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
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

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

By night
Obstructed side
- One red light

Clear side
- One red light above one white light

By day
Obstructed side
- One red flag or red board

Clear side
- One red flag or board above one white flag or board
or
- A red ball above a white or black ball (according to the background against which it is required to stand out)

Examples:

By night

By day

(fig. 3.13)

(fig. 3.13a)

Missing in Annex 8 to CEVNI, fig. 17 quater

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.

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

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

<table>
<thead>
<tr>
<th>Numbering</th>
<th>Signal</th>
<th>Description</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>A.1c¹</td>
<td><img src="image1" alt="Single red light" /></td>
<td>Single red light</td>
<td>“No passage” This signal shall apply: Either to some of the fairways or arms of the waterway (prohibited fairways under bridges, prohibited arms, etc.). Or to the whole of the waterway (stoppage of navigation, locks, etc.). 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)</td>
</tr>
<tr>
<td>A.1b¹</td>
<td><img src="image2" alt="Two red lights placed one above the other" /></td>
<td>Two red lights placed one above the other (a pair)</td>
<td>Complete and prolonged stoppage of navigation (blockage of waterway, bridges or locks out of service, etc.)</td>
</tr>
<tr>
<td>A.1d¹</td>
<td><img src="image3" alt="Two red lights placed side by side" /></td>
<td>Two red lights placed side by side (a pair)</td>
<td>Complete but brief stoppage of navigation. This signal shall always be operable as required (movable bridges, locks, narrow fairways, etc.) Extinction of one of the red lights means: “Passage forbidden (passage about to be authorized)”</td>
</tr>
<tr>
<td>A.11c¹</td>
<td><img src="image4" alt="A red light above a white light" /></td>
<td>A red light above a white light</td>
<td>“Do not cause wash”</td>
</tr>
<tr>
<td>A.9b</td>
<td><img src="image5" alt="One red light above a white light" /></td>
<td>One red light above a white light, a second red light being placed alongside the first</td>
<td>“Presence of an obstacle. Pass only on the side showing both the red and the white lights, and do not cause wash”</td>
</tr>
<tr>
<td>A.9c</td>
<td><img src="image6" alt="Two red lights, each above a white light" /></td>
<td>Two red lights, each above a white light</td>
<td>“Presence of an obstacle. Pass on either side, but do not cause wash”</td>
</tr>
<tr>
<td>A.9d</td>
<td><img src="image7" alt="Two or more red lights set apart" /></td>
<td>Two or more red lights set apart</td>
<td>“No passage” (between the lights). See also A.10c</td>
</tr>
<tr>
<td>A.10b¹</td>
<td><img src="image8" alt="Two red lights set apart with a yellow light between them" /></td>
<td>Two red lights set apart with a yellow light between them</td>
<td>“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</td>
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### Chapter 4, LIGHTS

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<td>A.11a¹</td>
<td><img src="image" alt="A.11a signal" /></td>
<td>A red light and a green light placed side by side (a pair) or a red light above a green light</td>
<td>“No passage now but stand by to go ahead”. This signal is always operable as required.</td>
</tr>
<tr>
<td>A.11b¹</td>
<td><img src="image" alt="A.11b signal" /></td>
<td></td>
<td></td>
</tr>
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#### B. Mandatory signs

| B.10 | ![B.10 signal](image) | 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.2b¹ | ![D.2b signal](image) | Two green lights set apart | “Go ahead between the lights” |
| D.1b¹ | ![D.1b signal](image) | 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.1g¹ | ![D.1g signal](image) | | |

| D.1f¹ | ![D.1f signal](image) | 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.1e¹ | ![D.1e signal](image) | | |

| D.3b | ![D.3b signal](image) | 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.1b¹ | ![E.1b signal](image) | 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

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<td><img src="image" alt="Signal" /></td>
<td>Two green lights placed side by side (a pair)</td>
<td>“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.</td>
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<td>E.1d¹</td>
<td><img src="image" alt="Signal" /></td>
<td>Two green lights placed one above the other (a pair)</td>
<td>“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).</td>
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<td>E.1e¹</td>
<td><img src="image" alt="Signal" /></td>
<td>One red light and two green lights placed one above the other</td>
<td>“Pass only on the side showing two green lights.”</td>
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<td><img src="image" alt="Signal" /></td>
<td>Two pairs of green lights placed one above the other</td>
<td>“Pass on either side.”</td>
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<td>E.12</td>
<td><img src="image" alt="Signal" /></td>
<td>One or two white lights: ²</td>
<td>“Difficulty ahead - Stop if the regulations so require.”</td>
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<tr>
<td>E.12a</td>
<td><img src="image" alt="Signal" /></td>
<td>Fixed light(s): advance signal</td>
<td>Examples: Lock closed, vessel navigating in the opposite direction.</td>
</tr>
<tr>
<td>E.12b</td>
<td><img src="image" alt="Signal" /></td>
<td>or</td>
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<td>Examples: Lock open, no vessel navigating in the opposite direction.</td>
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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

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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

Diagram:
- D.2a: Mere recommendation to vessels to keep between the limits indicated
- D.2b:
- A.10a: Passage prohibited outside the limits indicated
- A.10b:
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 A.1d

or Stand by to “proceed”

A.11a A.11b

or “Go ahead”

E.1b E.1c
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)
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
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!

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