

FIG/IHO/ICA Advisory Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers

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SUMMARY

The *FIG/IHO/ICA Advisory Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers* has been extended in the year 2002 with two members appointed by ICA. The task was also extended to deal with Nautical Cartography as well.

The Board works mostly by correspondence and meets once a year where submitted courses are surveyed and compared with the Standards, IHO publications M-5 and M-8. The Standards, M-5 and M-8 are continuously updated and new versions have been presented almost every second year. The Standards of Competence for Hydrographic surveyors has now reached the ninth edition and the Standards of Competence for Nautical Cartographers have been published in the first edition.

The members of the Board are ten, four members appointed by FIG (the International federation of Surveyors), four appointed by IHO (international Hydrographic Organisation) and two appointed by ICA. IHO has made a secretary available. (11 countries are represented). The composition of the Board has to take into account the experience from both the practical works as well from the university sphere.

The Board has a *VISION* that is

To improve the level of international hydrographic competence.

And the *MISSION* is

To provide guidance to the international hydrographic community about hydrographic education.

The meetings are very intense and take 7 – 10 days. The courses to review have been from 7 to 12 every year and the work with the standards take some days.

The organisations submitting courses are supposed to resubmit every 10th year if they want to keep the recognition as an international body fulfil the FIG/IHO/ICA Standards of Competence.

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1. BACKGROUND

During the International Congress of Surveyors (FIG) at Wiesbaden in 1971, a Working Group was formed by Commission IV (Hydrography) to develop International Standards of Competence within the profession of surveying at sea. In 1972, the International Hydrographic Conference at Monte Carlo, the International Hydrographic Organization (IHO) set up a working group for the compilation of training courses in hydrography conducted by Member States. In 1974, at the XIV FIG Congress in Washington, it was resolved that the FIG and IHO working groups combine to study and modify the Report of the FIG working group on Educational Standards.

The Report of the joint FIG-IHO WG was accepted by the two parent bodies at their respective conferences in 1977. In consequence of similar resolutions passed at these conferences an International Advisory Board on Standards of Competence for Hydrographic Surveyors (the Board) was formed.

Since then the Board has met annually and compiled and regularly updated "Standards of Competence for Hydrographic Surveyors" (the Standards). The intention of the Board in preparing these Standards is to provide guidance whereby individual surveyors may be trained and qualified in accordance with internationally accepted levels of competence. The Standards indicate the minimum degree of knowledge and experience considered necessary for hydrographic surveyors, and provide a set of course outlines against which the Board may evaluate courses submitted for recognition.

The fifth edition of the Standards was approved by the Board at its 10th Meeting held in Aberdeen, Scotland, April 1987. The fifth edition represented a significant change of approach in order to make them more applicable to the different requirements for hydrographic surveyors in government and industry. The new Standards provided basic and essential subjects that are required for all Hydrographic surveyors and a choice of three options for specialization in Nautical Charting Surveys, Surveys for Coastal Zone Management, or Industrial Offshore Surveys.

The sixth edition, incorporated a change in format, to facilitate easier cross-referencing between syllabus topics and courses which were submitted for recognition and also included minor changes in content to eliminate duplication of subject matter and to reflect the evolution of technology.

The seventh edition eliminated the distinction between Full/Academic recognition and increased the emphasis on developing techniques of GPS, Multibeam sonar systems and ECDIS.

The eighth edition (1997) eliminates the Specialisms and re-structures the Syllabus in two different parts: The "Minimum Standards", including Basic and Essential Subjects and the "Optional Units".

The ninth edition (2001) provides a better definition of the three levels of knowledge identified in the syllabus. Nautical Science was moved to the Basic Subjects, and was modified to reflect the minimum knowledge required by a hydrographic surveyor. This new edition contains a fuller description of each subject, which have been divided into Category A / Category B and Category A-only learning objectives. The purpose of this change is to define the actions that hydrographic surveyors should be capable of performing, upon completion of the training process.

Earlier editions of the Standards were published in two parts, the Syllabi and Bibliography. The Board now separates these, and maintains the bibliography as IHO publication M-6 "Reference Texts and Journals for Training in Hydrography", available from the IHB website. www.iho.shom.fr

The IHO Second Extraordinary Conference in March 2000 approved the development of a set of *Standards of Competence for Nautical Cartographers*. Immediately the need to establish a body that could develop these Standards was envisaged. Following some discussions, it was agreed that the FIG/IHO International Advisory Board on Standards of Competence for Hydrographic Surveyors (IAB) could be the appropriate body to lead the preparation of these Standards, with the contribution of other organisations such as the International Cartographic Association (ICA) and learned institutions running courses on nautical cartography. After co-ordinating with FIG and ICA authorities at the 2001 International Cartographic Conference held in Beijing, China, IHB recommended that IHO invite ICA as the third parent organisation of the Board. Therefore, the Board changed its name to FIG/IHO/ICA.

