1. Using the DnV study as a basis, WEND TG to:
   1) Identify the main shipping routes for all SOLAS vessels (including HSC)
   2) Determine where gaps in ENC coverage exist for all navigational purposes (scale ranges)
      Upon completion, a report is to be submitted for consideration by WEND.

2. Based on the resolution agreed by WEND10 (see Annex 1), IHB to draft a CL containing
   clarifications on ENC distribution, government responsibility, availability, and use of the term
   “ENC”.

3. IHB to draft a letter to relevant RHCs (those regions with insufficient ENC coverage) regarding
   the importance of achieving ENC coverage. Specifically:
      - devise a small-scale ENC schema
      - develop an ENC production plan to achieve adequate coverage of priority routes

4. RENCs to report back to WEND on how to harmonize the various means of ENC distribution that
   exist between the two RENCs.

5. RENCs to report back to WEND on issues raised in the paper: “Some Reflections on the Current
   Status of ENC Distribution” (WEND10-7C).

6. IHB to include the work items agreed by WEND10 (see Annex 2) into the draft IHO Work
   Program 2008-2012.

7. IHB to draft a proposal for IHC-XVII on the “Principles and Set of Procedures for Making
   Changes to IHO Standards” (see Annex H to WEND/15 Minutes forwarded with IHO CL
   58/2003 – Attached as Annex 3).

8. IHB to draft a CL proposing a new TR A3.12 (ENC Encryption), and the revision of TR K2.19
WEND/10 Resolution

The IHO WEND committee

**Recognizes** the definition of ENC in IMO resolution A.817(19), and

**Recognizing** that ENC is intended for the purpose of providing safety of navigation data in accordance with Regulations 2 and 9 of SOLAS Chapter V,

**Adopts** the following additional clarification:

a. That the distribution of ENC must have a suitable method of authentication to confirm its source and integrity,

b. The governmental responsibility for ENC is the same as that applicable to other navigational products and services issued by or on the authority of the respective issuing government, and

c. That ENC must be made universally available in an IHO recognized non-proprietary format.

d. The term \( \text{ENC} \) must not be qualified in any way to refer to any product that is not government authorised.

For information:

**IMO Resolution A.817(19)**

**2.2 Electronic navigational chart** (ENC) means the database, standardized as to content, structure and format, issued for use with ECDIS on the authority of government-authorized hydrographic offices. The ENC contains all the chart information necessary for safe navigation, and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions) which may be considered necessary for safe navigation.
1.1.17 RHCs to work for completing adequate ENC coverage for HSC by 1 July 2008

- Strongly encourage MS to make available ENCs as required
- IHB to facilitate bilateral/multilateral cooperation or assistance through CBC
- RHCs to audit the state of completion and to report to WEND/IRCC

1.1.18 RHCs to work for completing adequate ENC coverage for all other types of vessels by [31 December 2010]

- Strongly encourage MS to make available ENCs as necessary
- IHB to facilitate bilateral/multilateral cooperation or assistance through CBC
- RHCs to audit the state of completion and to report to WEND/IRCC

1.1.19 RHCs to work for completing adequate ENC coverage schemes by [31 December 2008]

- Strongly encourage MS to develop national ENC coverage scheme
- IHB to facilitate bilateral/multilateral cooperation, or assistance through CBC
- RHCs to audit the state of completion and to report to WEND/IRCC

3.3.7 RHCs to work for ensuring ENC consistency to achieve a common level of IHO data quality by [end of 2010]

- Strongly encourage MS to work together on achieving ENC consistency across national boundaries
- RHCs to audit the state of consistency in their regions and to report to WEND/IRCC
PRINCIPLES AND PROCEDURES
FOR MAKING CHANGES TO IHO TECHNICAL STANDARDS
ADMINISTERED BY CHRIS

(as approved by the 13th CHRIS Meeting, Athens, Greece, 17-19 September 2001
and amended at the 15th CHRIS Meeting, IHB, Monaco 10-13 June 2003)

Principles

Improvements to standards and systems can only occur by change. However, change can lead to problems such as incompatibility between systems, high updating costs, market monopoly, dissatisfied users, or increased risk to safety of navigation. These principles have been developed to avoid these circumstances.

