

Proposal for the third revision of the Signs and Signals on Inland Waterways (SIGNI)

(Resolution No. 22, revised)



Fifty-first session of the UNECE Working Party
on the Standardization of Technical
and Safety Requirements
in Inland Navigation

Introduction

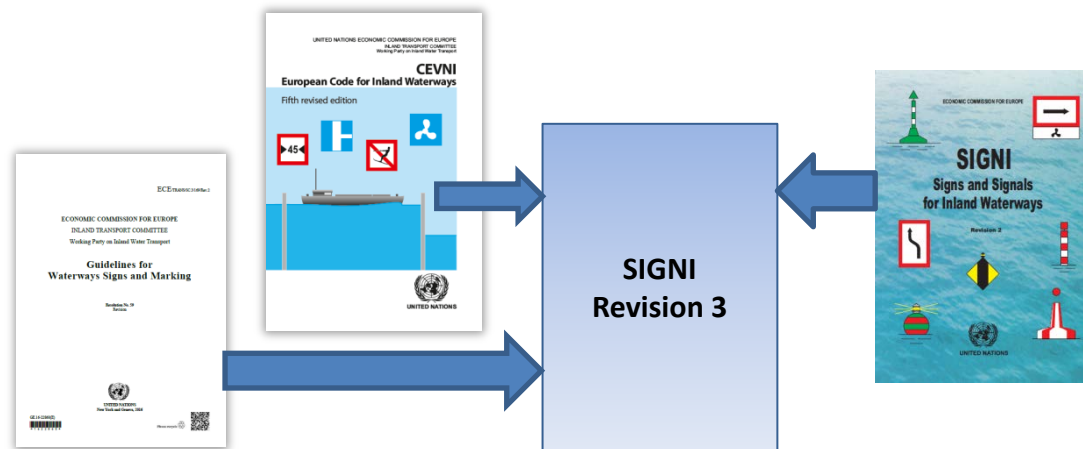
The basis for the third revision of SIGNI:

- ✓ SIGNI, revision 2;
- ✓ CEVNI, revision 5;
- ✓ Resolution No. 59, revision 2.
- ✓ The new structure was approved by SC.3/WP.3 at its fiftieth session (ECE/TRANS/SC.3/WP.3/2017/5).

ALL text included in the proposal has been adopted by SC.3, unless mentioned below.

The Working Party may wish to update the title of SIGNI by analogy with CEVNI:

EUROPEAN CODE ON SIGNS AND SIGNALS FOR INLAND WATERWAYS



Chapter 1, GENERAL

Proposal:

1.1.1 In terms of the objective pursued, the marking comprises **three categories of buoyage and marking**:

(a) **Buoyage of fairway limits in the waterway** by means of buoys or spars, hereafter floating signs. This category will normally be used only on sections of waterway where the fairway cannot be indicated sufficiently clearly by marks placed on the banks;

(b) **Buoyage and marking of danger points and obstacles**, i.e. navigational hazards including:

- **danger points**, e.g. campshot, projections of the bank, low banks liable to flooding, fixed obstacles;
- **obstacles**, e.g. grounded or sunken vessels or floating equipment; work sites in the waterway, lost anchors, structures protruding into the fairway or in its vicinity etc.;

(c) **Marks on land indicating the position of the fairway**, hereafter bank marks, indicating the position of the fairway in relation to the banks and, where appropriate, its crossover from one bank to the other. The marks may also be used to provide isolated reference points for boatmasters.

Resolution No. 59:

1.1 In terms of the objective pursued, the marking comprises **two categories of signs**:

- **Signs used to regulate navigation on the waterway**, set out in annex 7 of the European code for inland waterways (CEVNI); and
- **Signs and signals installed on the waterway (hereafter floating signs) and signs installed on the banks (hereafter bank marks) marking the sides of the fairway and navigational hazards**, set out in annex 8 to CEVNI.

Chapter 1, GENERAL

Definitions

Definition of “light”, “fixed light” and “ordinary light” are taken from CEVNI

1.2 For the purpose of SIGNI and CEVNI, the following definitions are used:

“Light”: a distinctive light used as a marking.

“Fixed light”: an uninterrupted light of constant intensity and colour.

“Rhythmic light”: a light of constant intensity and colour operating in a characteristic and regularly repeated succession of spells of illumination and extinction.

