INTERNATIONAL HYDROGRAPHIC ORGANIZATION
MESO AMERICAN & CARIBBEAN SEA HYDROGRAPHIC COMMISSION

13th Meso American & Caribbean Sea Hydrographic Commission Meeting
19th – 22nd November 2012
Antigua, Guatemala

Agenda Item 4.8.1

Draft C-55 Framework – Explanatory Note

At the fourth meeting of the Inter-Regional Coordination Committee (IRCC) in Singapore one of the actions relates to the "Draft C-55 Framework". The IRCC4 action is found below:

No	ACTION	RESP.	DEADLINE
IRCC4/08	a) Circulate draft C-55 framework developed by Australia. b) RHCs to provide comments to Chair. c) Chair to provide final version to IHB	a) Chair b) RHCs c) Chair	a) 15 June b) end June c) 15 July

Delegates at the MACHC meeting are requested to be fully briefed on the subject by reading Annex A and be able to discuss the feedback from the MACHC region to be provided to IHB.

Background on the role of C-55 can be found on the IHO website or by accessing this direct link: http://www.iho.int/iho_pubs/CB/C-55/C-55_Eng.htm

Annex A is IRCC4 Annex B – C-55 Update Discussions and can be found here: http://www.iho.int/mtg_docs/com_wg/IRCC/IRCC4/IRCC4-AnnexB-C-55_Update_Discussions.pdf

Annex A
FOURTH MEETING OF THE IHO INTER-REGIONAL COORDINATION COMMITTEE
IHO-IRCC4
Singapore, 7-8 June 2012

Discussion on the Validity and Updating of C55

1. **Background**.

1.1 The IRCC was invited to consider ways and means to contribute to Task 3.4.3 and 3.6.1A of the IHO Work Programme.

> **Task 3.4.3** Enhance publication C-55. IHB with the support of the RHCs, CBSC and GGC to develop a new framework for C-55
> 2013-2015 Develop the framework for the input, presentation and assessment of the survey and nautical cartography status: 60 k€ for 3 years
>
> **Task 3.6.1 C-55** Status of Hydrographic Surveying and Nautical Charting World-wide.
>
> A) MS to provide annual update. (Permanent)
>
> B) IHB to implement the new framework for publication C-55 to improve the collection, quality and availability of hydrographic data world-wide, monitor and rectify possible deficiencies and shortcomings, cooperate with other international organizations and stakeholders as necessary, and to keep MS informed on progress on this issue. (In conjunction with Task 3.4.3)
>
> C) IHB to report periodically to IMO (NAV and MSC) on the impact of poor bathymetric data availability, datum mis-adjustment problems, and other relevant factors governing the limitations and requirements for improvements in global charting and associated services. (Permanent)

1.2 The IRCC undertook to take initial action at their 4th meeting rather than creating a special working group for the task.

2. **IRCC4 Discussion on C-55**

2.1 The committee agreed that C-55 is missing the vital spatial information that would make it useful to member states, that the term “adequate” is invariably interpreted differently by different member states so needs to be changed and that in its present form the information is of little use – accordingly providing updates to C-55 in its current form is not seen as a high priority.

2.2 The current intent and purpose of C-55 are defined as:

C-55 Executive Summary

The aim of this third edition of IHO Publication No. 55 (C-55) is to present a clear picture of the worldwide coverage of surveys and nautical charts and of the extent of effective organisations for the timely promulgation of navigational safety information. The content of the reports is now held in a live database on the IHO web site from

which up to date reports can be extracted at any time. The data base covers the waters of 90% of the coastal states of the world.

Introduction

The purpose of IHO Publication No. 55 (C-55) is to provide base data for governments and supporting international organisations as they consider the best means by which to implement responsibilities set out in Chapter V, Regulation 9, of the Safety of Life at Sea (SOLAS) Convention. It also informs IHO input to the United Nations Global Maritime

Assessment
[later]

The C-55 data-base will underpin IHO advice to the UN, IMO and other agencies. Some RHCs are already planning regional data-bases with more detailed layers of information. It is hoped that the systematic approach of C-55 will assist states with developing hydrographic services to put together a coherent national plan.

The data in C-55, together with the additional information provided by states on co-operation and requirements for assistance, will be used by the IHOCBC in the development of a prioritised action plan to implement measures to contribute to the safety of navigation and protection of the marine environment worldwide

[later]
Analysis of the Status of Surveys

The categorisation in the reports is underpinned by detailed national assessment using S-44 criteria, the zones of confidence (CATZOC) defined in S-57, or some other systematic classification of source data.

