Paper for Consideration by ENC WG

Issues with the ECDIS Chart 1 Data

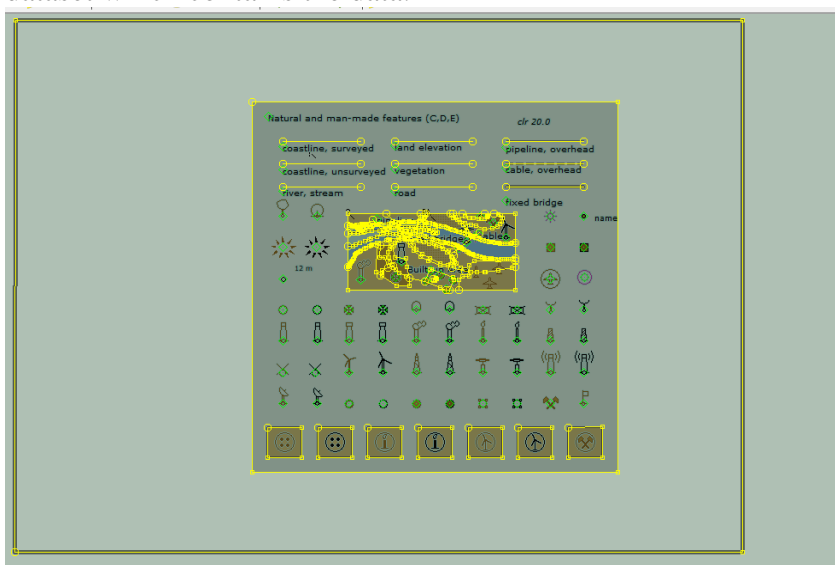|	
Submitted by:	SevenCs GmbH (Holger Bothien)
Executive Summary:	Reports some Issues with the ECDIS Chart 1 datasets
Related Documents:	S-52 Preslib Ed 4.0.3 Part 1 + Digital data
Related Projects:	

Introduction / Background

While implementing the ECDIS Chart 1 functionality some issues have been detected. There have been problems with one dataset and some inconsistencies between the recommended settings and the plots.

Analysis/Discussion

Unnecessary M_COVR object in the dataset AA5C1CDE.000

There are two M_COVR features FE0000000001 and FE0000000136 which overlap.
The first object seems to be unnecessary since the second one correctly defines the area of the dataset which contains the data.
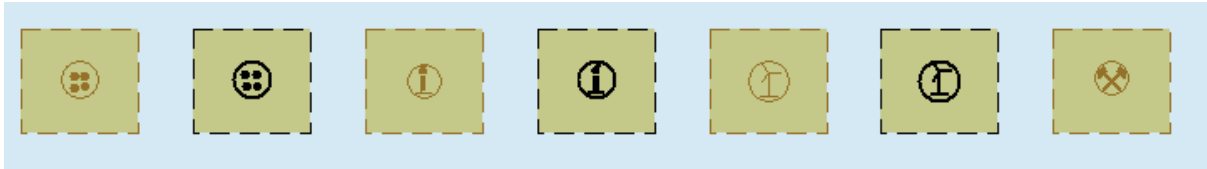

Note: The picture above is made from SevenCs Designer in a mode combining ECDIS mode and spatial data view.

Safety contour supresses boundaries of PRDARE objects (AA5C1CDE.000)

On the bottom of the dataset AA5C1CDE.000 seven LNDARE objects exist with seven PRDARE objects on them. The boundaries of the LNDARE and PRDARE objects are coincident and use the same edges. These edges are part of the safety contour since they separate the 'unsafe' land from the 'safe' water. The Safety contour has a higher display priority than the PRDARE line instruction (8 vs 4); the latter will be supressed. The result is that the presentation in the ECDIS differs from the plot in S-52.

ECDIS presentation

Plot from S-52

One solution could be to switch off the viewing group 13010 to remove the safety contour from the display. This would cause problems with other datasets from the ECDIS chart 1 and data could not be presented side by side.
A better solution is to modify the data in a way that the PRDARE features are not longer coincident with the LNDAREs.

ECDIS presentation of modified dataset

Settings for ECDIS Chart 1 presentation
The chapter 16 in the IHO Presentation library does not contain the definition of the settings to present the ECDIS chart 1 datasets. Those information can only be found in the README.TXT file of the ECDIS Chart 1 exchange set. This is definitely a place easy to overlook.
The following inconsistency was found when using the settings as defined:
In the Plot 13 (AA5C1QO2.000) an isolated danger symbol is shown in shallow water. According to the presentation library this should be only the case if the corresponding mariner selection is selected. This is not mentioned in the README.TXT file.

Conclusions
To improve the ECDIS Chart 1 of S-52 the reported issues should be corrected by:
- Delete the unnecessary M_COVR feature (and its geometry)
- Make the PRDARE objects smaller
- Adding the settings to the presentation library document (Chapter 16)
- The plot 4 should be amended to reflect the smaller PRDARE objects

Recommendations
We recommend changing the data as described and amend the document for the next version of S-52 presentation library.
We have already made the changes to the data and will provide an exchange set. The data set AA5C1CDE.000 has now the edition 3 and the changes are mentioned in the README.TXT file.

Action Required of [ENC WG]

The ENC-WG is invited to:

       a.   endorse the paper

       b.   discuss the topics

       c.   conclude on the action list

       d.   decide on the next steps forward