

**11th Meeting of the Hydrographic Commission on Antarctica (HCA)
Hobart, Tasmania, Australia, 5-7 October 2011**

Commodore NAIRN – Speaking Notes to IAATO Meeting, Hobart, 10 May 2011

1. Thank you for giving me the opportunity to provide the IHO/HCA perspective to your 22nd IAATO meeting. (Leif Skog, Paul Beggs, Kim Crosbie and Steve Wellmeier attended out last HCA meeting – Cambridge 2010)
2. In the past 6 years that I have been involved with the HCA (changed its name 3 times Committee – Sub-Committee – Commission – cleverly without disruption because we managed to keep the same acronym HCA throughout) I have seen significant growth in the relationship between that organisation and both IAATO and ATCM. I previously provided a presentation to the 18th IAATO meeting here in Hobart to highlight the work of the HCA and the need opportunistic collection and sharing of hydrographic data in order to improve the standard of charting in the Antarctic and thus improve safety of navigation, thus supporting scientific research, Antarctic tourism and other marine activities and contributing to protection of the marine environment.
3. Last year, at your meeting in Turin, you were provided with comprehensive presentations on the challenges, benefits and progress of hydrographic surveying and charting in the ANTARCTIC by the Chair of the HCA CAPT Hugo Gorziglia and Mr Andy Willett, the Chair of the HCA Survey Prioritisation Working Group. There is not much more to add and this hear I don't intend to continue with the preaching and formal presentations but simply to follow-up on the outcomes and actions since the last HCA meeting in Cambridge last September that CAPT Skog has just briefed you on.
4. But first some comments on where we are....
5. Over the past 5 years we have tried to raise the profile of hydrography in Antarctic amongst the active Antarctic users
 1. Briefed the IAATO Meeting in Hobart in 2007
 2. A 2 hour set of presentations and discussions at the plenary session of ATCM Kiev 2007
 3. Participated at the COMNAP Council meeting in Punta Arenas – 2008
 4. Participated in Annual meeting of IAATO – Turin – 2010
6. The HCA believes that we have been successful in spreading recognition of the needs for charts but not successful in getting more data and information onto charts.
 3. GEBCO committee in Peru – agreed to support the HCA in getting academic source bathymetry and making it available for updating charts.
 4. We have not yet achieved the goal of universal discoverability and sharing of hydrographic information for the Antarctic region so that it can be usefully used on charts

5. In the past few years, HCA took on an action to engage more closely with IAATO members and in response: – Argentina, Chile and NZ – sent hydrographic surveyors to visit IAATO ships and assist with hydrographic data collection as part of their routine passage. As reported at last years HCA...as yet there is no information on the practical results of those visits – but they were at least first steps.

6. For example: NZ (LINZ) produced **an information pack** for them (being circulated) and 2 sets of charts – and briefed the ships crew on the requirements of hydrographic data collection – emphasizes that they filled in the forms and render the data electronically – ship seemed keen – but as yet no data has been received. LINZ also offered to survey the positions of the survey sensors of the vessel next time the ship was in dry dock.

7. Automatic data logging systems have opened the door to the opportunity to collect much more sounding information than in the past. HCA will continue to look into various options for auto data logging.

8. In conclusion – it is very worthwhile to use ships of opportunity to collect data, an electronic data logger would be the a good way to collect the data thought ultimately it would be better to put a surveyor on board. Any data available should be considered and assessed by the Int Chart producer nation – it is essential to collect enough metadata to enable HOs to asses the quality of that data. Zones of Confidence (ZOCs) provide the tool to apply the appropriate reliability classification to the data if it is used on a chart.

9. It is noted that IAATO has a vessel tracking system for all SOLAS passenger vessels and COMNAP has a similar system of recording ships tracks of national program vessels. With the development of suitable procedures this could be used to collect and deliver hydrographic information.

10. **HCA concluded that all rendered hydrographic information is** useful – further liaison should be pursued with IAATO vessels. An update to the data rendering form was published in June 2010 with instructions to forward the data to the IHB for forwarding to the relevant charting authority (unless direct contact with charting authority has already been established. These visits should be continued.

HCA ACTIONS RELATED TO IAATO

11. There are three Actions adopted at the last HCA that involves IAATO, to which I should follow up on:

10/1 Invite IAATO to provide available past bathymetric data available, with a view to improving decision making process with regard to hydrographic survey priority assignment. Data can be provided to the IHB or directly to the HSPWG Chair.

Outcome - The contribution from IAATO has started and data has been received at the IHB, allowing the IHB to contact with producer nations and made them aware of the existence of such information for the benefit of the INT Charts series. This is something ongoing. In fact data has been passed to the UKHO. This is a positive sign that needs to be

recognized and promoted to encourage further data submissions.

10/2 Develop further complementary future actions to implement ship visits and guidelines on the IAATO ship visit process. IHB to disseminate such procedures to relevant parties.

Outcome - Not sure of the status of this??

