

INTERNATIONAL BOARD ON STANDARDS OF COMPETENCE FOR
HYDROGRAPHIC SURVEYORS AND NAUTICAL CARTOGRAPHERS (IBSC)

Reference: CL 31/2015 DEVELOPMENT OF THE NEW IHO PUBLICATIONS:
S-5A - Standards of Competence for Hydrographic Surveyors Category A
S-5B - Standards of Competence for Hydrographic Surveyors Category B

Number of replies: 11 Member States and three institutions with recognized programmes.

Member States: Brazil, Chile, Colombia, Ecuador, France, India, New Zealand, Oman, Portugal, Spain, UK

Institutions with recognized programmes: Hydro Geo School (Iran, Islamic Republic of), Sabaragamuwa University of Sri Lanka, UK Navy

Brazil

Comments:

I hereby inform you that, after analyzing the subjects. Topics, elements, contents and learning outcomes of the First Draft Edition of S-5B - Standards of Competence for Hydrographic Surveyors Category B - this Directorate has observed that:

- a) The afore mentioned S-5B has met the technical requirements necessary to the qualification for the Hydrographic Surveyors Category B, in compliance with the hydrographic objectives of the Brazil. So. in view of the present scientific and technologic juncture. there is no need to include subjects other than the ones already proposed by the project under analysis.
 - b) Nonetheless, it is important to observe that. as the S-SB aims at guiding the educational and training organizations to the preparation of the instructing programs, we suggest the establishment of a minimum study hours for each discipline, in order to elaborate the curricula, so as to reach a greater standardization of the courses offered by the member states.
2. In light of the above. this Directorate would like to thank you for the invitation to comment on the project and contribute to the upgrade of the Norms elaborated by this Committee.

Comments from the IBSC Chair:

The IBSC thanks Brazil for its support.

Following the removal of options in the forthcoming versions of S-5B and S-5A, each institution have the flexibility to give more emphasis to particular learning outcomes, depending on educational and type of hydrographic activity required. However the minimum time frame for completion of a category B program is still described in the guidelines.

Chile

Comments:

1. First of all we would like to congratulate the IBSC for this achievement.
2. For practical purposes we think it worth assigning a number to the Guidelines that will accompany both sets, S5 A and S5 B, and S8 A and S87 B. Their names are too long and for reference purposes a number will easy the work. We propose, as an idea, to call the Guidelines S5-Guidelines and S8 Guidelines, respectively.
3. The first calendar in the Circular Letter seems to provide IRCC a very short time for reviewing the standards. In effect and assuming the analysis and provision of the document to IRCC takes place on May 22, the IRCC will just have until 01 June for its approval. In our

opinion IRCC members, for example Chairs of the RHCs will not have time to follow a consultation process to get Members' views of their respective Commission, and therefore, the approval by IRCC might become "irrelevant". Considering that anyway, Member States will be required to approve the documents we are of the idea that the "approval by IRCC" might perfectly be skipped. If the final decision is to keep the IRCC approval within the process, then much more time needs to be allocated for it.

4. There is no precise indication on the timetable to be followed for the approval of the Guidelines. If the timetable to be followed is the same for S5 B, we recommend that to be indicated. If the Guidelines will not be submitted for MSs approval, then it would be appropriate to indicate so.

5. After reviewing the content of S5 B, we are of the idea that the title "Geography and geology" under B4.1 does not reflect its real content. Probably just using the term "geology" is sufficient. "Geography" generates a too wide expectation.

Comments from the IBSC Chair:

The IBSC thanks Chile for its support.

Point 2: This change of title will be considered for the sake of simplification.

Point 3: The IBSC is providing the IRCC with the comments from Member States and institutions holding recognized programmes, following a long process of consultation, in accordance with the IHO Resolution 2/2007. The current draft IHO Publication S-5B and the Guidelines have been available in the IHO website since 10 April 2015 (Circular Letter 31/2015 refers).

Point 4: Guidelines do not require approval by IRCC or the MSs. It is an accompanying document, not a Standard.

Point 5: This suggestion will be considered.