**! Definition of “strong light”, “bright light” and “ordinary light”
in CEVNI needs to be updated !**

Chapter 2, VISIBILITY OF SIGNS AND LIGHTS

Basis:

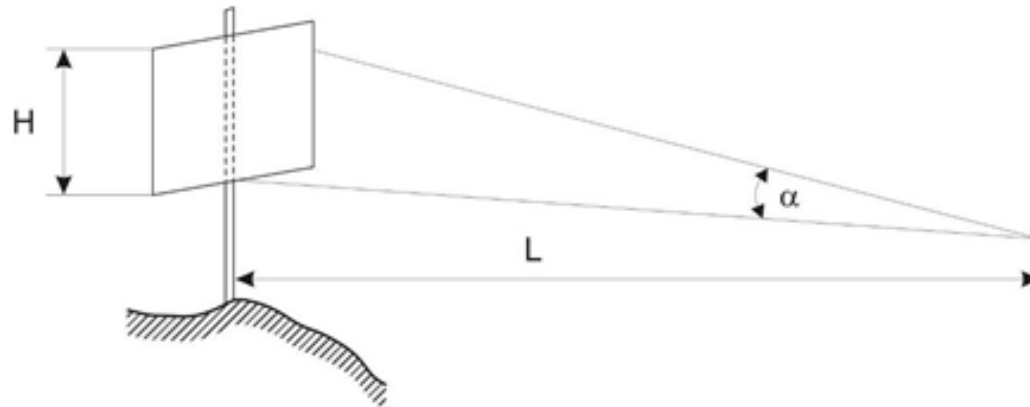
Chapter 3, Visibility of signs and lights, from the Guidelines for Waterways Signs and Marking

No significant changes are introduced

H (m) — height of the sign;

L (m) — distance;

α (°) — viewing angle.



(fig. 2.1)

Chapter 3, BUOYAGE AND MARKING OF THE WATERWAY

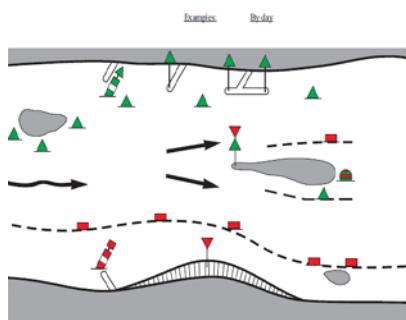
3.1 Requirements to be met by signs and marks and their marking plan

3.2 Buoyage of fairway limits in the waterway

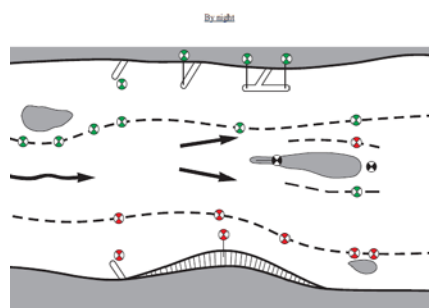
Fig. 14 (SIGNI) is added to Chapter 5, Figs. 17 and 18 are deleted

3.3 Buoyage and marking of danger points and obstacles

Duplicate Annex 8 to CEVNI



(fig. 3.10)



(fig. 3.11)

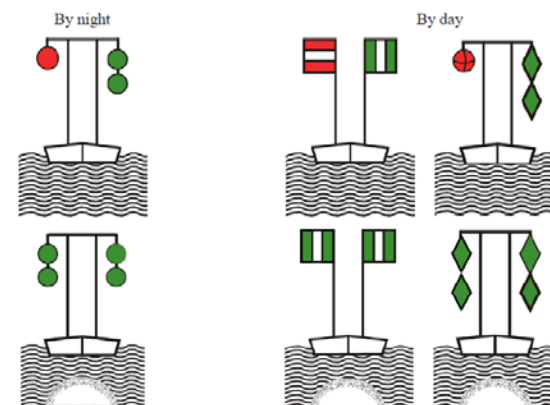
Fig. 3.11 (buoyage and marking by night) is not included in CEVNI

3.3.6 Passage permitted on the clear side without reducing speed

Fig. 3.12 is updated according to Annex 8 to CEVNI;
Fig. 3.12a – a discrepancy with CEVNI is identified (indication of an obstacle).

It is proposed to keep this figure in SIGNI.

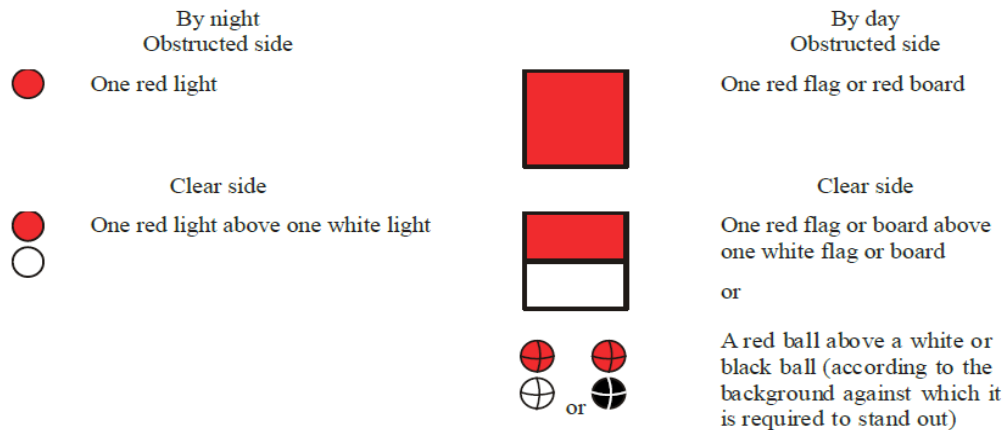
Examples:



