

**ECONOMIC COMMISSION FOR EUROPE
INLAND TRANSPORT COMMITTEE
Working Party on Inland Water Transport**

INTERNATIONAL STANDARDS FOR NOTICES TO SKIPPERS AND FOR ELECTRONIC SHIP REPORTING IN INLAND NAVIGATION

Resolution No. 60



**UNITED NATIONS
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**INTERNATIONAL STANDARDS FOR NOTICES TO SKIPPERS
AND FOR ELECTRONIC SHIP REPORTING IN INLAND NAVIGATION**

Resolution No. 60

adopted by the Working Party on Inland Water Transport on 20 October 2005

The Working Party on Inland Water Transport,

Considering its resolution No. 57 on River Information Services (TRANS/SC.3/165) and desiring to promote the rapid establishment of harmonized river information services on the European inland waterway network,

Believing that the adoption within the UNECE of single pan-European standards for notices to skippers and electronic ship reporting in inland navigation will serve to achieve this goal, help to overcome language difficulties, facilitate the electronic exchange of data between all partners involved in transport by inland navigation vessels and increase the efficiency and safety of such transport,

Taking into account that relevant international standards were adopted recently by the member States of the Central Commission for the Navigation of the Rhine and that the Danube Commission is also considering their use,

Bearing in mind the report of the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation on its twenty-ninth session (TRANS/SC.3/WP.3/58, para. 45),

1. *Recommends* Governments to base the development and introduction of systems for the dissemination of notices to skippers and for electronic ship reporting in inland navigation on the international standards reproduced in the annex to this resolution,

2. *Requests* Governments to inform the Executive Secretary of the Economic Commission for Europe whether they accept this resolution,

3. *Requests* the Executive Secretary of the Economic Commission for Europe to place the question of the application of this resolution periodically on the agenda of the Working Party on Inland Water Transport.

Annex ^{1/}

PART I

**INTERNATIONAL STANDARD FOR
NOTICES TO SKIPPERS FOR INLAND NAVIGATION****Content**

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^{1/} Annex to Resolution No. 60 is split into two parts: Part I “International Standards for Notices to Skippers for Inland Navigation” and Part II “International Standard for Electronic Ship Reporting in Inland Navigation”.

^{2/} Appendices A-C are reproduced in English and French on the website of the UNECE Working Party on Inland Water Transport: <http://www.unece.org/trans/main/sc3/sc3/sc3fdoc.html>.

INTERNATIONAL STANDARDS FOR NOTICES TO SKIPPERS FOR INLAND NAVIGATION

PREFACE

In the recent years many countries have implemented internet-services for notices to skippers. Most of the existing services are providing information in the national language. As many notices are safety related or very important for the planning of voyages, the availability of all the notices for European waterways in all the languages would contribute to increasing safety and competitiveness of Inland Navigation.

This draft of a European standard has been developed by the “Notices to Skippers Expert Group”.

INTRODUCTION (PRIMARY FUNCTIONS AND PERFORMANCE)

The standardization of Notices to Skippers shall

- provide automatic translation of the most important content of notices in all the languages of the participating countries,
- provide a harmonized structure of data-sets in all the participating countries to facilitate the integration of notices in voyage-planning systems,
- provide a standard for water level information,
- be compatible with the data-structure of Electronic Chart Display and Information System for inland navigation (Inland ECDIS) to facilitate integration of Notices to Skippers in Inland ECDIS,
- facilitate data-exchange between different countries.

It will not be possible to standardize all the information, which is contained in Notices to Skippers. Part of the information will be provided as “free text” without automatic translation. The standardized part should cover all the information which is

- important for the safety of Inland Navigation (for example: sunken small craft on the right side of the fairway at the Danube, river-km 2010)
- needed for voyage planning (for example: closure of locks, reduction of vertical clearance, etc.)

Additional information (for example: cause of the closure of a lock) can be given as free text.

DATA STANDARD

Notices to Skippers shall be provided according to Annex 1, XML Message Specification. The use of free text should be restricted to a minimum.

