



Inland ENC Harmonization Group

8th Annual Meeting

September 28th – 30th 2010

**Transas
Saint Petersburg, Russian Federation**

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Participants:

Name	Affiliation
Lee Alexander	UNH
Yong Baek	KHOA, South Korea
Bernd Birkhuber	Ministry of Transport, Austria
Juan Carballini	CARIS
Jasmine Dumollin	Agency for Maritime and Coastal Services - Coastal Division – Flemish Hydrography, Belgium
Carlos Ferreira	DHN, Brazil
Swetlana Fiedler	7 Cs
Lenka Finstrlová	VARIS, Czech Republic
Gigab Ha	KESTI
Lim Min Hyuk	KOHA
Peter Kluytenaar	Serendipity, on behalf of Ministry of Transport, the Netherlands
Joo Young Lee	KHOA, South Korea
Young Wook Lee	KOHA
Flavia Mandarino	DHN, Brazil
Petar Margic	Danube Commission
Eric Rottmann	SevenCs
Miroslav Rychtarik	Ministry of Transport, Czech Republic
Vladimir Sekachev	Transas, on behalf of of MoT, Russian Federation
Agita Tarasova	T-Kartor
Angel Terry	Jeppesen Marine

(PP Pres #0a)

1. Welcome, introductions of participants, and organizational details

Bernd Birkhuber (Co-chair) welcomed IEHG8 meeting attendees. Vladimir Sekachev (host for IEHG8) provided details on meeting arrangements. Seventeen (17) members and participants introduced themselves (see List of Participants). Denise LaDue (Co-chair) and the delegation of the Peoples Republic of China were not able to attend, and sent their regrets.

All IEHG members were saddened to learn about the tragic death of Ludwig Steinhuber (WSD, Germany) due to an automobile accident that occurred two weeks prior to the IEHG8 meeting.

2. Presentations on the Inland ENC Harmonization Group (IEHG)

The following presentations were given under this agenda point:

Inland ENCs & IEHG (PP Pres #2a) Bernd Birkhuber

Organizational background:

U.S.A. (PP Pres #2b)	Lee Alexander (on behalf of Denise LaDue)
Europe (PP Pres #2c)	Bernd Birkhuber
Russia (PP Pres #2d)	Vladimir Sekachev
South America (PP Pres #2e)	Flavia Mandarino

3. Working methods of IEHG

The composition/membership of IEHG which includes both Members and Participants and the organization in regions as well as the procedures were presented to the new members by the chair.

4. Presentations by the new participants

about their river/inland waterway network, navigation and cartography

Mr. Yong Baek presented the situation in South Korea (PP Pres #4a).

Mr. Weijun Fei (who was not able to participate in this meeting) had given a presentation on the situation in China at the Smart Rivers Conference in 2009 (PP Pres #4b).

5. Enlargement of the Core Group of IEHG with representatives from East Asia

Since the last meeting IEHG has been enlarged with two East Asian delegations:

China (Peoples Republic of China)
South Korea (Republic of China)

Election of the Core Group members for East Asian Region

After contacting Mr. Weijun Fei by e-mail the meeting elected the following new members of the Core Group:

Vice-chair – Weijun Fei (China)
Technical Coordinator – Yong Baek (South Korea)

Denise LaDue and Bernd Birkhuber were confirmed as Co-Chairs of IEHG.

Some amendments were made to the Terms of Reference (TOR) to take account of new

members from the East Asia region. The draft of the amended ToR will be distributed after IEHG8, and Members/Participants have six (6) weeks to approve.

Action: Bernd Birkhuber

6. Status of legal and practical implementation

The following presentations were given under this agenda point:

USA (PP Pres #6a)	Lee Alexander (on behalf of Denise LaDue)
Europe (PP Pres #6b)	Bernd Birkhuber
Russian Federation (PP Pres #6c)	Vladimir Sekachev
Brazil (PP Pres #2e)	Flavia Mandarino

Participants discussed the difference between “regulatory” (required by law or statute) and “legal” (liable for damages or injury). For most regions, the required use of IENCs would be more related to regulations rather than legal.

