

**Minutes of Meeting #10 of RTCA SC-186 Working Group 3**  
**Development of Revision A of the ADS-B 1090 MHz MOPS**  
<http://adsb.tc.faa.gov/ADS-B/186-subf.htm>

The meeting was called to order by Dr. Vince Orlando at 9am on 26 March 2002, at the conference room facilities of Titan Systems in Mays Landing NJ, hosted by Gary Furr of Titan Systems and the FAA Technical Center. Dr. Orlando welcomed all attendees and expressed his regrets and those of Dr William Harman at having to join the meeting via telephone. He asked that Ron Jones act as “on-site” co-chair for the meeting, and Ron asked that each attendee introduce themselves and their organization. The attendees included:

Bob Burns, Titan Corp, FAA TC –ACT-350	Ron Jones, FAA ASD-140	Tom Pagano, FAA TC – ACT-350
Gary Furr, Titan Corp, FAA TC - ACT-350	Todd Kilbourne, Trios Associates	Stuart Searight, FAA TC – ACT-350
Bill Harman, MIT Lincoln Lab	James Maynard, UPS Aviation Tech.	Ron Staab, Trios Associates
Carl Jezierski FAA TC, ACT-350	Vince Orlando, MIT Lincoln Lab	John Van Dongen, FAA TC, ACT-350

1. Following the introductions, the following known regrets to attendance were announced:
  - Bob Saffell, Rockwell Collins
  - Robert Semar, UAL Airlines
  - Jerry Anderson, FAA Certification
  - Gene Wong, FAA
  - Stacey Rowlan, ACSS
  - Azhar Osmanbhoy, Boeing Air Traffic Management
  - Pio Blankas, Honeywell
  
2. Following Agenda Item #2, Vince Orlando made a few introductory remarks regarding the following topics:

Vince informs WG-3 that a subgroup has been set up by Ann Tedford of the FAA and Costas Tamvaclis of Eurocontrol to come to a common reference platform for simulation results for. 1090 MHz ADS-B. This subgroup will include representatives from MIT Lincoln Laboratory, Johns Hopkins University Applied Physics Lab, and the FAA Technical Center. The current plan is to have a common understanding in the May 2002 timeframe. This schedule will affect the scheduled 1090 WG-3 meeting in April (see the schedule below). MIT-LL is preparing a MATLAB receiver model for inclusion into the Eurocontrol simulation.

We are pleased to have received information from Pierre Ruault to the effect that Eurocontrol and Eurocae will be continuing their involvement with the production of DO-260A. A contractor named Frank Ziegler has been identified to support the Eurocontrol effort. WG-3 will plan European meetings (see schedule below) to facilitate the Eurocontrol and EUROCAE involvement.

Vince indicated that Australia is interested in the use of ADS-B. They are planning a test/demonstration in the Brisbane area on the use of ADS-B to augment radar surveillance. The activity will take place over the next two or three years.

3. Following Agenda Item #4, the Working Group reviewed the Minutes of Meeting #9 held at the conference facilities of the Best Western hotel in Ft Lauderdale FL. Hearing no objection or further comment, the Minutes of Meeting #9 were approved as published.

4. Following Agenda Item #5, the Working Group reviewed the locations, dates and times of the next several meetings, which were scheduled. Because of the involvement of many WG-3 members in the Ann Tedford subgroup, WG-3 decided to cancel the April 23-25 meeting and re-schedule it to 14-15 May 2002, also at the facilities of Titan Systems near the FAA Technical Center. WG-3 further decided to cancel the June 25-26 meeting and re-schedule it for 9-11 July at MIT-LL Aviation Liaison Offices in Washington DC. WG-3 continued to plan meetings through the expected presentation of DO-260A to RTCA SC-186 Plenary as shown in the table below:

