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 ENCs and to describe their use in amendments of the Encoding Guide for Inland ENCs. As far as possible the Inland
ECE/TRANS/SC.3/WP.3/2015/5

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 and 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 Annex\(^2\)

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.

---


\(^2\) 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*
   
   (h) 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 ENCs 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) Administrations or private companies which produce Inland ENCs and which are not already mentioned in IHO-S-62 and administrations or private companies which decide to produce Inland ENCs, they must register a producer code at the S–100 registry of IHO at http://registry.iho.int.

22. Amend paragraph (e), as follows:

<table>
<thead>
<tr>
<th>Waterway Code</th>
<th>Waterway Name</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK</td>
<td>Albertkanaal/Canal Albert</td>
<td></td>
</tr>
<tr>
<td>AKL</td>
<td>Afleidingskanaal van de Leie</td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td>Balaton</td>
<td></td>
</tr>
<tr>
<td>BCR</td>
<td>Branche de la Croyère</td>
<td></td>
</tr>
<tr>
<td>BED</td>
<td>Benedendijle</td>
<td></td>
</tr>
<tr>
<td>BEN</td>
<td>Beneden-Nete</td>
<td></td>
</tr>
<tr>
<td>BEZ</td>
<td>Beneden-Zeeschelde</td>
<td></td>
</tr>
<tr>
<td>BH</td>
<td>Kanaal Bocholt-Herentals</td>
<td></td>
</tr>
<tr>
<td>BK</td>
<td>Boudewijn Kanaal</td>
<td></td>
</tr>
<tr>
<td>BLO</td>
<td>Branche de La Louvière</td>
<td></td>
</tr>
<tr>
<td>BME</td>
<td>Basse-Meuse</td>
<td></td>
</tr>
<tr>
<td>BN</td>
<td>Kanaal Briegden-Neerharen</td>
<td></td>
</tr>
<tr>
<td>BOS</td>
<td>Bovenschelde</td>
<td></td>
</tr>
<tr>
<td>BOZ</td>
<td>Boven-Zeeschelde</td>
<td></td>
</tr>
<tr>
<td>BSK</td>
<td>Berlin-Spandauer</td>
<td>including Westhafenkanal and Schifffahrtskanal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charlottenburger Verbindungskanal</td>
</tr>
<tr>
<td>BZ</td>
<td>Beneden Zeeschelde</td>
<td></td>
</tr>
<tr>
<td>CCB</td>
<td>Canal Charleroi-Bruxelles/Kanaal Brussel -Charleroi</td>
<td></td>
</tr>
<tr>
<td>CCG</td>
<td>Canal du Centre à Grand Gabarit</td>
<td></td>
</tr>
<tr>
<td>CHV</td>
<td>Canal de Haccourt à Vise</td>
<td></td>
</tr>
<tr>
<td>CLA</td>
<td>Canal de Lanaye</td>
<td></td>
</tr>
<tr>
<td>CMO</td>
<td>Canal de Monsin</td>
<td></td>
</tr>
<tr>
<td>CPC</td>
<td>Canal Pommeroeul-Conde</td>
<td>including Sulina branch</td>
</tr>
<tr>
<td>D</td>
<td>Danube</td>
<td></td>
</tr>
<tr>
<td>DA</td>
<td>Danube Chilia branch</td>
<td></td>
</tr>
<tr>
<td>DB</td>
<td>Dunarea Barcea</td>
<td></td>
</tr>
<tr>
<td>DCC</td>
<td>Danube Cernovoda canal</td>
<td></td>
</tr>
<tr>
<td>DDT</td>
<td>Dijledoortocht</td>
<td></td>
</tr>
<tr>
<td>DE</td>
<td>Dortmund-Emß Kanal</td>
<td></td>
</tr>
<tr>
<td>DIP</td>
<td>Donau</td>
<td></td>
</tr>
<tr>
<td>DN</td>
<td>Donau</td>
<td></td>
</tr>
<tr>
<td>Waterway Code</td>
<td>Waterway Name</td>
<td>Remark</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>DNP</td>
<td>Prypiat</td>