Colombia

Comments in Spanish:

Con referencia al desarrollo de las nuevas publicaciones (S-5A/S-5B) de la OHI, con toda atención me permito felicitar al Comité Internacional sobre Normas de Competencia para Hidrógrafos y cartógrafos Náuticos – IBSC, por la labor realizada en la redacción de las nuevas normas para hidrógrafos y el desarrollo de las directrices para la implementación de las mismas. Por otra parte, me permito recomendar el siguiente cambio:

Page	Element	Content	Learning outcomes	Change by
20	E6.3b Marine GIS Basics		Mergemashup	Merge Mash up
21	E7.2 ^a Seabed Characteristics	Samplers		Samples

Comments in English:

Concerning the development of the new IHO publications (S-54/S-5B), let me congratulate the International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) for the work done in the drafting of the new standards for hydrographic surveyors and in the development of the guidelines for their implementation. On another hand, I would like to suggest the following changes:

Page	Element	Content	Learning	Change by
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			Outcomes	
20	E6.3B Marine GIS Basics		Mergemashup	Merge Mash up
21	E7.2 ^a Seabed Characteristics	Samplers		Samples

Comments from the IBSC Chair:
The IBSC thanks Columbia for its support.
The suggested modifications will be done for the 1st edition of the S-5B.

Ecuador
<p>Comments:</p> <p>As requested in the Circular Letter N° 31/2015 of April 10, 2015, on behalf of Ecuador and the Oceanographic Institute of the Navy of Ecuador (INOCAR), and as a consultative member of the International Hydrographic Bureau we are pleased to inform that we have proceeded to review the development of the new publications S-5A - Standards of Competence for Hydrographic Surveyors and S-5B - Standard of Competence for Category "B" Hydrographic Surveyors; determining that we agree with the work done by the IBSC, having an observation related to that in each unit of the syllabus, generic and specific skills should be established at the end of each subject. It is noteworthy that since 2012, the Armed Forces of Ecuador have a similar educational model to the one you currently propose, integrating intended learning outcomes.</p>
<p>Comments from the IBSC Chair:</p> <p>The IBSC thanks Ecuador for its support.</p> <p>The IBSC is pleased to hear the description of S-5B in terms of learning fits with Ecuador's educational program description.</p>

