

**Summary of Meeting #33 of RTCA SC-186 Working Group 3
and Meeting #10 of EUROCAE Working Group 51, Subgroup 1
held as a Joint Teleconference and WebEx Session for the
Maintenance of the ADS-B 1090 MHz Extended Squitter (1090ES) MOPS
at 10:00am EDT on Tuesday, 7 June 2011
<http://adsb.tc.faa.gov/WG3.htm>**

The meeting was called to order by Working Group 3 Co-Chair Thomas Pagano of the FAA ATO-P organization at about 10:10am, 7 June 2011. Gary Furr read off the list of participants that had joined via Telephone and WebEx. The participants during part, or all, of the meeting included:

Dave Barnard, L-3 / ACSS	Christophe Maily, Airbus France	Robert "Bob" Saffell, Rockwell Collins
Raymond Bayh, BAE Systems	Al Marshall, Sensis Corp	Kurt Schueler, Garmin
Jim Davis, Free Flight Systems	Johan Martensson, Eurocontrol	Charles Sloane, FAA AIR-130
Gary Furr, Engility Corp, FAA AJP-653	Dean Miller, Boeing ATM	Jorg Steinleitner, Eurocontrol
Martin Gray, Trig Avionics	Tom Pagano, FAA, AJP-653	Bill Thedford, Consultant, USAF
Larry Kenney, Raytheon	Alex Rodriguez, Rockwell Collins	Kevin Wilson, Honeywell International

Gary indicated that he had received regrets from Eric Potier and Don Walker because of their inability to join the teleconference.

1. Tom Pagano began the meeting with **Agenda Item #1** by welcoming all participants to the Teleconference. Tom indicated that this Joint Teleconference was necessary because of Action Items accepted during the Meeting #32 Joint Teleconference as well as additional issues that have been brought to our attention since the Teleconference on 17 May 2011. Jorg Steinleitner added that he wants to thank Tom Pagano and Gary Furr specifically for all of the work that they put into keeping track of the issues and maintaining the documents associated with the proposed changes.
2. The attention of the participants was drawn to **Agenda Item #2** to review the proposed Agenda presented in Working Paper 1090-WP33-01. Gary indicated that the "final" version of the Agenda would be posted to the web page after the end of the Teleconference and WebEx Session. Further, Gary noted that all revisions of Working Papers would be posted to that web page as soon as possible after their revision or after the end of the meeting. The new draft version 3.0 of the Corrigendum to DO-260B/ED-102A, which would additionally be updated as a result of discussions during this Teleconference, will be posted to the web page for the agreed next Teleconference on 16 August 2011.
3. Next, under **Agenda Item #3**, the Teleconference focused on Working Paper 1090-WP33-02 as presented by Gary Furr as the Summary of Meeting #32 held as a Teleconference and WebEx Session on 17 May 2011. There were no comments on the Minutes of Meeting #32 and therefore they were accepted as published.

4. Under **Agenda Item #4**, Gary Furr indicated that unless there were specific comments on the draft of Working Paper 1090-WP33-03, that he would proceed directly to the additional proposed errata presented in the Working Papers in Agenda Item #5. Gary additionally pointed out that in the Working Paper, item #1.18 had been discussed during Meeting #32 and it was the consensus of the Teleconference that there would be no clarifications in the Corrigendum related to this comment. However, the item has not been removed since Eric Potier has not participated in either Teleconference and his input to this item is required before it can be eliminated. Gary and Tom will discuss this with Eric during the upcoming meeting of ICAO ASP TSG in Paris during the week of 20 June.

5. Under Agenda Item #5,
 - 5.1 The first Working Paper to be reviewed was 1090-WP33-04 as a comment from Kevin Wilson of Honeywell regarding issues that he has with the Extended Squitter Monitor requirements and test procedures in §2.2.11.2.1/2 and §2.4.11.2.1/2. After Group discussion, it was agreed that a clarification will be entered into the Corrigendum indicating that the “shall” statements in the test procedures of §2.4.11.2.1 and §2.4.11.2.2 will be changed to “should” and the actual typographical errors in Table 2-218 will be corrected. Gary will implement these additions into draft version 3.0 of the Corrigendum.

Bob Saffell of Rockwell Collins indicated that RC is willing to abide by the decision of the Joint Session to remove the “shall” statements in the test procedure and to correct the Table entries, but that he cautions that the reason why these test procedures were written this way to begin with was that because of Eurocontrol monitoring several years ago, it was determined that one transponder manufacturer was not randomly distributing the ADS-B Messages and that these specific test procedures ensured that these situations would be captured during testing, prior to certification. Bob additionally points out that there needs to be a change entered for RTCA DO-181E, §2.4.2.9.1 (EUROCAE ED-73E, §5.4.9.2), which points the test procedures to DO-260B/ED-102A, §2.4.11.2.1.

