



Economic and Social Council

Distr.: General
15 April 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

Working Party on Inland Water Transport

Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation

Forty-seventh session

Geneva, 24–26 June 2015

Item 6 (d) of the provisional agenda

Establishment of common principles and technical requirements for pan-European River Information Services (RIS):

Recommendation on Electronic Chart Display and Information System for Inland Navigation (Inland ECDIS) (Resolution No. 48)

Amendments proposal to the Recommendation on Electronic Chart Display and Information System for Inland Navigation (Inland ECDIS) (Resolution No. 48)

Transmitted by the Inland ECDIS Expert Group (European Commission)

I. Mandate

1. This document is submitted in line with cluster 5: Inland Waterway Transport, paragraph 5.1 of the programme of work 2014–2015 (ECE/TRANS/2014/23) adopted by the Inland Transport Committee on 27 February 2014.

II. General amendments proposals

A. Introduction

2. The general amendments are based on the experiences with Inland ECDIS which have shown that some objects that are important for inland navigation cannot be encoded in the electronic charts at the moment. It is therefore necessary to add some features, attributes and enumerations to the existing Feature Catalogue for Inland ENC and to describe their use in amendments of the Encoding Guide for Inland ENCs. As far as possible the Inland

ECDIS expert group has used elements of the S-57 standard for maritime ENCs to ensure compatibility. The new elements are not mandatory, they are just options that can be used by chart producers if needed. To ensure the correct display of the new elements it is also necessary to amend the presentation library for Inland ECDIS.

3. The Inland ECDIS standard which has been adopted by UNECE as Resolution No. 48 has also been published by CCNR and as Commission Implementing Regulation (EU) No 909/2013 by the European Union. At the moment there are editorial differences in the wording of the three versions. The proposal of the Inland ECDIS expert group for general amendments is therefore also including editorial amendments to harmonize the three versions (e.g. the replacement of the term "ship" with the term "vessel").

4. The general amendments include:

- Amendments of the Annex of Resolution No. 48 (which is currently available in English, French and Russian language);
- An amended Appendix 1.0, Product Specification for Inland ENCs;
- An amended Appendix 1.1, Feature Catalogue for Inland ENCs;
- An amended Appendix 1.2, Encoding Guide for Inland ENCs;
- An amended Appendix 2.0, Presentation Library for Inland ECDIS;
- An amended Appendix 2.1, Lookup Tables;
- An amended Appendix 2.2, Symbols.

5. The appendices of Resolution No. 48 have only been published in English, because they are only used by software companies (Inland ECDIS Application builders) and some of them are digital parts that cannot be translated. The amended appendices are therefore submitted in English only.¹

6. Appendix 2.0 is not only affected by the general amendments, but also by the amendments regarding bathymetric Inland ENCs. The Inland ECDIS expert group is therefore transmitting a list of the general amendments of Appendix 2.0 and a consolidated version of the amended Appendix 2.0.

7. The Inland ECDIS expert group kindly asks the working party SC.3/WP.3 to discuss the proposal and to forward it to SC.3 for a formal adoption in November 2015.

B. Amendment proposals to the Annex²

1. Part D, Section 1

8. Chapter 2

Replace "2. Definitions" with "2. References"

9. Chapter 2.1

Delete chapter 2.1 and its footnote, because all the terms are defined in Section 5: Glossary of Terms.

¹ Note by the secretariat: the amended appendices are available at www.unece.org/trans/main/sc3/wp3/wp3doc_2015.html.

² Additions to the original text are indicated in bold, while text to be deleted has been struck through.

