12th CHRIS MEETING
Valparaiso, Chile, 23-25 October 2000

INTERNATIONAL ELECTROTECHNICAL COMMISSION

TECHNICAL COMMITTEE No.80:

Maritime navigation and radiocommunication equipment and systems

Maintenance Team 1:
IEC 61174 (1998-08, Electronic chart display and information system, ECDIS)

Report of 2nd Meeting held at U.S. Coast Guard Navigation Center, Alexandria, Virginia USA on 3–4 May 2000.

1. Introduction

The two-day meeting was attended by 16persons, with representatives from 7 countries and one international organization. LT Dan Mades, Convenor, welcomed everyone. Dr. Lee Alexander agreed to take the minutes of the meeting.

Attendance List

Country	Last Name	First Name	Organization
USA	Alexander	Lee	University of NH
Germany	Arnim	Hans-Karl v	BSH
UK	Drinkwater	Chris	UK HO
USA	Enabnit	Dave	NOAA/Coast Survey
USA	Fogler	Joseph G.	Litton Marine
USA	Ganjon	Fred	AFFECT
Norway	Holm	Eivind	MARIS
Norway	Larsen	Per	DNV
USA	Mades	Dan	USCG NAVCEN
USA	Mathieu	Charles	USCG C2CEN
Finland	Peiponen	Hannu	ASPO
Canada	Reed	Fred	Offshore Ltd
USA	Roeber	Jack	Litton Marine
USA	Ryan	Joseph	USCG C2CEN
UK	Taylor	Martin	Kelvin Hughes
Australia	Ward	Robert	AUS HO

2. Approval of the Agenda

The Preliminary Agenda distributed on 21 April 00 was agreed with minor modifications.

3. Status of Work

The various Task Leaders gave progress reports for each of the seven (7) tasks in the work program.

Task 1 - Incorporation of RCDS – Chris Drinkwater
Chris Drinkwater and Dave Enabnit reviewed the contents of current draft document (MT1-1-991021). Matters pertaining to RCDS will become new Sections 7-9 of IEC 61174. Mention was made of the need to complete an RNC test data set containing both UK ARCS and NOAA BSB (Maptech) formats. This will be coordinated between UK, USA and Australia. There was some discussion on whether manual update procedures for an RNC should be the same as those required for an ENC.

Task 2 - Incorporation of Back-up Arrangements – Per Larsen
Per Larsen explained how he approached the development of Back-up Arrangements for both the ECDIS and RCDS mode of operation. Several drafts and comments to each had been prepared during the past three months. He also prepared a table that explained how he dealt with each of the comments/suggestions received.

Task 3 - Navigation-related Symbols – Lee Alexander
Lee Alexander provided a copy of a new AIS symbols set that had been developed by FGAN (Germany). These symbols will be tested in both a ship's simulator and at-sea during the next 6-9 months. It is also expected that trials will take place in Singapore, USA, and Korea. The goal is to have a draft set of "harmonized" set of navigation symbols (e.g., own ship, radar/ARPA, AIS, and VTS) by November 2000.

Task 4 - Colours and Symbols – Hannu Pieponen
Hannu Pieponen discussed the status of efforts to refine some of the colour calibration procedures. Specific mention was made that he received favorable comments on this matter from Julian Goodyear (Chairman of IHO C&S Maintenance Working Group). New colour calibration procedures recommended by BSH were not agreed to. It was felt that this should be left to the discretion of a test house.

Task 5 - ENC Test Dataset – (IHO Representative)
On behalf of RADM Neil Guy (IHB) who could not attend, Lee Alexander and Chris Drinkwater provided a brief update. IHB will recommend a list of QC/QA tests to be performed on the ENC Test Data Set. Comments received from Litton-Sperry Marine and BSH Germany have been addressed by IHB. A list of test instructions must be developed for use with the test data set.

Task 6 – Encryption Issues (IHO Representative)
On behalf of IHB, Lee Alexander explained the status of a possible IHO standard relating to ENC Security Schemes (e.g. encryption). He made specific mention of a paper that had been prepared by an IHO Technology Assessment Working Group (TAG) on overall security schemes. A copy of this paper is posted on the IEC TC80/MT1 FTP Site under Task Group 6. To date, IHO has deferred making a decision on encryption. However, this matter will be again discussed at the November 2000 meeting of the IHO CHRIS.

Task 7 – Miscellaneous Improvements – Martin Taylor
Martin Taylor explained the scope of his efforts to make minor revisions/improvements to the current IEC 61174 document. Several versions have been produced incorporating the comments received. New scenarios to be used for testing both ENCs and RNCs will become Annex I. These scenarios can also be used for ECDIS testing in a track-control mode of operation (e.g., ECDIS as a part of an overall Integrated Navigation System (INS).