<b>Dates/Time</b>	<b>Meeting Place</b>
Tuesday, 14 May at 9am through 5pm, Wednesday, 15 May 2002	Meeting location at the offices of Titan Systems, Mays Landing NJ, near the FAA Tech Center, Atlantic City, NJ Travel info and lodging details are available on the ADS-B/1090 web site
Tuesday, 9 July at 9am through 5pm, Thursday, 11 July 2002	<u>Confirmed</u> to be at MIT/Lincoln Laboratory Aviation Liaison Office, Washington DC Travel info and lodging details are available on the ADS-B/1090 web site
Tuesday, 20 August at 9am through 5pm, Thursday, 22 August 2002	<u>LOCATION TO BE CONFIRMED</u> <u>Assumed</u> to be at RTCA, Washington DC
Monday, 23 Sept at 9am through 5pm, Friday, 27 Sept. 2002	Fall 2002 RTCA SC-186 Plenary <u>assumed</u> to be scheduled for Monday & Tuesday, 23-24 September 2002, followed by a three (3) day 1090 meeting 25-27 September at Eurocontrol, Brussels Belgium Travel info and lodging details are available on the ADS-B/1090 web site
Wednesday, 13 Nov at 9am through 4pm, Friday, 15 November 2002	<u>LOCATION TO BE CONFIRMED</u> <u>Assumed</u> to be at either RTCA or MIT-LL, Washington DC
Tuesday, 10 Dec at 9am through 5pm, Thursday, 12 December 2002	<u>LOCATION TO BE CONFIRMED</u> <u>Assumed</u> to be at either RTCA or MIT-LL, Washington DC
Monday, 27 Jan '03 at 9am through 5pm, Thursday, 30 January 2003	<u>LOCATION AND SC-186 PLENARY DATES TO BE CONFIRMED</u> WG-3 meeting on Monday and Tuesday with SC-186 Plenary to approve DO-260A on Wednesday and Thursday

5. Following Agenda Item #6, the Working Group began discussions regarding the Status and Impact of proposed DO-242A changes on the draft DO-260A. During various points during the presentation of the Working Papers identified as relating to this topic, the Working Group stopped and discussed comments which are to be submitted as a Working Group against the draft DO-242A to be considered at the SC-186 April Plenary. The text of those comments will be finalized after the meeting and distributed to the 1090mops email list before submission to RTCA.

As part of the discussion on MASPS changes, Jim Maynard presented Working Paper WP-10-02 as a consideration for the use of common terminology in the ADS-B MASPS and MOPS documents to follow. Jim indicated that he will prepare a Working Paper to be presented during the June Plenary to give SC-186 members a chance to review the common terms and make a decision as to whether or not to include these terms in DO-242A and each MOPS. It was pointed out that many of the terms in WP-10-02 were already in the DO-242 MASPS, and that only new terms need be discussed.

6. Continuing with Agenda Item #6 issues, Stuart Searight briefly presented Working Paper WP-10-06 which served to point out that in order to actually understand the affect of individual changes, WG-3 would have to review each WG-6 Issue Paper and the resolution of that Issue Paper. It was agreed that for a future WG-3 meeting, after the April Plenary, WG-3 will begin to assign Action Items to members to review individual DO-242A changes for their affect on DO-260A.

7. Ron Jones then presented Working Paper WP-10-09 that proposed expected changes to DO-260A based on expected changes to DO-242A. After review and discussion, Ron accepted **Action Item 10-1** to continue updating the text of WP-10-09 for future meetings, based on agreements with the final DO-242A.

During review of WP-10-09, the Working Group *agreed* that there was no current requirement in DO-242A that requires the elements of the currently defined Aircraft Operational Coordination Message to be transmitted. It was therefore *agreed* by WG-3 that the Aircraft Operational Coordination Message will be deleted from DO-260A. Gary Furr accepted **Action Item 10-2** to review DO-260A and make recommendations on all of the places affected by the deletion of this message.