WATER LEVEL INFORMATION

Water level information is very important for voyage planning as well as safety. At the moment there is no common standard of referencing water level information. Germany is using the GIW, “gleichwertiger Wasserstand”, for example, the Danube Commission is recommending the RNW, Regulierungs Niederwasser, which is defined slightly differently. The vertical clearance mostly refers to a high water level, but sometimes to low water level. The values of gauges pertain to different sea-levels or to special reference points. Therefore, it is not possible to integrate water level information in systems for automatic calculation of clearances.

Appendix A of Annex 1 to Part I contains a list of gauges relevant for inland navigation with their reference values. The water level information in the message can be referred to the zero point of a gauge, as it has been done in the past, and the on-board software can calculate the absolute height by use of the reference data of the standard.

WAY OF DISTRIBUTION

If the competent authorities provide Notices to Skippers of their own country in such a way that these notices can be used by speakers of other languages, they shall be provided according to this standard in XML-format downloadable in the Internet. In order to enable a specific download, Internet services should provide a possibility to select:

- a specific waterway section (fairway section number of the ID according to Annex 1, Table 1); or
- a specific part of a waterway, defined by the river-km (fairway hectometer of the ID according to Annex 1, Table 1) of the starting and the end point;
- a time of validity (starting date and end date according to Annex 1, Table 1);
- and a date of publication of the notice (date of publication according to Annex 1, Table 1).

Notices according to this standard can additionally be provided for example by

- Wireless Application Protocol (WAP) services;
- E-mail services.

Data exchange between the authorities is recommended. All the authorities using this standard can integrate Notices of other authorities and countries in their own services. The participating parties (authorities) can agree on the procedure of transmitting the XML messages by push or pull services directly.

ANNEX 1 : STRUCTURE OF THE MESSAGES AND CODING IN XML-FORMAT

1. INTRODUCTION

This annex describes the structure and formatting of standardized electronic navigation information - messages that can be sent by local authorities to inland navigation vessels.

2. STRUCTURE OF THE NOTICES TO SKIPPERS

2.1 General

Navigation messages, with navigation information for inland skippers about a geographical object have the following information sections:

- Identification of the message.
- Fairway and traffic related message.
- Water level related messages as:
 - Water level messages;
 - Least sounded depth - messages;
 - Vertical clearance - messages;
 - Barrage status - messages;
 - Discharge messages;
 - Regime messages;
 - Predicted water level - messages;
 - Least sounded predicted depth - messages;
 - Predicted discharge - messages.
- Ice messages.

A standardized message in XML-format contains therefore also 4 different sections:

- Identification
- Fairway and traffic related messages
- Water level related messages
- Ice messages.

Normally in one message only 2 sections will be filled: The identification section and at least **one** of the following sections: Fairway and traffic related, Water level related or Ice message (mix of sections, different type of message information is not allowed).

The fairway and traffic related section contains limitations for a Fairway (link) or an Object. The diagram also shows that a Notice to Skippers relates to a Fairway **or** a geographical Object (point). If the message is about an Object the fairway section shall be filled with the related fairway information without the limitation section. If one notice contains different limitations for different target groups or different communication information for different limitations, several fairway and traffic related sections with the same number can be used.

The Water level related message section contains measurements for an Object usually a tide gauge.

The Ice message section contains information about the ice conditions and for a fairway (link).

