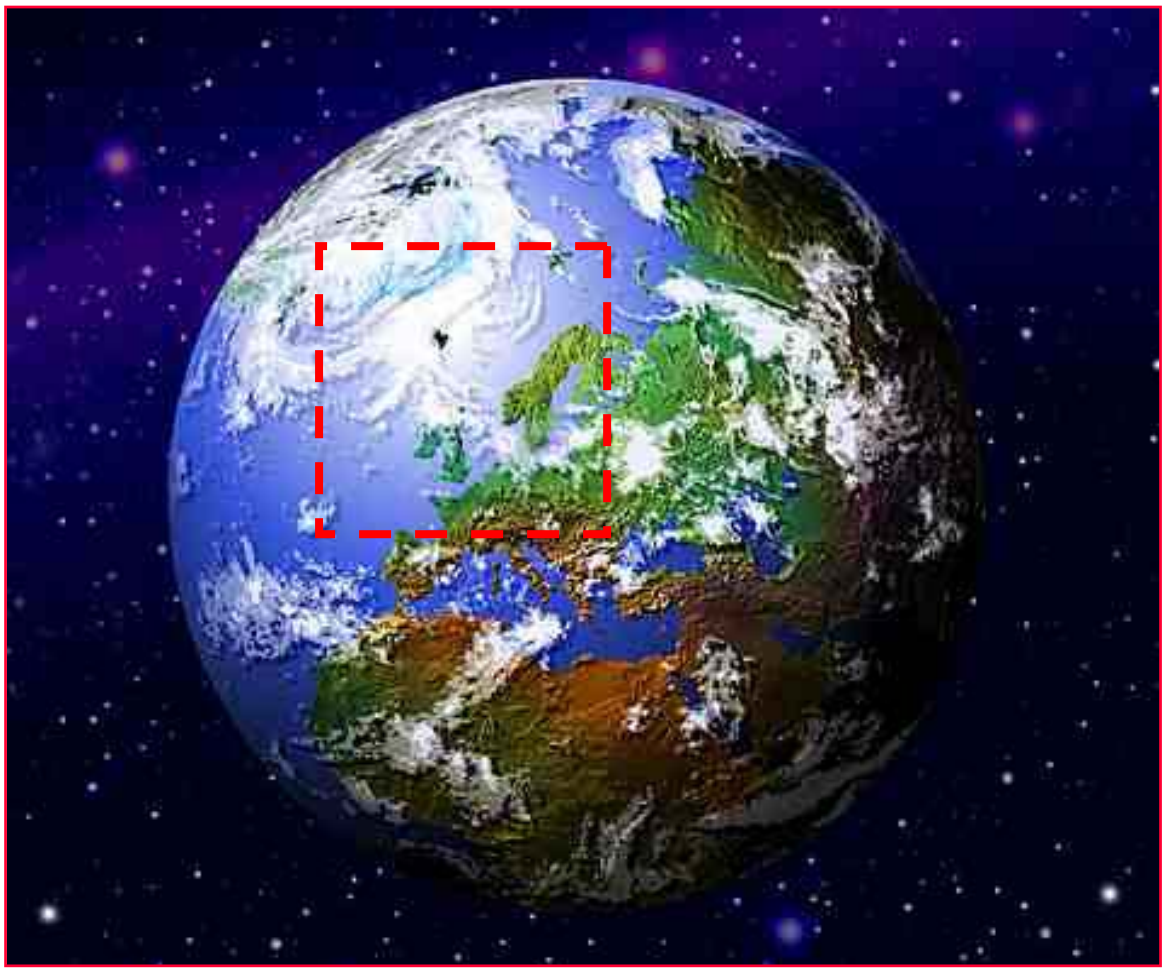
Report of the 47th Meeting of the Nordic Hydrographic Commission
and
the Extra North Sea Hydrographic Commission meeting

Norrköping, Sweden
6 – 8 May 2003



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Report of
The 47th Meeting of the Nordic Hydrographic Commission and the North Sea Hydrographic Commission Extra Meeting

6-7 May 2003 in Norrköping, Sweden

The official photo

1. Ruurd van Rooijen, NL
2. Göran Nordström, SE
3. Alexandros Maratos, IHO
4. Bengt-Åke Larsson, SE
5. Ulf Lejdebrink, SE
6. Kjell Olsen, NO
7. Susanne Degerstedt, SE
8. Hanne, Berg, KMS, DK
9. Frode Klepsvik, NO
10. Arne Nielsen, FRV, DK
11. Yves Desnoës, F
12. Juha Korhonen, FI
13. Johan Verstraeten, B
14. Hafsteinn Hafsteinsson, IS
15. Peter Jakobsen, KMS, DK
16. Peter Wright, UK
17. Åke Magnusson, SE
18. Wynford Williams, UK
19. Jukka Varonen, FI

The 47th NHC Meeting and NSHC Extra Meeting

The 47th NHC Meeting was held at the President Hotel in Norrköping, Sweden on 6 – 7 May 2003.

The NSHC Extra Meeting was arranged in order to give information of the item about the ongoing IHO Strategic Planning Work, which also was on the NHC agenda**.** The item was planned for a full day, 7 May. An extra information of the future of UK HO was initially given by the UK Hydrographer. The presentation should be sent to the delegates via e-mail.

This report handles the items in agenda order. *Ref. Annex A - Agenda, page 10*

There were 14 participants from the five Nordic Countires including the President of the IHB. Additional 5 participants arrived to the second day. *Ref. Annex B – List of participants.*

A short visit to the Port of Norrköping was made during the first day.

1. Opening formalities

With a few opening words the chairman wished the delegates welcome to the meeting. Among others was mentioned that we in reality should have celebrated the 75th anniversary of our organisation and also should strengthen the cooperation again to the level from the forming of the NHC.

c. Approval of the Agenda

The chairman declared that the agenda was made up according to the latest statutes of the Nordic Hydrographic Commission. Also the headlines where no discussion item was reported was hence on the agenda. *Ref. Annex A – Agenda, page 10*

The agenda was approved with a postponing of the report and discussions regarding the Strategic Planning Working Group, SPWG, until the following day where a joint meeting between the NHC and NSHC should take place during the whole day.

IHB Information

Before going through the agenda the IHB President Alexandros Maratos gave some information. First from the GEBCO Centenary Celebration 14 – 16 April, where regrettably only few delegates from HOs attended. Secondly that the new Capacity Building Committee was formed to replace the old TACC, which latter was a joint Working Group between IHO and FIG. Adm. Maratos urged the HOs to consider their participation.

d. Outstanding/ongoing agenda items

There were three outstanding actions, *Annex C, page 13*, of them two were effected. The remained one, arrangements of a meeting of the Paper Chart Production Group in 2003, was discussed. Finland was very interested of such a meeting as they just start to produce charts according to international chart standards. There was pointed out that meeting

attendees should be arranged at team leader level. Sweden or Denmark stood in turn to arrange. Both explained that they at moment did not have the possibilities. The item was decided to be left outstanding and to be taken up at the next conference.

2. National reports

With the exception of the written reports – *Ref. Annex D, page 14* – the following information and discussions took place

Denmark
Denmark, KMS, informed of its transfer to the Ministry of Environment with a heavy rationalizing both in staff and products. Only ENCs, nautical publications and printed charts are to be made and no special products for the pleasure crafts. Except of that the goal is free publishing on Internet among others of the Danish Harbour Pilot and other nautical publications. The Nordic HOs will be kept informed on further development through e-mails.

Finland
Finland reported only a divergence from the written report as the surveying ship Kalla was sold and they were waiting for the delivery of a new catamaran in June 2003.

Norway
Norway had with success used multibeam in shallow water surveys for the first time in a full year 2002.
The external production of nautical charts had got into a routine phase by now and it was more and more convincing. They could not compete with the Indian firm used.
The external production of sea surveying is for each company contracted for more than one year at a time i.e. at least three years. The first year of such outsourcing is a learning year
The leisure craft will likely be influenced by the new SOLAS V. Norway is at moment discussing the status of the leisure craft in the future.
Norway offered to support IHB with general information on contracting and technical specifications with check lists.
Denmark proposed that there should be given time to discuss experiences in outsourcing and/or cooperation in production with private companies in future meetings.
After discussions it was put forward to discuss experiences got from outsourcing/use of private companies in future conferences.

3. Reporting of joint projects

Det levande sjökortet
Sweden gave short information on this product for the pleasure craft. The Swedish east coast south of the Bothnian Bay is now covered as an addition to the earlier west coast coverage.
Denmark, who will not produce a cd-rom product any more, stressed the risk that the product runs away as it may end up in a product we actually should not do. We have made that product in an excellent style and should with this as an example perhaps let the

private industry do this type of products. Instead Denmark will more and more make use of the Internet for the dissemination of the information contained in Det levende Søkort.

Gridded bathymetri
Denmark, FRV, gave further information in connection to the written paper, *Annex E, page 36.* Sweden expressed the hope to be able to take part in the project soon.
IHB informed that during the GEBCO Centenary Conference discussions on grids of 1 minute has started. If available it should be communicated with IHB or GEBCO. Also there were demands for information from Antarktis, Arktis and Greenland.

4. Reporting from working groups etc.

a. Multibeam seminar
Denmark, FRV, reported from the multibeam seminar effected, *Annex F, page 38*, as being an extremely good course, but left with a feeling that it was not specialised for the Baltic Sea.
The delegates expressed that the attendees of the course were full of praise and thanked Denmark for the arrangements. Most of delegates also expressed that there were a need for further seminars.
Denmark, FRV, also expressed a wish to arrange a course for a group of experts.
It was decided that multibeam seminar should be on the agenda for the next conference and also on the BSHC agenda in September.

b. Paper Chart Production Group
No further remarks than under outstanding agenda items above.

5. IHO work

a. Status of individual Working Groups
A full day for only one IHO Working Group was devoted viz. the essential Strategic Planning Working Group(SPWG). This was also the only item for the **North Sea Hydrographic Commission Extra Meeting**, why additional members of concerned HOs attended.
However, the UK HO got the possibility to begin with a presentation of presumable different ways to reorganize the UK HO. UK invited the attendees to give their views afterwards by mail or e-mail.
The information and discussions was chaired by the SPWG Chairman Frode Klepsvik assisted by the other members of the chair group, Dr. Wynford Williams, UK, and Adm. Alexandros Maratos, IHB. The base for discussion was the report, *Annex G with appendices, page 41*. The report concerning the proceedings in the work of reorganizing the IHO and IHB to meet modern standards and demands was explained by the chair group. A thoroughly discussion to get information and input to the next meeting of the SPWG a week later followed. Also was discussed new papers delivered by USA and Canada. The presentation and thoughts expressed by the SPWG members present were fully supported by all the attendees.

b. Relations to other NSHC and BSHC countries
Nothing was reported

c. IHO Circular letter 23/2003 – Status of Hydrographic Surveying and Nautical Charting

The CL, *Annex H, page 92,* was presented and the IHB President stressed that it was one of the most important publications of the IHO. An essential thing was to keep it updated as a living document and that there existed standards to get the answers on the same level and thus comparative between different national responsibilities. A new Circular Letter was planned with a questionnaire and where non-MS should be in touch via IMO. This status question regarding concerned matters should, according to the CL, be a standing agenda point in the future.

6. Other international activities regarding nautical charting and hydrographic surveying

a. PRIMAR-Stavanger*, ref. Annex I, page 97.*

i. Norway reported a good development and a significant increase in ENCs. However, the market growes very slowly and there is obviously a problem for users to change from private published data to official. It is also a lack of education. It is also essential to reach outside our own area, why Primar-S offers infrastructure and competence as it also is difficult for other areas to set up a RENC, which requires just high competence.
ii. SENC distribution from Primar-S is based on specifications made in cooperation with Det Norske Veritas. All the members of Primar-S except of France accept SENC distribution. The SENC specifications should be delivered to the IHB for further distribution.

b. IMO and IALA

The IHB President reported good cooperation with both IMO and IALA which is improving every year.

c. HELCOM

i. Information of BSHC-HELCOM Monitoring Group was presented by Finland. The Group, which consists of members of the Baltic Sea area, is chaired by Finland and follows up the planned resurveys and production of ENC according to the BSHC decisions and analyses after the Copenhagen declaration.
ii. The representation of resurveys in the charts was presented by as well Sweden as Finland. The intention is to inform the navigators where the most accurate surveys regarding both positioning and depth and according to the last edition of S-44 are and in the BSHC area to recommend those surveyed areas for deep draught and other type of ships especially mentioned in the Copenhagen declaration. At moment the use of national symbology, using tinted areas to reflect those surveys, are introduced waiting for decisions from IHO of an international symbol.

7. Relations to other (Private) nautical charting interests in the Nordic countries

No further information was indicated than under discussions of the Norwegian National Report.

8. Discussion of general trends and policy

a. **Renewing of the Printed Nautical Charts in Finland including Experiences of the new Paper Chart Production System (nSector)** was reported by Finland. The renewing of charts to be in accordance to international colours and symbology had started. However, some of the old symbols should still be used. The charts were named Blue Charts to differentiate them from the old, Green charts. The chart datum is equivalent to WGS-84. A lot of information and promotion had been carried out with very positive feeback and only a few, minor negative comments were received. The new chart production system, nSector, is a further development of HIS to give a full correspondence to the demands for the production of as well ENCs as printed charts.

b. **The frequency of resurvey of fairways, dredged or with a small clearance.**
The problems with the restratification of shallow areas depending on the vessel traffic and the necessity of resurveying was introduced by Sweden with a request for the other HO's experiences regarding the frequency of surveys necessary. No simple solution is obvious. However, Finland remarked that where an area partly had been effected by ice the resurvey should be performed even for every year. Anyhow there are no inter-organisational rules for this.

c. The situation of laser bathymetri in Sweden
Sweden informed that the laser bathymetri system previously used is that old that is had been taken out of use. It is impossible to foresee the possibility of shallow water surveys as the priority is given to the HELCOM related surveys. Sweden is aware of the development of new laser bathymetri systems with much higher efficiency.

d. Principles of QMS plans at FMA within the Navi program and in the Pilot Project.
Finland gave a short report on this matter which is a QMS based on traditional Microsoft Office software. It is not currently an ISO 9000 system but may be later on developed to fulfil that demands.

e. ISO 9000 Certification at NSV.
With a reference to the Norwegian National Report Norway informed that they were certified for all activities through the Det Norske Veritas on May 5th. The work had started in 1998 but they went for certification only when they felt satisfied with the system.

f. ISO 9001 Certification at SMA
Sweden reported of the SMA certification in March this year.
On a question from the IHB President on how often you have to apply for a renewal of ISO 9000 Norway answered: every year and Sweden remarked that revisions are made twice a year to begin with.

9 Any other business

a. The new organisation of Finnish Maritime Administration and the role of Hydrography on it.

Finland informed thoroughly of its new organisation. The aim with this reform is to separate the shipping authorities from the service production. Hydrography and Waterways administration have again been formed to separate main functions inside the Maritime Admisnistration. The authority is also the contractor for main operational tasks.The separate internal production units for shipping (mainly icebreakers), piloting and local service ferries are formed. These will be separate governmental business organisations at the beginning of 2004. The internal separation of production units for hydrography and fairway management will be studied this year. These internally separate production units should start at the beginning of 2004.. Thus, in the future, the possibility to competition from the open market will be introduced to give higher efficiency and savings.

b. The next office of the SMA

Sweden has since some years had problems with the old building and is nowadays located in different localities in Norrköping. However, a new office will be taken in use, probably in the late 2003.

c. Progress in the ENC production in Sweden

As a complementary addition to the report from PRIMAR-S Sweden informed that Swedish waters is covered with ENCs for the navigation in the open sea, usually in the scale area around 1: 250 000. Priority is given to the entrances to the larger harbours if not already done.

c. Paper Chart production in Sweden

Sweden reported the ongoing production of new charts in the northern part of the Bothnian Bay in the scale 1: 250 000 to replace older ones. They are made up with borders according to the INT chart scheme.

e. A new survey catamaran at FMA

Finland gave a report assisted by pictures of a the new catamaran to be delivered this year

10. Specific agenda items for the next annual meeting.

The S-55 matters should be on the agenda according to the IHO CL 23/2003.
The arrangements of a meeting of the Paper Chart Production Group was discussed. Sweden or Denmark stood in turn to arrange. The item was decided to be taken up at the next conference.
Denmark proposed that there should be given time to discuss experiences in outsourcing and/or cooperation in production with private companies in future meetings.

As a resumée the following items were agreed to be discussed in the next meeting – also *Annex J, page 991:*

Agenda point 1.d):	Paper Chart Production Workshop
Agenda point 2. Norway:	Experiences of outsourcing and/or cooperation with private companies.
Agenda point 4.a)	Multibeam seminar.
Agenda point 11.c)	IHO SPWG work.

11. Closing formalities

a. Action items arisen from the 47th NHC Meeting

See appendix

b. Election of next Chairman for NHC

According to the Statutes the 48th NHC Meeting will take place in Finland. The proposed Mr. Jukka Varonen was unanimously elected as the new chairman.

c. Date and venue for the 48th NHC Meeting

The newly elected chairman informed that the next Conference will take place in Helsinki with two possible dates, 3 – 4 February or 2 – 3 March 2004, and with the possibilities to change the date in order to have the meeting before a planned last meeting of the SPWG:

The chairman declared the 47th meeting closed.

Agenda of the 47th Meeting of the Nordic Hydrographic Commission
6th – 7th of May 2003 in Sweden

1. Opening
   a. Opening Remarks. Chairman
   b. Administrative Arrangements. Host country
   c. Approval of Agenda
   d. 46th NHC Meeting. Outstanding/ongoing agenda items.
2. National Reports.
3. Reporting of joint projects.
   Information on "Det levande sjökortet". SE
   Gridded bathymetri, DK
4. Reporting from working groups etc.
   a. Multibeam seminar. Further actions? DK
      Report: Multibeam Seminar, Denmark, 3– 9 November 2002.
   b. Paper Chart Production Group. Further Information than from Item 1d? IS
5. IHO work
   a. Status of individual working groups. A special day, May 7th, is devoted for status report and discussions from the SPWG as a joint meeting NHC/NSHC
      Doc. 47/5.1
   b. Relations to other NSHC and BSHC countries
   c. IHO CL 23/2003 – Status of Hydrographic Surveying and Nautical Charting. SE
      Doc. 47/5.3
6. Other international activities regarding nautical charting and hydrographic surveying.
   a. PRIMAR
      i. The development and tendencies in Primar. NO
         Doc. 47/6.1
      ii. SENC distribution information. NO
   b. IMO and IALA
   c. HELCOM
      i. Information of BSHC-HELCOM Monitoring Group. FIN
      ii. The representation of Surveyings in the charts. SE, FIN
7. Relations to other (private) nautical charting interests in the Nordic countries.
8. Discussion of general trends and policy.
   a. Renewing of the Printed Nautical Charts in Finland including Experiences of the New Paper Chart Production System(nSector). FIN
   b. The frequency of resurvey of fairways, dredged or with a small clearance. SE
   c. The situation of laser bathymetri in Sweden. SE
   d. Principles of QMS plans at FMA within the Navi program and in the Pilot Project. FIN
   e. ISO Certfication at NSV. NO
   f. ISO 9001 Certification at SMA. SE

9. Any other business.
    a. The New Organisation of the Finnish Maritime Administration and the role of Hydrography on it. FIN
    b. Information of the next office of SMA. SE
    c. Information on progress in the ENC production. SE
    d. Information on Paper Chart Production. SE
    e. A new survey catamaran at FMA. FIN
10. Time, place and specific agenda items for the next annual meeting.
11. Closing formalities
    a. Action items arised from the 47th NHC Meeting. Chairman
    b. Election of next Chairman for NHC
    c. Date and Venue for the 48th NHC. New Chairman Closing of the Meeting. New Chairman

Annex B

Nordic Hydrographic Commission (NHC) 47th Meeting, Sweden, 6-7 May 2003
North Sea Hydrographic Commission (NSHC) Extra Meeting, 7th May 2003

Participants of the NHC 47th Conference and the NSHC Extra Meeting

6th -7th of May 2003 in Sweden

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* Delegate of NSHC Extra Meeting 7th May

Annex C

Nordic Hydrographic Commission (NHC)
47th Meeting, Sweden, 6-7 May 2003

Action items raised from the 46th NHC Meeting.

