



NATO AC326 SG/B: Ammunition Systems Design and Assessment – IM Test STANAG updates

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Acknowledgements

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BLUF

Paper

During the past three years all seven of the NATO Insensitive Munitions (IM) test STANAGs and Allied Publications (AP) have been updated. This paper describes the background, changes and status of the updates.

IM NATO Documents Update

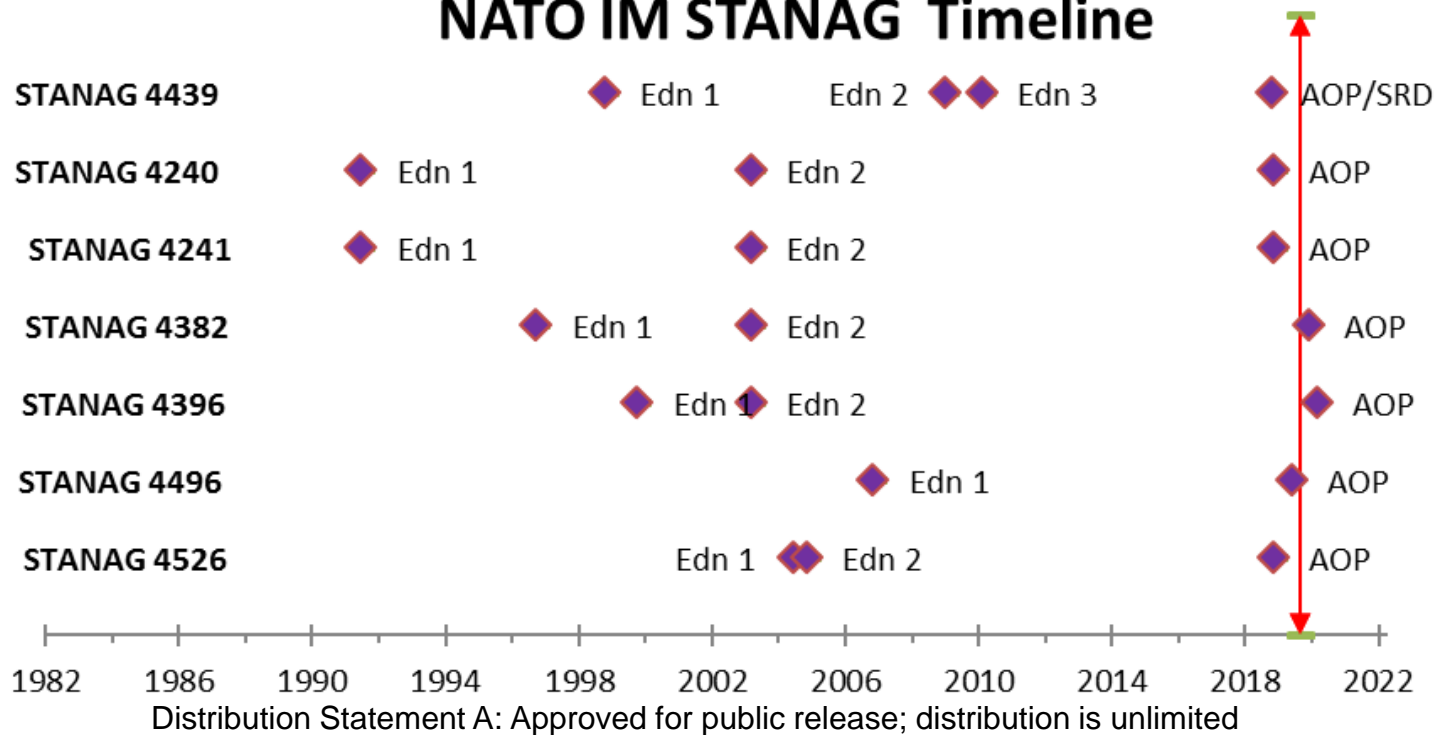
- Each document has been updated to the current NATO standardization requirements spelled out in AAP-03K.
- The overarching IM test documents STANAG 4439 and AOP-39 for Policy on the Development and Assessment were part of the update.
- The guidance provided by the updated standards will ensure more consistent testing and evaluation of ordnance hazard assessment testing.

