

# **REPORT OF THE XVIIIth MEETING OF THE FIG/IHO INTERNATIONAL ADVISORY BOARD ON STANDARDS OF COMPETENCE FOR HYDROGRAPHIC SURVEYORS**

Annex I . Terms of Reference and Terms of Procedure for the FIG/IHO Advisory Board

Annex II. Changes to the Standards.

Annex III. Composition of the Board

## 1. Location and attendance

The XVIIIth meeting of the FIG/IHO Advisory Board was held in the conference room "Furyanu" in the Hotel Istana, Kuala Lumpur, Malaysia. It was hosted by the Institution of Surveyors, Malaysia, the Department of Surveying and Mapping, the Directorate of Hydrography and SHELL Malaysia. The following were present :

Mr. Svante Astermo (FIG)  
Mr. Razali B. Ahmad (FIG), host member  
Commander Paolo Giannetti (IHO)  
Captain Hugo Gorziglia (IHO)  
Commander Gerald Mills (Chairman) (IHO)  
Mr. Tadao Tatsuno (IHO)  
Dr. David Wells (FIG)  
Mr. Alan Yardley (FIG) (Vice-Chairman)  
Commander Federico Bermejo (Secretary) (IHB)

The Heads of the host institutions welcomed the participants, wishing them a successful meeting.

## 2. Opening of the meeting and adoption of the Agenda

The Chairman opened the meeting and introduced the Board to the new members, Mr. Svante Astermo, present Hydrographer of Sweden, Mr. Tadao Tatsuno, from Japan, and Cdr Paolo Giannetti, from Italy. The Agenda was adopted.

## 3. Administrative Arrangements

A conference room, secretarial and transportation facilities were provided by Mr. Razali Ahmad, the host member, who explained the administrative arrangements and social events scheduled.

On Tuesday 21 March and Thursday 23 March, respectively, the Board members made courtesy calls to the Malaysian Hydrographer and to the Director General of Survey & Mapping.

On Friday 24 March, the Board was invited to visit thhe Maritime Academy (ALAM) in Malacca and on Saturday 25 the University Teknologi Malaysia (UTM), in Johor Bahru. The latter visit included the presentation of the CHS/UTM Hydrographic Courses and the inspection of facilities.

## 4. Matters arising from previous meetings

a) The Board discussed a letter received from the Hydrographic Service of Oman, requesting information on the procedures for submitting a course in Hydrography. Unfortunately, this letter had been overlooked prior to the meeting. The requested information will be provided as soon as possible, inviting a representative to attend the next meeting.

b) Capt. Hugo Gorziglia presented a list of new inputs for the publication "Reference Texts and Journals for Hydrographic Training", both in paper and digital form. It was decided that an attempt should be made to improve that publication by obtaining the addresses of the editorial houses publishing the works listed. The use of INTERNET facilities may help in this task. It was decided to delay any further decision on this item until the results of that approach had been seen.

#### 5. Proposal from the IHB on withdrawal of the present Statutes

The Board considered the proposal of the IHB to withdraw the present Statutes, and replace them by Terms of Reference and Terms of Procedure. It was felt that the proposal of the IHB would result in a better functioning of the Board and, therefore, the proposal was unanimously approved, with some amendments to the text. This will require the approval of both IHO and FIG, which will be sought through the appropriate established procedures.

#### 6. Review of courses

##### a) 4-Year Course Programme in Hydrography of "Hogere Zeevaartschool", Amsterdam.

The Board was unable to proceed conclusively, due to difficulties in evaluating the documentation. Additional information will be requested for the Board's 1996 meeting.

##### b) Course in Hydrography (HYDRO I) of the University Teknologi Malaysia.

The Board reviewed this well-documented course for recognition at Category "B" level and Specialism in Coastal Zone Management. After careful examination, the Board decided to award the course the recognition sought, after some questions had been satisfactorily answered during the presentation of the course, carried out by Professor Razali, of the UTM, on Saturday 25 March.

##### c) Course in Hydrography for Naval Officers (Spain)

The Board was greatly assisted in the reviewing of this course by the remarks and explanations provided by Lt.Cdr. Manuel Pardo, from the Spanish Hydrographic Institute. The course had been submitted for re-affirmation at Category A, with Specialism in Nautical Charting. It was found that the course fulfilled most of the requirements for re-affirmation. The Board considered, however, that some topics were missing or were insufficiently covered. The Board decided to award re-affirmation on written confirmation that the topics identified were included or would be included in the future.

