

**18<sup>TH</sup> CHRIS MEETING  
CAIRNS, AUSTRALIA, 25-29 SEPTEMBER 2006**

**CHRIS Report to IHC-XVII**

**REPORT OF  
THE COMMITTEE ON HYDROGRAPHIC REQUIREMENTS  
FOR INFORMATION SYSTEMS  
(CHRIS)**

- 1. Chair:** Captain Robert WARD (Australia) (2005-2006)  
Mr Ole BERG (Denmark) (2003-2004)  
Rear Admiral Neil GUY (IHB) (2002)
- Vice-Chair:** Mr Parry OEI (Singapore) (2005-2006)  
Captain Robert WARD (Australia) (2003-2004)
- Secretary:** Ing en chef. M. Huet (IHB)

**2. Membership:**

**IHO Member States.** The following Member States have been represented at some or all of the meetings and/or participated in the work of the Committee:

Australia, Brazil, Canada, Chile, China, Denmark, Ecuador, Estonia, Finland, France, Germany, Greece, Indonesia, Italy, Japan, Rep. of Korea, Netherlands, New Zealand, Nigeria, Norway, Papua New Guinea, Portugal, Singapore, Republic of South Africa, Spain, Sweden, Thailand, United Kingdom and the United States of America.

**Observers.** Representatives from the following Committees and Organisations attended some or all of the meetings as observers:

Comité International Radio Maritime	CIRM
IEC-IHO Harmonization Group on Marine Information Objects	HGMIO
The International Centre for ENC's	IC-ENC
International Council of Cruise Lines	ICCL
Inland ECDIS Harmonization Group	IEHG
PRIMAR – Stavanger	PRIMAR
The Radio Technical Commission for Aeronautical Services	RTCA
The Radio Technical Commission for Maritime Services	RTCM

**3. CHRIS Meetings:**

Shanghai, China	15-17 August 2002
Monaco	10-13 June 2003
Ottawa, Canada	28-31 May 2004

Rostock, Germany      5-9 September 2005  
Cairns, Australia      26-29 September 2006

#### **4. CHRIS Working Groups:**

Working Groups progressed work items under the CHRIS Work Programme. Details of office holders, meetings and membership are contained in Annexes A to F to this report.

Transfer Standard Maintenance and Applications      see Annex A  
Development Working Group (TSMAD)

Colours and Symbols Maintenance Working Group      see Annex B  
(C&SMWG)

Chart Standardization and Paper Chart Working Group      see Annex C  
(CSPCWG)

Standardisation of Nautical Publications Working Group      see Annex D  
(SNPWG)

Data Protection Scheme Working Group (DPSWG)      see Annex E

IHO-IEC Harmonization Group on Marine Information      see Annex F  
Objects (HGMIO)

#### **4. General**

The CHRIS has undergone a period of organisational review. This has been necessary to efficiently address the ever increasing scope of work. Defined procedures, timetables, documentation templates and business rules have all been developed to ensure consistency and to improve effectiveness. The CHRIS Work Programme is now a central part of CHRIS activity.

#### **5. Cooperation with other Organisations and Groups**

Significant advances have been made in involving the user community at all levels of the work of CHRIS and its subordinate bodies. The participation of Non-Government International Organizations and the recognition of “expert contributors” in the working elements of CHRIS continues to grow. The involvement of organizations and entities who are affected by, or can contribute to the work of CHRIS and its WGs is actively encouraged.

The continuation of “Industry Days” in 2002 and 2003, and more recently the “ECDIS Stakeholders’ Forums” conducted in 2005 and 2006 has been particularly beneficial in ensuring that CHRIS recommendations are both informed and realistic.

The combined IHO/IEC Harmonization Group on Marine Information Objects (HGMIO) has made limited progress on its declared Work Items. On the whole, it has been difficult to attract active participation.

The Transfer Standards Maintenance and Applications Development WG (TSMAD) has maintained increasingly closer links with ISO and with NATO geospatial standards organizations in order to maximise compatibility between allied standards.