(fig. 3.12a)

Chapter 3, BUOYAGE AND MARKING OF THE WATERWAY

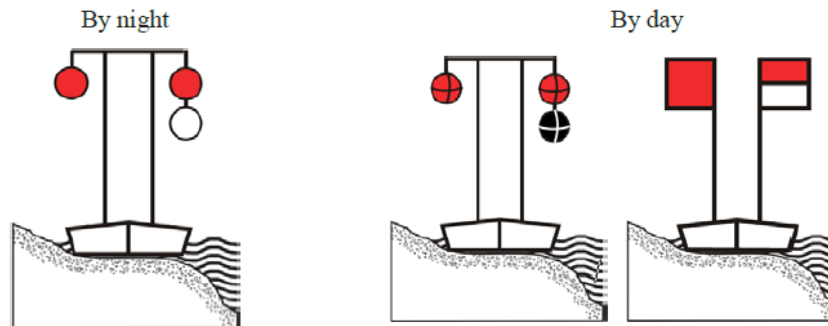
3.3.7 Passage permitted on the clear side at reduced speed (avoid creating wash)



(fig. 3.13)

Missing in Annex 8
to CEVNI,
fig. 17 quater

Examples:



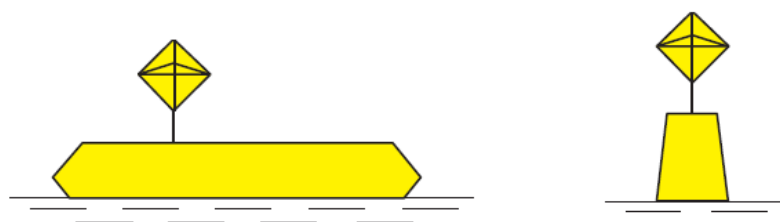
(fig. 3.13a)

Differs from Annex 8
to CEVNI,
fig. 17 quinquies

Chapter 3, BUOYAGE AND MARKING OF THE WATERWAY

3.6 Additional marking for navigation by radar

3.6.1 Yellow floats with radar reflectors are placed upstream and downstream from piers.

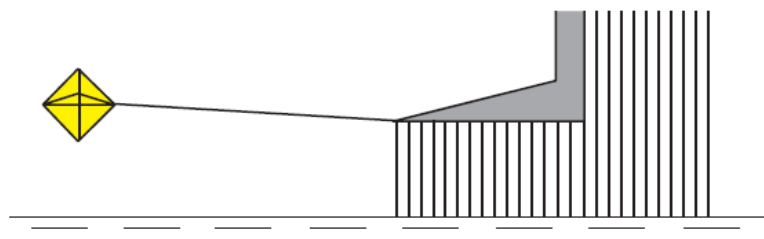


8.C

8.C1

(fig. 3.22)

3.6.2 Pole with radar reflector is placed upstream and downstream from bridge piers.



8.C2
(fig. 3.23)

**Added from Annex 8 to
CEVNI, section VA
(see also Chapter 11,
INSTALLATION OF RADAR
REFLECTORS)**

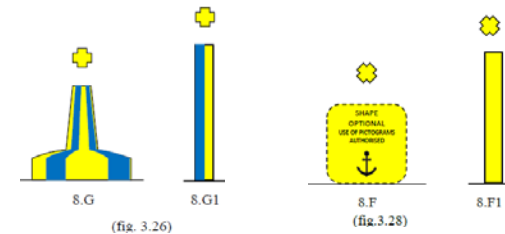
**The Working Party may wish
to include these sketches in
Chapter 11**

Chapter 3A, BUOYAGE AND MARKING OF LAKES AND BROAD WATERWAYS

It is proposed to allocate a separate Chapter for these provisions.

New marks according to ECE/TRANS/SC.3/WP.3/2017/5 are added (safe water marks, new dangers marks).

