

**IHO Hydrographic Committee on Antarctica (HCA)
5th Meeting , Christchurch, New Zealand, 2-4 November 2005**

FINAL MINUTES

- Notes: 1) *A list of acronyms used in these Minutes is at Annex F.*
2) *A list of all decisions and actions from HCA/5 is at Annex A.*
3) *Names of persons are written in full the first time they appear in the Minutes. Afterwards, only the surname is shown.*

1.- OPENING

*Docs: HCA5-1A List of Documents [also Annex C]
 HCA5-1B List of Participants [also Annex B]*

The 5th Meeting of the IHO Hydrographic Committee on Antarctica (HCA) took place at the International Antarctic Centre in Christchurch, New Zealand, on 2-4 November 2005.

Participants were welcomed by Mr. Brendan BOYLE, Director of Land Information New Zealand (LINZ). Mr. BOYLE mentioned that polar explorers SCOTT and SHACKELTON departed to Antarctica from Christchurch.

The HCA Chairman, Capt. Hugo GORZIGLIA, IHB Director, welcomed all attendees (see list in Annex B) and thanked the meeting hosts, in particular Mr. John SPITTAL, Hydrographer of New Zealand, for the wonderful venue and the hard work in organizing this meeting. He noted that 11 HCA Member States, out of 15, were represented at this meeting, plus observers from COMNAP, IAATO, ATS, GEBCO/IBCSO, and NIWA.

In his introductory remarks, the Chair reminded that HCA was one of the IHO subsidiary bodies, dedicated to addressing hydrographic issues relating to Antarctic waters. He stressed that HCA aims at improving the safety of navigation and the protection of the environment in Antarctica, while various activities are currently developing in this region, e.g. tourism. He said that HCA intended to promote special Maritime Shipping Routes (MSR) in Antarctica, and the need for associated surveys and charting, on the occasion of the “International Polar Year” (IPY, 2007-2008). He concluded in reminding that completion of the INT chart scheme for Region ‘M’ remained an objective for HCA.

2.- HCA MEMBERSHIP STATUS

*Docs: HCA5-2A HCA Membership and Observers List
 HCA5-INF2 Current HCA Statutes*

The Chair observed that, of the 24 IHO Member States listed in Doc. HCA5-2A, 15 have signed the HCA statutes which were agreed at the 3rd HCA Meeting (Monaco, September 2003) and, therefore, qualify as HCA members. Those states are Argentina, Australia, Chile, China, France, Germany, Greece, India, Italy, New Zealand, Norway, Russia, South Africa, Spain and United Kingdom. He further noted that Poland and Rep. of Korea were represented at the 3rd and/or 4th HCA meetings. All remaining states had not attended any of the latest five HCA meetings, i.e. Brazil, Ecuador, Japan, Peru, Ukraine, USA and Uruguay. The issue was how to get them better contributing to the HCA work.

On suggestion from Australia (Capt. Rod NAIRN), it was agreed that those states who have not yet signed the HCA statutes would be put in a separate “pending confirmation of HCA membership” list. New Zealand (SPITTAL) stated that, at minimum, they should be asked to provide national reports to HCA meetings¹. Germany (Dr. Hans Werner SCHENKE) remarked that the USA have two ice-

¹ Japan provided their national report to HCA/5.

breakers operating on a permanent basis in Antarctica, which reflects the importance of their research activity in those waters.

It was agreed that the Chair would contact all non-signatory states accordingly.

Additionally, Norway (Mr. Odd BREIVIK) indicated their intention to propose amendments to the HCA statutes, to be dealt with by correspondence. However, the general feeling was that there seemed to be no urgent need for making changes to the statutes. In particular, China (Mr. XU Binsheng) said it took almost two years for them to obtain the signature / approval of their relevant authority in China; therefore they were reluctant to start this process again.

Outcome:

- HCA Chair to write a letter to each of the following IHO Member States who have not yet signed the HCA Statutes, i.e. Brazil, Ecuador, Japan, Rep. of Korea, Peru, Poland, Ukraine, USA and Uruguay, with a view to obtaining clarification of their intentions about participating in HCA activities. It was decided that, meanwhile, they will appear in a separate “pending confirmation of membership” list. The letter to USA will further check their intention regarding the production of INT Charts 909, 9062 and 9105 which have USA as producer country in the INT chart scheme, having noted NGA’s statement to cease any paper chart production from 2007 (Action No 9 from HCA/4). COMNAP to contact their members from the above countries, to urge them to participate in HCA activities. Deadline: Dec. 05.

3.- APPROVAL OF THE AGENDA

*Docs: HCA5-3A Agenda [also Annex D]
 HCA5-3B Annotated Agenda
 HCA5-3C Time Table*

The draft agenda was approved with the following changes under item 9 “Any other business”:

- Item 9.2 – Title changed to “Development of representation from HCA” (instead of “Development of procedure for selecting representative to the Council”)
- New Item 9.4 added, with title “IHO Work Programme 2008-2012”

The final agenda is at Annex D.

4.- ELECTION OF VICE-CHAIRMAN

Capt. Roberto GARNHAM (Chile), who was elected HCA Vice Chairman at the 4th HCA meeting in 2004, indicated that, due to his forthcoming retirement from the Chilean Navy, he would not be in a position to continue as Vice Chair and, therefore, that he could not apply for another term. Capt. Rod NAIRN (Australia) kindly volunteered to take the post; he was elected by acclamations.

On behalf of all HCA members and observers attending the meeting, the Chair warmly thanked Capt. GARNHAM for his continuous and efficient support to HCA activities during his tenure as Vice Chair.

Outcome:

- Capt. Rod NAIRN (Australia) is elected Vice-Chairman of HCA.

5.- ACTIONS RESULTING FROM THE 4RD HCA MEETING

*Docs: HCA5-5A Status of Actions List from the 4th HCA Meeting
 HCA5-INF1 Minutes of the 4th HCA Meeting, Kythnos, Greece, 2004*

The Chair and the Secretary (Mr. Michel HUET, IHB) reviewed all actions arising from HCA/4. Most of the actions had been completed and the pending ones were being addressed by this meeting under various agenda items. Particular comments were made as follows:

- Action No. 2 – A table suggesting terrestrial Aids to Navigation in Antarctica, which had been compiled from information provided by COMNAP and SCAR, was circulated to IHO Member States (CL 33/05 refers), inviting them to bring this information to the attention of their national maritime administrations. This action was therefore considered completed. However, this table would stay on the IHO website for the time being.
- Action No. 5 – The schedule of IAATO ship's movements will be provided to the IHB by the IAATO Secretariat on a yearly basis. IHB will disseminate this schedule to all HCA Member States, for them to then contact directly the IAATO Secretariat, if they are interested, and to formulate their needs regarding transport of Hydrographic survey specialists on IAATO ships of opportunity for onboard collection of hydrographic data.
- Action No. 9 – The request for clarification on the production of charts INT 909, 9062 and 9105, will be reiterated in the letter to the USA by the Chair on the subject of HCA membership (see Item 2).

6.- RELEVANT INTERNATIONAL ORGANIZATIONS' REPORT

6.1 Antarctic Treaty System (ATS) (www.ats.aq)

Docs: HCA5-INF3 IHO Report to ATCM-XXVIII

Mr. Jan HUBER, Executive Secretary of the newly established Antarctic Treaty Secretariat in Buenos Aires, Argentina, reported that they were setting up a full collection of proceedings for all past ATCM meetings. The ATS Secretariat has currently 6 full time staff members and 2/3 part time employees. The resulting database will be accessible online in English.

Mr. HUBER suggested that the HCA Chair, when reporting to the next ATCM, raise the importance of the HCA survey programme (see also Section 8). He added that COMNAP, as "observer" to ATCM, is entitled to submit working papers to the ATCM. It was suggested that COMNAP could use this possibility, at the next ATCM, to emphasize the good collaboration with HCA.

Mr. HUBER informed that the XXIXth ATCM Meeting would be held in Edinburgh, Scotland, on 12-23 June 2006.

6.2 Council Of Managers of National Antarctic Programs (COMNAP) (www.comnap.aq)

*Docs: HCA5-6.2A COMNAP Report to HCA/5
HCA5-INF8 COMNAP Report to ATCM-XXVIII*

Mr. Antoine GUICHARD, Executive Secretary of COMNAP, and RAdm Manuel CATALAN, COMNAP Ship Operations Working Group (SHIPOPS), gave a presentation on COMNAP and SHIPOPS activities of interest to HCA. It was mentioned that SHIPOPS was conducting a survey to collect information on:

- acoustic equipment on board for research and for navigation;
- the use of antifouling paint in Antarctic waters; and
- ballast water practices.

They conveyed COMNAP willingness to significantly contribute to hydrography in Antarctica. Capt. Mike BARRITT (IHB/S-55) mentioned that the IHB could, if needed,

supply information to COMNAP that hydrographic survey equipment is of no danger for marine mammals. In this regard, Germany (SCHENKE) reported that there had been some relaxation on the matter from environmental authorities in Germany, which could in future allow AWI to operate again multibeam systems in polar areas.

Mr. GUICHARD informed that the XVIIIth COMNAP Conference would take place in Hobart, Tasmania, Australia, on 9-19 July 2006, in conjunction with the XXIXth SCAR Conference (see www.scarcomnap2006.org for more details).

6.3 International Maritime Organization (IMO) (www.imo.org)

There was no IMO representative at, nor IMO report to the meeting. However, the continuous concern of IMO regarding the safety of navigation in remote areas like Antarctica was stressed by the Chair.

Concern was also expressed about the applicability of SOLAS V in Antarctica, in particular regarding the provision of hydrographic services. It was agreed that the Chair would clarify the matter with IMO.

Outcome:

- HCA Chair to seek IMO guidance on the application of SOLAS Convention, Chapter V, Regulation 9, in Antarctic waters. Deadline: Dec. 05.

6.4 International Association of Antarctica Tour Operators (IAATO) (www.iaato.org)

Docs: HCA5-INF4 IAATO Annual Report 2004-2005
HCA5-INF5 IAATO Overview of Antarctic Tourism 2004-2005

Ms. Denise LANDAU, Executive Director of IAATO, reported briefly on the Association's activities. IAATO ships and aircrafts are essentially involved in tourism and commercial expeditions in Antarctica. This takes the form of seaborne traditional tourism (with landings), seaborne tourism cruise-only (no landings), air/land-based tourism, and overflights (no landings). The total visitor estimates for the season 2004-2005 amount to approximately 30,000. IAATO Newsletter provides more details (see 'Information Papers' on the IAATO website).

