Paper for Consideration by the Nautical Cartography Working Group (NCWG)

U.S. Comments on Papers Submitted by the IHB, UK and the CSPCWG Chair Regarding Information Overlay Services and the Consistency of Information on Paper Charts and ENCs

Submitted by:	U.S.A.
Executive Summary:	The US comments on the recommendations made by the IHB, the UK and the CSPCWG Chair regarding information overlay services and the consistency of information on paper charts and ENCs. The US agrees that the content of ENCs and their corresponding paper/raster charts should be as consistent as possible and contends that information overlay services related to ENC quality should not be provided for ENCs when the responsible national charting authority provides regular and timely ENC updates. The US endorses recommended changes to S-4 put forth by the CSPCWG Chair and shares the UK's concern that care must be taken not to use language in S-4 that would undermine the carriage compliance of ENCs produced by member states.
Related Documents:	HSSC6-05.5D, "Relevance of information overlay services with respect to IHO standards" (IHB), CSPCWG11-09.4A, "Relevance of information overlay services with respect to IHO standards" (UK), CSPCWG11-09.4B, "Consistency of Information on Paper Charts and ENCs" (CSPCWG Chair), and others (see time-line in Annex A).
Related Projects:	S-4 Maintenance, WEND

Introduction / Background

In May of 2014 France presented paper IRCC6-08B, "Relevance of information overlay services and their status in the global IHO ENC programme," which raised concerns about the, "relevance and the quality of the Admiralty Information Overlay service."

Several papers have since been submitted to other IHO bodies, namely HSSC, WEND-WG, and CSPCWG (NCWG) and various actions have been initiated from these groups. The papers and actions are summarized in the time-line shown in Annex A.

This US response focuses on the IHB paper HSSC6-05.5D, submitted to HSSC6 in November 2014 and the subsequent UK and CSPCWG Chair comments regarding that paper. The IHB paper also provides good background information in its "Introduction," which the reader is encouraged to review.

Discussion

The IHB paper recommended that the consideration of standardization issues related to information overlay services should focus on three things. Each of these is addressed separately below:

> (i) Clearly stating that the information included in ENCs and on the corresponding paper charts must be consistent, while acknowledging the differences that may exist between the products in regard to content and the different way that the products are used by the mariner. This can be done in S-4, possibly at B-170 (currently unused).

The US endorses this change to S-4 and the specific language recommended by the CSPCWG Chair to be included in B-170 or B-100.6, as quoted here:

Providing consistent information to the mariner in terms of corresponding ENC and paper chart content is critical in enhancing their confidence in using these different nautical chart products, particularly where both products may be utilised on the bridge. For paper charts and ENC's to be considered to be "consistent", all information considered to be critical to navigation by the Hydrographic Office for the usage of the product must be included on both the paper chart and ENC, and this critical information must be same in terms of interpretation by the mariner, taking into account the differences in the structure and format of the product. Where such critical information is required to be amended, such changes must be applied to both the paper chart and ENC as simultaneously as possible, noting the differing maintenance methods used in chart updating (see B-600).

Regarding Marine Information Overlays (MIOs)

The UKHO's Admiralty Information Overlay (AIO) is an S-57 formatted Marine Information Overlay (MIO). The US supports the use of MIOs to provide *ancillary* information to augment ENC data in ECDIS, such as information about ice, currents or marine protected areas. However, it should be remembered that IMO Performance Standards for ECDIS state that, "the ENC contains all the chart information necessary for safe navigation … ."[1] That is, a mariner should expect to be able to navigate safely using ENC alone. No other non-ENC product – such as any type of MIO – should be needed to make use of the ENC safe. Therefore, the US holds to the following principle:

> It is the policy of U.S. Charting Authorities (NOAA, NGA, Navy and USACE)[2] to resolve all reported discrepancies related to Safety of Navigation products and services in a timely manner. When notified of a discrepancy, regardless of source, the affected Charting Authority will work with the information provider to resolve the issue. The final resolution is decided by the Charting Authority. National waters and other areas where the U.S. is considered to be the Primary Charting Authority are considered to be safe for navigation. The U.S. does not recognize commercially produced ENC overlay information[3] as necessary for safe navigation and recommends that mariners use official U.S. products.

The second and third IHB recommendations relate to Temporary and Preliminary Notices to Mariners (T&P NMs).

