

The MSIAC Self-Audit to Improve How Testing Facilities Conduct IM & HC Tests

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Rationale for Developing an MSIAC Self-Audit

- Today's munitions are often developed and/or manufactured by groups of nations, by multinational
 corporations or by international consortiums. This may result in a munition being tested at IM/HC
 tests in several different test organizations, sometimes located in different nations. A
 detrimental consequence could be that IM/HC testing is not consistent across the different test
 organizations due to different test capabilities and competences, and due to a variability in the way
 test organizations carry out IM/HC testing.
- The MSIAC catalogues of testing facilities (L-106 for IM testing and L-196 for environmental testing) provide a useful database on testing facilities, but they do not provide sufficient information to assess test organizations' capabilities or competences in any significant manner.
- This is the reason why the MSIAC self-audit procedure was created, to provide confidence in interpretation and implementation of IM test requirements specified within NATO standardization documents, which are not sufficiently prescriptive.
- The 4th version of the MSIAC self-audit is based on the most recent versions of AOP-39 (Ed D V2), AOP-39.1 (Ed A V1) and IM test AOPs (Ed A V2).



Why Conduct an MSIAC Self-Audit?

- For munition developers, the MSIAC self-audit allows them to have a common understanding on the way IM/HC tests are conducted in the different test organizations they contract. It is indeed of the utmost importance that agencies requesting IM/HC testing obtain consistent and reliable information from the different IM/HC test organizations.
- From the test organization point of view, it is of obvious interest for them to demonstrate their capability to consistently and reliably perform IM/HC testing.

How?

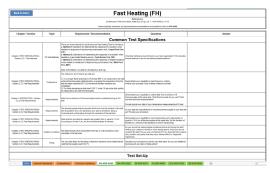
Supporting Munitions Safety

- The 4th edition of the MSIAC self-audit procedure includes:
- The **L-150 report** that introduces the self-audit procedure and provides guidance on how to complete it; and
- An **excel spreadsheet** including different questionnaires that aim to 2) demonstrate the ability for the IM/HC test organization to fulfil the requirements and recommendations of the NATO and UN standardized test procedures related to IM/HC testing

It can be used:

- in a **self-audit (or internal audit) mode** to identify their own forces and weaknesses in IM testing, and take actions to improve the way they conduct the tests; or,
- in preparation of a formal audit, as it allows the identification of possible non-conformities.







Who?

This self-audit is mainly targeted to IM/HC test organizations as it represents a way to
promote their capabilities and competences in IM/HC testing. It is also beneficial to
identify weaknesses and take action to improve the way the test organizations conduct
IM/HC testing.

- The self-audit should involve **all personnel related to IM/HC testing**: the project team, the relevant safety authority and, where appropriate, subject matter experts from research establishments as well as from the testing organization itself.
- For those test organizations that rely on contractors, the test organization should seek to involve also **the personnel from any relevant support organizations** as part of the audit process.

When?

Any time!

- It could even be beneficial to conduct this self-audit more than once, and ideally on a regular basis, for a self-assessment of the evolution of the test organization's capabilities and competences. Conducting such a self-audit on a regular basis can also be a good way to ensure that the test organization still meets the requirements of the latest editions of the standards.
- This process may take a significant time and effort to be fully accomplished, depending on the extent of IM/HC capabilities and competences of the test organization. A duration of three to six months is typically necessary to properly complete the full self-audit procedure for the first time.



Where?

 The questions of the self-audit refer to documents and procedures related to IM/HC personnel and testing, but also to the test set-ups and instrumentation used for IM/HC testing.

It is then strongly encouraged to conduct the self-audit in the test
organization facility, where the elements to answer the questionnaires can be
easily accessible.



Steps to Conduct the MSIAC Self-Audit

- Step 1: Planning the MSIAC self-audit
 - Make sure that the management line supports this activity
 - Define a calendar and work in "project mode"
- Step 2: Completing the Excel Spreadsheet
 - This represents the core activity of the self-audit
 - The excel spreadsheet is divided into 3 general tabs and 6 specific tabs for each one of the 6
 IM test AOPs
 - In total, it includes 150+ questions/actions
- Step 3: Reporting the self-audit results
 - A structure is proposed in order to maintain consistency between self-audit reports



Steps to Conduct the MSIAC Self-Audit

- **Step 4**: Capitalizing, Promoting and sharing the self-audit experience
 - At the minimum, the test organization that have conducted the MSIAC self-audit shall capitalize the results and take action if it does not fulfil some of the requirements. The test organization should also consider taking action to improve the way they conduct IM/HC tests.
 - o It is also encouraged for the test organization to **share the results of the self-audit** they have conducted by, e.g. providing the self-audit report to MSIAC for the benefit of the MSIAC community or presenting it at an international meeting/conference.
 - o This will result in two benefits:
 - For the test organization who conducted the self-audit, to promote its capabilities and competences to carry out IM/HC tests in a reliant and consistent way.
 - For the other test organizations, to encourage them to also conduct an MSIAC selfaudit.



Steps to Conduct the MSIAC Self-Audit

- Step 5: Providing feedback
 - Test organizations are encouraged to add to this procedure everything they consider relevant and provide feedback to MSIAC on these additions.
 - MSIAC would be very grateful if the test organizations that have conducted this self-audit could help improve this procedure by providing feedback on any improvements that could be introduced in this self-audit procedure, on any aspects.



Conclusion & Way Forward

- The ultimate goal of this self-audit procedure is to obtain internationally acceptable IM/HC test results, reports and signatures as well as recognized IM/HC test organizations.
- With as many test organizations as possible following this self-audit procedure, it will hopefully result in a trustable and internationally recognized network of test organizations suitable to carry out IM/HC certification tests.
- The next step is to advertise the updated MSIAC self-audit procedure as widely as possible!



Questions?