Ms. LANDAU informed that the 17th IAATO General Meeting would be held on 24-28 April 2006 in Washington DC, USA.

6.5 Scientific Committee on Antarctic Research (SCAR) (www.scar.org)

Docs: HCA5-6.2A SCAR Report to HCA/5

Dr. SCHENKE presented the SCAR report which had been prepared by Mr. Glenn JOHNSTONE, representing SCAR to HCA and who was unable to attend. Dr. SCHENKE mentioned in particular the SCAR Geoscience Standing Scientific Group (GSSG) and that the recently formed International Bathymetric Map of the Southern Ocean (IBCSO) was now an Expert Group of GSSG. As a general note, Dr. SCHENKE stressed that SCAR supports the acquisition of bathymetric information on all their vessels, including when in transit, and mentioned that the resulting data is routinely provided to the IHO Data Centre for Digital Bathymetry (DCDB). He also referred to the SCAR Composite Gazetteer for Antarctica (www.pnra.it/SCAR_GAZE), which includes names from the GEBCO/SCUFN Gazetteer.

6.6 Intergovernmental Oceanographic Commission (IOC) (<http://ioc.unesco.org>)

There was no IOC representative at, nor IOC report to the meeting. However, Dr. SCHENKE reported on IOC-related issues under agenda item 7.3.

6.7 NZ National Institute of Water and Atmospheric Research (NIWA) (www.niwa.co.nz)

Docs: HCA5-6.7A NIWA (NZ) Report to HCA/5

NIWA representative and Project Manager Mr. Neville P. CHING, stated that NIWA is a government-owned organization and reported that they have conducted hydrographic surveys in the Western Ross Sea in 2001 and 2004, under contract to Land Information New Zealand (LINZ). Survey vessels used were *RV Tangaroa* and *MV Pelorus*. LINZ subsequently charted this area from the data collected by NIWA. Further surveys in the Ross Sea are planned in 2006. Following a query from France (Ing. en chef Yves GUILLAM), it was clarified that IHO hydrographic survey specifications (S-44) were adhered to by NIWA.

7.- HCA ACTIVITIES IN THE LIGHT OF THE IHO WORK PROGRAM

7.1 INT chart scheme: progress made since last meeting; actual charting status (S-55); ENC production status; new requirements and modifications proposed to the scheme (M-11).

Docs: HCA5-7.1A INT Chart Scheme and Production Status for Region 'M'
HCA5-7.1B ENC Production Status in Antarctica
HCA5-7.1C Layout of INT Production Status for Region 'M'
HCA5-7.1D Antarctic Symbols – HCA Chair Letter to CSPCWG
HCA5-7.1E Antarctic Symbols – CSPCWG Response

IHB (HUET) reported on progress made in INT chart production. Out of the 91 charts in the INT chart scheme for Region M, 49 had been published as of October 2005, i.e. 9 additional charts over the past year. See also Section 8 and the additions to the scheme derived from Capt. SKOG proposals.

IHB (HUET) presented the ENC status for Region M. Two ENCs have so far been produced by Chile and six ENCs are in preparation by UK. All these ENCs are equivalent (limits and scale) to their counterpart INT charts. Doc. HCA5-7.1B presenting the ENC status has been developed at the IHB from the INT chart scheme and the Chair asked whether there should be a single document showing INT and ENC status? France (GUILLAM) was of the view that there will not necessarily be one ENC per paper chart and suggested that a separate ENC scheme be developed, with one sub-scheme for each navigational purpose. He further advised that, in this exercise, the approaches adopted in other RHCs should be taken into consideration. This was agreed. It was also noted that the overlaps, which appear in the paper chart regime, cannot exist with ENCs.

IHB (HUET) referred to the Antarctic symbols which had been adopted by the Permanent Working Group for Cooperation in Antarctica (PWGCA), the predecessor to the HCA, and included in S-59. As the latter publication has been discontinued and that its content is being integrated in the new edition of S-55, the IHO Chart Standardization and Paper Chart Working Group (CSPCWG) was requested to advise on the matter. It results that provision is made in INT 1 and M-4 for all symbols in S-59, with the exception of the 'triangle' symbol for a refuge, hut, or unoccupied station, which has not been accepted by CSPCWG as an INT symbol, as an abbreviation **Ref** (INT 1 T14) already exists and can be associated with a building symbol as appropriate. CSPCWG recommendation that the 'triangle' symbol be

changed to symbol D5 with abbreviation **Ref** (T14) at the next edition of the concerned charts, was supported.

Outcome:

- IHB to draft an ENC scheme for Region ‘M’, taking into consideration the approaches adopted by other RHCs. Initial focus should be on navigational purposes 1 (overview) and 2 (general). IHB to then circulate the draft scheme to HCA members for comments. Deadline: June 06.
- HCA Members to change the ‘triangle’ symbol for a refuge, hut, or unoccupied station, which currently exists on a few Antarctic charts, to an isolated building symbol (D5) with abbreviation **Ref** (T14) at the next New Edition of such charts.

7.2 Bilateral and Regional cooperation agreements, projects and capacity building initiatives in progress.

The Chair referred to the capacity building fund as a possible mean to support particular applications relating to Antarctica, mentioning that a review of capacity building projects was currently taking place within the IHO Capacity Building Committee (CBC). As an example of such applications, Capt. BARRITT suggested the case of a surveyor from a small State, embarking on a vessel of opportunity, e.g. an IAATO or COMNAP ship.

7.3 Interaction with IOC

7.3.1 The IOC/IHO GEBCO Project

Docs: HCA5-7.3A GEBCO Report to HCA/5
HCA5-7.3B Undersea Feature Naming Status for Region ‘M’ (IHB)

Dr. SCHENKE reported on GEBCO-related activities. GEBCO meetings (Guiding Committee and Sub-Committee on Digital Bathymetry) took place in Aguascalientes, Mexico, in July 2005. A huge amount of multibeam data is being integrated in GEBCO. He mentioned the SSPARR project (Seafloor Sounding in Polar And Remote Regions) to deploy floating bathymetric buoys; the GEBCO World Map Project, a draft map at 1:35 million scale based on the GDA grid, with connections to the Nippon Foundation / GEBCO Training Project; a project submitted by the IHB for ‘mining’ shallow water soundings from DNCs and ENCs; the POBACE proposal (Polar Ocean BATHymetry Co-ordination Effort); and NGA’s project for a satellite-derived World Wide Shoreline (WWS) at scale 1:50 000.

7.3.2 The IBCSO Project, an IOC/IHO/SCAR Project

Docs: HCA5-7.3C International Bathymetric Chart of the Southern Ocean (IBCSO) – Status Report

Dr. SCHENKE, as Chairman of IBCSO, reported on progress made with this project. He mentioned that contours developed by Dr. Robert L. FISHER (SIO, Ca., USA) and which cover a large portion of Antarctic waters, will be digitised and made available to IBCSO. He noted that survey activities of modern ice-breaking research vessels during the last decade using multibeam systems have considerably increased the amount of data available, which should result in compilations of new bathymetric charts around Antarctica that will reveal the seafloor morphology of large “white spots”. He made a review of potential source bathymetric data and summarized the work plan for IBCSO, as follows:

1. Building and maintaining a thorough data base;
2. Quality control and assessment, analysis and editing of available bathymetric data;
3. Development of a new method for morphological interpolation of bathymetric contours using sonar data and satellite radar altimetry gravity anomalies;

4. Determination of Digital Terrain Models around Antarctica;
5. Creation of a set of 1:1 Million traditional bathymetry sheets in digital form; and
6. In areas of systematic multibeam surveys, preparation of large scale bathymetric charts.

The Chair stressed that IBCSO is a joint project of IOC, IHO and SCAR, and that HCA contribution to IBCSO is therefore vital if we want to achieve tangible results. His suggestion that HCA members be again invited to nominate representatives to IBCSO was supported.

Outcome:

- HCA Members to consider nominating suitable candidates to participate in the work of IBCSO Editorial Board; names to be provided to the IHB. Deadline: May 06.

7.4 Hydrographic surveying, nautical charting, nautical publications and information status.

7.4.1 Presentation of National Reports. Experiences with new techniques and equipment. Project proposals to speed-up compilation and production.

Docs: HCA5-7.4A National Reports

HCA members were invited to briefly present their national reports; the followings were noted (see national reports for more details):

- i. Australia (Doc. HCA5-7.4h refers) proposed that a new chart INT 9037 be included in the scheme, based on chart Aus 599, and offered to produce it. This was accepted. Also, a Seafarer Handbook has been released by AHS.
- ii. Chile (Doc. HCA5-7.4i refers) has published several INT charts in the Antarctic Peninsula and has conducted hydrographic surveys in Bahia Fildes and Caletas Marian, Ardley and Potter. Also, ENC's have been produced from charts INT 9155 and 9102.
- iii. China's activities (Doc. HCA5-7.4j refers) included hydrographic surveying in the vicinity of Zhongshan and Great Wall stations; production of 1:25 000 nautical charts accordingly; investigation of the sea-ice distribution and the movement of ice shelves and glaciers; establishment of satellite image map and DEM for the Grove Mountains area; and surveying of the area of inland ice sheet from China Zhongshan station to DOME A.
- iv. France (Doc. HCA5-7.4c refers) has carried out hydrographic surveys around the Kerguelen Islands. Also, chart INT 9015 and nautical publication RSX 96.2 have been published, and production of INT 901 is planned in 2006.
- v. Germany (Doc. HCA5-7.4e refers) reported on progress in the preparation of charts INT 9055 and 9057, and on an agreement with South Africa regarding chart INT 9056. Like South Africa, they intend to make use of satellite imagery.
- vi. India has co-produced charts INT 9050 and 9051 with Russia.
- vii. New Zealand (Doc. HCA5-7.4g refers) has carried out hydrographic surveys in the Ross Sea (see also § 6.7). The resulting data will be made available to the IHO DCDB. Also, a geospatial portal for governmental information and an ISO-based standard for geospatial metadata are under development. It was suggested that the IHO SDI Seminar (Rostock, Germany, November 2005) could impact on HCA work and it was agreed that the IHB and LINZ would liaise on the matter.
- viii. Norway (Doc. HCA5-7.4b refers) has published chart INT 904 and the relevant chart data is available in S-57 format. It was confirmed that the existing two RENCs, i.e. IC-ENC and Primar-Stavanger, are the preferred

options for the distribution of Antarctic ENC's, as recommended by the WEND Committee.