10. Chapter 2.2
Delete the heading "2.2 References"
11. Chapter 2.2, paragraph 2.2 (c)
Replace "Edition 3.0, December 1996" with "Edition 4.0, April 2012" because IHO has published a newer version of S-52
12. Chapter 2.2, paragraph 2.2 (f)
Amend paragraph 2.2 (f) as follows
(f) EU Directive 2006/87/EC as amended by 2013/49/EU and Article 7.06 and Annex M of the Rhine Vessel Inspection Regulation laying down technical requirements for inland waterway vessels, Annex IX, Parts III to VI, "Requirements applicable to signal lights, radar installations and rate-of-turn indicators"
13. Chapter 2.2, paragraph 2.2 (g)
Delete paragraph 2.2 (g) because the reference to the Rhine regulations is no longer necessary.
14. Chapter 2.2, paragraph 2.2 (h)
Amend and renumber existing paragraph 2.2 (h) as follows
(~~hg~~) IHO Special Publication S-32, Appendix 1 "Hydrographic Dictionary – Glossary of ECDIS-related Terms", ~~September 2007~~
Add new paragraph 2.2 (h) as follows
" (h) EN 60945 (2002) + corr1 (2010): Marine navigational equipment; General requirements — Methods of testing and required test results."
15. Chapter 4.3, paragraph (b)
Replace "ship's" with "vessel's"
16. Chapter 4.6, paragraph (b)
Replace "ship's" with "vessel's"
17. Chapter 5.2, paragraph (a)
Replace "ship's" with "vessel's"
18. Amend Chapter 5.2, paragraph (j), as follows
(j) In navigation mode the data according to Chapter 3.1 (c), **first to seventh indent**, of this Section shall always be visible and shall not be obscured by other objects. **The transparency of the radar overlay shall therefore be user defined.**
19. Chapter 5.2, paragraph (p)
Replace "IEC 62288 Ed. 1" with "IEC 62288 Ed. 2"

2. Part D, Section 2a

20. *Amend paragraph (a) as follows, because the registration of producer codes via the ienc.openecdis.org website is no longer possible:*
(a) Codes for producers of Inland ENC's as well as the registration procedure are ~~available at <http://ienc.openecdis.org>, if they are not already~~ those mentioned in IHO S-62.

21. Amend paragraph (b) as follows:

(b) ~~If Administrations or private companies which produce Inland ENC~~s and which are not already mentioned in IHO-S-62 and administrations or private companies **which** decide to produce Inland ENC, ~~they must~~ **shall** register a producer code at the S-100 registry of IHO at ~~http://registry.iho.int~~ <https://registry.iho.int/navbar.html>.

22. Amend paragraph (e), as follows:

<i>Waterway Code</i>	<i>Waterway Name</i>	<i>Remark</i>
AK	Albertkanaal/Canal Albert	
AKL	Afleidingskanaal van de Leie	
BA	Balaton	
BCR	Branche de la Croyère	
BED	Benedendijle	
BEN	Beneden-Nete	
BEZ	Beneden-Zeeschelde	
BH	Kanaal Bocholt-Herentals	
BK	Boudewijn Kanaal	
BLO	Branche de La Louvière	
BME	Basse-Meuse	
BN	Kanaal Briegden-Neerharen	
BOS	Bovenschelde	
BOZ	Boven-Zeeschelde	
BSK	Berlin-Spandauer Schiffahrtskanal	including Westhafenkanal and Charlottenburger Verbindungskanal
BZ	Beneden Zeeschelde	
CCB	Canal Charleroi- Bruxelles/Kanaal Brussel - Charleroi	
CCG	Canal du Centre à Grand Gabarit	
CHV	Canal de Haccourt à Vise	
CLA	Canal de Lanaye	
CMO	Canal de Monsin	
CPC	Canal Pommeroeul-Conde	
D	Danube	including Sulina branch
DA	Danube Chilia branch	
DB	Dunarea Barcea	
DCC	Danube Cernovoda canal	
DDT	Dijledoortocht	
DE	Dortmund-Ems Kanal	
DD	Desna	
DN	Dnipro	

<i>Waterway Code</i>	<i>Waterway Name</i>	<i>Remark</i>
DNP	Przpiat	
DNS	Sula	
DNV	Vorskla	
DEN	Dender	
DHK	Datteln-Hamm Kanal	
DKW	Kanaal Dessel- Kwaadmechelen	
DR	Drava	
DTS	Kanaal Dessel-Turnhout- Schoten	
DUK	Rackevei-Duna	
DUM	Mosoni-Duna	
DUR	Gekanaliseerde Durme (Beneden-Durme)	
DUS	Szenterei-Duna	
DV	Dunarea Veche	
EL	Elbe	
EH	Elbe-Havel-Kanal	
EMS	Ems	
EPP	Embranchement Principal	
ES	Elbe-Seiten-Kanal	
EV	Estuaire Vaart	Estuary shipping between Zeebrugge and Dutch border
GA	St. Gheorghe-Arm	
GMO	Grand Large de Mons	
GPE	Grand Large de Péronnes	
HES	Haut-Escaut	
HO	Havel-Oder-Wasserstraße	including Westoder
IJZ	Ijzer	
KB	Kanaal naar Beverlo	
KBK	Kanaal Bossuit-Kortrijk	
KGO	Kanaal Gent-Oostende	
KGT	Kanaal Gent-Terneuzen	
KK	Küstenkanal	
KLD	Kanaal Leuven-Dijle	
KND	Kanaal Nieuwpoort- Duinkerken	
KPN	Kanaal Plassendale- Nieuwpoort	
KRL	Kanaal Roeselare-Leie	
KVE	Kanaal van Eeklo	

