Edition 1.2
14 October 2014

Technical Clarifications

on

Vessel Tracking and Tracing Standard for Inland Navigation, Edition 1.2

Contents

1. Introduction

The “Vessel Tracking and Tracing Standard for Inland Navigation” and the “Test Standard for Inland AIS” are documents that describe the technical characteristics for an Inland Automatic Identification System.

As with any technical document some concepts are subject to interpretation. This document presents a series of clarifications for some of these concepts as agreed by the European Expert Group for Vessel Tracking and Tracing.

This document deals specifically with technical details of Inland AIS. It acknowledges the fact that some of the specific technical paragraphs in the “Vessel Tracking and Tracing Standard for Inland Navigation”, Edition 1.2 and the “Test Standard for Inland AIS” might require interpretations as to their precise, intended meaning. Consequently, this document presents a set of unifying recommendations that will, hopefully, result in a standardized application of these paragraphs by potential manufacturers, system integrators as well as users of the systems. Adherence to these recommendations will ensure the viability of the VDL and the interoperability among AIS units obtained from different sources.

2. Technical Clarifications on Vessel Tracking and Tracing Standard for Inland Navigation; Edition 1.2

Important General Remark

Every clarification of this Chapter is presented in a uniform way:

- Every clarification is introduced in the appropriate context of the “Vessel Tracking and Tracing Standard for Inland Navigation” or the “Test Standard for Inland AIS”, which is always quoted as a whole section. This is done to ensure, that all clarifications are to be understood in their appropriate context.
- The verbatim text of the “Vessel Tracking and Tracing Standard for Inland Navigation” or the “Test Standard for Inland AIS” is given in italics; additions by the clarification are given upright and underlined as of previous clarification editions and upright and double underlined in the present edition. Deleted text portions are identified with ~~strike-out~~ as of previous clarification editions and ~~double strike-out~~ in the present edition.
- For every clarification a rationale is given to allow complete understanding as to why a clarification was needed also. Eventually, the clarifications will be incorporated into a future revision of the “Vessel Tracking and Tracing Standard for Inland Navigation” and the “Test Standard for Inland AIS”.
- A date of when the clarification was drafted by the European Expert Group for Vessel Tracking and Tracing is given.
- A comment contains additional information on the clarification itself. A future substantial change of the clarification results in the creation of a legacy issue. Any future change for those clarifications should therefore be done with the utmost caution.

3. Technical clarifications on Vessel Tracking and Tracing Standard for Inland Navigation; Edition 1.2

3.1 VTT Standard § 2.4.4.2.5 Inland specific message FI23: EMMA warning

3.1.1 Rationale for Clarification

Clarification regarding bit count. The standard method for bit count is to start with 0 instead with 1.

Clarification regarding the special way how internal representation of integer values for min and max value is used in this message. The efinition is different to the usual internal representation of integer values.

3.1.2 Proposed Clarifying Text

Table 2.11: EMMA warning report

	Parameter	No of Bit	Description
	Message ID	6	Identifier for Message 8; always 8
	Repeat Indicator	2	Used by the repeater to indicate how many times a message has been repeated. Default = 0; 3 = do not repeat any more
	Source ID	30	MMSI number
	Spare	2	Not used, should be set to zero. Reserved for future use.
Binary data	Application Identifier	16	As described in Table 2.6
	Start date	17	Start of validity period (YYYYMMDD), Bits ~~18-10~~ 16-9: year since 2000 1-255; 0 = default) Bits ~~9-6~~ 8-5: month (1-12; 0 = default) Bits ~~5-1~~ 0-4: day (1-31; 0 = default)
	End date	17	End of validity period (YYYYMMDD), Bits ~~18-10~~ 16-9: year since 2000 1-255; 0 = default) Bits ~~9-6~~ 8-5: month (1-12; 0 = default) Bits ~~5-1~~ 0-4: day (1-31; 0 = default)
	Start time	11	Start time of validity period (HHMM) UTC Bits ~~11-7~~ 10-6: hour (0-23; 24 = default) Bits ~~6-1~~ 5-0: minute (0-59; 60 = default)
	End time	11	End time of validity period (HHMM) UTC Bits ~~11-7~~ 10-6: hour (0-23; 24 = default) Bits ~~6-1~~ 5-0: minute (0-59; 60 = default)
	Start longitude	28	Begin of the fairway section; 0 = not available = default
	Start latitude	27	Begin of the fairway section; 0 = not available = default
	End longitude	28	End of the fairway section; 0 = not available = default
	End latitude	27	End of the fairway section; 0 = not available = default

	Parameter	No of Bit	Description
	Type	4	type of weather warning: 0 = default/unknown, others see ANNEX B: EMMA CODES Table B.1
	Min value	9	Bit 0: 0 = positive, 1 = negative value = default Bits 1 - 8 = value (0 - 253; 254 = 254 or greater, 255 = unknown = default) *1
	Max value	9	Bit 0: 0 = positive, 1 = negative value = default Bits 1 - 8 = value (0 - 253; 254 = 254 or greater, 255 = unknown = default) *1
	Classification	2	classification of warning (0 = unknown/default, 1 = slight, 2 = medium, 3 = strong/heavy) according to ANNEX B: EMMA CODESTable B.2
	Wind direction	4	direction of wind: 0 = default/unknown, others see ANNEX B: EMMA CODESAnnex B Table B.3
	Spare	6	not used, should be set to zero. Reserved for future use.
		256	occupies 2 slots

Note: *1 Definition is different to the usual internal representation of integer values

3.1.3 Date of amendment: 3 July 2014

3.1.4 Comment

No comment.