On a question from one of the participants Bernd Birkhuber explained that Austria is presently using version 2.0 of the Product Specification and will move to version 2.1 as soon as the on board applications and the production tools support it. Germany is apparently presently updating its IENCs to version 2.1.

7. Information on experiences with Inland ENC applications by participating private companies

Juan Carballini presented the situation at CARIS (PP Pres #7a).

Terry Angel informed IEHG that Jeppesen Marine has implemented chart production tools for Inland ENC applications. The Viewer is not yet adapted to Inland ENC applications.

Eric Rottmann informed IEHG that SevenCs has implemented edition 2.2 of the Product Specification for Inland ENC applications in the Kernel. The chart production tools are currently based on edition 2.1 and will be updated to edition 2.2 in the coming months. An ECS (based on edition 2.2) is provided for the US market.

Agita Tarasova informed IEHG that T-Kartor does not have Inland ENC applications at the moment, but it would be relatively easy to implement them.

8. Annual IEHG Report to HSSC2

A 2010 draft was initially prepared by Lee Alexander based on what was submitted in 2009. Further additions/modifications were made during the meeting. The completed report needs to be submitted to IHO by 5 October 2010.

Action: Lee Alexander

9. Status of development of IHO S-100, S-99, S-101 standards; and future alignment of Inland ENC Product Specification with these standards

a) **S-100 GII Registry** (PP Pres #9a), Lee Alexander (on behalf of Robert Ward, IHB)

This presentation was prepared by Robert Ward of IHB. In particular, the PP presentation explains how Inland ENCs would be included in the Supplementary Register and the role of IEHG as the Domain Owner/Manager of IENCs.

One of the main goals of the harmonization of Inland ENCs was to ensure compatibility with maritime ENCs. Maritime vessels which are using inland waterways should be able to use the Inland ENCs. So far IEHG has only dealt with the Product Specification for Inland ENCs and set up a domain for Inland ENCs. As applications on maritime vessels would not be able to display inland specific features without guidance for portrayal, the meeting decided to work on setting up a portrayal domain as soon as the Registry is up to it. All members of IEHG who are involved in the development of the portrayal register are invited to provide information to IEHG.

b) **S-99** (Doc. #9b) Lee Alexander (on behalf of Robert Ward, IHB)

A copy of the most recent draft version was reviewed. Some suggested changes and clarifications were made, and will be submitted to IHB.

[Action: Lee Alexander]

c) **S-101** (Doc. #9c) Angel Terry

A preliminary draft has been produced by the IHO TSMAD Working Group. 2012 is the target date for IHO to issue this standard. At this stage, it is too early to determine how the next edition of the Inland ENC Product Spec will align with S-100 and to be compatible with S-101. In the meantime, an IEHG Core Group member(s) will continue to participate in IHO TSMAD/HSSC meetings.

10. Updates to the Encoding Guide and Product Specification

Approximately thirty (30) Change Requests (CRs) were received during the past year [see file CR_collected_2010] and were reviewed during the meeting. All were approved except the following:

Not agreed:

[CR_collection_objects_2010.pdf] If for example a lock complex and the signals and communication areas of these locks are situated at the border between two IENC cells it would be beneficial for the user, if the collection object would include all the

objects which belong to these locks independent of their location in the first or the second cell. But it is unclear whether this deviation from S-57 could be handled by the applications. More investigation is needed in order to make an informed decision. Application builders are requested to check whether a C_AGGR or C_ASSO which is pointing to objects in different cells is causing problems for their applications. If that is the case, then the CR should be resubmitted with additional explanations and examples.

[CR_20100812_wtwprf.pdf] has not been adopted because there are already applications which are able to display this waterway profile. An example in the Encoding Guide which is not showing the wtwprf would be rather useless.

[CR_20100812_bridges_verdat.pdf] has not been adopted, because this change would lead to an incompatibility of edition 2.3 with editions 2.0, 2.1 and 2.2.

Pending

[CR_I_1_8_2010.pdf] has not been adopted yet, because the rule of S-58 which has been the basis for the CR will be changed in the upcoming edition 4.2. The CR will be amended and resubmitted after the adoption of S-58 ed. 4.2.

