



9<sup>th</sup> Meeting of the IHO Inter-Regional Coordination Committee (IRCC9)

Paramaribo, Suriname, 12-14 June 2017

**Report of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)**

<b>Submitted by:</b>	Chair, IBSC
<b>Related Documents:</b>	IRCC9-08H2, IRCC9-08H3
<b>Related Projects:</b>	N/A

<b>Chair:</b>	Mr. Adam GREENLAND, New Zealand (FIG), from Sept 2016 Mr. Nicolas SEUBE (France), 2013-2016
<b>Vice-Chair 1:</b>	Mr. Ron FURNESS, Australia (ICA), from Sept 2016 Mr. Adam GREENLAND, New Zealand (FIG), 2013-2016
<b>Vice-Chair 2:</b>	Captain Nickolás ROSCHER, Brazil (IHO), from Sept 2016 Mr. Ron FURNESS, Australia (ICA), 2013-2016
<b>Secretary:</b>	Alberto COSTA NEVES (IHO Secretariat)
<b>Members:</b>	IHO: Captain Andrew ARMSTRONG (USA), Commodore Rod NAIRN (Australia), Mr. Nicolas SEUBE (France); FIG: Mr. Gordon JOHNSTON (UK), Prof. Keith MILLER (Trinidad and Tobago), Mr. Sobri SYAWIE (Indonesia); ICA: Prof. Lysandros TSOULOS (Greece).

**Background:**

1. The FIG/IHO/ICA IBSC is composed of four Members from FIG, four Members from IHO and two Members from ICA. In broad terms the IBSC role is to;

- maintain the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (S-5 & S-8);
- maintain the publications C-6 (Reference Texts for Training in Hydrography) and C-47 (Training Courses in Hydrography and Nautical Cartography);
- review programme submissions from institutions against these standards;
- award certificates of programme recognition when appropriate;

- undertake onsite visits to institutions offering recognized programmes.

2. The output of IBSC activities are a worldwide network of formally recognised programmes of education and training for Hydrographic Surveyors and Nautical Cartographers. This supports the following objectives established in the IHO Strategic Plan (2017):

*"b. To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services;*

*c. To improve global hydrographic capability, capacity, training, science and techniques;*

*d. To establish and enhance the development of international standards for hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards;"*

3. Standards of Competence for Hydrographic Surveyors and Nautical Cartographers is an absolute fundamental requirement of industry and government, from established Hydrographic Offices to emerging States.

4. The IBSC and its Standards of Competence are an integral part of the IHO Capacity Building programme.

#### **Meetings held during reporting period and planned for the next years**

5. The 40<sup>th</sup> IBSC meeting was hosted by LINZ, New Zealand, March 2017.

6. The 41<sup>st</sup> IBSC meeting will be hosted by the Bandung Technical University, Indonesia, April 2018.

7. The 42<sup>nd</sup> IBSC meeting is planned for Hawaii, USA, April 2019.

8. The 43<sup>rd</sup> IBSC meeting is planned for Alexandria, Egypt, March 2020.

#### **Summary of IBSC activities in 2016-2017:**

9. The new standard framework development (task 3.3.9 in the 2013-2017 IHO Work Programme) was taken to its final stages with the submission of draft Editions 1.0.0 of S-8A and S-8B. The development was done mainly by correspondence and complemented by the following meetings:

<b>MEETING</b>	<b>MONTH -YEAR</b>
Workgroup (WG) S-5 (Wellington, NZ)	Feb 2012
<b>IBSC35 (Buenos Aires, AR)</b>	<b>May 2012</b>
<b>IBSC36 (Lisbon, PT)</b>	<b>Apr 2013</b>
WG S-5 (Brest, FR)	Sep 2013
WG S-5 (Durham, US)	Dec 2013
WG S-5 (Monaco)	Mar 2014
<b>IBSC37 (Tokyo, JP)</b>	<b>Apr 2014</b>
WG S-5 (Paris, FR)	May 2014
WG S-5 (Hamburg, DE)	Jun 2014
WG S-5 (Durham, US)	Jun 2014
WG S-5 (Durham, US)	Dec 2014

<b>MEETING</b>	<b>MONTH -YEAR</b>
<b>IBSC38 (Niteroi, BR)</b>	<b>Mar/Apr 2015</b>
WG S-8 (Rio de Janeiro, BR)	Jul 2015
WG S-5 (Rimouski, CA)	Dec 2015
WG S-5 (St. John, AG)	Dec 2015
WG S-8 (Bandung, ID)	Feb 2016
<b>IBSC39 (Brest, FR)</b>	<b>Apr 2016</b>
WG S-8 (London, UK)	Sep 2016
WG S-8 (Singapore, SG)	Nov 2016
<b>IBSC40 (Wellington, NZ)</b>	<b>Apr 2016</b>

