



Inland ENC Harmonization Group

13th Annual Meeting

October 13th – 15th 2015

Nanjing, China

**Inland ENC Harmonization Group
13th Annual Meeting**

October 13th – 15th 2015

Participants

Name	Affiliation
Bernd BIRKLHUBER	Federal Ministry of Transport, AT
John CONYON	IIC Technologies, Inc
Tom DEPUYT	Esri
FAN Shance	SuperMap Co. Ltd
FEI Weijun	China Waterborne Transport Research Institute, CN
GU Qun	China Waterborne Transport Research Institute, CN
HA Gi Gab	Tinnos Inc.
HAN Bin	Laurel Technologies Company
Wieland HAUPT	German Waterway and Shipping Administration, DE
HE Mingxian	Changjiang Waterway Survey Center, CN
JU Jun	Nanjing Waterway Bureau, CN
Pieta KLUYTENAAR	Serendipity UnLtd
Denise LADUE	US Army Corps of Engineers, US
LI Dandan	SuperMap Co. Ltd
LI Ni	SuperMap Co. Ltd
LI Xiaoyu	Waterway Measurement Center of Guangdong Province, CN
LIN Lin	SuperMap Co. Ltd
LIU Jie	Nanjing Waterway Bureau, CN
LIU Li	China Waterborne Transport Research Institute, CN
Flavia MANDARINO	DHN, BR
Cameron MCLEAY	CARIS USA
Gert MORLION	Nv De Scheepvaart, BE
PENG Wen	Changjiang Waterway Survey Center, CN
SHI Qing	Nanjing Waterway Bureau, CN
SHI Xin	Changjiang Waterway Bureau, CN
WAN Dabin	Changjiang Waterway Bureau, CN
WANG Yu	Nanjing Waterway Bureau, CN
WANG Yuchuan	China Waterborne Transport Research Institute, CN
WEI Gebing	SuperMap Co. Ltd
XIA Huiyu	Nanjing Waterway Bureau, CN
XU Le	Changjiang Waterway Survey Center, CN
XU Xihe	Waterway Measurement Center of Guangdong Province, CN
YANG Baocen	Changjiang Waterway Survey Center, CN
ZHANG Lu	China Waterborne Transport Research Institute, CN

ZHOU Lu	Changjiang Waterway Survey Center, CN
ZHOU Xi	Nanjing Waterway Bureau, CN
ZHU Weiwei	China Waterborne Transport Research Institute, CN

Minutes of the meeting

(Basic presentation: IEHG_2015.pdf)

1. Welcome, Introductions of Participants, organizational details

Denise LaDue and Bernd Birkhuber welcomed the participants. Bernd Birkhuber thanked Fei Weijun and Zhang Hua for the organization of the meeting.
The draft agenda (IEHG XIII Agenda v03.docx) was adopted.

2. Inland ENCs and IEHG

This presentation was skipped because no new countries were present

Update on the legal and organizational background and the status of implementation:

- | | |
|--|------------------|
| - USA (USACE_Status-report-2015.pdf) | Denise LaDue |
| - Europe (Status_report_Europe_2015.pdf) | Bernd Birkhuber |
| - Brazil (Inland ENC BR 2015.pdf) | Flavia Mandarino |
| - China (中国内河电子航道图发展情况 V3-eng.pdf) | Fei Weijun |

IEHC Production Overview on the IEHG website.

- Planned chart production (names of waterways & no. of km)
- Completed chart production (names of waterways & no. of km)
- Information about the availability (e.g., from website)

Action: Please provide an email to Bernd containing updates to the information.

3. Presentations by new participants about their river/inland waterway network, navigation and cartography

The agenda point was skipped because no new countries were present.

