



IHB File No. S3/8151/HSSC

CIRCULAR LETTER 29/2010  
06 April 2010

**2<sup>nd</sup> MEETING OF THE IHO HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE  
(HSSC),  
26-29 October 2010, Rostock, Germany**

- References:**
- |                                |                                |
|--------------------------------|--------------------------------|
| a) CL70/2009 dated 26 October  | i) CL91/2009 dated 18 December |
| b) CL73/2009 dated 10 November | j) CL04/2010 dated 11 January  |
| c) CL74/2009 dated 11 November | k) CL05/2010 dated 13 January  |
| d) CL78/2009 dated 18 November | l) CL09/2010 dated 25 January  |
| e) CL80/2009 dated 23 November | m) CL13/2010 dated 1 February  |
| f) CL83/2009 dated 4 December  | n) CL18/2010 dated 9 February  |
| g) CL86/2009 dated 14 December | o) CL23/2010 dated 3 March     |
| h) CL87/2009 dated 15 December | p) CL24/2010 dated 8 March     |
|                                | q) CL26/2010 dated 18 March    |

Dear Hydrographer,

1 The 2<sup>nd</sup> meeting of the IHO Hydrographic Services and Standards Committee (HSSC2) will take place from **26-29 October 2010 in Rostock, Germany**. HSSC2 will be followed by the 18th Hydro Conference (Hydro2010) organised by the International Federation of Hydrographic Societies in Warnemünde, near Rostock from 2-5 November 2010 ([www.hydro2010.com](http://www.hydro2010.com)). HSSC delegates may wish to extend their stay in Rostock/ Warnemünde to attend this international conference because many topics of interest to HSSC will be discussed.

2 An HSSC Chair Group meeting, comprising all the chairs of HSSC WGs will take place on the morning of 26 October. The 2<sup>nd</sup> meeting of HSSC will commence for all delegates and representatives at 1400 on 26 October and end during the early afternoon of 29 October.

3 This letter provides information on the current status of actions arising from the 1<sup>th</sup> HSSC meeting (Singapore, 22-24 October 2009); and sets out a draft agenda for HSSC2. Additional information is available in References a) to q).

4 Venue and Accommodation. The meeting will be held in the conference room of the city parliament at the town hall of Rostock. Logistics information, e.g. hotel, and a registration form for HSSC2 will be posted in due course on the IHO website ([http://www.iho-ohi.net/mtg\\_docs/com\\_wg/HSSC/HSSC2/HSSC2Docs.htm](http://www.iho-ohi.net/mtg_docs/com_wg/HSSC/HSSC2/HSSC2Docs.htm)). Attendees should make their own hotel arrangements at their earliest convenience. Registration forms for HSSC2 should be submitted to the Secretary **by 30 August 2010**.

5 Actions arising from HSSC1. The status of all actions arising from HSSC1 have been summarized in **Annex A**. Some actions are still pending. Those nominated for actions that remain

outstanding are kindly requested to take action as necessary and report the status to the Secretary of HSSC at [mhuet@ihb.mc](mailto:mhuet@ihb.mc) as soon as possible.

6 Draft Agenda for HSSC2. A provisional agenda for HSSC2 is provided in **Annex B**. Associated documents, where known, have been listed. Member States are kindly requested to review the draft agenda and provide any comments or proposals for new agenda items to the Secretary, **by 30 June 2010**. If necessary, a revised draft agenda will then be prepared and published on the IHO website.

7 Submission Deadline for HSSC2 Documents. Documents intended for consideration at HSSC2 should be submitted to the Secretary in accordance with the "[Instructions for the Submission of Reports and Proposals for Consideration by HSSC](#)".

8 All documents will be placed on the IHO website as and when they are received.

	Submission Deadline
Papers in support of Agenda items (including reports from WG chairs and proposals for new work programme items)	<b>By 7 September 2010</b> (7 weeks before commencement of the meeting)
Papers providing comments or proposed amendments to proposals contained in meeting papers <u>Such supplementary submissions should contain a maximum of 4 pages</u>	<b>no later than 5 October 2010</b> (3 weeks before commencement of the meeting)

**Documents received after 5 October 2010 will be treated as information documents only.**

9 The current list of HSSC contacts is provided in **Annex C**. Any proposed amendments should be forwarded to the Secretary at the earliest opportunity.