France				
<p>Comments:</p> <p>D'une façon générale, la France approuve :</p> <ul style="list-style-type: none"> • la séparation des compétences de catégorie A et B en deux normes de compétences distinctes ; • la nouvelle structure de ces normes, basée sur l'articulation entre contenus de formation et « learning outcomes » (compétences à acquérir) ; • l'effort de simplification et de clarification d'un certain nombre de compétences par rapport à la norme actuelle S5 ; • la suppression des compétences optionnelles ; • le document « Directives pour la mise en œuvre des normes de compétence pour les hydrographes », extrait sans modification de la norme S-5 en vigueur. <p>Le tableau suivant présente des commentaires sur des points particuliers du projet de norme, en hiérarchisant leur importance.</p> <p>Les extraits ou propositions de modification sont en anglais pour être directement exploitables dans le projet de norme, disponible uniquement dans cette langue.</p>				
<table border="1"> <thead> <tr> <th>Commentaire</th> <th>Degré d'importance</th> </tr> </thead> <tbody> <tr> <td>B5 : Nautical Science : « <i>Demonstrate the ability to manoeuvre a small boat</i> » (correspondant à l'item B4.4 de la norme S-5 en vigueur) n'apparaît plus comme une exigence de la S-5B.</td> <td>Primordial</td> </tr> </tbody> </table>	Commentaire	Degré d'importance	B5 : Nautical Science : « <i>Demonstrate the ability to manoeuvre a small boat</i> » (correspondant à l'item B4.4 de la norme S-5 en vigueur) n'apparaît plus comme une exigence de la S-5B.	Primordial
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<p>La France émet une réserve forte sur la suppression de cette compétence. En effet, la capacité à manœuvrer en toute sécurité une embarcation est nécessaire pour les hydrographes opérant sur de petites embarcations, où l'équipage est très réduit, la place y étant limitée. Manœuvrer une embarcation est souvent un pré-requis à l'embauche d'hydrographes dans les petites sociétés travaillant dans la domaine de l'hydrographie.</p> <p>La capacité d'un hydrographe à manœuvrer en sécurité une embarcation lui permet aussi de savoir « lire le plan d'eau » et adapter in situ les travaux à réaliser.</p>		
<p>E3.2 : La réduction des sondages par l'utilisation de marégraphes manque.</p> <p>La réduction de la marée ne peut se limiter à la réduction en temps réel en utilisant des données GNSS (« <i>Real time reduction of survey data to a datum using GNSS observations</i> »).</p> <p>La réduction des sondages par marégraphe devrait être explicitée dans la norme en tant que « content » comme suit : « <i>Batch time reduction of survey data to a datum using tide gauges data</i> ».</p>	Important	
<p>E4.2 : Les projections mériteraient d'être plus développées.</p> <p>Les items E3.1d and E3.1f de la norme S-5 en vigueur devraient être maintenus. Il est proposé de les reprendre selon la forme suivante :</p> <p><u>Contents</u> :</p> <ul style="list-style-type: none"> • <i>forward and inverse computations</i> ; • <i>Distinguish between conformal and non-conformal projections.</i> • <i>Describe grids and graticules on projections.</i> • <i>Transform between geographic and grid coordinates,</i> • <i>Meridian convergence, scale factors, arc to chord corrections.</i> <p><u>Learning outcomes</u> :</p> <ul style="list-style-type: none"> • <i>Calculate forward and inverse computations on the ellipsoid using appropriate software</i> ; • <i>compute convergence, scale factors and arc to chord corrections, using appropriate software.</i> 	Important	
<p>E4.1 : l'importance des niveaux de référence verticaux n'est pas assez mise en évidence.</p> <p>Il est proposé de réintroduire l'item E3.3b de la norme en vigueur : « <i>Describe the role of, and methods of establishing, the various vertical datums used in hydrographic operations.</i> »</p>	Souhaitable	
<p>E4.3 : le positionnement astronomique devrait être mis en valeur plus nettement.</p> <p>Un hydrographe de catégorie B devrait savoir comment on mesure et calcule les coordonnées d'un point astronomique, cette notion étant importante pour la compréhension des mécanismes de construction des systèmes géodésiques.</p>	Souhaitable	
<p>E5.1 ou E6 : le lien entre levé hydrographique et cartographie marine n'est plus aussi explicite que dans la norme S-5 en vigueur.</p> <p>Les méthodes de compilation des cartes marines (choix de sondes et d'isobathes notamment) et de leur mise à jour (circuit de mise à jour de l'hydrographe jusqu'à l'utilisateur), objets respectivement des items E5.5a et b de l'actuelle S-5 ne sont pas retenus.</p> <p>La France estime que tout hydrographe, quelque soit son secteur</p>	Souhaitable	

<p>d'activité devraient être conscient de l'importance de la cartographie marine, et de la nécessité, pour la sécurité de la navigation, de transmettre vers les organismes compétents (le service hydrographique national le plus souvent) les résultats des levés ou, a minima, de communiquer les différences entre ses données et celles figurant sur les ouvrages nautiques.</p> <p>Il est proposé la reprise des items E5.5a et b de la norme en vigueur :</p> <ul style="list-style-type: none"> • Outline the process involved in selecting soundings and features for the nautical chart from a hydrographic survey. • Explain the importance of updating nautical charts. <p>Par ailleurs, il n'y a plus de référence aux ENC et ECDIS (E5.5c dans la norme en vigueur). Ce sujet pourrait figurer dans le module « nautical science ».</p>		
<p>E7.2 : les levés gravimétriques ne sont plus abordés (contrairement à la norme en vigueur, aux points E.4.2.a et E.6.3.c).</p> <p>Il serait souhaitable de continuer à expliquer les objectifs des levés gravimétriques (comme pour les levés sismiques (E7.2b) et magnétiques (E7.2c)).</p> <p>Il est proposé d'ajouter un item E7.2d, comprenant les éléments suivants :</p> <p>Contents</p> <p><i>(i) Gravity fields and anomalies</i></p> <p><i>(ii) Objectives of gravimetric surveys for depth measurements</i></p> <p><i>(iii) Gravimeters</i></p> <p>Learning outcomes</p> <p><i>Understand the use of gravimeters and the objectives of gravity surveys.</i></p>	Souhaitable	
<p>Comments from the IBSC Chair:</p> <p>The IBSC thanks France for its support.</p> <p>The IBSC thanks France for its suggestions and support to the new S-5B Standards. Prior to the response to the different points, the IBSC recalls that S-5B are minimum standards.</p> <p>Point 1: B5 <i>Demonstrate the ability to manoeuvre a small boat</i> : It is not the opinion of the IBSC that driving a small survey boat is part of the core competence of Category B hydrographers. However, any institution can introduce this item in order to respond to a National demand.</p> <p>Point 2: Sounding reduction using tide information is obviously part of the core competence of Category B hydrographer, and the S-5B should indeed be made more explicit in making the link between tide model, observations, and sounding reduction.</p> <p>Point 3: Learning outcomes of E4.1d and E4.2 contains implicitly the topics mentioned by France. The IBSC will consider to make them more explicit in both the learning outcomes description and in the list of content.</p> <p>Point 4: Vertical reference and Datum are adequately described in item E4.1c and E.4.4. The IBSC see no added value in introducing the proposed sentence in a learning outcome.</p> <p>Point 5: E4.3. Sextant use is still present in the list of content (for correcting gyros). The</p>		