Agenda Item		Action by	Remarks/Effectuated
4b	It was decided to hold a meeting in the Paper Chart Production Group in 2003. Further meetings must be on required basis.	Iceland	
5b	It was decided to arrange for a NHC Meeting prior to Thursday 18 April 2002, during the XVIth IHC in Monaco for reviewing the final list of candidates	NHC Chairman	Done
6.3a	Sweden calls for a meeting to co-ordinate the survey plans as soon as possible. Finland offered to inform the chairman of the Baltic Sea Hydrographic Commission.	Sweden and Finland	Done

National Report
DENMARK

1. Administrative and Organisational Status

Kort & Matrikelstyrelsen (KMS) saw a new organisational structure by 1 October 2002. The new organisation is reflected in the attached annex.

KMS will in future act as the central Danish digital infrastructure authority for charts, maps and geo-data, i.e. KMS will focus on serving the government, the central authorities, counties and local authorities.

KMS shall no longer serve the leisure boaters with special tailored products such as Small Craft Chart Series and harbour pilots in printed format. In future leisure boaters will have to buy standard charts or products made by private companies. However, the data from the harbour pilots produced by KMS will be made available free of charge from the KMS homepage.

2. Status of Bilateral Arrangements

In 2002 a Bilateral Arrangement with Germany has been signed. No further negotiations is planned to take place in 2003.

3. Status and plans on surveying activities

Hydrographic survey operations have been carried out in the following areas:

1. Danish waters inside the Skaw.
2. The West Coast of Greenland.

The surveys inside the Skaw are mainly re-surveying of costal waters in the following areas:

1. South of Bornholm in the Baltic.
2. Southwest of Gedser in the western Baltic
3. Drogden area in the Sound.

Al these surveys were carried out with multibeam echo sounder system.

The surveys on the West Coast of Greenland were carried out in the archipelago in un-surveyed waters in order to allow safe access to harbours and find sheltered costal fairways.

The surveys in 2002 were carried out in the following areas:

1. Hamborgersund just north of Maniitsoq.
2. The area between Prøven and Upernavik.
3. The areas between Sydprøven and Nanortalik in the southern part of the West Coast of Greenland.

All the surveys were carried out with singlebeam echo sounders.

The survey ship SKA 11 will in 2003 be fitted with a multibeam echo sounder system in order to improve the effectiveness of survey in Greenland waters.

Surveying ship
In 2002 SKA 11 and SKA 12 have operated in the waters along the West Coast of Greenland.

FLYVEFISKEN, SKA 15, SKA 16 and two survey launches (O-boats) have operated in Danish waters.

SKA 15 and SKA 16 are planned to be replaced of two new survey ships by the end of 2004. For the moment we are in the design phase and the final drawing is not completed yet.

4. Status and plans on production
In 2002 KMS produced and issued a new national chart 104 "Østersøen, Femern Bælt – Sundet" in scale 1:200 000. The chart connects the national chart 102 "Kattegat, S-lige del" (INT 1302) with the national chart 103 "Bælthavet" (INT 1303).

Also a new chart 188 was produced and issued. The chart covers the area "Østersøen omkring Bornholm" in scale 1:250 000. The new chart replaces the former chart 188.

In spring 2002 KMS produced and issued a new Small Craft Chart Series. As this Series is the last one of its kind it is with great pleasure that we have learned that this Series has become a success among the leisure boaters.

Up till now KMS has updated and printed all the Danish charts once a year, the Greenlandic charts every 5 years and the Faeroese charts every 2 years. That has also now been changed. From now on we will only update and issue charts when deemed necessary e.g. when new survey data is received from RDANH.
The survey data will be digitally processed and the result shown in new editions and/or updated reprints of our charts.

We have on a weekly basis issued "Chart Corrections" and updated and delivered updates (ERs) of our ENCs to PRIMAR Stavanger. Also we have produced new cells of the same area as the above mentioned new paper charts and delivered them to PRIMAR Stavanger. This task will be continued in the years to come without limitations.

According to the HELCOM declaration all major routes and port should be covered by ENCs by the end of 2002. That goal has been fulfilled

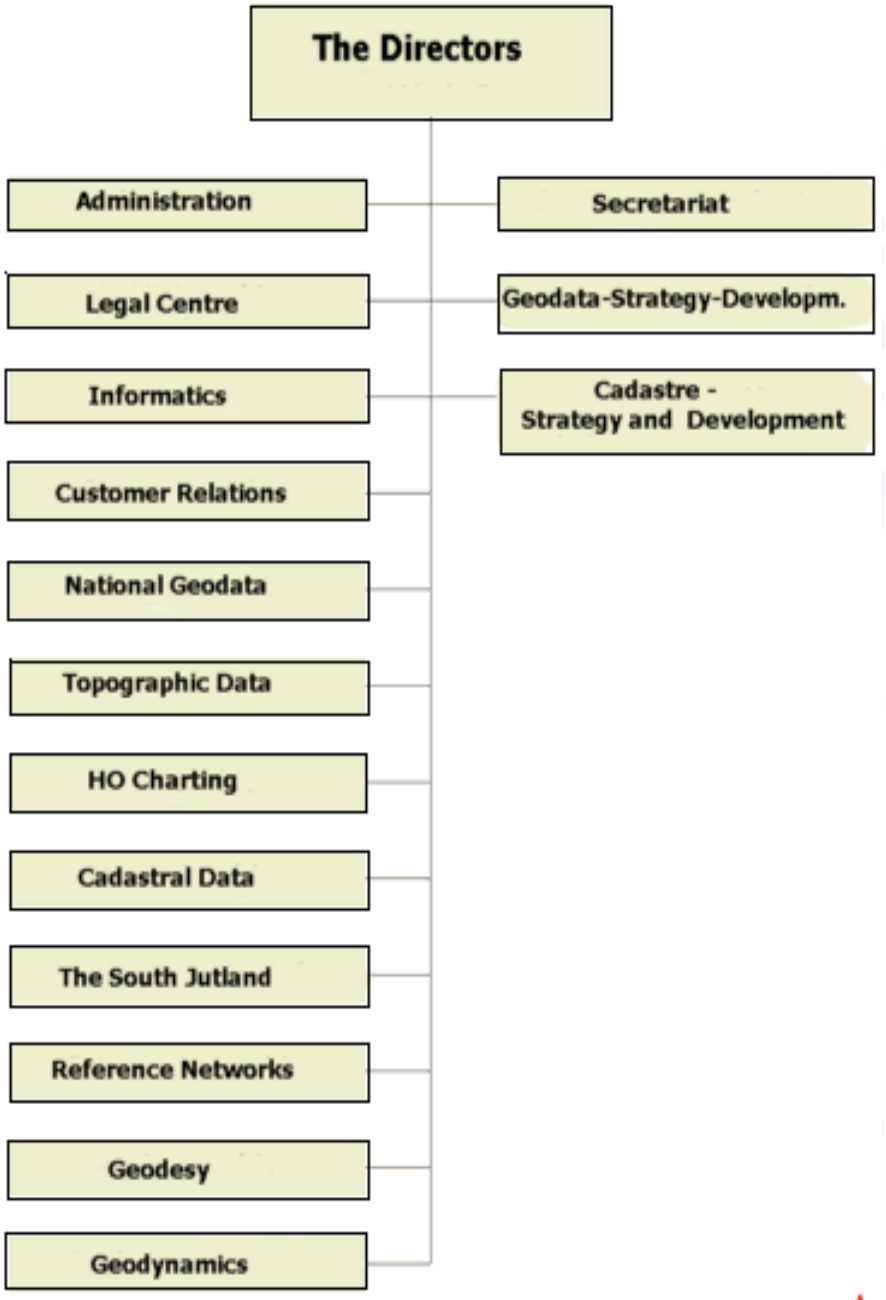
Last but not least KMS together with the Royal Danish Administration of Navigation and Hydrography, the Danish Maritime Administration, the Danish Meteorological Institute and the Danish Sailing Association have produced and issued the second version of the cd-rom product "Det levende søkort". The software has been improved, data has been updated and new themes have been added.

5. SENC Distribution
The issue of SENC distribution has for a long time been discussed in relevant IHO forums. In 2002 NSH presented a "Specificationfor Distribution of Authorised Navigational Chart data in SENC Format" produced by NHS and approved by Det Norske Veritas. On the basis of this technical report KMS consulted the Danish Maritime Authority in order to get their

acceptance of using the same model as NHS. The outcome is that Denmark on 26 February 2003 has accepted that distributors certified by type approval authorities recognized by the Danish Maritime Authority can distribute Danish ENCs in SENC format.

Our acceptance of the distribution of ENCs in SENC format at this time is recognition of the de facto situation. It is however our hope that industry and hydrographic offices can continue to cooperate to limit the number of SENC formats as much as possible to the benefit of the mariner.

National Survey and Cadastre - organization 1. october 2002



National Report of Finland

(30 April 2003)

General

Administrative and Organisational Status

The Finnish Maritime Administration is developing its operations. The new organization entered into force on the 1st of March 2003 and this is valid until the end of 2003. See Annex 1 for more details. The organisation will be developed further so that from the beginning of 2004 the Shipping Department, Pilotage Department and Ferries Department will be separated as state owned enterprises. Also the ordering tasks and production tasks of the remaining Maritime Administration will be separated into different organisational units.

Hydrogaphic issues belong now to the **Hydrographic Department** (the Finnish Hydrographic Office, FHO). The Hydrographic Department is divided into the **Hydrographic Surveys Division** and the **Charts Division**.

The Director of the Hydrographic Department is Ms. **Tiina Tuurnala**. The Head of Hydrographic Surveys Division is Mr. **Jukka Varonen**. The Head of Charts Division is Mr. **Jarmo Mäkinen**. Furthermore, Mr. Jukka Varonen will be nominated as the **National Hydrographer.** Mr. **Juha Korhonen** will continue as the Assistant Hydrographer. The previous Hydrographer**, Mr. Keijo Kostiainen,** is now the Director of the Waterways Department and also the Deputy Director General of the FMA.

The FHO organisation and the amount of staff is now:

- **The Director and Staff** (4)
- **Hydrographic Surveys Division** (18) + Hydrographic Survey Expeditions (29+53+40)
- **Charts Division** (49)
- The current count of FHO employees in the Office is 71 persons and on hydrographic survey expeditions 82 persons, totally 153 persons. During the survey season the amount of personnel will be increased by 40.

A specific Project has been launched to specify a detailed plan for organising the activities according to a clear separation between the ordering and producing tasks. This project should be finished by the end of October 2003.

The FHO is running a yearly budget of roughly about 10 – 11 million €.

Strategic Plans

The FMA has specified its strategy for the next coming years. The main features of this strategy are: To ensure the development of commercial and other seaborne traffic economically, safety and protecting the environment. The FMA will concentrate on mainly on official and ordering issues. The production tasks will be moved to separate enterprises. Outsourcing will be increased in the future. The new organisation is based on these strategic outlines, see Annex 1.

The FMA has also specified the strategy for the Hydrographic activities. The main features of this strategy are: To be able to efficiently produce accurate and error free hydrographic data for the anticipated needs of safe navigation for commercial shipping and for other official purposes. For the anticipated needs of the society, depth information and nautical charts will be produced on all Finnish sea areas and on specified inland lake areas for increasing their use and the safe navigation.

The implementation of the Navi-strategy is going on. The understanding and commitment to the Quality Management principles has been achieved by training and management actions. A Pilot Project for a tailored Quality Management System is underway.

Bilateral Arrangements

Finland has now Bilateral Arrangements with UKHO, Sweden and Estonia. Negotiations with Russia and Germany are in process, but may be delayed due the heavy workload of people involved in the re-organisation.

Status of Hydrographic surveys in Finland

The development plan for the organisation and operations of hydrographic surveys was completed and accepted during the year 2000. This plan has been followed along with deductions on number of personnel and cutting down one survey expedition with deduction of number of survey launches. The continuation of the Navi-strategy is a huge challenge for the organisation because remarkable amount of fairways and other navigable areas have to be surveyed during the following 8 – 10 years. Multibeam sounding equipment will replace other survey methods almost totally. Savings on operational costs have been seen mandatory in the future and the new survey technology will contribute the achievement of this common objective of the FMA.

The Hydrographic Surveys Division of the Hydrography and Waterways Department had the following survey units in operation during the season 2002:

Expedition	Depot/ Survey Ship	Number of Survey Launches/ Survey Equipment	Personnel (season)	Main operational area in 2002
I	**Prisma**	3 + 1 multibeam+ geod. survey team	44-46	Gulf of Finland, (also Lake Saimaa multibeam, geodetic team)
II	**Linssi**	2	7-8	Lake Saimaa
II	**Sesta**	2	9	Lake Päijänne:
III	**Kalla**	3 + 1 multibeam	35	Archipelago Sea, Åland
IV	**Airisto**	Echo sweep survey system (multi-channel)	11	Gulf of Finland, Bay of Bothnia Archipelago Sea
VI	**Saaristo**	3	26	Bothnian Sea, Vaasa
VII	**Suunta**	Multibeam survey system	14	Gulf of Bothnia, Gulf of Finland

The III expedition has been disbanded and its depot ship Kalla has been sold and its multibeam launch located now in the VI expedition. Also the depot ship Linssi of the II expedition has been sold. To replace this ship a new sea aluminium catamaran type survey vessel for inland waters has been ordered in May 2002 and will be delivered by June 2003.This vessel will be equipped with a multibeam system and to be capable of transportation between lakes, between seasons.

The FHO has been active to develop a coordinated hydrographic Re-Survey Plan as required by the HELCOM Declaration on September 2001. This plan has been prepared together with the BSHC countries. For monitoring the implementation of the Re-Survey Plan, a BSHC Working Group has been established. For the time being the FHO is chairing this WG. The HELCOM surveys are a logical extension of the Navi-surveys and the implementation of the Re-Survey Plan has been started.

Survey results in total:

- 29900 kilometres of survey line by single beam echo sounder equals 620 km^2 area sounded by lines
- 5.7 km^2 surveyed with bar sweep method
- 70 km^2 surveyed with echo sweep method
- 1560 km^2 surveyed with multi-beam method
- 425 geodetic control points measured
- 356 fixed aids for navigation measured

The operational costs for hydrographic surveys were (Hydrographic Surveys Division in Helsinki included): Salaries 5.7 million € and other operational cost 1.8 million €.

Processing of survey data

The survey data is processed and prepared for Navi-registers both onboard in the survey expeditions and in the office. Surveying and data processing in expeditions are supported and steered by responsible persons in FHO.

Data generalisation, validation and quality checking against surrounding data takes place in the FHO in Helsinki as well as registration into databases. The soundings are stored as original soundings in the Sounding Database System. Sweepings with related features are located in the Controlled Area Database System. Data processing systems and databases are developed further and maintained by FHO.

Fifteen persons are performing data processing full time and in addition five persons are processing the data as a part time. Most of the resource is concerned with basic processing (e.g. data cleaning, quality checking while surveying, registration). About three man-years are needed for data processing to main customers, chart production and fairway planning activities in the FMA. In addition some data deliveries and services outside FMA have been performed.

Status on production of Nautical Charts and Publications

Cartography

Chart renewal underway

In the beginning of 2003 started one of the most significant developments in the Finnish chart production history. Modernised charts will replace traditional Finnish nautical charts. In this way, Finland will gradually make the transition to the international INT charts. Colours, symbols and the coordinate system will be changed. The new symbology is based on the IHO standard.

The move to the international symbology is part of the chart renewal process that has begun this year. Initially, the Gulf of Finland and Archipelago Sea coastal charts at the scale of 1:50 000 will be renewed. In 2004 coastal charts for the Gulf of Bothnia and the chart series for the Gulf of Finland will be renewed. The first modernised version of the charts for inland waters will appear also in 2004. Within the five-year timeframe, all nautical charts will be renewed. Existing traditional nautical charts will be updated and they will be valid for the next four years.

The modernised nautical charts will be published in the WGS-84 coordinate system. Existing traditional charts will remain in the Finnish national coordinate system.

New charts are produced by the new chart production system called *nSector*. The production line has been integrated with the HIS -system. The first five coastal charts has been produced with the new production system by the end of April 2003. The modernised charts will be also available as raster products on CD-ROM.

Production schedule for the modernised charts

Chart number	Sea area	Scale	Publishing date
13-22	Gulf of Finland	1:50 000	Spring/summer 2003
191	Gulf of Finland	1:20 000	Summer 2003
23-34	Archipelago Sea	1:50 000	Autumn 2003
952	Gulf of Finland	1:250 000	Autumn 2003
40-59	Gulf of Bothnia	1:50 000	2004
953	Archipelago Sea	1:250 000	2004
134, 138, 136	Gulf of Finland	1:10 000-1:20 000	2004
A, B, Z (chart series)	Gulf of Finland	1:50 000 (1:20 000)	2004
P	Lake Päijänne (inland waters)	1:40 000	2004

Nautical publications 2003

Notices to Mariners are published every tenth day and it's available also on the Internet. ENC charts are updated once a week after the NtM material. Notices to Yachtsmen, which are compiled on the basis of the former, has been published five times a year since 2001.

The latest edition of the List of Lights on the Finnish Coast was published in April 2003. General information is given in Finnish, Swedish and English but the actual list of lights is only in Finnish and Swedish. The database will be updated continuously. The coordinates of all lights are given both in the Finnish national and WGS-84 (EUREF-FIN) coordinate systems. The latest edition of the List of Lights of the Saimaa Lake District and the Saimaa Canal was published in 1999.

The fourth edition of Chart 1 will be published in May 2003. The new edition contains all Symbols, Abbreviations and Terms used in modern (transition to INT charts, WGS-84) and traditional (KKJ) Finnish charts and in international (INT) charts.

A new edition of the Catalogue of Finnish Nautical Charts was published in 2000. The latest sale Catalogue of Finnish Nautical Charts was published in February 2003**.**

Navigational Warnings

The FHO (Helsinki co-ordinator), Turku Radio and the designated persons in the Maritime Districts maintain an up-to-date file for navigational warnings after which Turku Radio (24h service) is sending the Finnish navigational warnings. Navtex warnings will be sent to Baltico in Sweden and transmitted by Stockholm Radio.

The system is supervised and co-ordinated by The Hydrographer and Helsinki co-ordinator, whereby the Finnish navigational warning practice constitutes a part of the international navigational warning system.

ENC production

At the end of year 2002 there are 46 Finnish ENC cells on the market. These cells cover main fairways in Gulf of Finland and Archipelago Sea. Full ENC coverage from Finnish waters will be reached by the end of 2005 (including various navigational purposes), main fairways by the end of 2003.

ENC base cells are produced using tailor-made HIS (Hydrographic Information System) software. ENC updates are produced using SevenC's ENC tools ENC Manager and ENC Designer. Tools for validation of ENC's are dKart Inspector made by Hydroservices AS and ENC Analyzer made by SevenC's.

The distribution of the ENCs is done via PRIMAR Stavanger. The FHO has used the VPN service as a main data transfer tool. Also other services and tools (VRC, S57 Advisor, discussion group etc.) provided by PRIMAR Stavanger are used. The experiences of services has been very positive.

Four Finnish icebreakers, one research vessel (Aranda) and several commercial vessels are using the ENCs.

ECDIS promotion / Feedback

Since ECDIS seminar in October 2001 there has not been any ECDIS promotion events. FHO staff has given few presentations and lectures during year 2002. Experiences of ECDIS users has been collected whenever possible.

Hydrographic Data Management Systems Development

The storage and management system for bathymetric data (SYRE) is based on Oracle and in-house software. SYRE was designed and implemented by Finnish Maritime Administration and was based on FMA's *S2-depth storage system*. The system has been in productive use since December 1999. At the moment database includes about 1.25 billion soundings covering 5100 square km inland lakes and coastal waters.

The VARE database consists geographic information of controlled areas and meta data of all survey projects produced by FMA. The system has been in operational use and data have been systematically stored since 1997 on survey expeditions and since 2000 in district offices, e.g. all new bar sweeping areas are stored in VARE database. The system is build on Oracle® Spatial and Intergraph's GeoMedia.

The system for selecting critical soundings and creating depth contours for charts (SYLHIS, based on MicroStation) from different depth information sources, e.g. SYRE; was completed in 1999. This system will be renewed during the year 2003 on the basis of ArcGis software and SDE database. All underwater objects including coastlines will be exported from HIS-system to the this new one and will be updated there.

