MASPS for ADS-B Rev. A

Tracking Information (committee secretary only)	
Change Issue Number	7
Submission Date	1/11/01
Status (open/closed/deferred)	REJECTED
Last Action Date	1/25/01

Short Title for Change Issue:	Request to broadcast additional information for future use not currently specified in ADS-B MASPS message set

MASPS Document Reference:		Originator Information:	
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Paragraph number(s)		E-mail	Garret.Livack@faa.gov
Table/Figure number(s)		Other	

Proposed Rationale for Consideration (originator should check all that apply):	
	Item needed to support of near-term MASPS/MOPS development
	DO-260/ED-102 1090 MHz Link MOPS Rev A
	ASA MASPS
	TIS-B MASPS
	UAT MOPS
	Item needed to support applications that have well defined concept of operation
	Has complete application description
	Has initial validation via operational test/evaluation
	Has supporting analysis, if candidate stressing application
	Item needed for harmonization with international requirements
	Item identified during recent ADS-B development activities and operational evaluations
	MASPS clarifications and correction item
	Validation/modification of questioned MASPS requirement item
	Military use provision item
X	New requirement item (must be associated with traffic surveillance to support ASAS)

Nature of Issue:		Editorial		Clarity		Performance	X	Functional

Issue Description: The attached comments **requesting the broadcasting of information not currently specified in the ADS-B MASPS for possible future use** were presented to the SC-186 plenary in reference to the ballot on the 1090 MHz ADS-B MOPS (DO-260). It was agreed that these issues would be deferred from consideration in DO-260 until they were first considered for inclusion in a future revision of the ADS-B MASPS. Included with the attached comments is the official response from working group 3, which was charted with development of DO-260.

Note: As a proposal to consolidate IPs 4, 6, 7, 13, 18, and 19 into a single Issue Paper discussing requested additional ADS-B message elements for various applications and users, Working Paper 242A-WP-5-02 was presented to the ad hoc group at their May 2001 meeting. It was the conclusion of the ad hoc group to not consolidate these Issue Papers so that they could each be addressed as separate issues. 242A-WP-5-02 is available for download from the May meeting materials on the WG6 page at <http://adsb.tc.faa.gov/ads-b/186-subf.htm>

Originator's proposed resolution: Proposed resolution is attached with comments from DO-260 ballot.

Working Group 6 Deliberations:

January 24, 2001: This Issue Paper was discussed by the ad hoc group at their January 2001 meeting. It was decided that this Issue Paper should be REJECTED because it is out of scope of the ADS-B MASPS. However, in response to items 8 and 9 on the proceeding page, it was also decided from the deliberations of this Issue Paper that a new Issue Paper is to be written regarding the protection of ADS-B services from other services using a common shared data link. The writing of this new Issue Paper was assigned as Action Item 2-15. Also, in response to item 24, the ad hoc group will draft a response for plenary as assigned in Action Item 2-16.

#	Comment Author	DO-260 Section	Page	Comment / Rationale	Suggested Resolution
8	Livack (14)	1.3.6	11	Non airport surface movement potential (future) application. There appears to be a lack of specificity as to whether (and specifically how) the 1090 data link can support the future air-to-air and / or air-to-ground exchange of FIS-B downlink enabled AUTOMETS for MET reporting. This application is of high interest, with funding for low-cost GA sensors being provided by NASA's AWIN program although, as of this time, their concept is data link independent. (The ADS-B AUTOMET concept uses ADS-B as the means to exchange aircraft ID and position reporting and MET data, thereby saving overall bandwidth and equipage costs, especially for the GA owner). Several ADS-B MET-related messages set elements will need to be exchanged. These data sets are defined in some detail in DO-252. The AUTOMET application is also described in DO-252. See also Appendix E of DO-242. **WG#3 Position:** *Items #8 and 9 WG#3 doubts the maturity of these future applications is such to warrant consideration into DO-242A.*	There needs to be provision to support this future application.
9	Livack (15)	1.3.6	11	Another potential (future) application, but as yet not validated. There appears to be a lack of specificity as to how the 1090 data link can be used to support the air-to-air (and air-to-ground) exchange of a LIMITED sub-set of the above FIS-B AUTOMET parameters for use in ADS-B wake vortex modeling. In this application, ADS-B would be used to exchange aircraft ID, aircraft position information, and certain wake vortex modeling parameters. It is believed that this wake vortex modeling concept could help enhance Safe Flight 21 Application # 3.2 approach spacing and SF 21 Application # 3.4, departure spacing / clearance tool, by allowing for safe (but reduced) in-trail separation on arrival and departure. Several data set elements have been identified but not yet flight validated as part of an integrated ADS-B wake vortex modeling application. A graduate student at Stanford University is presently conducting research on this subject, and can be contacted through Gary Livack, FAA. Flight evaluations are planned for this Summer. **WG#3 Position:** *Items #8 and 9 WG#3 doubts the maturity of these future applications is such to warrant consideration into DO-242A.*	There needs to be provision to support this future application if it proves feasible.

#	Comment Author	DO-260 Section	Page	Comment / Rationale	Suggested Resolution
24	Livack (18)	Appendix D		Architecture question. Might the 1090 ADS-B MOPS implementation be able to broadcast a carrier-only message set when there was a loss in nav function? Might multiple TIS-B ground sites be able to process this information, then uplink "own ship" track files, so as to provide some level of back-up secondary navigation capability? Some say that RNP 1 is possible with this very "crude" back-up navigation system. If technically feasible, this functionality needs to be specifically included in the draft 1090 MOPS. **WG#3 Position:** ***WG#3 does not find these items to be at a high enough maturity level to be incorporated into DO-260A.***	Discuss with WG-2. If feasible, include as a re-write in Appendix D.
25	Livack (17)	Appendix F, R2.29		Add souls on board (SOB) and fuel on board (FOB) and broadcast this information in the event of an emergency. This data is needed for enhanced CFR response. **WG#3 Position:** *WG#3 does not see how this data items could feasibly be included and updated in an accurate manner.*	MASPS / MOPS issue