principle of astronomical positioning is present in item E4.1.

Point 6: The IBSC agrees that nautical chart compilation processes should be more explicitly described in E5.1 or E6.

Point 7: The IBSC thinks that the use of gravimetric survey for advanced navigation purposes is not a Category B competence. The use of gravimetry for depth estimation neither.

India

Comments:

1. Refer to IHB CL 31/2015.
2. The Indian Naval Hydrographic Department is in agreement to the aspects elucidated in the proposed S-5B standards and detailed guidelines circulated.
3. The INHD complements the IBSC team for the efforts in preparation of the documents.

Comments from the IBSC Chair:

The IBSC thanks India for its support.

New Zealand

Comments:

New Zealand has no specific comments on the first draft of S-5B Standards of Competence for Hydrographic Surveyors Category B and the draft Guidelines.

Nevertheless, New Zealand fully supports the work of the IBSC in developing a new Standards framework for the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. Furthermore, it is recognised that the first draft of S-5B Standards of Competence for Hydrographic Surveyors Category B and the draft Guidelines are a significant milestone in achieving this goal.

Comments from the IBSC Chair:

The IBSC thanks NZ for its support.

Oman

Comments:

1. Thank you the opportunity to comment on the Category B and Guidelines documents, it is clear that considerable effort has been put into these documents. Please find the following comments and recommendations by Oman National Hydrographic Office:

a. Some subjects have been removed from the Category B (eg. Rule of the Road) but it is not known if they have been removed from the requirement totally or have they been moved to the Category A syllabus. It is recommended a table is produced covering all old subjects and stating if they have been removed or now reside within Category A or Category B.

b. The guidelines states that the 'minimum duration of a Category B Programme should be in the order of 24 weeks' it goes on to state that this period can be reduced 'but no less than 16 weeks'. It is not clear if this second statement is a rule (regulation) or for guidance (as the first statement is interpreted because of the use of words 'should be in the order'). This question is also aimed at the length of the Category A Programme.

c. It would appear that the note below paragraph 3.2.2 of "GUIDELINES FOR THE IMPLEMENTATION OF THE STANDARDS OF COMPETENCE FOR HYDROGRAPHIC SURVEYORS" by the use of the words 'should ensure' makes these durations a minimum regulation. If this is the case, it is suggested that the note should also be mentioned within the Syllabus itself to avoid any confusion or doubt.

d. While minimum durations of programmes should be recommended, it should be clearly stated that they are for guidance. Deviations from the criteria should be allowed if it can be fully justified. This deviations could be for several reasons but the one that stands out as missing from the document is the use of e-learning. Programme designers (for both the Category A & B courses) should be encouraged to aim high, some courses should be aimed at a more capable student and the use of more modern teaching methods which will produce a more capable that average surveyor in a shorter length of time. Placing hard and fast minimum durations to the courses will stifle any such initiative and will be to the detriment of the industry.

