

**REPORT OF THE 31st MEETING OF THE FIG/IHO/ICA
INTERNATIONAL BOARD ON STANDARDS OF COMPETENCE
FOR HYDROGRAPHIC SURVEYORS AND NAUTICAL CARTOGRAPHERS**

Annexes

1. List of Board members
2. List of recognized courses
3. Guidelines for submission of courses (M-5 amendments)
4. Template for procedures for internal assessment
5. Terms of Reference and Rules of Procedure.
6. Table of Re-submissions

**REPORT OF THE 31st MEETING OF THE FIG/IHO/ICA
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7-11 April 2008

1. Venue and participation.

The 31st meeting of the FIG/IHO/ICA Board was hosted by the Australian Hydrographer and held at the HMAS Penguin Naval Base, in Sydney (Australia) from 7 to 11 April 2008.

The following were present:

Mr. Johnston (Chairman) (FIG)
Dr. Tsoulos (Vice-Chairman) (ICA)
Dr. Surace (Vice-Chairman) (IHO)
Capt. Federico Bermejo (Secretary) (IHB)

FIG Members

Dr. Razali Mahmud

IHO Members

Capt. Armstrong
Cdre. Nair
Dr. Egge

ICA Members

Mr. Ron Furness

The Chairman regretted the absence of Mr. Greenland (FIG) due to other commitments. He welcomed the new Board members, Cdre Nair (India, IHO) and Mr. Neal (Trinidad & Tobago, FIG) who had been appointed to replace Cdre. Brahma and Ms. Tuurnala respectively. He noted that Mr. Neal was unable to attend the meeting due to the short time available since his appointment.

2. Opening of the meeting.

The Australian Hydrographer, Cdre Rod Nairn welcomed the Board and wished them a successful meeting. He referred to the need for consistency in training, especially in Hydrography and Cartography, due to the nature of shipping. He recognized that issuing standards that respond to the world wide needs and practice is a challenge for the Board.

Finally, he stressed the benefits of individual certification and urged the Board to progress this matter.

3. Agenda items and Administrative Arrangements

The Draft Agenda was approved and the hosts explained the administrative arrangements and social events scheduled during the week. Meeting facilities and secretarial support were provided by the Australian Hydrographer, the Chief of the Naval Base Penguin, Cdr M. Hickey and the Chief of the Hydrographic School, Lt. Cdr R. Ball and his staff.

On Wednesday 9 April the representatives from Japan and The Netherlands made presentations on their institutions and courses. The Board was invited to partially attend the deliberations of the Australasian Hydrographic Surveyors Certification Panel (AHSCP) who met throughout the week at the Hydrographic School in the HMAS Penguin Naval Base, chaired by the Australian Hydrographer.

Social events were scheduled during the week, hosted by HAS Systems, IIC Technologies Inc. and Mr and Mrs. Furness.

3.1. Chairman's report

The Chairman highlighted the following topics:

- The resignation and replacement of an IHO member and a FIG member.
- His presentation at the FIG Meeting in Costa Rica. On that occasion, interesting contacts were made with people involved in maritime safety.
- The inter-sessional meetings held by the IAB Chair Group (Chairman and Secretary) to follow up, coordinate and develop Board matters. He stated that these meetings were very useful and it was agreed to schedule them as necessary.
- The study on the re-schedule of future course submissions to fulfil with the new period agreed at previous meetings. This document had been prepared by the Secretary and was to be considered as a specific Agenda item.
- The XVII IH Conference Decision and the guidelines given by FIG and ICA concerning the topic “Recognition of individuals”.
- Prospective courses to be submitted in the future.
- The article on the Board sent for publication to HYDRO INTERNATIONAL.

3.2. Matters pending since the 30th Meeting

The Chairman confirmed that the list of actions resulting from the 30th Meeting had been completed. Some topics were included in the Agenda as shown below

a) Pending courses

The Chairman announced that the Russian Academy Makarov had requested to postpone its submission until 2009. This was agreed by the Board.

After the meeting, a letter was received from Argentina, also asking for a delay until 2009.

b) Draft “New Guidelines for submission of courses”

The Chairman presented a draft text which would replace section 3.1 and 3.2 of M-5 “Standards of Competence”. The Board approved the text proposed with some amendments (See Annex 3)

c) Template for procedures for internal assessment

A draft text for this topic had been prepared by Dr. Tsoulos and consisted of three parts:

- 1) Course module assessment template
- 2) Instructors assessment template and
- 3) Annual report.

The Board agreed that the document should be included as an Annex to the Standards (M-5) and that all submissions of courses for recognition should include information about internal assessment. In this respect, the following new paragraph 3.2.4. will be added to M-5, completing the new section approved “Guidelines for submission of courses”.