3.2 VTT Standard § 2.4.4.2.6 Inland specific message 24: water levels

3.2.1 Rationale for Clarification

Clarification regarding the special way how internal representation of integer values for water level is used in this message. The efinition is different to the usual internal representation of integer values.

3.2.2 Proposed Clarifying Text

Table 2.15: Water level report

	Parameter	Bit	Description
	Message ID	6	Identifier for Message 8; always 8
	Repeat Indicator	2	Used by the repeater to indicate how many times a message has been repeated. Default = 0; 3 = do not repeat any more
	Source ID	30	MMSI number
	Spare	2	Not used, should be set to zero. Reserved for future use.
Binary data	Application Identifier	16	As described in Table 2.6
Binary data	UN country code	12	UN country code using 2*6-Bit ASCII characters according to ERI specification; 0 = not available = default
Binary data	Gauge ID	11	National unique ID of gauge *1 1-2047, 0 = default = unknown
Binary data	Water level	14	Bit 0: 0 = negative value, 1 = positive value <u>*3</u> Bits 1-13: 1-8191, in 1/100m, Bits 0-13: 0 = unknown = default *2
Binary data	Gauge ID	11	National unique ID of gauge *1 1-2047, 0 = default = unknown
Binary data	Water level	14	Bit 0: 0 = negative value, 1 = positive value <u>*3</u> Bits 1-13: 1-8191, in 1/100m, Bits 0-13: 0 = unknown = default *2
Binary data	Gauge ID	11	National unique ID of gauge *1 1-2047, 0 = default = unknown
Binary data	Water level	14	Bit 0: 0 = negative value, 1 = positive value <u>*3</u> Bits 1-13: 1-8191, in 1/100m, Bits 0-13: 0 = unknown = default *2
Binary data	Gauge ID	11	National unique ID of gauge *1 1-2047, 0 = default = unknown
Binary data	Water level	14	Bit 0: 0 = negative value, 1 = positive value <u>*3</u> Bits 1-13: 1-8191, in 1/100m, Bits 0-13: 0 = unknown = default *2
		168	occupies 1 slot

*1 should be defined by ERI for each country

*2 difference value referring to reference waterlevel (GlW in Germany, RNW on the Danube)

<u>*3 definition is different to the usual internal representation of integer values</u>

3.2.3 Date of amendment: 3rd July 2014

3.2.4 Comment

No comment.

3.3 VTT Standard Annex D: DIGITAL INTERFACE SENTENCES FOR INLAND AIS

3.3.1 Rationale for Clarification

Clarification because PI sentences have been amended in the Inland AIS test standard.

3.3.2 Proposed Clarifying Text

ANNEX D: DIGITAL INTERFACE SENTENCES FOR INLAND AIS

D.1 Input sentences

The serial digital interface of the AIS is supported by existing IEC 61162 sentences and new IEC 61162 like sentences. The detailed descriptions for the digital interface sentences are found in IEC 61162.

Information used during the development of Inland AIS in order to input the inland specific data into the Inland AIS shipboard unit.

D.2 Inland Waterway Static Ship data

This sentence is used to enter inland navigation static ship data into a Inland AIS unit. For setting the inland static ship data the sentence $PIWWSSD with the following content is used:

~~$PIWWSSD,cccccccc,xxxx,xxx.x,xxx.x,x,x,x*hh<CR><LF>~~

~~NOTE 1 ERI ship type according to ERI classification (see Annex E)~~
~~NOTE 2 length of ship 0 to 800,0 meter~~
~~NOTE 3 beam of ship 0 to 100,0 meter~~
~~NOTE 4 quality of speed information 1=high or 0=low~~
~~NOTE 5 quality of course information 1=high or 0=low~~
~~NOTE 6 quality of heading information 1=high or 0=low~~

This sentence is used to change settings, which are not covered by SSD and VSD.