8. Bill Harman continued the review of Agenda Item Working papers with the review of Working Paper WP-10-13. MOPS changes are being considered for implementation of proposed changes to the ADS-B MASPS. The proposed changes include a substantial increase in information content for Intent communications, and also increases in the required communications rates. One possible way of supporting these increases might be as an exchange for a reduction in the transmission of ID Squitters. A current Action Item (9-2) calls for use of an existing track-level simulation to investigate the effect of ID transmission rate. Working Paper WP-10-13 presents simulation results showing how track establishment is affected by the transmission rate of ID messages. Since the work on Action Item 9-2 is not complete, WP-10-13 presents the current status of the work and results. Bill accepted **Action Item 10-3** to continue investigation by running the case where the ID Squitter is transmitted once every 5 seconds versus every 2.5 seconds.
9. Moving on to the Working papers dealing specifically with Open Action Items in Agenda Item 7, Bill Harman presented Working Paper WP-10-07 as an analysis of GPS data in regard to extended squitter transmission rates on the airport surface. Questions were raised by the Working Group as to the type of GPS receiver that produced the data being analyzed. The question was asked of the engineers that were responsible for the data and they verified that the GPS unit was not avionics grade. Carl Jezierski and Stuart Searight accepted **Action Item 10-4** to obtain another set of GPS data, but specifically from an avionics grade GPS receiver. Bill Harman then accepted **Action Item 10-5** to re-run the analysis of the new data and present his findings at the next meeting.
10. Bill Harman continued with reports from Action Items with the presentation of Working Paper WP-10-08, which reviews the simulation results of ATCRBS fruit at different power levels. During our January meeting it was proposed to try changing the bench test condition from multiple ATCRBS fruit all at the same power level to a test using different ATCRBS power levels. Action Item 9-8 was assigned for this purpose. Bill made use of a detailed pulse-level simulation to assess performance under these conditions. Bill reported that the results tend to support the concept of using different power levels. The results indicate that such tests can be used as a better way of insuring effective performance of an Extended Squitter receiver.
11. The Working Group then moved on to Agenda Item 8 for the review of materials related to Enhanced Reception Techniques. Vince Orlando reviewed Working Paper WP-10-05, wherein Vince has proposed to add a paragraph to section I.4.2.1 to explain that the Center Sample Technique is included only as an introduction to the two more complex approaches. The Center Sample Technique will not provide sufficient performance to meet requirements specified in the test procedures of subparagraph 2.4.4.4. Vince accepted **Action Item 10-6** to modify the proposed paragraph to take into account different aircraft equipment classes.

12. Ron Jones continued with Enhanced Reception Technique topics by presenting Working Paper WP-10-10 as a proposal to require enhanced reception of all class A2 and A3 equipment. WG-3 has previously accepted a proposal (see WP-6-03) to add provisions in DO-260A for Class A2E and A3E avionics that would be required to support the enhanced reception techniques. Based on the results of test data and simulations for high traffic density operational environments and considering the pending revisions to the ADS-B MASPS, it is now proposed in WP-10-10 to require the enhanced reception techniques for all Class A2 and A3 avionics. Vince Orlando accepted **Action Item 10-7** to contact manufacturers and discuss this proposal. The Working Group accepted the proposal in WP-10-10 assuming that there is no serious objection from a manufacturer.
13. Bill Harman presented Working Paper WP-10-12 as a proposed diagram to clarify error correction in Appendix I. After Working Group discussion, it was agreed that the proposed diagram in WP-10-12 had merit and should be placed into Appendix I. Bill accepted **Action Item 10-8** to add text to the diagram and propose a specific section of Appendix I where the diagram should be placed.
14. The next Working Paper to be considered in the area of enhanced reception techniques was WP-10-14, which was presented by John Van Dongen as a partial solution to Action Item 9-4. However, John stated that based on the presentation of WP-10-08 by Bill Harman, he believes that further revision of the Enhanced Surveillance Processing Test procedures will be necessary.
15. John Van Dongen continued by presenting Working paper WP-10-16. This paper contains the results of tests that were run to measure the reception performance of the Baseline Enhanced Reception Technique and that of the LDPU under conditions that require the receiver to re-trigger. This paper also detailed a modification that was made to the Baseline Enhanced Reception Technique to improve re-triggering performance. In addition, the Mode S data block tests were repeated and compared to the LDPU. Following discussion of WP-10-16 **Action Items 10-9** through **10-13** were accepted.
16. Moving on to Agenda Item 9, the Working Group began to review items related to TIS-B. First was the presentation of Working Paper WP-10-03 by Vince Orlando as Draft 6 of the materials proposed for Appendix A for TIS-B. The principal change in Draft 6 is a clarification of the coding for a primary radar target.
17. In a matter related to the insertion of TIS-B materials into Appendix A, Gary Furr presented Working Paper WP-10-04 which is a revision of Appendix A based on the fact that TIS-B materials needed to be added as section A.2, which required all previous materials in Appendix A to be “demoted” one section heading level. Additionally, all references in the entire document to any section of Appendix A need to be edited. This work is being done, but the resultant files will not be posted on the ADS-B/1090 web site until further work is started on modifications related to changes made necessary by DO-242A.
18. Moving to issues related to improved air to air operating range, Ron Jones presented Working Paper WP-10-11, which is Draft 5 of the proposed Appendix M. WP-10-11 was prepared as an update to the version last presented at the January 2002, WG-3 meeting in Ft. Lauderdale, Florida. Discussions at that meeting moved the concept for extended range reception to a combination of a directional receive-only antenna connected to a dedicated narrow bandwidth 1090 MHz ADS-B receiver using the enhanced reception techniques. The proposed draft of Appendix M now incorporates these suggestions.
19. Continuing with remaining Working Papers, which dealt with other open business, Gary Furr presented Working Paper 10-01 on behalf of Jerry Anderson. At the June 2000 RTCA SC-186 Plenary that approved DO-260, a new paragraph was inserted at section 2.2.4.3.1.1.c, but there was

no associated test procedure drafted to test the added paragraph. This Working Paper WP-10-01 proposes a new Test Procedure to cover the subparagraph “c.” The Working Group agreed that the proposed paragraph was good to be inserted into DO-260A. Gary Furr will insert the new test procedures step and publish the change to the ADS-B/1090 web site.

