



Hydrographic Services and Standards Committee

Proposal by the
TSMAD WG Chairman

AIS aids to navigation and ENCs

Introduction

- ✦ 2010 - IHO submit a comment to the 56th session of the IMO Sub Committee on Safety of Navigation (NAV) about the lack of discussions on the deployment of Virtual AtoNs
- ✦ NAV56 instructed its Correspondence Group that was dealing with symbology for AIS aids to navigation to also propose a policy on Virtual AtoNs. This work has most recently been reported in IHO CL 70/2012
- ✦ Currently there are at least 82 active virtual AtoNs worldwide
- ✦ UKHO have received a report from a navigator which indicates a lack of knowledge, understanding and training in the existence of Virtual AtoNs.



Introduction contd.

- ✦ IHO posed the following questions/comments to NAV56
 - if permanent areas or routes are to be marked by Virtual AtoN then why not delineate them directly on to the chart as is done with TSS?
 - there is the potential for confusion by mariners; do they take action in accordance with charted Virtual AtoN or received Virtual AtoN?
 - Hydrographic Offices will have difficulty to reflect what could be an almost instantaneous change to a Virtual AtoN on paper charts and ENC's; and
 - there is potential for confusion by mariners when the chart contains symbols for objects that not all vessels will be able to detect.

Although IMO have yet to define a policy for Virtual AtoNs, should HOs seriously consider charting them in ENC's?



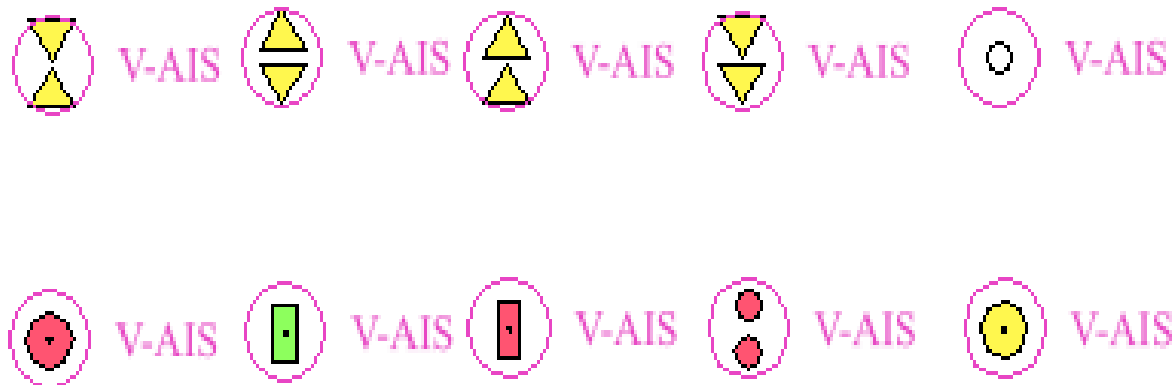
Analysis / Discussion

- ✦ Currently S-57 only provides guidance for physical and synthetic AIS aids to navigation using the attribute INFORM
- ✦ TSMAD have discussed the issue of Virtual AtoNs on several occasions resulting in several issues being identified
 - Updating short term temporary or continuously moving aids
 - AIS integrated ECDIS symbols clashing with ENC generate symbols
 - Route planning



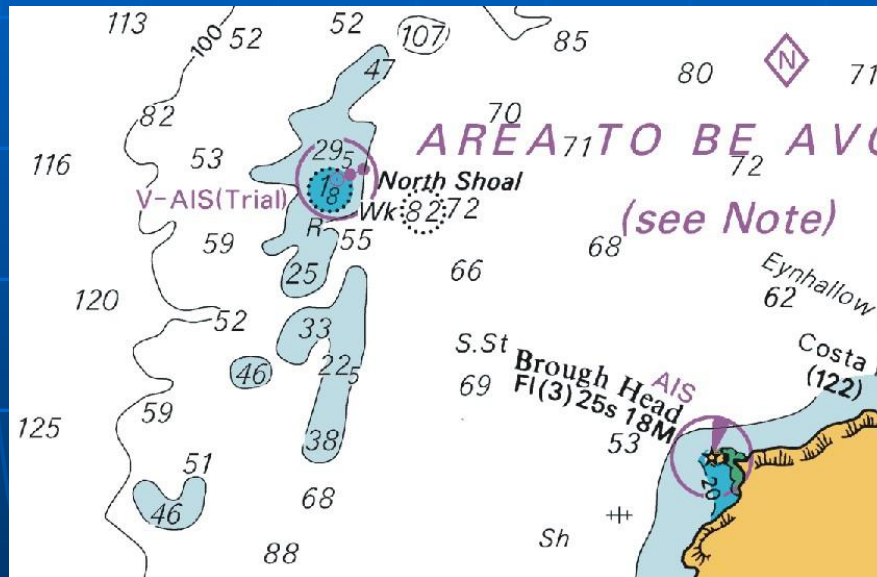
Analysis / Discussion

- Joint TSMAD21/DIPWG2 meeting developed a solution for encoding Virtual AtoNs using the feature NEWOBJ



Analysis / Discussion

- ✦ TSMAD21 considered that it was too early to take such an approach, given that IMO was still considering the issue, even though an interim solution has been developed for paper charts



- ✦ Using NEWOBJ to encode Virtual AtoNs is the logical interim solution to bring ENC's into line with S-4 and paper charts



Consultation

The IHB has discussed the proposals in this paper with the Chair of IMO NAV and senior representatives of the relevant Division of the IMO Secretariat. Both parties recognise the current situation and have no adverse or other significant comments to make.



Conclusion

As an interim solution until such time as S-57 can be amended or S-100 based ENC's introduced, if HO's decide to include Virtual AtoNs and other AIS AtoNs in ENC's, then they should be encoded using the New Object (NEWOBJ) feature defined in S-57



Recommendations

- ✦ The recommendation of this paper are as follows:
 - To instruct TSMAD to develop either an Encoding Bulletin or a new S-57 Supplement that describes how to use “NEWOBJ” to encapsulate AIS AtoNs including Virtual AtoNs.



Action requested of HSSC

The HSSC is invited to:

- a. **Note** the contents of this paper,
- b. **Agree** that the New Object (NEWOBJ) feature defined in S-57 should be used to enable Virtual AtoNs and other AIS AtoNs to be encoded in ENC's, and
- c. **Instruct** TSMAD to develop either an Encoding Bulletin or a new S-57 Supplement that describes how to encode AIS AtoNs.