3.2.4 Internal assessment

The methodology adopted by the institution for internal assessment will need to be furnished in detail. The summary of the recent assessment undertaken for the programme in question (under review) will also need to be included. This should not be taken as precluding newly developed programmes not yet able to satisfy these items.

The institutions which do not have internal assessment are encouraged to have one. A recommended template is given on Appendix V. The Board may, from time to time, at its discretion request the summary of internal assessment of the

programmes under review or those already recognized.

The text proposed by Dr. Tsoulos was approved and is given in Annex 4.

d) Reduction of period of submission of courses (10 to 6 years)

The Board approved in principle the table presented by the Secretary, bearing in mind that adjustments should be made every year, both to consider new submissions and to re-draft the schedule in accordance with the responses received from the institutions concerned.

It was decided that a letter with the table should be sent as soon as possible to all institutions running courses to inform them in advance of their date of future submission and allow them to prepare this re-submission in time.

e) Name of the Board

The members of the Board agreed that the word “Advisory” did not properly reflect the mission and work of the Board and therefore decided to delete that word from its name, which will be from now onwards “International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers”.

The three parent organizations will be informed of this change.

f) Terms of Reference and Rules of Procedure

The Terms of Reference harmonized by the IHO to bring them in line with the new IHO structure were agreed by the members, with a slight editorial amendment in ToR n° 4 and the change of the name explained above. The Rules of Procedure were amended and the new text is provided, together with the Terms of Reference, in Annex 5.

g) Study of funding/cost-recovery mechanisms.

The Board recognized that this topic had not been sufficiently developed and required a decision. The representatives from Malaysia and USA stated that high fees are levied in most certifying bodies of their countries and that in many cases, the cost of the certification procedures is very high, including the expenditures incurred by teams of two persons or more.

The Board concluded that there was a need to adopt a similar form of system and that a report should be addressed to the three parent organizations with a proposal.

Capt. Armstrong (USA) was given the task of preparing the document that should include the identification of the body in charge of administering a fund, the proposal of an adequate annual amount to be charged for the maintenance of recognition and any other relevant item. The draft should be circulated to the Board members by 15 September. Also by this date, the Board members on their side, should look at possible account holders, such as the Hydrographic Society, FIG, IHB etc..)

4. Review of courses

The courses submitted to the IB were reviewed and the results are shown in the table below:

Course	Decision
Specialization Course of the Italian Hydrographic Institute.	Re-recognized at Category A with Options 1,2 and 5.
Course Programme in Hydrography from Skilltrade – STC	Recognized at Category B upon reception of complementary information.

Course in Hydrography from the University of Technology of Malaysia (UTM)	Re-recognized at Category A with Options 2 and 7
Hydrographic Education Programme of the University of Otago (New Zealand)	Re-recognized at Category A.
Group Training Course in Information Management for Maritime Activity and Disaster Prevention of Japan Coast Guard and Japan International Cooperation Agency	Re-recognized at Category B
Advanced Course in Hydrography of the Japan Coast Guard Academy	Re-recognized at Category A with Option 1.
Applied Hydrography Education Certificate Programme of the Middle East Technical University (Ankara, Turkey)	Rejected. New submission required.

5. Future recognitions

In addition to the re-submissions that will be requested following the approved Table of Re-submissions given in Annex 6 and the pending re-submissions of Russia and Argentina, possible submissions may be received from Cuba, Ecuador and Mexico.

6. Review of M-5 “Standards of Competence for Hydrographic Surveyors” and M-8 “Standards of Competence for Nautical Cartographers”

The Board agreed that both M-5 and M-8 needed updating. This task will be carried out by the Board Members with input from the parent organizations, in accordance with the Board’s Terms of Reference and led as follows:

- M-8 - Tsoulos + Furness
- M-5 – Surace pre-work

Findings to be presented by the end of July.

8. Individual Recognition.

Following the mandate received from the parent organizations, the Board agreed that the best approach to this matter was to establish a procedure to recognize national schemes, or programmes, for the certification of individuals. The study of the experience of bodies already existing, such as the already mentioned Australasian Hydrographic Surveyors Certification Panel (AHSCP) and the ACSM from USA, provided the Board with some examples to develop a framework for such a procedure. A brainstorming session was organized concluding with a list of topics to be addressed that was prepared for work to progress. The Board shall now develop a document “Guidelines for Recognition of National Schemes” that will be divided into 4 principal sections as follows:

1. Definitions.
2. Scheme characteristics
3. Assessment process
4. Recognition process

Each section will have a Board member leading the work,. Members will work on this topic during the inter-sessional period and will consider a provisional text by 1st October.

9. Date/Venue of the next meeting

The Secretary informed the Board about the intention of the Cuban Hydrographic Office to invite the Board to meet in Havana in 2009. As the official invitation had not been received before the meeting, the Secretary was tasked to co-ordinate this matter with Cuba and to inform the Board members as soon as possible of the outcome.