10 The Directing Committee, on behalf of HSSC and the IHB, would like to express its appreciation to the *Bundesamt für Seeschifffahrt und Hydrographie* of Germany for agreeing to host HSSC2.

On behalf of the Directing Committee  
Yours sincerely,



Robert WARD  
Director, IHB

Copy to : Accredited Non-Governmental International Organizations  
Chairs of HSSC WGs

Annexes

- A. List of Actions from HSSC1 and Status Report
- B. Draft Agenda and Timetable
- C. HSSC - List of Contacts

## LIST OF ACTIONS FROM HSSC1 AND STATUS REPORT

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	STATUS (Apr.10)
3	Product Specification for Digital Paper Charts	HSSC1/1	<b>IHB/TSMAD Chair</b> to remove Task A.9 " <i>Develop S-57 to paper chart functionality and Print-on-Demand (POD) file transfer guidelines</i> " from the TSMAD Work Plan.	<b>Done</b>
3	Data Supply Chain Certification	HSSC1/2	<b>RTCA Correspondence Group</b> (RTCA, Germany, Canada, Australia, USA, UK, Chile, Portugal, and Norway) invited to continue studies on Data Supply Chain Certification and provide a further report to HSSC2 with any compelling evidence on its necessity, particularly for value-added products, and a proposal for implementation within the IHO.	In progress; to be reported to HSSC2.
3	Length of coastlines	HSSC1/3	<b>France</b> invited to continue to lead a correspondence group on the development of a standardised approach to the determination of the length of coastlines and report to HSSC2.	In progress; to be reported to HSSC2.
3	<i>S-66 Facts about Electronic Charts and Carriage Requirements</i>	HSSC1/4	<b>IHB</b> to complete the revision of <i>Facts about Electronic Charts and Carriage Requirements</i> , and circulate it as an IHO publication as soon as possible	<b>Done</b> (CL 05/2010). Published as S-66.
4.2	Virtual Aids to Navigation and AIS Binary Messages	HSSC1/5	<b>IHB</b> to monitor the development of virtual Aids to Navigation and AIS Binary Messages, in liaison with IALA, and report to HSSC2.	In progress; IHB will prepare a paper for HSSC2.
4.2	Cooperation with IOC-WMO JCOMM	HSSC1/6	<b>IHB</b> to write a letter to the IOC-WMO Joint Committee on Oceanography and Marine Meteorology (JCOMM) to encourage working relations with HSSC on matters of common interest, e.g. S-100.	<b>Done</b> (IHB Letter of 24 October 2009)
6.1	MEP Product Specification	HSSC1/7	<b>IHB/TSMAD Chair</b> to remove Work Item D " <i>Develop Marine Environment Protection Programme based on S-100</i> " from the TSMAD Work Plan.	<b>Done</b>

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	STATUS (Apr.10)
6.1	MEP Product Specification	HSSC1/8	<b>IHB/SNPWG Chair</b> to include a new low priority Work Item in the SNPWG Work Plan to address the remaining work in former TSMAD Work Item D " <i>Develop Marine Environment Protection Programme based on S-100</i> ".	<b>Done</b>
6.1	UN-DOALOS Product Specification	HSSC1/9	<b>TSMAD</b> to continue assisting UN-DOALOS in the development of an S-100 compliant product specification for a Law of the Sea feature code directory.	In progress; to be reported to HSSC2.
6.1	UN-DOALOS Product Specification	HSSC1/10	<b>TSMAD Chair</b> to inform the Secretary of ABLOS of the ongoing development of an S-100 compliant product specification on a Law of the Sea feature code directory.	Not known
6.1	Recommendations for Consistent ENC Data Encoding	HSSC1/11	<b>IHB</b> to include in S-65, Annex A, Appendix 1, the revised " <i>Specific SCAMIN Step Values for Object and Attribute Combinations</i> ", as contained in Annex B to HSSC1-06.1A, and seek MS approval of the resulting new edition of S-65. (see also Action HSSC1/34)	<b>Done</b> (CLs 80/2009 and 13/2010)
6.1	ToR/RoP for TSMAD	HSSC1/12	<b>IHB</b> to include in IHO Publication M-3 " <i>Resolutions of the IHO</i> ", the revised TSMAD Terms of Reference (TR K2.21), as contained in Annex A to HSSC1-06.1A.	<b>Done</b>
6.1	Geospatial Information Infrastructure (GII)	HSSC1/13	<b>TSMAD</b> to develop as a high priority work item detailed operational processes and business rules for S-100 register management and report to HSSC2.	In progress; to be reported to HSSC2.
6.1	Maintenance of IHO Standards	HSSC1/14	<b>IHB</b> to seek MS approval of the revised IHO Resolution A1.21 " <i>Principles and Procedures for Making Changes to IHO Technical Standards and Specifications</i> ", based on Annex C of HSSC1-06.1B, taking into account the discussions held at HSSC1 on the Hydrographic Dictionary, and other special cases, such as S-4.	To be discussed further at HSSC2.
6.1	Publication of S-100	HSSC1/15	<b>IHB</b> to seek MS approval of S-100 " <i>Universal Hydrographic Data Model (UHDM)</i> " as an active standard to be effective from 1 January 2010.	<b>Done</b> (CLs 70/2009 and 83/2009)