##### d) Long Hydrographic Specialist Course of the Indian Naval Hydrographic School, Goa

The Board reviewed this course, which had been submitted for re-affirmation at Category A and the three Specialisms. Captain Thomas, from the H.O. of India, helped the Board in clarifying the various questions put by the Board members.

It was decided to reaffirm the course as requested, except for Specialism 3, although the H.O. of India

will be encouraged to develop the necessary items to seek this Specialism in the future. A letter will be sent to the Head of the Hydrographic Office of India, including some minor recommendations to increase the quality of the course.

#### e) Course in Hydrography for Naval Officers of the Venezuelan Navy

The numerous deficiencies in the documentation of this course did not allow the Board to review the course thoroughly. Therefore, a letter will be sent to the Chief of the Hydrographic Service of Venezuela requesting a new submission.

### 7. Review of the Standards of Competence

The Board made the corresponding amendments to the Standards to include the new Terms of Reference, subject to approval from the parent organizations. Other minor amendments were made to the Standards and Syllabus.

The Board also decided to work on a draft document "Mission of the FIG/IHO International Advisory Board", to be included in the Preface of the Standards, and consider specifically this item at the next meeting.

### 8. Other matters

a) The Board considered a letter on individual recognition from Commodore Leech, the Australian Hydrographer, circulated to Australian hydrographic surveyors on 15 February 1995 and the response which the Vice-Chairman of the Board, Mr. Alan Yardley sent him on 1st March 1995.

It was decided to forward the Advisory Board's concerns on this matter to Commodore Leech.

b) Following the information of Capt. Gorziglia on the late reception of the documentation of a course in Hydrography submitted by Colombia, the Board decided to send a letter to the Director of the Naval Academy "Almirante Padilla", inviting him to submit the course in accordance with the specifications indicated in the Standards, by 1st February 1996.

c) The Board considered that it could be useful to draft a document including some practical information on the functioning and working system of the Board, for new members. This document will be sent by correspondence to all members for approval.

### 9. Election of Chairman and Vice-Chairman

The present Chairman of the Board, Cdr. Jerry Mills, completed his 3 years term. There being no member from FIG ready to assume the duties of Chairman, the Board unanimously elected Capt. Hugo Gorziglia, the present Hydrographer of Chile, as Chairman of the Board, for a term of 3 years. Mr. Svante Astermo, the present Hydrographer of Sweden, was elected Vice-Chairman.

### 10. Date/Venue of the next meeting

Following the invitation of Dr. David Wells, it was decided that the next meeting would be held in Fredericton/New Brunswick (Canada), provisionally in the second week of June, 1996. These dates will be officially confirmed at a later date.

### 11. Close of the meeting

The first part of the meeting closed at 1700 on Thursday 23 March. A second part was held in the Conference room of the University Teknologi Malaysia, in Johor Bahru to discuss the UTM course and Board meeting correspondence. This meeting adjourned at 1315 on Saturday 25 March.

The Fédération Internationale des Géomètres and the International Hydrographic Organization (FIG/IHO) have jointly constituted an International Advisory Board on Standards of Competence for Hydrographic Surveyors.

The terms of reference for the Advisory Board are as follows :

TERMS OF REFERENCE

1. The FIG/IHO International Advisory Board shall :

- a) review at appropriate intervals (not exceeding two years) the recommended minimum standards of competence for hydrographic surveyors, taking into account comments and recommendations received from National Focal Points (NPF) and other authorities.
- b) maintain and promulgate all publications and documents resulting from the tasks carried out by the Board.
- c) review the syllabi of courses submitted by Hydrographic Offices, institutions and learned bodies taking into account comments and recommendations received from National Focal Points and other authorities.
- d) provide advice and comments on such syllabi by comparison with the recommended minimum standards and award certificates of course recognition to those institutions whose programmes meet the recommended standards.
- e) review the procedures of submission.
- f) communicate with IHO through the IHB and with FIG through the Chair of Commission IV.
- g) normally meet once each year.

2. The IHO/FIG International Advisory Board will be composed of members:

- a) of known competence in the civil, governmental or educational sectors of hydrographic surveying.
- b) selected to provide as wide as possible a spectrum of knowledge and experience in educational practices and hydrography.
- c) from different geographical areas, as far as reasonable.

