

**International Hydrographic Organization**



**United States - Canada Hydrographic Commission**



International Hydrographic Organization (IHO)  
**United States-Canada Hydrographic Commission (USCHC)  
Meeting**

1200-1700hrs 16 April 2014

Columbus Boardroom,

Sheraton Hotel

St. John's, Newfoundland

1. Introductions and Welcome.....Hains/Glang  
[Doc.: *USCHC37-1A List of Documents*;  
*USCHC37-1B List of Participants*;  
*USCHC37-1C List of Terms* (for reference only)]

The Chair, Mr Denis Hains (Canada) welcomed all participants including the observers from IHB and UKHO.

RDML Gerd Glang (US) thanked CHS for arranging this face-to-face meeting which restores a tradition of having the USCHC meeting concurrent with the hydrographic conferences.

**OUTCOME:** It was noted by both parties that this arrangement is of great value.

2. Approval of Agenda.....Hains  
[Doc.: *USCHC37-2A Agenda*]

**OUTCOME:** Agenda was approved as presented.

3. Organizational and Personnel Update
  - Canadian Hydrographic Service .....Hains  
[Doc.: *USCHC37-3A CHS National Update*]

Mr Hains gave a personal introduction, as he assumed his position a little more than a month previously. He introduced the new CHS National Director of Products and Services, Mr Laurent Tartif. The work of his predecessor, Dr Savi Narayanan, was acknowledged as

was the work of Dr Kian Fadaie who had been acting Director General for the previous 6 months. He referred to the organizational document and noted that there within the next half-year or so there will be several personnel changes at the regional director level.

- US National (OCS, NGA, Navy) Update .....Glang/Lowell  
[Doc.: *USCHC37-3B US\_National\_Report\_11Apr2014*]

RDML Glang and Mr John Lowell (NGA) presented the US national update which included a personnel update. In addition, they highlighted several US initiatives and strategies. These include:

- The Committee on the Marine Transportation System (CMTS) which is a cabinet level committee with 11 participating agencies. The CMTS is to ensure the development and implementation of national marine transportation system (MTS) policies that are consistent with national needs.
- The US e-navigation strategic action plan. Based on the results of an online survey of users on e-navigation, 5 key ideas arose:
  - Broadband connectivity at sea (for ships arriving in US waters)
  - Navigation as a free web service
  - Single-window reporting
  - PORTS data via AIS, which is now being trialed
  - Use open source system architecture
- US strategies for the Arctic from the USCG, the Whitehouse, Department of Defense, and the US Navy Arctic Roadmap.
- US Coast Pilot and Sailing Directions are now available on-line and are free to download.
- US Chart 1 is also available free for download. In this edition (#12) US has included S-52 presentation and is offering this template to other HOs who may want to use it.
- NOAA has transitioned paper chart production to private companies (currently 7 certified Print on Demand (POD) agents). Charts continue to be maintained by NOAA and are corrected with Notice to Mariners weekly, but agents have the flexibility to offer different colour palettes, various papers, cleaner margins, and a range of services. PDF versions of nautical charts are free and “download-able” off the Web. In the first month that the service was available, over a million downloads were requested.
- Other product and distribution initiatives include:
  - NOAA ENC Online
  - ENC direct to GIS
  - On-line Chart Viewer and Seamless Raster
  - Booklet Charts
  - Historical maps and charts
- These initiatives have been met with many positive responses.
- NOAA is also present on social media using Twitter, a blog, and a chart service bulletins and newsletter.
- Mr John Lowell of the Maritime Safety Office (MSO) introduced NGA’s “Map of the World” initiative which is a series of web-enabled views of the best available data

providing the geo-spatial intelligence (GEOINT) foundation for multi-intelligence analysis and decision making.

- He offered the US Strategic Summation and argued many things can be done with HO information beyond the core navigational use. Strategically, HO information supports:
  - Security
  - Responsible stewardship
  - International cooperation
  - Decision-making

**OUTCOME:** The Commission noted the national reports.

4. Review of Past USCHC Actions.....Glang/Hains  
[Doc: *USCHC37-4A Minutes of USCH36* (for reference only)  
*USCHC37-4B USCHC Actions*]

**OUTCOME:** All past USCHC action items have been addressed with the exception of two on-going items related to the sharing of technical information and experiences with LIDAR surveys, and development and implementation of a continuous vertical datum (CFD).

