Paper for Consideration by TSMAD and DIPWG

Overuse of Caution Areas in ENCs

Submitted by:	UK
Executive Summary:	This paper presents the issue of overuse of Caution Areas in ENCs. It proposes an addition to the UOC to improve encoding in order to rationalise Caution Areas. It also suggests that an Encoding Bulletin be issued to raise awareness of this issue.
Related Documents:	1. S-57 Use of the Object Catalogue for ENC
Related Projects:	1. S-101

Introduction / Background

1. User feedback received by the UK indicates that on some ENCs large numbers of Caution Area objects make it difficult to find relevant information particularly when these Caution Areas are not geographically specific (i.e. cover the entire cell). The pick report may display a long list of Caution Areas, some of which are not significant to navigation; the user has to go through each item individually which is time consuming. This paper presents the issue of overuse of Caution Areas and suggests policy guidance to be included in the UOC which ensures Caution Areas are used appropriately.

Analysis/Discussion

2. Paper charts carry a wide range of general information which cannot be encoded using specific S-57 objects. This often includes information carried in chart notes which may or may not apply to a specific geographic locality. In some cases the default solution has been to encode a Caution Area covering the entire cell for any information which does not fit other object types. This can result in large numbers of such Caution Areas which present a problem for the user. When faced with these in the pick report the user is unable to differentiate significant warnings from general advice without examining each item individually. It should be noted that Caution Areas generate an indication in ECDIS as specified in IEC 61174.

3. There are a range of solutions which could address this issue in S-57. In S-101 Information Types and the ability to add new features will partially address this issue. But steps should be taken to improve the situation in S-57 ENCs and ensure only relevant information is carried through to S-101.

4. This document proposes that the following principles are applied to ensure Caution Areas are used appropriately;

- Use other objects to encode information where possible. E.g. Bridge opening times could be attached to a Bridge object and not encoded as a separate Caution Area

- Make Caution Areas as geographically specific as possible. E.g. Where a note warns of the danger from overhead cables the Caution Area could cover only the area in which overhead cables exist.

- For advice and information which does not influence the safety of navigation use other S-57 ENC objects such as M_NPUB and ADMARE, also consider whether the information needs to be included at all.

(Note however that area M_NPUB objects do not display in ECDIS therefore guidance will need top be provided by other means to make the mariner aware that this information exists)

5. The application of the principles above should considerably reduce the number of Caution Areas in ENCs and improve the experience for the mariner. Producers will need to develop their own policies for their charts as the range of chart notes and other information varies widely by member state. If there are specific cases which affect all producers TSMAD should consider including specific guidance in the UOC. Based on the principles above the following wording is suggested for the UOC (amendments to Edition 2.1 in red);

6.6 Caution areas

If it is required to identify an area in which the mariner must be aware of circumstances influencing the safety of navigation (e.g. an area of continually changing depths), and which cannot be encoded using existing feature objects, it must be done using the object class **CTNARE**. This object class may be required to identify a danger, a risk, a rule or advice that is not directly related to a particular object.

Geo Object: Caution area (**CTNARE**)
Attributes: DATEND DATSTA PEREND PERSTA INFORM NINFOM TXTDSC NTXTDS

Remarks:

- If the reference applies to a specific area the **CTNARE** object should cover only that area.
- Information which may be of use to the mariner, but is not significant to safe navigation and cannot be encoded using existing feature objects, should be encoded using an **M_NPUB** object (see clause 2.5), using the attributes INFORM and/or TXTDSC (see clause 2.3). This is intended to reduce the number alarms generated in the ECDIS due to the overuse of **CTNARE** objects.

Conclusions

6. The overuse of Caution Areas in ENCs is an identified issue for the ECDIS user. This paper sets out clear guidance on the use of Caution Areas. This guidance will ensure Caution Areas are specific and only information which is significant to the safety of navigation is included in ENCs in this way. It highlights other objects which may be used for advice and other information noting that some information may not need to be included in an ENC despite being relevant to a paper chart.

Action Required of TSMAD and DIPWG

The TSMAD and DIPWG is invited to:

a. Discuss the proposal to include in the UOC guidance on the use of Caution Areas