3. The Board will have up to eight members , four nominated by FIG and four by IHO. Neither FIG nor IHO membership appointments will be constrained by membership decisions of the other organization.

4. 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.

5. The functioning of the Board will be regulated by an internal document, the "Terms of Procedure", issued and kept to date by the Board. Any modification to the "Terms of Procedure will be adopted by simple majority of the Board members

6. 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.

7. Proposals from the Board to modify these Terms of Reference must be ratified by IHO and FIG following the procedures of these bodies.

#### TERMS OF PROCEDURE

1. Members are expected to attend every meeting of the Board, and to conduct business by correspondence between meetings.

2. It is expected that members will serve on the Board initially for a period of six years.

3. The Board will elect from amongst its members, a Chairman and a Vice-Chairman for a term of three years. Under agreement of all the Board's members, the Chairman may be re-elected for a second period. These posts will be held alternatively by FIG and IHO nominees on the Board. On completion of the Chairman's mandate, the Vice-Chairman will automatically become the Chairman and a new Vice-Chairman will be elected.

4. The working language of the Board will be English.

5. Decisions will be taken by simple majority vote of members of the Board.

6. The Board will normally meet once per year. The venue and date of the meeting will be decided at the previous meeting, in order to facilitate participants travel arrangements.

7. Final reports of meetings will be sent to IHO , FIG, currently recognized courses and other appropriate organizations.

## AMENDMENTS TO THE STANDARDS OF COMPETENCE (7th edition)

1) Replace page iii by the following text

1. *THE INTERNATIONAL ADVISORY BOARD*

*The Fédération Internationale des Géomètres and the International Hydrographic Organization (FIG/IHO) have jointly constituted an International Advisory Board on Standards of Competence for Hydrographic Surveyors.*

*The terms of reference for the Advisory Board are as follows :*

1.1. TERMS OF REFERENCE

*1. The FIG/IHO International Advisory Board shall :*

*a) review at appropriate intervals (not exceeding two years) the recommended minimum standards of competence for hydrographic surveyors, taking into account comments and recommendations received from National Focal Points (NPF) and other authorities.*

*b) maintain and promulgate all publications and documents resulting from the tasks carried out by the Board.*

*c) review the syllabi of courses submitted by Hydrographic Offices, institutions and learned bodies taking into account comments and recommendations received from National Focal Points and other authorities.*

*d) provide advice and comments on such syllabi by comparison with the recommended minimum standards and award certificates of course recognition to those institutions whose programmes meet the recommended standards.*

*e) review the procedures of submission.*

*f) communicate with IHO through the IHB and with FIG through the Chair of Commission IV.*

*g) normally meet once each year.*

*2. The IHO/FIG International Advisory Board will be composed of members:*

*a) of known competence in the civil, governmental or educational sectors of hydrographic surveying.*

*b) selected to provide as wide as possible a spectrum of knowledge and experience in educational practices and hydrography.*

*c) from different geographical areas, as far as reasonable.*

*3. The Board will have up to eight members , four nominated by FIG and four by IHO. Neither FIG nor IHO membership appointments will be constrained by membership decisions of the other organization.*

*4. 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.*

*5. The functioning of the Board will be regulated by an internal document, the "Terms of Procedure", issued and kept to date by the Board. Any modification to the "Terms of procedure will be adopted by simple majority of the Board members*

*6. 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.*

*7. Proposals from the Board to modify these Terms of Reference must be ratified by IHO and FIG following the procedures of these bodies.*

2) Page v. Replace Sub-paragraph 2.6. by the following text :

#### 2.6. Practical Exercises and Field Training

Because hydrography is a practical discipline, every student of Category A and B courses is expected to be given hands-on experience by the instructors.

This should form a relatively important part of the student's assessment, and should be considered in two parts.

##### 2.6.1. Practical Exercises

Both category A and B courses should contain practical hydrographic surveying exercises related to field operations. These should include, for example, experiments, exercises, laboratories and fieldwork designed to complement the theory component.

##### 2.6.2. Field Training Projects

Any qualifying course should also include a minimum aggregate period of at least 4 weeks supervised field training, including launch operations, with particular regard to the marine survey syllabi.

