

CHANGE ISSUE – RTCA/DO-???

ASA MASPS REV A

| Tracking Information (committee secretary only) | |
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| Change Issue Number | 4 |
| Submission Date | 10/23/02 |
| Status (open/closed/deferred) | OPEN |
| Last Action Date | 4/23/03 |

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| Short Title for Change Issue: | Unknown SIL in legacy ADS-B systems |
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| MASPS Document Reference: | | Originator Information: | |
|---------------------------|--|-------------------------|---------------------------|
| Entire document (y/n) | | Name | Michael Petri |
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| Paragraph number(s) | | E-mail | petrim@faatcrl.tc.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 |
| | DO-260/ED-102 1090 MHz Link MOPS Rev A |
| | ADS-B MASPS |
| | TIS-B MASPS |
| | UAT MOPS |
| <input type="checkbox"/> | 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 |
| <input type="checkbox"/> | Item needed for harmonization with international requirements |
| <input type="checkbox"/> | Item identified during recent ADS-B development activities and operational evaluations |
| <input type="checkbox"/> | MASPS clarifications and correction item |
| <input type="checkbox"/> | Validation/modification of questioned MASPS requirement item |
| <input type="checkbox"/> | Military use provision item |
| <input checked="" type="checkbox"/> | New requirement item (must be associated with traffic surveillance to support ASAS) |

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

The MIT LL analysis of the Enhanced Visual Acquisition application indicates SIL = 0.01 as an integrity requirement. Many existing navigation systems currently fielded do not provide outputs that allow determination of the SIL (including TSC C-129 GPS receivers). This is a particular problem since many GA aircraft fall into this category of equipage, and represent a primary end user of the EVAcquisition application. As these systems will not meet the requirements of this basic application, they must be shown as degraded targets. Due to the number of these systems in operation, this may result in most traffic being displayed with a “degraded” symbol.

Originator's proposed resolution:

Several action items pertaining to this were developed:

- 1) Joel Wichgers action - to address the possibility of using NAC as a surrogate for NIC. Specifically, to see if there is a way to achieve an indication of 99% containment bound / integrity from the 95% NAC accuracy bound.
- 2) MIT LL action - to determine the impact / effect of reducing the SIL requirement from 0.01 to 0.05.
- 3) Tom Foster action – to address how to resolve the mismatch between our current definitions of NIC and SIL as it relates to the extraction / interpretation of this type of data from current equipment.
- 4) WG1 action – determine the implication(s) of operational considerations of displaying traffic as degraded; particularly for the case discussed where SIL does not meet the 0.01 requirement and numerous traffic targets would fall into that category (when ownship SIL fails the SIL=0.01 requirement, all displayed traffic would be shown as degraded).

WG4 Deliberations:

November 19, 2002: Joel Wichgers presented a paper (see 11/19-21/2002 meeting notes) that suggests a methodology for using NAC as a surrogate for NIC.

April 22, 2003: This Issue Paper was reviewed and discussed y WG4 at the WG4 meetings held April 22 & 23, 2003 at RTCA, Inc. **Jonathan to complete summary of WG4 discussions.**