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Background

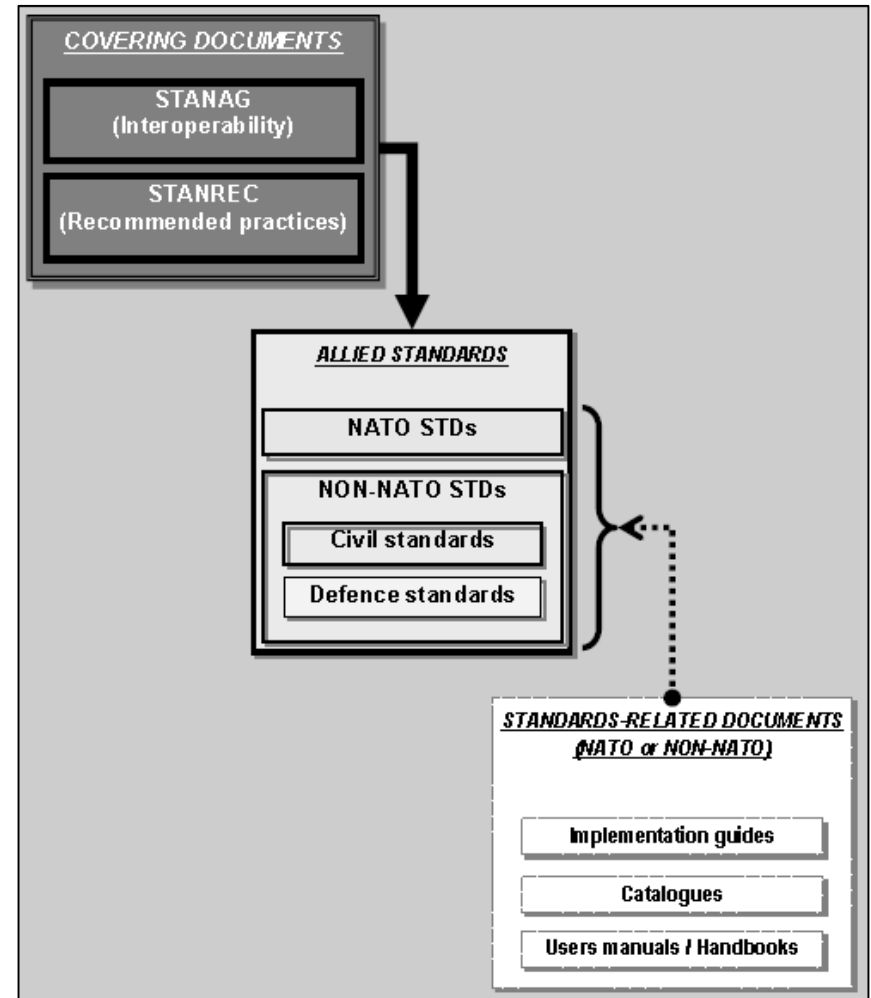
- Last coordinated publication of IM Test STANAGs April 2003
- STANAG 4439 revised twice since last Test STANAG
 - Resulting inconsistencies
- Changing organisation and structures
- Opportunity with transition of Test STANAGs to AOPs

NATO IM STANAG Timeline



Documentation Policy

- NATO Policy on document structure: AAP-03(K)
 - Covering Document (STANAG)
 - Allied Publication (e.g. AOP)
 - Standards Related Document (SRD)
- Differences in ratification and promulgation
- SRD
 - New document type
 - Provides additional information



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Documentation Policy

STANAG. A STANAG is:

- A stand-alone document that covers one or several subject-related Allied Standards.
- Has to be ratified and then promulgated.

Allied Publication (AP). Where it relates to interoperability is promulgated with a covering STANAG. Other aspects are:

- A stand-alone document.
- Only required to be promulgated.
- Requirements based

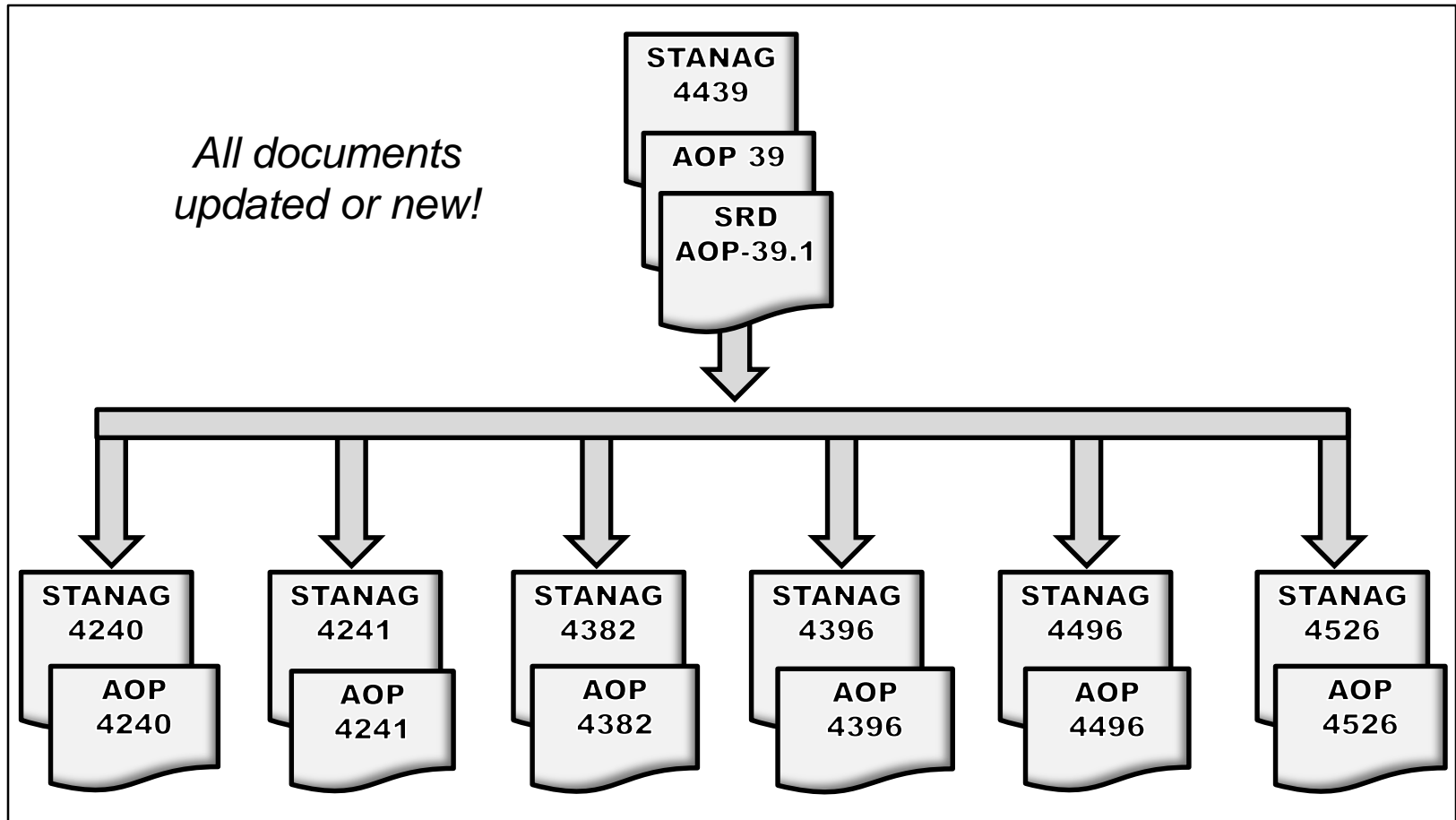
Standards-Related Document (SRD). A document that supports one or more Allied Publications to support understanding and may provide additional data and information. Examples of an SRD may include User Manuals, Handbooks, Catalogues and Implementation Guides.