For students of a Category A course, a complex multi-disciplinary project is envisaged; for the Category B course, several projects each dealing with a single discipline would be preferable. A full report should be compiled for each project.

3) Page vi. Para. 2.8.2. a) and 2.8.2. b)

Replace 2.8. by 2.8.1.

Replace 2.7. by 2.7.1.

4) Page vii Para. 3.1.3.

Replace "in English or French" by "in the working language of the Board".



5) Page vii Para. 3.2.1. a)

After "including its aims", delete "and" and insert the sentence " , and specialisms applied for"

6) Page vii Para. 3.2.1. b)

Insert the word "contact", between "tabulation of" and "hours devoted"

7) Page viii Para 3.2.1. e)

Replace paragraph by "Details of practical field exercises as detailed in 2.6.1.

8) Page viii Para 3.2.1. f)

Replace paragraph by "Details of Field Training Projects as detailed in 2.6.2.

9) Page viii Para 3.2.1. i)

replace paragraph by "A list of text and reference books used for each topic".

10) Page ix Para 3.3.4

New text of the paragraph

" Recognized courses may wish to issue successful students with a certificate of course completion and/or field proficiency. Such certificate may carry an acknowledgement that the course carries FIG/IHO recognition if the category and specialism of recognition are as given on the course recognition certificate. An example of the format is shown in Appendix D."

## SYLLABUS

1) BASIC 2. Page 3.

B2.02. Add after word-processing "and data bases"

B2.04 Delete at the end " , with particular emphasis on on-line sampling"

2) ESSENTIAL 3. Page 13.

E3.06(a). Include "sampling" between "On-line data" and "validation"

3) SP.1. Page 22

SP1.04 (d) New paragraph reads

"Photogrammetric Plotters. Capabilities of analogue and analytical plotting instruments

Page 23.

SP1.08(d) New paragraph reads

" Computer-assisted chart production"

4) SP.2. Page 24

SP2.02(d) New paragraph reads

"Photogrammetric Plotters. Capabilities of analogue and analytical plotting instruments

## LIST OF CURRENT MEMBERS OF THE ADVISORY BOARD

Captain Hugo Gorziglia (Chairman)	Chile
Mr. Svante ASTERMO (Vice-Chairman)	Sweden
Mr. Razali B. Ahmad	Malaysia
Commander Paolo Giannetti	Italy
Commander Gerald Mills	USA
Mr. Tadao Tatsuno	Japan
Dr. David Wells	Canada
Mr. Alan Yardley	Australia
Commander Federico Bermejo (Secretary)	IHB Monaco

# REGISTER OF RECOGNIZED COURSES

ANNEX I

## KEY OF THE TABLE

**A:** Category of Recognition

**B:** Specialism

**C:** Initial date of recognition

Edition of Standards against which it was recognized

**D:** Date of re-recognition

Edition of the Standards

**E:** language

**f:** Date Recognition expires

**SPECIALISM**

1 = Nautical Charting

2 = Surveys for Coastal Zone Management

3 = Industrial Offshore Surveying

KEY OF THE TABLE	A	B	C	D	E	f
COURSE						
1. Basic + long Hydrographic Courses at the Royal Naval (UK) Hydrographic School, HMS Drake.	A	1	<u>1983</u> 2nd	<u>1993</u> 6th	English	2003
2. L'Ecole Nationale Supérieure des Ingénieurs des Etudes et Techniques d'Armement (ENSIETA) of the "Service hydrographique et océanographique de la Marine" France.	A	1	<u>1980</u> 1st	<u>1991</u> 5th	French	2001
3. H2 Hydrographic Surveying Officers Course.	B	1	<u>1981</u> 2nd	<u>1991</u> 6th	English	2001
4. Basic/long Hydrographic Specialist Course of the Indian Naval Hydrographic School, Goa	A	-	<u>1982</u> 2nd	<u>1995</u> 7th	English	2005
5. 4-Year Course Programme of "Hogere Zeevaartschool", Amsterdam.	A	-	<u>1982</u> 2nd		Dutch	
6. Course Submission of "l'Ecole des Hydrographes" of the "Service hydrographique et océanographique de la Marine", France	B	1	<u>1983</u> 2nd	<u>1994</u> 6th	French	2004
7. Specialization Course in Hydrography of the Portuguese Naval Hydrographic Institute	A	1. 2	<u>1983</u> 2nd	<u>1993</u> 6th	Portuguese	2003
8. Intermediate Hydrography and Oceanography Course of the Hydrographic Institute of Portugal.	B	1. 2	<u>1984</u> 3rd	<u>1994</u> 6th	Portuguese	2004
9. Specialization Course of the Spanish Hydrographic Institute.	A	-	<u>1985</u> 3rd	<u>1995</u> 7th	Spanish	2005
10. Specialization Course of the Italian Hydrographic Institute.	A	-	<u>1986</u> 4th		Italian	1996
11. Graduate Diploma Course of the Australian Maritime College, Tasmania.	A		<u>1986</u> 4th		English	1996
12. Hydrographic Course of the Japanese Maritime Safety School.	B		<u>1987</u> 4th		Japanese	1997
13. Hydrographic Specialist Programme of the Canadian Hydrographic Service.	A		<u>1987</u> 4th		English	1997
14. Hydrographic Surveyor Training Programme of the University of New Brunswick, Canada.	A		<u>1987</u> 4th		English	1997
15. Diploma in Hydrographic Surveying of the Plymouth Polytechnic, U.K.	A		<u>1987</u>		English	1997