10/3 Coordinate the visit of hydrographic surveyors from Argentina, Australia, Brazil, Chile, New Zealand and UK through HMS Scott to IAATO ships, when calling in ports on her way to Antarctica, or in Antarctica, to advice on the collection and rendering of hydrographic data, and report experience to HCA11

Outcome - Invite IAATO to consider contacting directly with the relevant HCA Member States at all practicable port calls made before and / after heading to Antarctica to ensure fluent exchange of information so that the collection of hydrographic data be done following protocols established and to facilitate the timely delivery of the data and information collected.

IAATO Request for information on National Antarctic Chart Coverage

During the HCA10 concerns were raised by IAATO (HCA10-Information Paper) that some of the international charts did not contain the most comprehensive information. To overcome this, the following actions have been undertaken:

- a) Specific actions have been placed on member states to provide their additional survey data to the INT CHART producing nation
- b) A Catalogue of National Charts in the Antarctic has been compiled and was published in February 2011 on the HCA web site.

Hydrographic Concerns Relevant to IAATO

ENC Coverage

12. National Hydrographic Offices have been frantically working to complete ENC coverage of their coast waters and EEZs – to meet IHO timelines ahead of IMO implementation of Compulsory carriage of ECDIS. This is a definitive obligation under SOLAS Ch V and thus will get a higher national priority than completing the ENCs of the Antarctic.

13. Now that the initial ENC coverage deadline has passed and most coastal states have completed ENC coverage of their own EEZs – I would expect rapid improvement in the coverage of ENC in the ANTARCTIC – Australia will complete all it's planned ENC coverage in Antarctica before the end of this year. There is an IHO briefing on the status of ENC currently being prepared for IMO Nav in June 2011.

ECDIS PERFORMANCE

**IMO Maritime Safety Circular – 1391 of 7 Dec 2010
(arose from IMO 84th MSC highlighted some deficiencies in ECDIS performance)**

1. The Maritime Safety Committee, at its eighty-eighth session (24 November to 3 December 2010), was informed of anomalies in the operation of some ECDIS systems relating to display and alarm behaviour in particular system configurations. The anomalies were discovered by the inspection of ENC's within a small number of ECDIS systems and the Committee considered it possible that other anomalies remain to be discovered.

2 Given the widespread use and the impending implementation of the ECDIS carriage requirement, the Committee considered it important that any anomalies identified by mariners are reported to and investigated by the appropriate authorities to ensure their resolution.

3 In order to better understand the extent of the issue, the Committee agreed to invite Administrations to collect, investigate and disseminate information about ECDIS anomalies. The

Administrations or designated bodies are invited to:

- .1 encourage vessels under their flag to report such anomalies, with sufficient detail on the ECDIS equipment and ENC's, to allow analysis;*
- .2 treat the identity of the reporter as confidential;*
- .3 agree to share information with other IMO Member Governments and international organizations on request; and*
- .4 issue alerts to mariners where such anomalies might affect safety of navigation.*

4 Member Governments are invited to bring this circular to the attention of all parties concerned and report on relevant information received and experience gained to the Maritime Safety Committee.

IHO Response to the detail of the IMO Maritime Safety Circular – a workshop was held at IHB in Feb 2011 to analyse the anomalies reported – the result was an IHO paper to MSC 89 and will be discussed at IMO NAV in June - the conclusions called for:

- the requirement for software in ECDIS equipment already fitted in ships to be periodically upgraded when appropriate;
- improving mariner awareness of the need to upgrade ECDIS software; (including development of a simple test data set for mariners which will highlight if their ECDIS software is up to date to meet the current IHO Encoding and Display standards)
- improving the consistency of data encoding in ENC's; particularly in relation to reducing overlaps and consistent application of SCAMIN,
- the need for a coordinated reporting, assessment and feedback mechanism for

ECDIS-related equipment performance issues.

Additional Safety Messages:

First Message is - that an ENC is only as good as the data that it is based on – if the existing paper chart is inadequate (unsurveyed areas etc) then a derived ENC will be similarly inadequate, however the visual clues of inadequacy may not be as obvious to an unskilled operator.

Second Message is – training of ships officers in the use of ECDIS is absolutely essential to safe navigation. There are significant safety improvement available using ECDIS but not all are being taken advantage of.

Concluding Remarks

a. Next meeting of HCA will be held in Hobart, 5-7 October – IAATO representatives are invited

b. The HCA seeks continuing cooperation with IAATO in particular to:

- (i) Encourage nations with Antarctic programs to collect as much hydrographic information as possible and share that information with the International Chart producing nation (and/or the IHB).
- (ii) Keep pressure on National Governments / Hydrographic Offices to increase the priority of Antarctic Chart production.
- (iii) Encourage all ships navigating in the Antarctic to routinely collect Hydrographic information and provide it to the IHO/Charting Authority.
- (iv) Seek methods and systems to automate the data collection and simplify the rendering of the information whilst maintaining the necessary metadata to make it assessable and useful.