INTERNATIONAL HYDROGRAPHIC ORGANIZATION
UNITED STATES – CANADA HYDROGRAPHIC COMMISSION

THIRD MEETING OF THE IHO INTER REGIONAL COORDINATION COMMITTEE
IHO-IRCC2

REPORT FROM THE UNITED STATES – CANADA HYDROGRAPHIC COMMISSION

1. Chair: CAPT John E. Lowell (USA(NOAA))
   Co –Chair: Dr. Savrithi (Savi) Narayanan (Canada)

2. Members: United States, Canada

3. Last Meeting: Tampa Bay, Florida, USA April 25, 2011

   Observers: France, New Zealand

4. Background:

The National Hydrographers of the United States of America (U.S.) and Canada (the Director of NOAA's Office of Coast Survey and the Director General of the Canadian Hydrographic Service (CHS), respectively), along with senior staff from each organization, compose the U.S./Canada Hydrographic Commission (USCHC). Representatives from the National Geospatial-Intelligence Agency (NGA) and the U.S. Navy also participated. Commission meetings are held annually, alternating locations and Chairs between the U.S. and Canada, to address common regional issues related to charting, research, hydrographic data collection, and sharing of expertise.

Before each Commission meeting, the USCHC Charting Advisors Committee (CAC) convenes to review the programs and activities of the two agencies, makes the initial identification of those areas or programs where a cooperative approach could be beneficial and takes appropriate actions for implementation. The CAC is co-chaired by the Deputy Director, NOAA's Office of Coast Survey, and the CHS National Director of Products and Services. The primary role of the CAC is to identify agenda items for the Commission reflecting cooperative programs and activities and to discuss and prepare these in detail for presentation to the Commission.

A high priority for the USCHC has been to ensure "adequate ENC coverage" in its shared transboundary areas, as well within its national jurisdictions in support of the International Maritime Organization's mandate for mandatory ECDIS carriage by

July 2012 and in accordance with the definition established by the IHO WEND Committee in 2007[1].

5. Transboundary ENC Report

In 2011 the United States and Canada resolved all the relevant technical and policy related issues to the transboundary project. This included addressing the following:

- Handling of French language notes in United States ENCs
- Agreed upon notes that are specific to the project – such as disputed boundary, copyright and intellectual property rights
- Agreed upon revision limits based on the needs of the mariner versus cutting at the boundary between the two nations
- Establishing an umbrella level of service agreement that covers the exchange of charting data for all nautical products
- Establishing a communication plan for customer outreach

This project is broken into four phases based on geographic regions. In order to resolve the technical issues of data exchange it was decided that a subset of the Pacific Region was to be used in a pilot project. The four phases are as follows:

Phase 1: Pacific Pilot – Juan de Fuca and Haro Straits
Phase 2: Pacific Region – Dixon Entrance
Phase 3: Atlantic Region
Phase 4: Great Lakes Region

A tentative project schedule to deliver the first phase of Transboundary ENC has been established with the aim of releasing the revised ENC data by December 2011. Next phases of the Transboundary project are expected to advance in the most expedient manner as possible.

For graphics of the ENC transboundary coverage in the Juan de Fuca and Haro Straits please refer to the 2011 Transboundary ENC Report located on the International Hydrographic Organization web page:

http://www.iho-ohi.net/english/committees-wg/ircc/regional-hydrographic-commissions/us-canada-hc-uschc-chusc.html

[1] In 2007, the IHO WEND Committee adopted the following definition of "adequate ENC coverage" "Adequate ENC coverage is attained with those ENCs required to enable safe port to port navigation for international shipping that correspond to the paper chart coverage for these ports and the routes inbetween" .

Annex A is a summary of experiences gained from the USCHC Transboundary pilot project

6. ENC coverage

United States:

As of August 2010, the United States has completed its ENC coverage to meet with the WEND definition of adequate. This coverage includes the top 175 ports by tonnage in the United States. The associated approaches to these ports and the transit ENC's between these ports. The only exception is limited coverage in the Arctic due to the unique challenges in these areas.

