



International Standards for ECDIS and AIS: An Update

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What is an ECDIS?

- To be called an “ECDIS”, it must:
- conform to IMO Performance Standards
 - use IHO S-57ed3 ENC data
 - display to IHO S-52 Colours & Symbols
 - be typed-approved (IEC 61174)

IMO Performance Standard

- ☞ formally adopted on 23 Nov 95
- ☞ issued as IMO Res.A.817(19)
- ☞ can be considered to be the functional equivalent of chart requirements in SOLAS

V/20

IMO Performance Standards

Amendments:

- ☞ Backup Arrangements (Appendix 6)
 - Nov 1996
- ☞ RCDS Mode of Operation (Appendix 7)
 - Dec 1998

Raster Chart Display System (RCDS)

- adopted by IMO in Dec 1998

ECDIS --> RCDS mode of operation

- now Appendix 7 to IMO PS
- must be used with paper charts

Other IMO ECDIS-related Standards

☞ **Revisions to SOLAS dealing w/ ECDIS**
– will not be a carriage requirement

☞ **ECS Guidelines**
– not deemed necessary at IMO NAV 44

IMO Model ECDIS Training Course

- ☛ approved by IMO STW in Jan 99
- ☛ published as IMO Model Course 1.27

Primary Objective:

ensure proper use and operation of ECDIS in terms of a thorough understanding and appreciation of capabilities and limitations

IHO Standards

IHO S-52

**IHO Specification for Chart Content and
Display of ECDIS**

- updating, colours and symbols, glossary

IHO S-57, Edition 3

IHO Transfer Standard for Digital

Hydrographic Data

- object catalog, DX90 format, ENC Product Spec, ENC updating profile

IHO Committees

CHRIS

Colours & Symbols

TAWG

TSMAD

WEND

North European RENC (PRIMAR™)

SHARED Program

IEC 61174

ECDIS - Operational and Performance Requirements, Methods of Testing and Required Test Results

- ☞ officially published by IEC in August 1998
- ☞ basis for type/approval certification process for an IMO-compliant ECDIS
- ☞ 2nd Edition dealing with RCDS and Back-up arrangements expected in 2001

IEC 61174

Maintenance Cycle: 2-8 years

☞ **Maintenance Team 1 - established July 1999**

☞ **Work Program:**

Back-up Arrangements

RCDS Mode of Operation

IHO C&S Specs

Navigation Symbols (Radar/ARPA, AIS, VTS)

ENC Test Dataset

AIS Standards

Four different Organizations involved:

IMO - Performance Standards

- What is Required

ITU - Technical Characteristics

- How to Achieve

IEC - Methods of Testing

- Certification Process

IALA - Operational Guidelines

- How to Use

AIS Performance Standards

**IMO Resolution MSC.74(69), Annex 3
Recommendations on Performance Standards for
Shipborne Universal Automatic Identification
Systems (AIS)**

– adopted 11 May 1998

AIS Technical Standards

ITU-R Recommendation M.825-2

Characteristics of a transponder system using DSC techniques for use with VTS and Ship-to-ship identification

ITU-R Recommendation M.1371

Technical Characteristics for a Universal Shipborne Automatic Identification System Using Time Division Multiple Access in Maritime Mobile Band

- approved November 1998
- is the technical standards for (U)AIS

AIS Testing/Certification Standards

IEC 61993, Part 2

**Universal Shipborne Automatic Identification System (AIS)
Operational and Performance Standards, Methods of
Testing and Required Test Results**

- scheduled to be completed in early 2001
- will be basis for type-approval

AIS - Operational Guidelines

IALA - AIS Sub-committee

Draft Guidelines for the Operational Use of Universal Shipborne Automatic Identification System

- considered at IMO NAV 46
- Sub-committee will meet again in September 2000
- will likely be adopted by IMO in 2001

Need for International Pilot Project for ECDIS and AIS

- ☛ At-sea testing/
validation should
occur **before**
finalization of
standards
- ☛ ECDIS and AIS will
be used together
(navigation and collision
avoidance)