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	STATUS (Apr.10)
6.1	Auxiliary Informational Layer Integration	HSSC1/16	<b>IHB/TSMAD Chair</b> to add to the TSMAD Work Plan the following medium priority Work Item: <i>“Develop an S-10X product specification for ‘Auxiliary Informational Layer Integration’”</i> .	<b>Done</b>
6.1	Grid referencing system for S-100	HSSC1/17	<b>IHB/TSMAD Chair</b> to add to the TSMAD Work Plan the following low priority Work Item: <i>“Investigate a suitable grid referencing system for S-100”</i>	<b>Done</b>
6.1	Standard for the transmission of real-time tidal data	HSSC1/18	<b>IHB/TWLWG Chair</b> to add to the TWLWG Work Plan the following high priority Work Item <i>“Develop a Standard for the transmission of real-time tidal data”</i> .	<b>Done</b>
6.3	New edition of S-52	HSSC1/19	<b>IHB</b> to seek MS approval of Edition 6 of S-52.	<b>Done</b> (CLs 87/2009 and 24/2010)
6.3	Maintenance of the IHO Presentation Library	HSSC1/20	<b>IHB</b> to arrange contract support to continue the maintenance / improvement of the IHO Presentation Library on ECDIS and the development of the S-100 Portrayal Register.	Ongoing
6.3	ToR/RoP for DIPWG	HSSC1/21	<b>IHB</b> to include in IHO Publication M-3 <i>“Resolutions of the IHO”</i> , the revised DIPWG Terms of Reference (TR K2.26), as contained in Annex D to HSSC1-06.3A.	<b>Done</b>
6.3	Maintenance of the IHO Presentation Library	HSSC1/22	<b>IHB/DIPWG Chair</b> to release Colours & Symbols Maintenance Document No. 7.	<b>Done</b> (IHB letter S3/8151/DIPWG of 12 November 2009 to ECDIS stakeholders)
6.3	Traditional symbols for ECDIS and Portrayal of nautical publications in ECDIS	HSSC1/23	<b>IHB/DIPWG Chair</b> to add to the DIPWG Work Plan the following Work Items <i>“Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour”</i> (low priority) and <i>“Develop symbology for portrayal of nautical publications in ECDIS”</i> (medium priority)	<b>Done.</b>