At the same time, the Board accepted the invitation of Dr. Surace to meet in Venice (Italy) as an alternative.

This matter will be decided as soon as possible.

The Chairman announced that an official invitation had been received from USA to host the meeting in 2010.

10. Close of the meeting

The Chairman closed the meeting with thanks to Ron Furness and his wife for their hard work in hosting the Board and also to Mr. Randhawa (Australian Hydrographic Service) for his support during the meeting. The Australian Hydrographic School are also thanked for their support to the Board during the meeting.

ANNEX I

LIST OF MEMBERS OF THE ADVISORY BOARD

NAME	Country	ADDRESS	PHONE	FAX/ e-mail
Mr. Gordon JOHNSTON (FIG) Chairman	U.K.	67 Devon Road Cheam Surrey England, SM2 7PE	(44)(0) 208 661 1650 (44) (0) 7966 937369	gordon.johnston1@orange.net Gordon.johnston7@btinternet.com
Dr. Lysandros TSOULOS (ICA) Vice-Chairman 1	Greece	Professor NTUA Cartography Laboratory National Technical University of Athens 9 H. Polytechniou Zographou 15780 Athens	30 210 7722730 306944472177 (mobile)	30 210 7722734 lysandro@central.ntua.gr
Dr. Luciano SURACE (IHO) Vice-Chairman 2	Italy	Istituto Idrografico della Marina Passo Osservatorio 4 16100 Genova	39 010 2443363	39 010 2443364 luciano.surace@libero.it
Capt. Federico BERMEJO Secretary (IHB)	Monaco	International Hydrographic Bureau 4 Quai Antoine 1er BP 445 MC 98011 Monaco Cedex	(377)-93- 108107	(377)-93-108140 fbermejo@ihb.mc
Capt. Andy ARMSTRONG (IHO)	USA	University of New Hampshire Joint Hydrographic Center Ocean Engineering Lab 24 Colovos Road Durham, NH 03824	1-(603) 862 4559 12406766090 (mobile)	603 862 0839 andy.armstrong@unh.edu andy.armstrong@noaa.gov
Dr. Delf EGGE (IHO)	Germany	Department Geomatik HafenCity Universitaet Hamburg Hebebrandstr. 1 D-22297 Hamburg	(49) (40) 42827 5366	(49) (40) 42827 5399 delf.egge@hcu-hamburg.de
Mr Ron FURNESS (ICA)	Australia	93 Ashworth Avenue Belrose 2085.	61 2 9451- 9003 61 405 576 196 (mobile)	61 2 9975-3169 rfurness@ozemail.com.au
Mr. Adam GREENLAND (FIG)	New Zealand	Senior Hydrographic Surveyor LINZ Hydrographic Services Land Information New Zealand National Office, Lambton House 160 Lambton Quay, Private Box 5501 Wellington	DD +64 4 460 0136 Fax +64 4 460 0575 Mob 027 279 8243	agreenland@linz.govt.nz
Dr. Mohd Razali MAHMUD (FIG)	Malaysia	Faculty of Geoinformation Science & Engineering University Teknologi Malaysia 81310 UTM Skudai Johor Darul Takzim	6075530827	607 5566163 razali@fksg.utm.my

Cdre. K.M. NAIR (IHO)	India	National Hydrographic Office 107-17 Rajpur Road Post Box 75 Dehra Dun	+9183225828 00	+918322585293 Km.nair.km@gmail.com
Mr. David NEALE (FIG)	Trinidad & Tobago			david.neale@caneassociates.com

