

Paper for Consideration by ENCWG3

Holes in ENC's

Submitted by:	SevenCs GmbH
Executive Summary:	Report that ENC's exist with don't have an appropriate data coverage.
Related Documents:	S-57 Appendix B.1 Annex A UOC Edition 4.1.0
Related Projects:	

Introduction / Background

In the S-57 Appendix B.1 Annex A UOC Edition 4.1.0 a section on Minimal depiction areas exists to describe how to encode ENC's where blank areas exist in paper charts. The goal is to provide the mariner with a consistent display at all display scales.

Analysis/Discussion

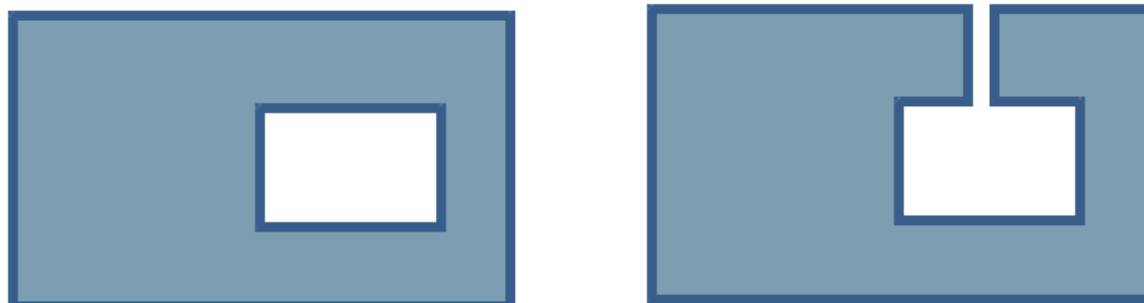
The S-57 Appendix B.1 Annex A UOC Edition 4.1.0 states in its clause 2.8.1:

Producing Authorities must not leave "holes" (that is, areas covered by **M_COVR** with attribute CATCOV = 2 (no coverage available)) in a Navigational Purpose coverage (unless the hole is captured solely over **LNDARE**), under the assumption that the ECDIS user will have the larger Navigational Purpose data available.