<i>Waterway Code</i>	<i>Waterway Name</i>	<i>Remark</i>
LOK	Lokanaal	
LS	Leie/Lys River	
MA	Main	
MD	Main-Donau-Kanal	
ME	Müritz-Elde-Wasserstraße	
MEU	Meuse/Maas	
ML	Mittelland-Kanal	
MMI	Meuse Mitoyenne Sud	
MO	Mosel	
MOE	Moervaart	
N	Dnipro	
NBP	Canal Nimy-Blaton-Peromes	
ND	Desna	
NE	Neckar	
NOK	Nord-Ostsee-Kanal	
NPR	Prypiat	
NSU	Sula	
NTK	Netekanaal	
NVO	Vorskla	
OD	Oder	
OL	Olt	
PB	Pivdennyi Buh	
PK	Plassendale Kanaal	
RH	Rhine	
RHK	Rhein-Herne-Kanal	
RL	Nederrijn/Lek	
ROG	Ringvaart om Gent	
RU	Ruhr	
RUP	Rupel	
SA	Sava	
SAM	Sambre	
SE	Schelde	
SI	Sio-chatorna	
SKH	Stichkanal Mittelland-Kanal- Hildes-heim	
SKL	Stichkanal Mittelland-Kanal- Hannover-Linden	
SKO	Stichkanal Mittelland-Kanal- Osnab-rück	
SKS	Stichkanal Mittelland-Kanal- Salzgitter	

<i>Waterway Code</i>	<i>Waterway Name</i>	<i>Remark</i>
SL	Saale	
SM	Smeermaas	
SO	Spree-Oder-Wasserstraße	
SPI	Spierekanaal	
SR	Saar	Currently SA is used; this will be changed to SR in the next edition
SRV	Schelde-Rijnverbinding	
TI	Tisza	
TLE	Toeristische Leie (Leie)	
UH	Untere Havel-Wasserstraße	
UWE	Unterweser	from km Uwe 0,00
VKN	Verbindingskanaal Nieuwpoort	
WA	Waal	
WDK	Wesel-Datteln-Kanal	
WE	Mittelweser	until km 366,65/UWe 0,00
ZBS	Zeekanaal Brussel-Schelde	
ZUL	Vertakking van Zulte	
ZWV	Zuid-Willemsvaart	

3. Part D, Section 3

23. Chapter 2.1

Number paragraphs beginning with the sentences *as follows*

"2.1.1 The major components of the S-52 presentation library are:"

"2.1.2 Inland ECDIS must use all S-52 components plus extensions in:"

24. Chapter 2.2

Number paragraphs beginning with the sentences *as follows*

"2.2.1 For each geometry type (point, line, area) there is a separate look-up table. Each entry in a look-up table consists of the following fields:"

"2.2.2 The Presentation Library provides five look-up tables:"

25. Chapter 2.4

In the third paragraph, *replace* "ship" *with* "vessel"

4. Part D, Section 4

26. *Amend chapter 1.1 as follows*

~~1.1—Subject Matter of this Section~~

This section specifies the minimum requirements contained in Section 1 of these technical specifications and describes the test procedures and the required results concerning the hardware, the software, the functions, the operation, the display and the interfaces to other equipment on board of ~~ships~~**vessels**.

27. *Delete chapter 1.2 because all references are now covered by section 1.*

28. *Add at the end of chapter 4.3, paragraph (c)*

"The transparency of the radar overlay shall therefore be user defined."

29. *Amend chapter 4.3 paragraph (f), chapter 4.4 paragraph (b) and chapter 4.5 paragraphs (a) and (b) as follows*

Replace "ship's" with "vessel's"

30. *Chapter 4.5*

Replace in the heading "Ship's" with "Vessel's"

31. *Amend chapter 4.9 as follows*

"At least the colour combinations included in the IHO S-52 ~~Annex A, Presentation Library for ECDIS, Chapters 4 and 13 (Colour Tables) for bright sun, day white background, day black background, dusk and night must~~ **Presentation Library, 6.0 (colour tables) for day, dusk and night shall** be supported."