[L.1.5 Traffic separation zone.pdf] until further clarification is made as to what constitutes a 'Traffic Separation Scheme'. This CR has to be amended with an explanation in which cases TWRTPT has to be used and in which cases RCTLPT has to be used.

[CR_Condtn_2.pdf] has been amended with an Encoding Instruction. The attribute should be conditional instead of optional.

[CR_E_2_1_2010_2.pdf] has been amended: the use of the collection object should not be mandatory, because airfields are not important for inland navigation.

<http://ienc.openecdis.org/?q=node/33> is providing an overview of the CRs and their status.

Note: Block 7 of the IEHG CR Form needs to be revised to include 'Asia.' Also, it would be beneficial if there were a sequential numbering system for CRs in order to be able to keep better track of their submission status. This could include both the year and sequential number.

Action: Denise LaDue and Bernd Birkhuber

11. Update intervals and processes

E new edition 2.3 of the Product Specification for Inland ENC's will be produced on basis of the CRs that have been discussed at the meeting. Deadline for transmission of amended CRs is end of Oct 2010. New CRs will not be included in Ed. 2.3.

The planned date for release of edition 2.3 is February 2011.

The next edition (Edition 3) will be aligned with S-100 and S-101 and is planned to occur until 2013 (depending on the progress of S-101).

Feature Catalogue & Product Spec	Date effective	Encoding Guide	Date effective	IENC Validation Checks	Date effective
2.0		1.0	Oct 2005		
	---	1.1	Oct 2006		
	---	1.2	Dec 2006		
2.1		1.3	Feb 2008		
	---	1.3.1	May 2008	2.1	June 2010
2.2	Feb 2010	2.2.0	Feb 2010		
[2.3]	[Feb 2011]	[2.3]	[Feb 2011]	[2.3]	[Jun 2011]
[3.0] (to be aligned with S-100 and S-101)	[2013] (not before)				

Laszlo Redly (Hungary) previously suggested that perhaps all IHO S-57 objects/attributes (in the S-57 Object Catalogue) could be included in the IENC Feature Catalogue. This might reduce the number of CRs, because most of the CRs in the last years were proposals to introduce existing S-57 object classes or attributes in the Feature Catalogue for Inland ENC. However, this would be a different approach that what occurs at present: IEHG has decided to use the Encoding Guide as a tool for harmonization. If it would be allowed to use objects or attributes that are not mentioned in the Encoding Guide, the harmonized approach would no longer be guaranteed. IEHG decided to keep the current procedure that only those elements may be included in the Feature Catalogue which are mentioned in the Encoding Guide.

12. Proposals for quality standards for Inland ENCs

- a) Recommended validation checks for Inland ENCs (based on S-58)
 Bernd Birkhuber briefly showed a MS Word 'Track Changes' version which is based on S-58 Ed. 4.1. The Task Force on quality standards hopes that the document will be implemented in validation software in order to be tested and to find errors. Once validated by some testing, it can become a formal standard and the basis for the next version of the IENC Validation Checks (Ed. 2.3) which should be based on edition 4.2 of S-58.

CARIS, Jeppesen and 7Cs announced to implement validation software. The development of the next edition will be done by e-mail.

In order to align the numbering of the Validation Checks with the other IENC specifications, Ed. 2.2 would be skipped.

b) Minimum content of Inland ENC's (PP Pres #12b)

At present, there are seven requirements that are listed in the Introduction to the IENC Encoding Guide (p. 2). However, it may be useful to provide some further guidance. The Netherlands are working on a detailed specification of minimum content at the moment. Peter Kluytenaar presented the status. A formal proposal could be transmitted for the next meeting.

There was some discussion about whether buoys (floating) should remain mandatory, or become conditional. In the USA, floating river buoys are temporarily placed to indicate the location of project depths, but at no assigned position. Denise LaDue already before the meeting agreed that buoys may become mandatory. However, since no CR has been submitted yet, it was agreed that there will be no changes in the Encoding Guide at this time.

c) Minimum accuracy requirements

Vertical accuracy requirements are more of a problem than horizontal accuracy. In Europe there is a project called IRIS II. Included in this project is to look at accuracy requirements that depend on the type of bottom (e.g., soft sand or rocky) and whether located inside or outside the channel. Accuracy requirements for depth information are closely related to update requirements in sections with changing river bottoms. They are also related to the availability of water level models: a high accuracy of the depth referred to the reference water level has no big value for the user, if there is no information available how much the actual water level is deviating from the reference water level. Preliminary results should be available next year (POCs: Bernd and Peter).