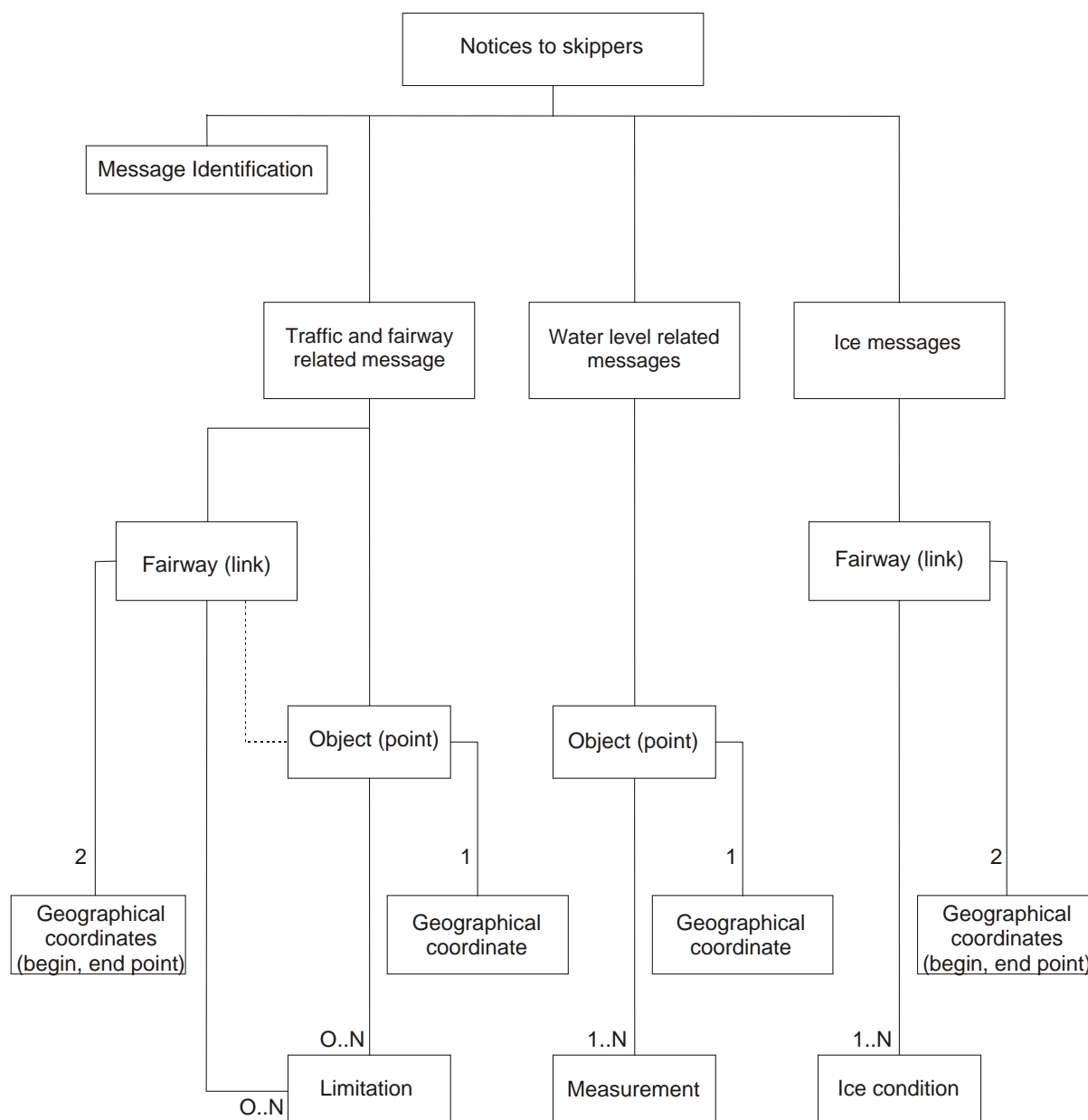


Figure 1: Navigation Message structure

2.2 XML definition overview

This section gives an overview of the definition of the message coded in XML. Appendix A contains a complete definition for all the XML elements including the possible formats.

