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STATUS OF IHO ENC AND RNC TEST DATA SETS

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The IEC Testing Standard 61174 (2nd Edition, August 2001) calls for Test Data Sets (TDS) to be used for ECDIS Type Approval purpose. TDS are “*standardized data sets supplied on behalf of the International Hydrographic Organization (IHO) that are necessary to accomplish all IEC testing requirements for ECDIS*”. IHO TDS are advertised on the IHO website (www.iho.shom.fr - Select ‘General’, then ‘All about ECDIS’). They consist in:

1. ENC Test Data Set

Edition 2.0 of the Electronic Navigational Chart (ENC) TDS was produced by the UK Hydrographic Office, on behalf of the IHO, and made available to the IHB in June 2001. This data set is encoded according to the S-57 ENC Product Specification and contains update information based on IHO S-52 Appendix 1. It also meets IEC requirements, as described in Annex F to IEC 61174. Two versions of test data have been produced, i.e. for Editions 3.0 and 3.1 of S-57, respectively. They can be downloaded as compressed files from the DOWNLOAD section of the IHO website. A text file that gives a description of changes between the previous edition (1.0) and this new edition (2.0) of the ENC TDS, is also provided.

Annex F of IEC 61174 also requires that the ENC TDS be accompanied with colour graphic representations of the test data. Until now, these graphics consisted in five colour printed plots available from the IHB (price: 100 Euros). However they were produced in 1997 and, therefore, do not conform to S-57 Edition 3.1 (2000), nor to the current Edition 3.2 of the IHO Presentation Library (1999). The C&SMWG has now agreed that these TDS plots can be made available in digital form, for ease of production, maintenance and delivery. Navintra-Furuno has kindly offered to produce them on behalf of the IHO, under technical control of C&SMWG. When a new Edition 3.3 of the PL has been published (expected before end 2002), digital TDS colour plots will be prepared by Navintra-Furuno that will conform to 1) S-57 Edition 3.0 and PL Edition 3.3; and 2) S-57 Edition 3.1 and PL Edition 3.3.

2. RNC Test Data Sets

IEC 61174, in its 2nd edition, also calls for a Raster Navigational Chart (RNC) TDS for testing of the RCDS mode functionalities. IEC requirements for RNC TDS are described in Annex H.17 of IEC 61174. Two RNC TDS have been produced, i.e. in HRCF (ARCS) and BSB formats which are the two *de facto* formats used for RNC production. Equipment testing can relate to either or both of these formats. In addition to meeting IEC requirements, both RNC TDS are in compliance with the IHO’s “Product Specification for Raster Navigational Charts (RNC)”, (S-61).

2.1 HCRF (ARCS) Format

The RNC TDS was produced by the UKHO and made available to the IHB in September 2001. For ease of distribution, the test data is contained on a single CD-ROM which is available on request from the IHB. The test data may be used when type approving ECDIS systems operating in RCDS mode using either ARCS data or data from the Royal Australian

Navy Hydrographic Service's Seafarer service, since both of these services use the same data format and encryption mechanism. Because ARCS and Seafarer only use encrypted data within their services, the test data is also encrypted in a way that is compatible with both the ARCS and Seafarer services.

2.2 BSB Format

The RNC TDS was produced by Maptech, Inc. (The United States (NOAA) produces raster navigational charts in partnership with Maptech) and made available to the IHB in September 2001, together with a document titled "Maptech/BSB File Format – Test Dataset Instructions for Raster Navigational Chart (RNC)". The document describes the checks and verification procedures which manufacturers should use to ensure they are properly implementing the BSB format data. For ease of distribution, the test data is contained on a single CD-ROM which is available on request from the IHB. The package also includes the TDS instructions, a ".pdf" file of the relevant paper nautical chart (NOAA #12221 - Chesapeake Bay Entrance), and patch updates (e.g., NTM, NCE, and CHT). Manufacturers wishing to incorporate the BSB file format in their systems are required to obtain a value added developer's license from Maptech.

Note: When Edition 3.3 of the IHO PL is published (expected before end 2002) and that digital plots to accompany the ENC TDS can therefore be produced by Navintra-Furuno, it is intended to combine all TDS on a single CD-ROM, i.e. ENC TDS + digital plots, HCRF (ARCS) RNC TDS and BSB RNC TDS.