- ix. South Africa (Doc. HCA5-7.4k refers) published chart INT 9056 immediately before HCA/5 and a copy was on display at the meeting room.
- x. UK (Doc. HCA5-7.4a refers) has published charts INT 906, 9061 and 9163 and several additional INT charts are in preparation. ENC's derived from charts INT 24, 64 and 75 (scale 1:10 million) have been produced and 8 more ENC's are being prepared. Hydrographic surveys have been carried out, or are planned in numerous locations in the Antarctic Peninsula.

The Chair further mentioned that national reports had been provided by Japan (Doc. HCA5-7.4m) and Russia (Doc. HCA5-7.4l), not represented at the meeting.

Outcome:

- New chart INT 9037, covering the area between Gibbney island to Kista Strait, is accepted for inclusion in the INT Chart Scheme for Region 'M', with Australia as producer nation. Limits are those of Australian chart Aus 599. Publication of the new chart is planned in 2005/06.
- IHB to include new chart INT 9037 (Aus 599) in M-11, Chapter M.
- New Zealand to provide the IHO DCDB with bathymetric data collected in the Ross Sea, in view of its use for the IBCSO project. Deadline: Nov. 06.
- IHB, in liaison with New Zealand, to monitor the findings / outcomes of the IHO Seminar on Spatial Data Infrastructures (SDI) [Rostock, Germany, 8-9 November 2005] and identify any implications for HCA.

7.4.2 Hydrographic Survey status (S-55)

Docs: HCA5-7.4B S-55 Status – Progress Report

Capt. BARRITT explained that S-55 provides a strategic overview of the situation of hydrographic surveying and nautical charting worldwide. Provision of updates to S-55 by Member States is therefore needed. He mentioned that, for the moment, Antarctica is a gap in the S-55 database and suggested a number of solutions to overcome the current problems, as described below, which were all accepted by the meeting.

Outcome:

- HCA Members which have not submitted data for the review of S-55, as requested in HCA Letter 3/2005, are asked to do so by 31 December 2005.
- HCA Members are urged to include data for Antarctica in their regular review of S-55 information.
- The HCA approved the inclusion of provisional data for Antarctica in S-55. This would be refined when information was provided by all States with survey and charting programmes in the region.
- S-55 Project Coordinator, SHOA and IHB to complete the development of the GIS prototype of a regional database. Deadline: May 06.

7.5 Nautical Publications and Information. IHO/HCA web page.

IHB (HUET) explained that the current list of nautical publications relating to Antarctica, which appears on the IHO website (HCA page), includes information on publications from SHOM and UKHO only. However, this would soon be complemented with the newly received list of Australian publications. The remaining HCA Member States were invited to populate this web section as appropriate. COMNAP (GUICHARD) offered to provide information on their publications as well. This was gratefully accepted; it was agreed that this information would form a separate section.

Outcome:

- IHB to continue maintaining a list of HO's nautical publications related to Antarctica, including a brief résumé of their content, on the IHO website. HCA Members to provide input to the IHB as appropriate.

8.- HCA SURVEY PROGRAMME WORKING GROUP – PROGRESS REPORT

Docs: HCA5-8A HCA Survey Programme WG Report to HCA/5

Mr. Andrew WILLETT (UK), Chairman of the HCA Survey Programme WG, reported on the WG activities since its creation at HCA/4 in September 2004.

A. Data Rendering Form – The Survey Programme WG developed guidelines for the gathering and submission of hydrographic data in Antarctic waters, as contained in a form for “Collection and Rendering of Hydrographic Data”, to be used by Captains of Antarctic Vessels, i.e. essentially IAATO and COMNAP ships. The form was accepted with corrections suggested by France and Australia (see Appendix 1 of Annex A). It was agreed that all forms, when completed, would be collated in a single point: UKHO, c/o Chairman of HCA Survey Programme WG; also that the IHB would post the data rendering form on the IHO website (HCA page) and that the Chair would make the form known to ATCM.

B. Additions to the INT Chart Scheme – Following a proposal by Capt. Leif SKOG's (IAATO member Lindblad Expeditions) to include additional charts to the INT Chart Scheme for Region M, in the Antarctic Peninsula, WG officers developed details, i.e. chart limits, scale, title etc., for 20 additions to the scheme (see Appendix 2 of Annex A). Those additions were accepted by the meeting and the IHB was tasked, in liaison with the WG Chairman, to prepare an update of the scheme accordingly, i.e. to identify the existing INT charts which will include inset plans, to assign INT numbers to new INT charts, and to allocate responsibilities for their production. UK (WILLETT) indicated that the UKHO was willing to produce Point Wild and Cape Valentine charts (last two lines in the table at Appendix 2).

C. Maritime Shipping Routes (MSR) – The WG developed a list of main and branch corridors around the Antarctic Peninsula, based on a submission by the UKHO (see diagram in Appendix 3 of Annex A). This was complemented by a submission from the Australian Antarctic Division, for MSRs between Australia and the Australian bases in Antarctica. A proposed long term survey plan was prepared by assigning Usage Category and Survey Status Category values to each corridor (see Appendix 4 of Annex A). This plan was accepted by the meeting.

By selecting those corridors with Usage Category A (Frequent) and Survey Status Category C (Not systematically surveyed / Unsurveyed), the WG then established a short list of high priority surveys (see Appendix 3 of Annex A), with the aim that focus should be on surveying those areas on the occasion of the IPY. The meeting approved the short list, and that it be submitted for endorsement to the IPY Coordinating Committee, ATCM and COMNAP; and circulated to Member States for information and possible inclusion in national survey programmes.

The Chair congratulated the Survey Programme WG and its Chairman for the remarkable work accomplished so far, and invited the WG to continue proceeding with the remaining items in its terms of reference.

Outcome:

- Form for “Collection and Rendering of Hydrographic Data” (see Appendix 1 of Annex A), as developed by the HCA Survey Programme WG and amended by HCA/5, is adopted.
- IHB to provide IAATO and COMNAP with the form for “Collection and Rendering of Hydrographic Data”, for dissemination to ships’ captains. When completed, the forms are to be returned to the following single point: Attn: Chairman of HCA Survey Programme WG, United Kingdom Hydrographic Office, Taunton, Somerset TA1 2DN, UK - andy.willett@ukho.gov.uk - Fax: +44 (0)1823 284077.
- IHB to post the form for “Collection and Rendering of Hydrographic Data” on the HCA page of the IHO website. Deadline: Dec 05.
- HCA Chair to mention the form for “Collection and Rendering of Hydrographic Data” in the IHO report to the 2006 ATCM, seeking ATCM endorsement and support. Deadline: April 06.
- Twenty additions to the INT Chart Scheme for Region ‘M’ (see Appendix 2 of Annex A), as prepared by the HCA Survey Programme WG from a proposal by IAATO (Capt. Skog, Chairman of the IAATO Marine Committee), are accepted for inclusion as new INT charts / inset plans.
- IHB, in liaison with the HCA Survey Programme WG Chair, to prepare an update of the INT Chart Scheme for Region ‘M’, so as to include the 20 agreed additions as new INT charts / inset plans (Decision No 4). Work will comprise identification of existing INT charts which will include inset plans, assignment of INT numbers to new INT charts, and allocation of responsibilities for their production. Deadline: April 06.
- IHB to circulate the implementation details resulting from the above action to the IHO CSPCWG Chair and to HCA members and observers, for comments and endorsement.
- A long term survey plan for Antarctica, as developed by the HCA Survey Programme WG, is adopted (see Appendix 4 of Annex A). As part of this plan, a short list of high priority surveys is adopted (see Appendix 3 of Annex A).
- HCA Chair to submit the short list to IPY Coordinating Committee, and to ATCM/COMNAP, seeking endorsement of importance for safety of navigation in the region. Deadline: Dec. 05.
- HCA Chair to circulate the short list, with supporting rationale, to National Hydrographers of IHO MS seeking indication of assets that might be allocated to the survey requirement in the IPY. HCA to indicate that options may exist for participation in vessels of opportunity and that HCA can submit bids to CBC for travel and subsistence funding. HCA to indicate benefits of participation. Letter to be copied to IMO, ATCM, COMNAP, IAATO, IBCSO ... Deadline: Dec. 05.

9.- ANY OTHER BUSINESS.

9.1 SPWG latest development

The Chair reported that the IHO Strategic Planning Working Group (SPWG) was developing a Work Plan to implement the decisions of the 3rd Extraordinary International Hydrographic Conference (3rd EIHC). As part of this WP, two main committee will be established, i.e. the Hydrographic Services and Standards Committee (HSSC) and the Inter-Regional Coordination Committee (IRCC). HCA should normally fall under IRCC. He further mentioned that, at the date of this meeting, one IHO Member State (Denmark) had approved the revised IHO Convention. Australia (NAIRN) added that the term “hydrographic interests” still needed to be defined.

9.2 Development of representation from HCA

Docs: HCA5-INF7 HCA Letter 3/2005

The Chair drew attention on IHB Letter S3/0123 of 31 August 2005, as contained in HCA Letter 3/2005 (Doc. HCA5-INF7), requesting that “the RHCs should develop their own procedures for the selection of their Members to the Council”. It was noted that HCA is a special Hydrographic Commission of the IHO, according to Article 1.1 of its statutes, and that this commission was renamed “committee” by the XVth IHC (1997), following a proposal by France, in order to take into account the special status of Antarctica. Australia (NAIRN) remarked that the table which lists the RHCs allowed to provide representatives to the Council (Appendix VIII of CONF.EX3/DOC.1 – Document approved by the 3rd EIHC), does not include HCA. He further noted that all HCA member states are listed somewhere in the above mentioned table.

Capt. BARRITT suggested that, should there be no HCA representation to the Council, SPWG guidance should be requested on how safety of navigation issues relating to Antarctica could be raised at the Council. Whereas suggestions that the HCA Chair or Vice Chair could represent HCA to the Council were discussed, it was finally agreed to recommend that an HCA member state with a seat at the Council would be nominated to report HCA business to the Council.

Outcome:

- HCA Chair to propose to SPWG that representation of HCA matters on Council will be undertaken by a nominated member state with a seat on Council. Deadline: Nov. 05.
- HCA to produce necessary amendments to HCA Statutes for approval at HCA6 and entry into force at the same time as the amended Convention. Australia will lead on the production of amendments, circulating drafts by correspondence. Deadline: Sept. 06.
- HCA Chair to ask the SPWG to include the HCA in the development of Performance Indicators for subordinate bodies e.g. progress with INT chart scheme; input for IHO advice to IMO on safety of navigation in remote areas. Deadline: Nov. 05.