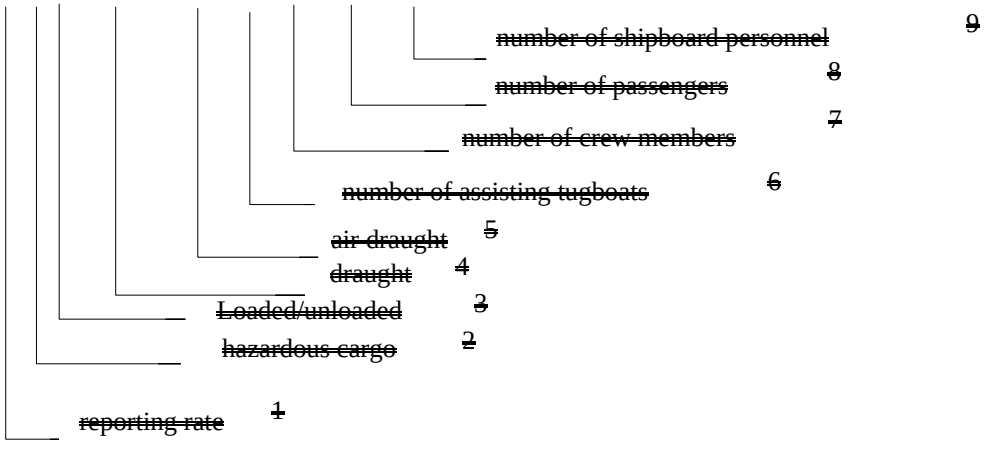
$PIWWSSD,cccccccc,xxxx,x.x,x.x,x,x,x,x.x,x.x,x.x,x.x*hh<CR><LF>
field 1 2 3 4 5 6 7 8 9 10 11

Field	Format	Description
1	cccccccc	ENI number
2	xxxx	ERI ship type according to ERI classification (see Vessel Tracking and Tracing Standard for Inland Navigation, Edition 1.0, Annex E, CCNR, 31.5.2006)
3	x.x	length of ship 0 to 800,0 meter
4	x.x	beam of ship 0 to 100,0 meter
5	x	quality of speed information 1=high or 0=low
6	x	quality of course information 1=high or 0=low
7	x	quality of heading information 1=high or 0=low
8	x.x	B value for internal reference position (distance reference point to stern)
9	x.x	C value for internal reference position (distance reference point to port side)
10	x.x	B value for external reference position (distance reference point to stern)
11	x.x	C value for external reference position (distance reference point to port side)

D.3 Inland Waterway voyage data

This sentence is used to enter inland navigation voyage ship data into a Inland AIS unit. For setting the inland voyage related data the sentence $PIWWIVD with the following content is used:

~~$PIWWIVD,x,x,x,xx.xx,xx.xx,x,xxx,xxxx,xxx*hh<CR><LF>~~



~~NOTE 1 See Table 2.5 Reporting rate settings, default setting: 0~~
~~NOTE 2 number of blue cones: 0-3, 4=B-Flag, 5=default=unknown~~
~~NOTE 3 0=not available=default, 1=loaded, 2=unloaded, rest not used~~
~~NOTE 4 static draught of ship 0 to 20,00 meters, 0=unknown=default, rest not used~~
~~NOTE 5 air draught of ship 0 to 40,00 meters, 0=unknown=default, rest not used~~
~~NOTE 6 number of assisting tugboat 0-6, 7=default=unknown, rest not used~~

~~NOTE 7 number of crew members on board 0 to 254, 255=unknown=default, rest not used~~
~~NOTE 8 number of passengers on board 0 to 8190, 8191=unknown=default, rest not used~~
~~NOTE 9 number of shipboard personnel on board 0 to 254, 255=unknown=default, rest not used~~

$PIWWIVD,x,x,x,x.x,x.x,x,xxx,xxxx,xxx,x.x,x.x,x.x,x.x*hh<CR><LF>
field 1 2 3 4 5 6 7 8 9 10 11 12 13

Field	Format	Description
1	x	See Table 2.5 Reporting rate settings, default setting: 0
2	x	number of blue cones: 0-3, 4=B-Flag, 5=default=unknown
3	x	0=not available=default, 1=loaded, 2=unloaded, rest not used
4	x.x	static draught of ship 0 to 20,00 meters, 0=unknown=default, rest not used
5	x.x	air draught of ship 0 to 40,00 meters, 0=unknown=default, rest not used
6	x	number of assisting tugboat 0-6, 7=default=unknown, rest not used
7	xxx	number of crew members on board 0 to 254, 255=unknown=default, rest not
8	xxxx	number of passengers on board 0 to 8190, 8191=unknown=default, rest not used
9	xxx	number of shipboard personnel on board 0 to 254, 255=unknown=default, rest not used
10	x.x	Convoy extension to bow in (meter.decimeter = resolution in dm)
11	x.x	Convoy extension to stern in (meter.decimeter = resolution in dm)
12	x.x	Convoy extension to port side in (meter.decimeter = resolution in dm)
13	x.x	Convoy extension to starboard side in (meter.decimeter = resolution in dm)

In case of null fields the corresponding configuration setting shall not be changed.

3.3.3 Date of amendment: 11 November 2013

3.3.4 Comment

No comment.