2. TERMS OF REFERENCE

- The FIG/IHO International Advisory Board shall:
 - review at appropriate intervals (not exceeding two years) the recommended minimum standards of competence for Hydrographic Surveyors and the standards of competence for Nautical Cartographers, taking into account comments and recommendations received from National Focal Points (NPF) and other authorities.
 - maintain and promulgate all publications and documents resulting from the tasks carried out by the Board.

- review the syllabi of programmes submitted by Hydrographic Offices, institutions and learned bodies taking into account comments and recommendations received from National Focal Points and other authorities.
- provide advice and comments on such syllabi by comparison with the recommended minimum standards and award certificates of programme recognition to those institutions whose programmes meet the recommended standards.
- review the procedures of submission.
- communicate with IHO through the IHB and with FIG through the Chair of Commission IV and with ICA through the Commission on Marine Cartography.
- normally meet once each year.
- The FIG/IHO/ICA International Advisory Board will 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.
- The Board will have up to ten members, four provided by FIG, four provided by IHO and two provided by ICA.
- The Board will have its permanent Secretariat at the International Hydrographic Bureau, Monaco. The Secretariat will publish the documents and publications produced by the Board as required.
- The functioning of the Board will be regulated by an internal document, the “Terms of Procedure”, issued and kept up to date by the Board. Any modification to the “Terms of Procedure” will be adopted by simple majority of the Board members.
- The IHO will finance the cost involved of the IHB and Secretariat. Members of the Board are expected to be supported by their own organizations for travel expenses and work.
- Proposals from the Board to modify these Terms of Reference must be ratified by IHO FIG and ICA following the procedures of these bodies.

The International Advisory board has adopted a *VISION* for the work that is

To improve the level of international hydrographic surveying and nautical cartographic competences.

And the *MISSION* is

To provide guidance to the international hydrographic community about hydrographic surveying and nautical cartographic education.

3. WORK OF THE BOARD

The Board has reviewed five to ten courses each year. The courses have been submitted from all over the world. There are about 100 courses given in Hydrographic Surveying based on the Standards and one in Nautical Cartography so far.

The board has to review the standards of competence in order to keep them up to date with the ongoing development. The Ninth Edition of the Standards in Hydrographic Surveying was released in 2001. New technologies, such as differential GPS, Multibeam sonar systems, electronic charts and inland waters hydrography and others were considered and incorporated in the ninth edition of the standards.

Last meeting, 2003 in UK, adopted the first edition of the standards for Nautical Cartography after circulated the draft standards to the mother organisations.

The board also considered the importance to prepare some guidelines for new members of the board, in order to introduce them to the responsibilities, procedures and the way to accomplish the terms of reference.

The board also found that some guidance for practical exercises and field training were needed. A new annex has therefor been prepared and added to the standards namely "Guidelines for Practical exercises and field training".

The board has been working with a new edition of the publication M-6, "Reference texts and journals for training in Hydrography".

4. MEMBERS OF THE BOARD AND MEETINGS

FIG, IHO and ICA have nominated ten representatives from ten different countries. The current composition of the board includes members from USA, Canada, UK, Finland and Sweden representing FIG and Italy, India, Malaysia and Germany representing IHO and from 2001 Australia and Greece representing ICA.

Chairman is Svante Astermo, the former Hydrographer from Sweden, and vice chairman is capt Andy Armstrong from the University of New Hampshire, USA. Acting secretary is capt Federico Bermejo from the IHB, the International Hydrographic Bureau in Monaco. Meetings have been hosted by members of the board in their countries. The last six years the meetings have been in Canada, Sweden, India, Chile, Italy, UK and now(2004) it will be in May in Malaysia.

5. PERSONAL COMMENTS

The work in the Board is very interesting and gives experience from different countries and cultures but is also very demanding, as it is an extra burden to the member's ordinary tasks. The work is special and it is needed that the members stays in the board at least for a five-year period in order to have got enough of experience to be able to give his or her best contribution.

Therefore it is of the greatest importance that the mother organisations have secured the possibility of the elected member to attend all meetings of the board.

This year the board will have its first female member, Tiina Tuurnala from Finland who is going to replace Svante Astermo as FIG member. She will attend her first meeting in Malaysia to see and learn.

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