9.3 Structure for National Reports to RHCs

Docs: HCA5-INF6 Standardised Structure for National Reports to RHCs

The Chair referred to the “Standardised Structure for National Reports to RHC Meetings” as contained in IHB letter of 26 October 2005 (Doc. HCA5-INF6 refers). There were no comments.

9.4 IHO Work Programme 2008-2012

The Chair referred to IHB Letter S1/1001/WP of 23 September 2005 (see Annex E), asking all IHO commissions / committees / WGs chairpersons to identify and describe those activities by their respective bodies which should appear in the IHO Work Programme 2008-2012. It was agreed that the Chair and Vice Chair would monitor this exercise for HCA.

Outcome:

- HCA Chair and Vice Chair to identify which HCA activities should be reflected in the IHO Work Programme 2008 - 2012. Deadline: Aug. 06.

10.- TIME AND PLACE OF NEXT MEETING

Capt. GARNHAM (Chile) indicated that Chile could possibly host the 6th HCA Meeting, in Punta Arenas or Valparaiso, in November 2006. He would investigate and report back to the Chair/IHB.

Outcome:

- There is a possibility that Chile will host the 6th Meeting of HCA, if possible in Punta Arenas, otherwise in Valparaiso, in November 2006 (to be confirmed).
- Chile to confirm to the HCA Chair their ability to host the 6th HCA Meeting in November 06. Deadline: Nov. 05.

11.- CLOSURE

The meeting reviewed the list of decisions and actions arising from HCA/5. The agreed list is at Annex A.

On behalf of the meeting, the Chair warmly thanked the New Zealand hosts, particularly Mr. SPITTAL, for the outstanding arrangements for HCA/5. He also thanked all participants and observers for their excellent contribution to the meeting.

Ambassador Evangelos DAMIANAKIS (Greece) stated that Greece, having one of the largest fleet in the world, was very concerned about safety of navigation in general, therefore also in Antarctica. He expressed his strong support to the HCA work and his pleasure to have been at this meeting.

The meeting closed at 16:00 on 4 November 2005.

DECISIONS and ACTIONS FROM HCA/5

Decisions:

1. Capt. Rod NAIRN (Australia) is elected as Vice Chairman of HCA.
2. New chart INT 9037, covering the area between Gibbney island to Kista Strait, is accepted for inclusion in the INT Chart Scheme for Region 'M', with Australia as producer nation. Limits are those of Australian chart Aus 599. Publication of the new chart is planned in 2005/06.
3. The HCA approved the inclusion of provisional data for Antarctica in S-55. This would be refined when information was provided by all States with survey and charting programmes in the region.
4. Form for "Collection and Rendering of Hydrographic Data" (see Appendix 1), as developed by the HCA Survey Programme WG and amended by HCA/5, is adopted.
5. Twenty additions to the INT Chart Scheme for Region 'M' (see table in Appendix 2), as prepared by the HCA Survey Programme WG from a proposal by IAATO (Capt. Skog, Chairman of the IAATO Marine Committee), are accepted for inclusion as new INT charts / inset plans.
6. A long term survey plan for Antarctica, as developed by the HCA Survey Programme WG, is adopted (see Doc. HCA5-8A). As part of this plan, a short list of high priority surveys is adopted (see Appendix 3).
7. There is a possibility that Chile will host the 6th Meeting of HCA, if possible in Punta Arenas, otherwise in Valparaiso, in November 2006 (to be confirmed).

Actions:

1. HCA Chair to write a letter to each of the following IHO Member States who have not yet signed the HCA Statutes, i.e. Brazil, Ecuador, Japan, Rep. of Korea, Peru, Poland, Ukraine, USA and Uruguay, with a view to obtaining clarification of their intentions about participating in HCA activities. It was decided that, meanwhile, they will appear in a separate "pending confirmation of membership" list. The letter to USA will further check their intention regarding the production of INT Charts 909, 9062 and 9105 which have USA as producer country in the INT chart scheme, having noted NGA's statement to cease any paper chart production from 2007 (Action No 9 from HCA/4). COMNAP to contact their members from the above countries, to urge them to participate in HCA activities. Deadline: Dec. 05.
2. HCA Chair to seek IMO guidance on the application of SOLAS Convention, Chapter V, Regulation 9, in Antarctic waters. Deadline: Dec. 05.
3. IHB to draft an ENC scheme for Region 'M', taking into consideration the approaches adopted by other RHCs. Initial focus should be on navigational purposes 1 (overview) and 2 (general). IHB to then circulate the draft scheme to HCA members for comments. Deadline: June 06.

4. HCA Members to change the 'triangle' symbol for a refuge, hut, or unoccupied station, which currently exists on a few Antarctic charts, to an isolated building symbol (D5) with abbreviation **Ref** (T14) at the next New Edition of such charts.
5. HCA Members to consider nominating suitable candidates to participate in the work of IBCSO Editorial Board; names to be provided to the IHB. Deadline: May 06.
6. IHB to include new chart INT 9037 (Aus 599) in M-11, Chapter M (Decision No 2).
7. New Zealand to provide the IHO DCDB with bathymetric data collected in the Ross Sea, in view of its use for the IBCSO project. Deadline: Nov. 06.
8. IHB, in liaison with New Zealand, to monitor the findings / outcomes of the IHO Seminar on Spatial Data Infrastructures (SDI) [Rostock, Germany, 8-9 November 2005] and identify any implications for HCA.
9. HCA Members which have not submitted data for the review of S-55, as requested in HCA Letter 3/2005, are asked to do so by 31 December 2005.
10. HCA Members are urged to include data for Antarctica in their regular review of S-55 information.
11. S-55 Project Coordinator, SHOA and IHB to complete the development of the GIS prototype of a regional database. Deadline: May 06.
12. IHB to continue maintaining a list of HO's nautical publications related to Antarctica, including a brief résumé of their content, on the IHO website. HCA Members to provide input to the IHB as appropriate.
13. IHB to provide IAATO and COMNAP with the form for "Collection and Rendering of Hydrographic Data", for dissemination to ships' captains. When completed, the forms are to be returned to the following single point: Attn: Chairman of HCA Survey Programme WG, United Kingdom Hydrographic Office, Taunton, Somerset TA1 2DN, UK - andy.willett@ukho.gov.uk - Fax: +44 (0)1823 284077.
14. IHB to post the form for "Collection and Rendering of Hydrographic Data" on the HCA page of the IHO website. Deadline: Dec 05.
15. HCA Chair to mention the form for "Collection and Rendering of Hydrographic Data" in the IHO report to the 2006 ATCM, seeking ATCM endorsement and support. Deadline: April 06.
16. IHB, in liaison with the HCA Survey Programme WG Chair, to prepare an update of the INT Chart Scheme for Region 'M', so as to include the 20 agreed additions as new INT charts / inset plans (Decision No 4). Work will comprise identification of existing INT charts which will include inset plans, assignment of INT numbers to new INT charts, and allocation of responsibilities for their production. Deadline: April 06.
17. IHB to circulate the implementation details resulting from Action No 16, to the IHO CSPCWG Chair and to HCA members and observers, for comments and endorsement.
18. HCA Chair to submit the short list (Appendix 3) to IPY Coordinating Committee, and to ATCM/COMNAP, seeking endorsement of importance for safety of navigation in the region. Deadline: Dec. 05.

19. HCA Chair to circulate the short list (Appendix 3), with supporting rationale, to National Hydrographers of IHO MS seeking indication of assets that might be allocated to the survey requirement in the IPY. HCA to indicate that options may exist for participation in vessels of opportunity and that HCA can submit bids to CBC for travel and subsistence funding. HCA to indicate benefits of participation. Letter to be copied to IMO, ATCM, COMNAP, IAATO, IBCSO ... Deadline: Dec. 05.
20. HCA Chair to propose to SPWG that representation of HCA matters on Council will be undertaken by a nominated member state with a seat on Council. Deadline: Nov. 05.
21. HCA to produce necessary amendments to HCA Statutes for approval at HCA/6 and entry into force at the same time as the amended Convention. Australia will lead on the production of amendments, circulating drafts by correspondence. Deadline: Sept. 06.
22. HCA Chair to ask the SPWG to include the HCA in the development of Performance Indicators for subordinate bodies e.g. progress with INT chart scheme; input for IHO advice to IMO on safety of navigation in remote areas. Deadline: Nov. 05.
23. HCA Chair and Vice Chair to identify which HCA activities should be reflected in the IHO Work Programme 2008 - 2012. Deadline: Aug. 06.
24. Chile to confirm to the HCA Chair their ability to host the 6th HCA Meeting in November 06. Deadline: Nov. 05.

COLLECTION AND RENDERING OF HYDROGRAPHIC DATA

To be returned to: Chairman of IHO HCA Survey Programme WG, Mr. Andrew C. WILLETT, Chart Branch 9 – Antarctica, United Kingdom Hydrographic Office, Taunton, Somerset TA1 2DN, UK - andy.willett@ukho.gov.uk - Fax: +44 (0)1823 284077

ANTARCTIC VESSELS

General Area:

Antarctic Peninsula		South Georgia	
South Orkneys		Other - please state	

Location:

Vessel Name: Draught metres

Captain: Date

Data format:

Chart/Chart cutting		Plotting sheet	
UKHO collector		Floppy disc/CD rom	
Other - please state			

Tracing	
Photographs	

See Note 1

Position fixing:

GPS		Visual/radar	
		Other – please state	

Model of receiver	<input style="width: 100%;" type="text"/>
Datum setting ie. WGS84	<input style="width: 100%;" type="text"/>
Remarks: eg. Plotting errors between GPS and chart (note 2.3)	

See Note 2

Calibration date:	<input style="width: 150px; height: 20px;" type="text"/>
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Echo sounder:

Make	<input style="width: 100%;" type="text"/>	Name/type	<input style="width: 100%;" type="text"/>
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Scale setting:

Depths recorded from:	Sea surface		Under keel	
-----------------------	-------------	--	------------	--

Sound velocity:

Correction made?	No		Yes	Metres per second
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Transducer displacement applied (see note 3.6):

N/A		Yes		No	
-----	--	-----	--	----	--

Details of transducer displacement:

X offset = Port (-) or Stbd(+) from GPS receiver	Y offset = Aft (-) or Fwd(+) from GPS receiver	Z offset = Above (-) or Below(+) from GPS receiver
.....MetresMetresMetres

See Note 3 (also UKHO NP 100 2.79-2.103)

Echo trace rendered: Yes See note 4 No

Speed of vessel

Lights report rendered No Yes

Name/location	Position	Working: Y or N	Characteristics? checked: Y or N	Remarks

Buoys/beacons report rendered No Yes

Name/location	Position	Condition: good, bad, missing	Remarks

Conspicuous Objects report rendered

No	<input type="checkbox"/>	Yes	<input type="checkbox"/>
----	--------------------------	-----	--------------------------

Name/location	Position	Bearing from seaward	Description and remarks

Views report rendered

No	<input type="checkbox"/>	Yes	<input type="checkbox"/>
----	--------------------------	-----	--------------------------

Location	Position/bearing from seaward	Panoramic	Pilotage	Portrait	Close-up	Remarks

See Note 5. Also latest Antarctic Pilot requirements

Note 1

The largest scale chart, a plotting sheet at a similar scale, a UKHO collector, a tracing or chart cutting should be used to plot the ships position during data collection.