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	STATUS (Apr.10)
6.5	ToR/RoP for regional charting groups	HSSC1/24	<b>IHB/ CSPCWG Chair</b> to incorporate the Terms of Reference and Rules of Procedure for Regional International Charting Coordination Working Groups (ICCWG), as contained in HSSC1-06.5C, in S-11 Part A, taking into account the comments made by the Committee.	<b>Done</b> (CLs 86/2009 and 23/2010)
6.5	Updating the INT Chart Catalogue	HSSC1/25	<b>IHB</b> , on behalf of HSSC, to write to INT chart coordinators, encouraging them to forward to the IHB updates to S-11 part B " <i>Catalogue of INT Charts</i> ".	<b>Done</b> (CL 86/2009)
6.6	DQWG WP	HSSC1/26	<b>Sweden</b> invited to compile a list of parameters other than bathymetry, for DQWG to address, and report to HSSC2.	In progress; to be reported to HSSC2.
6.7	Guidance to HOs on Marine SDIs	HSSC1/27	<b>IHB</b> to seek MS' approval of new IHO Publication " <i>Spatial Data Infrastructures: The Marine Dimension - Guidance for Hydrographic Offices</i> ", as contained in Annex 1 to HSSC1-06.6A.	<b>Done</b> (CLs 78/2009 and 09/2010). Published as C-17.
6.7	SDI Capacity Building material	HSSC1/28	<b>IHB</b> to post on the IHO website the MSDI supporting information contained in Annexes 2, 3, 4 and 5 of HSSC1-06.5A.	<b>Done</b>
6.7	ToR/RoP for MSDI	HSSC1/29	<b>IHB</b> to include in IHO Publication M-3 " <i>Resolutions of the IHO</i> ", the revised MSDIWG Terms of Reference (TR K2.45), as contained in Annex G of the HSSC1 Minutes.	<b>Done</b>
6.9	HDWG membership	HSSC1/30	<b>IHB</b> to invite MS to nominate representatives for HDWG.	<b>Done</b> (CL 73/2009)
6.9	Inland Navigable Waters	HSSC1/31	<b>IHB</b> to seek MS approval of the definition for " <i>Inland Navigable Waters</i> ", as contained in Annex D to HSSC1-06.9A, as amended.	<b>Done</b> (CLs 74/2009 and 91/2009)
6.9	HDWG procedure	HSSC1/32	<b>IHB</b> to seek MS approval of amended Resolution K3.3 " <i>Hydrographic Dictionary (S-32)</i> ", as contained in Annex A to HSSC1-06.9B. <b>IHB</b> to adjust proposed revision of resolution A1.21 (Action HSSC1/14) to agree with amended K3.3.	First part done (CL 26/2010). Second part: see Action HSSC1/14.

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	STATUS (Apr.10)
6.9	ToR/RoP for HDWG	HSSC1/33	<b>IHB</b> to include in IHO Publication M-3 " <i>Resolutions of the IHO</i> ", the revised HDWG Terms of Reference (Resolution K2.32), as contained in Annex C to HSSC1-06.9A.	<b>Done</b>
6.10	Guidelines for encoding T & P ENC updates	HSSC1/34	<b>IHB</b> to include in S-65, as a new Annex B, the " <i>Guidelines for encoding Temporary and Preliminary ENC updates</i> ", as contained in Annex B to HSSC1-06.10A, and seek MS approval of the resulting new edition of S-65. (see also Action HSSC1/11)	<b>Done</b> (CLs 80/2009 and 13/2010)
6.10	Appendix 1 of S-52	HSSC1/35	<b>EUWG</b> to develop a revised version of Appendix 1 to S-52 " <i>Guidance for ENC Updating</i> ", for inclusion in S-65.	In progress; to be reported to HSSC2.
6.10	ToR/RoP for EUWG	HSSC1/36	<b>IHB</b> to include in IHO Publication M-3 " <i>Resolutions of the IHO</i> ", the revised EUWG Terms of Reference (TR K2.47), as contained in Annex A to HSSC1-06.10B.	<b>Done</b>
6.10	Use of S-57 New Objects in place of CNTARE	HSSC1/37	<b>IHB/TSMAD Chair</b> to add to the TSMAD Work Plan the following medium priority Work Item: " <i>Study the possibility to encode information features as New Objects (see S-57 supplement) to avoid caution area objects (CNTARE) in some cases, e.g. to encode T&amp;Ps</i> "	<b>Done</b>
6.10	EUWG membership	HSSC1/38	<b>IHB</b> to invite MS to nominate suitably experienced representatives for the new work of the EUWG.	<b>Done</b> (CL 04/2010)
7.2	Generic Product Specification for MIO	HSSC1/39	<b>IHB/TSMAD Chair</b> to add to the TSMAD Work Plan the following medium priority Work Item: " <i>Develop a template Product Specification for Marine Information Overlays (MIO)</i> "	<b>Done</b>
7.3	ToR/RoP for ABLOS	HSSC1/40	<b>IHB</b> to include in IHO Publication M-3 " <i>Resolutions of the IHO</i> ", the revised ABLOS Terms of Reference (TR K2.20), as contained in Annex C to HSSC1-07.3A.	<b>Done</b>
9.	HSSC WP	HSSC1/41	<b>IHB</b> to update the HSSC Work Plan (HSSC1-09A) to include all relevant decisions of HSSC1, and post it on the IHO website.	<b>Done</b>

