Under Keel Clearance Management – Project Team

Letter 1/2016

Dear UKCM Information Project Team members,

Firstly, welcome and thank you for volunteering to participate in this Project Team.

Method of work

The IHO has set up a project page for us on the IHO website:
http://www.iho.int/mtg_docs/com_wg/S-100WG/UKCMPT/UKCMPT.htm

As draft documents develop I envisage they will be able to be posted onto this page. We will work using e-mail. There will be email postings of draft documents etc seeking your inputs.

During the first few weeks we will need to consider the merit of holding a face to face meeting in Singapore in late August or early September, which was flagged during the deliberations at HSSC 7. In about three or four weeks I will ask for your thoughts on a meeting once we have agreed how will proceed and the scope of our work is clearer.

Our tasks

Taken from the Terms of Reference document on the IHO project page, these are our tasks:

A. Decide on the appropriateness of UKCM information as a S-10X product specification
B. Define the features and attributes needed for the display of UKCM information and determine if these should reside within the UKCM information product specification or reside within another product specification that can support the user's need for the display of UKCM information
C. Define the UKCM data model and assign an S-100 Product Specification number, and
D. Provide the UKCM data model to the S-100 WG for consideration

Initial ideas;

the results of our work will need to provide seafarers using ECDIS with information:

- to identify areas where UKCM systems need to be taken into account in their passage planning; and
- that will enable them to use UKCM information for navigation (this may include assisting/supporting a marine pilot).

There are several approaches we can use, including but not limited to:

1. extend the existing S-101 product specification; and/or
2. create a new product specification dedicated to UKCM information.

Passage Planning

UKCM information will allow seafarers to complete berth to berth passage planning using ECDIS, filling a current gap that exists because Electronic Navigational Charts (ENCs) typically do not contain information about UKCM systems. A simple model using ECDIS could consist of a surface feature representing the UKCM area, attributed with the applicable draught limits and other details. The ECDIS could then compare the vessel's draught (declared maximum) with the UKCM draught requirements, allowing the seafarer to appropriately include use of the UKCM system in voyage planning.

This function could be achieved by amendments to the S-101 (ENC) product specification and extending the IHO HYDRO feature concept dictionary to include additional features and attributes to support UKCM (i.e. approach 1). Or, it could be achieved in a new UKCM specific product specification (i.e. approach 2).

Navigation

The level of information presented to the seafarer navigating with ECDIS in a UKCM area will determine the data model required. Some possible solutions are:

1. a simple textual message to tell the seafarer about the UKCM area (this is not likely to fully meet the user need however);
2. a warning with a graphical indication of 'no go areas' where under keel clearance limits may be breached;
3. an overlay on the ECDIS of the 'no go areas' in near real time (preloaded immediately before entering a UKCM area and possibly updated during a UKCM transit); and
4. an ECDIS overlay of the 'no go areas' in real time as determined by the UKCM system (typically this information is based on existing high quality bathymetry and real-time tidal, current and wave information).

Solutions 1 and 2 above may be able to be achieved by amendments to S-101 and the feature concept dictionary, using existing practices similar to those for navigation text, administrative areas and pictorial representation (i.e. approach 1).

Solutions 3 and 4 would require a high level of integration with both existing S-100 standards and ECDIS as they will need to draw on information from other specifications and the computing capacity of the ECDIS. This approach would require a dedicated UKCM product specification and at least liaison with the managers of supporting S-100 standards and ECDIS manufacturers (i.e. approach 2).

Your initial advice and comments

Please provide your advice and comments on the following by Fri 15 April:

1. The two listed approaches above as well as any other approaches you believe we should consider;
2. Initial thoughts on the holding of a face to face meeting in Singapore in late August or early September 2016; and
3. Any other advice or comments you would like to share with the PT at this early stage.

Yours sincerely,

Nick

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(UKCM Information PT Chair)
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