5. Chart Advisors Committee (CAC)  
➤ Report of 2014 meeting .....Tardif/Reis  
[Doc.: *USCHC37-5A CAC 2014 Minutes and Actions*]

Mr Tardif provided the executive summary of the last CAC meeting.

- Future of the CAC.....Hains

The CAC has recommended to USCHC that the CAC function more like an ad hoc group until a more formal technical work plan can be identified. It could also act as a venue for technical exchange and the brainstorming of ideas on issues of mutual interest. It was suggested that a Webinar approach could be trialed and, perhaps, an event prepared for September/October 2014.

Furthermore, both Offices are looking for better ways to communicate and coordinate changes to their trans-boundary ENC's. The CAC recommended that a list of designated points of contacts should be developed and exchanged to communicate ENC production plans for the purpose of avoiding inadvertent overlaps.

Related to this discussion was the suggestion that the CAC Terms of Reference (TOR) should be reviewed and revised, as required.

**ACTION USCHC37-01:** Ms Ries to circulate the CAC TOR to the USCHC members for their review.

**ACTION USCHC37-02:** Julia Powell and Doug Brunt were asked to develop the list of respective contacts for proactive exchange of ENC production plans.

- Review of CAC actions .....Justi/Brunt

The list of CAC 2014 action items was reviewed by USCHC members and the status of the items was updated, where applicable. It was noted that the outstanding items had been integrated into the USCHC agenda.

**ACTION USCHC37-03:** Mr Brunt to update CAC Action Items and re-circulate the with USCHC minutes.

- Status of Beaufort Sea ENC overlap.....Fadaie

Dr Fadaie reported that, after providing the mock-up of the trans-boundary ENC in Beaufort Sea, the Canadian Department of Foreign Affairs, Trade and Development (DFATD) has accepted the proposed solution to the ENC overlap in the Beaufort Sea.

The next steps are to amend the OSC/CHS MOA, have the MOA signed, and to coordinate the production, release, and communication.

**ACTION: USCHC37-04:** US and Canada (Ms Julia Powell and Ms Laura Colombe, respectively) to modify Schedule A of the OCS/CHS MOA to reflect the changes in coverage and prepare it for signature by the National Hydrographers with a target of having this completed before the EIHC and intercessional ARHC meeting 6-10 October 2014.

6. IHO Inter-Regional Coordination Committee (IRCC)

- Review IRCC 5 Actions.....Justi/Brunt  
[Doc.: *USCHC37-6A IRCC Actions.*]

The actions from IRCC5 which were relevant to USCHC were reviewed and the document was updated to indicate which actions were “In progress”, “Done”, or “Pending”. Some specific comments included:

- IRCC5/05: Member states approved Publication B-6;
- IRCC5/14: Done;
- IRCC5/16: Report to IRCC Chair is in progress;
- IRCC5/19: Report to IRCC Chair on SPI’s and WPI’s is in progress; and,
- IRCC5/35: US working with the UK and IHO on the subject of Crowd Source Bathymetry through GEBCO. The discussions centered on track-line data that could be used to compliment data currently in use and could be made accessible to all nations.

**ACTION: USCHC37-05:** All members to review *USCHC37-6A IRCC Actions* document and comment, if required, by May 2<sup>nd</sup>.

**ACTION: USCHC37-06:** CA (Dr Fadaie) to provide US with CA strategy for Satellite Derived Bathymetry.

➤ Other IRCC-related issues

Director Iptes pointed out that the USCHC MOA is due for review and resigning. It was last signed in 2008 and is to be reviewed every 5 years. In addition, the IHB would appreciate some text for the “Brief History” section on the USCHC Web page.

**ACTION: USCHC37-07:** Members are to review USCHC MOA, resign it, and inform the IHO. Brunt/Justi to initiate.

**ACTION: USCHC37-08:** Members are to draft a text for the “Brief History” section of the USCHC’s Web page and send it to the IHB.

- Review and approval of Strategic Performance Indicators (SPIs) and Working-level Performance Indicators (WPIs).....Justi/Brunt  
[Doc.: *USCHC37-6B SPIs and WPIs –draft*]

**ACTION: USCHC37-09:** All members to review *USCHC37-6B SPIs and WPIs - draft* document and comment, if required, by May 2<sup>nd</sup>.

- IRCC-6 Participation (19-20 May 2014, Paris FR) .....Glang/Hains  
[Doc.: *USCHC37-6C CL 22 - CBSC-12 and IRCC-6 meetings.*]

Director Iptes noted that there is no issue with 4 participants from USCHC at IRCC6.