## **6. Relationships with other Organizations**

A combined IHO/IEC Harmonization Group on Marine Information Objects (HGMIO) has been established and this Group will report to IEC and CHRIS with recommendations for the treatment of MIO. It is chaired by Dr. Lee ALEXANDER (University of New Hampshire, USA) and its inaugural meeting took place on 15-16 January 2002 at the University of New Hampshire, Durham, USA.

In addition to IEC Technical Committee 80 Working Group 7, in which the IHO has observer status, the IEC has established a Working Group 13 to address the harmonization of displays of shipboard navigational information.

The Digital Geospatial Information WG (DGIWG) for defence organizations of member nations and IHO have a long history of cooperation regarding the harmonization of their complementary geospatial standards for the exchange of hydrographic information. A Cooperation Agreement between IHO and DGIWG is an advanced stage of drafting (Oct 2006) and will be submitted to MS for approval shortly. Several CHRIS members participate actively in DGIWG meetings.

CIRM has actively participated in CHRIS meetings and provided a valuable manufacturers' perspective of the development, implementation and entry into force of new and revised standards affecting navigational equipment.

## **7 Technical Achievements**

Work has continued on S-57 - the hydrographic data transfer standard as well as the ENC Product Specification. This has included the maintenance and enhancement of the documentation that supports S-57. These measures are aimed at assisting data consistency, particularly for ENCs.

The future development of S57 was agreed in 2005 when the migration to an ISO compliant geospatial standard for hydrographic data to be known as S-100 was endorsed by Member States. A complementary series of Product Specifications is also envisaged. This objective was made possible in no small part through the close involvement and advice of the various stakeholder groups and expert contributors involved in the ECDIS Stakeholders' Forums and in CHRIS WGs.

S-63 - the IHO ENC Security Scheme was implemented during this reporting period.

In 2003 the former IHO Chart Standardisation Committee was incorporated in CHRIS as a subordinate body known as the Chart Standardisation and Paper Chart Working Group (CSPCWG). The CSPCWG has benefited from a much closer liaison with the Colours and Symbols Maintenance Working Group (CSMWG) whose principal task is the data presentation standards for ECDIS.

While the majority of WGs have been very successful and made substantial progress with Work Items, low participation rates in the Standardisation of Nautical Publications WG and the Colours and Symbols WG are causes for concern. It is also apparent that a number of long serving participants in WGs will shortly be retiring from public service. This may result in a significant gap in experience for certain WGs that will take some time to recover.

## **8. Future Activity of CHRIS**

In addition to the major development work involved with S-100, and the maintenance of the existing standards and technical documentation, the CHRIS will monitor and advise where appropriate on the role of Hydrographic Services with regard to geospatial data and planning infrastructure.

The CHRIS is anticipating the implementation of a new IHO Committee structure and is well prepared to form the core of the Hydrographic Standards and Specifications Committee (HSSC).

## **9. Terms of Reference**

The CHRIS last reviewed its ToRs at its 18<sup>th</sup> meeting in September 2006 where it was noted that the procedures for electing the officer bearers require revision. It is proposed that the CHRIS adopt the same procedures as those being proposed for the HSSC and the IRCC. Revised ToRs incorporating these changes are contained at Annex G to this report.

### **Proposals for adoption by 17<sup>th</sup> I.H. Conference:**

The 17<sup>th</sup> Conference is invited to:

**Approve** this Report.

**Approve** the ongoing existence of CHRIS under the Terms of Reference shown at Annex G.

**Transfer Standard Maintenance and Applications Development  
Working Group (TSMAD)**

**1. Chair:** Mr. Michael BROWN (USA) (2003-2006)  
Dr. Christopher DRINKWATER (UK) (1996-2003)

**Vice-Chair:** Mr. Barrie GREENSLADE\* (UK) (2003-2006)  
Mr. Don VACHON (Canada) (2001-2003)

\* Chair of TSMAD S-100 Sub Working Group

**Secretary:** Mr A. Pharaoh (IHB)

**2. Membership:**

**IHO Member States.** The following Member States have been represented at some or all of the meetings and/or participated in the work of the Working Group:

Australia, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Italy, Japan, Rep. of Korea, Netherlands, New Zealand, Norway, Singapore, Republic of South Africa, Singapore, Spain, Sweden, United Kingdom, United States of America and Venezuela.