It is proposed to include there the following text:



3A.1 General

3A.1.1 Subject to the exception referred to in para. 3.2.3, the provisions of Sections 3.2 to 3.4 shall apply to lakes and broad waterways. However, additional marks, taken from the IALA Maritime Buoyage System may be used if required:

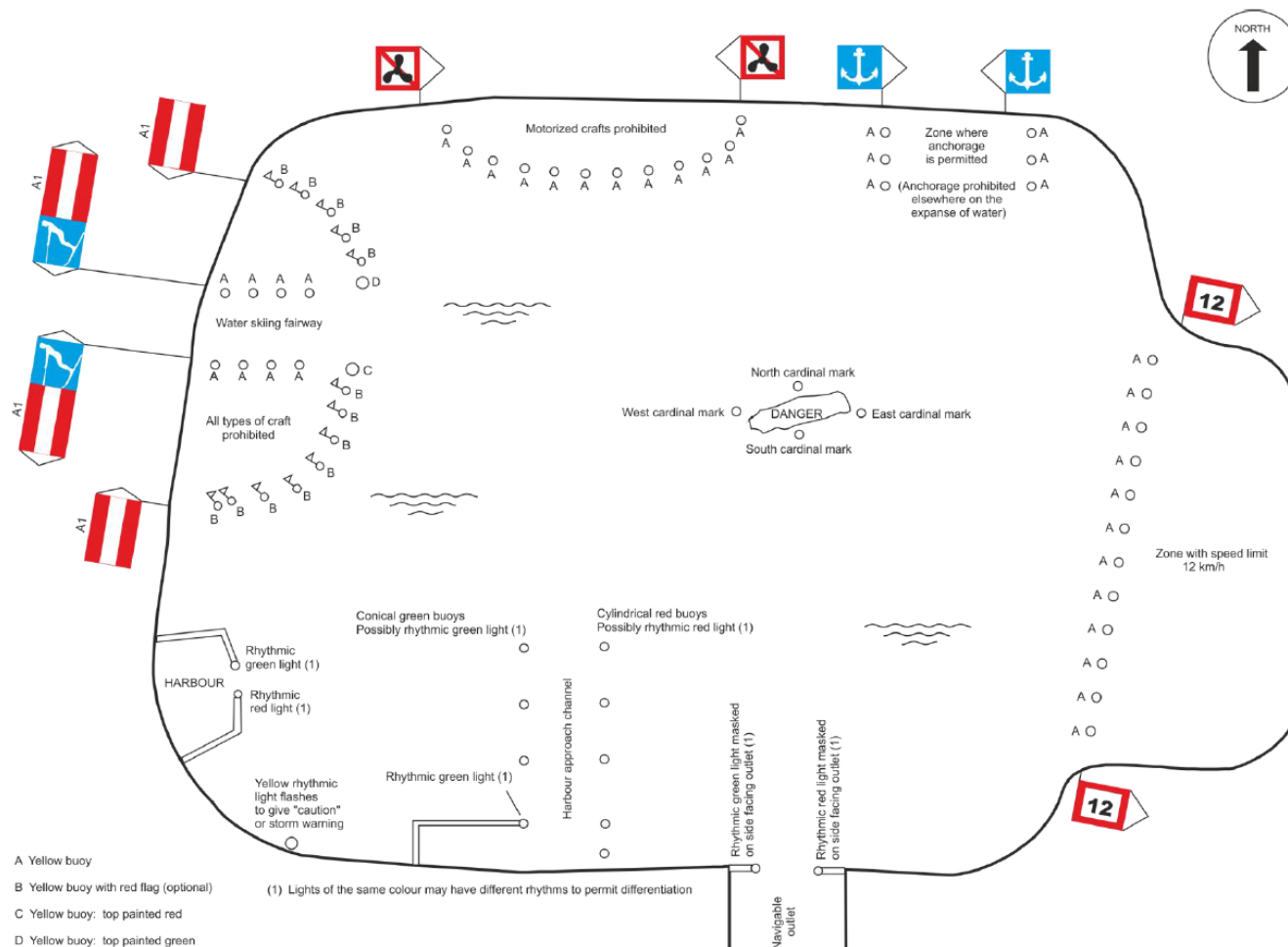
- marking of danger points, obstacles and special features: cardinal marks, isolated danger marks, marking of new dangers;
- safe water marks;
- special marks for marking of prohibited or restricted zones;
- weather signs and signals on lakes.

3A.1.2 In addition, danger points, obstacles and special features may be marked by other electronic means, such as automatic identification system (AIS).

3A.1.3 If the competent authorities consider the risk to navigation to be especially high, at least one of the marks should be duplicated. Any duplicate mark shall be identical to its partner in all respects.






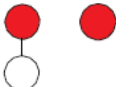
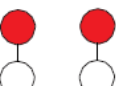


Chapter 3A, BUOYAGE AND MARKING OF LAKES AND BROAD WATERWAYS

It is proposed to include the example of buoyage and marking of lakes and broad waterways from Annex 2 to the main text as Figure 3.29. This sketch is included in Annex 8 to CEVNI as Fig. 25.