ANNEX 2

LIST OF RECOGNIZED COURSES
HYDROGRAPHY

<u>COURSE</u>	<u>Cat</u>	<u>Options</u>	<u>Last recogn.</u>	<u>Language</u>
1. Port Hydrography Course of Bordeaux University, France.	B	Op. 2	2001 - 8th	French
2. Course Programme in Geomatics and Hydrography of the Hamburg University of Applied Sciences	A	Op. 1	2001 - 8th	German (Dipl-Ing.) English (Master)
3. L'Ecole Nationale Supérieure des Ingénieurs des Etudes et Techniques d'Armement (ENSIETA) of the "SHOM" France.	A	Op. 1, 5	2001- 8th	French
4. Specialization Course in Hydrography of the Chilean Hydrographic and Oceanographic Service.	A	Op. 1,2	2000 - 8th	Spanish
5. Course in Hydrography for Naval Officers of Brazilian Navy	A	Op. 1	2002 - 9th	Portuguese
6. Specialization Course in Hydrography of the Portuguese Naval Hydrographic Institute	A	Op. 1, 2	2003 - 9 th	Portuguese
7. Advanced Training Course On Hydrography For Officers – EPSHOM (France)	B	-	2003 - 9th	French
8. Intermediate Hydrography and Oceanography Course of the Hydrographic Institute of Portugal.	B	Op. 1, 2	2004 - 9th	Portuguese
9. Course in Hydrography for Naval Officers of Indonesian Navy (SEHIDRAL)	B	Op. 1, 2	2006 - 9th	Bahasa Indonesia
10. Course in Hydrography for Naval Officers of Peruvian Navy	B	Op. 1, 2, 5, 7	2004 - 9th	Spanish
11. Specialization Course of the Spanish Hydrographic Institute.	A	Op. 1, 6	2005 - 9th	Spanish
12. Course in Hydrography (HYDRO I) of the University Teknologi Malaysia.	B	Op. 2, 7	2007 – 9th	English
13. Course in Hydrography for Naval Officers of the Argentine Navy. PENDING SUBMISSION	B	Sp. 1	1996 - 7th	Spanish
14-Programme in Hydrography of Maritien Instituut Willem Barentsz Amsterdam.	A	Op 2, 4, 7.	2007 – 9th	Dutch
15. Specialization Course of the Italian Hydrographic Institute.	A	Sp. 1	2008 - 9th	Italian
16. Ocean Science Course of the Japanese Coast Guard School.	B	Op. 1	2007 – 9th	Japanese
17. Course in Hydrography for Petty Officers of the Spanish Hydrographic Institute	B	Op. 1, 6.	2007 – 9th	Spanish
18. Course in Hydrography of the “Academy Admiral Makarov, Russia”. PENDING SUBMISSION	A	Sp. 1, 2, 3	1997 - 7th	Russian
19. Basic/Long Hydrographic Specialist Course of the Indian National Hydrographic School, Goa	A	Op. 1, 2, 3, 4	2006 - 9th	English
20. Group Training Course in Information Management for Maritime Activity and Disaster Prevention (JCG and JICA, Japan)	B		2008 - 7 th	English

21. Course in Hydrography from the University of Technology of Malaysia (UTM)	A	Op. 2, 7	2008 – 9th	English
22. Course in Hydrographic Surveying of the University of Plymouth , U.K.	A	Op. 1	1999 - 8th	English
23. Advanced Course in Hydrography of the Japanese Coast Guard Academy, Japan.	A	Op. 1	2008 - 9 th	Japanese
24. Basic + Long Hydrographic Courses at the Royal Naval (UK) Hydrographic School, HMS Drake.	A	Op. 6	1999 – 8th	English
25. Free Course in Hydrography of the National Hydrographic School, Goa, India	B	Op. 1, 2, 3, 5	1999 - 8 th	English
26. International Hydrographic Management and Engineering Program of the Naval Oceanographic Office (USA)	B	Op. 1	1999 - 8th	English
27. Course in Hydrography of the St. Petersburg Naval Academy (Russia)	A	Sp. 1	1999 - 7 th	Russian
28. Joint International Hydro-graphic Applied Science Program of the University of Southern Mississippi-NAVOCEANO (USA)	A	Op. 1, 5	2000 - 8th	English
29. Hydrographic Surveyors Programme of the Naval Academy of Colombia	A	Op. 1	2001 - 8 th	Spanish
30. MSC in Hydrographic Surveying of the University College of London/ Port of London Authority	A	Op. 1,2	2001 - 8 th	English
31. Graduate Programme in Ocean Mapping of the Joint Hydrographic Center/ University of New Hampshire (UNH) and National Oceanic and Atmospheric Administration (NOAA), USA	A	-	2001 - 8 th	English
32. LSGI Hydrographic post-graduated Diploma of the Polytechnic University of Hong-Kong	A	-	2001 - 8 th	English
33. Hydrographic Education Programme of the University of Otago (New Zealand)	A		2008 - 9th	English
34. Royal Australian Navy H2 Hydrographic Surveying Course	B	Op. 1, 6	2002 - 9th	English
35. Programme for Bachelor of Engineering Degree in Hydrography of the Dalian Naval Academy (DNA) of China.	B	Op 1, 2, 3, 4, 5, 6 7	2003 - 9th	Chinese/ English
36. UK Royal Navy HM2 Course.	B	Op. 6	2003 - 9th	English
37. Programme For National Diploma In Hydrography of The Dalian Naval Academy (DNA) of China	B	Op 1, 2, 3, 4, 5, 6	2003 - 9th	Chinese/ English
38. Basic Hydrographic Course of the Bangladesh Navy	B		2005 - 9th	English
39. “Patent Superior Technician in Hydrography” of the Tunisian H.O.	B	Op. 1	2007 – 9th	French
40. Course Programme in Hydrography from Skilltrade – STC (Netherlands)	B		2008 – 9th	English

