

CHANGE ISSUE – RTCA/DO-242

# MASPS for ADS-B

## Rev B

Tracking Information (committee secretary only)	
Change Issue Number	76
Submission Date	03/01/09
Status (open/closed/deferred)	OPEN
Last Action Date	09/15/2010

Short Title for Change Issue:	Broadcast of Mode A Codes as ADS-B system requirement
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MASPS Document Reference:		Originator Information:	
Entire document (y/n)	y	Name	J. Stuart Searight, FAA
Section number(s)		Phone	609-485-5036
Paragraph number(s)		E-mail	Stuart.searight@faa.gov
Table/Figure number(s)		Other	

Proposed Rationale for Consideration (originator should check all that apply):	
<input type="checkbox"/>	Item needed to support of near-term MASPS/MOPS development
X	DO-260()/ED-102() 1090 MHz Link MOPS / SARPs
X	UAT MOPS / SARPs
<input type="checkbox"/>	STP/ASAS MOPS
<input type="checkbox"/>	ASA MASPS
<input type="checkbox"/>	ADS-B or related TSO's, AC's or other regulatory guidelines
<input type="checkbox"/>	Item needed to support applications that have well defined concept of operation
<input type="checkbox"/>	RTCA OSED / SPR/Interop: (Approved/In Progress)
X	RFG OSED / SPR/Interop: (Approved/In Progress)
<input type="checkbox"/>	Has supporting analysis, if candidate stressing application
X	Item needed to support Ground Station Requirements/Specifications
<input type="checkbox"/>	Item identified during recent ADS-B development activities and operational evaluations
<input type="checkbox"/>	ADS-B MASPS clarifications and/or correction item
<input type="checkbox"/>	Validation/modification of questioned MASPS requirement item
X	New requirement item (must be associated with traffic surveillance to support ASAS or ATC Services)
<input type="checkbox"/>	Other: (Explain)

Nature of Issue:	<input type="checkbox"/>	Editorial	<input type="checkbox"/>	Clarity	<input type="checkbox"/>	Performance	X	Functional
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Issue Description:

When the ADS-B/ASA MASPS are revised, current use of Mode A Codes by ATC to associate aircraft with radar tracks and their filed flight plans must be examined so that it can be determined if a system requirement is needed for the provision of Mode A Codes by the ADS-B system. The ADS-B-RAD & ADS-B-NRA SPR/Interop standards should also be examined.

Also, future plans to phase out use of the Mode A Code needs to be considered and potential requirement for availability to inhibit broadcast of Mode A Code as well.

Originator's proposed resolution:

Perform review of current ATC requirements for aircraft surveilled by ADS-B and determine if Mode A Code is a required data element for ADS-B IN support of operational requirements.

Note: Attach additional sheets to capture supporting discussion with source and date.

Issue History:

From the SC-186 WG-3 Meeting #25, Working Paper 1090-WP25-03R1:

Operational requirements for the ADS-B-RAD application being specified by the RFG require that the Mode 3/A Code be broadcast at a higher rate when there is a change in the code. Analysis of the method in which the Mode 3/A Code was being broadcast in DO-260A inside the TEST Message resulted in the conclusion that it would be desirable to eliminate the TEST Message and incorporate the Mode 3/A Code into the Emergency/Priority Message. Therefore, a change in broadcast rate requires altering the way that the Message is broadcast, and Working Paper ASP04-15R2 was presented to the ICAO ASP Working Group in May 2008 as a summary of agreements made and proposals to switch the broadcast away from the ADS-B TEST Message and into the Emergency/Priority Message so that a higher broadcast rate can be achieved efficiently. A SARPs change proposal (CP) was also presented for the modification of the 1090ES SARPs in ICAO Doc 9871 to accomplish this. During the ICAO ASP Working Group of the Whole meeting in Montreal in December 2008, these proposed changes were presented as final ICAO SARPs changes in Working Paper ASPWGW.1.WP.004R2.

The ICAO ASP Working Group review of Working Paper ASP04-15R2 in May 2008 resulted in a requirement to propose a method by which a Mode 3/A Code could be set which would then terminate the transmission of the Mode 3/A Code. It was further agreed in Working Paper ASPWGW.1.WP.004R2 that the 1090ES SARPs would set a Mode 3/A Code value of (1000) as the universal code to accomplish this requirement.

Working Paper 1090-WP28-09R1 reflects proposed changes in the broadcast rates of the 1090ES Event-Driven Messages and 1090-WP28-10 reflects revisions of the actual Emergency/Priority Message to include the Mode A Code and the TCAS RA Messages in DO-260B.

**Working Group 6 Deliberations:**

**09/15/2010 – Meeting #17**

The reconvened WG-6 reviewed this Issue Paper and agreed that it should be OPEN until the issue of setting the MASPS requirements for broadcasting the Mode A Code is discussed further and resolved in the new combined MASPS.