CHANGE ISSUE – RTCA/DO-242

MASPS for ADS-B Rev. A

Tracking Information (committee secretary only)	
Change Issue Number	74
Submission Date	05/01/03
Status (open/closed/deferred)	TBD
Last Action Date	05/01/03

Short Title for Change Issue:	HPL levels for NIC

MASPS Document Reference:		Originator Information:	
Entire document (y/n)		Name	Chris Moody
Section number(s)	2.1.2.12	Phone	703 883 5506
Paragraph number(s)		E-mail	cmoody@mitre.org
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
X	DO-260/ED-102 1090 MHz Link MOPS Rev A
X	ASA MASPS
	TIS-B MASPS
X	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
	New requirement item (must be associated with traffic surveillance to support ASAS)

Nature of Issue:		Editorial		Clarity		Performance	X	Functional

Issue Description:

GPS sensors specified for navigation applications will be the main navigation source for ADS-B (perhaps the only source at this time for which we know how to assign an HPL). Many GPS sensors used to drive ADS-B may be limited in the integrity increments they can report to those Horizontal Alert Limit (HAL) thresholds used for navigation applications (i.e. 2.0 NM for Enroute, 1.0 NM for Terminal, 0.3 NM for Non-precision approach). HAL is directly related to HPL which is directly related to NIC. While 2.0 NM and 1.0 NM do map directly to NIC 4 and 5 respectively, the 0.3 NM HAL falls between NIC 6 and 7. GPS sensors limited in their HPL resolution to these standard navigation HAL values will be forced to always "under-report" their integrity when the Non-precision approach criteria are met. This could be a key operational NIC value that we may be arbitrarily doubling due to quantization noise. (The Australians are looking at 0.3 NM as their acceptable threshold for "radar-like" services).

Originator's proposed resolution:

Change the Rc for NIC=7 from 0.2 to 0.3 NM