32. *Amend chapter 5.1 paragraph (a), chapter 5.2 paragraph (a) and chapter 8.3 as follows*

Replace "ship" with "vessel"

33. *Amend chapter 5.3, paragraph (b) and chapter 8.1 paragraph (a) as follows*

Replace "NMEA 01/83" with "IEC 61162-1"

5. Part D, Section 4a

34. *Chapter 2.1.1.1*

Replace "Ship's" with "Vessel's"

35. *Chapter 2.1.1.2, first sentence and paragraph (a)*

Replace "Ship's" with "Vessel's"

36. *Chapter 2.1.3, first paragraph*

Replace "NMEA 01/83" with "IEC 61162-1"

6. Part D, Section 5

37. *Amend chapter 1 as follows*

1. Sources **used to define the terms and abbreviations provided in the text**

38. *Amend* chapter 1, paragraph 9 *as follows*
Annex IX, Parts III to VI, of the EU Directive 2006/87/EC **as amended by 2013/49/EU**: Requirements applicable to radar installations and rate-of-turn indicators
39. Chapter 2, in the table of definitions, *replace* the term "Own-ship" *with* "Own-vessel"
40. Chapter 2, in the table of definitions, *replace* the term "Own ship's safety contour" *with* "Own vessel's safety contour" and *replace* "ship" *with* "vessel" in its definition.

III. Amendment proposals on the introduction of minimum requirements for Inland ECDIS in information mode

A. Introduction

41. As the third part of the proposals for an amendment of Resolution No. 48 Revision 2 the Inland ECDIS expert group is transmitting the proposal to introduce minimum requirements for Inland ECDIS in information mode. One country has already introduced a carriage requirement for Inland ECDIS and several other countries are considering introducing carriage requirements. Resolution No. 48 in its second revision contains a type approval for Inland ECDIS in navigation mode, but only recommendations for Inland ECDIS in information mode. There is a risk that different countries introduce different minimum requirements for Inland ECDIS in information mode if the standard does not define a minimum level.

42. The Inland ECDIS expert group has therefore developed a proposal regarding minimum requirements for Inland ECDIS in information mode. A type approval is not foreseen for this type of Inland ECDIS because it is only an information system and not a navigation system. The manufacturer shall be responsible for the declaration of conformity of his product with the minimum requirements and for providing on request the documentation on conformity to the competent authorities and to the users. This approach is justified because even pleasure craft and personal watercraft for inland waterways may be "certified" by the producer.

43. The Inland ECDIS expert group cannot introduce any carriage requirements or mandatory standards by itself and has not included any transitional provisions for existing Inland ECDIS equipment for information mode in its proposal. But the expert group recommends to the international organizations and to the competent authorities to introduce transitional provisions which ensure that the minimum requirements for information mode are only applicable for new applications and existing Inland ECDIS applications for information mode can be used until they are replaced.

44. The Inland ECDIS expert group kindly asks the Working Party SC.3/WP.3 to discuss the proposal and to forward it to SC.3 for a formal adoption in November 2015.

B. Amendment proposals to the Annex³

1. Part D, Section 1

45. Amend chapter 3.1, paragraph (c) *as follows*

(c) ~~If the chart is intended to be used for navigation mode,⁴~~ **At least the following features must be included in the Inland ENC:**

46. *At the end of chapter 3.1, add paragraph (e) as follows*

(e) The SENC shall be stored in the Inland ECDIS.

47. Amend the title of chapter 4.1 *as follows*

4.1 Display Requirements **and Recommendations**

48. Amend chapter 4.1 paragraph (b) *as follows*

(b) The display size of the chart presentation must be at least 270 mm by 270 mm for equipment designed and admitted for the navigation mode. In information mode ergonomic aspects must determine the size. **The information displayed must be readily visible from the conning position:**