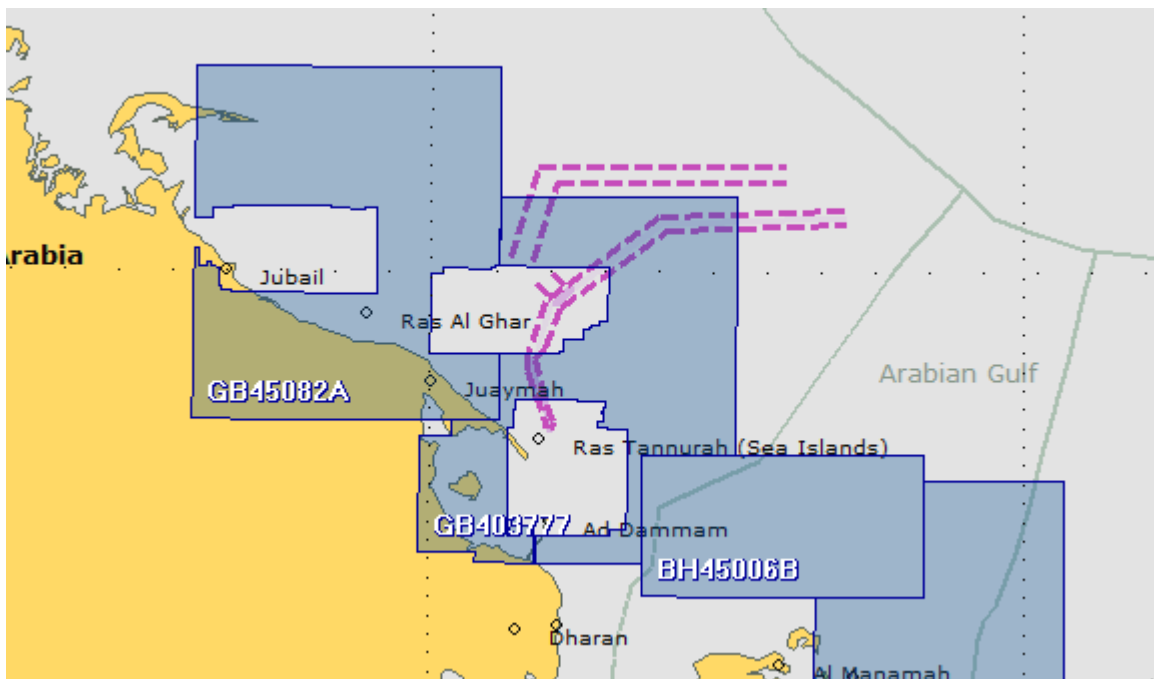
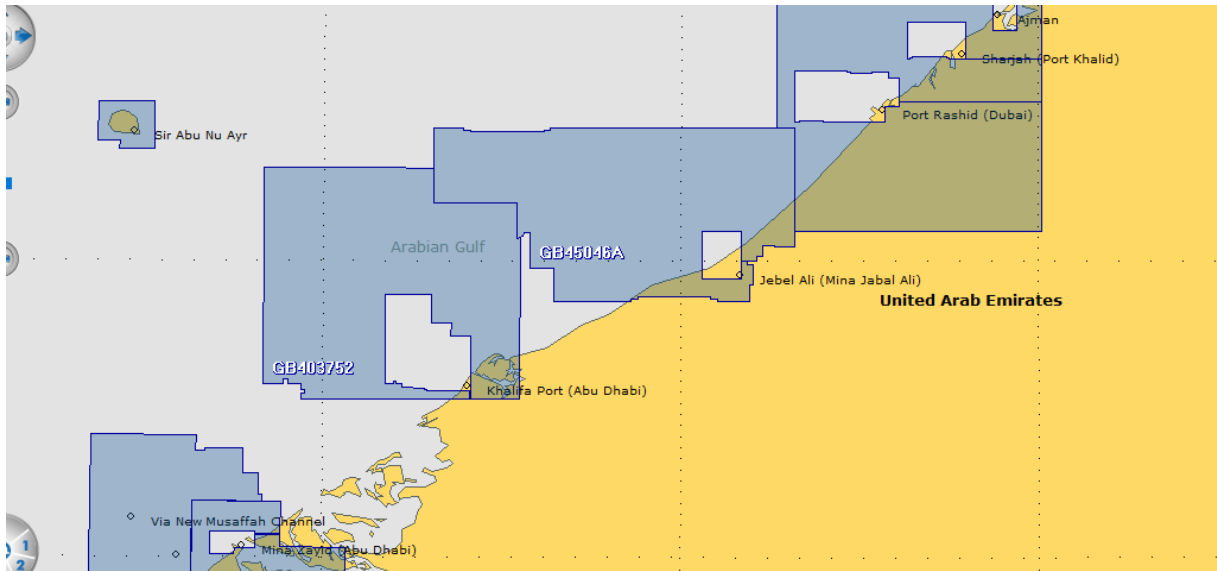
The motivation is that the display system depicts appropriate data at all display scales and not only when the better (larger scale data) is loaded to be displayed.

The author thinks that this valid clause never should be ignored and violated.