Table 1, XML message specification

Nr.	Tag (Group headers and closers are boldly printed)	Description	Mandatory Conditional	Rule applicable
	<?xml version="1.0" encoding="iso-8859-1" ?> <RIS_Message>	Notice to Skippers		
1s	<identification>	Identification section	M	1
1.1	<from>String</from>	Sender of the message	M	
1.2	<originator>Riza</originator>	Originator (initiator) of the information in this message	M	
1.3	<country_code>CH</country_code>	Country where message is valid	M	
1.4	<language_code>HU</language_code>	Original language used in the textual info. (contents)	M	
1.5	<district>WaddenZee</district>	District / Region within the specified country, where the message is applicable	C	
1.6	<date_issue>20011231</date_issue>	Date of editing	C	
1.7	<time_issue>1145</time_issue>	Time of editing	C	
1e	</identification>			
2s	<ftm>	Fairway and traffic related section	C	1
2.1	<year>2001</year>	Year of first issuing of the notice	M	
2.2	<number>9999</number>	Number of the notice (per year)	M	
2.3	<serial_number>99</serial_number>	Serial no of notice (replacements and withdrawals) original notice: 00	M	
2.4s	<target_group>	Target group information	C	
2.4.1	<target_group_code>ALL</target_group_code>	Target group (vessel type) for this message	M	Default: all
2.4.2	<direction_code>ALL</direction_code>	Upstream or downstream traffic, or both	M	Default:all
2.4e	</target_group>			
2.5	<subject_code>OBSTRU</subject_code>	Subject code	M	
2.6s	<validity_period>	Overall period of validity	M	
2.6.1	<date_start>20011231</date_start>	Start date of validity period	M	
2.6.2	<date_end>99999999</date_end>	End date of validity period (indefinite: 99999999)	M	
2.6e	</validity_period>			
2.7	<contents>String</contents>	Contents / notice text in original language	C	
2.8	<source>String</source>	Notice source (authority)	C	
2.9	<reason_code>REPAIR</reason_code>	Reason / justification of notice	C	
2.10s	<communication>	Communication channel information	C	
2.10.1	<reporting_code>INF</reporting_code>	Reporting regime (information or duty to report)	M	5
2.10.2	<communication_code>TEL</communication_code>	Communication code (telephone, VHF etc.)	M	5
2.10.3	<number>String</number>	Telephone, VHF number, e-mail address, URL or teletext	C	5
2.10e	</communication>			
2.11s	<fairway_section>	Fairway section, also available for objects (no. 2.12)	M	2
2.11.1s	<geo_object>	Geo information of fairway	M	
2.11.1.1	<id>String</id>	Unique id of the fairway section (1x or 2x)	M	
2.11.1.2	<name> String </name>	(Local) Name of the fairway section (f.e.: Rhine between bridge A and bridge B)	M	
2.11.1.3	<type_code>FWY</type_code>	Type of geographical object	M	Default: FWY
2.11.1.4s	<coordinate>	Fairway section begin and end coordinates (2x)	C	
2.11.1.4.1	<lat>42 34.1234 N</lat>		M	5
2.11.1.4.2	<long>123 45.1234 E</long>		M	5
2.11.1.4e	</coordinate>			
2.11.1e	</geo_object>			
2.11.2s	<limitation>	Fairway section limitations	C	
2.11.2.1s	<limitation_period>	Limitation periods / intervals	C	
2.11.2.1.1	<date_start>20011231</date_start>	Start date of limitation period (overall)	M	5
2.11.2.1.2	<date_end>20011231</date_end>	End date of limitation period	C	
2.11.2.1.3	<time_start>1420</time_start>	Start time of limitation period	C	
2.11.2.1.4	<time_end>0500</time_end>	End time of limitation period	C	
2.11.2.1.5	<interval_code>SAT</interval_code>	Interval for limitation if applicable	C	
2.11.2.1e	</limitation_period>			
2.11.2.2	<limitation_code>OBSTRU</limitation_code>	Kind of limitation	M	5
2.11.2.3	<position_code>AL</position_code>	Position, which side	M	5, default: all
2.11.2.4	<value>3.14159</value>	Value of limitation (i.e. max draught)	C	
2.11.2.5	<reference_code>NAP</reference_code>	Value reference	C	
2.11.2.6	<indication_code>MAX</indication_code>		C	
2.11.2e	</limitation>			
2.11.e	</fairway_section>			