Other aspects of an SRD are:

- Will not contain policy requirements.
- Approved and promulgated under a silence procedure.

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IM Standards Hierachy



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AOP-39 update

- Two strands of work for AOP-39 update
 - Review of IM Response Descriptors (RD) (Annex I)
 - Review of Test Conduct and Reporting (Annex H)
- Annex I
 - IM Response Descriptors updated
 - Articles Under Test more defined and prescribed
 - Calibration Testing promoted and more fully prescribed
- Annex H
 - Common aspects of conduct and documentation in SRD
 - Technical aspects of Test in AOP
 - Test specific conduct and reporting in AOP

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AOP-39 Annex H

- Specific text on the FH, BI and SC full scale testing was removed, as this is now included in the newly promulgated AOPs.
- It is anticipated that the specific text on Fragment Impact, Slow Heating and Sympathetic Reaction will be removed in a further update of AOP-39.
- Appendices 1 – 5 covering generic aspects of full-scale test conduct are now incorporated into the SRD. This covers the following topics: Trial Framework, Trial Conduct, Test Programme, Trial Reporting, Test Report Template.
- Appendix 6 - no longer relevant.
- Appendices 7 – 12 moved to SRD: Generic aspects of full-scale test planning, documentation, data collection and reporting

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SRD AOP-39.1

- Test framework, organisation and responsibilities
- Test programme
- Test planning and guidance
- Test specific considerations
- Documenting
- Test conduct
- Reporting

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IM Test Standards

- STANAG/ AOP 4240 (FH): promulgated NOV 18
- STANAG/ AOP 4241 (BI): promulgated NOV 18
- STANAG/ AOP 4496 (FI): promulgated MAR 19
- STANAG/ AOP 4526 (SCJ): promulgated NOV 18
- STANAG/ AOP 4382 (SH): ratification ongoing
- STANAG/ AOP 4396 (SR): final meeting SEP 19

All documents updated!

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Future IM/HC Harmonization

IM standards documents are reviewed on a regular basis to ensure that they reflect best practice. There is on-going NATO AC326 work aimed at harmonizing the approach to IM and HC. This work may result in some changes for tests standards in the coming years.

- Nations sometimes classify/assess munitions differently (HC/IM)
- There is a recognized need to exploit available resources and expertise while minimizing duplication of effort
- IM HC assessment and assignment could better support situation specific risk assessment
- The UN manual of tests and criteria development on UN TS 6 are driven by the civil side and could be seen as not fully representative of the military environment. There is a need to develop improved guidance for military munitions.
- There is a perceived need to improve confidence in correctly recognizing the hazard posed by munitions

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Concluding Remarks

- Updated versions of STANAG 4439 and AOP-39, as well as the BI, FI, FH and SCJ full-scale test STANAGs and associated AOPs have now been promulgated
 - Those involved in testing should ensure that they are now working to the latest standards.
- The updated SH and SR STANAGs and associated AOPs are nearing promulgation.
- A further update of AOP-39 Appendix H is anticipated to remove the specific testing guidance on FI, SH and SR.
 - These descriptions are included in the new test AOPs.
- Ongoing work is now aimed at harmonizing HC and IM testing into a combined standard structure.

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QUESTIONS?