

RTCA SC-230 Plenary #18 Meeting Minutes (September 24-25, 2019)

Attendance list:

<i>September 24th - WG10</i>	
<i>Name</i>	<i>Company</i>
<i>Karan Hofmann</i>	<i>RTCA</i>
<i>Thibault Lefez</i>	<i>Airbus</i>
<i>Jean-Baptiste Berthier</i>	<i>Airbus</i>
<i>Kenny Ren</i>	<i>Boeing</i>
<i>Dawn Gidner</i>	<i>Honeywell</i>
<i>Jan Lukáš</i>	<i>Honeywell</i>
<i>Mark Smith</i>	<i>Collins</i>
<i>Venkata Sishtla</i>	<i>Collins</i>
<i>Jeff Finley</i>	<i>Collins</i>
<i>Steven Harrah</i>	<i>NASA</i>
<i>Tom Ratvasky</i>	<i>NASA</i>
<i>Fred Proctor</i>	<i>NASA</i>
<i>George Switzer</i>	<i>NASA</i>
<i>Patricia Hunt</i>	<i>NASA</i>
<i>Justin Strickland</i>	<i>NASA</i>
<i>Bob Avjian</i>	<i>MITRE</i>
<i>Hamaki Inokuchi</i>	<i>JAXA</i>
<i>Rockee Zhou</i>	<i>OU</i>

<i>September 25th - WG11</i>	
<i>Name</i>	<i>Company</i>
<i>Karan Hofmann</i>	<i>RTCA</i>
<i>Mark Eden</i>	<i>ALPA</i>
<i>Thibault Lefez</i>	<i>Airbus</i>
<i>Jean-Baptiste Berthier</i>	<i>Airbus</i>
<i>Kenny Ren</i>	<i>Boeing</i>
<i>Audrey Mach</i>	<i>Boeing</i>
<i>Vinicius Veras</i>	<i>Embraer</i>
<i>Dawn Gidner</i>	<i>Honeywell</i>
<i>Jan Lukáš</i>	<i>Honeywell</i>
<i>Jeff Finley</i>	<i>Collins</i>
<i>Venkata Sishtla</i>	<i>Collins</i>
<i>Marius Irimia</i>	<i>Collins</i>
<i>Steven Harrah</i>	<i>NASA</i>
<i>Fred Proctor</i>	<i>NASA</i>
<i>Ivan Clark</i>	<i>NASA</i>
<i>Shigeru Machida</i>	<i>JAXA</i>
<i>Masatoshi Abe</i>	<i>MELCO</i>
<i>Shumpei Kameyama</i>	<i>MELCO</i>

September 24th, 2019 (11:00-14:00 EDT)

Administrative and agenda review:

Welcome/Administrative Remarks – RTCA Opening remarks on Anti-Trust Laws, IP Policy, and Membership Policy provided by Karan Hofmann. Jeff lead introductions.

Introductions/Agenda/Minutes Approval - Minutes were approved without comment.

Review WG-10 Schedule and Deliverables - Presented by Jeff within the agenda presentation which will be posted on the RTCA workspace. Detailed WG-10 Agenda presented by Thibault:

Day 1: WG10 – HAIC proposed agenda:

- Action list review (concerned participants)
- Regional OEM feedback on HAIC function -
 - Cessna position by Boeing (Kenny)
 - A220 position by Airbus (Thibault)
 - Quid of qualification level of recent equipment's (probes, engines)
 - Adaptive threshold feasibility
- *HAIC requirement comment review - 38 open (Thibault) → **please send me ASAP your comment or comment closure if you have some***

Proposed agenda items not covered:

- Algorithm standardization discussion (Thibault)
- Presentation of the validation methodology foreseen (Steve)
- Presentation of the of the change to be made to ADWRS simulations (Steve)
- Status on algorithm performance for non-detection cases (Steve)

HAIC requirement comment review

Thibault walked through all the comments regarding the HAIC requirements draft document.

[Action group (Dawn)] Follow-up on the actions tracked on the comment sheet.

Section 4.3.2, Jeff propose to add comment to section to allow for flexibility to the thresholds or add additional thresholds:

Example from Dawn: The radar manufacturer shall specify the threshold used for moderate concentrations of IWC, if indications of moderate concentrations are provided. This threshold may be tailored as appropriate for a given installation.

Example from Dawn: The radar manufacturer shall specify the threshold(s) used for various concentrations of IWC. These thresholds may be tailored as appropriate for a given installation. The defined threshold(s) should be adequate to provide indications of conditions that may affect the aircraft or its installed engines or probes.

Multiple threshold levels are allowable, as long as the indications are distinct and appropriate.