CARTOGRAPHY

1. Programme for Bachelor of Engineering Degree in Nautical Cartography from the Dalian Naval Academy (DNA) of China	A	<u>2004 - 1st</u>	Chinese/ English	2014
2. UKHO Hydrographic Data Processing and Marine Cartography Programme	B	<u>2005 - 1st</u>	English	2015

LIST OF COURSES HAVING LOST RECOGNITION

1. Course in Hydrographic surveying of the Department of Geometrics & Geomatics of the University of Melbourne (Australia) CANCELLED	A	Sp. 1	1996 - 7th		English
2. Course in Hydrography. International Maritime Academy of Trieste, Italy. CANCELLED	B	Sp. 1	1994 - 6th		English
3. Harbour and Coastal Management addressed to Harbour and Coastal Surveyors of the International Maritime Academy (IMA), Trieste.	B	Op. 2	2000 - 8th		English
4. Model Course in Nautical Cartography of the International Maritime Academy, Trieste (Italy) (Being re-considered for Category A)	A		<u>2005</u> 1st		English

ANNEX 3

Guidelines for the Submission of Courses Draft Modified Text for M-5 (and M-8)

3. PROCEDURES FOR SUBMISSION AND RECOGNITION OF PROGRAMMES

3.1 Procedure for Submission

3.1.1. Institutions, formal training, academic organizations and learned bodies offering hydrographic programmes are invited to submit their programmes for review by the Board.

3.1.2. The Board encourages joint submission from institutions which can collectively meet the minimum Standards for recognition but which on their own cannot meet all the requirements.

3.1.3. Institutions should inform the Secretariat of the Board, at the IHB address below, of their intention to submit programmes for review. The Secretariat, in turn, will provide the addresses of the Board members. It will then be the responsibility of the institution or organization concerned to dispatch a copy of its submission (as detailed in 3.2 below), in English and both as printed and digital copy to each Board member and the Secretariat.

The Secretariat of the Board
The International Hydrographic Bureau
4, quai Antoine 1er
B.P. 445
Monaco, MC 98011 Cedex
MONACO
info@ihb.mc
www.iho.int

The submission dead line will normally be 31st December of the year prior to the next meeting. Should an institution miss the deadline it may be excluded from the review. If an extension to this deadline is requested the institution must contact the secretary at the earliest time in order that the Board may consider the request.

The Board cannot review and recognize courses that are submitted outside of the above periods.

3.1.4. Correspondence and documentation concerning the international recognition of programmes should be copied to a National Focal Point where appropriate. The National Focal Point in a country will normally be the Hydrographer in liaison with the national association representing the country in FIG or ICA. National Focal Points are to be encouraged to review a programme submission and comment upon its suitability for recognition prior to the submission. The submission may include a reference from the national focal point.

3.2. Documentation to be submitted

It is the experience of the Board that a good submission is one of clarity with detailed cross referencing to the syllabus and modules. . A good syllabus that clearly describes its structure, form and references is ideal. What is also helpful is detail on what might have been left out or what has been added and the reasons behind that. This is particularly relevant if technology is being updated. Although it is not expected that a submission will keep to a standard format or template it is important that the submission is comprehensive and adequately documented but not simply a copy of the syllabus texts.

In summary, the easiest submissions with which to review are those that are clear, completely cross-related to the syllabus, include some photographs where helpful and are submitted with explanations of any deviations.

The following information must be included in all submissions:

3.2.1. Information about the programme infrastructure. Each item in the following list should be described in the first Chapter of the submission.

a) Programme identification:

Name of the Programme:

Institution submitting the Programme for recognition:

Recognition sought: Specify Category A: or Category B:

Standard against which recognition is sought:

M5 Ninth Edition [2007] or M8 First Edition [2003]

M5 Options offered: 1 2 3 4 5 6 7 or

M8 Specialisms offered: 1 2 3

Language(s) in which the Course is given:

b) Aims of the programme:

The submission should, in this section, provide a clear narrative outline of the programme, with details of who it is for, how it is managed and where it fits in within the institution and national hydrographic environment. The section should describe the academic elements of the course and the objectives it has for each student and their general learning outcomes.

c) Entry requirements:

Qualifications required for entry:

Entry exemptions that may be given:

Alternative qualifications that may be acceptable for entry:

NOTE: For programmes seeking exemption of some or all the basic subjects, provide a clear indication of where students would previously have attained that knowledge, and a clear description of the formal procedures used to evaluate such exemptions. With regard to the pre-entry requirement for admission to any educational or training programme, the prospective student for a Category A programme should have a deeper theoretical ability in mathematics and applied physics than the candidate for a Category B programme.

d) Programme capacity:

Expected/actual number of students beginning the programme each year.