4. **Rules and Procedures**
Dan Mades explained the intended organization of the IEC TC80/MT1 FTP site. Recognizing that there were several different formats, naming conventions, and methods of comment submission, the documents were organized, renamed where appropriate, and a revised process for submitting text changes/comments was agreed:

a. Comments to new section of IEC 61174 document should be submitted to the appropriate Task Leader.

1) The Submitter should capture actual text and make recommended changes/comments using a contrasting color (using the MS Word Track Changes Tool and setting the Highlight Changes Options to "By author")

2) The Task Leader will address these modifications in the next version of the master document

3) The Task Leader will then notify all MT-1 members that a new version of the master document exists

4) The Task Leader should also prepare a table that indicates how he/she dealt with the recommended changes/comments that were submitted.

b. Under this scheme, there will be a clear distinction between the new draft text of IEC 61174 (master document), comments/suggested revisions to the draft text, and information papers on the topic. The "master document" is the current version in which the Task Leader has addressed the various comments received.

5. **Work Accomplished**

a. Incorporation of RCDS Test Procedures

A thorough review of new draft sections 7-9 of IEC 61174 was performed. The changes will be incorporated into the next CDV. Chris Drinkwater will perform further modifications (mostly minor). An additional review will be made by Martin Taylor to incorporate the wording from the miscellaneous improvements (Task 7).

b. Back-up Arrangements

1) Per Larsen explained how he prepared a table on comments received and the recommended action for each. He then introduced a separate section each for ECDIS and RCDS mode of operation. However, following a brief overview on how he proposed to progress with the work (e.g., approach/structure), there was considerable discussion regarding what constitutes "adequate" back-up arrangements.

2) Robert Ward felt that it might be premature for IEC TC80/MT1 to come up with a technical solution prior to a determination of what actually constitutes a back-up "system" (i.e., what are the options?). For instance, it was not clear what are the various options in terms of who decides, how, and when. Only after this was decided, should IEC then devise test procedures.

3) Lee Alexander made mention that adequate back-up arrangements were addressed in an article published by Dr. Mathias Jonas in 1996 (this article is an information paper on the FTP site under MT-2). He also pointed out that three options were listed in the report of the initial IEC TC80/MT1 meeting (rev 1) in London on 7 July 99:
   a) radar with chart display
   b) an electronic chart system
   c) paper charts

5) Martin Taylor felt it would be useful to consider what has happened with current type-approval process for backup equipment (e.g., what has BSH done?).

6) A majority of the group felt that the specification of equipment should either be made by the IMO, left to existing IEC Standards (e.g., future publication IEC 60936-3, "Shipborne Radar with Chart Facilities" and future publication IEC 60936-4 "Radar – ECDIS Back-up") or left to regulatory authorities (e.g., ECS).

7) It was eventually decided to keep the requirements more generic, non-specific enough to support any equipment option. Significant progress was made in this regard. Final review of Annex G IEC 61174 will be performed by Per Larsen. An additional review will be made by Martin Taylor to incorporate the consistent wording from the miscellaneous improvements (Task 7).

c) Color Calibration Procedures

Refined procedures were agreed and will be incorporated into the next CDV.

d) Miscellaneous Improvements

Recommended revisions/refinements to the overall IEC 61174 document were reviewed and agreed, and will be incorporated into the next CDV.

5. **Future Work**

Future work is to be conducted via FTP site and e-mail correspondence, strictly adhering to the agreed conventions, both naming and comment submission. The following actions pend:

a. Merge Task-1 (RCDS) , Task-2 (Back-up), Task-4 (Colour Calibration) and Task-7 (Misc. Improvements) documents into one "consolidated" draft CDV version of IEC 61174 Edition 2. This work will be performed by Joe Ryan and is to be completed by mid-June.

b. This consolidated version will be circulated for a week comment period among the Maintenance Team membership (as defined by the Convenor's mailing list). Comments at this point should be limited to minor/editorial, substantive objections being reserved for the formal international voting process.

c. The respective Task Group Leaders will then address team comments in time for submission of the draft CDV to the IEC TC80 Secretariat (Michael Rambault) by 1 July.

6. **Next Meeting**

The next meeting of IEC TC80/MT1 is tentatively scheduled for March 2001. The main tasks will include:

a) Addressing any comments received on the CDV

b) Finalizing the ENC and RNC test data sets

c) Reviewing/incorporating "harmonized" navigation symbols

7. Other Business

None. The meeting was closed by LT Mades, who thanked all for the spirit of cooperation and for the good work accomplished in such a short time.

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