- **Alphanumeric data and text should be presented using a clearly legible non-italic, sans-serif font;**
- **The font size shall be appropriate for the viewing distance from user positions (i.e. with respect to reading distance and viewing angles) likely to be experienced in the wheelhouse of a vessel;**
- **The character height and the size of AIS symbols in millimetres shall not be less than 3.5 times the nominal viewing distance in metres;**
- **The minimum size of AIS symbols and the minimum character height of AIS information should be 3.5 mm;**
- **The manufacturer's documentation shall identify the nominal viewing distance for the display equipment;**
- **For the size of the display it is recommended to use the size as specified for navigation mode in this standard. In case space for the installation of the display is an issue the display size might be reduced taking into account the nominal viewing distance for the display. In any case, the display diagonal may not be smaller than 199 mm (7.85 inch). Under all conditions the shipmaster must be capable to perceive the displayed information sufficiently;**
- **If the software is sold without display the manufacturer's documentation shall include the information that it may only be used as Inland ECDIS in Information mode if the display fulfils the requirements of this chapter 4.1.**

49. Amend chapter 4.2 paragraph (a) *as follows*

(a) In information mode,⁶ it is recommended to use the same ranges as specified in navigation mode. **all scales and ranges are allowed.**

³ Additions to the original text are indicated in bold, while text to be deleted has been struck through.

50. Amend chapter 4.8 paragraph (b) *as follows*
- (b) **The Inland ECDIS in navigation mode shall** ~~must~~ provide an indication whether the display uses a smaller display range than the accuracy of the Inland ENC data offers (over-scale indication).
51. Amend chapter 5.1 paragraph (c) *as follows*
- (c) It ~~must~~**should** be possible to scroll the chart manually on the screen with the fairway axis in line with the vertical screen axis.
52. Add to chapter 5.1 the paragraphs *as follows*
- (f) Information regarding AIS base stations, AIS Aids to Navigation (ATON) and AIS Search and Rescue Transmitters (SART) may be displayed, if the symbols can be distinguished from other symbols (e.g. symbols 2.10 and 2.11 of IEC 62288 Ed. 2, Table A.2).
- (g) Information received by an AIS device and required by local police regulations shall be displayed.
- (h) It shall be possible to display all information transmitted by an AIS on user request.
53. Amend chapter 7.1 *as follows*
- 7.1 Built-in Test Equipment (BITE)
- Inland ECDIS ~~must be provided~~ **in navigation mode shall be provided** with means for carrying out on board tests of major functions either automatically or manually. In case of a failure, the module at fault must be shown.
54. Amend chapter 7.2 *as follows*
- 7.2 Malfunctions
- ~~Inland ECDIS must provide a suitable alarm or indication of system malfunctions.~~
- (a) **Inland ECDIS in navigation mode shall provide a suitable alarm or indication of system malfunctions (see Section 4, Chapter 9 of these technical specifications);**
- (b) **Inland ECDIS in information mode shall provide a suitable alarm or indication of missing input from – if connected – GPS, AIS and heading device.**
55. Chapter 8.2, *replace* paragraphs (a) and (b) *with*
- (a) If the Inland ECDIS system in navigation mode has an evident defect, it shall provide a suitable alarm (see Section 4, Chapter 4.16 and 9 of these technical specifications).
- (b) Facilities enabling a safe take-over of the functions of the Inland ECDIS in navigation mode shall be provided in order to ensure that an Inland ECDIS failure does not result in a critical situation.

2. Part D, Section 4

56. Amend chapter 2.1, paragraph (c) as follows

(c) For Inland ECDIS equipment designed for information mode only, the requirements of this Section 4 are to be understood as ~~a recommendation~~ **technical (operational and performance) requirements. The producer has to declare the conformity with these technical requirements. A type approval is not required for Inland ECDIS in information mode. The documentation of the conformity tests shall be made available to competent authorities and users on request.**

57. Chapter 3.1, paragraph (a), *replace* "Inland ECDIS" with "Inland ECDIS in navigation mode"

58. Amend chapter 3.4 as follows

3.4 Display performance

For Inland ECDIS in information mode the requirements of 3.4.2 to 3.4.7 are recommendations only.

59. *Replace* chapter 3.4.1 with

3.4.1 Display dimensions

(a) In navigation mode the minimum chart and radar display area shall be at least 270 mm x 270 mm.

(b) In information mode the requirements of Section 1 4.1 (b) have to be fulfilled.

60. *Add the text* "in navigation mode" *at the end of* chapter 4.2, 4.3 and 4.8 headings.

61. Amend chapter 4.5 as follows

(b) **In navigation mode** ~~The~~ the heading line, which runs from the display centre to the top and which must always be visible, must represent the heading of the mariner's own ~~ship~~ **vessel**.