**OUTCOME:** Participants from the US will be RDML Glang (tentative) and Mr J. Lowell of NGA. Attending from Canada will be Mr Hains and Ms Fadaie.

- IRCC-6 Proposals discussion.....All  
[Ref.: TBD-Proposals not available prior to meeting.]

**ACTION: USCHC37-10:** All members to review IRCC6 proposals as they become available on the IRCC Web page.

- Review of Arctic Regional Hydrographic Commission (ARHC4) issues relevant to USCHC.....Glang/Hecimovich

It was reported that ARHC will recognize Iceland and Finland as associate members (rather than observers). In addition, CDR Mike Gonsalves, PhD (US) was elected Chair of the Operational and Technical Working Group (OTWG) at the ARHC-4 in January 2014.

The following initiatives were agreed upon:

- ARHC will draft an “Arctic Strategy” document;
- For the Arctic planning guide, each member would control content. It was also proposed that IHO to host a webpage that points to member states Arctic Planning Guides; and,
- ARHC has drafted a one-pager on Arctic Hydrography for PAME, which is now out for comment.

An afternoon ARHC meeting is planned for EIH. Russia, as Chair, is responsible for initiating this meeting.

- ARHC provision of data to PAME on the status of Arctic Charts and Surveys.....Justi/ Hecimovich

PAME has asked ARHC to present on the status of Arctic Charts and Surveys. ARHC (IHO) contribution is important because it sends the message that hydrography is an important component of Arctic environmental protection. The US through, Mike Gonçalves and the OTWG, is taking the lead on this effort using a GIS approach to harmonize and present the data of the ARHC member states. There may need to be discussions what information will be included and how it will be normalized (e.g. how is adequacy of charts/surveys defined?). Once the US, with contributions of CA data, has pulled this together, it will be communicated/proposed to the rest of ARHC.

**OUTCOME:** D. Brunt will be the CA point of contact for support to US in this effort.

- World-wide ENC Database (WEND) Working Group Report from the 4<sup>th</sup> WENDWG Meeting.....Powell/Fadaie  
 [Doc.: *USCHC37-6D WEND Principles* (for reference)  
 Doc.: *USCHC37-6E Guidelines for WEND Principles* (for reference)]

Ms Powell provided the Commission with a verbal report on the WEND WG. Points of interest included:

- Slight changes to the WEND implementation guidelines were proposed and subsequently approved via CL06;
- WEND WG will submit a proposal to IRCC for draft procedures for dealing with overlaps and gaps including a risk assessment methodology for helping evaluate the national risk associated with overlaps for areas that may never be resolved;
- WEND WG will propose a minimum set of guidelines for forming and operating a RENC;

- There have been improvements in ENC coverage; however, the access and distribution is slightly disjointed; and,
- WEND WG is open to ideas that will lead to an improvement in the situation.

USCHC presented a paper to IRCC5 on the USCHC Trans-boundary project.

Director Iptes indicated that more discussion on the IHO RENC situation will be required. In a related matter, the IC-ENC is to provide a report to the Chair of WEND WG.

Sean Hinds, as vice-chair of the WEND WG, and Ms Powell were thanked for their participation at the WEND WG.

- Draft USCHC report to IRCC.....Justi/Brunt  
[Doc.: USCHC37-6F USCHC Report to IRCC –draft]

**ACTION: USCHC37-11:** D. Brunt to finish draft version of the report and circulate to members.

- 7. Preparations for EIHC 5  
[Doc.: USCHC37-7A CCL 08 – Proposals for Consideration by the Fifth EIHC.]
  - Participation..... Hains/Glang

**OUTCOME:** Member States US and CA will be attending. The size and composition of the delegations are to be determined.

- EIHC-5 Proposals discussion.....Hains/Glang

Members are in the process of reviewing the proposals and formulating their responses. It was noted that comments from Member States due by May 6th.

- PRO 7 (France) “There is no other alternative but the full implementation of the WEND principles and its guidelines”.....All  
[Doc.: USCHC37-6D WEND Principles (for reference)  
Doc.: USCHC37-6E Guidelines for WEND Principles (for reference)]

This topic was covered during the WEND WG discussion.

- 8. Extra-Commission Briefs
  - IHO – IHB Brief .....Iptes

Director Iptes began by thanking the Commission and stating he was pleased to be able to attend the meeting. He stressed that Regional Hydrographic Commissions (RHCs) are extremely important groups performing valuable functions.

