



IHB File N° S3/8045

CIRCULAR LETTER 85/2006  
18 December 2006

COOPERATION AGREEMENT BETWEEN  
THE INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO) AND  
THE DIGITAL GEOGRAPHIC INFORMATION WORKING GROUP (DGIWG)

References: a) IHO Work Programme 2003-2007  
b) IHB CL 04/2006 dated 13 January 2006

Dear Hydrographer,

As part of the implementation process of the approved IHO Work Programme 2003-2007 **Element 1.2 - Cooperation with International Organizations**, a Cooperation Agreement has been proposed with the Digital Geographic Information Working Group (DGIWG). DGIWG is a multi-national body responsible for geospatial standardization for the defence organizations of its member nations. Many members of IHO technical committees and working groups also participate in the work of DGIWG. Additionally, contracted technical support provided by DGIWG in many cases directly advances the technical work of the IHO.

An initial draft of a Cooperation Agreement was reviewed at the 17<sup>th</sup> CHRIS Meeting (Rostock, Germany, September 2005) and submitted under reference b) for Member States' comments and approval. Nine Member States (Australia, Canada, Chile, France, Italy, Netherlands, Spain, Sweden, and the UK) replied with eight Member States supporting the initiative and four Member States offered editorial comments largely related to the need to replace references to S-57 ed4 with S-100 and the S-10X series of product specifications reflecting the decisions taken at the 17<sup>th</sup> CHRIS. France, along with their editorial comments, objected to the inclusion of national standards and military standards as targets for IHO-DGIWG cooperation as IHO should be concerned with safety of navigation issues. Furthermore, the formation of the working group cited in the CA had potential resource implications that should require explicit approval of Member States. The comments made by France and a summary of the other eight responses are provided in Annex A.

A revised CA that reflects the current IHO and DGIWG efforts in international digital geospatial data standards and eliminated the, now disbanded, working group was reviewed and endorsed by the 18<sup>th</sup> CHRIS (Cairns, Australia, September 2006). A copy of the Agreement is attached at Annex B. Member States are requested to provide comments, if any, on the CA **by 15 February 2007**. If no negative comments are received, it is intended that the President of the IHB and the Chairman of DGIWG will sign the CA at a convenient place and time.

On behalf of the Directing Committee  
Yours sincerely,

A handwritten signature in black ink, appearing to read 'K. Barbor', is written over a horizontal line.

Rear Admiral Kenneth BARBOR  
Director

Annex A: Member States' comments on IHB CL 4/2006 dated 13 January 2006  
Annex B: CA between IHO and DGIWG

### Member States' Replies to IHB CL 04/2006 dated 13 January 2006

**AUSTRALIA:** Recommended editorial changes including replacement of S-57 ed4 by S-100 and the reduction in the periodicity of the meetings of the working group.

**CANADA:** Supports the signing of the CA to further the alignment of these standards recommending that S-57 ed4 be replaced with S-100.

**CHILE:** Agrees with the proposal and has no objections for its approval.

**FRANCE:** SHOM confirms that overall it is in favour of the establishment of an agreement between the IHO and DGIWG.

For the reasons indicated in the Draft Agreement, some convergences seem desirable in the end between the future series of S-100 standards and the DGIWG standards (DIGEST). Bearing in mind that the main *raison d'être* of the IHO remains safety of navigation, SHOM is nevertheless anxious not to excessively disperse the resources provided by the Member States within the Organization.

Therefore, SHOM is not in favour of the creation of another joint working group, involving the IHO, with a mandate to draft a standard of interoperability between the existing ENC and DNC products (cf. CL4/2006, Annex A, para. 4.a.), when the IHO as a whole still has difficulties in providing mariners with a worldwide coverage of official electronic charts (ENC). For SHOM, this is a question of principle.

Furthermore, SHOM considers that it is not the IHO's responsibility to define modes of harmonization of military products (not dedicated to safety of navigation) like the Additional Military Layer (AML), covered by the NATO Standardization Agreement 7170, and the TODs which, after all, do not correspond to any NATO or ISO standard. SHOM considers that it is up to the specific NATO WG, the Geospatial Maritime Working Group (GMWG), to decide on this need, and not the IHO.

SHOM cannot therefore approve the draft Cooperation Agreement as it stands. A detailed analysis of the paragraphs of the draft agreement where SHOM objects or has comments is provided here below.