Canada

Canada has been steadily improving the ENC production for its waters. At this time, the ENC coverage meets the WEND definition of adequate coverage for all Canada's coastal and inland waters and its top international ports with the exception of certain areas of Labrador and the Arctic due to the unique challenges in these areas.

ANNEX A - Experiences Gained During the USCHC Transboundary ENC Pilot Project

The United States – Canada Hydrographic Commission (USCHC) has gained important technical and policy experiences from the Pacific Ocean, Juan de Fuca and Haro Strait, transboundary waters between British Columbia, Canada and Washington State, United States.

Disputed Boundary Area

There are areas of disputed international boundaries within the transboundary waters of the USCHC. Both Canada and United States consider the presentation of their respective international boundaries a requirement of their nautical chart products. Single ENC coverage has therefore required the presentation of two interpretations of international boundaries in these areas on the official ENC's of both countries. As a result, it created the need for clarification to mariners regarding this new presentation.

Two notes were developed with input and approval from legal and international affairs specialists:

Boundary Note 1 – located within the disputed area which was coded as a Caution Area because of its regulatory significance to fishers and other mariners:
"This area is disputed by United States and Canada."

Boundary Note 2 – located in the M_NPUB field and used primarily to avoid any interpretation of prejudice in international boundary discussions:
"Any international maritime boundary shown in the disputed area is without prejudice to the legal position of the United States or Canada."

Management of Intellectual Property

Canada copyrights its nautical products and data while the United States does not. Given that transboundary ENC products would incorporate data from both countries there was requirement to inform users of any Intellectual Property Rights associated with these collaborative ENCs. With guidance from Legal Counsel, notes were developed for the ENCs that specifically explained the IP contained in the product and the permissions required, if any, to reproduce the products or data.

Use of the National Language Object

Canada's Official Language Act requires official products of the federal government to incorporate both English and French language text. This dual language requirement was unfamiliar to United States and required internal policy decisions. One unique solution that was explored was for Canada and United States to create and maintain exact duplicate ENC cells with the one exception that Canada would also included French text. To validate this as a possible option a third party was contracted to undertake a simulation trial to test the theory. Three unique and type-approved Electronic Chart Display and Information Systems (ECDIS) were loaded with a suite of United States ENCs as well as a suite of duplicate coverage Canadian ENCs containing French text. Several simulated voyages were conducted through the test area with zero difficulties with loading or display.

The simulation test gave a level of assurance that this solution was viable but the test could not be entirely conclusive due to the small sample size. After further assessment, the long-term management of this Transboundary ENC solution was not deemed to be sustainable due in part to the difficulty of duplicate ENC product maintenance.

One unexpected outcome of this simulation test was how the ECDIS systems handled the NTXTDS (national (French) text object) versus the normal TXTDSC (standard (English) text object). All three of the ECDIS systems handled and displayed the NTXTDX object in a different way. One ECDIS could not recognize the NTXTDS object; another made the NTXTDS object the default language and the third system was inconsistent in how it displayed the two language objects. The USCHC reported this ECDIS display nuance to the International Hydrographic Bureau for consideration in ECDIS performance deliberations.

ENC Updating

ENC updating was originally designed to be accomplished through the incorporation of paper chart Notice to Mariners (NTM) information. This thinking has evolved given that ENC Update Messages have the capacity for richer information than the paper chart NtM In addition the migration of both Hydrographic Offices to a database production environment would eventually allow for full ENC maintenance of new source. To accommodate this, the pilot project tested and implemented a methodology to exchange digital data exports of modified, added and deleted chart data, thereby allowing for full ENC maintenance to be realized in Transboundary ENCs.

Conclusion

All of the lessons learned through the USCHC policy and technical experiences of the pilot project in the Pacific west coast will be applied to the other three transboundary areas as the collaborative scheming of ENCs continues.