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	STATUS (Apr.10)
10.	ToR/RoP for all HSSC WGs - nine weeks clause	HSSC1/42	<b>IHB</b> to include in all HSSC WG terms of reference the " <i>nine week moratorium</i> " clause, as contained in Annex A to HSSC1-10A, and amend IHO Publication M-3 " <i>Resolutions of the IHO</i> " accordingly.	<b>Done</b>
11.	TALOS Manual and S-44	HSSC1/43	<b>IHB</b> to include C-51 " <i>TALOS Manual</i> " and S-44 " <i>IHO Standards for Hydrographic Surveys</i> " in the next issue of the " <i>Status Report on IHO Publications on Standards, Specifications and Guidelines</i> "	<b>Done</b> (see HSSC2-INF1)
12	Next meeting	HSSC1/44	<b>IHB and Germany</b> to coordinate the organization of HSSC2 (Rostock, Germany, 26-29 October 2010).	In progress



**2<sup>nd</sup> IHO-HSSC Meeting  
Rostock, Germany, 26-29 October 2010**

**DRAFT AGENDA AND TIMETABLE**

**Note:** Presenters of papers in parentheses ().

<b>Tuesday 26 Oct</b>	<b>HSSC CHAIR GROUP</b>
0900	Chair Group meet at ...
0900 - ~1230	HSSC Chair Group Meeting (HSSC WG Chairs, Vice-chairs, WG speakers only)
<b>Tuesday 26 Oct</b>	<b>DAY 1 of HSSC2</b>
1400	<b>1. Opening and Administrative Arrangements</b> <i>Docs: HSSC2-01A List of Documents (IHB)</i> <i>HSSC2-01B List of Participants (IHB)</i> <i>HSSC2-01C HSSC – List of Contacts (IHB)</i> <i>HSSC2-01D Terms of Reference for HSSC and related Working Groups (IHB)</i>
0415	<b>2. Approval of Agenda</b> <i>Docs: HSSC2-02A Agenda and Timetable</i>
1430	<b>3. Matters arising from Minutes of 1<sup>st</sup> HSSC Meeting</b> <i>Docs: HSSC2-03A Minutes of HSSC1 (IHB)</i> <i>HSSC2-03B Status of Actions List from HSSC1 (IHB)</i> <i>HSSC2-03C Status Report of RTCA Correspondence Group on Data Supply Certification (CG-DSCC) (CG-DSCC Chair)</i> <i>Chain</i> <i>HSSC2-03D Status Report of the Correspondence Group on Definition and Length of Coastline (France)</i>
1530	<b>Group Photo followed by Coffee Break</b>
1600	<b>4. HSSC Administration</b> <i>Docs:</i>
1700	END OF DAY 1
if required	Drafting group(s) meet
<b>Wednesday 27 Oct</b>	<b>DAY 2 of HSSC2</b>
	<b>5. Reports by HSSC Working Groups</b>
0900	5.1 Transfer Standard Maintenance and Application Development (TSMAD) <i>Docs: HSSC2-05.1A Report and Recommendations of TSMAD (TSMAD Chair)</i>
1030	<b>Coffee Break</b>

1100	5.1 Transfer Standard Maintenance and Application Development (TSMAD) (continued) <i>Docs:</i>
1200	5.2 Data Protection Scheme (DPSWG) <i>Docs: HSSC2-05.2A Report and Recommendations of DPSWG (DPSWG Chair)</i>
1230	<b>Lunch</b>
1330	5.3 Digital Information Portrayal (DIPWG) <i>Docs: HSSC2-05.3A Report and Recommendations of DIPWG (DIPWG Chair)</i>
1500	<b>Coffee Break</b>
1530	break into drafting groups
1700	END OF DAY 2
<b>Thursday 28 Oct</b>	<b>DAY 3 of HSSC2</b>
0900	consider work of drafting group(s)
0945	5.4 Standardization of Nautical Publications (SNPWG) <i>Docs: HSSC2-05.4A Report and Recommendations of SNPWG (SNPWG Chair)</i>
1030	<b>Coffee Break</b>
1100	5.5 Chart Specifications and Paper Charts (CSPCWG) <i>Docs: HSSC2-05.5A Report and Recommendations of CSPCWG (CSPCWG Chair)</i>
1130	5.6 Data Quality (DQWG) <i>Docs: HSSC2-05.6A Report and Recommendations of DQWG (DQWG Chair)</i>
1200	5.7 Marine Spatial Data Infrastructure (MSDIWG) <i>Docs: HSSC2-05.7A Report and Recommendations of MSDIWG (MSDIWG Chair)</i>
1230	<b>Lunch</b>
1330	5.8 Tidal and Water Level (TWLWG) <i>Docs: HSSC2-05.8A Report and Recommendations of TWLWG (TWLWG Chair)</i>
1400	5.9 Hydrographic Dictionary (HDWG) <i>Docs: HSSC2-05.9A Report and Recommendations of HDWG (HDWG Chair)</i>
1430	5.10 ENC Updating (EUWG) <i>Docs: HSSC2-05.10A Report and Recommendations of EUWG (EUWG Chair)</i>
1500	<b>Coffee Break</b>