SHOM is somewhat surprised by the procedure used for consulting the Member States and notes, in the first place, that the reference made to an endorsement obtained at the 17<sup>th</sup> meeting of the CHRIS Committee does not reflect what actually happened (cf. para. 12.2 of the final Minutes referred to in CL 16/2006): "Draft DGIWG-IHO CA not endorsed", quite apart from the fact that consideration of this matter by the CHRIS Committee did not apparently go very smoothly. Consequently, SHOM considers that the procedure of "silence" adopted by the Directing Committee is not appropriate; it firmly invites the DC to reconsult the CHRIS Committee. This proposal is justified in view of the Committee's rather ambiguous recommendation (CL 16/2006, Annex A, point 12.2: "IHB to clarify the points raised at CHRIS 18, then ....").

#### France's Detailed Comments and Objections on the Draft IHO-DGIWG Cooperation Agreement

##### 1. Draft Agreement (Annex A to CL 4/2006)

###### 1.1 Purpose

Comment: paras. 1 and 4 of the French version should not have the same title.

###### 1.2 Background

Comment: Instead of " ... Both organisations are working on development of their existing standards. IHO is developing the S-57 Edition 4.0 ....."

It should read: “Both organizations are working on the development of their existing standards. IHO is developing the S-57 Edition 4.0, renamed S-100, .....”

“Les deux organisations travaillent à l’évolution des normes existantes. L’OHI élabore l’édition 4.0 de la S-57, baptisée S-100, ... »

1.3 Drivers for Cooperation  
c. Economic

Objection.

International standards are in part developed to generate savings, or at least to avoid wasting resources and avoid duplication. As regards electronic nautical charts, the international standard is ENC (the future S-101) and as regards geospatial maritime information for military use, the international standard is AML (Stanag 7170). There is no need to deploy IHO resources to try to harmonize these international standards with national standards (DNC and TOD respectively).

1.4 Goals

a. The highest level of interoperability between existing products .....

Objection:

The IHO cannot support this action.

1.5 General Principles

Interoperability

Objections:

The work structures which exist within the IHO (TSMAD) or within NATO (GMWG) are adequate. It is not opportune to multiply working groups and nothing prevents IHO Member States from participating in the work of DGIWG.

Recommendations cannot be imposed upon the IHO without the approval of its Member States.

**2. Appendix A to the draft agreement**

Objection:

SHOM does not support the creation of the HIHWG and does not therefore wish to comment on the Terms of Reference in any detail.

At any rate, the special prerogatives that para. 2 grants to 3 countries are not at all justified.

**ITALY:** Agrees and supports this initiative that will greatly improve the efficiency and standardization of digital products.

**NETHERLANDS:** Fully supports the CA recommending that S-57 ed4 be replaced with S-100.

**SPAIN:** No comment.

**SWEDEN:** Supports the agreement with DGIWG.

**UK:** Fully endorses the signing of the MOU recommending that S-57 ed4 be replaced with S-100.

**Cooperation Agreement**

between the

**International Hydrographic Organization  
(IHO)**

and the

**Digital Geospatial Information Working Group  
(DGIWG)**

## Document Control

### ISSUE

Date	Version	Summary of Changes
c1992	1	Cooperation Agreement between DGIWG and IHO
2007	2	Revised Cooperation Agreement

### APPROVALS

Approver and Title	Signature	Date
For the IHO:  Director		
For DGIWG:  Director		

### Preface:

**DGIWG commissioned and published a Hydrographic Information Interoperability Standard. This Standard provides guidance for the developers of hydrographic information systems with respect to attaining the greatest degree of interoperability and specifically provides recommendations that would lead to further convergence of IHO S-100/10X and DGIWG Suite of Standards.**

## 1. **Purpose**

The purpose of this document is to establish an understanding between the IHO and DGIWG. This document formalizes the intention of the IHO and DGIWG to co-operate to harmonize the development of their respective standards for Digital Geospatial Information (DGI)<sup>1</sup>.

## 2. **Background**

DGIWG and IHO have a long history of cooperation, and have previously established a cooperative agreement that led to inclusion of common spatial schema and other common components in previous editions of the IHO and DGIWG standards. This cooperative agreement increases the level of cooperation and replaces any previous agreements.

The IHO and DGIWG have been involved in the parallel development of standards for the exchange of DGI and specifications for digital geospatial (including hydrographic) products.

The IHO has produced S-57, a transfer standard for digital hydrographic information, for use for navigational and non-navigational purposes, and a product specification for ENC (Electronic Navigational Chart) for use in ECDIS (Electronic Chart Display and Information Systems).

