

Paper for Consideration by S-100 Working Group

S-100 Shore Based ECDIS Definition

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Executive Summary:	To provide a definition of shore based ECDIS for purposes of the S-100 Test Bed.
Related Documents:	S-100 Test Bed Framework
Related Projects:	S-100 Test Bed

Introduction / Background

The primary purpose of S-100 Shore based ECDIS is to test use cases for a chart plotter working with electronic data, compiled in accordance with S-100 hydrographic data model.

The chart plotter will be used mainly ashore with simulated NMEA signal for plotting ship position and performing route monitoring tasks.

ECDIS should be capable of continuously plotting the ship's position (simulated NMEA signal) and enable user to execute in a convenient and timely manner all route planning, route monitoring and positioning.

ECDIS should provide appropriate alarms or indications with respect to the information presented on electronic charts.

Analysis/DiscussionBasic Functions

List of minimum functionality with reference to paragraphs of IEC 61174 ECDIS Operational and Performance tests, edition 4 (2015).

Color Key:

Yellow = heavily modified

Green = Almost as written in 61174

No Color = Requires new definition of detailed requirements.

S-101 ECDIS Function	IEC61174 reference	Details/comments
S-101 Base cell installation	4.4.1 Contents of the SENC	Check possibility of lossless S-101 ENC to SENC conversion
S-101 Update cell installation	4.4.2 Updates	Only paragraphs related to automatic ENC updates
S-101 SENC display Pick up cursor function	4.3 Display of SENC information	4.3.3 Categories of display 4.3.4 safety contour 4.3.5 Safety Depth 4.3.6 Information content (no degradation of content) 4.3.7 verification and updates 4.3.8 Information about chart objects 4.3.9 Display scale
Display Mode	4.7 Display mode and	North up orientation and true motion as a minimum. Plotted ship position on top of SENC information.

	generation of the neighboring area	
S-101 cell loading strategy	New	This is not well described in the existing IEC and IHO standard <ul style="list-style-type: none"> - Best display scale - Maximum and minimum display scale - Cell overlap
Route planning – check route	4.10.2.1 - Route plan	- adding and editing waypoints - alarms when crossing safety contour - indications when crossing areas with special conditions
Route monitoring	4.10.3 - Route monitoring	Sections related to alarms and indications detection and highlight on the chart area.
Installation of new version of feature/attribute catalog	New	For example, new feature and new attribute added to new edition of S-101. These features and attributes should be recognized by ECDIS without necessity of software upgrade
Installation of new version of presentation library (both symbols and display rules)	New	New symbols and new presentation rules should be recognized by ECDIS without necessity of software upgrade
Loading of new version of S-101 base cell	New	Display S-101 cells according to updated presentation library. New features/attributes and their symbols should be correctly displayed by ECDIS
Handling of different versions of S-101 cells	New	Display of SENC cells made according both previous and newer editions of S-101
Overlays: load and display S-102 bathymetric surface dataset.	New	This is to check how the ECDIS handles existing S-100 based products. Basic requirements: <ul style="list-style-type: none"> - Clearly distinguish overlaid data from S-101 ENC - Possibility to switch on and off overlaid data - usage of safety contour on made from bathymetry dataset
Overlays: Loading new (arbitrary) S-10x product and portrayal catalogs, new S-10x product	New	To check if any future S-100 based product could be loaded and displayed in the ECDIS

Recommendations

It is recommended that the working group discuss the proposed definition of shorebased ECDIS to determine if it meets the intent of the S-100 test bed. If so, then the definition should be included into the S-100 test framework.

Action Required of S-100 WG

The S-100 WG is invited to:

- a. discuss the proposed definition of Shore Based ECDIS
- b. agree to the proposed definition
- c. Include the definition of shorebased ECDIS and the table mapping to IEC 61174 into the S-100 Test Framework.