A. Any proposed changes to existing standards should be technically assessed and commercially evaluated before approval.

B. Assessment should involve all relevant parties including IMO, maritime administrations, manufacturers, distributors, users, etc.

C. Changes should be "backwards compatible", or the existing version must be supported for a specified time.

D. If changes are required for the basis of product enhancement rather than for safety of navigation, then the previously approved system must be allowed to continue to be used at sea for a sufficient time to allow changes to be implemented on board.

E. If not already specified by IMO, the timeline for making changes should be defined.

F. In exceptional cases (e.g., is dangerous for safety of navigation), it may be necessary to make immediate changes to shipborne systems.

G. All interested parties should be encouraged to "continuously improve" IHO technical standards. All rejected proposals should therefore have a proper explanation.

H. Principles of a quality management system should be followed.

Procedures

These procedures are recommended to ensure that any proposed changes are properly assessed and implemented. The procedures should be simple to encourage their use.

1. All parties may submit a "change proposal" to IHB for logging and processing.

2. The "change proposal" must contain a justification for the change, a recommended action list and a proposed time frame for implementation. This should adhere to the “Instructions for Submission of Proposals to CHRIS and CHRIS subsidiary bodies”.

3. The IHB forwards the "change proposal" to CHRIS for evaluation and decision.
4. CHRIS will either reject or accept the proposal. If accepted, CHRIS will involve all the relevant bodies in assessing the proposal and planning any subsequent work. If rejected, it will be returned to the originator with the reasons.

5. Accepted proposals will be assigned to the CHRIS work program. Depending on the urgency, it may be for immediate action or deferred until a later date.

6. Following approval, a “progress report” should be issued after each milestone. At the end of the process, a change note should be issued to relevant bodies providing a summary of changes, documents affected, a recommended action list, and the timetable for implementation.

7. Relevant bodies include representation from maritime administrations, or manufacturers, distributors and users. In particular, liaison with professional organizations (e.g., CIRM, IALA, ICS, etc.) is encouraged.
Annex 4

IHO DATA PROTECTION SCHEME (S-63)

Extract from the draft minutes of WEND/10

Ken Barbor (IHB) introduced the paper on the IHO S-63 Data Protection Scheme (see WEND 10-4C). A new technical resolution A3.12 (ENC Encryption) on the matter was submitted to MS (IHO CL 31/2006). He mentioned that it was only a few votes shy of being approved by MS, and thus has not be formally adopted.

RAdm. Rao (India) stated it is not entirely clear if ENC encryption is mandatory. If so, must S-63 be used? Horst Hecht (Germany) responded that based on the WEND Principles, S-63 should be used. Norway stated that IHO can not make this mandatory, only a recommendation. Robert Sandvik (Chair, DPWG) confirmed that S-63 is the recommended security scheme for ENC data. HOs can choose to use or not use S-63.

Chair stressed the need to review the revised technical resolution wording. The meeting supported IHB suggestion that the first two paragraphs that were initially proposed to MS be retained in TR A3.12 as follows:

1. It is resolved that the IHO Data Protection Scheme, as described in Publication S-63, is the IHO recommended security scheme for ENCs.
2. It is further resolved that the IHB, as IHO Secretariat, will act as Scheme Administrator for S-63.

For the third paragraph, it was agreed that it would be more appropriate as a revision of WEND Principle 2.11 (TR K2.19 refers). As reflected in WEND 10-4C, two potential wordings were discussed. After some discussion, it was agreed that revised wording would be:

2.11 Member States should work together so that the IHO Data Protection Scheme (S-63) is used for ENC distribution to end users, to ensure data integrity, to safeguard national copyright in ENC data, to protect the mariner from falsified products, and to ensure traceability.