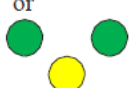






Chapter 4, LIGHTS





- Fixed lights were categorized following Annex 7 to CEVNI





<i>Numbering</i>	<i>Signal</i>	<i>Description</i>	<i>Meaning</i>
A. Prohibitory signs			
A.1c ¹		Single red light	<p>“No passage”</p> <p>This signal shall apply:</p> <p>Either to some of the fairways or arms of the waterway (prohibited fairways under bridges, prohibited arms, etc.).</p> <p>Or to the whole of the waterway (stoppage of navigation, locks, etc.).</p> <p>The use of this signal shall be limited to cases where a single red light is sufficient to indicate the intended prohibition clearly. In other cases, the use of two or more red lights is recommended (see below)</p>
A.1b ¹		Two red lights placed one above the other (a pair)	Complete and prolonged stoppage of navigation (blockage of waterway, bridges or locks out of service, etc.)
A.1d ¹		Two red lights placed side by side (a pair)	Complete but brief stoppage of navigation. This signal shall always be operable as required (movable bridges, locks, narrow fairways, etc.)
A.11c ¹			Extinction of one of the red lights means: “Passage forbidden (passage about to be authorized)”
A.9b		A red light above a white light	“Do not cause wash”
A.9c		One red light above a white light, a second red light being placed alongside the first	“Presence of an obstacle. Pass only on the side showing both the red and the white lights, and do not cause wash”
A.9d		Two red lights, each above a white light	“Presence of an obstacle. Pass on either side, but do not cause wash”
A.10b ¹		Two or more red lights set apart	“No passage” (between the lights). See also A.10c
A.10c ¹		Two red lights set apart with a yellow light between them	<p>“No passage (between the lights) except in conformity with the restrictions in force” (closed movable bridge, etc.).</p> <p>A yellow light may also be combined with the signal A.1d</p>

Chapter 4, LIGHTS

<i>Numbering</i>	<i>Signal</i>	<i>Description</i>	<i>Meaning</i>
A.11a ¹		A red light and a green light placed side by side (a pair) or a red light above a green light	“No passage now but stand by to go ahead”. This signal is always operable as required.
A.11b ¹			
B. Mandatory signs			
B.10		Two isophase yellow lights placed one above the other (a pair)	Vessels proceeding on the main waterway must, if necessary, change course and speed to allow vessels to leave harbours or tributary waterways
D. Recommendatory signs			
D.2b ¹		Two green lights set apart	“Go ahead between the lights”
D.1b ¹		Single yellow light, alone or between green lights	“Go ahead, but look out for traffic coming the other way”. Vessels may steer towards the yellow light, which is placed above the navigable fairway
D.1g ¹			
D.1f ¹		A pair of yellow lights (placed one above the other, or, if necessary, side by side), alone or between green lights	“Go ahead; traffic in the opposite direction is prohibited”. Vessels may steer towards the yellow lights, which are placed above the fairway
D.1e ¹			
D.3b		A fixed white light and an isophase white light placed side by side (a pair)	“You are recommended to steer towards the side showing the isophase light”. Signal to be used, for example, on the approach to a double lock
E. Informative signs			
E.1b ¹		Single green light	“Go ahead” (the green light is always placed at the side of the fairway). The use of this signal shall, however, be restricted to cases where a single green light is sufficient clearly to indicate the clear passage. In other cases, the use of two

Chapter 4, LIGHTS

<i>Numbering</i>	<i>Signal</i>	<i>Description</i>	<i>Meaning</i>
E.1c ¹		Two green lights placed side by side (a pair)	green lights set apart and indicating the passage is recommended. “Go ahead” (this signal is always placed at the side of the fairway). It is always operable as required, the permission to pass being limited in time
E.1d ¹		Two green lights placed one above the other (a pair)	“Go ahead” (this signal is always placed at the side of the fairway). This signal may be used in particular cases (lock out of service with all gates open)
E.1e ¹		One red light and two green lights placed one above the other	“Pass only on the side showing two green lights”
E.1f ¹		Two pairs of green lights placed one above the other	“Pass on either side”

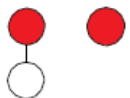
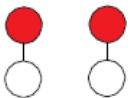


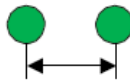
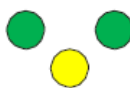
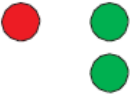

E.12		One or two white lights: ²	“Difficulty ahead - Stop if the regulations so require”
E.12a		Fixed light(s): advance signal	Examples: Lock closed, vessel navigating in the opposite direction
	or		
E.12b		Isophase light(s): advance signal	Examples: Lock open, no vessel navigating in the opposite direction.
E.12c		Isophase light(s): advance signal	Examples: Lock open, no vessel navigating in the opposite direction.
	or		
E.12d		Isophase light(s): advance signal	Examples: Lock open, no vessel navigating in the opposite direction.

¹ Each fixed red, green or yellow light may be replaced by a red-white-red, a green-white-green or a yellow board respectively, as provided below in Chapters 7 and 8.

² Single fixed white lights shall not be used except as advance signals. Fixed white lights must be used with care as they may be confused with other white lights (for instance, public lighting).