Section 4.3.3, make the thresholds more generic to suit section 4.3.2

[Action group] come up with generic wording for section 4.3.2 and 4.3.3, will put 1g/m³ and 3g/m³ as commentary, also re-word must-detect/must-not detect and indicate/not indicate

[Action group] consider lowering probe threshold from 3g/m³ to 2.5g/m³ based on the fact that 2.5g/m³ is the state of the art for probes.

[Action Jeff] to identify Truth boundaries for the must indicate/ must not indicate

Rem N# 31 [Action Steve] use analysis to assess if 80 NM is achievable by looking at degradation of detection with range

Jan brought up the feasibility of range for antennas with smaller diameters (12" for example)

[Action Boeing/Airbus/NASA] Alternative method to avoidance?

[Action OEMs] to explore setting two requirements for ranges: 1: awareness, 2: avoidance



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RTCA Paper No. 240-19/SC230-043
October 03, 2019

Karan presents scalable MOPS concept:

Driven by UAS community, the Program Management Committee is investigating a new type of document as a means to have a less comprehensive, faster development document type. Seems more applicable to smaller aircraft. Document available on Workspace. Presentation slides are posted in Workspace.



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October 03, 2019

September 25, 2019 (17:00-20:00 EDT)

Administrative and agenda review:

Introductions/Agenda - RTCA Opening remarks on Anti-Trust Laws, IP Policy, and Membership Policy provided by Karan Hofmann. Jeff lead introductions.

Review WG-11 Schedule and Deliverables - Shared by Jeff and captured in the agenda to be posted on the RTCA workspace.

Schedule:

Day 2: WG-11 Lidar Proposed Agenda:

- Progress Since Last Plenary
 - Summary of SNR Calculation
 - Investigation on LiDAR Measured Spectrum Width
 - CAT Probability of Detection Derivation
- Feasibility report comments review
- Action items from June plenary
- Next WG Meeting time

Status:

Shumpei presents lidar performance spec (SNR calculation)

See presentation slides on RTCA WG11 Workspace

Shumpei presents radar-measured and lidar-measured spectrum width

See presentation slides on RTCA WG11 Workspace

Spectral width term from Lidar will need to be calculated from ensemble of consecutive “accumulated” spectral width measurements. This is different from Weather Radar

Shumpei Presents calculation for CAT probability of detection

[Action Shumpei] Correct R.L. Bawles into Bowles



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Feasibility report Comments file Review:

[action Ven] 4.7.1 update to “at least 80 meters”

[action Ven] Add references to section 1.2.1

[comment#5 Action Dawn] Final Harmonization of terminology (ie. LIDAR vs lidar)

[Action group members] to take ownership of each section to proof read grammar and flow

[Action Ven] assign people to sections

[Action Ven] to address recommendation for technology use (coherent vs incoherent)

[Ivan comment] Incoherent lidar is less suited for long range detection

[item #7 Action Shumpei] work on section to recommend next steps

[action Ven] (executive summary) change “demonstrating” into “assessing”

[action Ven] update all Thibault’s comments accordingly.

[Action Jeff] upload the agenda slides

During action item review from last plenary, group had some questions regarding existence of SC-220, this is a sunset SC, and attachments related to the installation guidance are available on Workspace.

Action item summary

Action Item #	Action	Person(s)	Estimated Completion Date
Day 1 WG-10 – HAIC: See WG-10 Meeting Minutes and Comments sheet			
Day 2 WG-11 – LIDAR			
September 2019 items See WG-11 Meeting Minutes and Comments sheet			
Open items from June 2019			
2 open	Invite Phil Gatt from Lockheed to join WG-11	Ivan	next WG Meeting
3 Open	Find past work performed on coupled flight controls analysis by Boeing as a part of NASA contract [action], Ivan to scan and send the NASA contract/report	Kenny	next WG Meeting
5 open	Review installation guidance from SC-220 to develop a similar guidance for Lidar and HAIC, FAA may consider invoking the guidance to be a part of the AC (likely a one page AC directing to the installation guidance). OEMs to identify potential installation location.	WG-10/WG-11	Future/Watch item
9 Open	consider MTBF requirements and some other physical (power, weight, volume), and environmental categories [Action] OEM, provide update to feasibility report	Kenny / Thibault	next WG Meeting
11 open	Provide mountain rotor flight data in Colorado may be available from NCAR if available	Ivan	next WG Meeting

CERTIFIED as a true and accurate summary of the meeting.

Kenny Ren, SC-230 Secretary

Jeff Finley, SC-230 Co-chair

Dawn Gidner, SC-230 Co-chair