If a chart cutting is used the additions and alterations should be marked in red. If a tracing is preferred, the additions should be marked in red, with adequate chart detail in black to enable fitting down. If a chart is rendered with data inserted, a replacement copy will be supplied free of charge.

Computer discs and CD Roms are also an easy way to render data and photographs, but must have easily readable formats.

Note 2

1. Visual fixes: To ensure the greatest accuracy, a fix defined by compass bearings or ranges, should consist if possible of more than two observations. These observations should be taken as nearly as possible simultaneously, carefully recorded at the time and listed in the report with any corrections that have been applied to them.
2. GPS positions: The report should state which datum was set on the receiver outputting positions,(eg WGS84 Datum) and/or whether any shifts quoted on the chart have been applied.
3. Mariners are requested to report observed differences between positions referred to chart graticule and those from GPS, referenced to WGS84 Datum.

Note 3

The following information should be included about the echo sounder:

1. Make, name and type of set.
2. The number of revolutions per minute of the stylus (checked by stopwatch) (see NP100)
3. The speed of sound in sea water in metres per second equivalent to the stylus speed.
4. Whether soundings have been corrected from *Echo-sounding correction tables*.
5. Setting of the scale zero. That is whether depths are recorded from the sea surface or from under the keel.
6. Where the displacement of the transducers from the position of the GPS receiver or other instrument used to fix is appreciable, the amount of this displacement and whether allowance has been made for it should be reported.
7. For methods of checking the accuracy of a sounder see NP100 2.87 - 2.89.
8. Where numerous sounding lines have been produced, it would be desirable to run "cross lines" at right angles to the main lines to provide an extra check on the validity of the data surveyed.

Note 4

Echo Trace

If an echo trace is rendered it should be marked as follows:

1. A line drawn across it each time a fix is taken, and at regular intervals.

2. The times of each fix and alteration of course inserted, and times of interval marks at not more than 15 minute intervals.
3. The position of each fix and other recorded events inserted where possible, unless a GPS printout or separate list of times and corresponding positions is enclosed with the report.
4. The recorded depths of all peak soundings inserted.
5. The limits of the phase or scale change in which the set is running marked, noting particularly when a change is made.
6. Name of ship, date, zone time used and scale reading of the shoaling edge of the transmission line should be marked on the trace. (diagram 8.14 in NP100)

Note 5

Views

New photographs should be obtained whenever possible and where a new view would help the mariner. An imperfect photograph, correctly annotated, can often be used to produce a view of considerable help to the mariner.

The various types of views and examples are given the following names:

1. **Panoramic.** A composite view made up from a series of overlapping photographs. This type of view is intended to show the offshore aspect including hinterland.
2. **Pilotage.** A single or composite view from the approach course to a harbour or narrows showing any leading marks, transits or conspicuous fixing marks. It may be combined with a close-up of the mark if necessary for positive identification.
3. **Portrait.** The single view of a specific object set in its salient background.
4. **Close-up.** Single views of one object or feature with emphasis on clarity of the subject for its identification.

The UKHO can supply a prioritised list of requirements for views that are needed for NP9. The Editor of the Antarctic Pilot is available to give advice on views required. (Telephone +44 (0)1823 337900 Ext 3480)

Note 6

Sailing Directions. Proposed amendments to the text of the Antarctic Pilot are always welcome. No particular format is required, but a Hydrographic note (H102) is a convenient method of forwarding data.

Note 7

Any other observations, comments or remarks that the mariner thinks would improve charting coverage or the Sailing Directions is always gratefully received in the Hydrographic Office. Examples of these include transit notes and tracings or chart cuttings delineating areas of kelp. Constructive comments on chart coverage or the lack of it are useful for the future planning of charts and surveying.

References: UKHO publications NP9 and NP100

ADDITIONS TO INT CHART SCHEME "M"

Location/Title	Scale	North	South	East	West	Size
Penguin Island	1:20K	62°05'·0S	62°08'·0S	57°52'·5W	57°59'·5W	278 x 304mm
Danger Islands	1:50K	63°19'·0S	63°30'·0S	54°29'·0W	55°04'·0W	408 x 591mm
Fridtjof Sound	1:50K	63°29'·0S	63°38'·0S	56°34'·0W	56°55'·0W	334 x 338 mm
Brown Bluff	1:10K	63°30'·2S	63°31'·4S	56°51'·0W	56°55'·0W	223 x 330 mm
Gourdin Island	1:15K	63°10'·4S	63°12'·2S	57°15'·0W	57°21'·0W	223 x 335 mm
Crystal Hill to Devil Is.	1:75K	63°31'·0S	63°49'·0S	57°13'·0W	57°55'·0W	446 x 462 mm
Bald Head	1:10K	63°37'·0S	63°38'·0S	57°35'·6W	57°38'·6W	186 x 247 mm
View Point	1:10K	63°31'·8S	63°32'·8S	57°22'·0W	57°25'·0W	186 x 247 mm
Matts Head	1:10K	63°37'·4S	63°38'·4S	57°39'·2W	57°42'·2W	186 x 247 mm
Crystal Hill	1:10K	63°38'·7S	63°39'·8S	57°43'·3W	57°49'·8W	204 x 536 mm
Camp Point	1:10K	63°40'·2S	63°41'·2S	57°48'·0W	57°51'·0W	186 x 247 mm
Devil Island	1:10K	63°47'·2S	63°48'·2S	57°15'·6W	57°18'·6W	186 x 247 mm
Active Sound	1:50K	63°20'·0S	63°30'·0S	55°50'·0W	56°20'·0W	371 x 500 mm
Snow Hill Island	1:30K	64°18'·0S	64°24'·0S	56°53'·0W	57°10'·0W	272 x 455 mm
Hydrurga Rocks	1:10K	64°07'·5S	64°09'·5S	61°35'·0W	61°40'·0W	372 x 405 mm
Freud (Pampa) Passage	1:50K	64°12'·5S	64°22'·0S	61°58'·0W	62°13'·5W	353 x 251 mm
Grandidier Channel	1:75K	65°22'·0S	65°52'·0S	64°05'·0W	65°50'·0W	1073 x 744 mm
Crystal Sound	1:75K	65°50'·0S	66°32'·0S	66°10'·0W	67°15'·0W	648 x 1041 mm
Point Wild (UKHO collector)	1:10K	61°04'·0S	61°07'·0S	54°49'·0W	54°54'·5W	\
Cape Valentine (UKHO collector)	1:10K	61°04'·0S	61°07'·0S	54°35'·0W	54°40'·5W	\

HCA SURVEY SHORT LIST

Main corridors

MSR*	Name	Usage category	Survey category	Notes and INT chart coverage. Published and proposed.
4	Gerlache strait	A	A + C	20% surveyed. INT 9156 & 9157
17	South Shetlands MSR	A	C	INT 9151
18	Elephant Island MSR	A+C	C	INT 9150
19	Elephant Island to KGI	A	C	INT 9150, INT 9151
20	Deception Is to Brabant Island	A	C	INT 9120, INT 9155, 9156, 9157