<td></td>
</tr>
<tr>
<td>DNS</td>
<td>Sula</td>
<td></td>
</tr>
<tr>
<td>DNV</td>
<td>Vosselaar</td>
<td></td>
</tr>
<tr>
<td>DEN</td>
<td>Dender</td>
<td></td>
</tr>
<tr>
<td>DHK</td>
<td>Datteln-Hamm Kanal</td>
<td></td>
</tr>
<tr>
<td>DKW</td>
<td>Kanaal Dessel-Kwaadmechelen</td>
<td></td>
</tr>
<tr>
<td>DR</td>
<td>Drava</td>
<td></td>
</tr>
<tr>
<td>DTS</td>
<td>Kanaal Dessel-Turnhout-Schoten</td>
<td></td>
</tr>
<tr>
<td>DUK</td>
<td>Rackevei-Duna</td>
<td></td>
</tr>
<tr>
<td>DUM</td>
<td>Mosoni-Duna</td>
<td></td>
</tr>
<tr>
<td>DUR</td>
<td>Gekanaliseerde Durme (Beneden-Durme)</td>
<td></td>
</tr>
<tr>
<td>DUS</td>
<td>Szenterei-Duna</td>
<td></td>
</tr>
<tr>
<td>DV</td>
<td>Dunarea Veche</td>
<td></td>
</tr>
<tr>
<td>EL</td>
<td>Elbe</td>
<td></td>
</tr>
<tr>
<td>EH</td>
<td>Elbe-Havel-Kanal</td>
<td></td>
</tr>
<tr>
<td>EMS</td>
<td>Ems</td>
<td></td>
</tr>
<tr>
<td>EPP</td>
<td>Embranchement Principal</td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td>Elbe-Seiten-Kanal</td>
<td></td>
</tr>
<tr>
<td>EV</td>
<td>Estuaire Vaart</td>
<td>Estuary shipping between Zeebrugge and Dutch border</td>
</tr>
<tr>
<td>GA</td>
<td>St. Gheorghe-Arm</td>
<td></td>
</tr>
<tr>
<td>GMO</td>
<td>Grand Large de Mons</td>
<td></td>
</tr>
<tr>
<td>GPE</td>
<td>Grand Large de Péronnes</td>
<td></td>
</tr>
<tr>
<td>HES</td>
<td>Haut-Escaut</td>
<td></td>
</tr>
<tr>
<td>HO</td>
<td>Havel-Oder-Wasserstraße</td>
<td>including Westoder</td>
</tr>
<tr>
<td>IJZ</td>
<td>Ijzer</td>
<td></td>
</tr>
<tr>
<td>KB</td>
<td>Kanaal naar Beverlo</td>
<td></td>
</tr>
<tr>
<td>KBK</td>
<td>Kanaal Bossuit-Kortrijk</td>
<td></td>
</tr>
<tr>
<td>KGO</td>
<td>Kanaal Gent-Oostende</td>
<td></td>
</tr>
<tr>
<td>KGT</td>
<td>Kanaal Gent-Terneuzen</td>
<td></td>
</tr>
<tr>
<td>KK</td>
<td>Küstenkanal</td>
<td></td>
</tr>
<tr>
<td>KLD</td>
<td>Kanaal Leuven-Dijle</td>
<td></td>
</tr>
<tr>
<td>KND</td>
<td>Kanaal Nieuwpoort-Duinkerken</td>
<td></td>
</tr>
<tr>
<td>KPN</td>
<td>Kanaal Plassendale-Nieuwpoort</td>
<td></td>
</tr>
<tr>
<td>KRL</td>
<td>Kanaal Roeselare-Leie</td>
<td></td>
</tr>
<tr>
<td>KVE</td>
<td>Kanaal van Eeklo</td>
<td></td>
</tr>
<tr>
<td>Waterway Code</td>
<td>Waterway Name</td>
<td>Remark</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>LOK</td>
<td>Lokanaal</td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td>Leie/Lys River</td>
<td></td>
</tr>
<tr>
<td>MA</td>
<td>Main</td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>Main-Donau-Kanal</td>
<td></td>
</tr>
<tr>
<td>ME</td>
<td>Müritz-Elde-Wasserstraße</td>
<td></td>
</tr>
<tr>
<td>MEU</td>
<td>Meuse/Maas</td>
<td></td>
</tr>
<tr>
<td>ML</td>
<td>Mittelland-Kanal</td>
<td></td>
</tr>
<tr>
<td>MMI</td>
<td>Meuse Mitoyenne Sud</td>
<td></td>
</tr>
<tr>
<td>MO</td>
<td>Mosel</td>
<td></td>
</tr>
<tr>
<td>MOE</td>
<td>Moervaart</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Dnipro</td>
<td></td>
</tr>
<tr>
<td>NBP</td>
<td>Canal Nimy-Blaton-Peronnes</td>
<td></td>
</tr>
<tr>
<td>ND</td>
<td>Desna</td>
<td></td>
</tr>
<tr>
<td>NE</td>
<td>Neckar</td>
<td></td>
</tr>
<tr>
<td>NOK</td>
<td>Nord-Ostsee-Kanal</td>
<td></td>
</tr>
<tr>
<td>NPR</td>