The fairway register (VÄRE) is a central register for fairway information using modern GIS tools (based on Oracle/SDO and GeoMedia). The database includes navigation lines, fairway areas and in the near future (2003) also dredging areas, dumping areas and restricted areas. The Fairway register complements the central navaids database, VATU. The second phase of the VÄRE project which comprised of wider data loading at the maritime districts, some enhancements to the VÄRE application and its interfaces to the HIS system; was completed in 2002.

The Hydrographic Information System, HIS, (based on Oracle/ArcSDE, ArcView and ArcInfo 7) was taken into production use in summer 1999 - 2002 included data loading to the database, ENC production and also some technical enhancements to the system. New version of the system (HIS 2.1) was taken into use in March 2002. In February 2003 the first printed chart was published using HIS-data. At the moment there are 12 persons working with data loading, updating and ENC production.

The FMA is to has one centralised chart data management system integrated with both ENC and printed chart production line. The HIS system covers now the data management and ENC production and currently the development is focused on printed chart production line, which will be integrated with the HIS system. This is important in order to ensure that the data for chart products is derived from a single source that is centrally updated so that there are no discrepancies between the different products. The new chart production system, called *nSector*, is also based on ESRI's technology (object oriented Arc SDE Geodatabase and ArcInfo 8). The system has been in production from the beginning of the year 2003. Five

first nautical charts produced by the system has already published. Be the end of 2003 all nautical charts on the Southern part of Finland will be produced.

The chart corrections register ATA (based on Oracle and MapInfo) has been extended onto the district offices of the FMA.

Annex 1: The new organisation of the FMA from the 1st March 2003.

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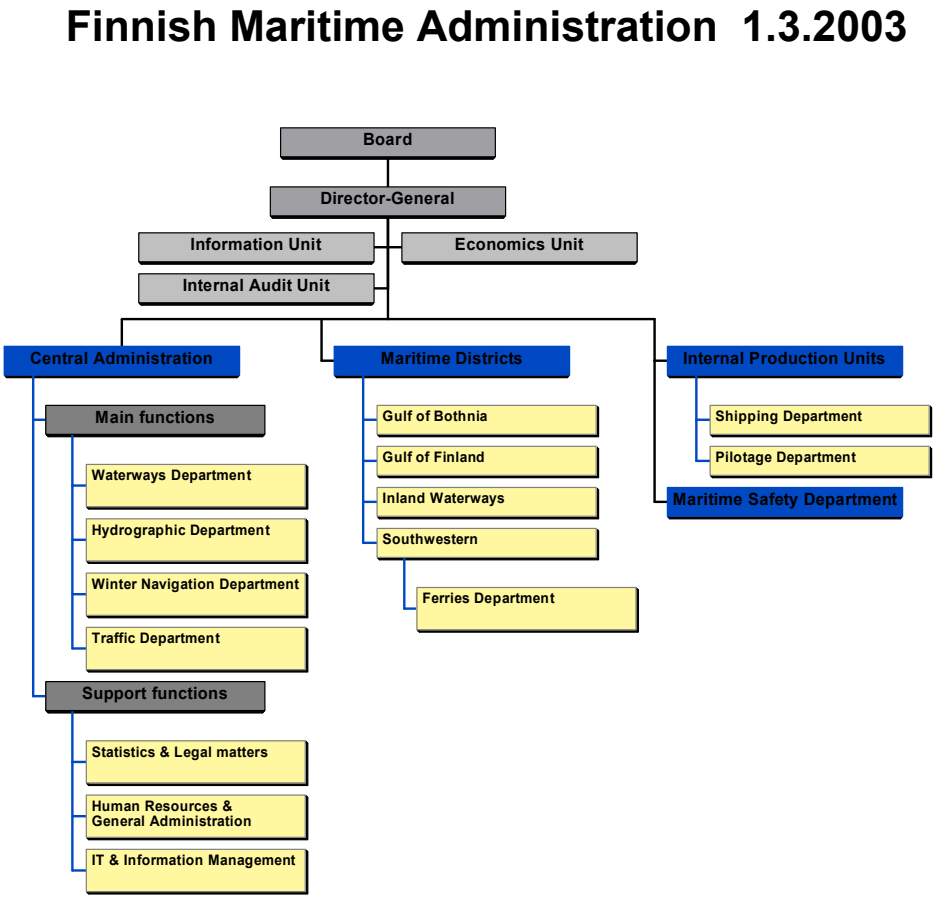


National report

ICELAND

Hydrographic survey 2002:

The survey area 2002 was on the W-Coast around Snaefellsnes peninsula but the project initially started 1998. At the end of April the survey season started in Breidafjordur bay and the survey started where it ended the year before to complete chart number 37.
In beginning of July the transit to Reykjavik was made where employees of US Naval Oceanographic Office installed a multibeam system onboard the Baldur. The task was to re-survey the Reykjavik harbour area with a new harbour chart construction in mind. Besides this operation the entrance channels for Grindavik harbour and Sandgerdi harbour were surveyed and during the transit the Kletturinn shoal west of Reykjanes was covered as well. The survey season ended in middle of September. Total survey mileage was 3,240 NM and total area 275 KM^2 .
The survey season 2003 will start in Hvalfjordur bay entrance in May and hopefully the project there will be finished in middle of May. Then it is anticipated that a survey will be conducted on the east coast and adjacent fjords. This project is a re-survey for chart no. 73 (INT 1111).

Charts:
In the year 2002 the ICG published 2 new harbours plans in 1:10.000 scales of Thorshofn and Grundafjordur. New edition of charts no. 32, 33 and 35 all in scale 1:100.000 and WGS-84 datum.

Presently there are 20 charts and 23 harbour charts/plans on WGS-84 datum, 15 charts are still on Hjorsey 1955 datum and 5 charts are still on Reykjavík datum (Old Danish charts). As previously reported the harbour plans are printed on demand at the office.

Malawi project

As previously reported the Icelandic Coast Guard (ICG) is taking part in a development project in Malawi with the Icelandic International Development Agency (ICEIDA). This project is going as planned and two charts have now been published. A Malawian candidate went to a six month long course in hydrography at the International Maritime Academy (IMA) in Trieste Italy. In March 2003 a new contract was signed between the three institutions involved which will last until end of the year 2004. This Agreement encompasses the conditions under which the ICG shall provide technical support to the Malawi Department of Survey with financial support from ICEIDA.

Status of INT charts produced by Iceland in Area D

Under the existing INT scheme in the area D Iceland is responsible for production of 13 INT charts. To date 7 charts have been published, and 2 charts are to be published this year. The present situation and planned actions are provided in the following table:

INT Chart	Producer Number	*Latest Edition	Scale Latitude	Scale	Dimensions (mm)	Present Datum
1100	61	1999	65°00'	300,000	962 x 652	WGS-84
(1101)	71	1986	65°00'	300,000	642 x 961	Hjorsey
(1102)	81	1979	65°00'	300,000	964 x 647	Hjorsey
1103	31	1998	65°00'	300,000	964 x 656	WGS-84
(1104)	41	**2003**	65°00'	300,000	650 x 958	Hjorsey
1105	51	2001	65°00'	300,000	653 x 964	WGS-84
(1010)	21	**2004**	65°00'	1,000,000		New Chart
1110	57	1998	65°00'	100,000	653 x 949	WGS-84
(1111)	73	**2006**	65°00'	100,000	638 x 939	Reykjavik -Datum
1112	36	1997	65°00'	100,000	653 x 953	WGS-84
1113	362	2001	65°00'	10,000	963 x 661	WGS-84
(1114)	46	**2003**	65°00'	100,000	953 x 653	Hjorsey
1118	530	1998	65°00'	10,000	472 x 572	WGS-84
*(Underlined figures are planned year of publication)						

NATIONAL REPORT
NORWAY

Administrative information

Total budget for 2002 was NOK 164.6 Mill.

Annual sales for 2002 was NOK 21.3 Mill. The turnover would have amounted to NOK 2.2 Mill if there was not an extraordinary write-off.

Status of Bilateral Arrangements

Since the last NHC Conference NHS has signed a Bilateral Arrangement with Estonia 18.04, Greece 30.05, Sweden, Finland and Latvia 21.10.
Discussions with Russia started in January 2002 and are still in progress.

NHS has at present bilateral Arrangements with US (through NMGS), UK, Denmark, Germany, Greece, Sweden, Finland, Estonia and Latvia .

Status of multibeam surveying

Sea – Surveying

Since the last report, the responsibility for all sea-surveying, both internal and external, has been transferred from the Surveying Section to the Enhanced ENC Project.

Internal multibeam surveying

References are made to National report 2002 on this issue:

EM 1002

In co-operation with NDRE, 5000 km^2 was surveyed along the coast of northern Norway and 2200 km^2 along the west coast of Svalbard. This co-operation has proved to be very successful, and joins governmental resources in a fine and optimal way. All survey data has been processed and stored in the Hydrographic data base, HYBAS.

EM 3000

Two survey launches equipped with EM 3000 has been operating on a 12 hour daily operation throughout 2002. The efficiency has improved considerably and a total of 845 km^2 has been surveyed along the Norwegian coast in areas with water-depths less than 20 meters.

External sea surveying

In order to reach the comprehensive goal of having the areas along the coast surveyed before 1960 covered with modern surveys, it will be necessary to contract external resources to do part of the job.

The procedure for the selection of contractor(s) was initiated through an announcement of a contract notice, 4 Contractors showed interest and are thereby invited to participate in the tendering round. The Contractors was evaluated following a set of evaluation criteria described in the Invitation to tender. *The procurement* was of such a complexity that necessary, accurate specifications, could not be established before the work commenced. Due to this, there was an obvious need to negotiate with the contractor about functionality, price and other conditions. The result from the tender evaluation was that contracts were signed with OSAE from Germany and Blom Maritime from Norway covering the period 2001 – 2005.

Status

Blom Maritime carried out a joint operation together with their sub-contractor, Tenix Lads from Australia commencing April 2002. The operation was originally planned to start in September 2001, but due to the terrorist incident in US, it was postponed to spring 2002, since Tenix could not obtain a flight permit to bring their aircraft from Australia to Norway.

Following an airborne laser operation April – May 2002, Blom filled in gaps in the laser coverage with conventional boat work using multibeam echo sounder in the period May - August. The survey was carried out in two areas, one north of Bergen to Sognefjorden and another north of the island of Vega in Nordland.

OSAE has carried out multibeam echosounder work south of the city of Bodø in the period between April – October.

Both contractors have experienced great challenges in connection with processing. The bottom topography along the Norwegian coast is very rugged and much manual processing is needed to meet the comprehensive specifications.

A total of approximately 1100 km^2 was surveyed by the two external companies in 2002, and all data has been delivered and accepted by April 2003.

Future plans

In order to keep the mobilisation/demobilisation cost to a minimum, it has been decided to proceed with only one contractor each season. The 2003 season OSAE will continue to survey in the areas north and south of Bodø.

External ENC and paper chart production in NHS

Status

Following a new international tendering process initiated medio 2001, contracts were signed with C-Map Norway and IIC from India for the period 2002 – 2006.

At the end of 2001 NHS organised a workshop with all involved industry to go through experiences so far in order to define areas of improvement. The meeting was very positive for all parties involved and based on lessons learned the use of overall common recourses to reach the goals have been improved.

Charts no's 17, 84, 87, 90, 92,114 and 463 and ENC's covering the same geographical areas, were produced in 2002. Charts 23, 24, 60, 106, 107, 120 and 483 are under production.

The technical specification has continued to be updated based on experiences. Appendices to the specification which contain examples on selection of soundings from the primary database and other guidelines for chart editing have been further improved. Both contractors have now established a production line which comply with the updated specifications. This has resulted in less need for thorough final quality control of the products upon arrival at NHS. The production is proceeding in accordance with plans.

Future plans

Additional funding, which is a prerequisite to follow the very comprehensive chart production plan, has partly been allocated for 2002 and 2003, thus enabling NHS to have 8 – 10 charts in the main chart series produced each year through the planning period.

ENC and paper chart production in NHS (Internal)

The NHS continued in 2002 the ENC and paper chart production according to the goals described in the NHS Long Term Plan.

Paper chart production:

Three charts in the Main Chart Series (scale 1:50.000) were produced: chart no 2, 5 and 19. The issuing of chart no 2 and 5 completed the work of modernisation the charts covering the southern part of Norway, and the area from the border with Sweden and eastward to north of Haugesund is now covered with charts of modern quality. The production of charts no 21, 22 and harbour chart 491 (Kårstø) were started, and the charts will be issued February, March and June 2003 respectively. Chart no 1 (Oslofjorden) was reconstructed and published in a New Edition.

New charts and ENCs are compiled from source data (Primary Data) in a cell based and common compilation process for the two products. This means that an ENC for an area can be published before the paper chart for the same area.

In addition chart INT 904 (Norwegian chart no 550) was issued. The chart is in scale 1:2.000.000 and covers Droning Mauds Land in Antarctica. The chart is the first chart issued by NHS for this region.

ENC production:

The internal ENC production has mainly been concentrated on closing the gap in ENC coverage for areas north and south of Bergen. The goal is to close this gap before mid 2003, which will nearly give a continuous ENC coverage from the border with Sweden to north of Trondheim. A total of 19 ENC's in the Approach User Band and 5 ENC's in the Harbour User Band were produced.

After considerable delay from the contractor a new S57 translator was implemented into the production line second half of 2002. The implementation of the new translator entails a great deal of extra work as previous produced ENC's will have to be issued in a New Edition in

order to retain its ID's to the database. In connection with this work the data also will be upgraded to version 3.1.

Mareano

No funding was made available to this project in 2002, but a new and modified application with a focus on the Barents Sea for the period 2004-2008 was sent in January 2003.

The NHS Quality System. Status

2002 was yet another year spent consolidating and expanding the NHS Quality system. Although time frames for ISO certification has slipped on several occasions, the continued objective of attaining an ISO 9001-2000 certified status has been adhered to. This objective has proved invaluable giving the required impetus to the development of the Quality System. Without the threat of "flunking the ISO exams" a lot of the activities necessary to bring us forward would have landed on the "back burner".

Efforts have been concentrated on a few salient points. Firstly completing our set of Process handbooks, where all the important processes, their interactions, governing mechanisms, routines etc are determined and described, next implementing a Document management system, and last but not least completing the system for Non-conformance.

The first months of the year was dedicated to revamping the system for registering and handling instances of non-conformance DK-Delta. As a tool, the system provides for a set of user defined addresses where registrations of non-conformance can be pigeon-holed. Our first attempt at modelling the system did not prove a success, consequently the system was used by very few. In its new configuration the system has come to wide use on the process level. Its value in this field of use may very coarsely described as a sophisticated mail-box in the line of production. As such is has proven to be a success as demonstrated by its daily use.

The system serves two purposes. One purpose is to provide a suitable tool for exchange of data on non-conformance and its remedies in the day to day affairs on the process level, as stated above. The other purpose is to aggregate the data recorded on incidents to a state where it can be analysed for common root causes for problems. This purpose is dependent on the managers active usage of the system. Unfortunately we have not yet been able to capitalise on this aspect of the system.

Purchase and installation of EK Document administration system took place towards the end of the year. This system, provided by the same supplier as the system for Non-conformance, was an immediate success. By the end of year the database was populated with the major part of our main documentation, and most of the managers had decided that the tool was eminently suited also for controlled documents, for instance procedures and manuals at all levels.

Towards the end of the year campaigns were held acquainting all our personnel with the requirements of the ISO 9001:2000 standard. Each section leader was given the task of assessing the status of his field of responsibility against the standard.
Thus, by the end of the year we were beginning to feel confident that the ISO Certificate was within reach, and contact was made with Veritas Certification to perform the audit and subsequent Certificate.

The immediate plans are now to put the organisation through a preparatory ISO audit in February to assess our state of readiness and maturity versus against the Standard, and to remedy any shortcomings before the final Veritas arranged ISO audit on March 10 and 11.

MIDAS Project

The MIDAS Project (Maritime Infrastructure and Data Management System) was launched in January 2001, with the main purpose of establishing a new management system for the Norwegian Hydrographic Service's primary data. The plan is to complete the project in 2003.

In 2002, the Project has focused on developing customized software for primary data management. Even though the future management system mainly will be based on off-the-shelf software (Intergraph's GeoMedia portfolio), it has been necessary to develop separate modules to meet the special needs of the Hydrographic Service.

New software has been developed for registering and safeguarding the quality of light and navaid data. This work has been necessary as this data is more complex than other primary data and is also updated more frequently. A versioned light/navaid database, with associated interface, has been developed and integrated in GeoMedia.

The project has also focused on development of a metadata system for registering data on source data sets, logging process history as well as providing support for decisions in internal processes. The metadata system will also provide basic data for quality information to users of the primary data. The work has been based on the Norwegian profile of the ISO 19115 Metadata Standard currently under development.

A pilot has been developed for a web concept for access to primary data based on GeoMedia Web Map and GeoMedia Web Publisher. The pilot is available on the Hydrographic Service Intranet.

In connection with the MIDAS Project, work has started to develop a new bathymetric database for the Hydrographic Service. The purpose of this database, called HYBAT, is to offer a continuous coverage of high-density depth data through a standardized interface. The work is in the research stage, but it is anticipated that the implemented database will constitute an important contribution to the future Norwegian Geospatial Infrastructure.

Our cooperation with Intergraph has changed in 2003. Due to personnel changes in Intergraph, local personnel no longer participate in the Project. The development work is now mainly handled by Intergraph UK in addition to Norwegian subcontractors. The change has necessitated an adjustment of the procedures for cooperation between the Hydrographic Service and Intergraph. The current model is largely based on Intergraph contributing to the specification work to a greater extent than previously in addition to handling software development. Experience has shown that this is a good model as it ensures high quality specifications and collaborative development.

Integrated Maritime Services

The Norwegian Hydrographic Service and the Norwegian Coastal Administration wants to improve the efficiency of the co-operation between the two organisations and make their services more accessible for the users by developing Integrated Maritime Services (INMAS).

INMAS will be based on a common infrastructure for maritime information with spatial data as the major component. The infrastructure work will be harmonised according to national and international standards, and within the frames of the national initiative for establishment of a multi-sector spatial data infrastructure.

The two organisations started up a pre-project in January 2003 with the following main objectives:

- Define a common vision for the two organisations maritime services
- Specify the common infrastructure for maritime information
- Carry out a feasibility study for the new co-operation model
- Compose a project directive and a preliminary plan for the main project

The pre-project will deliver its report this summer. The main project are assumed to start up this autumn, with a time horizon of 3-5 years.

National Report
SWEDEN

1. Administrative and Organisational Status

The organization of the Swedish Maritime Administration (SMA) reported to the 45th NHC Meeting is still effective with only minor changes.

2. Status of Bilateral Arrangements

Since the last NHC meeting Sweden and Norway have entered a bilateral agreement. The negotiation with Germany continues. Sweden at moment has bilateral agreements with Denmark, Finland, Norway and UK.

3. Status and plans on surveying activities

The goal for hydrographic surveying is that all Swedish waters should be surveyed to the standard of S-44, latest edition. Today about 8 percent of the area fulfils this standard.

As a consequence of the Copenhagen declaration 2001 a fairway 12 km wide and 400 km long have been surveyed from the (EEZ) border to Estonia to the (EEZ) border to Bornholm
At the west cost of Sweden the fairways to Lysekil surveys has been performed.
Barsweeping have been carried out among others in the lake Mälaren and in Norrköping .
Lidarsurveying have been carried out on the east coast of the island of Öland
An extensive program has been carried out for the Swedish defense in Stockholm archipelago.
In Klaipeda, Lithuania, have multibeam and barsweeping surveyings been made done in two separate projects.

The planned future work, influenced by the HELCOM Ministerial decision, will still have the highest priority for the next few years as there are very large sea areas to survey for a standard to meet the demands of safety at sea in the Baltic Sea.

Surveing results in total

6 000 km^2 surveyed with multibeam
1 690 km^2 surveyed with LIDAR
1 km^2 has been barswept

Surveying ships

HMS Ale, length 49,5 m, width 13 m, is a combined icebreaker and surveying ship equipped with a multibeam ecosounder
HMS Jackob Hägg, length 36,5m, width 7,5m, is equipped with multibeam ecosounder
HMS Nils Strömcrona, a catamaran, length 30m, width 13m, is equipped with multibeam ecosounder and a barsweep
MB 28, length 6,65m, width 2,5m, is equipped with multibeam ecosounder.
Ram 9, length 14m, width 8m, is a catamaran constructed for barsweeping.