Lee Alexander also pointed out some river systems (e.g., Amazon River in South America) are very dynamic and constantly changing. Ideally, this should be a 'dynamic change' quality factor (i.e., new S-57 object) as well.

d) Accuracy information in Inland ENC's (PP Pres #12d)

If there are different accuracy requirements for different objects in an IENC it would be useful to inform the user on the accuracy of these objects. But even more important might be information about the update frequencies and the age (reliability) of data. Peter Kluytenaar showed an example of 'up-to-date-ness' of charted information. While the IENC may have been accurate when produced, it is no longer a true representation of the current conditions. There needs to be some measure of temporal change that has occurred. This is both a data and visualization (e.g. by greying out, changing line styles, etc.). Lee Alexander offered

test and evaluate some of the criteria suggested by Peter during some R&D trials to be conducted in the USA. This will be coordinated by Peter and Lee.

- e) Verification of completeness of Inland ENC's
This is a difficult and time-consuming process that requires 'on-the-river' verification. A document can only be developed if there is an agreement on the minimum content.

13. Use of USAGE and SCAMIN in Inland ENC's (PP Pres #13)

Peter Kluytenaar showed examples of 'clutter' that can occur on an Inland ECDIS/ECS display. In particular, examples were provided of the typical scales used for Navigation and Information modes (from European Inland ECDIS Standard). At some scales, the display can become quite cluttered. Ideally, this can be further tested in Europe and elsewhere (e.g., in USA). After testing there might be a formal Change Request to amend Section B Lit. C of the Encoding Guide. At present, the general guidance on SCAMIN in the IENC Encoding Guide will have to do. There is also the 2004 IHO S-65 publication: "A guide to the requirements and processes necessary to produce ENC's."

14. Information document on Inland ENC's

- a) The presentation Inland ENC.ppt has been discussed and amended. It should be a living document that is regularly updated. It can be used by every member of IEHG to explain the concept of Inland ENC's and the work of IEHG.
- b) Article for Hydro International – Lee Alexander will write article about IENC's and the work of IEHG to be published in Hydro INTERNATIONAL.
Action : Lee Alexander

15. Future operation of web services:

- a) ienc.openecdis.org website
The website <http://ienc.openecdis.org> is hosted by the company CRUP on behalf of the European PLATINA project.
- b) Discussion forum for Inland ENC's
The discussion forum is currently set up by USACE. It should be available within the next two months.
- c) IENC Register (as part of IHO S-100 GII Registry)
Bernd and Lee will be attending IHO HSSC2 meeting and will discuss with the Chair of TSMAD (Barrie Greenslade) the current status of the Main and Supplementary Registers as it pertains to Inland ENC's.

16. Other business

There was some discussion on how to encourage more countries/regions to join IEHG. In particular: South America and East Asia. It was agreed that a combined top-down and bottom-up approach was warranted. Angel Terry will continue to make contacts with technical persons. Carlos Pêgas (DHN Brazil) will draft a letter that can be sent to the South American HOs and waterway authorities, encouraging them to join IEHG. Vladimir Sekachev will invite Vietnam.

Vladimir Sekachev will change position in the near future and will advise the Vietnam government on ENC production matters. Vladimir was extensively thanked for hosting the meeting but also and especially so for his great support of IEHG in the past years.

17. Next meeting

Although Brazil and the US offered to host the next meeting, most participants felt that it would be more useful to have the next meeting in China. Not only would this provide IEHG a better understanding of the inland waterway network in the Peoples Republic of China, it would also help achieve an active exchange of information and cooperation with Chinese colleagues. Bernd Birkhuber will prepare a draft letter to Weijun Fei asking if it would be possible to hold the 2011 IEHG meeting in China.

If it is not possible to hold the next meeting in China the meeting will be held in Brazil. In order to ensure enough time for obtaining visa and flight tickets the location and the date of the next meeting should be fixed six months before the meeting.