For multi-year programmes, the expected total number of students progressing through the programme.

e) Staff list:

For each instructor in the programme, provide a brief résumé, listing subjects in the programme for which they are responsible; Academic qualifications (degrees, etc.), Hydrographic experience, Authorships.

f) Facilities available to students:

Equipment: Provide a list of relevant equipment/systems

Software: List specific software (with emphasis on hydrographic and cartographic software packages)

Training aids:

Laboratories:

Training vessels:

Library. List:

- total number of volumes held,
- approximate number of hydrographically-relevant volumes,
- other media available (e.g. charts, maps, audio-visual resources)

g) Programme structure:

The programme may involve a series of modules and formal training sessions as well as additional practicals, tutorials and field experience. It is important that a submission is clearly described and sufficient detail is provided. It should as a minimum include:

- a. Total duration of the Programme (in weeks or months or years).
- b. Table of programme modules (individual courses). For each module, identify where in the sequence of module it is to be taken by students,
- c. The duration (in weeks) of the module and
- d. The total number of lecture hours, supervised practical exercise hours, and unsupervised practical exercise hours (individual or team project hours) expected from an average student for that module.

The section should allow the Board to relate the module or lectures to the cross-reference table and tabulated course description.

3.2.2. Information about each module (course) in the programme.

It is strongly recommended that this section is made very clear and contains a full cross-referencing of the M-5 Syllabus against the Course modules and subjects. This aids greatly in the assessment and enables the institution to better describe the programme in relation to the Standards.

- a. The programme being submitted should be described in more detail than the M-5 Syllabus (Section 6), with a tabulation of contact of hours devoted to M-5 Syllabus subjects. In the tabulation, a distinction should be made between lecture hours, guided exercise hours, and – if significant amounts of learning are expected to occur outside scheduled class hours – the estimated out-of-class hours. The M-5 Syllabus need not to be considered as the most appropriate structure for a particular programme.
- b. Representative examination papers covering all subject areas from the previous two years, which are taken by students during the programme (i.e. not only the final examination), showing the marking scheme and pass marks. This should not be taken as precluding newly developed programmes not yet able to satisfy these items.
- c. A list of texts and reference material used for each subject area, with an indication of the editorial house/publisher, and year of publication.
- d. Details of Practical Exercises as detailed in 2.5.1.
- e. Details of Field Training Projects as detailed in 2.5.2.

3.2.3. Cross-reference Table.

This table is the most important information used by the Board to assess submitted courses. What this table contains is a map of the hours devoted to each topic in each course module described in 3.2.2, and classified according to which M-5 Syllabus topic they are related to. The description should ensure that all elements are covered and that each course module

contains the necessary references to match the teaching module with this table.

3.2.4 Internal assessment

The methodology adopted by the institution for internal assessment will need to be furnished in detail. The summary of the recent assessment undertaken for the programme in question (under review) will also need to be included. This should not be taken as precluding newly developed programmes not yet able to satisfy these items.

The institutions which do not have an internal assessment are encouraged to have one. A recommended template for the same is given at Appendix V. The Board may, from time to time, at its discretion seek the summary of internal assessment of the programmes under review or those already recognized.

3.3. Procedure for Recognition of Programmes

3.3.1. Board members will review the material submitted and discuss their findings at their annual meeting. Due to various factors the Board cannot undertake to review and recognize courses outwith the timescales described in section 3.1.3. Institutions are encouraged to attend the Board meeting, to present their programme, and offer clarifications that the Board may seek. The Board aims to inform the institution, or its representatives, of its decision at the Board meeting, but, may respond afterwards should it be necessary to do so.

3.3.2. The institution concerned should be prepared to allow an inspection party to visit, and meet staff and students involved. The members of the party are to be nominated by the Board.

3.3.3. The Board will advise the institution of its findings. If a programme is adjudged to meet the Standards, the Board will issue a certificate to the institution, detailing the category and options (if any) recognized.

ANNEX 4 Template for Procedures for internal assessment

Appendix V

Annual Assessment Report

Program:.....

Academic Year: 2007-2008

Due to IB secretariat by December 31st 2008

Name of Program: _____

Name of Contact Person: _____

Names of Assessment Committee Members: _____

- A. Identify the goal/outcome assessed this academic year.
- B. Identify and/or describe the assessment and the student group(s) assessed
- C. What did you learn from the assessment?
- D. Based on what you learned, what actions did-or will-you take or consider?
- E. Are follow-up studies planned?
- F. What can the School do to help? What can the University do?
- G. What actions, if any, did you take based on *last year's* assessment findings?