Several of the recent activities of the IHO were highlighted by the Director. It was noted that the priorities of the IHO continue to evolve but the underlying goals of increasing membership and increasing the participation of current members remain.

Members were invited to update S-11 and C-55 annually, as well as to update the P-5, the IHO Yearbook (ref. CL 23/2014), as required. Further, members were asked to consider contributing to the International Hydrographic Review (IHR).

➤ UKHO.....Thorne

Mr Chris Thorne of the UKHO expressed his thanks for the invitation to USCHC37 and that the conference had been a positive experience.

He outlined several relevant UKHO issues, initiatives, and concerns that were relevant to the USCHC. These included:

- Counterfeiting still an issue and HOs must remain vigilant.
- UKHO has completed the conversion of all publications in digital format.
- Digital printing very close to reality (300 charts/hour).
- UKHO has lots of experience in contracting hydrographic surveys and is willing to share with others.
- Data collection initiatives are:
  - i. Using satellite-derived bathymetry to improve some charting information;
  - ii. Comparing imagery and hydro surveys. The UKHO should be open to sharing these results; and,
  - iii. Crowdsourcing bathymetry e.g. in the Antarctic. This would be most useful in areas that are poorly surveyed/less travelled. The GEBCO solution interesting it will require strong caveats.
- WEND distribution issues. Not all nations want their ENC's distributed through centralized/regionalized centres. The IHO needs to be mindful of political situations and consistency issues before moving in any particular direction for the WEND. The Admiralty Vector Chart Service (AVCS) offers additional information overlays (AIOs) to ensure consistency between paper and ENC products. They do not provide data that they are not sure of, so if the paper chart has been updated, but the corresponding ENC has not, they feel obligated to let the mariner know.
- UKHO has added QR codes to all charts for NtM information.
- It was announced that as of April 1, 2014 120 persons have retired which has created significant pressures, but the UKHO is making organizational changes to manage processes (including quality control). It is willing to share its experiences with anyone who is interested.

9. Informational Items and Status Reports

- Non-ARHC Arctic issues
  - Ship survey plans 2014-15.....All

Mr Hecimovich (CHS C&A) briefed the Commission on surveys and tide gauge installation plans for CHS.

Mr Ferguson outlined NOAA plans on the West Coast and Alaska. NOAA will be returning to the Arctic in 2015. There is no major work in the Great Lakes this season.



He also mentioned that there was a lot of LIDAR work on the US East Coast by NOAA NGS (Remote Sensing Division) and that NOAA would be willing to share those experiences with CA.

There was a related discussion on data derived from radar/satellite bathymetry and it was agreed that this would be good topic for the CAC.

NOAA and CHS discussed opportunities for personnel exchange.

- E-Navigation update.....Fadaie  
[Doc.: USCHC37-9B e-Nav CA brief]

Dr Fadaie provided a brief on past and future initiatives and activities in CA

US activities related to e-navigation were included in US national brief.

**ACTION: USCHC37-12:** Dr Fadaie to send members the link to the maritime portal.

- Marine Cadastre and Targeted Ocean Mapping (TOM) initiative.....Fadaie  
[Doc.: USCHC37-9C Marine Cadastre CA brief]

Dr Fadaie outlined this initiative and described the many factors and challenges to creating and maintaining comprehensive boundaries and limits.

- NOAA Paper Chart Production update.....OCS

This topic was covered under US national brief.

**ACTION: USCHC37-13:** NOAA to share printing agreement with CHS (Laurent).

- Demo of ENC On-line.....OCS

This topic was covered under US national brief.

- Future (possible) USCHC/CAC Work Plan items.....All
  - Strategic plan for BSB format and BSB-formatted products

It was noted that this format has been static for many years. The discussion was whether this raster format should it be updated, replaced by another raster format (e.g. HCRF), abandoned (in favour of ENC data), or are there other strategic ideas vis-à-vis raster?

**OUTCOME:** No follow-up actions were proposed from this discussion.

- US Coast Pilot production system for CHS Sailing Directions?

**OUTCOME:** NOAA offered to demonstrate this production system for CHS, and it was suggested that it would be a good subject for a technical exchange Webinar as part of the CAC.

- Strategic plans for paper chart production under ECDIS Carriage Requirements

The US is moving all vessels (SOLAS, non-SOLAS) to required electronic navigation systems. [The Radio Technical Commission for Maritime Services (RTCM) covers ECS standards in US.]