2. Finally there should be more encouragement of e-learning and modern teaching techniques throughout both documents.

Comments from the IBSC Chair:

The IBSC thanks Oman for its support.

Point 1.a Rule of the road as the ability to drive a small boat has been removed, not beaing a core competence of category B hydrographers.

Point 1.b Minimum duration are minimum recommended durations, as they appear in the guidelines.

Point 1.c Same remark.

Point 1.d The guidelines incorporate provisions for programmes delivered in part in e-learning or blended learning.

Point 2: The IBSC welcome submission of programmes using e-learning or blended learning mode of delivery.

Portugal

Comments:

The Portuguese Hydrographic Institute (IHPT) agrees with the competences defined for the Category B course and will apply the new standards in the next curriculum revision for accreditation, that will occur in 2018.

Comments from the IBSC Chair:

The IBSC thanks Portugal for its support.

Spain

Comments in Spanish:

En respuesta a la Carta Circular nº 31/2015 de la OHI, "DESARROLLO DE LAS NUEVAS PUBLICACIONES DE LA OHI", este Instituto de la Marina informa que IHM considera adecuado el nuevo contenido del proyecto de la primera edición de la S-5B.

Comments in English:

In response to the IHO Circular Letter nº 31/2015 "Development of the New IHO Publications", the *Instituto de la Marina* informs that the IHM considers adequate the new content of the project of the first edition of the S-5B.

Comments from the IBSC Chair:

The IBSC thanks Spain for its support.

United Kingdom

Comments:

UK broadly welcomes the draft edition of S-5B, the guidelines and the timetable for finalisation and offers the following comments:

a. There is a desire to separate the Cat A and Cat B courses (with the Cat B being more

practically based) but the pragmatic teaching of basic principles and theories requires a link between the two courses.

b. It is difficult to assess the proposed Cat B learning outcomes (S-5B) in a meaningful manner without access to the Cat A learning outcomes (S-5A). The latter is not due for publication for another twelve months.

c. The removal of options is seen as reasonable but those institutions running courses that rely heavily on the use of such (i.e. courses that traditionally feed the offshore industry in the UK) may well feel differently.

d. The fact that the programme length remains unchanged (24 weeks or 16 weeks with exemptions) permits optional subjects to remain incorporated and should not present too many challenges to add the changes.

e. As the UK also caters to the needs of military hydrographic surveyors, trained by the Royal Navy, the formal removal of the military hydrography option is not recommended.

f. The changes to remote sensing, IT and Environmental Impacts are all seen as beneficial. The interrelationship between the S-5A and S-5B work cannot be overstated and much of the comments above depend on what learning outcomes are going to be proposed for the Cat A course. UK is concerned that the two courses, whilst complementary, will diverge to the point of complete separation in due course. As a nation we intend to continue to grow our Military Hydrographers throughout their careers and see the Cat B as a vital start to that progression, which does not end with the Cat A course but with the award of a higher Hydrographic Charge qualification awarded by the UK Hydrographer of the Navy.

Comments from the IBSC Chair:

The IBSC thanks the UK for its support.

Point a. The separation between category A and category B has been endorsed by IRCC6.

Point b. It is acknowledge that a category A course can incorporate in its pre-requisites the completion of a category B course. This has been taken into account by the IBSC in applying minimum time duration of category A programmes. By essence, Category A programmes address the underlying principle of geodesy, positioning, tide, acoustic, bathymetry, etc... and the IBSC insists on the fact that the level of scientific background required for a Category A programme is not the same than a Category B programme.

Point c: options are removed but institution have the flexibility to insist on some specific topics depending on the foreseen placement of the students.

Point e: UK have the flexibility to incorporate military hydrography in the Navy programmes and to describe the syllabus in terms of the core competencies that are described in the S-5B.

Point f: Item of the category A standards will differ in terms of content, level of understanding, learning outcomes. However, a significant number of items from the S-5B will be present but described at a different level.