			4th			
<b>16. Group Training Course in Hydrographic Survey, Japan.</b>	<b>B</b>	<b>1</b>	<b><u>1988</u></b> <b>5th</b>		<b>English</b>	<b>1998</b>
<b>17. Advanced Course in Hydrography of the Maritime Safety Academy, Japan.</b>	<b>A</b>	<b>1</b>	<b><u>1989</u></b> <b>5th</b>		<b>Japanese</b>	<b>1999</b>
<b>18. Hydrographic Training Programme of the U.S. Naval Oceanographic Office, USA.</b>	<b>B</b>	<b>1</b>	<b><u>1989</u></b> <b>5th</b>		<b>English</b>	<b>1999</b>
<b>19. Port Hydrography Course of Bordeaux University, France.</b>	<b>B</b>	<b>2</b>	<b><u>1989</u></b> <b>5th</b>		<b>French</b>	<b>1999</b>
<b>20. Course in Hydrography of the Hamburg Polytechnic.</b>	<b>A</b>	<b>1</b>	<b><u>1990</u></b> <b>5th</b>		<b>German</b>	<b>2000</b>
<b>21. Specialization Course in Hydrography of the Chilean Hydrographic and Oceanographic Service.</b>	<b>A</b>	<b>1.</b> <b>2</b>	<b><u>1991</u></b> <b>5th</b>		<b>Spanish</b>	<b>2001</b>
<b>22. Course in Hydrography for Naval Officers of Brazilian Navy</b>	<b>A</b>	<b>1</b>	<b>1992</b> <b>5th</b>		<b>Portuguese</b>	<b>2002</b>
<b>22. Course in Hydrography for Naval Officers of Indonesian Navy (SEHIDRAI)</b>	<b>B</b>	<b>1.</b> <b>2</b>	<b><u>1993</u></b> <b>6th</b>		<b>Bahasa</b> <b>Indonesia</b>	<b>2004</b>
<b>23. Course in Hydrography for Naval Officers of Peruvian Navy</b>	<b>B</b>	<b>1</b>	<b><u>1994</u></b> <b>6th</b>		<b>Spanish</b>	<b>2004</b>
<b>24. Basic Hydrographic Course at the Royal Naval (UK) Hydrographic School, HMS Drake.</b>	<b>B</b>	<b>1</b>	<b><u>1994</u></b> <b>6th</b>		<b>English</b>	<b>2004</b>
<b>25. Coastal Zone Management Hydrographic Survey Diploma. Chilean Maritime University, UMACH</b>	<b>B</b>	<b>2</b>	<b><u>1994</u></b> <b>6th</b>		<b>Spanish</b>	<b>2004</b>
<b>26. Course in Hydrography. International Maritime Academy of Trieste, Italy.</b>	<b>B</b>	<b>1</b>	<b><u>1994</u></b> <b>6th</b>		<b>English</b>	<b>2004</b>
<b>27. Course in Hydrography (HYDRO I) of the University Teknologi Malaysia.</b>	<b>B</b>	<b>2</b>	<b><u>1995</u></b> <b>7th</b>		<b>English</b>	<b>2005</b>