Nr.	Tag (Group headers and closers are boldly printed)	Description	Mandatory Conditional	Rule applicable
2.12s	<object>	Object section ()	C	3
2.12.1s	<geo_object>	Geo Information of object	M	5
2.12.1.1.	<id>String</id>	Unique id of the geographical object	M	5
2.12.1.2	<name>String</name>	(Local) Name of the geographical object	M	5
2.12.1.3	<type_code>FWY</type_code>	Type of geographical object	M	5
2.12.1.4s	<coordinate>	Object coordinates (1x)	C	
2.12.1.4.1	<lat>42 34.1234 N</lat>		M	5
2.12.1.4.2	<long>123 45.1234 E</long>		M	5
2.12.1.4e	</coordinate>			
2.12.1e	</geo_object>			
2.12.2s	<limitation>	Object limitation section	C	
2.12.2.1s	<limitation_period>	Limitation periods / intervals (see <fairway section>)	C	
2.12.2.1.1	<date_start>20011231</date_start>		M	5
2.12.2.1.2	<date_end>20011231</date_end>		C	
2.12.2.1.3	<time_start>1420</time_start>		C	
2.12.2.1.4	<time_end>0500</time_end>		C	
2.12.2.1.5	<interval_code>SAT</interval_code>		C	
2.12.2.1e	</limitation_period>			
2.12.2.2	<limitation_code>OBSTRU</limitation_code>		M	5
2.12.2.3	<position_code>AL</position_code>		M	5, default: all
2.12.2.4	<value>3.14159</value>		C	
2.12.2.5	<reference_code>NAP</reference_code>		C	
2.12.2.6	<indication_code>MAX</indication_code>		C	
2.12.2e	</limitation>			
2.12^e	</object>			
2e	</ftm>			
3s	<wrm>	Water level related section	C	1
3.1s	<validity_period>	Overall period of validity of water level message	C	
3.1.1	<date_start>20011231</date_start>	Start date of validity period	M	5
3.1.2	<date_end>20011231</date_end>	End date of validity period	M	5
3.1e	</validity_period>			
3.2s	<geo_object>	Geo Information of measurement location, tide gauge	M	5
3.2.1	<id>String</id> (Waterway section)	Unique id of the geographical object	M	5
3.2.2	<name>String</name> (Pegelname)	(Local) Name of the geographical object	M	5
3.2.3	<type_code>FWY</type_code>	Type of geographical object	M	5, default: FWY
3.2.4s	<coordinate>	Object coordinates (1x or 2x)	C	
3.2.4.1	<lat>42 34.1234 N</lat>		M	5
3.2.4.2	<long>123 45.1234 E</long>		M	5
3.2.4e	</coordinate>			
3.2e	</geo_object>			
3.3	<reference_code>NAP</reference_code>	Value reference (measurement reference)	C	6
3.4s	<measure>	Measurements (normal or predicted values)	M	5
3.4.1	<predicted>1</predicted>	Predicted measurement (1) or real measurement (0)	M	5
3.4.2	<measure_code>DIS</measure_code>	Kind of water level related information	M	5
3.4.3	<value>314159</value>	Value	C	6
3.4.4	<difference>314159</difference>	Difference with previous measurement	C	
3.4.5	<barrage_code>OPD</barrage_code>	Barrage status	C	
3.4.6	<regime_code>HIG</regime_code>	Regime applicable	C	
3.4.7	<measuredate>20011231</measuredate>	Date of measurement	M	5
3.4.8	<measuretime>1420</measuretime>	Time of measurement	M	5
3.4e	</measure>			
3e	</wrm>			

Nr.	Tag (Group headers and closers are boldly printed)	Description	Mandatory Conditional	Rule applicable
4s	<icem>	Ice related section	C	1
4.1s	<validity_period>	Overall period of validity of ice information	C	
4.1.1	<date_start>20011231</date_start>	Start of validity period	M	5
4.1.2	<date_end>20011231</date_end>	End of validity period	M	5
4.1e	</validity_period>			
4.2s	<fairway_section>	Fairway	M	5
4.2.1	<geo_object>	Geo Information of fairway location	M	5
4.2.1.1	<id>String</id>	Unique id of the fairway section (1x or 2x)	M	5
4.2.1.2	<name>String</name>	(Local) Name of the fairway section	M	5
4.2.1.3	<type_code>FWY</type_code>	Type of geographical object	M	5, default: FWY
4.2.1.4	<coordinate>	Fairway section begin and end coordinates (2x)	C	
4.2.1.4.1	<lat>42 34.1234 N</lat>		M	5
4.2.1.4.2	<long>123 45.1234 E</long>		M	5
4.2.1.4e	</coordinate>			
4.2.1e	</geo_object>			
4.2e	</fairway_section>			
4.3s	<ice_condition>	Ice conditions	M	5
4.3.1	<measuredate>20011231</measuredate>	Date of measurement	M	5
4.3.2	<measuretime>1420</measuretime>	Time of measurement	M	5
4.3.3	<ice_condition_code>A</ice_condition_code>	Condition code	C	4
4.3.4	<ice_accessibility_code>A</ice_accessibility_code>	Accessibility code	C	4
4.3.5	<ice_classification_code>A</ice_classification_code>	Classification code	C	4
4.3.6	<ice_situation_code>A</ice_situation_code>	Situation code	C	4
4.3e	</ice_condition>			
4e	</icem>			
	</RIS_Message>			