1530	<p><b>6. Inter-Organizational Bodies</b></p> <p>6.1 Inland ENC Harmonization Group (IEHG)  <i>Docs: HSSC2-06.1A Status Report on Inland ENC Development and Standardization (IEHG Co-Chair)</i></p>
1600	<p>6.2 IHO-IAG Advisory Board on the Law Of the Sea (ABLOS)  <i>Docs: HSSC2-06.3A Status Report on ABLOS activities (IHB)</i></p>
1630	<p>6.3 Marine Information Overlays (MIO) developments  <i>Docs:</i></p>
1700	END OF DAY 3
<b>Friday 29 Oct</b>	<b>DAY 4 of HSSC2</b>
0900	<p><b>7. Decisions of other bodies affecting HSSC</b></p> <p>7.1 IMO  <i>Docs: HSSC2-07.1A Report on IMO activities affecting HSSC (IHB)</i></p>
0915	<p>7.2 IEC and RTCM  <i>Docs: HSSC2-07.2A Report on IEC and RTCM work relating to electronic charting (D. Enabnit, USA (NOAA))</i></p>
	<b>8. Liaison with External Stakeholders</b>
0930	<p>8.1 Open ECDIS Forum  <i>Docs: HSSC2-08.1A Report on Activities of the Open ECDIS Forum (OEF) (L. Alexander, USA (UNH))</i></p>
0945	<p><b>9. Review and Endorsement of HSSC Work Plan</b>  <i>Docs: HSSC2-09A Consolidated HSSC Work Plan (IHB)</i></p>
1030	<b>Coffee Break</b>
1100	<p><b>10. Review of other Information Papers</b>  <i>Docs: HSSC2-INF1 Status Report on IHO Publications on Standards and Specifications (IHB)</i></p>
1130	<b>11. Date and Location of Next Meeting</b>
1200	<b>12. Closure of the Meeting</b>
1230	<b>Lunch</b>
1330	END OF DAY 4