Branch corridors and approaches

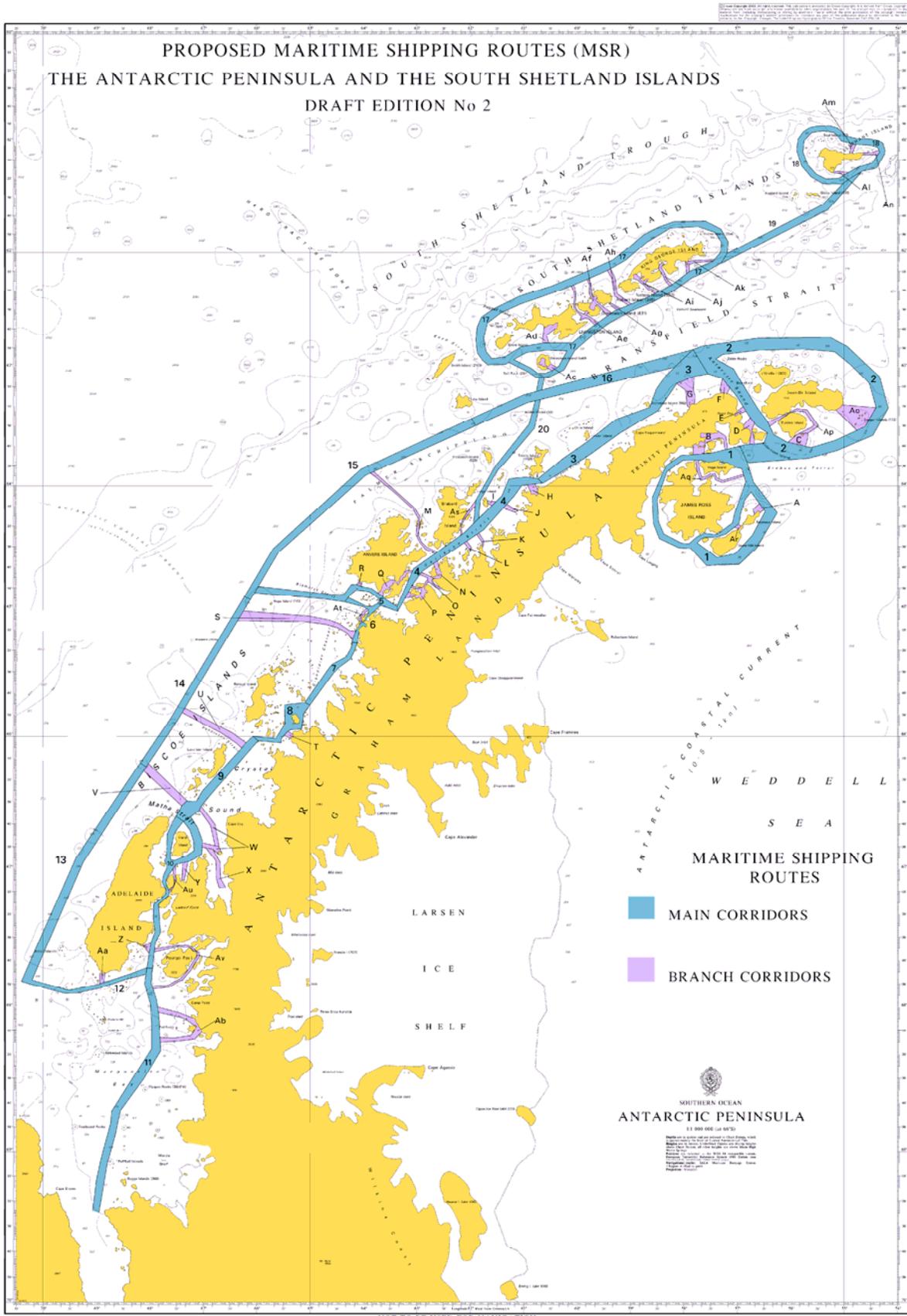
MSR	Name	Usage category	Survey category	Notes and INT chart coverage. Published and proposed.
C	Paulet Island	A	A + C	50% surveyed, remaining area top of UKHO priority. INT 9112
D	Brown Bluff and Fridtjof Sound	A	C	INT 9154
M	Melchior Islands and approaches	A+C	C	INT 9157
N	Errera Channel	A	C	Includes Cuverville Is, Danco Is and Ronge Is. INT 9103
O	Andvord Bay	A	C	Includes Neko Harbour. INT 9103
P	Paradise Harbour	A	C	Almirante Station and Waterboat Point. INT 9104
Q	Neumayer Channel and Port Lockroy	A	A + C	70% surveyed, North Neumayer Channel to finish INT 9158 & 9104
Ae	McFarlane Strait	A	A + C	Half Moon Is cat A, Yankee Harbour cat B, rest cat C. INT 9121 & 9112
Am	Point Wild	A	C	INT 9150
	Mawson	C	C	AUS600
	Commonwealth Bay	C	C	AUS603
	Davis to Larsemann Hills	C	C	No chart coverage except at small scale. Sandjeford Bay to Cape Rundingen – AUS452 scale 1:500,000

Categories

Category	Usage
A	Frequent
B	Regular
C	Infrequent

Category	Current survey status
A	Adequately surveyed
B	Requires re-survey at larger scale or to S-44 standard
C	Has not been systematically surveyed/Unsurveyed

* MSR = Maritime Shipping Route. The figures / letters in this column are shown on the MSR diagram which is on the following page.



HCA LONG TERM SURVEY PLAN

Table of MSRs, base/site calls, usage category, and current survey category

I. ANTARCTIC PENINSULA

Categories

Category	Usage
A	Frequent
B	Regular
C	Infrequent

Category	Current survey status
A	Adequately surveyed
B	Requires re-survey at larger scale or to S-44 standard
C	Has not been systematically surveyed/Unsurveyed

Main corridors (see diagram on last page for MSR references)

MSR *	Name	Usage category	Survey category	Notes and INT chart coverage. Published and <i>proposed</i> .
1	James Ross Island circular route	B+C	A + C	40% surveyed (Prince Gustav Channel), 60% unsurveyed. In UKHo survey plan. INT 9153
2	Joinville Island circular route	A+B	A + C	45% surveyed (Antarctic Sound), 55% unsurveyed. INT 9154
3	Orleans Strait to Antarctic Sound	B	B + C	INT 9155
4	Gerlache strait	A	A + C	20% surveyed. <i>INT 9156 & 9157</i>
5	Bismarck Strait	A+B	A + B	Approaches to Palmer Station and Port Lockroy. INT 9158
6	Lemaire Channel	A	B	Petermann Is, Pleneau Is, Argentine Is, Yalour Is. INT 9106
7	Grandidier Channel	A+B	B	INT 9158 & 9159
8	Cape Garcia to Jagged Island	B	C	<i>INT 9159</i>
9	Crystal Sound	B	B	Numerous reports of uncharted rocks. <i>INT 9160</i>
10	Liard Island to Rothera	B	C	<i>INT 9161, 9108 AND 9163</i>
11	Marguerite Bay	C	B + C	<i>INT 9163 & 9164</i>
12	Woodfield Channel	C	B	<i>INT 9163</i>
13	Woodfield Channel to Matha Strait	B	C	<i>INT 9162 & 9160</i>
14	Matha Strait to Hugo Island	B	C	<i>INT 9160, 9159 & 9158</i>
15	Hugo Island to Low Island	B	B + C	<i>INT 9156, 9157 & 9158</i>
16	Low Island to Antarctic Sound	C	B + C	INT 9154, 9155 & 9156
17	South Shetlands MSR	A	C	<i>INT 9151</i>
18	Elephant Island MSR	A+C	C	INT 9150
19	Elephant Island to KGI	A	C	INT 9150, <i>INT 9151</i>
20	Deception Is to Brabant Island	A	C	INT 9120, INT 9155, 9156, 9157

* MSR = Maritime Shipping Route. The figures / letters in this column are shown on the MSR diagram which is at Appendix 3.

Branch corridors and approaches

MSR	Name	Usage category	Survey category	Notes and INT chart coverage. Published and proposed
A	Marambio	B	C	<i>INT 9100</i>
B	Duse Bay and Eagle Island	B	C	Includes Crystal Hill. INT 9154
C	Paulet Island	A	A + C	50% surveyed, remaining area top of UKHO priority. <i>INT 9112</i>
D	Brown Bluff and Fridtjof Sound	A	C	INT 9154
E	Hope Bay	A	B	<i>INT 9101</i>
F	Gourdin Island and Siffrey Point	B	C	INT 9154
G	Bernado O' Higgins and approaches	C	C	INT 9102
H	Curtiss Bay	C	C	INT 9155 & 9156
I	Hydrurga Rocks	B	C	<i>INT 9156 & 9157</i>
J	Alcock Island	C	C	<i>INT 9156 & 9157</i>
K	Portal Point	C	C	<i>INT 9112</i>
L	Enterprise Island	B	C	<i>INT 9157</i>
M	Melchior Islands and approaches	A+C	C	<i>INT 9157</i>
N	Errera Channel	A	C	Includes Cuverville Is, Danco Is and Ronge Is. <i>INT 9103</i>
O	Andvord Bay	A	C	Includes Neko Harbour. <i>INT 9103</i>
P	Paradise Harbour	A	C	Almirante Station and Waterboat Point. <i>INT 9104</i>
Q	Neumayer Channel and Port Lockroy	A	A + C	70% surveyed, North Neumayer Channel to finish <i>INT 9158 & 9104</i>
R	Arthur harbour	B	C	<i>INT 9105</i>
S	French Passage	B	B	INT 9106
T	Prospect Point	B	C	<i>INT 9107</i>
U	Pendleton Strait	B	B	<i>INT 9159</i>
V	Matha Strait	B	C	<i>INT 9160</i>
W	Detaille Island and approaches	C	C	<i>INT 9161</i>
X	Lallemand Fjord	C	C	<i>INT 9161</i>
Y	Shumskiy Cove	C	C	<i>INT 9108</i>
Z	Rothera	B	A	BAS and RN vessels. INT 9109
Aa	Avian Island	C	B	<i>INT 9110</i>
Ab	Approaches to Millerand Island	C	B	<i>INT 9111</i>
Ac	Deception Island and Port Foster	A	B	Whalers Bay. <i>INT 9120</i>
Ad	South bay and Hannah Point	A	A	INT 9121
Ae	McFarlane Strait	A	A + C	Half Moon Is cat A, Yankee Harbour cat B, rest cat C. <i>INT 9121 & 9112</i>
Af	English Strait	A	B	Aithecho Islands and Discovery Bay. <i>INT 9122 & 9152</i>
Ag	Robert Point	C	C	<i>INT 9151</i>
Ah	Nelson Strait	C	C	<i>INT 9151</i>
Ai	Maxwell Bay and approaches	A	B	Ardley Cove, Marian Cove and Potter Cove. <i>INT 9123</i>
Aj	Admiralty Bay	A	B	Artowski Station, Ferraz Station and Martel Inlet. <i>INT 9125</i>
Ak	Penguin Island and approaches	A	C	Endurance 2005 survey. <i>INT 9151</i>
Al	Cape Lookout	B	C	<i>INT 9112</i>
Am	Point Wild	A	C	INT 9150

MSR	Name	Usage category	Survey category	Notes and INT chart coverage. Published and proposed
An	Cape Valentine	B	C	INT 9150
Ao	Danger Islands	C	C	INT 9154
Ap	Dundee Island	B	C	INT 9154
Aq	Herbert Sound	B	C	INT 9153
Ar	Historic Monument	B	C	INT 9153
As	Freud Passage	B	C	INT 9156 & 9157
At	Booth Is, Port Charcot	B	C	INT 9158
Au	Gunnel Channel	B	C	INT 9108 & 9161
Av	Pourquoi Pas Island	C	C	INT 9163 & 9161

II. MAINLAND ANTARCTICA**

Main corridors

MSR	Name	Usage category	Survey category	Notes and INT chart coverage. Published and proposed.
	Hobart to Macquarie Island	C	A + B	Annual re-supply station by Aurora Australis. Tourist vessels and fishing boats Charts - Hobart AUS173 and 174 Macquarie Island – AUS604 Cape Darnley to Tasmania - INT 74 (AUS 4074)
	Hobart to Casey station	C	A + B	Annual re-supply of station by Aurora Australis and other vessel plus occasional tourist vessels. Charts. Hobart AUS173 and 174 Casey - INT9021 (AUS601) Cape Darnley to Tasmania - INT 74 (AUS 4074)
	Hobart to Davis	C	A + B	Annual re-supply of station by Aurora Australis and other vessel plus occasional tourist vessels Charts - Hobart AUS173 and 174 Davis – INT9032(AUS602) Cape Darnley to Tasmania - INT 74 (AUS 4074)
	Hobart to Mawson	C	A+B	Annual re-supply of station by Aurora Australis and other vessel plus occasional tourist vessels Charts Hobart AUS173 and 174 Mawson – AUS600 Cape Darnley to Tasmania - INT 74 (AUS 4074) Magnet bay to Cape Rouse – AUS449
	Hobart to Heard Island	C	A+C	Marine science voyage by Aurora Australis, customs patrol vessels plus occasional tourist and fishing vessels. Charts Hobart AUS173 and 174 Heard Island – AUS605 Cape Darnley to Tasmania - INT 74 (AUS 4074) Magnet bay to Cape Rouse – AUS449