- 5.2 The next Working Paper to be reviewed was 1090-WP33-05 presented by Gary Furr and Tom Pagano as a response to Action Item 32-02 in an attempt to clarify the correlations of data timeout and message termination of the Target State and Status, and the Operational Status Messages. This Working Paper points back to sub-bullets #4 and #5 of Working Paper 1090-WP32-04 and Meeting #32 discussions thereof. Gary skipped through the introductory paragraphs which gave the background of the initial comments and history of the discussions on this topic held during the development of DO-260B/ED-102A.

In Section 3.0 of the Working Paper, with the discussion of clarification “(A)” it was pointed out that Eric Potier had sent an email indicating that he believes that the Barometric Pressure Setting (BPS) should be added to the list of target state information that is necessary to begin broadcast of the Target State and Status Message. Tom Pagano indicated that he disagreed with that suggestion and indicated that there was no indication from either UK NATS or Air Services Australia during the

development of DO-260B/ED-102A that they believed that it was necessary to require the BPS in order to begin broadcast of the TSS. There was a suggestion that in order to obtain consensus, we could add a sentence on to the proposed Note, and Gary created a sentence to indicate that “*the BPS might be required in a future version of the MOPS.*” With this revision, Working Paper 1090-WP33-05R1 was saved and the discussion continued.

Section 3.0 clarifications “(B)” and “(C)” were accepted as presented. With the discussion of clarification “(D),” it was suggested that it would be good to also clarify Note #1 in that same location at the beginning of 2.2.3.3.2.11. After double checking, there was agreement and Gary added a place holder to make the revision when entered into the Corrigendum. Clarifications “(E),” “(F),” and “(G)” were accepted as proposed. Gary will post 1090-WP33-05R1 to the web page as revised and implement the clarifications into draft version 3.0 of the Corrigendum.

- 5.3 The next Working Paper to be reviewed was 1090-WP33-06 presented by Tom Pagano as a response to Action Item 32-03 concerning the issue of a clarification of the usage of the Geometric Vertical Accuracy (GVA) with respect to the Baro-Geo Difference data field in the Airborne Velocity Message. Tom offered three (3) proposed clarifications to resolve the issue, one in §2.2.3.2.7.2.8, another in §2.4.3.2.7.2.8, and finally, one in §A.1.4.10.8. After a brief discussion, all three clarifications were accepted as proposed. Gary will implement the proposed clarifications into the draft version 3.0 of the Corrigendum. During the discussion of the proposed clarifications related to reporting the geometric altitude, Johan Martensson commented that even though the ADS-B MOPS allows MSL, the currently published FAA AC20-165 and the upcoming EASA CS-ACNS specify the use of Height Above Ellipsoid (HAE). **Action Item 33-02** was accepted by Johan and Jorg to draft a proposed Note to be added into the section dealing with the “Difference from Barometric Altitude” subfield in the Airborne Velocity Message to clarify that this proposed requirement may be coming from regulators.
- 5.4 The next Working Paper to be reviewed was 1090-WP33-07 presented by Tom Pagano as a proposed clarification to the NIC reporting in ADS-B receiver subsystems. Tom reports that there has been some mis-interpretation of how to implement the transitions of NIC when there is a NIC-Supplement involved. The proposed clarification is to ensure that a NIC=0 is not reported during one of these transitions. After a brief discussion, the proposed clarification was accepted. Gary will implement the proposed clarifications into the draft version 3.0 of the Corrigendum.

6. Under **Agenda Item #7**, the Meeting discussed the dates and times of the future meetings of the joint sessions of RTCA SC-186 WG-3 and EUROCAE WG-51, SG-1. The Meeting agreed that the currently planned future meetings in order to meet our schedule would be the following:

Meeting #	Dates/Time	Meeting Location
#34	16 August 2011 10:00am EDT	Teleconference and WebEx Session
	Proposed distribution of FRAC copy NLT 16 Sept 2011	
#35	27 October 2011 (9am – 5pm)	RTCA, Washington DC, with SC-186 Plenary on Friday, 28 October 2011

7. The following is a summary of all of the Action Items accepted during Meeting #33.

Action Number	Action Description	Assigned to	Status
33-01	Propose a Note for clarification of the use of HRD.	Dean Miller	See ASP TSGWP11-19
33-02	Propose a Note for the MOPS that clarifies the fact that the real requirement for use of Geometric Altitude is already stated in the FAA AC20-165, and the upcoming EASA CS-ACNS, and not in the MOPS, which also allows for use of MSL.	Johan/Jorg	See ASP TSGWP11-19

8. The **Working Papers** for all WG-3 Meetings, as well as the Meeting Agendas, Meeting Minutes, and Meeting Schedules are posted on the ADS-B 1090 MHz web site maintained at the FAA William J Hughes Technical Center, located at: <http://adsb.tc.faa.gov/WG3.htm>