10. Engagement with external stakeholders with the participation in the HYDRO16 Conference. (Rostock, Germany).

11. Seven submissions have been reviewed during IBSC40. The number of submissions is low compared to the historical series due to the fact some institutions requested a one year extension to adapt their programmes to the new Standards. Additionally, potential new submissions were also postponed in preparation for the new Standards. Despite the concerns with the new framework, all the submissions to IBSC40 were successfully recognized:

Category B programmes	Hydrography	2	4
	Cartography	2	
Category A programmes	Hydrography	3	3
	Cartography	0	
Individual Recognition Schemes		0	0
TOTAL			7

The seven recognized programmes are listed in **Annex A**. It is worth mentioning that three of the recognized programmes were recognized for the first time.

12. During IBSC40, the Board also finalized the Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (see paragraph 13), incorporated clarifications to S-5A and S-5B, considered the requests for extensions (listed in **Annex A**) and other matters related to recognized programmes and schemes, reviewed the annual reports received from institutions holding recognized programmes, analysed the impact of technology in the delivery of the Standards (e.g. e-learning, blended learning, virtual reality), reviewed the Rules of Procedure (see paragraph 16), considered the possibility of establishing a register for individuals and the development of a document with lessons learned and frequently asked questions to support submitting institutions, and the preparation of templates for the submissions.

**New standards development:**

13. As a result of the activities reported in paragraph 9, the new standards incorporate four documents:

- a) Standards of Competence for Category "B" Hydrographic Surveyors (S-5B), adopted in January 2016.
- b) Standards of Competence for Category "A" Hydrographic Surveyors (S-5A), adopted in August 2016.
- c) Standards of Competence for Category "B" Nautical Cartographers (S-8B), submitted by *doc. IRCC9-08H3*.
- d) Standards of Competence for Category "A" Nautical Cartographers (S-8A), submitted by *doc. IRCC9-08H2*.

They are accompanied by the Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. This document is kept updated and fit for purpose at the IHO website:

[www.iho.int](http://www.iho.int) → Standards & Publications → Download

14. Draft Edition 1.0.0 of S-8A and draft Edition 1.0.0 of S-8B are now being submitted to IRCC9 (*docs. IRCC9-08H2* and *IRCC9-08H3*, respectively), seeking the endorsement of the IRCC, in line with A-1 Decision 15 (*The Assembly tasked the IRCC to directly seek approval of the proposed new editions of IHO Publications S-8B and S-8A by Member States through Circular Letter voting rather than via submission to the Council*). This will allow the adoption of both publications in time for the submissions to IBSC41.

15. In the previous reporting period the IBSC also prepared Edition 1.0.1 of S-5A and Edition 1.0.1 of S-5B, with clarifications and reformatting in order to align with the developments of the draft Editions 1.0.0 of S-8A and S-8B, and supported by the lessons learned with the first submissions against S-5A and S-5B. Both Editions 1.0.1 of S-5A and of S-5B are available from the IHO website (session "Draft Publications in the final stage of editing following adoption by Member States") in the link above.

**IBSC ToR update**

16. The Board agreed on modifications of the Rules of Procedures concerning the changes arising from the entering into force of the amendments to the Convention on the IHO, the management of fees due by submitting institutions and the Code of Conduct of the Board Members. The Board also incorporated the editorial amendments to the Terms of Reference to accommodate the changes in the Convention on the IHO. Both documents are in Annex B.

**IHO Secretariat support to IBSC activities**

17. Your comments please.

**Actions Required of IRCC:**

18. IRCC is invited to:

- a) **Note** this report;

- b) **Acknowledge** the work done by the Board in the development of the new framework of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (paragraph 13);
- c) **Approve** the clarifications done in Editions 1.0.1 of the IHO Publications S-5B and S-5A (item 15);
- d) **Approve** the editorial amendments of the Terms of Reference and note the amendments of the Rules of Procedure;
- e) **Take** any other actions as appropriate.