STATISTICAL PROCESSING

- a. per module
 - b. per programme
1. Total number of evaluation sheets
 2. Number of valid evaluation sheets
 3. Mean
 4. Median
 5. Standard deviation
 6. Minimum
 7. Maximum

At the end of each module, the students are asked to fill in an anonymous questionnaire form that constitutes a significant tool for the internal assessment of the course. Internal assessment is the appraisal process performed by the institution responsible for the programme.

Note: A negative assessment must be accompanied by additional comments or remarks justifying the assessment.

Course module assessment template

MODULE: _____ (one for each module)

General assessment of the module;

[range 1(unsatisfactory) to 5 (fully satisfactory)]

Contribution of the module to the programme as a whole
 [range 1(none) to 5 (very important)]
 Overlapping of topics in different modules
 [range 1(seldom) to 5 (often)]
 Completeness of topics within the module
 [range 1 (incomplete) to 5 (complete)]
 Course organization vs. exam preparation
 [range 1(unsatisfactory) to 5 (fully satisfactory)]
 Quality of course materials
 [range 1(unsatisfactory) to 5 (fully satisfactory)]
 Sufficient number of lecture hours
 [range 1(insufficient) to 5 (absolutely sufficient)]
 Sufficient number of lab/field/exercise hours
 [range 1(insufficient) to 5 (absolutely sufficient)]
 Contribution of the assignments/lab/field work to the understanding and assimilation of the
 module content
 [range 1(negligible) to 5 (important)]

Student characteristics

Difficulty in following the course
 [range 1(negligible) to 5 (high)]
 Sufficient prerequisite knowledge
 [range 1(negligible) to 5 (high)]
 Own effort – participation in the course
 [range 1(negligible) to 5 (high)]
 Percentage of lectures attended
 [range 1(under 50%) to 5 (100%)]

Comments:

Instructor's assessment template

Instructor's Name:

Module:

Teaching methods
 [range 1(unsatisfactory) to 5 (fully satisfactory)]
 Knowledge of the subject
 [range 1(unsatisfactory) to 5 (fully satisfactory)]
 Instructor was well prepared for class
 [range 1(unsatisfactory) to 5 (fully satisfactory)]
 Instructor presented objectives/material of course clearly/effectively
 [range 1(unsatisfactory) to 5 (fully satisfactory)]
 Instructor provided sufficient reference material
 [range 1(insufficient) to 5 (sufficient)]
 Instructor encouraged discussion and/or questions
 [range 1(unsatisfactory) to 5 (fully satisfactory)]
 Instructor answered questions effectively

[range 1(ineffectively) to 5 (very effectively)]

Instructor showed respect for students

[range 1(unsatisfactory) to 5 (fully satisfactory)]

Instructor's availability for consultation out of class

[range 1(unsatisfactory) to 5 (fully satisfactory)]

Relationship with the instructor

[range 1(unsatisfactory) to 5 (fully satisfactory)]

Coordination with the other instructors

[range 1(unsatisfactory) to 5 (fully satisfactory)]

ANNEX 5 TERMS OF REFERENCE AND RULES OF PROCEDURE

TERMS OF REFERENCE

1. Review at appropriate intervals (not exceeding two years) the recommended minimum standards of competence for hydrographic surveyors and nautical cartographers, taking into account comments and recommendations received from National Focal Points (NPF) 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 submitted by Hydrographic Offices, institutions and learned bodies taking into account comments and recommendations received from National Focal Points 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. Review the procedures of submission.
6. 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.
7. Normally meet once each year.
8. 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
9. The Board shall have up to ten members, four provided by FIG, four provided by IHO and two provided by ICA. The Chairman shall have a seat in the IRCC and shall report on the activities of the Board to the IRCC Chairman for further report to 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).
10. The Board shall have its permanent Secretariat at the International Hydrographic Bureau, (“*the International Hydrographic Bureau*” to be replaced by “*the IHO Secretariat*” when the IHO Secretariat is established). The Secretary shall be nominated by 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). 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
11. The IHO shall finance the cost involved of the IHB (*the IHB* to be replaced by “*the IHO Secretariat*” when the Secretariat is established) and Secretary. Members of the Board are expected to be supported by their own organizations for travel expenses and work.

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

13. The internal functioning of the Board shall be ruled by Rules of Procedure issued and approved by the Board Members, as deemed necessary

RULES OF PROCEDURE

1. The IB shall normally hold a meeting every year. 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 Chairman or any appointed member, as considered necessary, with the agreement of the simple majority of all members of the Board

2. The Board shall elect, from amongst its members, a Chairperson representing one of the organizations for a term of 3 years. Under agreement of all the Board's members, the Chairperson may be re-elected for a second period. Upon completion of the Chairperson's mandate, one of the two Vice-Chairpersons shall automatically become the Chairperson and a new Vice-Chairperson shall be elected, such that the Chair rotates evenly amongst the parent organizations.