Chapter 4, LIGHTS

Following this categorization, new signs could be proposed to Annex 7 to CEVNI

<i>Numbering</i>	<i>Signal</i>	<i>Description</i>	<i>Meaning</i>
A. Prohibitory signs			
A.9c		One red light above a white light, a second red light being placed alongside the first	"Presence of an obstacle. Pass only on the side showing both the red and the white lights, and do not cause wash"
A.9d		Two red lights, each above a white light	"Presence of an obstacle. Pass on either side, but do not cause wash"
A.10b ¹		Two or more red lights set apart	"No passage" (between the lights). See also A.10c
A.10c		Two red lights set apart with a yellow light between them	"No passage (between the lights) except in conformity with the restrictions in force" (closed movable bridge, etc.). A yellow light may also be combined with the signal A.1d
D. Recommendatory signs			
D.2b ²		Two green lights set apart	"Go ahead between the lights"
D.1g ³		Single yellow light between green lights	"Go ahead, but look out for traffic coming the other way". Vessels may steer towards the yellow light, which is placed above the navigable fairway
E. Informative signs			
E.1e		One red light and two green lights placed one above the other	"Pass only on the side showing two green lights"
E.1f		Two pairs of green lights placed one above the other	"Pass on either side"

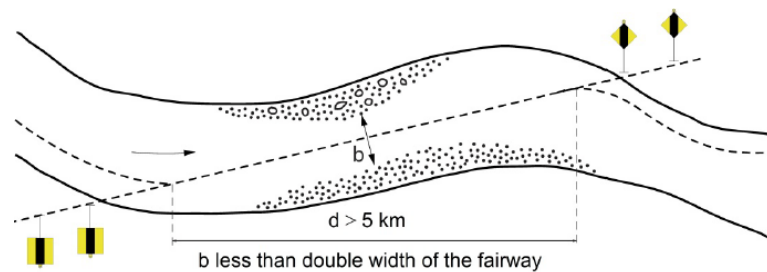
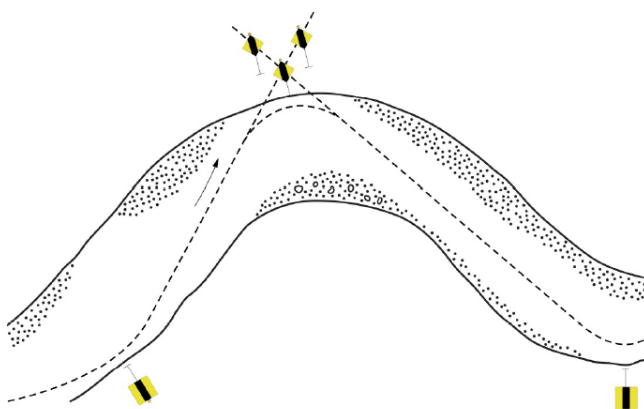
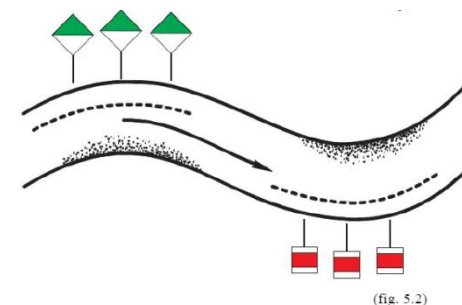
Chapter 5, INSTALLATION OF SIGNS AND MARKING IN CHARACTERISTIC SECTIONS OF THE RIVER

Basis:

Chapter 3, Installation of signs and marking in characteristic sections of the river, from the Guidelines for Waterways Signs and Marking

No significant changes are introduced

Fig. 14 (SIGNI) is added as Fig. 5.2, Figs. 17 and 18 are deleted, as they are duplicated by Figs. 5.3-5.6.



Chapter 6, MARKING OF HARBOUR ENTRANCES

Basis:

SIGNI, Section 6.1, Entrances to harbours

No significant changes are introduced

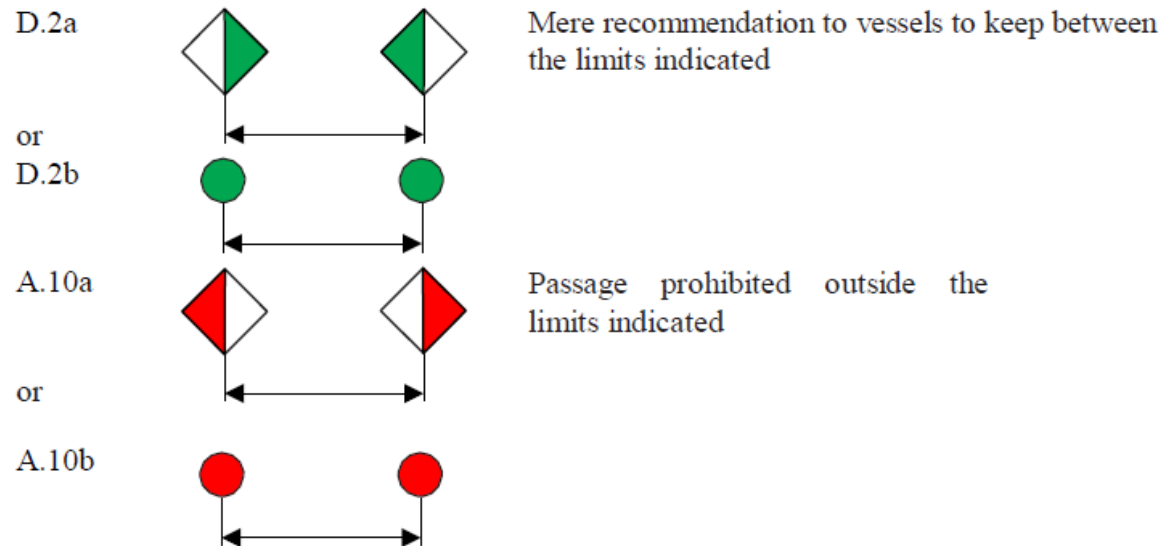
Chapter 7, MARKING OF PERMANENT STRUCTURES

Basis:

SIGNI, Section 6.1,
Entrances to harbours

Numbering of signs
is added.

Sign D.2b is modified.
Sign A.10b is proposed
by analogy with D.2b






Chapter 8, BLOCKAGE OF THE WATERWAY

Basis: SIGNI, Chapter 4, Blockage of the waterway











Numbers from Annex 7 to CEVNI are added

8.2 Complete and protracted stoppage of navigation

- A.1b  In general
- A.1c  However, a single red light may be used if it is sufficient clearly to indicate the prohibition and cannot be confused with lights extraneous to the waterway marking lights.
- A.1f or A.1e  In case of emergency, red flags may be used provisionally by day pending marking with the lights or boards prescribed above.

8.3 Temporary stoppage of navigation

This situation arises, for example, when passage through a narrow section of the waterway is authorized in each direction alternately. The signals are then operable as required.

-  or  "Stop"
- A.1c  or  Stand by to "proceed"
-  or  "Go ahead"
- A.11a  or  "Go ahead"
- E.1b  or  "Go ahead"

Chapter 9, MARKING OF PROHIBITED OR RESTRICTED ZONES

Basis:

SIGNI, Chapter 7, Marking of prohibited or restricted zones

No significant changes are introduced

Chapter 10, VARIABLE MESSAGE SIGNS TO REGULATE TRAFFIC

Basis:

Guidelines for Waterways Signs and Marking, Chapter 5, Variable message signs to regulate traffic

No significant changes are introduced

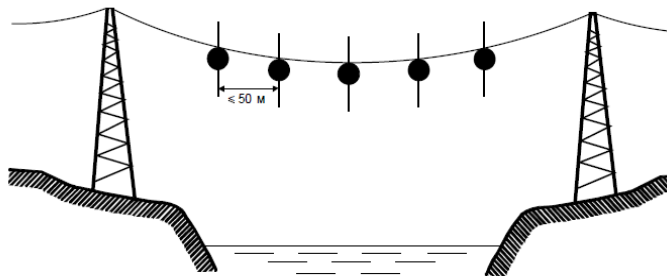
Chapter 11, INSTALLATION OF RADAR REFLECTORS ON MARKING SIGNS AND SIGNALS AND NAVIGABLE PASSES THROUGH BRIDGES

Basis:

- CEVNI, Annex 8, Section V, Additional marking for navigation by radar, Subsection B, Marking of overhead cables (where applicable);
 - Guidelines for Waterways Signs and Marking, Chapter 6, Installation of radar reflectors on marking signs and signals and navigable passes through bridges
- Sections 11.2, **Buoys and poles with radar reflectors**, and 11.3, **Marking of overhead cables (where applicable)**, are added (see also 3.6)

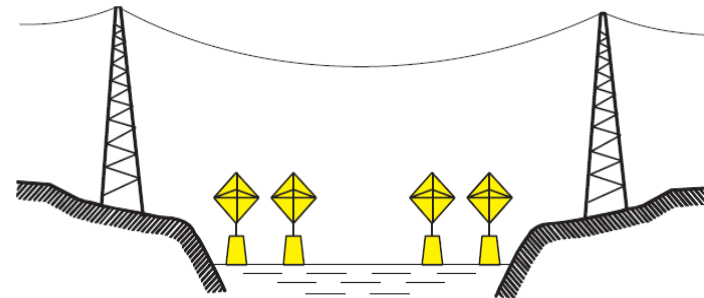
11.3 Marking of overhead cables (where applicable)