### List of Recognized Programmes and Extensions Granted during IBSC40

Ed.	Programme	Submitted by		Cat	O/E
<b>Hydrography</b>					
S-5A 1.0.0	Hydrography and Oceanography for Officers	Hydrographic and Oceanographic Service of the Chilean Navy	Chile	A	-
S-5A 1.0.0	Course Programme in Geomatics and Hydrography	HafenCity University	Germany	A	-
S-5A 1.0.0	Specialization Course in Hydrography	Hydrographic Institute of Portugal	Portugal	A	-
S-5B 1.0.0	Hydrographic Survey Programme	Egyptian Navy Hydrographic Department and the Arab Academy for Science, Technology and Maritime Transport	Egypt (NEW)	B	-
S-5B 1.0.0	Hydrographic Survey Program	Korea Hydrographic and Oceanographic Agency (KHOA)	Republic of Korea (NEW)	B	-
<b>Cartography</b>					
S-8 3.1.0	Advanced Training Course on Nautical Cartography	Service Hydrographique et Océanographique de la Marine	France	B	2
S-8 3.1.0	OCS Certification in Cartography	National Oceanic and Atmospheric Administration/National Ocean Survey/Office of Coast Survey	USA (NEW)	B	2
<b>Granted one year extension</b>					
S-5 11.1.0	Specialization Course in Hydrography for Navy Officers and Civilian Attendees	Argentinean Navy Sea Sciences Academy	Argentina	B	1,5,7
S-5 11.1.0	Turkish Navy Hydrographic Course	Office of Navigation, Hydrography and Oceanography (ONHO)	Turkey	B	-
S-5 11.1.0	International Hydrographic Management and Engineering Program (IHMEP)	Naval Oceanographic Office	USA	B	-
S-5 11.1.0	Joint International Hydrographic Applied Science Program	University of Southern Mississippi-NAVOCEANO	USA	A	1,5
S-5 11.1.0	Graduate Programme in Ocean Mapping	University of New Hampshire/NOAA Joint Hydrographic Center	USA	A	1,5

<b>FIG/IHO/ICA INTERNATIONAL BOARD ON STANDARDS OF COMPETENCE FOR HYDROGRAPHIC SURVEYORS AND NAUTICAL CARTOGRAPHERS (IBSC)</b>
<b>TERMS OF REFERENCE</b>
<b><u>Reviewed by IBSC40 in March 2017 for editorials</u></b>
1. Review at appropriate intervals (not exceeding two years) the recommended minimum standards of competence for hydrographic surveyors and nautical cartographers, taking into account developments in science and technology, current practices and comments and recommendations received from National Focal Points ( <del>NFP</del> ) and other authorities.
2. Maintain and promulgate all publications and documents resulting from the tasks carried out by the Board.
3. Review the syllabi of programmes and individual recognition schemes submitted by Hydrographic Offices, institutions and learned bodies taking into account comments and recommendations received from <del>National Focal Points NFP</del> and other authorities.
4. Review such syllabi by comparison with the recommended minimum standards and award certificates of programme recognition to those institutions whose programmes meet the recommended standards.
5. Conduct where appropriate, site visits to submitting and recognized organizations.
6. Review the procedures of submission.
7. Communicate with IHO through the Inter Regional Co-ordination Committee (IRCC), with FIG through the Chair of Commission IV, and with ICA through the Commission on Marine Cartography.
8. Normally meet once each year.
9. The FIG/IHO/ICA International Board shall be composed of members of known competence in the civil, governmental or educational sectors of hydrographic surveying and nautical cartography, selected to provide as wide as possible a spectrum of knowledge and experience in educational practices, hydrography and nautical cartography, from different geographical areas, as far as reasonable.
10. The Board shall have up to ten members, four provided by FIG, four provided by IHO and two provided by ICA. The Chair <del>man</del> shall have a seat in the IRCC and shall report on the activities of the Board to the IRCC Chair <del>man</del> for further report to <del>each ordinary session of the International Hydrographic Conference (“each ordinary session of the International Hydrographic Conference” to be replaced by “each ordinary session of the IHO Assembly through the IHO Council” when the IHO Council and IHO Assembly are established).</del>
11. The Board shall have its permanent Secretariat at <del>the International Hydrographic Bureau, (“the International Hydrographic Bureau” to be replaced by “the IHO Secretariat” when the IHO Secretariat is established).</del> The Secretary shall be nominated by <del>the Directing Committee of the International Hydrographic Bureau (“the Directing Committee of the International Hydrographic Bureau” to be replaced by “the IHO Secretariat” when the IHO Secretariat is established).</del> The Secretary shall provide the secretarial and administrative support needed to gather, hold and disseminate information on behalf of the Board, as required. The Secretary shall provide a summary of the Board's activities to be included in the IHO Annual Report.
12. The IHO shall finance the cost involved of <del>the IHB (the IHB to be replaced by “the IHO Secretariat” when the Secretariat is established)</del> and Secretary. Members of the Board are expected to be supported by their own organizations for travel expenses and work.
13. The Board will set fees for submissions. <del>IHO</del> <u>Secretariat</u> will receive and hold in trust for the use of the Board monies received from fees levied by the Board.
14. Proposals from the Board to modify these Terms of Reference must be ratified by IHO, FIG and ICA following the procedures of these bodies.
15. The internal functioning of the Board shall be ruled by Rules of Procedure issued and approved by the Board Members, as deemed necessary.