4. The development in the field of nautical charts.

All of the planned charts (102) for digitising were finished during the period. The remaining charts in the portfolio will be produced as new charts according to plans. The digitising continues with charts and information for the use of the Swedish Navy and this will be finished during 2003.

No new chart was published during 2002. However, at this moment 3 charts (SE 41, 42 and 714) are under production and are planned to be published in the beginning of 2004.

The ENCs are produced from the same chart database as the printed charts. However the additional quality controls of ENCs before making the data official are time consuming. At the moment 195 cells have been delivered to Primar-Stavanger. There are 55 cells in navigational purpose General, 9 cells in Coastal, 55 cells in Approach, 55 cells in Harbour and 21 cells in Berthing (April 2003). During 2002 the main focus has been on creating ENC-coverage for Stockholm and Gothenburg.

The DLS (Det Levande Sjökortet, similar product as the Danish "Det levende søkort"), which covers the Swedish west-coast, was published as planned 2002. In the beginning of 2003 the next DLS was published covering the area from Ystad to Arholma on the east-coast. Next in production line are the inland waters, which is planned for be publication early 2004.

Except for the printing of Swedish nautical charts and publication the printing office has also printed 12 Estonian charts for the Estonian HO.

5. Hydrographic management systems

In June 2002 the DIS, Depth Information System, is in operation mode on Hydrographic Department of the Swedish Maritime Administration. The first step with DIS in operation will be to take in all present depth data (about 4 billions of point object) and DIS increases with about 1 billion of point object per year by new surveyed marine geographical information.

The HIS, Hydrographic Information System, earlier developed in cooperation with FMA, is under a further development. Hopefully the system will be ready during the year 2003 and will then replace the SysDeco System now in use.

Gridded Bathymetry

The establishment of a gridded bathymetry of the North Atlantic Ocean, the North Sea and the Baltic Sea has currently been under discussion over the past many years.

April this year GEBCO released the new edition of GEBCO Digital Atlas (GDA), which contains a new, global bathymetry grid at 1-minute spacing. It is amazing. Look for your self at the following address:

http://www.ngdc.noaa.gov/mgg/gebco/grid/1mingrid.html

However, for the North Sea/Baltic Sea the users require a better resolution than 1-minute spacing. This issue has been on the agenda of the recent meetings of the NSHC and BSHC. And slowly results emerge out of the dark.

Gridded datasets compiled by

Ministry of the Flemish Community
Environment and infrastructure Department
Waterways and Marine Affairs Administration

Netherlands Geological Survey (NITG)

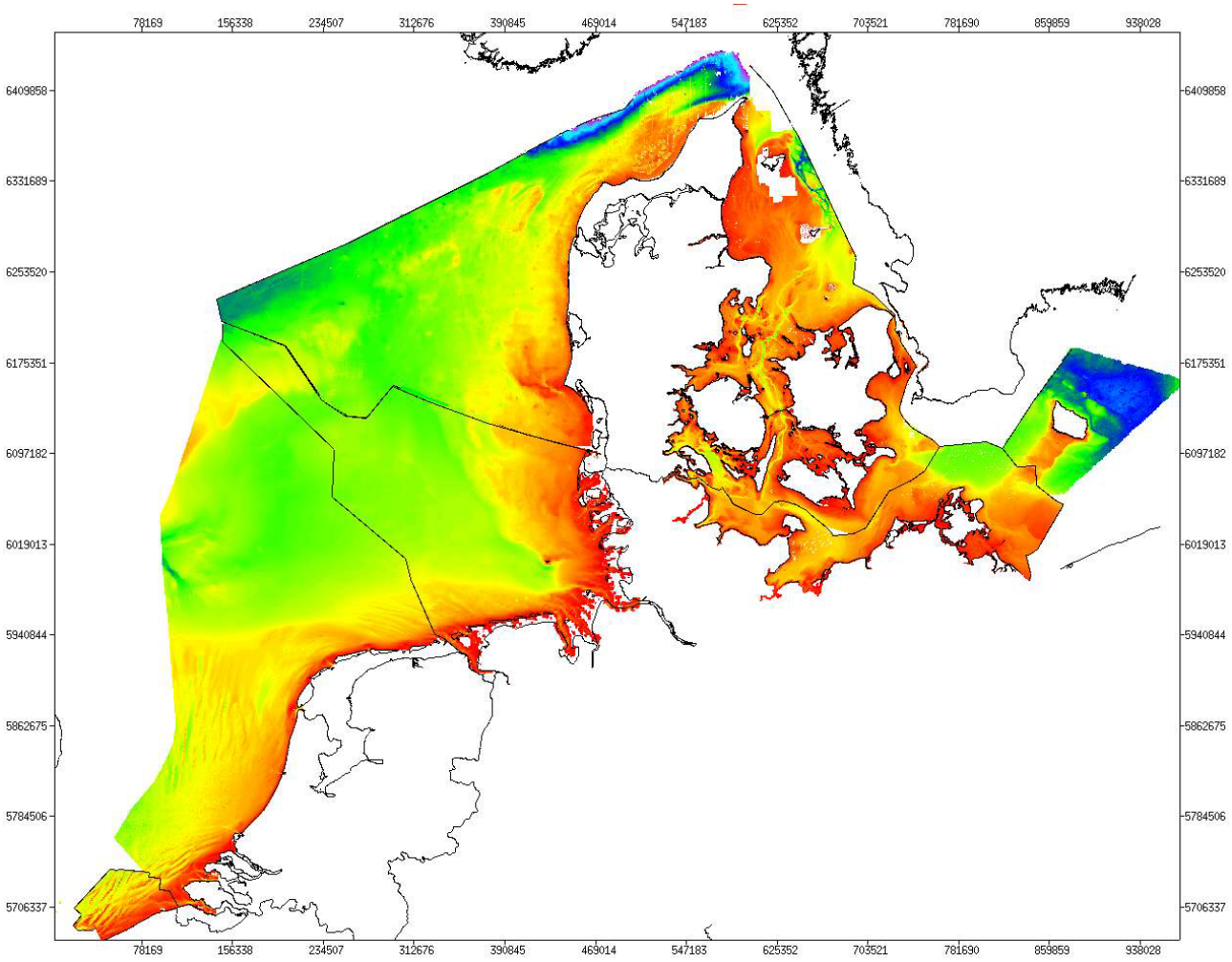
Bundesamt für Seeschiffahrt und Hydrographie (BSH)

Royal Danish Administration of Navigation and Hydrographie (RDANH)

have been provided for the project. The datasets from Belgium, the Netherlands and Denmark have a spacing of 200 meter, whereas the dataset from Germany has a spacing of 2000 meter.

A coverage plot is shown in Annex 1.

It goes without saying that the datasets should not be used for navigation, that the datasets belong to the contributing authorities and that none of these authorities will be liable for any consequential losses, damages, charges, injuries or expenses arising from the misuse of the datasets.


78169
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390845
469014
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703521
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6409858
6331689
6253520
6175351
6097182
6019013
5940844
5862675
5784506
5706337

Multibeam Seminar, Denmark, 3– 9 November 2002.

In accordance with the announcements made at the 45th NHC and the 9th BSHC Meetings the Multibeam Seminar was held in Denmark, 3-9 November 2003.

40 students from Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Sweden and United Kingdom attended the Seminar. Annex 2.

The seminar was organized as the 30th Shallow Water Multibeam Sonar Course developed by the Ocean Mapping Group at the University of New Brunswick (UNB). Course Programme and Course Instructors are listed in Annex 1.

The Seminar was organized and Managed by Morten Sølvsten, Royal Danish Administration of Navigation and Hydrography (RDANH).

The logistical support was provided by Birthe Dahl Moser (RDANH).

The course introduced the theory and operations of multibeam surveying, provided an understanding of differences between conventional and multibeam surveys, and emphasized the realistic limitations on multibeam operations, in obtaining acceptable depth and imagery data.

The course was not designed to provide fully trained multibeam system operators, data processors or experts in hydrographic surveying of the Baltic Sea. However, those attending the course gained an appreciation for further multibeam training and experience needed to gain this expertise.

Course program.

Monday

INTRODU	
CTION AND REVIEW OF FUNDAMENTAL CONCEPTS	
01 Introduction and Historical Background	JHC
02 Fundamentals of Echo-Sounding	CdM
03 Oceanographic and Seabed Geology Concepts	LM
04 Fundamentals of Sonars	CdM
05 Spatial Referencing Terms and Concepts	DW
06 Visualisation Terms and Concepts	LM
Tuesday	
07 Hydrographic Standards and Uncertainty Management	DW
SWATH	
SONAR ISSUES	
08 Side Scan Sonar Methods (Single & Multi-row)	CdM
09 Multibeam Sonar Methods	CdM
10 Bottom Detection Methods	CdM
11 Multibeam Sonar Imaging	JHC
ANCILLARY SENSOR ISSUES	
12 Multisensor Integration and the Ship's Reference Frame	JHC
Wednesday	
13 Horizontal, Vertical & Orientation Positioning Requirements	DW
14 Positioning Methods I	DW
15 Positioning Methods II	DW
16 Sound Refraction in the Water Column	CdM
17 Refraction Implementation, Limitations, and Case Studies	JHC
SEABED	
ACOUSTIC BACKSCATTER	
18 Acoustic Seabed Interaction Theory	CdM
Thursday	
19 Normal Incidence Classification Methods	LM
20 Oblique Incidence Classification Methods	CdM
21 Acoustic Backscatter Data Interpretation	JHC
SURVEY	
DESIGN AND QUALITY CONTROL	
22 Error Estimation in Swath Sounding	LM
23 Field Calibration - The Patch Test and The Reference Surface	JHC
24 Requirements for Decimetre Bathymetry (Repeat Surveys, DUKCM)	DW
Friday	
25 Survey Design and Planning	LM
26 Quality Control - Error Recognition & Identification	JHC

Instructors:

John Hughes Clarke University of New Brunswick (UNB)	JHC
Dave Wells University of Southern Mississippi (USM)	DW
Larry Mayer University of Hampshire (UNH)	LM
Christian de Moustier University of New Hampshire (UNH)	CdM

30th OMG/CCOM Shallow water multibeam sonar course

Gilleleje, Denmark
November 2002

6th MEETING OF THE SPWG CHAIR GROUP

The 6th meeting of the SPWG Chair group was held at the IHB, Monaco, from 11 to 14 April 2003.

1. The principal items included in the Agenda were the following:

1. Updating the Report "A STUDY INTO THE ORGANIZATIONAL STRUCTURE AND PROCEDURES OF THE IHO"
2. Agenda for the 3rd SPWG Meeting (Lima, 12-14 May 2003)
3. Consideration of the "pending" responses to the Questionnaire and following action.
4. Consideration of the Amendments to Convention, issuing from the structure proposed in the "strawman proposal" considered at the 2nd SPWG meeting.
5. Capacity Building strategy at the IHO
6. Industry involvement in IHO business.
7. Development of a high-level document, outlining the main content of and rationale behind the proposals, to be used by HOs in their communication process towards their authorities.

2. Agenda item 1 and 3.

The Chair Group considered the comments received from the Chairman of the NIOHC, Germany, Norway and Denmark on the 5th Report of the Chair Group, especially on the document Report "A STUDY INTO THE ORGANIZATIONAL STRUCTURE AND PROCEDURES OF THE IHO" distributed as Annex 1 **to the Report. The late comments to the Questionnaire received from the RSAHC and the NIOHC were also considered.**

The comments were discussed along Agenda Item N° 3 and the following major points were addressed:

1. The IHO as a regulatory organization.

The Chair Group felt that this question was of paramount importance but that the input received so far did not give a clear indication of Member States intentions. Therefore, it was agreed that the subject needed more consideration, especially from the legal point of view and the impact that the subject would have on the role of the IHO should be studied.
Comments on this item will be welcomed, in order that the Study Team of legal experts may be given the adequate mandate.

2. The IHO as recognized international organization.

The Chair Group felt necessary to explicitly mention in the Convention that the IHO is a competent organization, not leaving this statement to other bodies, as it is now the case.
The Chair Group thus studied the clause existing in the IOC Statutes, Article 3.1c and also noted that reference to IHO is made in the Law of the Sea (Annex 1, Article 3 paragraph 2), and decided

to include a sentence in the Preamble of the "Draft Amendments to the Convention" referring to this issue.

3. Composition of a future Council
The composition of a future Council will be discussed at the 3rd SPWG Meeting in Lima, based on the alternatives provided in the "Study into the Organizational Structure and Procedures of the IHO".

4. Public Relations
The Chair Group felt that there was not any need to discuss this item, as it had already been addressed in the past. Unless there is a strong feeling to include this topic in future discussions, the Chair Group felt that it should be closed.

5. Capacity Building
This subject is considered more in detail in Agenda item 5.

Other minor changes were made to the document "A STUDY INTO THE ORGANIZATIONAL STRUCTURE AND PROCEDURES OF THE IHO" It will be discussed in detail during the 3rd Meeting in Lima.

3. Agenda item 3. Agenda for the 3rd Meeting

A Preliminary Agenda for the 3rd SPWG meeting was finalized and is given in **Annex 2.** Any additional topic to include in the Agenda should be communicated to the SPWG Chairman and Secretary before 5 May.

4. Agenda item 4. Amendments to the Convention

The Chair Group prepared a First Draft of Amendments to the IHO Convention, which is included as Appendix to Annex 1. It was agreed that the amended Convention should be as generic as possible and details should be laid down elsewhere in the General Regulations.. It is stressed that this document is not intended for distribution to or consideration by legal advisors before the 3rd Meeting, but only for internal consideration and study until it is examined by the SPWG members at the 3rd Meeting. Afterwards, its study will be carried out by a special Study Team which also will include the legal advisors nominated by some Member States (The list is provided as **Annex 3**).

5. Agenda item 5. Capacity Building at the IHO

The Chair Group considered that this important element must be thoroughly reflected in the future structure and focus of the IHO.
It was noted that a new IHO Capacity Building Committee has recently been established and it was felt that this CBC may be an advance to the future element dealing with these topics and that it could develop already very important tasks. Capacity Building matters were therefore included as an item in the Agenda for the 3rd Meeting.

6. Agenda item 6. Relationship with Industry.

This was another item requiring further attention, in accordance with the responses to the Questionnaire. The Chairman informed the Chair Group that the Chairman of CHRIS has been asked to provide some preliminary input about the IHO relationship with Industry, as a basis for discussion at the 3rd SPWG Meeting.

7. Agenda 7

The Chair Group discussed and recognized that the need to develop a high-level document to facilitate communication to the corresponding authorities of the rationale behind the proposals on improvement made by the SPWG. This document will be drafted based on discussions to be held in Lima.

8. A meeting with the legal experts nominated by Member States will be held at the IHB, Monaco on 18 June, after the "Industry Days". The purpose of the meeting is to present to legal experts the terms for the work to be carried out in the IHO Convention based on the guidelines developed by the SPWG in its 3rd Meeting.
Members who have nominated legal experts are asked to indicate their participation in the meeting.

9. The Chair Group discussed a letter addressed to the Chairman by the Head of the Chilean HO, also sent to the SPWG forum. The Chair Group agreed to send a response highlighting the process until up to now in accordance with the mandate given and the procedure agreed by the SPWG.
The letter was distributed through the SPWG forum on 15th April 2003..

ANNEX 1

INTERNATIONAL HYDROGRAPHIC ORGANIZATION

STRATEGIC PLANNING WORKING GROUP

A STUDY INTO THE ORGANIZATIONAL STRUCTURE AND PROCEDURES OF THE IHO

Report to the 3rd Extraordinary Conference

Monaco, April 2005

Version 2
11 April 2003

CONTENTS

1. INTRODUCTION

1.1 IHO Basic Documents

The regulations and guidance concerning the operation of the International Hydrographic Organization are contained in its Basic Documents[1]. These include its Convention, General Regulations, Financial Regulations, Rules of Procedure, and Agreements between the IHO and the Government of Monaco. The current Convention was adopted by the IXth IHO Conference in 1967 and came into force in 1970.

The Convention comprises 23 Articles, covering the nature of the organization, its functions, membership, Bureau, conferences, objectives, finances and decision-making processes. A nation wishing to become a Member State (MS) of the IHO must have the approval of two-thirds of the MS and must ratify (sign) the Convention.

The General Regulations give more detail on the Conference structure and how proposals should be submitted, the operation of the Finance Committee, the Bureau, the Directing Committee and how it is elected.

The Financial Regulations describe the budgeting process, subscription fees and control of funds.

The Rules of Procedure give further explanation of Conference agendas and procedures, subsidiary bodies, conduct of business and voting.

The Agreement between the IHO and the Government of Monaco defines the legal personality and operation of the Organization and its physical location.

1.2 Proposals for Amendments

As the operation of the IHO developed, it became apparent that the Convention and parts of the Regulations and Procedures in the Basic Documents required amendment. However, the form and nature of the Basic Documents made amendment difficult and cumbersome. In some instances, agreed Conference resolutions concerning amendments were not implemented because of subsequent ratification procedures. The 2002 Edition of the Basic Documents contains references to two pending amendments, stemming from the XIIIth and XVth Conferences, which have still not completed the approvals process as much as 15 years later.

1.3 XVIth Conference Resolution

The Organization has attempted to deal with many such issues through the work of the Strategic Planning Working Group (SPWG) since 1997. In April 2002 the XVIth Conference[2] resolved that there should be a thorough review of the Basic Documents of the IHO and of its structure and procedures, to provide a more flexible, efficient Organization. It authorised the SPWG to continue its work, and specifically to take on this review and to make appropriate recommendations to an Extraordinary Conference in April 2005.

2. SPWG TASKING

2.1 Terms of Reference

The Terms of Reference given by the XVI[th] Conference to the SPWG were:

- Give advice, when needed, to the IHB Directing Committee, regarding the content of the Strategic Plan and related Work Programme.
- Oversee and monitor the content of the Strategic Plan and related Work Programme.
- The SPWG will include representatives designated by the IHO RHCs. Individual Member States may be represented if they consider it necessary.
- The SPWG shall request the assistance of legal experts when it is deemed necessary.
- The Chairman of the SPWG will be elected by the Conference.
- Consider unresolved IHO matters referred by the XVI[th] Conference and provide a report and recommendations by December 2003.
- Carry out a study on the need to revise the IHO Convention, providing the IHB Directing Committee with recommendations on any changes by December 2003.
- **Consider the harmonisation of the text of the IHO Basic Documents and supply recommendations to the IHO Directing Committee by December 2003.**

2.2 Membership

Every MS can be represented at the SPWG. The XVI[th] Conference also encouraged each Regional Hydrographic Commission to select a representative for the SPWG. The IHB President would represent the Bureau and the IHB would provide a secretary.

The full list of participants in SPWG meetings is at Appendix A.

2.3 Chair Group

The XVI[th] Conference elected the Chairman and two Vice-Chairmen for the SPWG. A "Chair Group" was set up comprising the Chairman, Vice-Chairmen, IHB President and SPWG secretary. Its purpose was to meet between plenary SPWG sessions to: collect and disseminate background information; collate and summarise inputs from MS; undertake and analyse a survey of members' opinions; propose initiatives for consideration at the plenary meetings; set agendas for the plenary meetings; draft reports.

2.4 Meetings and Timetable

The timetable and schedule of meetings for the complete study is in Appendix B.

2.5 Study Report

This report describes the methodology used in the SPWG study (Section 3, 4). It presents a new model for the structural organization and operating procedures of the IHO (Sections 5, 6, 7, 8), then identifies where and how the Basic Documents should be amended in order to implement the proposed structure and procedures (Section 9).

The recommendations to the 3[rd] Extraordinary IHO Conference are in Section 10.

The report uses the masculine form and pronoun throughout, as convenient short-hand only for he/she, Chairman/Chairwoman, etc.

3. STUDY METHODOLOGY

3.1 Holistic Approach

A holistic approach to the task was adopted, to ensure a structured, logical, rigorous review. This was seen as important to the credibility and acceptance of the SPWG's conclusions.