** Australian Antarctic Division Submission

MSR	Name	Usage category	Survey category	Notes and INT chart coverage. Published and proposed.
	Fremantle to Heard Island	C	A+C	Marine science voyage by Aurora Australis, customs patrol vessels plus occasional tourist and fishing vessels.
	Hobart to Commonwealth Bay	C	A+C	Occasional visits by Aurora Australis, Astrolabe and occasional tourist vessels Charts - Hobart AUS173 and 174 Commonwealth Bay – AUS603
	Davis to Larsemann Hills	C	A+C	Occasional visits by Aurora Australis, Chinese re-supply vessel Xue Long and Russian re-supply vessels. No charts exist of the approaches to the Larsemann Hills
	Davis to Sansom Island	C	B+C	
	Hobart and Fremantle to Southern Ocean	C	A+C	Marine science voyages

Branch corridors and approaches

MSR	Name	Usage category	Survey category	Notes and INT chart coverage. Published and proposed
	Macquarie Island	C		AUS604
	Casey	C		INT9021 (AUS601)
	Davis	C		INT9032(AUS602)
	Mawson	C		AUS600
	Commonwealth Bay	C		AUS603
	Davis to Larsemann Hills	C		No chart coverage except at small scale. Sandjeford Bay to Cape Rundingen – AUS452 scale 1:500,000
	Davis to Sansom Island	C		No chart coverage except at small scale Sandjeford Bay to Cape Rundingen – AUS452 scale 1:500,000

LIST OF PARTICIPANTS

Member State	Name	E-mail
Australia	Capt. Rod NAIRN (<i>Vice Chairman</i>) Mr. Jasbir RANDHAWA All official correspondence to:	Rod.Nairn@defence.gov.au Jasbir.Randhawa@defence.gov.au internationalrelations@hydro.gov.au
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NIWA	Mr. Neville P. Ching	n.ching@niwa.co.nz

LIST OF DOCUMENTS

HCA5-1A rev.4	List of Documents
HCA5-1B rev.5	List of Participants
HCA5-2A	HCA Membership and Observers List
HCA5-3A rev.3	Agenda
HCA5-3B rev.2	Annotated Agenda
HCA5-3C rev.1	Timetable
HCA5-5A	Status of Actions List from the 4 th HCA Meeting
HCA5-6.2A	COMNAP Report to HCA/5
HCA5-6.5A	SCAR Report to HCA/5
HCA5-6.7A	NIWA (NZ) Report to HCA/5
HCA5-7.1A	INT Chart Scheme and Production Status for Region 'M'
HCA5-7.1B	ENC Production Status in Antarctica
HCA5-7.1C	Layout of INT Production Status for Region 'M'
HCA5-7.1D	Antarctic Symbols – HCA Chair Letter to CSPCWG
HCA5-7.1E	Antarctic Symbols – CSPCWG Response
HCA5-7.3A	GEBCO Status Report
HCA5-7.3B	Undersea Feature Naming Status for Region 'M'
HCA5-7.4Aa HCA5-7.4Ab HCA5-7.4Ac HCA5-7.4Ae HCA5-7.4Ag HCA5-7.4Ah HCA5-7.4Ai HCA5-7.4Aj HCA5-7.4Ak HCA5-7.4Al HCA5-7.4Am	Collection of National Reports to HCA/4 UK Report Norway Report France Report Germany Report New Zealand Report Australia Report Chile Report China Report South Africa Report Russian Federation Report Japan Report
HCA5-7.4B	S-55 Status – Progress Report

HCA5-8A	HCA Survey Programme WG Report to HCA/5
<i>Information Papers</i>	
HCA5-INF1	Minutes of the 4 th HCA Meeting, Kythnos, Greece, 2004
HCA5-INF2	Current HCA Statutes
HCA5-INF3	IHO Report to ATCM-XXVIII, Stockholm, Sweden, 2005
HCA5-INF4	IAATO Annual Report 2004-2005
HCA5-INF5	IAATO Overview of Antarctic Tourism 2004-2005
HCA5-INF6	Standardised Structure for National Reports to RHCs
HCA5-INF7	HCA Letter 3/2005
HCA5-INF8	COMNAP Report to ATCM-XXVIII, Stockholm, Sweden, 2005

AGENDA

- 1.- Opening.
Docs: HCA5-1A List of Documents
HCA5-1B List of Participants
- 2.- HCA Membership Status.
Docs: HCA5-2A HCA Membership and Observers List
HCA5-INF2 Current HCA Statutes
- 3.- Approval of the Agenda.
Docs: HCA5-3A Agenda
HCA5-3B Annotated Agenda
HCA5-3C Time Table
- 4.- Election of Vice-Chairman
- 5.- Status of List of Actions resulting from the 4th HCA Meeting.
Docs: HCA5-5A Status of Actions List from the 4th HCA Meeting
HCA5-INF1 Minutes of the 4th HCA Meeting, Kythnos, Greece, 2004
- 6.- Relevant International Organizations' Report.
 - 6.1 ATCM
Docs: HCA5-INF3 IHO Report to ATCM-XXVIII
 - 6.2 COMNAP
Docs: HCA5-6.2A COMNAP Report to HCA/5
HCA5-INF8 COMNAP Report to ATCM-XXVIII
 - 6.3 IMO
 - 6.4 IAATO
Docs: HCA5-INF4 IAATO Annual Report 2004-2005
HCA5-INF5 IAATO Overview of Antarctic Tourism 2004-2005
 - 6.5 SCAR
Docs: HCA5-6.2A SCAR Report to HCA/5
 - 6.6 IOC (is being mainly considered under 6.3)
 - 6.7 NIWA (NZ)
Docs: HCA5-6.7A NIWA (NZ) Report to HCA/5
- 7.- HCA Activities in the light of the IHO Work Program:
 - 7.1 INT chart scheme: progress made since last meeting; actual charting status (S-55); ENC production status; new requirements and modifications proposed to the scheme (M-11).
Docs: HCA5-7.1A INT Chart Scheme and Production Status for Region 'M'
HCA5-7.1B ENC Production Status in Antarctica
HCA5-7.1C Layout of INT Production Status for Region 'M'
HCA5-7.1D Antarctic Symbols – HCA Chair Letter to CSPCWG
HCA5-7.1E Antarctic Symbols – CSPCWG Response

- 7.2 Bilateral and Regional cooperation agreements, projects and capacity building initiatives in progress.
- 7.3 Interaction with IOC:
 - 7.3.1 The IOC/IHO GEBCO Project
Docs: HCA5-7.3A GEBCO Report to HCA/5
HCA5-7.3B Undersea Feature Naming Status for Region 'M' (IHB)
 - 7.3.2 The IBCSO Project, an IOC/IHO/SCAR Project.
Docs: HCA5-7.3C International Bathymetric Chart of the Southern Ocean (IBCSO) – Status Report
- 7.4 Hydrographic surveying, nautical charting, nautical publications and information status.
 - 7.4.1 Presentation of National Reports. Experiences with new techniques and equipment. Project proposals to speed-up compilation and production.
Docs: HCA5-7.4A National Reports
 - 7.4.2 Hydrographic Survey status (S-55)
Docs: HCA5-7.4B S-55 Status – Progress Report
- 7.5 Nautical Publications and Information. IHO/HCA web page.
- 8. HCA Survey Programme Working Group – Progress Report
Docs: HCA5-8A HCA Survey Programme WG Report to HCA/5
- 9.- Any other business.
 - 9.1 SPWG latest development
 - 9.2 Development of representation from HCA
Docs: HCA5-INF7 HCA Letter 3/2005
 - 9.3 Structure for National Reports to RHCs
Docs: HCA5-INF6 Standardised Structure for National Reports to RHCs
 - 9.4 IHO Work Programme 2008-2012
- 10.- Time and Place of next Meeting
- 11.- Closure

IHB File N° S1/1001/WP

Monaco, 23 September 2005.

IHO WORK PROGRAMME 2008-2012

References: a) General Regulations of the IHO, Art. 23 (c).
b) Financial Regulations of the IHO, Art 8 (a).

Dear Chairman,

In accordance with Ref. a), the Directing Committee must present to the XVIIth I.H. Conference a Programme and Budget proposal for the period 2008-2012, containing the Work Programme and the associated financial implications. This corresponds to an important part of the estimated 5-yearly budget to which b) refers.

In preparing such an important document, the Directing Committee is required to take into consideration the work of Committees and Working Groups. The document should be distributed to all Member States at least 4 months before the Conference, that is to say, no later than December 2006, to be analyzed, discussed and decided upon at a plenary Session of the Conference.

One of the shortcomings of the Organization has been the independent treatment given to both the work programme and its related financial implications. It seems that the last 5-year Work Programme was mainly prepared only taking into account IHB internal sources of information, with minimum consultation with the various Committees, Commissions, Working Groups and others (called The GROUPS hereinafter). This time we would like to prepare a WP with input provided by all these groups. Moreover, we would like to see a clear association between the tasks proposed to be executed and the resources required for their implementation. The existing disconnection between tasks and budget and the confusion between tasks and objectives, as in the 2003-2007 IHO Work Programme and Budget, have been raised by several Member States and therefore we intend to correct this problem in the 2008-2012 IHO Work Programme and Budget.

Based on the IHO Strategic Plan in force, approved by Member States at the 2nd EIHC in April 2000, the Organization has identified 5 Programmes to meet its goals:

- a) Co-operation between Member States and with International Organizations;
- b) Capacity Building;
- c) Techniques and Standards Support;
- d) Information Management and Public Relations;
- e) General Organization Development.

For each of these Programmes a lay-out needs to be prepared in order to facilitate the treatment of the different elements contained in each Programme, and a clear objective is required to be associated to all these elements. Following this lay-out, a series of activities (Tasks) that in fact constitute the proposed IHO 5 Year Work Programme (2008-2012) should be drafted.