20. The Working Group then turned to the issue/question, which was again raised by Jerry Anderson regarding the insertion of the materials on DF=19 into DO-260 after the June 2000 Plenary. Vince Orlando indicated that after discussions with Cyro Stone and Jerry Anderson, it had been agreed that a recommendation be made to delete reference to DF=19 in subparagraph 2.2.4.3.4.7.3.a and that a “Note” be added to indicate that acceptance of a DF=19 message is optional. The Working Group agreed with this proposal and Gary implemented the change in Section 2.2.4.3.4.7.3.a during the meeting.
21. Finally, Jim Maynard presented Working Paper WP-10-15, in which Jim proposes to revise the Capability Code (CC) and Operational Mode (OM) Subfields of the Aircraft Operational Status Message. Jim presented all of the subparagraphs that he believed are affected by the modifications of the CC and OM subfields. The Working Group agreed with the approach taken by Jim, which is also consistent with the approach now identified in the proposed Draft of DO-242A. Jim will continue making further edits as necessary and present the results at a future meeting.
22. The following **Action Items** were identified at this, or previous, meetings of this Working Group. The asterisk (\*) beside a name or organization indicates that they are the lead for the resolution of that Action Item. Actions shown here are those Action Items that remained OPEN at the end of this meeting.

Action Number	Action Description	Assigned to	Status
4-11	Add material on dynamic bandwidth control for the proposed Appendix M	Bob Saffell	
7-2	Estimate the data rate required for current versus XML encoding	Mike Culver	
8-1	Provide the results from testing with the directional 1090 MHz receive antenna. (Flight Tests scheduled for 24-25 April 2002)	Carl Jezierski	
9-3	Review WP-9-14 in light of comments raised during Meeting 9.	Bill Harman James Maynard Ed Bayliss	
9-4	Revise the Enhanced Test Procedures to perform the tests at 12 above MTL.	John Van Dongen	Partially Addressed by <b>WP-10-14</b>
9-6	Investigate the confidence value parameter for the multi-sample technique without table lookup at 8 MHz sampling rate. Determine whether the new technique is compatible with an 8 MHz rate.	Bill Harman	
9-7	Run one more test: 3 fruit case at -67, -71 & -75 relative to an MTL of -83 dBm. Vary desired signal in 1 dB steps. Repeat on the UPS-AT receiver/decoder – center sample method.	John Van Dongen	
9-9	Write a test to verify that the sliding window error correction technique is not used.	Bill Harman Stacey Rowlan	

Action Number	Action Description	Assigned to	Status
9-10	Run Frankfurt data from the first encounter on the 19 <sup>th</sup> using the enhanced techniques for comparison with the LDPU.	John Van Dongen	
9-12	Add to Appendix D recommendations on when to use the TIS-B Coarse and Fine Formats.	Vince Orlando	
9-13	Update and re-present at Meeting 10 the Working Paper 1090-WP-9-11, with comments from Meeting 9 for changes to TIS-B Message Processing and Reporting. Use the file returned from Gary Furr as a starting point.	Bill Harman	
9-15	Simulate reception, using enhanced surveillance, with a 4 or 6 MHz bandwidth, and compare to the 8MHz bandwidth case.	Bill Harman	
10-1	Make further updates to text presented in WP-10-09 to take into account further changes in the draft DO-242A and comments received during Meeting 10.	Ron Jones	
10-2	WG-3 has agreed to delete the Aircraft Operational Coordination Message for the reason that there are no requirements in the ADS-B MASPS which required any of the parameters of the message. This action therefore is to review DO-260 and recommend all of the places where deletion of text is required to extract this message from the document.	Gary Furr	
10-3	Continue work on the Proposed Transmission Rate for the ID Squitter by analyzing the result if the ID Squitter is sent every 5 seconds.	Bill Harman	
10-4	Given that we determined that the date upon which Working Paper WP-10-07 was based did not come from an avionics grade GPS receiver, provide at least 24 hours worth of recorded GPS position data using a stationary avionics grade antenna.	Carl Jezierski Stuart Searight	
10-5	Analyze the GPS data from Action Item 10-4 and report on the percent of time a stationary aircraft would be in the high transmission rate mode for thresholds of 5, 4 and 3 meters and recommend a threshold for DO-260A.	Bill Harman	
10-6	Make modifications to the paragraph which was presented in WP-10-05 for Appendix I, taking into account all aircraft equipment classes.	Vince Orlando	
10-7	Coordinate with manufacturers whether to make Enhanced Decoding mandatory for A2 and A3 equipment classes.	Vince Orlando	
10-8	Propose text for Appendix I to accompany the diagram presented in WP-10-12, and specify location for the text and diagram in Appendix I	Bill Harman	
10-9	Provide John Van Dongen with the preamble detection / re-triggering algorithm being used by Jeff Gertz	Bill Harman	