62. *Delete* chapter 4.7, paragraph (g).

63. *Replace* chapter 4.10, paragraph (a) with

(a) It shall be possible to get all underlying textual and/or graphical information concerning user selections of the features that are displayed in the chart.

64. Amend chapter 4.16 as follows

The following function parameters must always be visible:

- Actual RANGE;
- Sensor STATUS (in navigation mode radar tuning, position quality, alarms; in information mode: if connected, GPS, AIS and heading);
- Selected WATER LEVEL (if available);
- Selected SAFETY DEPTH (if available);
- Selected INFORMATION DENSITY.

65. *Amend chapter 5 as follows*⁴

Service functions ~~must~~**shall** be protected by password or other suitable measures against unauthorised access ~~and must~~. **They shall** not be selectable in navigation mode.

The requirements of chapters 5.1 to 5.3 are only applicable to navigation mode.

66. *Add* the text "In navigation mode:" between chapter 6 heading and paragraph (a).

67. *Add* the text "in navigation mode" at the end of chapter 6.1, 6.5, 7.5 and 8 headings.

68. *Amend chapter 9 as follows*

(a) The alarms generated from Inland ECDIS equipment itself as well as the passed alarms delivered by the connected sensors to the ECDIS must be tested.

(b) The test procedure **in navigation mode shall** ~~must~~ comprise the following situations:

- Any error in the Inland ECDIS equipment (built-in test equipment – BITE);
- Missing positioning signal;
- Missing radar signal;
- Missing rate of turn signal;
- Missing heading signal;
- Radar map matching not possible.

(c) **The test procedure in information mode shall comprise the following situations:**

- Any error in the Inland ECDIS equipment (built-in test equipment - BITE);
- Missing positioning signal;
- Missing heading signal;
- Missing AIS signal.

69. *Add* the text "in navigation mode" at the end of chapter 10 heading.

3. Part D, Section 4a

70. *Add* at the end of chapter 1⁵

The requirements of chapters 1.1 to 1.5 are only applicable to navigation mode.

71. *Add* at the end of chapter 2.2.1

A user's manual shall be shipped with every information mode system.

⁴ In the sentence "The requirements of chapters 5.1 to 5.3 are only applicable to navigation mode.", the addition of the word "chapters" is a suggestion from the secretariat.

⁵ In the sentence "The requirements of chapters 1.1 to 1.5 are only applicable to navigation mode.", the addition of the word "chapters" is a suggestion from the secretariat.

IV. Amendment proposals regarding bathymetric Inland Electronic Navigational Charts (ENCs)

A. Introduction

72. Experience with Inland ECDIS has shown that the production of updates of Inland Electronic Navigational Charts (Inland ENCs) regarding depth information is often quite cumbersome and time consuming. Depth information can therefore often only be published with a considerable delay and at high costs for the chart producers.

73. The Inland ECDIS expert group has therefore developed a Product Specification for "bathymetric Inland ENCs". These charts are only containing depth information and can therefore easily be produced from hydrographic surveys. They are displayed together with the original Inland ENCs which are containing all other data (e.g. shorelines, infrastructure on land, bridges, locks, buoys, signs and signals).

74. To include the bathymetric Inland ENCs in Resolution No. 48 it is necessary:

- To amend the Annex of Resolution No. 48 (which is currently available in English, French and Russian language);
- To amend the existing Appendix 2.0, Presentation Library for Inland ECDIS;
- To add a new Appendix 3.0, Product Specification for bathymetric Inland ENCs; and
- To add a new Appendix 3.1, Feature Catalogue for bathymetric Inland ENCs.

75. The appendices of Resolution No. 48 have only been published in English, because they are only used by software companies (Inland ECDIS Application builders) and some of them are digital parts that cannot be translated. The amendments to the existing Appendix 2.0 and the new appendices 3.0 and 3.1 are therefore submitted as pdf files in English only.

76. A consolidated new version of Appendix 2.0 will be provided together with the other proposals of the Inland ECDIS expert group.

77. The Inland ECDIS expert group kindly asks the working party SC.3/WP.3 to discuss the proposal and to forward it to SC.3 for a formal adoption in November 2015.