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. E-mail communication will be the normal method. Papers and information material will be posted on the IB 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, simple majority of all Members of the Board shall be required.

5. The draft minutes of each meeting shall be distributed by the Chairman to the members of the Committee within one month of the meeting, and member comments should be returned within 2 months of the meeting. Final minutes 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. The IB Rules of Procedure can be amended by simple majority of all its Members.

ANNEX 6 TABLE OF RE-SUBMISSIONS

TRANSITION PERIOD

N° courses to review	New proposed	Last rec.	<u>COURSE</u>	Years recognition
Pending re-recogn	2009	1996	13. Course in Hydrography for Naval Officers of the Argentine Navy	13
Pending re-recogn	2009	1997	18. Course in Hydrography of the Academy Admiral Makarov, Russia	12
1	2009	1999	22. Course in Hydrographic Surveying of the University of Plymouth , U.K.	10
2	2009	1999	24. Basic + Long Hydrographic Courses at the Royal Naval (UK) Hydrographic School, HMS Drake.	10
3	2009	1999	25. Free Course in Hydrography of the National Hydrographic School, Goa, India	10
4	2009	1999	26. International Hydrographic Management and Engineering Program of the Naval Oceanographic Office (USA)	10
5	2009	1999	27. Course in Hydrography of the St. Petersburg Naval Academy (Russia)	10
6	2009	2000	4. Specialization Course in Hydrography of the Chilean Hydrographic and Oceanographic Service.	9
7	2009	2000	28. Joint International Hydro-graphic Applied Science Program of the University of Southern Mississippi-NAVOCEANO (USA)	9
1	2010	2001	30. MSC in Hydrographic Surveying of the University College of London/ Port of London Authority	9
2	2010	2001	31. Graduate Programme in Ocean Mapping of the Joint Hydrographic Center/ University of New Hampshire (UNH) and National Oceanic and Atmospheric Administration (NOAA), USA	9
3	2010	2001	32. LSGI Hydrographic post-graduated Diploma of the Polytechnic University of Hong-Kong	9
4	2010	2001	3. L'Ecole Nationale Supérieure des Ingénieurs des Etudes et Techniques d'Armement (ENSIETA) of the "SHOM" France.	9
5	2010	2001	1. Port Hydrography Course of Bordeaux University, France.	9
6	2010	2001	2. Course Programme in Geomatics and Hydrography of the Hamburg University of Applied Sciences	9
7	2010	2001	29. Hydrographic Surveyors Programme of the Naval Academy of Colombia	9
1	2011	2002	5. Course in Hydrography for Naval Officers of Brazilian Navy	9
2	2011	2002	34. Royal Australian Navy H2 Hydrographic Surveying Course	9

3	2011	2003	6. Specialization Course in Hydrography of the Portuguese Naval Hydrographic Institute	8
4	2011	2003	7. Advanced Training Course On Hydrography For Officers - Epshom (France)	8
5	2011	2003	35. Programme for Bachelor of Engineering Degree in Hydrography of the Dalian Naval Academy (DNA) of China.	8
6	2011	2003	36. UK Royal Navy HM2 Course.	8
7	2011	2003	37. Programme For National Diploma In Hydrography of The Dalian Naval Academy (DNA) of China	8
1	2012	2004	8. Intermediate Hydrography and Oceanography Course of the Hydrographic Institute of Portugal.	8
2	2012	2004	10. Course in Hydrography for Naval Officers of Peruvian Navy	8
3	2012	2005	11. Specialization Course of the Spanish Hydrographic Institute.	7
4	2012	2005	38. Basic Hydrographic Course of the Bangladesh Navy	7

STABILIZATION

5	2012	2006	9. Course in Hydrography for Naval Officers of Indonesian Navy (SEHIDRAL)	6
6	2012	2006	19. Basic/Long Hydrographic Specialist Course of the Indian National Hydrographic School, Goa	6
1	2013	2007	12. Course in Hydrography (HYDRO I) of the University Teknologi Malaysia.	6
2	2013	2007	14-Programme in Hydrography of Maritien Instituut Willem Barentsz Amsterdam.	6
3	2013	2007	16. Ocean Science Course of the Japanese Coast Guard School.	6
4	2013	2007	17. Course in Hydrography for Petty Officers of the Spanish Hydrographic Institute	6
5	2013	2007	39. "Patent Superior Technician in Hydrography" of the Tunisian H.O.	6

LIST OF RECOGNIZED COURSES

CARTOGRAPHY

1. Programme for Bachelor of Engineering Degree in Nautical Cartography from the Dalian Naval Academy (DNA) of China	A		<u>2004</u> 1st		Chinese/ English	2014
2. UKHO Hydrographic Data Processing and Marine Cartography Programme	B		<u>2005</u> 1st		English	2015