Action Number	Action Description	Assigned to	Status
10-10	Write up a detailed description of the re-triggering algorithm, which produced Figure 3 in WP-10-16	John Van Dongen	
10-11	Initiate conference calls with manufacturers to discuss re-triggering	Vince Orlando Bill Harman John Van Dongen	
10-12	Run WP-10-16 Figure 1 tests using the same algorithm that produced WP-10-16, Figure 5	John Van Dongen	
10-13	Run the Frankfurt data using the new re-triggering algorithm	John Van Dongen	
10-14	Make updates to WP-10-15 as discussed during Meeting 10 and present at the next meeting	Jim Maynard	
10-15	Align the proposed text changes in WP-10-09 and WP-10-15.	Jim Maynard Ron Jones	
10-16	Reference WP-5-10A and make updates necessary to reflect final DO-242A requirements for NIC/NAC/SIL	Jim Maynard	

23. The **Working Papers** shown in the following table are specifically for the Meeting being reported in these Meeting Minutes. Working Papers for all WG-3 Meetings, as well as the Meeting Agendas, Meeting Minutes, Meeting Schedules and modifications to DO-260 for the production of Revision A, will be posted on the ADS-B 1090 MHz web site located at:

<http://adsb.tc.faa.gov/ADS-B/186-subf.htm>

Working Paper	Size	Description	Introduced At:
1090-WP-10-01	12KB	Proposed In-Band Acceptance Test Procedure, presented by Jerry Anderson	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-02	20KB	Terminology Proposed for Use in ADS-B Documents, presented by James Maynard	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-03	54KB	Draft 6 of Appendix A materials for 1090 TIS-B, presented by Vince Orlando in response to Action Items 9-11 and 9-14	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-04	205KB	Modifications to Appendix A to accommodate the addition of the TIS-B materials as section A.2, presented by Gary Furr in partial response to Action Item 7-6	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-05	14KB	Proposed addition of a paragraph to I.4.2.1 to discuss differences in the Center Sample and Multi-Sample Techniques, presented by Vince Orlando	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-06	52KB	Summary of WG-6 Issues Papers and Proposed Changes to DO-242A, presented by Stuart Searight in response to Action Item 9-1, in an effort to determine possible impact to DO-260A	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-07	20KB	Analysis of GPS Data, in regard to Extended Squitter Transmission Rate on the Airport Surface, presented by Dr William Harman in response to Action Items 8-3 and 8-4.	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-08	27KB	Simulation Results, ATCRBS Fruit at Different Power Levels, presented by Dr William Harman, in response to Action Item 9-8	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-09	88KB	Proposed Enhancements to the 1090 MHz Extended Squitter MOPS, presented by Ron Jones, FAA, ASD-140	Meeting 10, 3/26/2002 FAA Tech Center

Working Paper	Size	Description	Introduced At:
1090-WP-10-10	19KB	Proposed Requirement for Enhanced Reception Techniques, presented by Ron Jones, FAA, ASD-140	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-11	18KB	Draft 5 of the Proposed Appendix M to define Extended Range Reception Techniques, presented by Ron Jones, FAA, ASD-140	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-12	8KB	Proposed Diagram for Appendix I to Clarify Error Correction, presented by Dr William Harman	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-13	23KB	Proposed Transmission Rate for ID Squitter, presented by Dr William Harman in partial response to Action Item 9-2	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-14	55KB	Draft 8 of the Enhanced Reception Test Procedures, presented by John Van Dongen in response to Action Item 9-4	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-15	36KB	Proposal to Revise the Capability Code (CC) and Operational Mode (OM) Subfields of the Aircraft Operational Status Message, presented by James Maynard	Meeting 10, 3/26/2002 FAA Tech Center
1090-WP-10-16	29KB	Test Results of an Investigation of Re-triggering Performance with the Enhanced Reception Techniques and LDPU, presented by John Van Dongen	Meeting 10, 3/26/2002 FAA Tech Center

24. As per Action Item 4-7, a review of DO-260 was accomplished and the following table of open, or unresolved, issues was generated, along with two issues defined during Meeting #4. WG-3 members should review this list and ensure that there are not other issues known to them that should be on this list. This list will be review at each future meeting for addition or deletion of items.