The main points of this approach were:

- Agreement that the SPWG's mandate was wide and non-prescriptive;
- Acceptance that no single MS or RHC possessed the full picture of what might be required;
- Provision for all regions and MSs to have a fair say in the deliberations;
- Conclusions should only be reached after thorough analysis and debate;
- The study should propose solutions that are "good enough" for consensus and implementation, and not spend an inordinate time chasing the "perfect";
- The study should initially be bold and creative with a broad perspective, but it must narrow its focus rapidly onto the vital few areas for improvement;
- It should start at first principles by establishing an image of the future IHO defined through statements of its Vision, Mission and Objectives;
- It should seek to determine what strengths and weaknesses the IHO currently possesses which help or hinder it from achieving its Vision, Mission & Objectives;
- The study should propose an organizational structure and set of operational procedures best suited to maintain the strengths, overcome the weaknesses and achieve the Mission, Vision and Objectives;
- Only after all the above has been completed should the study turn to the Basic Documents to determine how much of them would be affected by the new model, and how they should be amended;
- The changes to the Basic Documents should be minimised, but must be sufficient for the effective implementation of the future IHO structure and procedures;
- The study should include an estimate of the financial implications of any changes to the structure or procedures of the IHO.

3.2 Regional Involvement and Communication Strategy

Global participation in the study was sought through regional involvement. All the 14 RHCs were represented at most of the SPWG meetings, which were held in Europe, India, South America, Asia *and North America*. Members of the Chair Group attended RHC meetings to explain the SPWG study process and report on progress. Collated survey questionnaire responses (see later) were provided by all of the 14 RHCs, along with individual responses from 3 MS and the CHRIS committee. This represents the large majority of Member States in the IHO.

The role of the SPWG RHC representatives included:

- encouraging and motivating members of their RHCs to participate in the process;
- leading discussions within the RHCs to elicit all views of the MS and seek consensus;
- representing the views of their RHCs at SPWG meetings;
- explaining and promoting the decisions made at SPWG meetings to RHC members;
- participating fully in the SPWG meetings and work process.

The communications strategy included the establishment of a SPWG forum on the IHO website, the use of Circular Letters (CLs) on the progress of SPWG work, active

participation of Chair Group representatives in RHC meetings and active involvement of RHC representatives to communicate progress to their Member States.

3.3 Background Information

Much background information was collected and absorbed at the beginning of the study. In particular, reference was made to previous Conference minutes[3] and IHB documents, earlier SPWG reports[4], the structure and modus operandi of other international organisations[5,6,7,8,9], inputs and suggestions on structures from MS[10,11,12,13], a US paper on sustainable exploitation of the maritime environment[14], a paper by an international lawyer on methods of implementing amendments to the Convention[15], and others.

3.4 Vision, Mission, Objectives and Goals

As explained in the holistic approach, the starting point of the study was to generate from first principles a view of the Mission of the IHO, what its Vision for its future should be, and, flowing from its Vision and Mission, what its Objectives should be.

The (short term) Goals of the IHO should be re-evaluated when the Strategic Work Plan is reviewed in the normal course of business after the 3rd Extraordinary Conference and in the light of the re-defined Mission, Objectives and structure. The SPWG therefore did not attempt to address the Goals in this study.

3.5 Strengths and Weaknesses

Concurrently with its work on the Vision, Mission and Objectives, the SPWG submitted a questionnaire to all Member States seeking their impressions of the current strengths and weakness of the IHO. Development of the questionnaire was based on reported concerns and perceived weaknesses and strengths expressed by MS in several meetings and conferences. It contained two sections (one on strengths, the other on weaknesses), each section containing chapters on specific topics. In addition, the questionnaire asked for unstructured/unsolicited comments in free text boxes.

The full questionnaire and all received responses are in Appendix E.

3.6 Improvement Study Teams

During the course of the study, two teams were set up to examine specific aspects of the task and to propose improvements to the existing model. The first was a team to propose improvements to the structure of the IHO; the second was to propose consequent improvements to the Basic Documents of the IHO. The guidelines given by the SPWG to both these teams are shown in Appendix F.

The Improvement Study Team on Structure comprised all the members of the SPWG. Its work began in the meeting in Goa, continued through use of the SPWG forum on the IHO web site, *and completed in the meeting in Lima*.

The Improvement Team on Basic Documents comprised all the members of the SPWG. Legal advisers from 10 Member States (Australia, Chile, France, Germany, India, Iran, Morocco, Norway, UK, USA) assisted in the work on the Convention. Once the high-level structure proposed by the first study team was agreed by SPWG, the second team conducted its business *using the SPWG forum on the IHO web site*.

4. STRENGTHS & WEAKNESSES

4.1 Pre-survey Impressions

At the commencement of the study, the Chair Group assembled a list of concerns and perceived weaknesses which MSs had reported in a variety of meetings and conferences. Predominant amongst these were:

- decision-making
  - decision-making processes being slow and ineffective
  - long ratification process which new members wishing join have to overcome
  - 5-year gap between Conferences being too long
- Conferences
  - bogged down in detail, and neither strategic nor technical enough
  - not business-like
- structure
  - committee structure of the IHO being too large and disorganised (see, for example, the network diagram produced by the IHB to illustrate its interactions, in Figure 2 in Appendix G)
  - IHB being seen as an entity in itself rather than an arm of the IHO
  - the Secretariat having three ”equal” Directors
  - qualification criteria for Directors
  - poor involvement of Industry
- work progress
  - lack of innovation and creativity
  - inability to develop large scale co-operative programmes
  - insufficient involvement of many of the MS
  - lack of response to the requirements of RHCs.
- international stature
  - IHO becoming superfluous, in the light of regulatory nature of the new SOLAS V
  - IHO’s position as the advisory body to the IMO on hydrographic matters
  - IHO’s low international profile
  - lack of clarity in the benefits of being an IHO member

The Strength & Weaknesses survey probed these, and other, issues.

4.2 Summary of Survey Responses

Appendix G contains a summary of the responses to the Strengths & Weaknesses survey. To find the consensus of opinions, the responses were analysed to obtain a list of the most frequent replies. These have been grouped in the first three columns of the table in Appendix G in generic statements such as: ”Organizational structure *inappropriate*”. In this case, the word *inappropriate* is short-hand for a number of similar opinions expressed (see the full responses in Appendix E). Where a response from one MS was not supported or echoed by any other MS, it was not included in the summary list.

The table in Appendix G shows a list of 13 well-supported points that the SPWG took into consideration in its subsequent proposals. There was close correlation with the perceived weaknesses listed in paragraph 4.1 above, and all SPWG members felt intuitively that they represented genuine concerns. When the Chair Group briefed RHC meetings on the findings, there was widespread agreement on their validity.

In the analysis of the responses, it became clear that MS ascribed 7 main strengths to the current Organization, which can be summarised in its being an international organization with global reach but acting regionally through the RHCs, being technology focussed and concerned with improving technical capability amongst its members. A depiction of the perceived strengths is given in Appendix G as a ”Strengths Storehouse”. The SPWG determined that any re-structuring of the IHO must not diminish those strengths in any way.

The perceived weaknesses of the current organization included its decision-making processes, over-legalistic and inflexible nature, the slow growth in membership, the style and frequency of its Conference and Committee meetings, inadequate interaction with industry, the slow pace of improvement in technical capability of many members, the lack of progress within RHCs, and the appearance of the Bureau as almost a separate entity to the IHO itself. Several of these weaknesses were ascribed to the rules and guidance in the Basic Documents and to specific Articles within them, eg Articles XX and XXI. These perceptions are depicted as a ”Weakness Web” in Appendix G. The SPWG determined that any re-structuring of the IHO which it proposed must be designed to remove those weaknesses.

5. VISION, MISSION & OBJECTIVES

The following statements are the proposal from the SPWG for redrafted statements concerning the role and purpose of the IHO.

5.1 Vision

The Vision of the IHO is to be the recognised international hydrographic authority advancing maritime safety and efficiency and marine environmental sustainability.

5.2 Mission

The Mission of the IHO is to create a global environment in which States provide adequate and timely hydrographic data, products and services and ensure their widest possible use.

5.3 Objectives

The Objectives of the IHO are to:

- promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography;
- improve global coverage, availability, quality and access to hydrographic data, information, products and services;
- improve global hydrographic capability, capacity, science and techniques.
- establish and support the development of international standards for the quality and formats of hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards;
- give authoritative and timely guidance on all hydrographic matters to governments and international organisations;

- facilitate coordination of hydrographic activities among Member States;
- enhance cooperation on hydrographic activities amongst States on a regional basis.

6. ORGANIZATIONAL MODEL

In order to address the details of the Strengths & Weaknesses and the new Vision, Mission and Objectives, the SPWG examined several different models for the IHO's structure and procedures. These different models were put forward by individual MS (Germany, UK, Portugal, France) or were models employed by other international organizations (IMO, IALA, IOC, etc). One model, with elements drawn from all the others and addressing all the issues of concern to MS, was developed and selected for deeper study. It was based on four principles:

- **The structure must maintain the strengths of the IHO and eliminate its weaknesses;**
- **It must help the IHO to achieve its Mission, Vision and Objectives;**
- It must provide for: policy making; technology, standards, advice-giving; global & regional cooperation; timely decision-making and efficient day-to-day operation;
- The best structure is a simple one, and preferably one which has been proven in operation elsewhere.

The table previously referred to in Appendix G has a fourth column. This shows, in rough form, how the perceived weaknesses have been addressed in the model.

The selected model is depicted in Figure1.

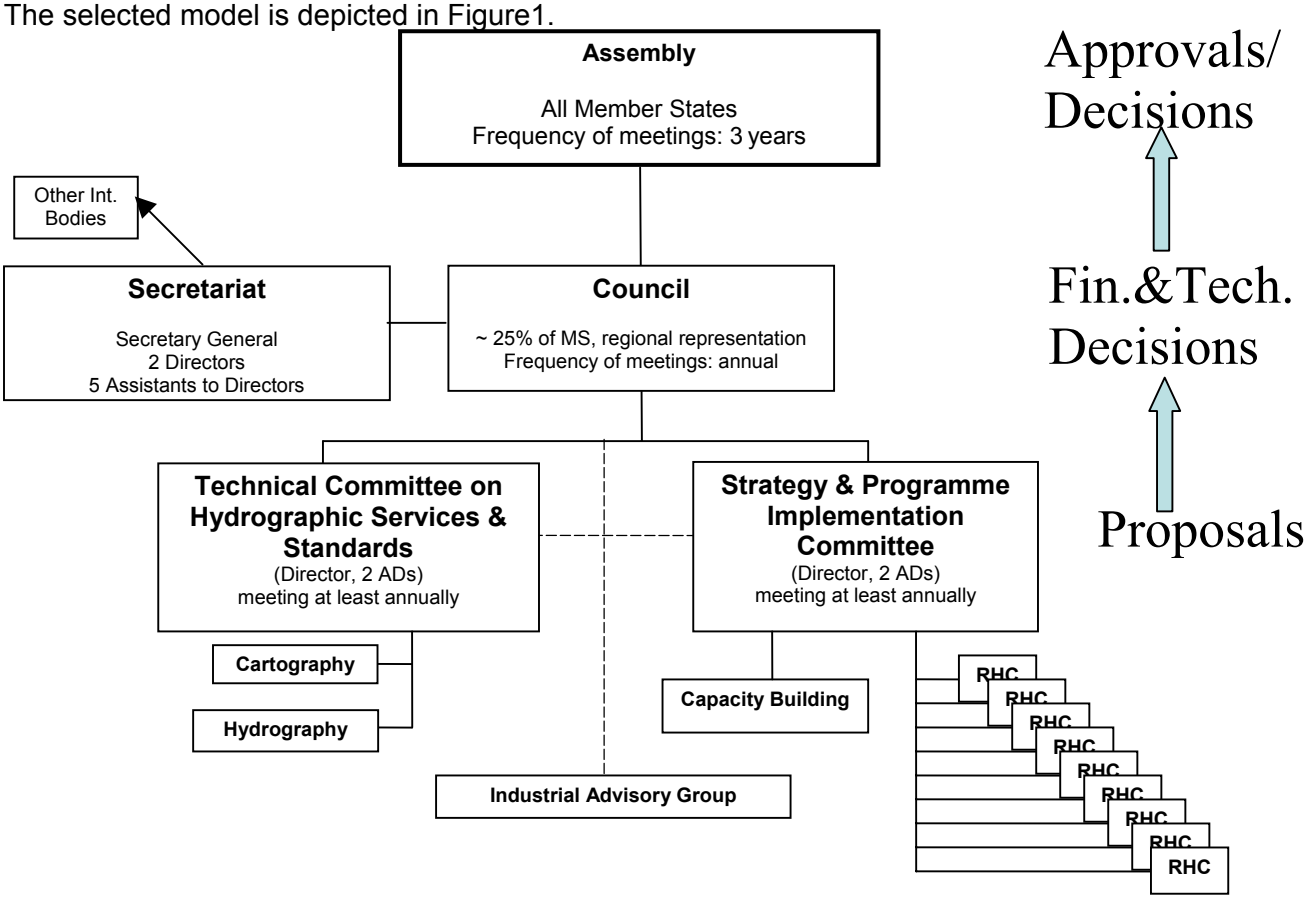


Figure 1 : Proposed Organizational Structure.

6.1 Assembly

In this proposal, the governing body of the IHO is the Assembly, comprising all Member States, meeting *every 3 years*. The General Assembly establishes the over-arching strategic policies of the Organization, endorses its *3-year* Work Programme and is the custodian of its Convention and Basic Documents.

At [the conclusion of each of] its triennial meetings it elects the Chairman and Vice-Chairman of the [next] Assembly, who will also immediately become the Chairman and Vice-Chairman of the Council (see below). **The Assembly establishes the Terms of Reference and delegated powers of the Council and *elects/confirms* the Council members. It elects the Secretary-General of the Secretariat and his two Directors (see below).**

6.2 Council

The Council coordinates the activities of the Organization and meets *on at least an annual basis (thus meeting at least three times between Assembly sessions)*. It approves the draft Work Programme and budget estimates presented to it by the Permanent Committees (see below). It considers the reports and proposals of the Permanent Committees and takes decisions in relation to those reports, programmes, proposals and budgets as established in the Convention. *If the Council requires advice on legal matters it instructs the Secretary-General to acquire such advice (the LAC is therefore no longer necessary).*

The Council's members are *elected/confirmed* by the Assembly and comprise a Chairman and Vice-Chairman and representatives of about a quarter of the Member States. In the initial stages, with a membership of *80* MS, the Council will have a Chair, Vice-Chair and approximately 20 members. It is a smaller, more dynamic body than the Assembly. Member States not elected to the Council may participate in meetings but without voting rights.

EITHER

The members are drawn from specific regions in the world, as defined by the UN, in the ratio of MS within a given region. The Member States within each of the regions in the near future are shown in Appendix H1, with the consequent number of seats on the Council.

OR

The members are nominated by the RHCs, each RHC filling a number of Council seats as determined by the number of MS in the RHC in the following ratio:

- *1-5 MS = 1 seat;*
- *6-9 MS = 2 seats;*
- *10-13 MS = 3 seats;*
- *14-17 MS = 4 seats.*

If a MS is in more than one RHC, it may only represent 1 of them and have 1 Council seat.
MSs not affiliated to a RHC are pooled and treated as an RHC in their pool.
The size of each RHC is shown in Appendix H2, with consequential Council Membership.

OR

The members of the Council comprise

- *the "top 10" MS according to flag state shipping tonnage, plus*
- *two members from any RHC having effectively more than 10 MS, plus*
- *one member from any RHC having effectively 3 – 10 MS.*

An RHC having effectively less than 3 MS is combined with another having less than 3.
A "top 10" Council member may not also represent an RHC.
The Council composition is as shown in Appendix H3.

6.3 Permanent Committees

Two Permanent Committees are proposed, to undertake the work in pursuance of the Organization's Objectives. The two committees liaise to contribute to the generation of the Strategic Work Programme (SWP) which the Council is then asked to endorse.

Each Permanent Committee has an associated Secretariat Director, elected for the specific task by the General Assembly, to support the Chairman, provide Secretariat resources and manage the day-to-day progress of the Committee work. Each Permanent Committee also has two Assistant Directors, with specific responsibilities as outlined below. The ADs are appointed by the Secretary-General from nominations provided by MSs.

6.3.1 Hydrographic Services & Standards Committee

The Technical Committee on Hydrographic Services & Standards (TCHSS) is a technical committee which absorbs the work of the CHRIS, WEND, Tides, Colours & Symbols, RNW, S44, Hydro Manual, Quality & Safety, (etc) committees and sub-committees. All MS are eligible to attend its meetings, which should be held at least once a year. The Chairman and Vice-Chairman are appointed by the Committee for a period of *3 years* – ie to the next General Assembly.

The TCHSS may have a limited number of sub-committees or Working Groups (approved by the Council) as required for its work – such as a Cartography Sub-Committee and a Hydrography Sub-Committee (the former concentrating on navigation matters, the latter on non-navigation matters). The Sub-committees appoint Chairmen and are supported and provided with Secretariat resources by the ADs.

6.3.1.1 Industry Participation

An Industry *& Users* Advisory *Group/Panel* will be set up, comprising representatives of Industry, Academia, Professional Institutions *and end-users of the IHO's products and services*. The *IAG/IAP* will coordinate industry participation in (and inputs to) the work of the TCHSS and other areas defined by the IHO, and to propose relevant methodologies and solutions.

Representatives of the *IAG/IAP* can attend Permanent Committee, Council and Assembly meetings as observers. Their credentials as observers have to be accepted in advance by the Assembly, and will include their being members of the *IAG/IAP*.

6.3.2 Strategy & Work Programme Implementation Committee

The Strategy & Work Programme Implementation Committee (SWPIC) generates, oversees and monitors the Strategic Plan and associated Work Programme to be carried out by the Regional Hydrographic Commissions, taking into account technical issues raised by the TCHSS and/or the Council. The Chairman and Vice-Chairman are appointed by the Committee for the period of

3 years **between Assemblies. All MSs are eligible to attend its meetings, which should be held at least once a year. The SWPIC and the RHCs have support from two ADs.**

6.3.2.1 Capacity Building

The SWPIC's responsibility includes Capacity Building. To enable this work to progress satisfactorily, it will have access to a Trust Fund set up to enhance technical capability and training within RHCs.

The Council will be responsible for ensuring the proper administration of the Trust Fund. The SWPIC will propose programmes and priorities for usage of the fund for Capacity Building, and coordinate relevant work between RHCs (eg assistance with surveying, training, etc).

This proposal is designed to build upon the work of the Capacity Building Committee now being developed by the IHB. It is envisaged that this committee will form the basis of the Capacity Building work of the SWPIC.

6.4 Secretariat

The Secretariat exists to support the Assembly, the Council, the Permanent Committees and their sub-committees (including the RHCs). It comprises a Secretary-General who heads the Secretariat, two Directors in support of the Permanent Committees, five "permanent" Assistants to Directors and other staff as required and as affordable.

6.4.1 Secretary-General

The Secretary-General is elected by the Assembly from within the ranks of the Member States for a period of *6 years. For the election of the Secretary-General, each MS will have two votes, but MS with more than 100,000 tons of shipping shall have supplementary votes as indicated in the Rules of Procedure for elections (see later). He may be re-elected at subsequent meetings of the Assembly for a further 3 years, ie a total period of 9 years. A two-thirds majority of the Member States present at the Assembly is needed for the extension*.

The Secretary-General is Head of the Secretariat and responsible for its efficient operation. He supports the Chairman of the Assembly, the Assembly itself and the Council. He is authorised to represent the IHO to other national, international or non-governmental organizations.

He will be assisted by at least one Assistant Director to administer the financial matters of the Organization.

6.4.2 Directors

Two Directors are elected by the Assembly from within the ranks of the MS, each for a period of *6 years*, and each for the specific task of providing high-level support to

one of the Permanent Committees. *The Directors may be re-elected at a subsequent meetings of the Assembly for a further 3 years, ie a total period of 9 years. For the election of Directors, each MS will have one vote and a two-thirds majority of the Member States present at the Assembly is needed for the extension.*

The Directors report to the Secretary-General and are responsible for the provision of secretariat support to the Permanent Committees and their sub-committees and the RHCs.