**HSSC - LIST OF CONTACTS**  
(April 2010)

Member States	Name	Email
Argentina	Cdr Fabian Alejandro VETERE	<a href="mailto:fveter@hidro.gov.ar">fveter@hidro.gov.ar</a>
Australia	Mr Mike PRINCE	<a href="mailto:international.relations@hydro.gov.au">international.relations@hydro.gov.au</a>
Brazil	Capt Carlos A. PÊGAS FERREIRA Capt (Ret.) Wesley W. CAVALHEIRO	<a href="mailto:pegas@chm.mar.mil.br">pegas@chm.mar.mil.br</a> <a href="mailto:int.rel@dhm.mar.mil.br">int.rel@dhm.mar.mil.br</a> <a href="mailto:wesley.cavalheiro@lumen-assessoria.net">wesley.cavalheiro@lumen-assessoria.net</a>
Canada	Mr Sean HINDS	<a href="mailto:HindsS@DFO-MPO.GC.CA">HindsS@DFO-MPO.GC.CA</a>
Chile	Capt Patricio CARRASCO	<a href="mailto:pcarrasco@shoa.cl">pcarrasco@shoa.cl</a>
China	Mr ZHENG Hepping	<a href="mailto:hydro@msa.gov.cn">hydro@msa.gov.cn</a>
Cuba	Eng J.C. MARANTE Cabrera	<a href="mailto:internacional@geocuba.co.cu">internacional@geocuba.co.cu</a>
Denmark	Mr Jens Peter HARTMAN	<a href="mailto:jepha@kms.dk">jepha@kms.dk</a>
Ecuador	TNFG Marcos SANTOS CATAÑEDA	<a href="mailto:msantos@inocar.mil.ec">msantos@inocar.mil.ec</a>
Estonia	Mr Tõnis SIILANARUSK	<a href="mailto:tonis@vta.ee">tonis@vta.ee</a>
Finland	Mr Juha KORHONEN	<a href="mailto:Juha.Korhonen@liikennevirasto.fi">Juha.Korhonen@liikennevirasto.fi</a>
France	Ing en chef Jean-Luc DENIEL Mr Yves LE FRANC (EUWG Chair)	<a href="mailto:deniel@shom.fr">deniel@shom.fr</a> <a href="mailto:yves.le.franc@shom.fr">yves.le.franc@shom.fr</a>
Germany	Dr. Mathias JONAS (HSSC Vice Chair)	<a href="mailto:mathias.jonas@bsh.de">mathias.jonas@bsh.de</a>
Greece	Mr. Alexis HADJANTONIOU	<a href="mailto:dcd@hnhs.gr">dcd@hnhs.gr</a>
India	Shri Rajesh KUMAR	<a href="mailto:inho@dataone.in">inho@dataone.in</a>
Indonesia	Capt ROSYID	<a href="mailto:diysor_99@yahoo.com">diysor_99@yahoo.com</a> <a href="mailto:infohid@indo.net.id">infohid@indo.net.id</a>
Italy	LtCdr Alessandro NOBILI	<a href="mailto:alessandro.nobili@marina.difesa.it">alessandro.nobili@marina.difesa.it</a>
Japan	Mr Shigeru KASUGA	<a href="mailto:ico@jodc.go.jp">ico@jodc.go.jp</a>
Korea, Rep. of	Director, Nautical Charts Division	<a href="mailto:infokhoa@korea.kr">infokhoa@korea.kr</a>
Mexico	Cdr Raúl MARTÍNEZ Sánchez	<a href="mailto:asunext.hidro@gmail.com">asunext.hidro@gmail.com</a>
Netherlands	Mr Jan SCHAAP Mr René Van GEESBERGEN	<a href="mailto:j.schaap2@mindef.nl">j.schaap2@mindef.nl</a> <a href="mailto:r.v.geesbergen@mindef.nl">r.v.geesbergen@mindef.nl</a>
New Zealand	Mr Adam GREENLAND	<a href="mailto:agreenland@linz.govt.nz">agreenland@linz.govt.nz</a>
Norway	Ole B KVAMME Ms Lynn KOLBEINSON	<a href="mailto:Ole.Kvamme@statkart.no">Ole.Kvamme@statkart.no</a> <a href="mailto:lynn.kolbeinson@statkart.no">lynn.kolbeinson@statkart.no</a>
Portugal	LtCdr António Martins PINHEIRO	<a href="mailto:martins.pinheiro@hidrografico.pt">martins.pinheiro@hidrografico.pt</a>
Russian Federation	Capt EGOROV	<a href="mailto:main@gunio.ru">main@gunio.ru</a>
Singapore	Dr Parry OEI	<a href="mailto:parry@mpa.gov.sg">parry@mpa.gov.sg</a>
South Africa	Capt Abri KAMPFER	<a href="mailto:hydrosan@iafrica.com">hydrosan@iafrica.com</a>
Spain	Cdr Angel CHANS	<a href="mailto:ihmesp@fn.mde.es">ihmesp@fn.mde.es</a>
Sweden	Mr Åke MAGNUSSON	<a href="mailto:ake.magnusson@sjofartsverket.se">ake.magnusson@sjofartsverket.se</a>
UK	Capt Vaughan NAIL (HSSC Chair) Mr Chris SMITH Mr Peter JONES (CSPCWG Chair) Mr Barrie GREENSLADE (TSMAD Chair) Mr David ACLAND (SNPWG Chair) Mr Chris HOWLETT (DQWG Chair)	<a href="mailto:chris.smith@ukho.gov.uk">chris.smith@ukho.gov.uk</a> <a href="mailto:peter.jones@ukho.gov.uk">peter.jones@ukho.gov.uk</a> <a href="mailto:barrie.greenslade@ukho.gov.uk">barrie.greenslade@ukho.gov.uk</a> <a href="mailto:david.acland@ukho.gov.uk">david.acland@ukho.gov.uk</a> <a href="mailto:chris.howlett@ukho.gov.uk">chris.howlett@ukho.gov.uk</a>