(ii) Strengthening the specifications regarding chart updating to include the requirement for the equivalent of paper chart (T) and (P) NMs to be included as part of the ENC Update service, in S-4 - B-600. In accordance with action HSSC5/02, ENC Producers should be further encouraged to include the equivalent of paper chart (T) and (P) NMs as part of their ENC Update service and advised that not doing so would be non-conformant with IHO specifications.

The US endorses the specific language recommended by the CSPCWG Chair to be added to the end of the indicated sections of S-4 as shown on the following page.

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[1] IMO Resolution MSC.232(82), "Adoption of the Revised Performance Standards for Electronic Chart Display and Information Systems (ECDIS)," adopted Dec 2006, states in paragraph 3.2 that:

"Electronic Navigational Chart (ENC) means the database, standardized as to content, structure and format, issued for use with ECDIS by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution, and conform to IHO standards. The ENC contains all the chart information necessary for safe navigation and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions) which may be considered necessary for safe navigation." (emphasis added)

[2] National Oceanic and Atmospheric Administration, National Geospatial-Intelligence Agency, U.S. Navy, and U.S. Army Corps of Engineers.

[3] Such as the UKHO's Admiralty Information Overlay (AIO) product.

B-633.1

> For ENC, it is strongly recommended that temporary navigationally significant information be promulgated by ENC Update in order to provide the ECDIS user with an up to date System ENC (SENC).

B-634.1

> For ENC, it is strongly recommended that preliminary navigationally significant information be promulgated by ENC Update in order to provide the ECDIS user with an up to date System ENC (SENC).

The CSPCWG Chair also recommends removing a bullet from section B-600, which states:

> • The ENC may contain information which needs updating, which is not included in the paper chart.

The US believes this is ill-advised, as HOs have the ability to encode additional non-critical information on ENCs, which may be left off of raster charts. Changes to this information may be included along with other critical changes provided in ENC updates. Therefore, ENCs may indeed, "contain information [although not critical] which needs updating, which is not included in the paper chart."

The third IHB recommendation for the CSPCWG to consider is quoted below.

> (iii) Recommending that information overlay services must not be produced where the ENC Producer has included the equivalent of paper chart (T) and (P) NMs as part of their ENC Update service.

The CSPCWG Chair did not address this item specifically in his paper, while the UK recommends that no action be taken regarding the IHB's third recommendation. Keeping in mind the principle held by the US (see blue box on page 2) the US believes that the bilateral report that is to be presented to IRCC 7 by the UK and France, as well as member state feedback on a UK report initiated by the WEND-WG may inform further consideration of the issue of MIOs and the AIO in particular.

Ultimately, it is hoped that IHO member states may make a well-considered decision about what position, if any, the IHO should take and whether S-4 or another document is the best place to articulate guidance regarding updates to ENCs and use of MIOs such as the AIO.

Recommendations

There are pending actions for further reports and comments back to both the HSSC and the IRCC. Preliminary comments could be provided to HSSC for their consideration, but it is recommended that final agreement by the CSPCWG for any changes to S-4 be deferred until after November 2015, when both of these committees will have met and further insights may come to light.

Justification and Impacts

Consistency of ENC and raster nautical charts contribute to the trust mariners place in each of the products, but language in S-4 should not undermine the carriage compliance of ENCs produced by member states.

Action Required of NCWG

The CSPCWG is invited to:

    a. Note this Paper.

    b. Provide feedback to HSSC as called for in CSPCWG Work Item A22, but await further reports to HSSC, WEND-WG and IRCC before agreeing on final changes to S-4 or making other decisions regarding the use of MIOs with ENCs.

ANNEX A – Time-line

MAY 2014	IRCC 6

France presented paper IRCC6-08B, (PowerPoint Slides) "Relevance of information overlay services and their status in the global IHO ENC programme." This paper stated, "The relevance and the quality of the Admiralty Information Overlay service is becoming a matter of concern for the IHO ENC Producers as this service challenges the quality of the official ENCs." There was a concern that the service would cause mariners to mistrust official ENCs and requested guidance from HSSC and IRCC regarding the future provision of information overlay services.

Action IRCC6/29 called for UK and France to, "Address the AIO issue bilaterally and report back to IRCC7."