DGIWG has produced DIGEST, a collection of fundamental standards for digital geospatial information, which are used as the baseline for product specifications for defence purposes such as DNC (Digital Nautical Chart) and the various levels of VMAP (Vector Map).

Both organisations are working on development of their existing standards. IHO is developing the S-100 and S-10X series and DGIWG is developing a suite of geospatial information standards in accordance with the DGIWG Technical Vision and Development Strategy (TVDS). Both are aligning their work with that of the ISO Technical Committee on Geographic Information/Geomatics, TC211. Both are also cooperating with NATO Geospatial Maritime Working Group in support of the standardization of a suite of Additional Military Layers (AMLs) which are intended to work together with data products produced in compliance with either or both the IHO and DGIWG geospatial standards.

## 3. **Drivers for Co-operation**

The IHO and DGIWG have identified the following as the main drivers for co-operation:

- a. **Stability**. The S-57 standard and the ENC product specification and other complementary IHO standards such as S-52 and S-58 in IHO, and the DGIWG standards and product specifications built on those DGIWG standards, have all now attained some stability. Previously the DGIWG geospatial standard was called DIGEST, but the suite of standards is now broader and that name has now been replaced by the term DGIWG suite of standards.
- b. **Influence**. Both organizations are aligning their work with that of the ISO Technical Committee on Geographic Information/Geomatics, ISO TC211. If IHO and DGIWG had a declared aim of full standards compatibility, their collective influence should be much greater in ISO than if they were lone, competing voices. This would enhance the possibility of achieving a satisfactory outcome, when seeking to influence the development of ISO standards, for both IHO and DGIWG.
- c. **Economic**. DGI is time-consuming and expensive to capture and maintain. The overlap in information content requirements of the IHO and DGIWG would result in potential savings being made if the members of both organisations could re-use each others' information.
- d. **Safety**. Safety would be improved for applications that use products based on DGIWG and IHO standards if the members of both organisations could re-use each others' information.

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<sup>1</sup> DGI is understood to include digital hydrographic information

- e. Stakeholders. Producers and users of information would benefit from full compatibility because it would make more information available. Vendors of systems would benefit as the standards they would be supporting would no longer be very different. In turn, these financial benefits should be passed on to producers and users.

#### 4. Goals

IHO-DGIWG co-operation is required to achieve:

- a. The highest level of interoperability between existing products. A Hydrographic Information Interoperability Standard has been developed which defines the procedures for collecting geospatial information which can be subsequently used on a multi-product basis. **Success will be indicated when information can be supplied to users in alternative format, irrespective of its original source format.**
- b. Harmonization of future editions of the IHO and DGIWG suites of standards. This can be best achieved by using the ISO 19100 series of GIS standards as the basis for future developments in IHO and DGIWG. This will ensure compatibility across a wide range of information content, information storage and information exchange methods. **Success will be indicated when this can be demonstrated as a routine.**
- c. Maintenance of cross-referenced registers of information elements. Both DGIWG and IHO are establishing registries of information elements such as feature objects and attributes and geodetic codes and parameters in accordance with the ISO standards. Cross-referencing between elements in these registers will facilitate the conversion and common production of compatible data.

#### 5. General Principles

##### Interoperability

- a. A Hydrographic Information Interoperability Report was published (including proposed changes to both the DGIWG and IHO suite of standards and registered items).
- b. That any recommendations from this work which may influence future harmonization between S-57 and DIGEST should be endorsed by the IHO and DGIWG respectively and implemented in the next versions of their suite of standards.

##### Standards Harmonization

- a. That a close liaison be maintained between the IHO TSMAD S-100 sub-WG and S-10X sub-WGs and DGIWG Technical Panels, offering liaison representatives the opportunity to attend each others' meetings as appropriate.
- b. That the core elements of the IHO and DGIWG suite of standards are matched as closely as possible with profiles of the ISO 19100 series and each other.
- c. That where practical, the IHO and DGIWG develop shared test environments.

#### 6. Deliverables

- a. Hydrographic Information Interoperability Report.
- b. DGIWG suite of Geospatial Standards
- c. IHO suite of Hydrographic Information Standards (including S-100)

#### 7. Distribution of Final Standards

Both DGIWG and IHO individually retain the rights to publish all documents developed under this agreement according to their own practices. A corresponding DGIWG version of any standard developed under this cooperative agreement will be published as a DGIWG specification and will be published and circulated according to their normal practices. This may include the publication as a STANAG where appropriate.

**8. Amendments to the Agreement**

IHO and DGIWG (Plenary) agree that changes to this agreement will be proposed by a resolution from one party and agreed by resolution from the other.