USA	RAdm Christian ANDREASEN Mr Jim MCGAUGHRAN Mr David ENABNIT Mr Jerry MILLS (HDWG Chair) Mr Stephen GILL (TWLWG Chair) Mr Colby HARMON (DIPWG Chair) Mr James BRAUD	<a href="mailto:christian.andreassen@nga.mil">christian.andreassen@nga.mil</a> <a href="mailto:james.mcgaughran@nga.mil">james.mcgaughran@nga.mil</a> <a href="mailto:dave.enabnit@noaa.gov">dave.enabnit@noaa.gov</a> <a href="mailto:jerry.mills@noaa.gov">jerry.mills@noaa.gov</a> <a href="mailto:stephen.gill@noaa.gov">stephen.gill@noaa.gov</a> <a href="mailto:Colby.Harmon@noaa.gov">Colby.Harmon@noaa.gov</a> <a href="mailto:james.braud@navy.mil">james.braud@navy.mil</a>
<b>IHB</b>	<b>Name</b>	<b>Email</b>
	Capt Robert WARD Ing en Chef Michel HUET (Secretary)	<a href="mailto:robert.ward@ihb.mc">robert.ward@ihb.mc</a> <a href="mailto:mhuet@ihb.mc">mhuet@ihb.mc</a>
<b>Observers</b>	<b>Name</b>	<b>Email</b>
DGIWG	<i>no name provided</i>	
IC - ENC	Mr Graham SAUNDERCOCK	<a href="mailto:graham.saundercock@ic-enc.org">graham.saundercock@ic-enc.org</a>
CLIA	Capt Paul BEGGS	<a href="mailto:pbeggs@princesscruises.com">pbeggs@princesscruises.com</a>
CNITA	Mr Willem AMELS	<a href="mailto:willem@datema.nl">willem@datema.nl</a>
ICS	Mr Peter HINCHCLIFFE	<a href="mailto:peter.hinchliffe@marisec.org">peter.hinchliffe@marisec.org</a>
CIRM	Mr Michael RAMBAUT Mr Tor A. SVANES	<a href="mailto:mr@cirm.org">mr@cirm.org</a> <a href="mailto:tor.svanes@jeppesen.com">tor.svanes@jeppesen.com</a>
IALA	Dr Lee ALEXANDER	<a href="mailto:lee.alexander@unh.edu">lee.alexander@unh.edu</a>
IEC/TC80	Dr Andy NORRIS Mr Kim FISHER	<a href="mailto:andy@drandynorris.co.uk">andy@drandynorris.co.uk</a> <a href="mailto:kpfisher@btinternet.com">kpfisher@btinternet.com</a>
IEHG	Ms Denise LADUE Dr Lee ALEXANDER	<a href="mailto:Denise.R.LaDue@usace.army.mil">Denise.R.LaDue@usace.army.mil</a> <a href="mailto:lee.alexander@unh.edu">lee.alexander@unh.edu</a>
IMPA	Capt Rodolphe STRIGA	<a href="mailto:rodolphe.striga@orange.fr">rodolphe.striga@orange.fr</a>
GEBSCO	Dr Walter SMITH	<a href="mailto:walter.smith@noaa.gov">walter.smith@noaa.gov</a>
IMO Secretariat	Capt Gurpreet SINGHOTA	<a href="mailto:gsinghota@imo.org">gsinghota@imo.org</a>
IOC Secretariat	Dr Luciano FONSECA	<a href="mailto:l.fonseca@unesco.org">l.fonseca@unesco.org</a>
PRIMAR	Mr Robert SANDVIK	<a href="mailto:robert.sandvik@primar.org">robert.sandvik@primar.org</a>
RTCA	Mr Michael BERGMANN	<a href="mailto:michael.bergmann@jeppesen.com">michael.bergmann@jeppesen.com</a>
RTCM	Mr Fred GANJON Mr Rafael PONCE	<a href="mailto:fganjon@starpower.net">fganjon@starpower.net</a> <a href="mailto:rponce@esri.com">rponce@esri.com</a>
UN (DOALOS)	Mr Robert SANDEV	<a href="mailto:sandev@un.org">sandev@un.org</a>