B. Amendment proposals to the Annex⁶

1. Part C

78. Third column, after "Inland ENC Feature Catalogue" add "bathymetric Inland ENC Feature Catalogue"

79. Third column, after "Product Specification for Inland ENCs" add "Product Specification for bathymetric Inland ENCs"

2. Part D, Section 1

80. Amend chapter 3.1 heading *as follows*

3.1 Contents and Provision of Inland ENCs **and Bathymetric Inland ENCs.**

⁶ Additions to the original text are indicated in bold, while text to be deleted has been struck through.

81. Chapter 3.1, paragraph (b), replace "Inland ENC" with "Inland ENC and bathymetric Inland ENC"

82. *Add* at the end of chapter 3.1 paragraph (c)

If the chart producer is using overlay files or bathymetric Inland ENCs the features can be included in different cells, but the whole package has to fulfil the minimum requirements.

83. Chapter 3.1, paragraph (d), replace "Inland ENCs" with "Inland ENCs and bathymetric Inland ENCs"

84. *Amend* chapter 3.2, paragraph (a), *as follows*

(a) Inland ECDIS ~~must~~ **shall** be capable of accepting updates to the Inland ENC data provided in conformity with the ~~agreed standards~~ **Product Specification for Inland ENCs and updates of the depth information provided in conformity with the Product Specification for bathymetric Inland ENCs**. These updates must be applied to the Inland SENC automatically. The implementation procedure must not interfere with the display in use.

3. Part D, Section 2

85. Chapter 1, paragraph (b), replace "Inland ENCs" with "Inland ENCs and bathymetric Inland ENCs"

86. *Amend* chapter 1, paragraph (e), *as follows*

(e) This Data Standard comprises:

- This Section 2;
- Appendix 1, "Product Specification for Inland ENCs", Appendix 1.1, "Inland ENC Feature Catalogue", and Appendix 1.2, "Inland ENC Encoding Guide; and
- Appendix 3.0 Product Specification for bathymetric Inland ENCs and Appendix 3.1 bathymetric Inland ENC Feature Catalogue.

87. Chapters 2 and 3, replace "Inland ENCs" with "Inland ENCs and bathymetric Inland ENCs"

88. *Amend* chapter 4 *as follows*⁷

4. Product Specification for Inland ENCs **and bathymetric Inland ENCs**

(a) The Product Specification for Inland ENCs (**see Appendix 1 to these specifications**) **and for bathymetric Inland ENCs (see Appendix 3 to these specifications)** ~~is-a~~ **are** sets of specifications intended to enable chart producers to produce a consistent Inland ENC **or bathymetric Inland ENC**, and manufacturers to use that data efficiently in an Inland ECDIS that satisfies the Performance Standard for Inland ECDIS (Section 1 of these technical specifications).

⁷ The text in parenthesis presented in paragraph (a) of this amendment proposal will be added as footnote in the final version of the annex.

(b) **Data for ENC's shall be made available to all manufacturers of applications.**

An Inland ENC must be produced in accordance with the rules defined in these technical specifications and must be encoded using:

- The Inland ENC Feature Catalogue (Appendix 1.1); and
- The rules described in the Inland ENC Encoding Guide (Appendix 1.2).

A bathymetric Inland ENC shall be produced in accordance with the rules defined in these specifications and shall be encoded using:

- The bathymetric Inland ENC Feature Catalogue (Appendix 3.1); and
- The rules described in the Inland ENC Encoding Guide (Appendix 1.2).

(c) Official Inland ENC's **and bathymetric Inland ENC's** ~~must~~ **shall** be produced in accordance with the latest version of the "Data Standard" including the "Product Specification". Official Inland ENC's, which have been produced in accordance with ~~Edition 1.02~~ **earlier editions** of the Inland ECDIS Standard and before the entry into force of these technical specifications, remain valid until new editions of Official Inland ENC's are published in accordance with these technical specifications.

4. Part D, Section 3

89. Chapter 2, second paragraph, replace "Inland ENC's" with "Inland ENC's and bathymetric Inland ENC's"

5. Part D, Section 4

90. At the end of chapter 7.9, *add* paragraph (c) *as follows*

(c) It shall be tested whether the test bathymetric Inland ENC is displayed correctly together with the base SENC in accordance with chapter 6 of the Presentation Library for Inland ENC's.

6. Part D, Section 5

91. Chapter 2, in the table of definitions, for the term "Cell (chart cell), *replace* "Inland ENC" *with* "Inland ENC and bathymetric Inland ENC".