User Requirements for C-55

2.3 Discussion amongst the IRCC Members generally agreed that it was necessary and that the information in C-55 could be used to support to following functions:

a) Raise awareness of the status of hydrography,
b) To assist with the targeting of hydrographic resources and hydrographic capacity building resources,
c) To support regional harmonization and prioritization of hydrographic survey efforts,
d) To engage with stakeholders as to where hydrographic information supported and did not support safe navigation,
e) To assist hydrographic planning and reporting,
f) To inform governments of the need for hydrographic efforts,
g) As an input to the national survey planning process,
h) To help convince coastal States of the need to focus on hydrography, and
i) To measure progress in hydrography over time.

Information Component Requirements for C-55

2.4 To achieve the requirements at paragraph 2.3, above, it was determined that C-55 would ideally include the following information **on a spatially defined** basis:

a) Chart and ENC Coverage, scale and survey quality information
b) Survey data coverage and quality and estimate of resurvey requirement date
c) General depth information
d) Maritime Activities[1]; user needs information such as shipping routes, vessel draughts, port location, cargo types etc
e) The availability of MSI information

Sources of Information for C-55

2.5 The IRCC considered that if C-55 was to be kept up to date, relevant and thus useful, then it must be a relatively simple or automated process for Member States to provide that information. With this in mind it was considered that the following sources of information would be the most appropriate:

a) **ENC** including CATZOC information, depth areas – the IHB should be able to automatically collect various information types from ENC once Member States comply with the requirement of CL51/2012 to provide copies of their ENCs to the IHB.

b) **Paper Charts**, including source data diagrams – this will be a more difficult and manpower intensive task as there is little standardization between source data diagrams and it may require an "expert" to convert the information therein into a useful data type. (Note that the IHB is currently conducting a study into this process)

c) **Request additional information from Member State Hydrographic Offices.** (it is considered that this will only be successful if the MSHO also has a need for this information and thus a process to regularly collect it). Consideration should also be given to interoperability with any hydrographic information systems that may already exist at national and regional levels.

[1] For information, it should be noted that the current C-55 defines maritime activities as:

Maritime Shipping Routes (MSRs). These MSRs are subdivided into 3 categories:
a. international, i.e. routes between hub ports;
b. regional, i.e. routes between hub ports and feeder ports;
c. internal (including inland maritime areas) i.e. routes from feeder ports to other national ports.

Ports and Approaches

Marine Industry (Fisheries, Offshore Resources)

Action 1: IRCC Members to decide whether the utility of automatic collection of the limited information available from ENC should outweigh the ideal information requirements of C-55.

Action 2: Define the feature types and metadata standards for the information at paragraph 2.4 giving consideration to existing information and data exchange standards such as S-57, S-100, the European Inspire. (In defining these requirements the requirements of paragraph 2.5 should be considered – it would be unfortunate to create paralysis by setting unachievable information requirements).

2.7 The IRCC considered the above paper at 0830 Friday 8 June.

Action 1 Outcome. IRCC Members agreed that simplicity of collection of information in order to maintain its currency were the overriding considerations.

Action 2 Outcome. IRCC Members agreed that CATZOC polygon and depth information would be a reasonable initial approach to the hydrographic quality layer of C-55 but that the system should be extensible to allow future improvements.

2.8 The following comments and considerations were also agreed:

a. 'Adequacy' of hydrographic data was recognised as being dependent on the Maritime Activity needs, thus C-55 needed to be capable of interrogating the hydrographic quality layer against a variety of Maritime Activity needs and derive an 'adequacy' rating for each specific purpose.

b. It is essential to develop a simple display system representing 'adequacy' of hydrographic information in order to meet the intended uses of C-55. A traffic light system of Red, Amber, Green defined as required to display the levels of adequacy was considered to be most appropriate.

c. Functionality. The C-55 database should allow Member States to upload their national/regional information, provide read-only and report generation access to the broader maritime user community and provide information transfer to Member States and other by Web Feature Server or similar.

d. National HOs may already have similar information in their own planning databases at a much more detailed level of granularity than would be required by the IHO for the purposes outlined in paragraph 2.3 above. In any case, Member States still consider that the aggregated global hydrographic quality information with be useful for their own needs.

Recommendation for IHB

2.9 This document is offered by IRCC as an initial user requirement statement for the development of a new C-55 framework within the new IHO information system.