6.4.3 Assistants to Directors

There will be 5 ADs, appointed by the Secretary-General from nominations provided by Member States. Two will assist a Director in supporting the work of the TCHSS, two will assist another Director in supporting the work of the SWPIC and the RHCs, and one will assist the Secretary-General in the financial/day-to-day management of the Organization. The ADs are appointed for a probationary term of 2 years, then with renewable contracts of 5-year terms, at the discretion of the Secretary-General.

In addition to the ADs listed above, the Secretariat will benefit from assistance on specific tasks provided by another category of staff: people whom MS may wish to develop into senior members of their HOs by giving them exposure to the work of the IHO and its Secretariat. Such posts would be for a period of 2-3 years and funded by the MS. Selection of these temporary staff members from the list of candidates would be the responsibility of the Secretary-General. The post of "staff officer" to the Secretary-General could come under this category.

6.4.4 Other Staff

All other staff in the Secretariat are appointed by the Secretary-General to ensure the efficient, effective operation of the Secretariat within the budget set by the Council and approved in Assembly's 3-year SWP.

6.5 Regional Hydrographic Commissions

The RHCs will continue as presently configured, but with their Chairmen selected for the period of *3 years* between Assemblies. *Some part of the Agenda of RHC meetings will be prescribed to take account of the Strategic Work Plan, other parts may be structured to consider regional issues and plans.*

7 PROCEDURES

7.1 Meetings

The Assembly will meet *every 3 years*, in Monaco. *This frequency allows a reasonable interval for work progress and ensures that the (large) Assembly concentrates on strategic issues.* The Council, *(smaller, more dynamic, charged with execution of the IHO's business) will meet at least once a year, in Monaco.* The Permanent Committees will meet at least once a year, in venues as arranged by them. Sub-committees and RHCs will meet once a year, in venues of their choice.

7.2 Decision Making

7.2.1 Membership

Membership of the IHO will be automatic for any State which is a member of the UN.
A maritime State which is not a member of the UN may apply for membership of the IHO. In this case, the application must be approved by two-thirds of all MS.

7.2.2 Technical Resolutions

Technical Resolutions will be prepared by a Permanent Committee and passed to the Council for endorsement before submission to MS for adoption by tacit acceptance within a period decided by the Council (ie no more than one third of MS actively expressing opposition by a given date). It will then come in to force immediately. Proposals which the Council consider to have policy implications will be passed to the Assembly.

7.2.3 Policy Decisions

Policy changes may be proposed by a MS or by the Council. For the Policy to be adopted, it must receive at least two-thirds of the votes of MS present at the Assembly. It will then come in to force immediately.

7.2.4 Strategic Planning

The Strategic Plan and associated Work Programme and budgets are submitted by the Council to the Assembly for ratification by two thirds of the MS present.

7.2.5 Budget

The budget for a 3-year Plan will be voted on by the Assembly, requiring two thirds of the votes of MS present to be accepted.

7.2.6 Amendments to Basic Documents

An amendment to any part of the Convention may be proposed by an individual MS or by the Council. If it refers to the Convention, two thirds of the votes of MS present at an Assembly will be required for it to gain endorsement, then it will require tacit acceptance by two thirds of all MS within a period set by the Assembly. If it refers to Rules of Procedures it may be implemented by a simple majority of the MS present at an Assembly.

7.3 Operational Issues

The Secretariat may be tasked by the General Assembly to carry out operational duties (for example, the oversight and control of software master keys for ENC distribution).

8. FINANCES

8.1 Membership Fees

IHO Membership Fees for Member States will be based on gross tonnage of shipping registered to that MS, in accordance with existing practices.

8.2 Budget

The IHO's budget will be prepared by the Secretary-General, recommended by the Council and adopted by the Assembly (through a two thirds majority of MS present) as a 3-year Plan.

8.3 Alignment with Strategic Plan & Associated Work Programme

Alignment of the budget with the Strategic Plan and Work Programme will be carried out by the Secretary-General in association with the Council and Permanent Committees.

8.4 Trust Fund

A Trust Fund will be set up to carry forward the work of the SWPIC in Capacity Building and Training. Donations to the Trust Fund may be made by individual MSs, industry, other international organizations and NGOs. The Donations may be for general Capacity-building/Training usage or for specific projects. The Secretariat will coordinate the publicity, fund-raising activities and administration required for the Fund. The SWPIC will propose to the Council work programmes and projects for the Fund's resources.

8.5 Comparison with Current Budget

There are little or no direct implications on the overall size of the IHO budget as a result of the changed structure and procedures proposed in this report. In particular:

- ***no increase is proposed for the size of the Secretariat;***
- ***a 3-year gap between General Assemblies is similar to the current $2^1/_2$ year gap between Ordinary and Extraordinary Conferences;***
- ***Council meetings will replace SPWG, SPWG Chair Group and other meetings;***
- ***Permanent Committee meetings will replace many other meetings (CHRIS, WEND, etc).***

9. REVISION OF EXISTING DOCUMENTS

9.1 Convention

Appendix I contains the Draft Amendments to the Convention (Version 1, 15th April 2003), which reflect the new structure and procedures proposed in this report. Appendix I explains where existing Convention text is used and where new text is suggested.

9.2 Other Basic Documents

10. RECOMMENDATIONS TO THE 3RD EXTRAORDINARY CONFERENCE

The SPWG makes the following recommendations to the 3rd Extraordinary Conference of the IHO:

1. **the IHO accepts this report as the conclusions of the SPWG study into the organizational structure and procedures of the IHO;**
2. **the IHO adopts the Vision, Mission and Objectives defined in Section 5 of the report;**
3. **the IHO adopts the organizational structure defined in Section 6 of the report;**
4. **the IHO adopts the procedures defined in Section 7 of the report;**
5. **the IHO accepts the guidelines on finance defined in Section 8 of the report;**
6. **the IHO adopts the revisions to the Convention and other Basic Documents in Section 9 of the report.**

Acknowlegements

This report acknowledges the effort, commitment and cooperation of many people in the execution of the study. These include the members of the SPWG and its Study Teams, the officers of the IHB, the organisers of the many meetings of the SPWG and its Chair Group, those who contributed background information and all who contributed to the debate.

References

1. Basic Documents of the IHO……..
2. Minutes of the XVIth Conference …..
3. Minutes of previous Conferences ……..
4. **Minutes of previous SPWG reports……**
5. IMO Organization
6. IMO Convention
7. ICO Convention
8. IALA Organization
9. IEC Organization
10. German model
11. UK model
12. Portuguese model
13. French model
14. Katie Reiss' paper…..
15. David Segar's paper…..

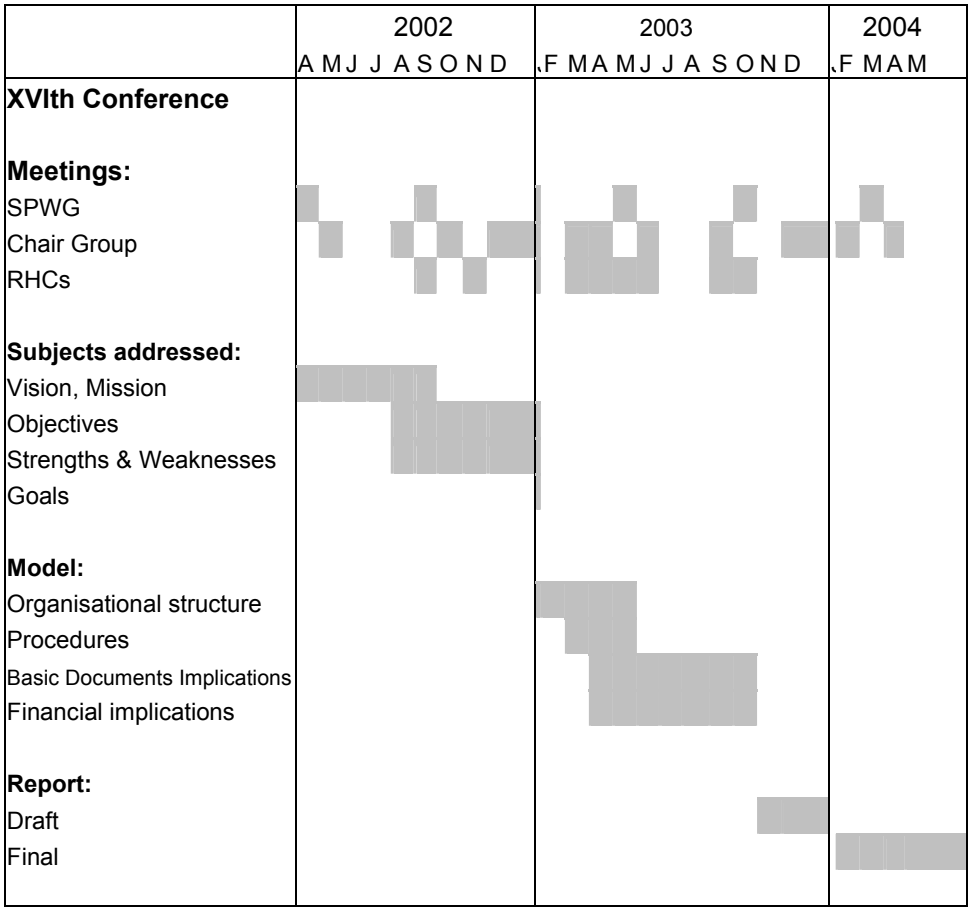
Glossary of Terms

AD	Assistant(s) to Director
AHC	Antarctic Hydrographic Commission
BSHC	Baltic Sea Hydrographic Commission
CHRIS	Committee on Hydrographic Requirements for Information Systems
CL	Circular Letter
EAHC	East Asia Hydrographic Commission
EAtHC	Eastern Atlantic Hydrographic Commission
ENC	Electronic Navigation Chart
GEBCO	General Bathymetric Charts of the Oceans
HO	Hydrographic Office
IALA	International Association of Lighthouse Authorities
IAG	Industrial Advisory Group
IEC	International Electrotechnical Committee
IHB	International Hydrographic Bureau
IHO	International Hydrographic Organization
IMO	International Maritime Organization
ISO	International Standards Organization
LAC	Legal Advisory Committee
MACSHC	Meso-American & Caribbean Seas Hydrographic Commission
MBSHC	Mediterranean & Baltic Seas Hydrographic Commission
MS	Member State(s)
NGO	Non Governmental Organization
NHC	Nordic Hydrographic Commission
NIOHC	North Indian Ocean Hydrographic Commission
NSHC	North Sea Hydrographic Commission
RHC	Regional Hydrographic Commission
ROPME	Regional Organisation for the Protection of the Marine Environment
RSAHC	ROPME Sea Area Hydrographic Commission
SAIHC	Southern Africa & Islands Hydrographic Commission
SWPIC	Strategy & Programme Implementation Committee
SPWG	Strategic Planning Working Group
SWP	Strategic Plan & associated Work Programme
SOLAS	Safety Of Life At Sea (UN Convention on)
SEPHC	South East Pacific Hydrographic Commission
SWPHC	South West Pacific Hydrographic Commission
TCHSS	Technical Committee on Hydrographic Services & Standards
ToRs	Terms of Reference
UN	United Nations
USCHC	United States & Canada Hydrographic Commission
WEND	Worldwide Electronic Navigation Database
WG	Working Group

APPENDIX A
SPWG MEMBERS

RHC/Organization	Delegate	Country
BSHC	Mr G Nordstrom	Sweden
EAHC	Mr N Kwok-Chu	China
EAtHC	VAdm Silva Cardoso	Portugal
	Capt A M Ezequiel	Portugal
IHB	VAdm A Maratos	Greece
	RAdm K Barbor	USA
	Capt H Gorziglia	Chile
MACSHC	Mr K Cooper	USA
MBSHC	Cdr P Lusiani	Italy
NAHC	IGA Y Desnoes	France
NIOHC	RAdm K R Srinivasan	India
NSHC	Dr P Ehlers	Germany
RSAHC	Mr M R Ghaderi	Iran
SAIHC	Mr A Gove	Mozambique
SEPHC	Capt F Mingram	Chile
	Cdr P Carrasco	Chile
SWPHC	Cdr R Ward	Australia
USCHC	Mrs K Reiss	USA
	Mrs M Danley	USA
SPWG Chairman	Cdr F Klepsvik	Norway
SPWG Vice Chairmen	Dr W Williams	UK
	Dr H Nishida	Japan
SPWG Secretary	Capt F Bermejo	Spain
Nations:	Capt M N Huda	Bangladesh
	Mr A Miura	Japan
	Mr CHOI Young-Sub	Republic of Korea
	Mr. PARK Hay Yun	Republic of Korea
	Mr. CHOI Shin-Ho	Republic of Korea
	Cdr Y Tber	Morocco
	Capt F Quiros	Spain
	Cdr R Essoussi	Tunisia
	Mrs R Tuhey	UK
	Mr T Cuff	USA

APPENDIX B
SPWG TIMESCALE AND SCHEDULE



Plenary meetings of the SPWG were held as follows:

Monaco	21 Apr 2002	Lima, Peru	12-14 May 2003
Monaco	16-17 Sep 2002	Singapore,	10-12 Oct 2003
Goa, India	20-22 Jan 2003	*Washington, USA*	*17-19 Feb 2004*

Meeting of the Chair Group were at:

Monaco	3-5 Jun 2002	Monaco	25 Feb 2003	*Monaco*	*9-10 Sep 2003*
Monaco	26-27 Aug 2002	London	13-14 Mar 2003	*London*	*17-18 Nov 2003*
Monaco	31 Oct 2002	Monaco	11-12 Apr 2003	*Monaco*	*19-20 Jan 2004*
Monaco	15-16 Dec 2002	*Monaco*	*15-16 June 2003*		
Goa	19 Jan 2003		*Tokyo* *28-29 Jul 2003*		

The Chair Group attended the following meetings:

Shipping Associations, London, 9 August 2002
IMO, London, 9 August 2002
IHO Industry Workdays, Monaco, *????* 2002

The Chair Group was represented at the following RHC meetings:

NSHC, Gothenburg, 10-11 September 2002
MACSHC, Biloxi, 5-6 November 2002
EAtHC,
NIOHC, Goa, 18 January 2003

SAIHC, Pretoria, 21 March 2003
MBSHC, Brest, 6-9 June 2003

APPENDIX C
Extracts from SOLAS Convention Chapter V

Regulation 2.2: Definitions

A nautical chart or *nautical publication* is a special-purpose map or book, or a specially compiled database from which such a map or book is derived, that is issued officially by or on the authority of a Government, authorized Hydrographic office or other relevant government institution and is designed to meet the requirements of marine navigation. *

*Refer to appropriate resolutions and recommendations of the International Hydrographic Organization concerning the authority and responsibilities of coastal States in the provision of charting in accordance with regulation 9.

Regulation 9: Hydrographic Services

1) Contracting Governments undertake to arrange for the collection and compilation of hydrographic data and the publication, dissemination and keeping up to date of all nautical information necessary for safe navigation.

2) In particular, Contracting Governments undertake to co-operate in carrying out, as far as possible, the following nautical and hydrographic services, in the manner most suitable for the purpose of aiding navigation:

.1 to ensure that hydrographic surveying is carried out, as far as possible, adequate to the requirements of safe navigation;

.2 to prepare and issue nautical charts, sailing directions, lists of lights, tide tables and other nautical publications, where applicable, satisfying the needs of safe navigation;

.3 to promulgate notices to mariners in order that nautical charts and publications are kept, as far as possible, up to date;

.4 to provide data management arrangements to support these services.

3) Contracting Governments undertake to ensure the greatest possible uniformity in charts and nautical publications and to take into account, whenever possible, relevant international resolutions and recommendations. *

4) Contracting Governments undertake to co-ordinate their activities to the greatest possible degree in order to ensure that hydrographic and nautical information is made available on a world-wide scale as timely, reliably, and unambiguously as possible.

* Refer to the appropriate resolutions and recommendations adopted by the International Hydrographic Organization.

APPENDIX D
DEFINITION OF HYDROGRAPHY

A new definition of Hydrography has been adopted in the IHO's Publication S-32 edition 6. It was communicated to the IHO Member States by Circulatr Letter 55/2002.

That branch of applied sciences which deals with the measurement and description of the features of the sea and coastal areas for the primary purpose of navigation and all other marine purposes and activities including (inter alia) offshore activities, research, protection of the environment and prediction services.

APPENDIX E
STRENGTHS AND WEAKNESSES QUESTIONNAIRE & RESPONSES

APPENDIX F
GUIDELINES FOR IMPROVEMENT STUDY TEAMS

STUDY TEAM TO IMPROVE THE STRUCTURE OF THE IHO

1. Develop proposals for the SPWG regarding a model for the future organisational and high-level procedures of the IHO, taking into account (amongst others) the following:

- Decisions from XVIth Conference
- The summary of replies to the Strengths & Weaknesses Questionnaire
- Previous models submitted by MSs
- The new Vision, Mission, Objectives of the IHO
- Pre-eminent role of Member States in an inter-governmental forum.
  Remembering that the MS formulate the policies and act through Conference/Assembly.
  The success of the IHO depends on active participation, cooperation and commitment by MS: the structure must facilitate this.
- Frequency/focus of Conferences.
  Change name to Assembly?
  2nd Extraordinary Conference decided that meetings should be more frequent. How frequent? Meeting where?
  - Need for Council, Committees, Working Groups.
  A Standing Council? If so, with what role and powers? How elected?
  Permanent Committees? What ToRs?
- Need for more rapid decision-making processes and implementation.
  Conference voting? Voting by mail?
  Tacit approval – eg for technical decisions?
  Provisional Application? Role of Council? Assembly frequency?
- Strategic Planning.
  Continue as now? Council function? Permanent Committee?
  Rolling review of Strategic Plan. How should work progress be monitored?
  Alignment of Budget with Work Programme?
- Technical aspects.
  Organise all technical work under a Permanent Committee?
  How to participate in Standard setting?
- Regional aspirations/representation
  Similar practices as in similar international organisations?
- Interaction with Private Sector & NGOs.
  Advisory Groups? Part of Committee Structure? Associate memberships?
- RHCs.
  Strengthened role? Efficient operation?
- Capacity Building programmes.
  Regional focus? Need for central coordination?
  Funding mechanisms (eg Trust Funds)?
- Potential growth in number of Member States .
  If we doubled in size, could the structure cope?
- Role/structure of Secretariat/Bureau.
  Bureau or Secretariat? President or Secretary General? Directors or Assistant Secretary Generals? Responsibilities? Relationships with Council and Committees? Number and roles of Professional Staff? Election of Officials?