**FIG/IHO/ICA INTERNATIONAL BOARD ON STANDARD OF COMPETENCE FOR  
HYDROGRAPHIC SURVEYORS AND NAUTICAL CARTOGRAPHERS (IBSC)**

**RULES OF PROCEDURE**

*As amended by the IBSC during its 40<sup>th</sup> meeting (20-31 March 2017)*

1. The ~~IB-Board~~ shall normally hold a meeting every year (usually in April/~~May time~~) whenever possible in conjunction with another related conference or meeting. The venue and date of the meeting shall be decided at the previous meeting, in order to facilitate participants' travel arrangements. Extraordinary meetings can be called by the Chair~~man~~ or any appointed member, as considered necessary, with the agreement of the simple majority of all members of the ~~Commission~~Board.

2. The Board shall elect, from amongst its members, a Chair~~man~~ and two Vice-Chair~~smen~~ for a term of three years. Under agreement of all the Board's members, the Chair~~man~~ may be re-elected for a second period. FIG, IHO and ICA nominees on the Board shall hold these posts alternatively. On completion of the Chair~~man~~'s mandate (30<sup>th</sup> September of the 3<sup>rd</sup> year), the First Vice-Chair~~man~~ shall normally become the Chair~~man~~. If this is not the case then a new Chair~~man~~ and a new Vice-Chair~~smen~~ shall be elected. It is expected that members shall serve on the Board initially for a period of six years.

3. Members are expected to attend every meeting of the Board, and to conduct business by correspondence between meetings. Appointed members who are absent from meetings over two consecutive years will normally be considered to have resigned and new nominations shall be sought. E-mail communication will be the normal method. Papers and information material will be posted on the ~~IB-IBSC~~ section of the IHO web-site.

4. During the meetings, decisions shall be taken by simple majority vote of Members of the Board present. When dealing with matters by correspondence, a simple majority of all Members of the Board shall be required. Recommendations of the Board shall be submitted to the FIG, IHO and ICA Member States for consideration and adoption, ~~through the IHB Directing Committee. ("the IHB Directing Committee" to be replaced by "the IHO Secretariat" when the IHO Secretariat is established).~~

5. The draft minutes of each meeting shall be distributed by the Chair~~man~~ to the members of the Board within one month of the meeting, and members' comments should be returned within two months of the meeting. A final minutes report will be posted on the IHO web-site and sent to IHO, FIG and ICA, to institutions running currently recognized courses and other appropriate organizations.

6. The working language of the Board shall be English.

7. Fees and Funding ~~issues~~:

7.1 Fees will be reviewed by the Board at appropriate intervals (not exceeding 2 years). Revenue from ~~any fees~~ will be used only for the work of the Board. All expenditure will be approved by the Board as outlined in the Annex A "Course Recognition's Fee".

7.2 The fees levied by the Board shall be deposited in the IHO account (operated by ~~IHB~~the IHO Secretariat). The Board shall identify a funding group comprising three Board members (including the Chair~~man~~) and the ~~IB~~-Secretary. The funding group will oversee the account and instruct any payments.

7.3 Requests for funds shall be submitted to the Funding Group in writing prior to any expenditure being accumulated.

8. The IBSC Rules of Procedure can be amended by simple majority of all its Members.

9. The Board Members and the Secretary will follow the Code of Conduct described in Annex B.



**FIG/IHO/ICA**  
**INTERNATIONAL BOARD ON STANDARDS OF COMPETENCE FOR**  
**HYDROGRAPHIC SURVEYORS AND NAUTICAL CARTOGRAPHERS (IBSC)**

**ANNEX A TO THE RULES OF PROCEDURES**

**Course Recognition's Fees**

**1. Rationale**

To achieve, with effectiveness and efficiency, the ongoing work entrusted to the IBSC, the IBSC requires holding annual meetings and to assess the training programmes before and after their programmes have been recognized as complying to the international standards set.

This document aims to outline the process for collecting, holding and disbursing the fees received in the process of recognizing courses. It helps the IBSC and the parent organizations to understand the process and ensures transparency and openness on the use of the funds.

