SNPWG18-8.1

Paper for Consideration by SNPWG

[General steps for the preparation of a test plan]

Submitted by:	Swedish Maritime Administration
Executive Summary:	This document outlines the general items which need to be outlined and determined when preparing the test plan. The S-100 test plan has been taken into account..
Related Documents:	S-100 Test Framework S-100 System Overview
Related Projects:	

Introduction / Background

At the SNPWG 17Th meeting it was decided that Sweden should "investigate general steps for the preparation of a test plan and taking the S-101 test plan into account". Action item 17/14.

Analysis/Discussion

TSMAD is developing a test strategy and they have made an S-100 Test Framework document (draft 0.2). The following items are identified in S-100 test framework:

- Registry
- Build catalogues
- Produce data
- Validation
- Distribution
- Ingest and display data on ECDIS

Those items are divided into nine test phases to facilitate the work, with regard to the number of subsystems and complexity.

The phases are:

"Phase 1: Feature and Portrayal Catalogue Generation. This phase concentrates on the feature and portrayal catalogue builders and the generation of catalogues to support the S-101 product specification and S-10X overlays.
Phase 2: Simple Production Tool. This phase deals with creating S-101 ENCs by using the S-57 convertor. In addition, it will also look to create an S-100 simple overlay file for use in testing.
Phase 3: Simple Viewer. This phase creates a simple viewer that will ingest feature and portrayal catalogues, along with an S-101 dataset to validate if the dataset displays according to what is defined in the portrayal catalogue. At this phase S-101 updates will not be tested.
Phase 4: Preliminary Production Tool. This phase deals with creating a tool that can edit and produce S-101 data and updates. In addition, there may be a secondary tool that will have the ability to produce S-10X data that is meant to be integrated within an S-101 dataset.
Phase 5: Preliminary Data Validation and Distribution. This phase will put in place draft data validation rules and test data packaging and distribution models.
Phase 6: Shore-Based ECDIS. This phase deals with the creation and testing of several shore based ECDIS. This version of the S-100 ECDIS is not expected to have the full capabilities of an ECDIS that will undergo type approval, but should be able to handle different types of S-100 based data, perform basic navigation functions – such as set the safety contour and have the pick report functionality implemented.

Phase 7 – 9: Full Production Tool, Data Validation, Distribution, and Full ECDIS. These final three phases deal with the full system testing and implementation of S-100 and S-101. The following section in this document is structured to reflect each phase and document requirements, processes and the systems model. Individual test cases and test datasets are stored separately from this document."

SNPWG can save time and effort by using S-100 test framework. However the S-100 test framework can only be a guide for SNPWG. We have to make our own test plan which has to be specified and adapted to the SNPWG nautical publications.

When making the test plan there are several questions that need answers and things that have to be done, e.g.

- How shall data be used?
- How shall data be validated?
- How shall the product be distributed?
- The need for a production tool.
- The need for a Data Classification and Encoding Guide.

Conclusions

SNPWG can use the S-100 test framework as a guide when making the test plan. The general items for preparation of a test plan are identified in the S-100 test framework.

In order to make a test plan the following actions is needed:

System overview

A system overview is necessary in order to identify all parts of S-10X which shall be tested.

Timeline

The draft timeline will facilitate to identify in which temporal order tests shall be executed and how the tests are interdependent with each other.

Phases

When a system overview and timeline are in place it is possible to identify the different test phases.

Detailed plan for each phase

The phases have to be thoroughly planned and all details and test items have to be identified.

Recommendations

I recommend that SNPWG form a sub working group and give them the objective to:
Create a test plan
Create/investigate test scenarios

Justification and Impacts

Using the S-100 test framework will save time for SNPWG when making the test plan.

SNPWG test plan will follow the S-100 test "standard".

Action Required of SNPWG

The SNPWG is invited to:

a. Discuss the recommendation.
b. Agree on forming a sub working group.