**Expert contributors.** Representatives from the following Organisations and entities attended some or all of the meetings as expert contributors:

The International Centre for ENCs IC-ENC  
PRIMAR – Stavanger PRIMAR  
Caris (Canada and Netherlands)  
C-Map (Italy)  
HSA Systems (Australia)  
IDON Technologies (Canada)  
IIC Technologies (Canada)  
Joint Geospatial Support Facility (New Zealand)  
MITRE (USA)  
SevenCs (Germany)  
T-Kartor (Sweden)  
Tokimec (Japan)  
Transas (Russia)

**3. Meetings:**

Ottawa, Canada\* 3-6 June 2002  
Monaco 23-25 October 2002  
Ottawa, Canada\* 12-16 May 2003  
Wollongong, Australia 1-3 October 2003

Silver Spring, Maryland, USA*	29 March-2 April 2004
Monaco	11-12 November 2004
Durham, New Hampshire, USA*	25-29 April 2005
Wollongong, Australia	7-8 November 2005
Brest, France*	15-19 May 2006
Wellington, New Zealand	18-19 September 2006
Taunton, UK	April 2007 (to be confirmed)

\*Sub-Working Group Meeting

**Colours and Symbols Maintenance Working Group (C&SMWG)**

- 1. **Chair:** Dr Mathias Jonas (Germany)
- Vice-Chair:** vacant
- Secretary:** Mr C. Roberts (Australia)

2. **Membership:**

**IHO Member States.** The following Member States have been represented at some or all of the meetings and/or participated in the work of the Working Group:

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**Expert contributors.** Representatives from the following Organisations and entities attended some or all of the meetings as expert contributors:

3. **Meetings:**

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**Chart Standardization and Paper Chart Working Group (CSPCWG)**

- 1. Chair:** Mr Peter JONES (UK) (2003-2006)  
Dr Peter COX (UK) (2002) \*
- Vice-Chair:** Mr Jarmo MAKINEN (Finland) (2003-2006)  
M. Jean-Louis BOUET-LEBOEUF (France) (2002)\*
- Secretary:** Mr Andrew HEATH-COLEMAN (UK) (2003-2006)  
Mrs Elizabeth DUNN (UK) (2002)\*

\* as Chart Standardization Committee (CSC until CHRIS/14 (2002))

**2. Membership:**

**IHO Member States.** The following Member States have been represented at some or all of the meetings and/or participated in the work of the Working Group:

Australia, Brazil, Canada, Chile, Colombia, Croatia, Cuba, Denmark, Finland, France, Germany, Greece, India, Indonesia, Italy, Japan, Netherlands, New Zealand, Norway, Pakistan, Russian Federation, South Africa, Spain, UK, USA

**Expert contributors.** Representatives from the following Organisations and entities attended some or all of the meetings as expert contributors:

None at meetings.

Contributions by correspondence:

IALA

Trinity House (UK)

**3. Meetings:**

Monaco 3-5 November 2004 (inaugural meeting, CSPCWG)  
Monaco 19-21 October 2005  
Monaco 22-24 November 2006

**Standardisation of Nautical Publications Working Group (SNPWG)**

1. **Chair:** Mr Johannes MELLES (Germany)

**Vice-Chair:** ??????????????????

**Secretary:** ??????????????????

2. **Membership:**

**IHO Member States.** The following Member States have been represented at some or all of the meetings and/or participated in the work of the Working Group:

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**Expert contributors.** Representatives from the following Organisations and entities attended some or all of the meetings as expert contributors:

3. **Meetings:**

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**Data Protection Scheme Working Group (DPSWG)**

- 1. Chair:** Mr. Robert SANDVIK (Norway)  
**Vice-Chair:** Mr Chris SMITH (UK)  
**Secretary:** Mr Michel HUET/Mr Anthony PHARAOH (IHB)

**2. Membership:**

**IHO Member States.** The following Member States have been represented at some or all of the meetings and/or participated in the work of the Working Group:

Canada, France, Germany, Norway, United Kingdom

**Expert contributors.** Representatives from the following Organisations and entities attended some or all of the meetings as expert contributors:

ChartWorld (Germany)  
Electronic Chart Centre AS (Norway)  
IIC Technologies Private Ltd (India)  
Japan Radio Company Ltd (Japan)  
Kelvin Hughes (UK)  
SAM Electronics (Germany)  
SevenCs (Germany)  
Transas (Russia)

**3. Meetings:**

ECC, Norway\* 21-23 May, 2002  
IHB, Monaco 13-14 March, 2003  
IHB, Monaco 24-25 Nov, 2003  
IHB, Monaco 22-23 June 2004  
IHB, Monaco 31. Aug-01 Sept 2006

\*Data Protection Scheme Advisory Group

**IHO-IEC Harmonization Group on Marine Information Objects (HGMIO)**

- 1. Chair:** Dr. Lee ALEXANDER (Univ. of NH, USA) (2002-present)
- Vice-Chair:** Capt. Joseph RYAN (IEC TC80/WG13) (2002-2004)
- Secretary:** LCDR Troy TEADT (US Navy) (2002)  
 Doug Brunt (Canada) (2002-2003)  
 vacant (2004-present)

**2. Membership:**

**IHO Member States.** The following Member States have been represented at some or all of the meetings and/or participated in the work of the Working Group:

Australia, Canada, Chile, China, Denmark, Germany, Japan, Mexico, United Kingdom, Unites States of America.

**Expert contributors.** Representatives from the following Organisations and entities attended some or all of the meetings as expert contributors:

- CARIS (Canada)
- Maptech (USA)
- SevenCs (Germany)
- Tideland Marine Systems (UK)
- Tideland Signal (USA)
- Xenex Navigation (Canada) IEC TC80
- US Coast Guard
- US Navy
- National Geospatial Intelligence Agency (USA)
- IALA
- Trinity House (UK)

**3. Meetings:**

- Durham, NH, USA 15-16 January 2002
- IHB, Monaco 14 June 2003
- IHB, Monaco 27 June 2005
- Silver Spring, MD, USA 24-25 October 2006

**COMMITTEE ON HYDROGRAPHIC REQUIREMENTS  
FOR INFORMATION SYSTEMS (CHRIS)**

**Terms of Reference**

Considering the need to promote and coordinate the development of standards, specifications and guidelines for official hydrographic products and services, to meet the requirements of mariners and other users of hydrographic information, the International Hydrographic Organization (IHO) establishes a Committee on Hydrographic Requirements for Information Systems (CHRIS) with the following Terms of Reference and Rules of Procedure:

**1. Terms of Reference**

- 1.1 To monitor the requirements of mariners and other users of hydrographic information associated with development and use of paper hydrographic products and electronic information systems that may require data provided by national hydrographic authorities, and identify those technical matters that may affect the activities and products of those authorities.
- 1.2 To study and propose methods and minimum standards for the development and provision of official hydrographic data, nautical products and other related services.
- 1.3 To prepare and maintain publications to describe and promote the recommended methods, standards, specifications and guidelines as adopted by the IHO, and advise IHO Member States about implementation procedures.
- 1.4 To consider alternative procedures for the timely production of standards, for example by using external expertise when necessary.
- 1.5 To establish and maintain contact with other relevant IHO bodies, such as the Committee on WEND, the Legal Advisory Group, etc, to ensure that IHO activities are coordinated.
- 1.6 To liaise with other relevant international organizations

**2. Rules of Procedure**

- 2.1 The Committee is composed of Representatives of Member States and a representative of the International Hydrographic Bureau (IHB).
- 2.2 Accredited Non-Governmental International Organizations (NGIO's) may attend

## Committee Meetings.

2.3 Meetings shall be held at least once a year. The venue and date will be announced at least three months in advance.

2.4 Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the Committee, only Member States may cast a vote. Votes shall be on the basis of one vote per Member State represented.

2.5 ~~The length of tenure of the Chair and Vice-Chair is governed by IHO Technical Resolution T1.1.~~ The Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.

2.6 If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.

2.67 The Committee will progress its work primarily through Working Groups, each of which will address specific tasks. Working Groups will operate by correspondence to the maximum extent practicable.

2.78 Recommendations of the Committee will be submitted to the Member States for adoption through the IHB Directing Committee.