4. Presentation of Inland ENC applications by private companies

- | | |
|--|----------------|
| - Caris CARIS IEHG XIII 2015.pdf) | Cameron McLeay |
| - Esri (ArcGIS for Maritime IEHG 13.pdf) | Tom Depuyt |
| - IIC Technologies (IIC IEHG Overview - 13Oct2015.pdf) | John Conyon |
| - SuperMap (SuperMap+电子航图简介-copy.pdf) | Lin Lin |
| - Tinnos, Inc. (Tinnos-Introduction.pdf) | Ha GiGab |

Action: IEHG website contains a list of both National Organizations and Private Companies involved with IENCs. If not listed, please provide web address to Bernd for inclusion on the website.

5. Working methods of IEHG

A presentation was made regarding the working methods of the IEHG.
(part of IEHG_2015.pdf)

Bernd Birkhuber

6. Election of the Core Group of IEHG

- Co-Chairs: Denise LaDue and Bernd Birkhuber were confirmed as Co-Chairs.
- Vice Chairs: Flavia Mandarino and Fei Weijun were confirmed as Vice Chairs.
- Technical Coordinators: Pieta Kluytenaar, Angel Terry and Yong Baek were confirmed as Technical Coordinators and Cameron McLeay was elected as the Technical Coordinator for North America.
- IEHG Representatives in the S-100 Domain & S-100 Executive Control Bodies: Denise LaDue and Pieta Kluytenaar were confirmed as the representatives.

7. Updates to the Encoding Guide and Product Spec

- Adopted Documents (since IEHG XII)
 - o Product Specification for Inland ENC, edition 2.4
 - o Inland ENC Encoding guide, edition 2.4.0
 - o Inland ENC Feature Catalogue, edition 2.4corr1
- Additional New Documents Available
 - o Online Inland ENC Feature Catalogue, 2.3
- Questions on the Discussion Forum
 - o One feature that covers more than one cell, e.g., a lock is located and under authority of A, the lock has a lot of related features in the surroundings of this lock and the COMARE of this lock should have area geometry in both different authorized IENCs. There are also lock related notice marks that are located in the area that is covered by and IENC of authority B.

How does one make and maintain a C_AGGR or C_ASSO connection with these features in area B to this lock in area A?

- Assign the same Feature Identification “L Name” in all/both – this is the guidance give in the UOC – if a collection object extends beyond the cell boundary, the collection object should be used in each cell that contains
- **Action:** Submit Change Request – Bernd Birkhuber

- o J.3.1 Obstruction & QUASOU
The features like WRECK, UTWROC contain the attribute QUASOU

Should QUASOU be added to OBSTRN?

- Yes.
- **Action:** Submit Change Request - Pieta Kluytenaar

- o I.3.1 Remote Display of gauges may not be encoded as depth indicators.
The display (sign) is at the location of the physical structure, not the actual gauge location.
Is there a need to amend the Product Specification for IENCs to allow the encoding of remote displays of gauges?
 - Yes
 - **Action:** Submit CR – Bernd Birkhuber/Pieta Kluytenaar

- Change Requests (since IEHG XII)
 - o Change Request Form (CR_X_Y_Y_vY_JJJ.doc)
 - Adopted since last meeting
 - Proposal for clarifying the CR – remove brackets from Section 1
 - **Action:** Submit CR – Bernd Birkhuber
 - o Naming convention for Change Requests
 - Adopted since last meeting
 - o I.3.4, M.2.3, M.1.4, O.3.1 (CR_I_3_4_v1_2015.doc)
 - M_UNITS
 - Change in sentence
 - o Correction of Tweede Algemene Waterpassing (TAW) (CR_verdat44_v1_2015.doc)
 - Delete as verdat from Encoding guide and the next edition of the Feature Catalogue. Supported by IEHG meeting, formal adoption pending
- Discrepancies Compared to S-100 (HYDRO_and_IENC_Register_discrepancies_20150910.xlsx)
 - o Spreadsheet
 - **Action:** Review and provide comments - All
 - **Action:** Inform S-100 working group and S-100 Register Manager – Denise/Pieta
 - o Duplicate Codes
 - Previously retired codes must not be re-used
 - **Action:** Assign new codes in Edition 2.4 → Correction, not a Change Request
Feature Catalogue 2.4corr2 – Denise/Cameron
- Questions and Change Requests regarding Inland ENC's for the inland waterways of China
 - o Introduction to Aids to Navigation of Chinese Inland Waterways Yang Baocen
 - China proposed to introduce 4 new object classes for AtoNs
 - o BOYNAV – buoy navigation
 - o BCNNAV – beacon navigation
 - o BOYSGN – buoy signal
 - o BCNSGN – beacon signal