Hydro Geo School (Iran, Islamic Republic of)

Comments:

Hydro Geo School Comments on Guidelines for the Implementation of the Standards of Competence

No.	Section	Page no.	Paragraph	First Edition - 2015	Comment
1	Abstract	3	2	the minimum degree of	the essential and minimum degree
2	1. Preface	8	Second last	options have been removed at the category B level while there is opportunities to offer unique programs within the ILO framework	The institutions' unique courses could be offered either IBCS standards are there or not. The optional courses had offered this opportunity to standardise the other ever growing aspect of Hydrography like offshore surveying to serve energy and environmental sector. This will leave these aspects of the Hydrography

3	2.1.3	10	1		At the end of paragraph: The term <i>Scheme</i> will be used hereafter.
4	2.2.3	10	1		It makes a confusion as section 2.1.3 and 2.2.4 contradict with the statement given in section 2.2.3.
5	2.3.3	11	1		To guide the applicant organisation , Please give an example of how exemptions could be applied so that IBSC might accept.
6	2.3.5	11	1	Bloom's taxonomy has been applied for describing each intended learning outcome of the Standards, and the associated verbs are an indication of the level of	Please provide more information about Blooms's taxonomy. Who was Bloom? Is it the only taxonomy available to mankind at the moment? If it is the best one available for the time being please explain why it
7	2.3.5	11	1	One of three levels of	One of the three levels of knowledge is
8	2.3.5	11	1		please define the term "knowledge" before section 2.3.5 and as S-5 edition 11 please put the followings after the definition: "Two aspects of knowledge are content and level." The CONTENT of each SUBJECT is included in a separate column titled
9	7.1.1 b)	18	2	ISBC	Typo error, IBSC
10	7.1.1 c)	18	2	ISBC	Typo error, IBSC
11	7.1.1 f)	19	1	The programme may involve a series of modules and formal training sessions as	Please define the following terms: Additional Practicals, Tutorial and Field Experience.
12	7.1.1 f)	19	Before last paragraph	Comment: This section should be designed allow the IBSC to relate the module or lectures to the cross-reference table and tabulated course	Comment: This section should be designed in such a clear way so as to allow the IBSC to relate the module or lectures to the cross-reference table and tabulated course description easily. !
13	7.1.1 f)	20	2	Note: a template for the programme identification is provided in www.iho.int	No link is available.
14	7.1.2 b)	20	b)	In the tabulation, a distinction should be made between Theory hours, practical exercise hours, and e-learning components if significant amounts of learning are expected to: occur outside scheduled class hours: the estimated out-of-class hours	This section, due to inappropriate punctuation does not have clear meaning. Also, the term "e-learning" has not been defined anywhere in the documents. It would be better to provide the intended meaning of it, that which IBSC intends to mean. Additionally, if IBSC expects there are going to be some "e-learning" deliveries somewhere in the world, an additional column should be added to the table of Standards in S-5B

No.	Section	Page no.	Paragraph	First Edition - www.2015	Comment
15	7.1.2 b)	20	Last section of b	Comment: In reviewing a submission the IBSC will check that the format and level of the examinations and tests employed are appropriate to the learning outcomes sought and the category of recognition sought.	Comment: In reviewing a submission the IBSC will check that the format and level of the examinations and tests employed are appropriate to the learning outcomes sought and the category of recognition sought. New submissions will be expected to have developed at the very best an examining or testing strategy

16	7.1.2	21	1	Comment: The IBSC will look to the <u>adequacy and relevance of texts and reference materials</u> . The section also serves as important feedback to the IBSC itself as to the availability of contemporaneous teaching material. The IBSC also is eager to ensure that students are adequately supported in terms of access and	It would be better if IBSC could prepare a list of standard references. Standard training course requires standard training material. It can be easily imagined that many publications in the world can prepare the material as defined by IBSC. We believe this will be next step in the development and promulgation of hydrography science, for institutes across the globe suffer from lack of standard textbooks to meet exactly the demands of hydrography as defined by IBSC. Additionally, it is common in high profile international organisations.
17	General recommendation				It would be more professional if IBSC could suggest standards for composition of a submission, i.e. font type, font size, paper size, paper margin, table of

Hydro Geo School Comments on STANDARDS OF COMPETENCE FOR CATEGORY ‘B’ HYDROGRAPHIC SURVEYORS - Publication S-5B

No.	Section	Page no.	Paragraph	First Edition -	Comment
1		2			Please add a Table of content to the Document.
2	A	2	3		needs period (.) mark.
3	A	2	5	Category B qualified individuals with appropriate experience would be technical professionals preparing	expected/defined outcomes instead of outcomes.
4	C	3	Last	A template is specified and is available from the	please specify where exactly an institution or individual can find the document within so vast IHO website.