Issue #	Issue/Question Description	Raised by	Date Raised	Status
1	DO-260 Table 2-11 in Section 2.2.3.2.3.1, NUC <sub>p</sub> code for Type Code=22 is still shown as <b>TBD</b>	Gary Furr	15 May 01	
2	DO-260 Table 2-30 in Section 2.2.3.2.6.1.13, "Turn Indicator" coding is still <b>TBD</b> and the implementer is directed to set the code to ZERO until further notice. If this requirement is deleted, then sections 2.2.3.2.6.2.13, 2.2.3.2.6.3.13, 2.2.3.2.6.4.13, 2.2.5.1.10, 2.2.5.1.15 and 2.2.8.1.19 must also be addressed, along with all of their section 2.4 mates. Also Appendix F, MASPS Ref #R.2.26.	Gary Furr	15 May 01	
3	DO-260 Table 2-43 in Section 2.2.3.2.7.1.4, the "TCP/TCP+1 Data Valid Subfield" was declared not to be useful during the June 2000 Plenary and the field was declared to be "reserved" and set to ZERO in the initial version of the MOPS. Section 2.4.3.2.7.1.4 only tests for the case where the code is set to ZERO. Until this field has validity, no TCP data will be considered valid! All sections relating to TCP/TCP+1 were left as written in the initial DO-260.	Gary Furr	15 May 01	A Note is being added to 2.2.3.2.7.1 to state the status of TCP in DO-260A assuming no changes.

Issue #	Issue/Question Description	Raised by	Date Raised	Status
4	Sections 2.2.3.2.7.3.3.1 through 2.2.3.2.7.3.4.4 defining both the “Capability Classes” and the “Operational Mode” of the Aircraft Operational Status Message, including Tables 2-54 through 2-61 are full of <b>TBDs</b> . Also affects Appendix F, MASPS Ref R2.31 and R2.32.			
5	DO-260 Table 2-67 in Section 2.2.8.1.5, the “NUC <sub>P</sub> Coding Requirements” contains numerous <b>TBDs</b> .	Gary Furr	15 May 01	
6	DO-260 Table A-2 in Section A.4.1, NUC <sub>P</sub> code for Type Code=22 is still shown as <b>TBD</b>	Gary Furr	15 May 01	
7	DO-260 Section A.4.9.4 was never altered after the June 2000 Plenary which declared the “TCP Data Valid” subfield to be ‘reserved’ and hard wired to ZERO in the initial DO-260.	Gary Furr	15 May 01	
8	Sections A.4.11.3 through A.4.11.10 defining the CC_4, CC_3, CC_2, CC_1, OM_4, OM_3, OM_2 and OM_1 Operational Capabilities and Statuses are full of <b>TBDs</b>	Gary Furr	15 May 01	
9	Appendix F, Ref. #R2.38, the effective coverage of the ground receiver is still <b>TBD</b> .	Gary Furr	15 May 01	
10	Implementation of the Working Papers WP-4-03 and WP-4-06 for TCAS RA, are pending a decision by the Ad Hoc MASPS Working Group on the requirement.	WG-3	15 May 01	
11	Address the issue of whether or not to write a requirement into Section 2.2 of DO-260A for using the “Conservative Error Correction Technique.”	WG-3	15 May 01	
12	Clarify the need to transmit current TCP/TCP+1. In particular the need to comply in the Test Procedures, in view of the fact that the Data Valid Flag is currently set to zero (0) in DO-260	WG-3	21 Aug 01	
13	Additional changes will need to be made to Tables 2-3, 2-4 and 2-5, and potentially other places in DO-260, if SC-186 approves changes suggested by WG-6 to DO-242A to eliminate the Partial Mode Status Report (MS-P), only produce a standard MS Report, and to put all TCP information into a newly defined “On-Condition” Report.	WG-3	18 Oct 01	