IEHG discussed other possibilities of encoding, because S-99 of IHO is stating that no new object classes should be introduced, if similar object classes are already existing and the objects could be encoded by amending the existing object classes.

See also: www.seegrid.csiro.au/wiki/AppSchemas/StrongWeakTyping

- For example: Change Bank
 - o One possibility would be to use a similar approach as for the River Po in Italy: bcnlst + DAYMAR
 - o Another possibility would be to use notmrk – similar to other European and Brazilian inland waterways
- For example: Whistling mark
 - o Notice Mark “Give sound signal” in CEVNI with the same function

- The display could use Chinese symbols if marsys indicates that the Chinese regulations are applicable.
 - **Action:** The Chinese delegation will reconsider the encoding and prepare Change Requests.
- Some Inconsistencies between Chinese IENC Standard (CR-China.pdf)
 - Exist in HYDRO, but not in IENC 2.4
 - RCTLPT – Recommended traffic land part
 - TSELNE – Traffic separation line
 - TSSBND – Traffic separation scheme boundary
 - TSSCRS – Traffic separation scheme crossing
 - TSSLPT – Traffic separation scheme lane part
 - Exist in IENC 2.4
 - TSEZNE – Traffic separation zone
 - TWRTPT – Two-way route part
 - **Action:** Develop Change Requests for the addition of 5 Hydro features with definition and Encoding Instructions from DCEG - Pieta

8. Bathymetric Inland ENCs (BathymetricIENCs.pdf)

Bernd Birkhuber

- Conclusions
 - Proposed in the spring
 - No objection
 - EU Inland ECDIS expert group proposes to adopt the Product Specification for bathymetric IENCs
 - EU Inland ECDIS applications have already implemented the standard
 - **Action:** Registration of a S-57 based PS in the S-100 registry has to be clarified – Pieta/Denise
 - **Action:** Clarify whether bathymetric IENCs can be included in S-401 or need to become S-402 - all

9. Update intervals and processes

The meeting discussed when the next version of the Encoding Guide and the next edition of the Product Specification and the Feature Catalogue should be published. At the moment there is no need for new publications.

- Quality Standards for Inland ENCs

- Recommended validation checks for Inland ENCs (based on S-58) Wieland Haupt
(Recommended Inland ENC validation checks_2_4_draft.doc)
- A draft of the Recommended validation checks for IENCs 2.4 was presented and supported by IEHG. Production Software developers are invited to test and to deliver feedback before formal adoption at IEHG XIV (2016)
- **Action:** test and to deliver feedback – Production software developers

- Minimum Content of Inland ENCs
 - o Applicable for Europe, but columns on updates and accuracy were determined not to be applicable for other regions. Brazil may need to add / modify the requirements
- Accuracy Information in IENCs – developments for S-101 / S-401
 - o Data Quality WG did some testing and released a report in November 2014
 - o Additional studies being conducted by DQWG
 - o IEHG waiting for results / decisions of IHO

10. Status of development of S-99, S-100 and S-101 and future alignment of the Inland ENC Product Specification (S-401) with these standards (S_101_Alignment_20150921.pdf)