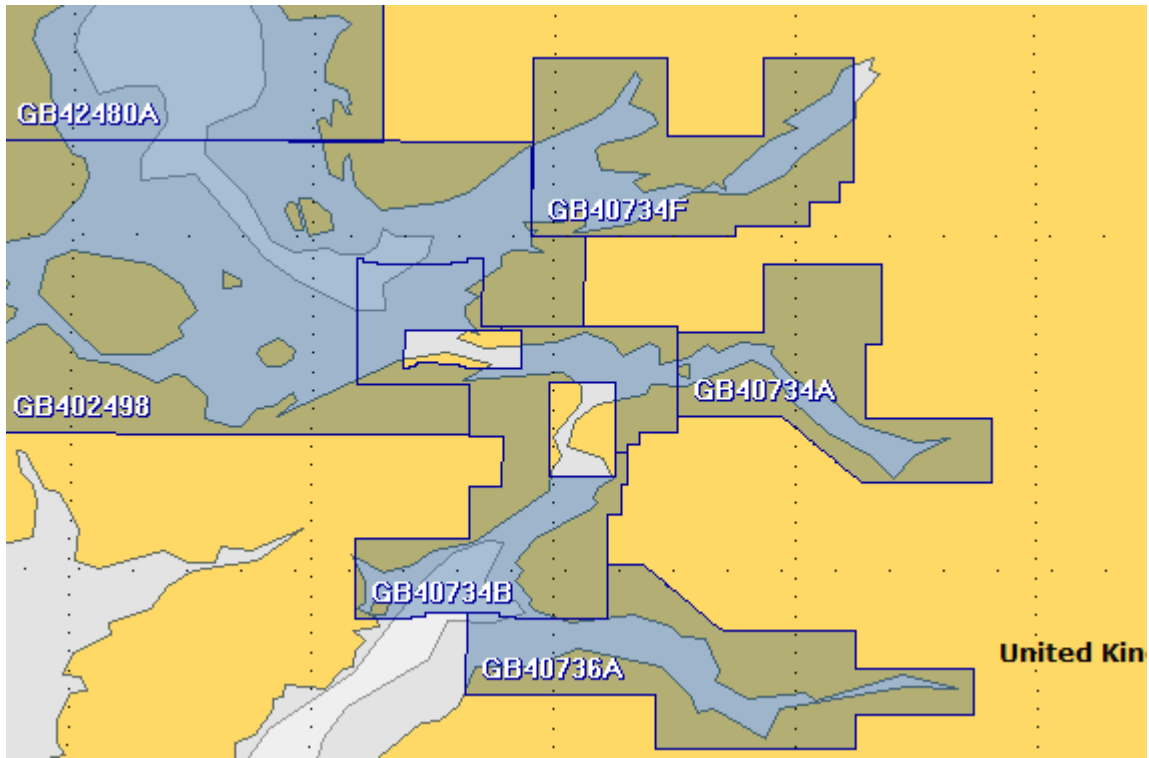
An analysis done because of end user feedback turns out that there are still a number of data sets that exist that violate the rule mentioned above. Although there technically no holes in the cells (no inner boundary of the M_COVR-CATCOV=1 objects) because a small channel is connecting the inner and the outer boundary this does not change the nature of this situation.



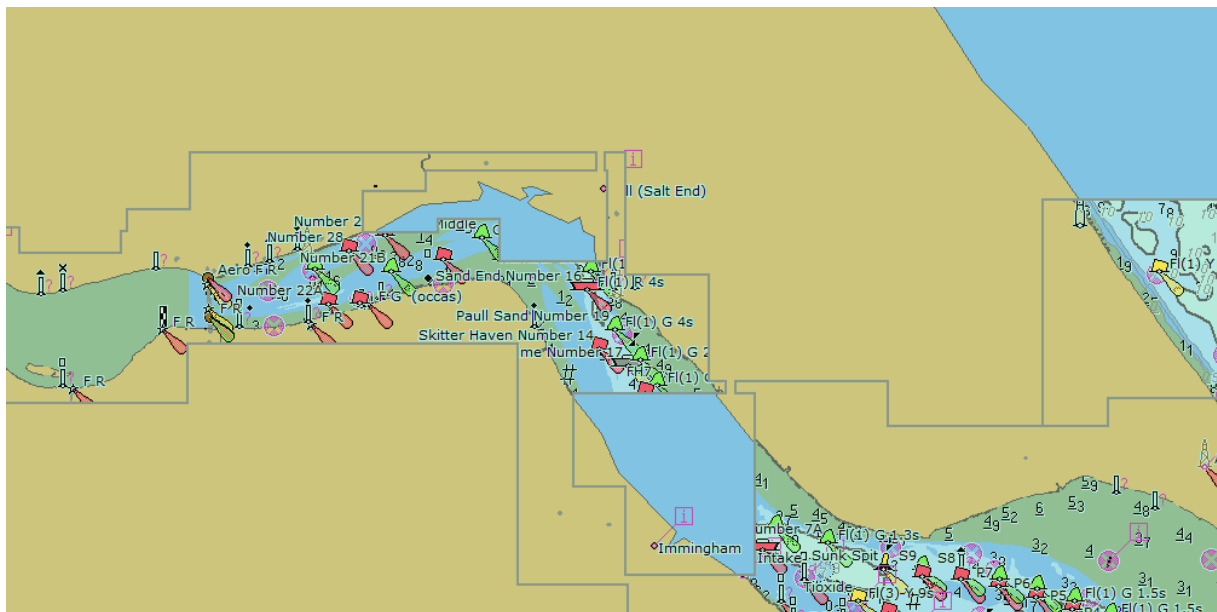
The following pictures show the existence of such encodings in real data.