Under this scenario if the paper chart is not required, do HOs need to commit as many resources to maintaining the “look” of the paper chart?

It was noted that this discussion is taking place in many organizations.

- Developments in bathymetric radar/satellite-derived bathymetry  
[Doc.: USCHC37-9A NOAA SBIR Phase 1 Bathy Radar Final Report - Public Release]

This item identified as very pertinent CAC topic and many issues need to be addressed. For example, how do HOs deal with non-traditional data sources that do not meet IHO-specifications?

**ACTION: USCHC37-14:** Mr Lowell to draft a discussion paper on the policy issues related to this topic.

- LIDAR

**OUTCOME:** This item was identified as a CAC item to further explore.

- S-102

**OUTCOME:** US suggested forming a small team (e.g. CHS, CARIS, NOAA) to improve S-102 to address the current shortcomings to make it may more usable.

**ACTION: USCHC37-15:** Captain Smith was tasked to put together a summary of a pilot effort under consideration to develop a high resolution S-102 bathymetric overlay for ENC's to support maneuvering in dynamic and critical under keel clearance areas, such as the port of LA/LB.

10. Review of USCHC-37 Meeting Actions.....Brunt

11. Next Meeting and Closing of USCHC37.....Hains

The next formal meeting (USCHC38) is scheduled to take place during the THSOA Conference (March 16-19, 2015) in Washington DC.

Appendix A. List of Participants

**United States**

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<p><b>John E. Lowell Jr</b>                      NGA Hydrographer                      Maritime Safety Office                      7500 GEOINT Drive                      Springfield, VA 22060                      Tel: 571-558-3558                      E-mail : <a href="mailto:John.E.Lowell@nga.mil">John.E.Lowell@nga.mil</a></p>	<p><b>Brian Heap</b>                      Bathymetrist                      Maritime Safety Office                      7500 GEOINT Drive                      Springfield, VA 22060                      Tel: 571-557-7068                      E-mail : <a href="mailto:Brian.R.Heap@nga.mil">Brian.R.Heap@nga.mil</a></p>
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<b>Observers</b>	
<b>Mr Mustafa Iptes</b> IHO	<b>Mr Chris Thorne</b> UKHO

Appendix B. Summary of USCHC37 actions.

Item Number	Action	Who	Status
USCHC37-1	Circulate the CAC TOR to the USCHC members for their review.	K. Ries	Ongoing
USCHC37-2	Develop the list of respective contacts for proactive exchange of ENC production plans.	J. Powell/D. Brunt	DONE
USCHC37-3	Update CAC Action Items and re-circulate the with USCHC minutes.	D. Brunt	Ongoing
USCHC37-4	US and Canada to modify Schedule A of the OCS/CHS MOA to reflect the changes in coverage and prepare it for signature by the National Hydrographers with a target of having this completed before the EIHC and intercessional ARHC meeting 6-10 October 2014.	J. Powell/L. Colombe	Ongoing
USCHC37-5	All members to review USCHC37-6A IRCC Actions document and comment, if required, by May 2nd.	All	DONE
USCHC37-6	CA to provide US with CA strategy for Satellite Derived Bathymetry	K. Fadaie	Ongoing
USCHC37-7	Members are to review USCHC MOA, re-sign it, and inform the IHO.	J. Justi/D. Brunt	Ongoing
USCHC37-8	Members are to draft a text for the "Brief History" section of the USCHC's Web page and send it to the IHB.	Hinds	Ongoing
USCHC37-9	Members to review USCHC37-6B SPIs and WPIs - draft document and comment, if required, by May 2nd.	All	Done
USCHC37-10	All members to review IRCC6 proposals as they become available on the IRCC Web page.	All	Done
USCHC37-11	Draft version of the USCHC report to IRCC and circulate to members.	D. Brunt	Done
USCHC37-12	Send members the link to the maritime portal.	K. Fadaie	Ongoing
USCHC37-13	NOAA to share printing agreement with CHS (Laurent).	Justi	Ongoing
USCHC37-14	Draft a discussion paper on the policy issues related to radar-derived bathymetry.	J. Lowell	Ongoing
USCHC37-15	Put together a summary of a pilot	S. Smith	Ongoing

	effort under consideration to develop a high resolution S-102 bathymetric overlay for ENCs to support maneuvering in dynamic and critical under keel clearance areas, such as the port of LA/LB.		
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