2. Present the proposals to the SPWG by 11th April 2003.

STUDY TEAM TO IMPROVE THE BASIC DOCUMENTS OF THE IHO

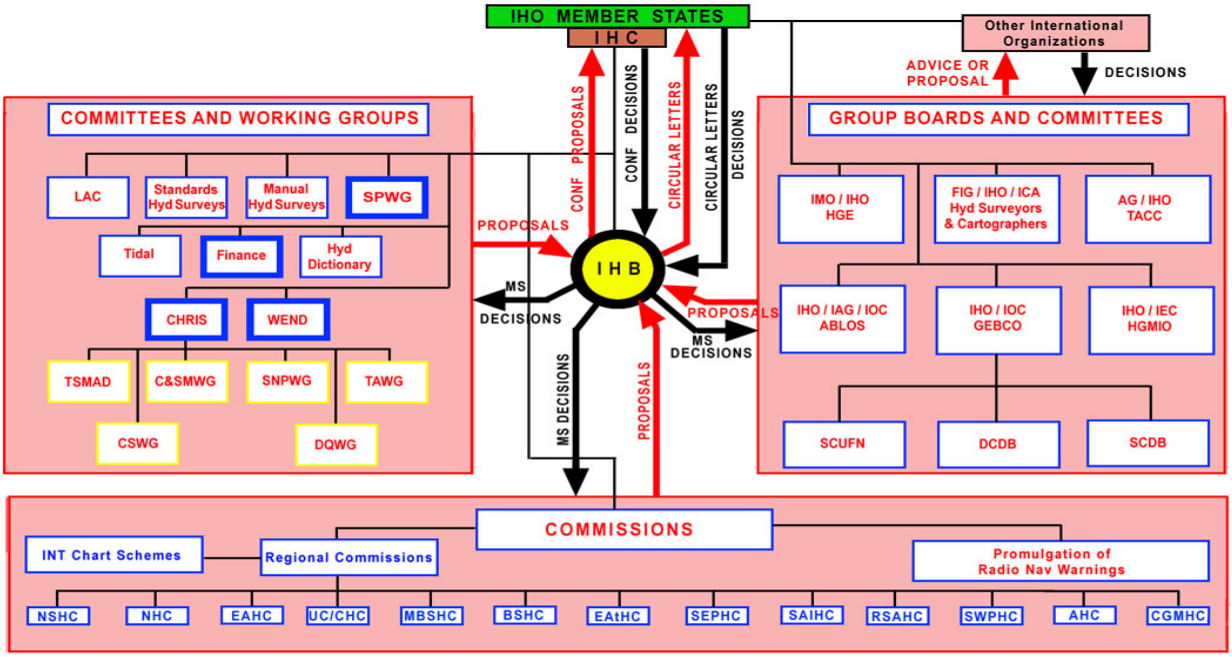
1. Develop proposals for the SPWG regarding improvements to the Basic Documents of the IHO, taking into account (amongst others) the following:
   - Studies undertaken by the IHB
   - Specific proposals on Articles XX, XXI
   - Decisions from XVIth Conference
   - Proposals from the Structure Study Team, regarding:
     - ·*The summary of replies to the S&W Questionnaire*
     - · *The new Vision, Mission, Objectives of the IHO*
     - ·*Models previously submitted by MS*
     - ·*Pre-eminent role of Member States in an inter-governmental forum.*
     - ·*Frequency/focus of Conferences.*
     - ·*Need for Council, Committees, Working Groups.*
     - ·*Need for more rapid decision-making processes and implementation.*
     - ·*Strategic Planning.*
     - ·*Technical aspects.*
     - ·*Interaction with Private Sector & NGOs.*
     - ·*RHCs.*
     - ·*Capacity Building programmes.*
     - ·*Potential growth in number of Member States*
     - ·*Technical aspects*
     - ·*Regional aspirations*
     - ·*Role/structure of Secretariat/Bureau.*

2. Identify consequent adjustments which would be required to any of the Basic Documents.

3. Present the proposals to the SPWG by 1st September 2003.

APPENDIX G
STRENGTHS AND WEAKNESSES
SUMMARY OF RESPONSES

Figure 2: IHB Interaction Network



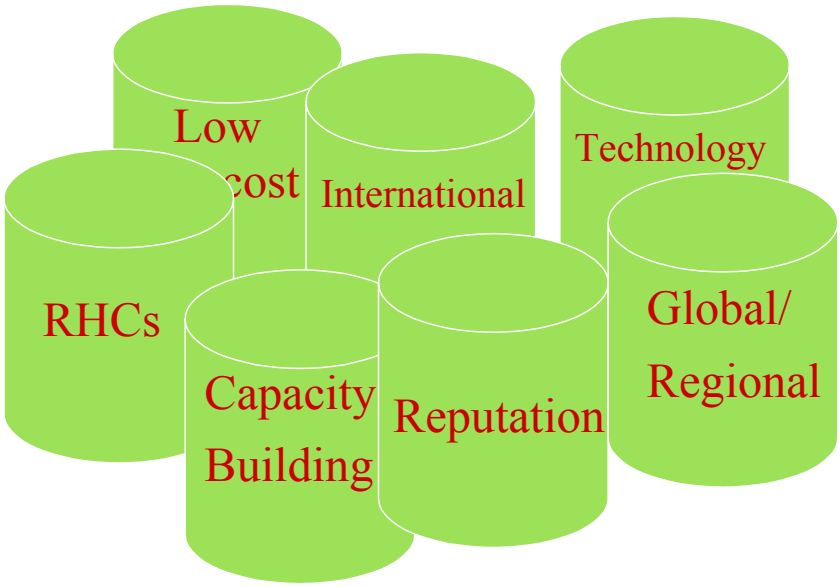
All Decisions by MS (Except Admin taken by IHB)

Regional Decisions taken subject to Regional Member State Approval IHO Decisions must be referred to IHO MS

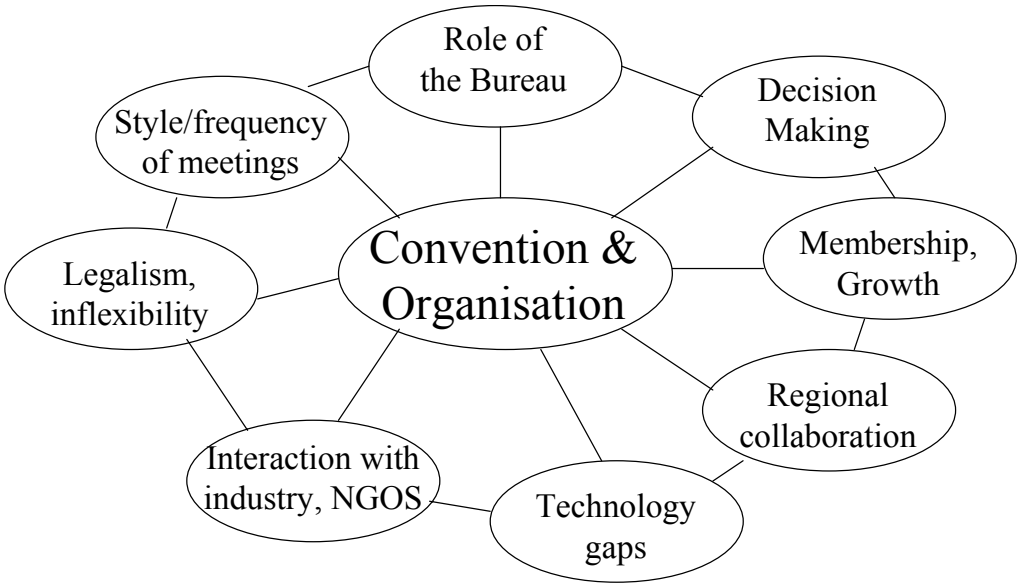
No Decision making capability all issues require IHO MS approval

Points for the Structure Improvement Team:	Chapter/number from "Weaknesses"	Chapter/number from "Strengths"	Addressed in this study through:
Organizational structure "inappropriate"	Structure & Basic Docs #2		Assembly, Council, PCs, Secretariat
Organization must act more quickly	Structure & Basic Docs #4		Council, Decision making processes
Articles XX,XX1 are impediments	Organizational Matters #1		Council, Decision making processes
Convention "inadequate" to meet issues facing HOs	Organizational Matters #2		Section 9
Better interaction with Private sector & NGOs	Organizational Matters #3 Work#4		IAG
Better definition of role of IHB	IHB #3		Secretariat, Sec-Gen, directors
Over-legalistic convention/articles	Work #8		Section 9
If we grow, can we cope? (voting/conferences/admin)		Structure&Memb.#1	Assembly, Council, Secretariat, Decision-making processes
RHCs need strengthening		Structure&Memb.#6	SWPIC, Trust Fund
Low participation of MS in IHO business	Profile, Memb.& Partic. #2		Council, PCs, RHCs
Capacity Building - needs strengthening/focus/budget	Profile, Memb.& Partic. #4 Work #2,#6,#7	Structure&Memb.#3 Wk#10	SWPIC, Trust Fund
Budget alignment with objectives and goals	Budget #1,#2		Council, PCs, Trust Fund
Training -needs coordination, funding	Profile, Memb.& Partic. #4 Work #2,#6,#7	Work #10	Council, PCs, Trust Fund

Storehouse of Strengths:



Web of Weaknesses:



APPENDIX H *[1]*

COUNCIL MEMBERSHIP

BY UN REGION

Region	***W. Europe & Other***	***E. Europe***	***Latin America & Caribbean***	***Asia***	***Africa & M. East***
Countries	*Belgium* *Canada* *Cyprus* *Denmark* *Finland* *France* *Germany* *Greece* *Iceland* *Italy* *Monaco* *Netherlands* *Norway* *Poland* *Portugal* *Spain* *Sweden* *Turkey* *UK* *USA*	*(Bulgaria)* *Croatia* *Estonia* *(Latvia)* *(Romania)* *Russia* *Slovenia* *Ukraine* *Yugoslavia*	*Argentina* *Brazil* *Chile* *Columbia* *Cuba* *Dominican Rep.* *Ecuador* *Guatemala* *Jamaica* *Mexico* *Peru* *Suriname* *Trinid. & Tobago* *Uruguay* *Venezuela*	*Australia* *Bahrain* *Bangladesh* *China* *Dem. Rep. Korea* *Egypt* *Fiji* *India* *Indonesia* *Iran* *Japan* *Malaysia* *Mauritius* *Myanmar* *New Zealand* *Pakistan* *Papua New Guinea* *Philippines* *Rep. Korea* *Singapore* *Sri Lanka* *Thailand* *Tonga*	*Algeria* *Congo* *Kuwait* *Morocco* *Mozambique* *Nigeria* *Oman* *Qatar* *(Saudi Arabia)* *South Africa* *Syria* *Tunisia* *UAE*
Number of Countries	***20***	***9***	***15***	***23***	***13***
Council Members	***5***	***2***	***4***	***6***	***4***

Total number of Council Members = 21.

States in parenthesis are expected to be full members by the time this report is considered by the Extraordinary Conference.

APPENDIX H *[2]*
COUNCIL MEMBERSHIP
By Regional Hydrographic Commission

RHC	Countries	Number of Countries	Council Membership
BSHC	*Denmark, Estonia, Finland, Germany, Poland, Russia, Sweden*	**7**	**2**
EAHC	*China, Indonesia, Japan, Malaysia, Philippines, Rep. of Korea, Singapore, Thailand*	**8**	**2**
EAtHC	*France, Morocco, Nigeria, Portugal, Spain*	**5**	**1**
MACHC	*Columbia, Cuba, ~~France~~, Jamaica, Netherlands, Trinidad & Tobago, ~~UK~~, ~~USA~~, Venezuela*	**6**	**2**
MBSHC	*Algeria, (Bulgaria), Croatia, Cyprus, Egypt, ~~France~~, Greece, Italy, (Latvia), Monaco, (Romania), ~~Russia~~, Slovenia, ~~Spain~~, Syria, Tunisia, Turkey, Ukraine, Yugoslavia*	**16**	**5**
NHC	*Denmark, Finland, Iceland, Norway, ~~Sweden~~*	**4**	**1**
NIOHC	*Bangladesh, India, Oman, Sri Lanka, Thailand, ~~UK~~*	**5**	**1**
NSHC	*Belgium, ~~Denmark~~, ~~France~~, ~~Germany~~, Iceland, Netherlands, ~~Norway~~, ~~Sweden~~, UK*	**4**	**1**
RSAHC	*Bahrain, Iran, Kuwait, ~~Oman~~, Pakistan, Qatar, (Saudi Arabia), UAE, ~~UK~~*	**7**	**2**
SAIHC	*~~France~~, Mozambique, ~~Norway~~, South Africa, ~~UK~~*	**2**	**1**
SEPHC	*Chile, Columbia, Ecuador, Peru*	**4**	**1**
SWPHC	*Australia, Fiji, ~~France~~, New-Zealand, Papua-New-Guinea, Tonga, ~~UK~~, ~~USA~~*	**5**	**1**
USCHC	*Canada, USA*	**2**	**1**
Non-aligned	*Brazil, Uruguay, Argentina, Dem. Rep. Korea*	**4**	**1**

Total number of Council Members = 22.

States in parenthesis are expected to be full members by the time this report is considered by the Extraordinary Conference.

States whose names are crossed out are represented in another RHC. (The choice of which RHC a MS elects to be counted in, is shown here as indicative only.)

APPENDIX H *[3]*
COUNCIL MEMBERSHIP
BY TONNAGE AND RHC

Top Ten Tonnages	*Countries*	*Number of Countries*	*Council Members*
	China, Cyprus, Greece, Italy, Japan, Norway, Russia, Singapore, UK, USA	*10*	*10*
RHC	**Countries**	**Number of Countries**	**Council Membership**
BSHC	*Denmark, Estonia, Finland, Germany, Poland, ~~Russia~~, ~~Sweden~~*	**6**	**1**
EAHC	*~~China~~, Indonesia, ~~Japan~~, Malaysia, Philippines, Rep. of Korea, ~~Singapore~~, Thailand*	**5**	**1**
EAtHC	*France, Morocco, Nigeria, Portugal, Spain*	**5**	**1**
MACHC & USCHC	*Columbia, Cuba, ~~France~~, Jamaica, ~~Netherlands~~, Trinidad & Tobago, ~~UK~~, ~~USA~~, Venezuela; Canada, ~~USA~~*	**6**	**1**
MBSHC	*Algeria, (Bulgaria), Croatia, ~~Cyprus~~, Egypt, ~~France~~, ~~Greece~~, ~~Italy~~, (Latvia), Monaco, (Romania), ~~Russia~~, Slovenia, ~~Spain~~, Syria, Tunisia, Turkey, Ukraine, Yugoslavia*	**13**	**2**
NHC & NSHC	*~~Denmark~~, Finland, Iceland, ~~Norway~~, Sweden; Belgium, ~~Denmark~~, ~~France~~, ~~Germany~~, ~~Iceland~~, Netherlands, ~~Norway~~, ~~Sweden~~, ~~UK~~*	**5**	**1**
NIOHC	*Bangladesh, India, Oman, Sri Lanka, Thailand, ~~UK~~*	**5**	**1**
RSAHC	*Bahrain, Iran, Kuwait, ~~Oman~~, Pakistan, Qatar, (Saudi Arabia), UAE, ~~UK~~*	**7**	**1**
SAIHC & non-aligned	*~~France~~, Mozambique, ~~Norway~~, South Africa, ~~UK,~~ Brazil, Uruguay, Argentina, Dem. Rep. Korea*	**6**	**1**
SEPHC	*Chile, Columbia, Ecuador, Peru*	**4**	**1**
SWPHC	*Australia, Fiji, ~~France~~, New-Zealand, Papua-New-Guinea, Tonga, ~~UK~~, ~~USA~~*	**5**	**1**

Total number of Council Members = 22.

States in parenthesis are expected to be full members by the time this report is considered by the Extraordinary Conference.

The "Top Ten" MS, by tonnage (and Assembly votes) are shown crossed out in the list of MS in RHCs.

Also crossed out are MS which are represented in another RHC. (The choice of which RHC a "non-top-ten" MS elects to be counted in, is shown here as indicative only.)

DRAFT AMENDMENTS TO THE CONVENTION

ON THE

INTERNATIONAL HYDROGRAPHIC ORGANIZATION

Version 1
15th April 2003

CONVENTION ON THE INTERNATIONAL HYDROGRAPHIC ORGANIZATION

The States Parties to this Convention,

CONSIDERING that the International Hydrographic Bureau was established in June 1921 to contribute to making navigation easier and safer throughout the world by improving nautical charts and documents;

CONSIDERING that the Vision of the of the International Hydrographic Organization is to be the recognized international hydrographic authority advancing maritime safety and efficiency and marine environmental sustainability

CONSIDERING that the Mission of the International Hydrographic Organization is to create a global environment in which States provide adequate and timely hydrographic data, products and services and ensure their widest possible use.

CONSIDERING also that the International Hydrographic Organization is a competent international organization to respond to the requirements derived from the United Nations Convention on the Law of the Sea (UNCLOS), the Conference on Environment and other international instruments relevant to Safety of Navigation, provision of hydrographic services and Capacity Building.

DESIRING to pursue on an intergovernmental basis their cooperation in hydrography;

HAVE AGREED as follows:

Exists in the present Convention

PART I.

ESTABLISHMENT OF THE INTERNATIONAL HYDROGRAPHIC ORGANIZATION

Article 1

Existing Articles I and II

There is hereby established an International Hydrographic Organization, hereinafter referred to as the Organization, the seat of which shall be in Monaco. The Organization shall have a consultative and purely technical nature.

Article 2. Objectives

Revision of existing Article II

The Objectives of the International Hydrographic Organization shall be:

1. To promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography.

2. To improve global coverage, availability, quality and access to hydrographic data, information, products and services.
3. To improve global hydrographic capability, capacity, science and techniques.

4. To establish and support the development of international standards for the quality and formats of hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards.

5. To give authoritative and timely guidance on all hydrographic matters to governments and international organizations. To facilitate coordination of hydrographic activities among Member States.

6. To enhance cooperation on hydrographic activities amongst States on a regional basis.

PART II

ORGANS

Article 3

Revision of existing Article IV

The Organs of the International Hydrographic Organization shall be:

- The Assembly

- The Council

- The Technical Committee on Hydrographic Services and Standards and the Strategy and Work Programme Implementation Committee and such subsidiary organs as the Organization at any time may consider necessary.

- The Secretariat

PART III

THE ASSEMBLY

Revision of existing Articles V and VI

Article 4

The Assembly shall be composed of representatives of the Member States.

Article 5

The Assembly shall meet in ordinary sessions every three years. Extraordinary sessions of the Assembly may be held at the request of a Member State or of the Secretary General or of the Council, subject to approval by the majority of the Member States.

Article 6

A majority of the Member Governments shall constitute a quorum for the meetings of the Assembly.

Article 7

The Assembly is the principal organ and shall perform all functions of the Organization unless otherwise regulated by the Convention or delegated by the Assembly to other organs.

The functions of the Assembly include:

a. To elect at each regular session among its Members, its Chairman and Vice-Chairman who shall hold office until the next regular session.

b. To elect the Secretary General of the Organization and the two Directors, to reconfirm their appointment and to determine the terms and conditions of their service which shall conform as far as possible with those of specialized UN agencies similar to IHO.

c. To elect the Member States to be represented on the Council, as provided in Article 8.

d. To consider the reports of the Council and to decide upon any question referred to it by the Council.

e. To establish, upon recommendation of the Council, permanent subsidiary bodies it may consider being necessary.

f. To decide the overall policy of the Organization.

g. To decide upon changes to the General Regulations and the Financial Regulations.

h. To review and approve the three-year Work Programme of the Organization submitted by the Council.

i. To review and approve the three-year budget of the Organization submitted by the Council.

j. To determine its own Rules of Procedure.

k. To consider the need for developing operational services.

PART IV

THE COUNCIL

New part

Article 8

The Council shall be composed of 25 per cent of the Member States elected subject to the General Regulations taking into consideration a balanced geographical distribution as well as major maritime interests. All details are laid down in the General Regulations.

Article 9

Members of the Council shall hold office until the end of the next regular session of the Assembly. Members shall be eligible for re-election.

Article 10

The Chairman and Vice-Chairman of the Assembly will be the Chairman and Vice-Chairman of the Council. Two thirds of all Members of the Council shall constitute a quorum; The Council will meet at least once per year.

Article 11

Member Governments not elected to the Council may participate in its meetings, but without voting rights.

Article 12

The Council shall exercise the responsibilities delegated to it by the Assembly.
The functions of the Council include:

a. To receive and approve recommendations, standards and guidelines provided by the Permanent Committees.

b. To make a report to the Assembly at each regular session on the work of the Organization since the previous regular session of the Assembly.

c. To consider and submit to the Assembly the three-year budget estimates prepared by the Secretary General together with its comments and recommendations. The Council shall also review the annual financial statements prepared by the Secretary General.

d. To review and submit to the Assembly the three-year Work Programme of the Organization prepared by the Secretary General, together with its comments and recommendations.

e. To review the annual Work Programme of the Organization prepared by the Secretary General, based on the three year programme approved by the Assembly and shall make the appropriate changes.

f. To propose for consideration by the Assembly the establishment of subsidiary bodies relevant to the aims of the Organization and determine their rules of procedure and TOR.

g. To enter into agreements covering the relationship of the Organization with other Organizations, subject to approval of the Assembly.

PART VI.

New part

PERMANENT COMMITTEES

Article 13

a. The two Committees referred to in Article 3 shall consist of all the Member Governments. The Technical Committee on Hydrographic Services and Standards shall deal with the technical issues and the Committee on Standards and the Strategic and Work Programme Implementation Committee shall deal with issues relating to strategy and capacity building. The Committees will perform any duties assigned to them by the Convention, the Assembly, or the Council.

b. The functions of the Permanent Committees are laid down in the General Regulations.

PART VII

THE SECRETARIAT

Revision of existing Articles IX, X and XIII

Article 14

The Secretariat shall comprise the Secretary General, the Directors and such other personnel as the Organization may require. The Secretary General shall be the chief administrative officer of the Organization

Article 15

The Secretary General shall perform functions assigned to him by the Convention, the Assembly, and the Council.

