – Extended Squitter MOPS / SC-209 Transponder MOPS revisions (SC186 WG3 Status Brief.pptx)

- Tom Pagano presented the brief on the meetings of WG3 and SC-209 to revise the extended squitter and transponder MOPS.
- 2 Meetings have occurred since the last Plenary (Oct and Jan)
- ADS-B Topics Covered by the group:
  o ACAS-X changes
  o Improved guidance for Target State and Status
  o Data in support of A-IM
  o Removal of Mode A = 1000 Disable capability
  o Removal of Event-Driven Squitter protocol
  o Weather Surveillance Update
  o Consideration for Indication of RPAS
  o Surface Link Mitigation Service Status
  o Many others as described in the posted slide deck…
- Slide 17 had several Issues asking for Plenary Review
  o Removal of ADS-B Message Elements
  o New ADS-B Parameters
  o Proposal to remove Emitter Category
  o UAS Lost-Link Support
  o New Weather Parameters
  o DO-317B Changes being tracked by WG-4
  o UAT MOPS Changes
- Plenary approved the direction that CSC is taking with respect to the topics on Slide 17
• CSC WxS SG Briefing is posted on the RTCA Workspace for participant review
  *(CSC Weather Surveillance (WxS) Status.pdf)*

6. WG-4 – Application Technical Requirements *(SC-186 WG4 Status Brief.pptx)*

A-IM Status:
- Don Walker and Lesley Weitz presented the brief on the meetings of WG4.
- Dispositioned FIM MOPS comments from preliminary review of Draft DO-361A
- Several FIM MOPS Requirements have been refined
- Scope for FIM MOPS v2 was clarified: Paired Approach, Dependent Staggered Arrivals, Dependent Converging and Crossing Runways, Integration with DataComm and ATS Winds service, Partial Clearances and IM Clearance transition
- An overview of WG4 Meeting 308 was shown
- SPR due for early June release with 3 week review period scheduled
- Pre-FRAC and FRAC expected in Q4 of 2019

7. Other Business.
- Update on Aireon Activities *(2018-03-23 RTCA Mtg – Aireon Briefing – v1.pdf)*
  - Mike G. gave an update of the Aireon System status including coverage from the fourth launch
  - Aireon program status was reviewed as well as progress with respect to provisioning data to the FAA SBS system.
- SC-186 Terms of Reference Considerations
  - Doug Arbuckle presented briefed on the updates to the SC-186 Terms of Reference. This includes the addition of ASA MOPS
  - Rocky motioned to approve the draft of the SC-186 TOR to submit to the PMC, it was seconded and approved
- Date, Place and Time of Next Meeting.
  - A virtual plenary is planned for September TBD, and coordination will be needed with EUROCAE
  - The next face-to-face plenary session for SC-186 is Nov 2, 2018, location at RTCA HQ in DC.

8. New Business
  - Rocky posted 2 documents onto the RTCA workspace that describe this process
  - Perhaps this process of new application proposals will come from a NAC subgroup or a derivation of the Equip-2020 SG4

9. Review Action Items/Work Programs.
- Doug Arbuckle will check with SASP to determine what can be shared with RTCA on ASEPS

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• Don Walker and David Gray to reach out to Buck regarding analyzing TSAA algorithm performance for Helicopters (Does the Fixed-Wing based algorithm work well enough for most Helicopter operations?)
• Al Secen and Rocky Stone will reach out to the UAT community to survey whether they are available and interested to initiate WG5
• Don Walker has an action to update the definition of CAPP and review it at the next Plenary
• Lesley and Doug will review the definition of CAPP and determine how it might fit in with other related IM work
• Doug and Lesley will coordinate with Jorg to determine the exact date/time of the virtual plenary meeting planned for Sept.
• Doug will email to the SC-186 leadership documents relating to WG4/WG1 activities (from circa 2014) for new applications to the RTCA workspace
• Action Items from previous plenary:
  • Chuck Manberg has an action to update ACSS that there’s about a 6 month window to resolve the IP issues surrounding adding the Phase Modulation technique to DO-260C
  • Rocky to provide a presentation on the process to introduce new items into the ADS-B standards by the next plenary.
  • Jessie to split the DO-260C and DO-282C products in the table in the TOR document prior to submitting to PMC.
  • Al Secen will prepare a request letter to EUROCAE regarding EUROCAE’s participation in RTCA’s SC-186 WG-4 (from EUROCAE’s WG-51).

10. Adjourn Plenary.
• Rocky thanked everyone for their participation and adjourned the meeting.