11.3.1 Radar reflectors secured to the overhead cable (giving a radar image of a series of points to identify the overhead cable)



8.C3
(fig. 11.2)

11.2.2 Radar reflectors placed on yellow floats arranged in pairs near each bank (each pair giving a radar image of two points side by side to identify the overhead cable)




8.C4
(fig. 11.3)

Chapter 12, MONITORING OF SIGNS AND MARKING BY AIS AIDS TO NAVIGATION

Chapter 13, REGIONAL AND NATIONAL SPECIAL REQUIREMENTS

New Chapters 12 and 13 are added but left void

United Nations



Economic and Social Council

ECE/TRANS/SC.3/WP.3/2017/12

Distr.: General
4 April 2017

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

Fifty-first session
 Geneva, 14-16 June 2017
 Item 3 (b) of the provisional agenda
 Standardization of technical and safety requirements in inland navigation:
 Signs and Signals on Inland Waterways (SIGNI) (Resolution No. 22, revised)


**Proposal for a new Chapter 12, Monitoring of signs and
marking by AIS Aids to Navigation**

Note by the secretariat

I. Mandate

1. This document is submitted in line with Cluster 5: Inland Waterway Transport, para. 5.1 of the programme of work 2016-2017 (ECE/TRANS/2016/28/Add.1) adopted by the Inland Transport Committee at its seventy-eighth session on 26 February 2016.
2. The Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (hereafter: SC.3/WP.3) at its fiftieth session decided to draft a new Chapter 12 for the Signs and Signals on Inland Waterways (SIGNI) (ECE/TRANS/SC.3/WP.3/2017/100, para. 21), on the basis of information submitted by the Chair of the Joint Working Group on Tracking and Tracing (VTT) and the Inland Electronic Chart Display and Information Systems (Inland ECDIS).
3. The secretariat prepared the present draft in consultation with the Chair of the VTT and Inland ECDIS Expert Group. The following documents, adopted by the International Telecommunications Union (ITU) and the International Association of Lighthouse Authorities (IALA), were used as references:
 - Recommendation ITU-R M.1371 "Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band";

United Nations



Economic and Social Council

ECE/TRANS/SC.3/WP.3/2017/13

Distr.: General
4 April 2017
English
Original: Russian

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

Fifty-first session
 Geneva, 14-16 June 2017
 Item 3 (b) of the provisional agenda
 Standardization of technical and safety requirements in inland navigation:
 Signs and Signals on Inland Waterways (SIGNI) (Resolution No. 22, revised)

**Draft questionnaire for a new Chapter 13, Regional and
national special requirements**

Note by the secretariat

I. Mandate

1. This document is submitted in line with Cluster 5: Inland Waterway Transport, para. 5.1, of the programme of work 2016-2017 (ECE/TRANS/2016/28/Add.1), adopted by the Inland Transport Committee at its seventy-eighth session on 26 February 2016.
2. At its fiftieth session, the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (SC.3/WP.3) agreed on a new structure of the Signs and Signals on Inland Waterways (SIGNI) (Resolution No. 22, Revision 2), set out in ECE/TRANS/SC.3/WP.3/2017/5 as a basis for its third revision. This revision will also include provisions of the Guidelines for Waterway Signs and Marking (Resolution No. 59, Revision 2).
3. In particular, SC.3/WP.3 agreed to introduce a new Chapter 13 containing additional information about provisions for waterway signs and marking that were omitted, complemented or modified by regional or national administrations. In order to collect the required information, the secretariat was asked to prepare the draft questionnaire given below for the consideration by SC.3/WP.3 at its next session (ECE/TRANS/SC.3/WP.3/100, para. 19 and 22).
4. SC.3/WP.3 may wish to consider and approve the draft questionnaire and give further instructions to the secretariat.

APPENDICES

Appendix 1, Minimal dimensions of the waterway signs

Basis: Guidelines for Waterways Signs and Marking, Appendix 1

Appendix 2, Properties of lights

Basis: Guidelines for Waterways Signs and Marking, Appendix 2

Appendix 3, Colours of reflected light for navigation signs

Guidelines for Waterways Signs and Marking, Appendix 3

Appendix 4, Rhythmic lights

SIGNI, Annex 1

Appendix 5, Recommendations for the lighting of traffic signs

Guidelines for Waterways Signs and Marking, Appendix 4

Appendix 7, Examples for variable-message traffic signs

Guidelines for Waterways Signs and Marking, Appendix 5

Thank you for your attention!

UNECE secretariat

● Email: victoria.ivanova@unece.org

Tel: + 41 (0) 22 917 13 12

Fax: + 41 (0) 22 917 00 39

Palais des Nations

8-14 avenue de la Paix

CH-1211 Geneva 10, Switzerland

All publications can be downloaded from:

www.unece.org/trans/main/sc3/sc3.html