**2. Collection of fees**

The fees are applied to each submission ~~on an annual basis~~. ~~It has been agreed an~~ An annual value of 450€ (net of bank charges) ~~will to~~ be levied for each programme, while such a programme holds the recognition of the IBSC. The first fee is to be paid when submitting a programme for recognition. That fee will not be returned in the case of failure to gain recognition, but it will not be necessary to make a second payment when offering an amended submission. However for new or revised documentation submitted the following year for assessment then a fee would apply. Annual fees thereafter shall be paid before the end of the year. To minimise bank fees associated with international funds transfers, an option is made available to pay the full fee at the time of submission (2 700€). Alternatively, the balance remaining for the full period of recognition may be paid after recognition is granted by a single payment covering the remaining period (450€ at time of submission plus 2 250€ for the remaining period).

Fees are paid to IHO who holds and operates a dedicated IBSC account. The details for transfer will be made available to any submitting organization and are likely to include:

Name of Account:

Bank Name and Branch:

Account Number:

International IBAN/Roll No. (or equivalent) number:

Postal Address:

Amount of fee due (based upon submission(s): 450€ (net of bank charges) per submission:

Currency - Euros

Date of any required payment:

**All charges relative to the deposit/transfer of the fees will be paid by the submitting organization**

**IMPORTANT:** a scanned copy of the bank transfer ~~must~~ MUST be sent to the Secretary of the Board.

Fees can also be paid by credit card (please contact the Secretary for details).

**3. Holding of fees**

Upon receiving a payment IHOB Secretariat will issue a certificate acknowledging the receipt of the fee, clearly identifying the source, year that it covers and any other identification felt to be useful. The IHOB Secretariat will make resources available to the IBSC following the instructions of an IBSC Funding Group, details of which are provided below.

#### **4. Disbursing the fees**

The IBSC shall form a Funding Group (FG) comprising one representative from each organization (normally the Chair and Vice-Chairs). The IBSC Chair will be the FG Chair. The IBSC secretary shall keep minutes of the FG meetings and be the only liaison with submitting institutions.

The fund is intended to support IBSC members' expenses to attend meetings of the Board and to make site visits to the venues of training programmes under the purview of the Board and to assist in meeting the travel expenses of the IBSC Chair, or designated representative, when participating in relevant meetings.

The FG shall receive the requests of support from each incumbent IBSC member and approve the provision of funds. The FG may not necessarily fund ~~the~~ 100% of any request made. The funds may only be used to support IBSC members' expenses such as travel, accommodation and meals. The FG shall report on the status of the fees at each IBSC annual meeting and submit for consideration of the IBSC the documentation detailing the income, outgoings and the standing balance.

The IBSC Chair shall keep the parent organizations informed on the status and management of the fees and therefore shall include a section on this matter in its reports at the end of each IBSC meeting.

**FIG/IHO/ICA INTERNATIONAL BOARD ON STANDARDS OF COMPETENCE  
FOR HYDROGRAPHIC SURVEYORS AND NAUTICAL CARTOGRAPHERS  
(IBSC)**

**ANNEX B TO THE RULES OF PROCEDURES**

**Code of Conduct for the FIG-IHO-ICA International Board on Standards of  
Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)**

All IBSC Board members and Secretary commit to the highest ethical and professional conduct and agree:

1. To accept responsibility in developing Standards of Competence consistent with the best practices of hydrographic surveying and nautical cartography;
2. To accept responsibility in making recognition decisions consistent with the Standards of Competence and the advancement of the hydrographic and nautical cartographic professions;
3. To act as faithful agents or trustees of the IBSC and its parent organizations, FIG, IHO, and ICA;
4. To keep confidential all matters relating to recognition decisions unless required to disclose information by law or IBSC Terms of Reference or Rules of Procedure;
5. To make or issue either public or internal statements only in an objective and truthful manner;
6. To conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the reputation and effectiveness of the IBSC and parent organizations;
7. To report concerns regarding accounting, internal accounting controls or auditing matters without fear of retaliation;
8. To treat all persons involved in recognition activities with fairness and justice;
9. To be willing to assist interested institutions in developing effective hydrographic and nautical cartographic education and training programs in a transparent and equitable way and obtaining IBSC recognition;
10. To declare interest and recuse themselves from Board deliberations and decisions where conflict of interest might arise.
- ~~10.11.~~ 11. To support a mechanism for the prompt and fair adjudication of alleged violations of this code.
12. Costs for visits related to the work of the Board shall not be covered by the visited institutions.