NOV 2014	HSSC 6

IHB presented paper HSSC6-05.5D, "Relevance of information overlay services with respect to IHO standards." This paper recommended that, "the consideration of standardization issues related with information overlay services should focus on:

> (i) Clearly stating that the information included in ENCs and on the corresponding paper charts must be consistent, while acknowledging the differences that may exist between the products in regard to content and the different way that the products are used by the mariner. This can be done in S-4, possibly at B-170 (currently unused).

> (ii) Strengthening the specifications regarding chart updating to include the requirement for the equivalent of paper chart (T) and (P) NMs to be included as part of the ENC Update service, in S-4 - B-600. In accordance with action HSSC5/02, ENC Producers should be further encouraged to include the equivalent of paper chart (T) and (P) NMs as part of their ENC Update service and advised that not doing so would be non-conformant with IHO specifications.

> (iii) Recommending that information overlay services must not be produced where the ENC Producer has included the equivalent of paper chart (T) and (P) NMs as part of their ENC Update service.

> 11. If the above recommendations are agreed, then the appropriate work items should be added to the work plan of the CSPCWG under task A "Maintain and extend Publication S-4 - Chart Specifications of the IHO & Regulations of the IHO for INT Charts".

The [HSSC] Committee endorsed the proposal of IHB related to the consideration of standardization issues associated with information overlay services and agreed to include the relevant work item into the [NCWG] work plan.

NCWG was assigned Work Item A22, "Consider standardization issues related with additional information overlay services and provide recommendations as appropriate," with the expectation to report back at HSSC7 in NOV 2015.

MAR 2015	WEND-WG 5

France presented paper WENDWG5-04B, "Relevance of information overlay services and their status in the global IHO ENC programme."

In response to IRCC Action IRCC6/29 the working group initiated two WEND-WG actions.

Action WEND-WG5/01 called for:

UKHO: to provide ENC Producers systematically with advanced notices of AIO when safety of navigation issues are identified, and following-up. (as a permanent ongoing activity)

ENC Producers: to consider whether they provide their consent before AIO are issued (if not, AIO should not be published for those ENC Producers). (as a permanent ongoing activity)

RHCs: are encouraged to monitor AIO issues and ENC Producers are invited to solve them on a bilateral basis. (as a permanent ongoing activity)

WEND-WG Members: to report on the progress made for solving these issues at WENDWG meetings. (to be provided at WEND-WG 6)

Action WEND-WG5/02 called for:

WEND-WG [Chair] to make a proposal to IRCC to include AIO issues into the WEND-WG [Programme of Work] PoW (detailed work items to be listed in the PoW as follows):

  a. **UKHO** to provide a report on the AIO benefits/risk assessments (including clarifications on whether AIO can be issued as complementary information for navigation safety or as an "add-on only" by service provider) (due end of April 2015)

  b. **UKHO** to include in this report an Annex depicting the AIO workflow process (including liaison with other HOs). (due end of April 2015)

  c. **WEND-WG Members** to provide comments on [UK's] report (due end of August 2015)

  d. **WEND-WG Chair** to provide HSSC-7 with an interim report (including recommendations from NCWG on the outcome of Task A22) as an information paper (due end of September 2015)

| APR 2015 | CSPCWG 11 / NCWG 1 | --------------------------------- **TODAY** --------------------------------- |

The UKHO submitted paper CSPCWG11-09.4A, "Relevance of information overlay services with respect to IHO standards."

The CSPCWG Chair (Australia) submitted paper CSPCWG11-09.4B, "Consistency of Information on Paper Charts and ENC's." Both of these papers address the recommendations made by the IHB in HSSC6-05.5D.

| APR 2015 | |

UKHO to provide report from Action WENDWG5/02

| JUN 2015 | IRCC 7 |

UK and France to report back to the IRCC on Action IRCC6/29 to "Address the AIO issue bilaterally."

| AUG 2015 | |

WEND-WG member states to provide comments on UKHO's report from Action WEND-WG5/02.

| NOV 2015 | HSSC 7 |

NCWG (CSPCWG) to report back to HSSC on the status of work item A22, to "Consider standardization issues related with additional information overlay services and provide recommendations as appropriate."

WEND-WG Chair to present HSSC 7 with an interim report (including recommendations from NCWG on the outcome of Task A22) as an information paper.