Rules applicable to table 1:

- In one message at least 2 sections have to be filled in:
 - the identification section (1)
 - one of the sections:
 - Fairway and traffic related messages (2),
 - Water level related message (3)
 - Ice message. (4)
- Group 2.11 (fairway section) is also available for object related messages (no. 2.12)
- Group 2.12 (objects) is not available for fairway related messages (no. 2.11)
- In group 4.3, at least one of the conditional elements 4.3.3 to 4.3.6 have to be filled in
- If a conditional group contains mandatory subgroups or elements, these are only mandatory if the group on the higher level is applied.
- Only mandatory for water levels and vertical clearances

2.3 Explanation of tags

The meaning of the different tags used in the XML definition is described on the page “Tags” of appendix A to Annex 1.

2.4 Explanation of codes

The meaning of the different codes used in the XML definition is described in Appendix A. The formats and possible values of all XML elements are described in the XML Scheme in Appendix B to Annex 1.

Viewpoints/considerations - notices to skippers

- Notices can be divided into two categories, namely URGENT and NOT URGENT. Urgent notices always contain a limitation for shipping traffic. There must therefore be one or more records in the **limitations** section. If there is no limitation section the message is not urgent.
- Latitude (Lat) and Longitude (Long) coordinates are referred to WGS 84 and presented in degrees and minutes with at least three, but preferable four decimals (dd mm.mmmm N, ddd mm.mmmm E)
- Decimals in numeric fields are indicated with a . (period). No thousand separators are used.
- Only cm, m³/s, h, km/h and kW are allowed to be used as units.
- For Waterways there is no Objects section. For Objects (bridges, etc) the waterway section shall be included.
- The United Nations Code for Trade and Transport Locations (UN/LOCODE) according to the Ship Reporting Standard has to be used as unique ID.

2.4.1 Subject codes assigned to the notices to skippers

Blockage

In case no form of navigation is possible:

- through all the lock chambers of a lock;
- through all the passages of a bridge;
- passing a specified point on the fairway;
- on a specified section of the fairway.

Partial obstruction

In case limited navigation is possible:

- through one or more lock chambers of a lock, leaving at least one open;
- through one or more passages of a bridge, leaving at least one open;
- passing a specified point on the fairway, leaving a part of the fairway open.

<u>Delay</u>	<p>In case an obstruction occurs, limited in time, at a bridge, lock or on a section, between a specified start and end date.</p> <p><i>For example. Delay of at most 2 hours on November 13 2002 between 08:00 and 17:00.</i></p> <p><i>Encoded:</i></p> <p><i>date_start: 20021113</i></p> <p><i>date_end: 20021113</i></p> <p><i>time_start 0800</i></p> <p><i>time_end: 1700</i></p> <p><i>limitation_code: Delay</i></p> <p><i>Position_code: all</i></p> <p><i>value: 2</i></p>
<u>No service</u>	<p>In case a movable bridge is not operated during a specified period. This period should lie within the normal operating hours.</p> <p>No service of a lock is an Obstruction or Delay.</p> <p>No service of a movable bridge means that passing under the bridge still is possible. Otherwise it is an Obstruction.</p>
<u>Change Service</u>	<p>In case a modification in the normal operating hours occurs at a lock or bridge.</p> <p>Normally this means a limitation of the operating hours, due to work, rather than an increase.</p> <p>A limitation in the operating hours of a lock usually implies an obstruction.</p> <p>For example, if a lock normally is operated between 06:00 and 20:00, and the operating hours are now limited to between 10:00 and 14:00, then this will result in an obstruction between 06:00 and 10:00 and another obstruction between 14:00 and 20:00.</p> <p>A limitation in the operating hours of a bridge usually implies "No Service".</p>
<u>Vessel length</u>	<p>In case somewhere a smaller maximum length for passing vessels is allowed / possible.</p> <p>Usually this occurs at a lock (half lock chamber).</p>
<u>Clearance width</u>	<p>In case somewhere a smaller maximum width for passing vessels is available.</p> <p>This occurs during work on a lock / bridge.</p> <p>This subject is also used if the available width of the fairway is less, even if this has no influence on the maximum available width of the waterway.</p>
<u>Vessel air draught</u>	<p>In case somewhere a smaller maximum height for passing vessels is allowed.</p>

