

B STRATEGIC ASPECTS OF THE WORK OF HOs – TECHNICAL ISSUES

B2 Use of remote updating services for ENC

Barriers to the use of ENC remote updating services

Background:

With the wider fitting of ECDIS and use of satellite communications on board ship it has been anticipated that the use of remote updating services would expand quickly. The use of such services is desirable as it can ensure that mariners receive important updating information quickly and without the need for physical media to be sent to the vessel.

A range of services from different suppliers have been available for several years including from the UKHO. The UK experience is that the number of users and the frequency of downloads continues to grow very slowly; at present less than 5% of vessels using UKHO ENC services use the remote updating services.

A major reason for the slow growth in use is the cost of data transmission by satellite combined with what can be the relatively large file sizes needed to transfer the update information. Many remote update services provide means to minimise cost by allowing downloading of updates for selected cells only rather than for the full ENC outfit carried.

ENC service providers that have SENC services have an advantage over those providing S57 based services as the SENC format is normally much more compact and the amount of data needing to be transferred is therefore considerably reduced. If S57 based services are to be able to 'compete' then the amount of data to be transferred needs to be minimised and potentially other mechanisms for S57 transfer (eg the use of differencing techniques) employed.

At present it is clear that many more vessels, even those that are ECDIS fitted, are using remote updating services for paper charts than for electronic charts. This is largely due to the lower and more certain costs of such services. A potential confusion may be created; ships have and use both paper charts and ENCs and the updating is not synchronised. Where there is potential for this confusion vessels should have a procedure to ensure any inconsistencies are noted. This can be an issue during Port State Control checks.

It should be noted that vessel 'broadband' speeds are markedly lower than land based ones. A typical speed (outside spot beams) available for most vessels (excepting Cruise vessels) is more likely to be in the order of 400Kbit rather than the 2Mbyte speeds available to land based users.

Considerations

To promote the use of remote updating services ENC producers need to ensure that only necessary data is included in the ENC or its updates. The UK has identified a number of issues that can affect these sizes and which ENC producers have control over. These include:

- Generation of a New Edition where an update would be sufficient – this is a known constraint on some HOs whose production systems force this.
- Inclusion of picture files that appear unnecessary (eg the same picture of a can buoy linked to every occurrence of the object)
- The resolution of picture files. There is currently no guidance on resolution or compression within encoding guidelines and there is a wide range of file sizes (eg > 30 Mb for a single image in one case)
- Excessive and unnecessary points encoded on lines. This is often an issue caused by automated capture methods. Many ENCs contain point position vertices that are in excess of that need in the encoding guidance; this ‘inflates’ the size of ENCs and updates considerably

There is considerable variance in approach by ENC producers to these issues and it seems that in some cases additional guidance is required. These matters will be taken forward through the relevant IHO Working Groups.

Recommendations

The NSHC Conference is invited to note the issues affecting ENC file sizes and, as appropriate, consider national encoding policies in order to promote the use of remote updating services