<td>Prypiat</td>
<td></td>
</tr>
<tr>
<td>NSU</td>
<td>Sula</td>
<td></td>
</tr>
<tr>
<td>NTK</td>
<td>Netekanaal</td>
<td></td>
</tr>
<tr>
<td>NVO</td>
<td>Vorskla</td>
<td></td>
</tr>
<tr>
<td>OD</td>
<td>Oder</td>
<td></td>
</tr>
<tr>
<td>OL</td>
<td>Olt</td>
<td></td>
</tr>
<tr>
<td>PB</td>
<td>Pivdennyi Buh</td>
<td></td>
</tr>
<tr>
<td>PK</td>
<td>Plassendale Kanaal</td>
<td></td>
</tr>
<tr>
<td>RH</td>
<td>Rhine</td>
<td></td>
</tr>
<tr>
<td>RHK</td>
<td>Rhein-Herne-Kanal</td>
<td></td>
</tr>
<tr>
<td>RL</td>
<td>Nederrijn/Lek</td>
<td></td>
</tr>
<tr>
<td>ROG</td>
<td>Ringvaart om Gent</td>
<td></td>
</tr>
<tr>
<td>RU</td>
<td>Ruhr</td>
<td></td>
</tr>
<tr>
<td>RUP</td>
<td>Rupel</td>
<td></td>
</tr>
<tr>
<td>SA</td>
<td>Sava</td>
<td></td>
</tr>
<tr>
<td>SAM</td>
<td>Sambre</td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td>Schelde</td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>Sio-chatorna</td>
<td></td>
</tr>
<tr>
<td>SKH</td>
<td>Stichkanal Mittelland-Kanal-Hildes-heim</td>
<td></td>
</tr>
<tr>
<td>SKL</td>
<td>Stichkanal Mittelland-Kanal-Hannover-Linden</td>
<td></td>
</tr>
<tr>
<td>SKO</td>
<td>Stichkanal Mittelland-Kanal-Osnab-rück</td>
<td></td>
</tr>
<tr>
<td>SKS</td>
<td>Stichkanal Mittelland-Kanal-Salzgitter</td>
<td></td>
</tr>
</tbody>
</table>
### Waterway Code | Waterway Name | Remark
---|---|---
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.

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 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 Annex\(^3\)

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 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 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 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.

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:

Service functions must 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 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 1:

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. \textit{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. \textit{Amend} chapter 3.2, paragraph (a), \textit{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. \textit{Amend} chapter 1, paragraph (e), \textit{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. \textit{Amend} chapter 4 \textit{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 set of specifications intended to enable chart producers to produce a consistent Inland ENC and 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).

\footnote{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 ENCs 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 ENCs and bathymetric Inland ENCs must be produced in accordance with the latest version of the "Data Standard” including the "Product Specification". Official Inland ENCs, 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 ENCs are published in accordance with these technical specifications.

4. Part D, Section 3

89. Chapter 2, second paragraph, replace "Inland ENCs" with "Inland ENCs and bathymetric Inland ENCs"

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 ENCs.

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".