- Portrayal Catalogue (S-401-EUR-Symbole_und_RUS.xls)
 - o **Action:** it has to be clarified whether it will be possible to include the display size in the calculation of the symbol size and to use user settings – ensure that TSMAD / S100WG – must submit a formal request to TSMAD to ensure the response – Denise
 - o **Action:** inquire with Julia as to the protocol for establishing a new domain – Denise
 - o **Additional actions for the future:**
 - Registration of all inland specific symbols
 - Development of the portrayal rules (based on the current lookup tables and conditional symbology instructions)
 - Creation of a Portrayal Catalogue with the PC Builder
- Feature Catalogue
 (FC_2.4_corr2_S_101_Features_VD2.doc
 FC_2.4_corr2_Inland_spec_Features_VD.doc
 fc_2.4_corr2_s_101_attributes_vd_RV.doc
 S_101_features_not_used_for_IENCs_v2.docx)
 - o **Actions for the future**
 - Need to register missing elements
 - Decide on items of discrepancy
 - Wait for register to be ready for use
 - Produce FC
- Main Document – Product Specification (Draft main document 20151015.doc)
 - o Decisions on questions that have already been posted on the forum:
 - “Official IENC” - Producer Codes
 - Assign an “official” producer code to producers which are currently using non-official Producer Codes. Must apply for a Producer Code before allowing for the production of S-401 IENCs (e.g. US – NOAA / U3 – USACE)
 - o **Action:** Presently the Register does not allow the request to register a new Producer Code – need a workaround – email to Antony Pharao - Denise

- Exchange Sets
 - Should it be possible to and S-401 datasets in one Exchange Set?
 - There is no need to include maritime S-101 datasets in S-401 exchange sets
 - This may change if bathymetric IENC becomes S-402
 - The use of the term “Inland ECDIS”
 - “Inland ECDIS or ECS” will be used
 - Deviations from the Portrayal Requirements
 - S-101 does allow minor deviations from Portrayal Catalogue
 - S-401 shall require the implementation of the standardized portrayal and allow the implementation of alternative portrayal with more freedom (e.g. other colors)
 - Units of Speed
 - Add km/h and mph
 - Other decisions have already been integrated in the working document

11. **S-57 to S-100 Converter Development**
(TSM3-3.5_S-57toS-101ConverterStatus_IEHG13_Report.pdf) Tom DePuyt

12. **Portrayal Domain and Specification for Inland ENCs**

Once available, IEHG will establish a portrayal domain and register all inland specific symbols and use the Portrayal Catalogue Builder to create the IEHG Portrayal Catalogue.

13. **Annual Report to HSSC about IEHG**

IEHG is recognized as a NGIO with observer status by IHO and is therefore presenting a report on the status of Inland ENC standardization and implementation each year to HSSC.

Action points: LaDue to prepare the report to HSSC presentation immediately after the meeting.

14. **Updates of the Information documents on Inland ENCs**

No new developments.

Action point: All members of IEHG are invited to submit proposals for amendments of the information document on Inland ENCs (Inland ENC.ppt on the IEHG website).

15. **Future operation of the:**

- IEHG Website (<http://ienc.openecdis.org>)
 - Bernd Birkhuber informed the meeting that the website is funded by the European Union and hosted by the company Periskal
- Discussion Forum for Inland ENCs
(<http://operations.usace.army.mil/nav/IEHG/start.cfm?Option=Login>)
 - Denise LaDue informed the meeting that the USACE is continuing to operate the discussion forum.
- IENC domain (as part of S-100 Registry)
 - No new developments.

16. Any other business

Action points:

- Report to HSSC (Denise)
- Inland ENC.ppt (Bernd, input from everybody, Gustavo for Spanish)
- Keep track of S-101 developments and the consequences for IENCS (Cameron, Tom, Angel)

17. Next meeting

Flavia Mandarino announced to host the XIV IEHG meeting in Manaus, Brazil, 10 – 13 October 2016. The first day will be a workshop on Inland ENCs.