Comments from the IBSC Chair:

The IBSC thanks the HydroGeo School for its remarks and review of the S-5B and guidelines. Editorial changes will be taken into account in the 1st edition. As a general remark, it is not the role of the IBSC to provide standard material nor standard syllabus. In the past, the IBSC observed that number of submission make the confusion between Standards and Syllabus. The IBSC clearly states here that the standards are not a programme Syllabus.

The IBSC will work on provide templates for submissions, in order to improve the submission quality which better meet the Board’s expectations.

Sabaragamuwa University of Sri Lanka

Comments:

Regarding the latest (proposed) release on S5-B, I would like to comment on the following items as it seems little too much at this level. My belief is that, a basic understanding will be appropriate and they can develop it to intermediate level during the Category-A.

No.	Section	S5B Proposed	Suggested Changes
1	B4.2	Intermediate Level	Basic Level
2	B5.8	Intermediate Level	Basic Level

3	B5.9	Intermediate Level	Basic Level
4	B5.11	Intermediate Level	Basic Level
5	B6.1	Intermediate Level	Basic Level
6	B6.3	Intermediate Level	Basic Level
7	E2.1b	Intermediate Level	Basic Level

Further, if you can release the proposed version for S5-A in advance to the finalization/approval of the S5B version, I would be much appreciated, as I prefer to compare the both versions against each other. Finally, I appreciate all of your hard work and dedication in putting this together.

Comments from the IBSC Chair:

The IBSE thank Sri-Lanka for its support, note the suggestions and will discuss them before the first release of the S-5B.

UK Navy

Comments:

I am writing in response to your letter dated 2 April 2015 informing FOST HM of the FIG/IHO/ICA Board's decision to recognise (with conditions) our Advanced Survey Course programme at the Category 'A' level. May I take this opportunity to thank yourself and the Board for the time and effort put into consideration of both our submission and presentation, and for your congratulations on our re-recognition.

With regards to the conditions that must be satisfied by 2 June 2015, the Board requested that the following be addressed:

- a. Nautical Cartography items related to Option 1 must be adequately covered. They need to be delivered in their entirety according to both Cat A and Cat B standards.
- b. Increase the number of hours allocated to coverage of item E5.5a.
- c. Observation: Whenever a clear articulation between CAT A and CAT B programmes is defined, the Cat A Programme duration may include the Cat B Programme duration. For FOST Cat A recognition, Cat B is a pre-requisite. The successful completion of the Cat B Programme must have occurred within six (6) years prior to the completion of the Cat A Programme (reference 2.7.1 of the Standards).

In relation to item (a), Nautical Cartography training elements have been increased from 6 hours to 21 hours, such that the course now spend 3 entire days at the United Kingdom Hydrographic Office (with the Cartographic Training Section) being trained in items linked to this option. Remaining items instructed at FOST-HM, O1.2 (Siting of Aids) and O1.3 (Publications), have been increased four-fold from 2 hours to 8 hours respectively. All told, including elements instructed at UKHO, FOST-HM and The Royal School of Military Survey (GIS Module of Nautical Charting), the FOST-HM Category A programme can be said to properly cover the educational remit of the nautical cartography option and dedicates 64 hours of instruction to this module.

In relation to item (b) above, the previous 2 hours dedicated have been lifted four-fold to 8 hours of dedicated training.

Finally, in relation to item (c), FOST-HM is aware of this fact and will ensure that this requirement remains adhered to.

Comments from the IBSC Chair:

The Board thanks UK FOST-HM for its comment. The IBSC will address the comment relevant to the S-5B and S-5A only:

The separation between category B and category A standards still give the possibility to FOST-HM to organize a Category A programme in the continuity of a Category B programme. In particular, it has been made clear at IRCC6 that in terms of duration, the aggregate duration of a Category B and A programme can be taken into account as the total duration of a Category A programme.