With regard to the financial implication of each activity, the Directing Committee intends to insert two columns: one referring to the impact on the IHO budget and a second one referring to the global impact that each activity might have on Member States due to their direct participation. We have not done this exercise before, but we think it is important to have a draft estimate of the level of contribution the IHO is making as a whole. Certainly, the value of the contributions provides only a partial picture, and the total HOs budget seems to be too general and not representative of the contribution a MS makes in function of the IHO Work Programme.

Bearing in mind the objectives, we would appreciate receiving from all The GROUPS their contribution in terms of:

- Task identification (just a brief title)
- Short description of the activity (what and for what)
- Brief description of the associated deliverables (products, effects, results, etc.)
- Timing (when, that is to indicate in which year the activity should take place)
- Identification of indicators that could be used to assess effectiveness. (parameter(s) that could be used to measure the level of success)
- Estimated resources from the regular IHO budget (this will be mainly determined by IHB based on historical records and input received).
- Estimated global resources from direct Member States' contribution (the total general cost of the activity for MS as a whole).

In order to facilitate the input from The GROUPS, one of which you are the Chairman, we are providing you in Annex B a spreadsheet that identifies the 5 Programmes and the different elements, together with some tasks associated to each of them, that we have extracted from our records and based on our experience. We kindly ask you to examine this spreadsheet, provide comments, propose the addition and/or deletion of tasks, which are only being provided as an indication. Chairmen of Working Groups that are part of an IHO Committee are invited to coordinate directly with the Committee Chairman concerning their input to the IHO Work Program. Chairmen of dormant Working Groups are invited to identify potential tasks, if any, for the period concerned.

For each task that your GROUP identifies for the period 2008-2012 as needing to be identified in the Organization's Work Programme we invite you to fill out the form provided in Annex C with the relevant information. Your active involvement in this process will help the IHB to prepare a proposal to the XVIIth IHC on the IHO 5-Year WP and Budget - 2008-2012. The Directing Committee would appreciate receiving your comments and contribution to this important process, **no later than 01 August 2006.**

We think that within this timeframe of over 10 months you will have the opportunity to have detailed discussions with the other Members of your particular GROUP and define all that it is anticipated to include in the IHO 5 Year WP 2008-2012.

On behalf of the Directing Committee,
Yours sincerely,

(original signed)

Captain Hugo GORZIGLIA
Director

Annex A : Distribution List

Annex B : Spread Sheet for the preparation of the IHO 5 Year Draft WP 2008-2012 *[not provided here]*

Annex C : Task Identification Form.

DISTRIBUTION LIST

1.- Regional Hydrographic Commissions

- Nordic Hydrographic Commission (NHC) [Chairman, Mr. F. Klepsvik, Norway]
- North Sea Hydrographic Commission (NSHC) [Chairman, Dr. Wyn Williams, UK]
- East Asia Hydrographic Commission (EAHC) [Mr. Chong Rok Park, Rep. of Korea]
- US-Canada Hydrographic Commission (USCHC) [Joint Chair: Captain R. Parsons, USA/
Dr. S. Narayanan, Canada]
- Mediterranean and Black Sea Hydrographic Commission (MBSHC) [Chairman, IGA Y. Desnoës, France]
- Baltic Sea Hydrographic Commission (BSHC) [Chairman, Mr. J. Krastins, Latvia]
- Eastern Atlantic Hydrographic Commission (EAHC) [Chairman, IGA Y. Desnoës, France]
- South East Pacific Hydrographic Commission (SEPHC) [Chairman, Cdr. Mario Proaño Silva, Ecuador]
- South West Pacific Hydrographic Commission (SPWHC) [Chairman, Mr. J. Spittal, New Zealand]
- Meso-American-Caribbean Sea Hydrographic Commission (MACHC) [Chairman, RADM. R.A. Cely NUÑEZ, Colombia]
- Southern Africa and Islands Hydrographic Commission (SAIHC) [Captain A. Kampfer, South Africa]
- ROPME Sea Area Hydrographic Commission (RSAHC) [Chairman, Mr. M.R. Ghaderi, Iran]
- North Indian Ocean Hydrographic Commission (NIOHC) [Chairman, Dr. Wyn Williams, UK]
- Hydrographic Committee on Antarctica (HCA) [Chairman, Captain H. Gorziglia, IHB]

2.- IHO Commissions

- IHO Commission on Promulgation of Radio Navigational Warnings (CPRNW) [Chairman, Mr. P. Doherty, USA]

5. IHO Committees

- IHO Legal Advisory Committee (LAC) (Group) (LAG) [Chairperson, Ms Denise Webster, USA]
- IHO Tidal Committee (TC) [Cdr. J. Page (UK)]
- IHO Finance Committee (FC) [Chairman, Mr. M. Gaziello, Monaco]
- IHO Committee on the Hydrographic Dictionary (S-32) [Mr. S. Shipman, IHB]
- IHO Committee on Hydrographic Requirements for Information Systems (CHRIS) [Chairman, Captain R. Ward, Australia]
- IHO Worldwide Navigational Chart Data Base Committee (WEND) [Chairman, Captain R. Parsons, USA]
- IHO Capacity Building Committee (IHOCBC) [Chairman, Captain H. Gorziglia, IHB]
- GEBCO Guiding Committee (includes SCUFN and SCDB) [Mr. D. Monahan, Canada]

6. IHO Working Groups

- TSMAD Transfer Standard Maintenance and Application Development Working Group [Chairman, Mr. M. Brown, USA-NOAA]
- C&SMWG Colours and Symbols Maintenance Working Group [Chairman, Dr. M. Jonas, Germany]
- DPSWG Data Protection Scheme Working Group [Chairman, Mr. R. Sandvik, Norway]
- DQWG Data Quality Working Group – dormant
- SNPWG Standardization of Nautical Publications Working Group (Mr. J. Melles, Germany)

- CSPCWG Chart Standardization and Paper Chart Working Group IHO [Chairman, Mr. P. Jones, UK]
- Working Group on Standards for Hydrographic Surveys (S-44) [Chairman, Mr. C. Howlett, UK]
- IHO Manual on Hydrography Working Group (MoHWG) [Chairman, Captain H. Gorziglia, IHB]
- IHO Strategic Planning Working Group (SPWG) [Chairman, Mr. F. Klepshvik, Norway]

7. **Advisory Boards**

- FIG-IHO-ICA International Advisory Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. [Captain Andy Armstrong, USA]
- IHO-IAG-IOC Advisory Board on the Law of the Sea (ABLOS) [Professor C. Rizos (IAG), Australia]

8. **Harmonization Groups:**

- IMO-IHO Harmonization Group on ECDIS (HE) (dormant)
- IHO-IEC Harmonization Group on Marine Information Objects (HGMIO) [Chairman, Dr. L. Alexander, UNH, USA]

7.- Data Center:

- IHO Data Center for Digital Bathymetry (DCDB) [Director, Dr. C. Fox, USA]

TASK IDENTIFICATION FORM

TO REACH IHB 01 AUGUST 2006

From: GROUP:
To: IHB

Name of the Task:
.....

Short description of the activity:
.....
.....
.....

Brief description of the associated deliverables:
.....
.....

Timing (that is to indicate in which year the activity will take place):
.....

Identification of indicators that could be used to assess effectiveness:
.....
.....

Estimated resources from regular IHB budget:
.....
.....

Estimated global resources from direct MSs contribution:
.....
.....
.....

Date:

Name :

Signature:

LIST OF ACRONYMS

AHS	Australian Hydrographic Service
ATCM	Antarctic Treaty Consultative Meeting
ATS	Antarctic Treaty System
AWI	Alfred Wegener Institute (Germany)
CBC	Capacity Building Committee (IHO)
COMNAP	Council of Managers of National Antarctic Programmes
CSPCWG	Chart Standardization and Paper Chart Working Group (IHO)
DCDB	Data Centre for Digital Bathymetry (IHO)
DEM	Digital Environment Model
DNC	Digital Nautical Chart (USA-NGA)
EIHC	Extraordinary International Hydrographic Conference (IHO)
ENC	Electronic Navigational Chart
GDA	GEBCO Digital Atlas (IHO&IOC)
GEBCO	General Bathymetric Chart of the Oceans (IHO&IOC)
GSSG	Geoscience Standing Scientific Group (SCAR)
HCA	Hydrographic Committee on Antarctica (IHO)
HO	Hydrographic Office
HSSC	Hydrographic Services and Standards Committee (IHO)
IAATO	International Association of Antarctic Tour Operators
IBCSO	International Bathymetric Chart of the Southern Ocean (IOC&IHO&SCAR)
IC-ENC	International Centre for ENCs
IHB	International Hydrographic Bureau
IHO	International Hydrographic Organization
IMO	International Maritime Organization
INT	INTernational (Charts) (IHO)
IOC	Intergovernmental Oceanographic Commission (UNESCO)

IPY	International Polar Year (2007-2008)
IRCC	Inter-Regional Coordination Committee (IHO)
LINZ	Land Information New Zealand
M-11	Publication “Catalogue of INT Charts” (IHO)
MS	Member State
MSR	Maritime Shipping Route
NGA	National Geospatial-intelligence Agency (USA)
NIWA	National Institute of Water and Atmospheric Research (New Zealand)
NOAA	National Oceanic and Atmospheric Agency (USA)
POBACE	Polar Ocean BATHymetry Co-ordination Effort
PWGCA	Permanent Working Group for Cooperation in Antarctica (IHO)
RHC	Regional Hydrographic Commission (IHO)
S-55	Publication “Status of Hydrographic Surveying and Nautical Charting” (IHO)
SCAR	Scientific Committee on Antarctic Research
SCUFN	Sub-Committee on Undersea Feature Names (GEBCO)
SDI	Spatial Data Infrastructure
SHIPOPS	Ship Operation Working Group (COMNAP)
SHOA	Servicio de Hidrografía y Oceanografía de la Armada (Chile)
SHOM	Service Hydrographique et Océanographique de la Marine (France)
SIO	Scripps Institution of Oceanography (USA)
SOLAS	Safety Of Life At Sea convention (IMO)
SPWG	Strategic Planning Working Group (IHO)
SSPARR	Seafloor Sounding in Polar And Remote Regions
UKHO	United Kingdom Hydrographic Office
WEND	Worldwide ENc Database (IHO)
WG	Working Group
WVS	World Vector Shoreline (USA-NGA)