PART VII

FINANCES

Incorporates Articles XIV and V and revises Articles VII and XVI

Article 16

The expenses necessary for the functioning of the Organization shall be met:

a. From the ordinary annual contributions of Member States in accordance with a scale based on the tonnage of their fleets;
b. From donations, bequests, subventions and other sources with the approval of the Council.

Article 17

Any Member Government which is two years in arrears in its contribution shall be denied rights and benefits conferred on Member States as laid down in the Financial Regulations.

PART VIII

VOTING PROCEDURES

Revision of existing Articles V, VI and XXI

Article 18

The following provisions shall apply to voting in the Assembly, Council and Permanent Committees:

a. Each Member shall have one vote.

b. Only for the election of the Secretary General, each Member Government shall have two votes. Those Governments which have 100 000 tons of shipping or more shall have supplementary votes as indicated in the Rules of Procedure for electing the Secretary General. For the election of Directors, each country will have one vote.

c. Decisions shall be by a majority vote of the Members present and voting and, for decisions where a two thirds majority vote is required, by a two thirds majority vote of those present, except for the admission of States, as described in paragraph 58[b], where two third majority of Member Governments is required.

d. For the purpose of the Convention, the phrase " Members present and voting " means Members present and casting an affirmative or negative vote. Members which abstain from the voting shall be considered as not voting.

e. For technical decisions made by the Council, a simple majority is required. A Tacit Acceptance procedure will be used for final endorsement from Member States, in accordance with procedures established in each case by the Council.

f. For decisions on matters concerning Finance, the Budget and the Convention and the policy of the Organization a two-thirds majority is required;

g. When votes for or against are equal, the Chairman of the Meeting shall be empowered to decide;

PART IX

LANGUAGES

Revision of existing Article XII

Article 19

The official language of the Organization shall be English.

PART X

RELATIONSHIP WITH OTHER ORGANIZATIONS

New part

Article 20

The Organization, on matters within its scope, may cooperate with other inter-governmental and non-governmental international organizations whose interests and activities are related to the purpose of the Organization.

PART XI

LEGAL CAPACITY, PRIVILEGES AND IMMUNITIES

Exists as Article XIII

Article 21

The Organization shall have juridical personality. In the territory of each of its Members it shall enjoy, subject to agreement with the Member Government concerned, such privileges and immunities as may be necessary for the exercise of its functions and the fulfillment of its object.

PART XII

INTERPRETATION

Exists as Article XVII

Article 22

Any dispute concerning the interpretation or application of this Convention which is not settled by negotiation or by the good offices of the Secretary General of the Organization shall, at the request of one of the parties to the dispute, be referred to an arbitrator designated by the President of the International Court of Justice.

PART XIII

SIGNATURE AND ACCEPTANCE

Exists as Article XVIII

Article 23

a. This Convention shall be open in Monaco on 3 May 1967, and subsequently at the Legation of the Principality of Monaco in Paris from 1 June until 31 December 1967, for signature by any Government which participates in the work of the Bureau on 3 May 1967.

b. The Governments referred to in paragraph a) above may become Parties to the present Convention:

[i] By signature without reservation as to ratification or approval, or
[ii] By signature subject to ratification or approval and the subsequent deposit of an instrument of ratification or approval.

c. Instruments of ratification or approval shall be handed to the Legation of the Principality of Monaco in Paris to be deposited in the Archives of the Government of the Principality of Monaco.

d. The Government of the Principality of Monaco shall inform the Governments referred to in paragraph a) above, and the Secretary General of each signature and of each deposit of an instrument of ratification or approval.

PART XIV

ENTRY INTO FORCE

Revision of existing Article XIX

Article 24

This Convention shall enter into force three months after the date on which twenty-eight Governments have become Parties in accordance with the provisions of Article XVIII, paragraph 2 (now Article 53).

Article 25

After the present Convention enters into force it shall be registered by the Government of the Principality of Monaco with the Secretariat of the United Nations in accordance with Article 102 of its Charter.

PART XV

MEMBERSHIP

Revision of existing Article XX. Incorporates Article III

Article 26

The Members of the Organization are the Governments Parties to this Convention.

Article 27

a. After it has entered into force, this Convention shall be open for accession by any State that is a member of the United Nations. Any such State shall deposit its instrument of accession, specifying the tonnage of its fleets, with the Government of the Principality of Monaco, which shall inform the Member Governments and the Secretary General of the Organization.
b. A State that is not a member of the United Nations shall apply to the Government of the Principality of Monaco, specifying the tonnage of its fleets. Its admission has to be approved by two-thirds of the Member Governments.

c. The Government of the Principality of Monaco shall notify such approval to the State concerned. The Convention shall enter into force for that State on the date on which it has deposited its instrument of accession with the Government of the Principality of Monaco, which shall inform the Member State and the Secretary General of the Organization.

PART XVI

AMENDMENTS

Revision of existing Article XXI

Article 28

a. Any Contracting Party may propose amendments to this Convention. These amendments shall be submitted to Member Governments not less than one year prior to the next Assembly. Amendments to such amendments may not be made less than 6 months before the Assembly.

b. Proposal of amendments shall be considered by the Assembly and decided upon by a majority of two-thirds of the Member Governments present at the Assembly. When a proposed amendment has been approved by the Assembly, the Secretary General of the Organization shall submit the proposal to Member States for approval following

Tacit Acceptance procedures, in accordance with the directions given by the Assembly.

c. The amendments shall enter into force for all Contracting Parties three months after the Contracting Parties have been advised of the approved amendments by the Government of the Principality of Monaco. The latter shall inform the Contracting Parties, and the Secretary General of the Organization of the date of entry into force of the amendment.

d. All the pending amendments to this Convention will be cancelled upon the entrance into force of the present amendments.

PART XVII

WITHDRAWAL

Exists as Article XXII

Article 29

a. Upon expiration of a period of five years after its entry into force, this Convention may be denounced by any Contracting Party by giving at least one year's notice, in a notification addressed to the Government of the Principality of Monaco. The denunciation shall take effect upon 1 January next following the expiration of the notice and shall involve the abandonment by the Government concerned of all rights and benefits of membership in the Organization.

b. The Government of the Principality of Monaco shall inform the Contracting Parties and the Secretary General of the Organization of any notification of denunciation it receives.

IN WITNESS WHEREOF the undersigned, duly authorized thereto, have signed this Convention.

DONE at Monaco on the third day of May nineteen hundred and sixty-seven, in a single copy in the English and French languages, each text being equally authentic, which shall be deposited in the Archives of the Government of the Principality of Monaco, which shall transmit certified copies thereof to all signatories and acceding Governments and to the Secretary General of the Organization.

ANNEX 2.

PRELIMINARY AGENDA FOR THE 3RD SPWG MEETING (LIMA, PERU, 12-14 MAY 2003)

- Minutes of previous meetings
- Brief report on communications within Regional Hydrographic Commissions members. Representatives of RHCs must be prepared to inform about their action on this topic.
- Recapitulate status based on the draft comprehensive report
- Discuss the report and the later inputs on structural elements as well as its principles for functioning - extract of comments from e.g. NIOHC will constitute part of the basis for this discussion
- Final agreement on overall structure of future IHO and functional principles
- Discuss the Draft Amendments to the Convention to reflect the new structure
- Discuss and agree on the process to develop amended Convention, including utilization of legal experts and on method of work for SPWG in next phase
- Discuss and agree Industry involvement in IHO business. And how to reflect this item in the IHO structure and governing documents.
- Discuss and agree on process for assessing financial implications of proposed structure
- Reconfirm and adjust as necessary the communication strategy of SPWG
- Capacuty Building at IHO. Present and future arrangements
- Reconfirm and adjust as necessary the work plan for SPWG for the remaining phases
- Discuss and agree the need for additional SPWG Meetings
- Any other business

NOTE: Any proposal for inclusion of additional items must be communicated to the SPWG Chairman and Secretary before 5 May 2003.

Annex 3

List of Legal Experts nominated by the SPWG members at 1st March 2003

Country	Name	Comments
Australia	Cdr. Robert Ward	Representative from SWPHC at the SPWG
Chile	An expert from the Ministry of Foreign Affaires (only by correspondence). Also, the legal official of the Chilean H.O.	
France	Ms. Françoise Thomas,	Specialized in drafting inter-national agreements
Germany	Dr. Peter Ehlers	President German HO
India		Pending nomination
Iran	Mr. Mohammad Reza Ghaderi	Director General, International Maritime Specialized Agencies And representative from the RSAHC at the SPWG
Morocco	A legal expert from the Ministry of Foreign Affairs	Requires letter from the IHB both for participation of Tber and the expert
Norway	Expert from the Ministry of Foreign Affairs	
UK	Mr. Robert Hooton	UKHO Commercial and Legal Branch staff member
USA	Ms Denise WEBSTER	Chairman of the IHO LAC

IHB File N° S3/1001

CIRCULAR LETTER
23/2003

IHO SPECIAL PUBLICATION N° 55 (S-55)
STATUS OF HYDROGRAPHIC SURVEYING AND NAUTICAL CHARTING WORLD-WIDE

Dear Hydrographer,

1. The stipulations in Regulation 9 in Chapter V of SOLAS relating to national hydrographic obligations, underline the importance of the policy guidance in IHO Publication M-2 and the need for IHO strategic planning to be informed with a clear over-view of deficiencies in the 3 core areas of Hydrographic Surveys, Nautical Charting and Maritime Safety Information (MSI). In this context, the Directing Committee places the highest priority on the review and reissue of Special Publication S-55, "Status of Hydrographic Surveying and Nautical Charting Worldwide". The review would also seek to bring the content of S-59 "Status of Hydrographic Surveying and Nautical Charting in Antarctica" into a common format within the worldwide span of S-55. This would reflect the IMO remit on IHO to report the status of Hydrographic Surveying and Nautical charting in all remote areas.

2. The Directing Committee urges that this task be given the highest priority and support. To this end, the UK National Hydrographer has made Captain Mike Barritt available to assist with the work on S-55, at no cost to the Organization. While executing his assignment for the Organization through the IHB, Captain Barritt will liaise with Member States, non-member states, IMO and other organizations, as necessary.

3. Experience with previous editions has shown that it demands active contribution and co-operation amongst Member States. Regional Hydrographic Commissions have a key role to play, and it is requested that an update of the S-55 database be made a standing agenda item for their meetings. Captain Barritt will attend as many of the forthcoming Regional Hydrographic Commission meetings as possible to describe the proposed content and data collection requirements and to provide, as necessary, advice and support to Member and non-Member States in their analysis of their national sea areas,.

4. The Directing Committee notes that, despite the effort committed to the production of the

first two editions of S-55, there were significant gaps in data often in maritime areas identified as of vital importance to the promotion of safe navigation and protection of the environment. It is clear from users comments that the volume and format of data that is required, presented significant challenges to many countries. The Directing Committee proposes a more focused approach to the third edition. The resulting document, whose outline of proposed contents is provided in the Annex, is envisaged to be an effective tool for high-level discussions with national governments and funding agencies as well as the IHO input to the United Nations' Global Maritime Assessment. Efforts should be devoted to achieving the clearest analysis of the three key data sets:

a. Status of Hydrographic Surveys. Several Member States have represented that the percentage tables in previous editions do not facilitate an accurate picture of the status of surveying in their waters. There are other factors that point to the need to adopt a different format:

(1) Given that the strategic focus of S-55 should be to provide data to support prioritisation of regional co-operative projects and assistance to individual countries, the analysis must reflect maritime shipping routes and port usage when high-lighting area deficiencies. The analysis in Section E of the first edition was not revalidated in 1995-96.

(2) Whilst the current categories of 'Adequate', 'Re-survey Required', and 'Unsurveyed' lend themselves to negotiations with non-specialist decision-makers, they must clearly be underpinned by more detailed national analysis against the standards in S-44. The South West Pacific Regional Hydrographic Commission has proposed that this analysis should be based on CATZOC criteria encompassing bathymetric precision and seafloor coverage. For many States, however, an analysis such as that in S-59 may be more practical and readily achieved.

b. Status of Charting. It is proposed that priority should be given to listing ENCs, Raster Navigational Charts, and INT charts in the new edition. The utility of this table would be vastly increased if the relationship of charts and source data could be illustrated, as is achieved with the overlays in S-59.

c. Status of Organised Collection and Promulgation of Nautical Information (MSI including GMDSS). S-55 should give a tabulated summary of the status of national organisation for the issue of Local, Coastal and NAVAREA Warnings, and for promulgation of information on Ports and Harbours (including regular communication with the Hydrographic Office which has charting responsibility). S-55 should also tabulate GMDSS status (Master Plan, A1 Area, A2 Area, A3 Area, NAVTEX, SafetyNET).

5. A focus on these data sets should also make the task of maintenance of S-55 much more practical. Indeed it may be possible to achieve continuous update for S-55 and other reference publications if, alongside the urgent exercise of reissuing S-55, the Bureau and Member States can redirect their efforts towards the establishment of a layered digital database.

6. Member States are requested to comment on the above proposals **by 15 May 2003** in order to contribute their insights to the early development and circulation of a questionnaire.

On behalf of the Directing Committee
Yours sincerely,

(original signed)

Captain Hugo GORZIGLIA
Director

Annex A – Proposed Contents of S-55 Edition 3

IHO SPECIAL PUBLICATION S-55
"STATUS OF HYDROGRAPHIC SURVEYING AND NAUTICAL CHARTING WORLD-WIDE"

PROPOSED CONTENT OF THIRD EDITION

Executive Summary: S-55 contains data to inform decisions on support to regional and national efforts to implement the hydrographic obligations stipulated in SOLAS Chapter V and elaborated in IHO Publication M-2.

Key area deficiencies highlighted.

Introduction:

Background: Brief summary of previous IHO analysis.

Purpose: Reliable and meaningful data base for specialist advice to decision-makers.

Method: Focus on data relating to the three core hydrographic competencies.

Hydrographic impact: Significance of hydrography for maritime shipping routes (international, regional, and national, including inland maritime areas), ports and port approaches, fisheries, tourism – large and small craft, offshore industry.

List key areas of concern highlighted by IMO and other responsible organisations.

Status of Hydrographic Surveys: Refer to Annex A and highlight significant deficiencies.

Status of Nautical Charting: Refer to Annex B and highlight significant deficiencies.

Status of MSI: Refer to Annex C and highlight significant deficiencies.

Conclusions and Recommendations: Draw out priorities for assistance to enable SOLAS V obligations to be met, paying particular attention to geographical areas highlighted by

IMO and other responsible organisations

Annexes: (Content of Annexes to be developed)

A.	Summary Table/s of national status of hydrographic surveys
B.	Summary Table/s of national status of nautical charting.
C.	Summary Table/s of national MSI status

Primar Stavanger

The Primar Stavanger international coordination centre for electronic navigational charts (ENCs) has put the Norwegian Hydrographic Service in the driving seat for this technology. A range of services aimed at other hydrographic offices as well as international producers and distributors make the centre a natural leader in a maritime world increasingly concerned with safe navigation.

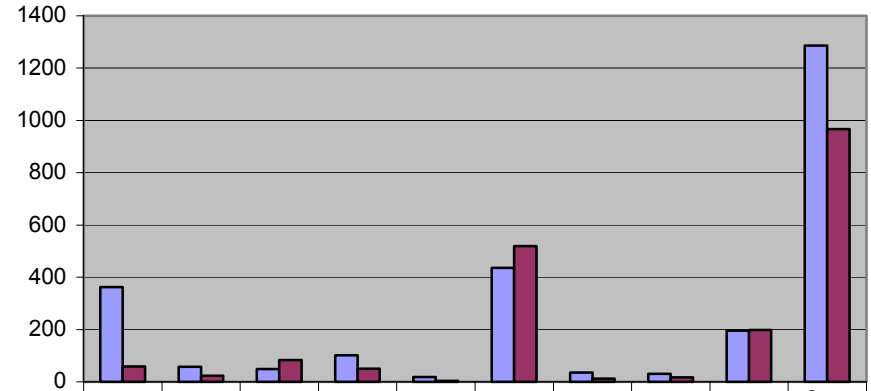
Operational responsibility for Primar Stavanger was taken over by the Norwegian Hydrographic Service on 1 April 2002. Today, it delivers official ENCs from Denmark, Estonia, Finland, France, Latvia, Poland, Russia and Sweden as well as Norway.

"We expect a growing number of additional nations in Europe and other continents to join this service soon," says Frode Klepsvik, Hydrographer of Norway.

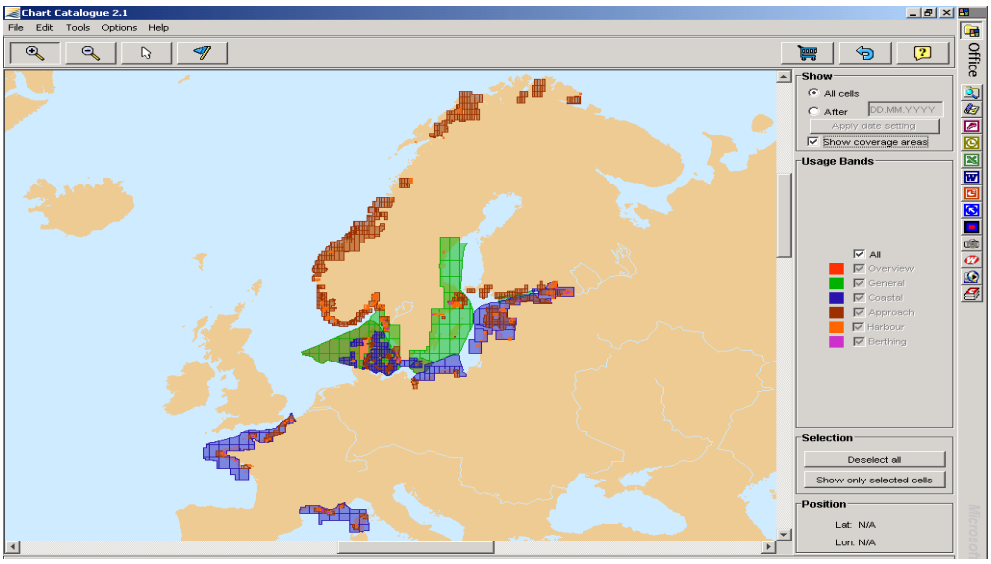
The centre currently provides the world's widest official ENC coverage. And it is alone in offering a virtual solution which gives all member countries full access to and control over their own data within a secure network. Automatic integrated operations check data quality, particularly in overlap zones. This provides additional security, allowing charts from different nations to work together without problems. Maintaining good control of the data is also important in ensuring than none of the available navigation systems have problems reading the formats.

Status

Volume and Number of Available ENCs 24 April 2003



	DK	EE	FI	FR	LV	NO	PL	RU	SE	Sum EN
EN cell totals	362	58	49	101	18	436	35	31	196	1286
Mb	58.3	22.8	83.1	50.4	4.1	519.4	12.4	17.7	198.1	966.3



Increasing use of ENCs

The Primar Stavanger service has so far been successful with an increasing number of ENCs in use by vessels. From May 2002 until the end of April 2003 has the number of ENCs in use increased from 4684 to 10220. Some variation in the last months has occurred but this is more due to seasonal navigational patters than anything else.

Subscriptions report

Year	Month	Expired	New and renewed	Active by end of month
2002	July	141	1960	4684
2002	August	48	575	4768
2002	September	191	1772	5993
2002	October	18	1205	6958
2002	November	341	540	7170
2002	December		750	8025
2003	January	1	2570	10509
2003	February	1112	528	9679
2003	March		1402	11667
2003	April	1538	1534	10220

Today Primar Stavanger have 24 distributors in 11 countries serving all the major markets. Also more than 30 OEMs with 17 type approved ECDIS systems are compatible with the service. The Primar Stavanger service has in addition to this approved the distribution of ENCs in System ENC (SENC) format. Today C-Map has been approved as SENC Distributor, and we hope that other major chart players soon will follow.

Action items raised from the 47th NHC Meeting.

Agenda Item		Action by	Remarks/Effectuated
1d	Paper Chart Production Workshop	Denmark or Sweden	
2 Norway	Experiences of outsourcing and/or cooperation with private companies.	Norway	
4a	Multibeam seminar	Denmark	
11c	IHO SPWG work	Norway/SPWG Chairman	

Photos from the Meeting

NHC 47th Meeting and NSHC extra Meeting, 2003


LEONURIS


Golfpaket