Working Party on Inland Water Transport

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

Fiftieth session
Geneva, 15-17 February 2017
Items 5 (b) and 7 (b) of the provisional agenda

Status report of the Joint VTT and Inland ECDIS Working Group regarding the proposal on a new Chapter 12 of SIGNI, Monitoring of Signs and Marking by AIS Aids to Navigation

Transmitted by the Chairs of VTT and Inland ECDIS Expert Groups

I.   General remarks

The process of preparing amendments for the two standards VTT and Inland ECDIS with the aim to standardise the use of AIS AtoNs at inland waterways in medium term is ongoing. The international VTT Expert Group and the international Inland ECDIS Expert Group have established a joint working group for this purpose. The topic is currently supported by the new project of the European Commission: RIS COMEX (see Part III).

Chairs of VTT and Inland ECDIS Expert Groups support the proposal to introduce a new Chapter 12, Monitoring of signs and marking by AIS Aids to Navigation, to SIGNI as proposed in ECE/TRANS/SC.3/WP.3/2017/5. For this purpose the status quo of the discussion on the definition and visualisation of a harmonised AIS Aids to Navigation Report is reproduced below, as it may be relevant to the contents of the new Chapter 12.

II.   Status quo of the discussion on the definition and visualisation of a harmonised AIS Aids to Navigation Report

The joint working group has defined an extension to the existing type of AtoNs which addresses the special types of AtoNs used on inland waterways. This extension will be used in addition to the existing table of "Type of AtoN" in AIS Message 21 "AIS Aids to Navigation Report Message".

The joint working group has also defined the visualisation of the inland specific "Type of AtoN" and agreed on the type of AtoNs as described in the table below.

	Code	CEVNI code	Real AtoN on position	Real AtoN missing	Real AtoN off position	Virtual AtoN	Name
	0						Default, Type not specified
Fixed aids, landmarks	1	4.A + 4.B					Channel near the right bank
	2	5.A + 5.B					Channel near the left bank
	3	4.C + 4.D					Cross-over right bank
	4	5.C + 5D					Cross-over left bank
	5	8.C - 8.C2					Bridge pillar
	6	8.C3 + 8.C4					Overhead cable
floating aids	7	1.A - 1.D					Buoy right-hand side
	8	2.A - 2.D					Buoy left-hand side
	9	3.A - 3.D					Bifurcation
	10	3.E1 + 3.F1					Bifurcation, pass right-hand side
	11	3.E + 3.F					Bifurcation, pass left-hand side
	12	1.F + 1.F1					Danger point or obstacle right-hand side
	13	2.F + 2.F1					Danger point or obstacle left-hand side
	14	-					Berth right-hand side
	15	-					Berth left-hand side

	Code	CEVNI code	Real AtoN on position	Real AtoN missing	Real AtoN off position	Virtual AtoN	Name
other		A.1					No entry, not specified
	16	A.1					No entry upstream
	17	A.1					No entry downstream
	18	A.9					Do not create wash upstream
	19	A.9					Do not create wash downstream
	20	C.2					Headroom limited
	21	-					Signal float
reserved	22 – 31						Reserved for future use

For Real AtoNs two cases are considered depending on location:

1. The Real AtoN is "On Position"

The position of the AtoN is within a circle of "acceptance". For the visualisation in the ECDIS Chart, the symbol shown in the column "Real AtoN, on position" of the table is used.

2. The Real AtoN is "Off Position"

The position of the AtoN is out of the circle of "acceptance". Then the visualisation in the ECDIS Chart is twice:

(a) at the position where the AtoN should be, the symbol in the column "Real AtoN, missing" is used and,

(b) at the position where the AtoN actually is and where no regulation exists, the symbol in the column "Real AtoN, off position" is used.

This kind of different visualization follows the use in maritime ECDIS.

For Virtual AtoNs it is planned to use the symbols in the column "Virtual AtoN".

The design of the symbols follows the CEVNI design, enclosed in a diamond, with different line styles and colours.

III. Pilots planed in the RIS COMEX project

The RIS COMEX project started in January 2017 and will run until end of 2020. One of the main aims of RIS COMEX is to realize sustainable services.

Regarding AtoNs, pilot applications in different regions are planned:

- At the river Elbe with the Czech Republic, Germany and the Hamburg Port Authority,
- At the Danube with Austria and Slovakia.

The planned measures along the river Elbe:

- Extensions of the national software which provides the necessary user environment for the responsible staff, with the functionality to administer and publish AtoNs.
- The AIS infrastructure has to be extended along the Elbe river.
- The AIS data exchange has to be realized.
- The ECDIS producers have to be included for realizing the AtoN visualisation at the Inland ECDIS systems on board.
- Shipping companies take also part in the pilot phase.
- For recreational navigation, which has no ECDIS system on board, a public Web Map Service (WMS) is planned which can be combined with the public IENC WMS.

The tasks and objectives regarding AtoNs and ASM (out of the RIS COMEX work program):

Task 1: Onshore measures to increase safety of navigation

- Realise reference implementation(s) of physical and/or virtual AIS Aids to Navigation (AtoN) on a free flowing section based on the existing draft implementation guidelines from the VTT Expert Group and considering the experiences out of the FAIRway Danube project pilots.
- Evaluate and document the results and provide feedback and further input towards the finalisation of the guidelines for implementation and operation of AIS AtoN (VTT Expert Group).
- Identify and further investigate potential additional shore based measures to increase safety of navigation (e.g. bridge clearance display directly at bridges, etc.), especially based on input from stakeholder consultation (mainly skippers).

Task 2: On-board measures to increase safety of navigation

- Investigate existing Application Specific Messages (ASM) relevant for Corridor Management Services and existing draft visualisation guidelines for the related information.
- Elaborate respectively complete existing draft visualisation guidelines for related information of the ASM.
- Realise reference implementation(s) displaying related ASM data based on the visualisation guidelines in cooperation with developers of on-board applications (e.g. Inland ECDIS display).

- Evaluate and document the results including lessons learned and recommendations as well as fine-tuning and finalisation of the visualisation guidelines for the ASM information.

- Identify and set appropriate measures to optimise the visualisation of Notices to Skippers on-board the vessels (e.g. within Inland ECDIS display).

- Identify and further investigate potential additional on-board measures to increase safety of navigation, especially based on input from stakeholder consultation (mainly skippers).

Task 3: Risk-based Vessel Traffic Services

- Elaborate a study on "risk based vessel traffic services" as basis for predictions of potential risky encounters or risky traffic conditions in a VTS environment considering not only the technical feasibility but also human factor effects.

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