
TSMAD/DIPWG



S-101 Test Plan

	Date: 6-3-2012
S-101 Test Plan	S-101 TP 0.0.0

Revision History

Date	Version	Description	Author
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1 Introduction

This document represents the S-101 test plan. It defines the key premises, test approach, test execution, and issue resolution in order to ensure that S-101 is ready for use when it is approved by IHO member states. This document is a companion to the overarching S-101 strategy that defines the iterative process for testing S-101.

1.1 Background

S-101 has been in development since 2005, and has followed the IHO standards development process as outlined in TR 02/2007. S-101 is a major step forward in the development of the Electronic Navigational Chart product specification. One of the key requirements of TR02/2007 is that there needs to be a test phase before the product specification can go for IHO approval. This plan is intended to full this requirement of the IHO technical resolution.

1.2 Purpose

The purpose of this document is to establish the scope and approach to S-101 testing and to outline the test criteria and procedures, that when successfully executed, will constitute the IHO's readiness to move S-101 forward for acceptance by the IHO Member States.

1.3 Scope

In alignment with IHO TR 02/2007 the scope of this test plan only includes testing and verifying the functionality introduced in S-101 and establishing a mechanism for issue resolution. This plan will include all the test cases (both positive and negative) needed to demonstrate capability. This plan will focus on the unit and functional testing aspect as outlined by the S-101 test strategy. This plan does not include compliance testing to IEC 61174, which would be used for shore trials. The results of unit and functional testing may feed into a new edition of IEC 61174 for use by type approval.

1.4 References

The following documents serve as reference to support system acceptance and further the understanding of S-101 for the reader of this document.

- S-100
- S-101

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- S-101 Test Strategy

1.5 Definitions, Acronyms and Abbreviations

See Appendix A - Acronyms and Abbreviations

2 Approach

The test approach will utilize standard methodologies used in software and system testing. The end result will be a final version of S-101 that will be voted on by Member States of the IHO. The general approach is outlined by the figure below:



In addition, this plan will establish the framework for test execution by defining roles and responsibilities, the test schedule, acceptance test readiness review and the test procedures.

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2.1 Roles and Responsibilities

S-101 Testing will be conducted by representatives from TSMAD and DIPWG. Test procedures will be executed jointly by TSMAD and DIPWG. Testing will be witnessed by the IHO as appropriate.

The following are roles and responsibilities for System Acceptance:

Acceptance Test Manager (ATM)- The ATM will be an IHO representative who will coordinate and monitor acceptance test activities; the ATM will be responsible for scheduling resources and maintaining the acceptance test schedule. The ATM will prepare and conduct the Test Readiness Review and prepare the Test Report

Tester– Tester(s) will exercise the acceptance test procedures and document acceptance test step results accordingly

2.2 Test Schedule

The system acceptance test schedule is outlined below:

Activity	Start Date	End Date

2.3 Acceptance Test Readiness Review (TRR)

An Acceptance Test Readiness Review (TRR) will be conducted prior to acceptance test to review dry run results and any outstanding requirements or deficiencies within S-101. The result of the review will be a go/ no go decision for acceptance test.

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3 Test Execution

Testing will be executed by TSMAD/DIPWG.

3.1 Resources

The resources required to support acceptance test are the same resources used to support integration testing. These include:

- S-101 Feature Catalogue Builder
- S-101 Portrayal Catalogue Builder
- S-101 Viewer
- S-101 Test Data Sets
- S-101 Test Procedures

3.1.1 Test Environment

Comment [JLP1]: Need to document the test environment, where is the test going to be conducted, what hardware and software is needed

3.2 Test Procedures

Test procedures are a combination of requirements testing and test scenarios to demonstrate the functionality of S-101. Each procedure can be mapped to one or more discrete requirements that have been derived from S-101. The procedures will be managed outside of this document utilizing the template in Annex B.

3.2.1 Pass/ Fail Criteria

Each test case or scenario will have a descriptive process or number of steps to execute and "Expected Result(s)" to observe and document. One expected result may be tied to one or more process or steps executed by the Tester.

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The pass fail criteria will be developed to be discretely detailed to avoid miss-interpretation or room for subjectivity. The expected results will be vetted by the TSMAD/DIPWG prior to system acceptance execution.

3.2.2 Issue Resolution

As procedures are executed and results logged, any discrepancies or issues will be noted and set aside for further adjudication. Once noted, and as permitted, testing will resume through the completion of the procedure. If the issue prevents the continuation of testing within the procedure, then testing will resume with the next procedure. If the issue prevents test continuation all together, then testing will be suspended until the issue is researched and resolved to a degree that testing can re-convene.

At the close of system acceptance test, any outstanding issues will be reviewed by TSMAD/DIPWG for further dispensation.

4 Test Report and Formal System Acceptance

At the conclusion of system acceptance testing, a report will be generated detailing the system acceptance test activities, results, and any residual issues to be addressed, deferred or accepted "as-is".

Once reviewed and approved, the test report and marked up procedures will be packaged and will become an artifact to be archived by the IHO along with a predetermined procedural mechanism for the IHO to formally accept S-101.

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Appendix A – Acronyms and Abbreviations

Acronym/ Abbreviation	Description
ATM	Acceptance Test Manager
DIPWG	Digital Information and Portrayal Working Group
ENC	Electronic Navigational Chart
TSMAD	Transfer Standard and Maintenance Application Document Working Group

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Appendix B – S-101 Test Procedure Template

The S-101 acceptance test procedures within this appendix are meant to exercise the S-101 Product Specification to demonstrate capability as part of system acceptance test. The procedures currently exist in draft and require red-line and update as part of an acceptance test dry run.

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Test Case #			
Scenario Name			
Requirement ID			
Requirement			
Test Steps	Expected Results	Pass/Fail	Comments