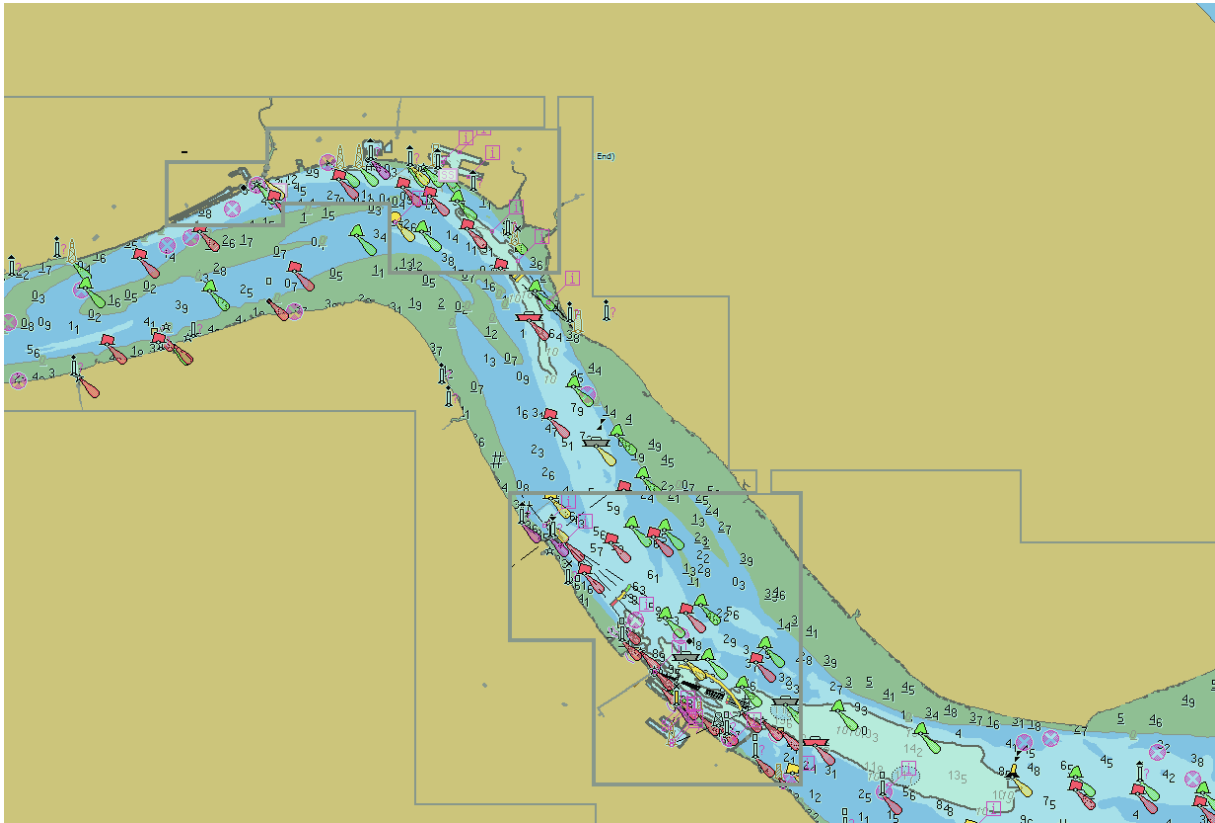
Note: FOR REASONS OF ECONOMY, DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING



As a result of this the display will at certain scales not depict the appropriate information.



Only when zooming further in, which forces the larger scale data to be loaded, the display shows all information.



Conclusions

The data produced by a production scheme as described leads in an inappropriate display. The author notes that this is a pure display issue and does not affect route planning and monitoring as long as all available data are installed on the system.

Recommendations

The author recommends that all ENCs must be encoded following the rules described in the UOC. It is not helpful that data producers tweak the rules to optimize their working procedures. The goal to be achieved is to provide the mariner with data that are sufficient for safe navigation.

Justification and Impacts

If the issue is accepted as a violation of an existing rule any measures should be taken to advise data producer what the nature of the clause in the UOC is.

Action Required of ENCWG

The ENCWG is invited to:

- a. note this paper;
- b. provide feedback;
- c. advise the data producer that the currently used scheme is violating the standard