<u>Clearance height</u>	This occurs also if the vertical clearance is locally decreased by for example painting equipment
<u>Vessel draught</u>	In case somewhere a smaller maximum draught for passing vessels is allowed.
<u>Available depth</u>	In case the least sounded depth is modified. This has no impact on the maximum draught.
<u>No mooring</u>	In case somewhere on the fairway mooring is not allowed.
<u>Change of marks</u>	In case a change occurs in the fairway marks used for navigational purposes, such as buoys, beacons, sector lights, notice marks, etc.
<u>Work</u>	Other activities on or near the fairway which do not fall within the mentioned subjects.
<u>Dredging</u>	Dredging activities for which none of the other mentioned subjects are valid.
<u>Exercises</u>	Exercises for which none of the other mentioned subjects are valid.
<u>Event</u>	Events (rowing competitions, fireworks etc.) where none of the other mentioned subjects are valid.
<u>Announcement</u>	All other notices where none of the other (structured) subjects are valid.
<u>Notice withdrawn</u>	The message has to be published as a serial number of the original message.

If for one single message more subjects are possible, then the limitation with the greatest impact on shipping traffic is selected.

2.4.2. Explanation of Ice codes

The meaning of the ice codes used in the XML definition is described in Appendix A to Annex 1.

The thickness indicated in column 2 of the ice_condition_code gives information on average thickness only. The description has to be used to select the code for a specific situation.

2.4.3. Encoding of limitation periods

The limitation period has to be encoded by

- date_start
- date_end
- time_start
- time_end
- interval_code

As the limitation period is very important for voyage planning, limitation periods have to be encoded in accordance with the following examples:

Limitation period	date_start	date_end	time_start	time_end	Interval_code
2005-01-01, 07:00 to 2005-01-31, 20:00	20050101	20050131	0700	2000	Continuous (C)
2005-01-01 to 2005-01-31, each day from 07:00 to 20:00	20050101	20050131	0700	2000	Daily (M)
2005-01-01 to 2005-01-31, every working day (Monday to Friday) from 07:00 to 20:00	20050101	20050131	0700	2000	Monday to Friday (M)
2005-01-01 to 2005-01-21, each week from Monday 07:00 to Friday 20:00	20050103	20050107	0700	2000	Continuous (C)
	20050110	20050114	0700	2000	Continuous (C)
	20050117	20050121	0700	2000	Continuous (C)
2005-01-01 to 2005-01-31, each day from 07:00 to 20:00 with the exception of 2005-01-06	20050101	20050131	0700	2000	Daily (M)
	20050106	20050106			With the exception of (M)

PART II

STANDARD FOR ELECTRONIC SHIP REPORTING IN INLAND NAVIGATION**Contents**

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Annexes ^{3/}

1. Data items to be reported in the different services and functions of RIS
2. ERINOT message branching diagram
3. ERI message specifications
4. Classifications (codes) to be used in inland ship reporting
- 4.1 Codes for types of means of transport in inland navigation, Recommendation No. 28 of UNECE, extract for inland navigation with amendments by the CCNR for usage in the Standard for Electronic Ship Reporting in Inland navigation, 26 August 2002 (to Annex 4, No. 1)
- 4.2 Vessel and convoy type codes in four languages (to Annex 4, No. 1)
- 4.3 Examples for the combination of elements in the location code (to Annex 4, Nos. 11 – 14)

^{3/} Annexes 1-4 to this section are reproduced in English and French on the website of the UNECE Working Party on Inland Water Transport at the following address: <http://www.unece.org/trans/main/sc3/sc3/sc3fdoc.html>.

ABBREVIATIONS

ADN	European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways
ADN-D	Regulations concerning the Carriage of Dangerous Goods on the Danube
ADNR	Regulations concerning the Carriage of Dangerous Goods on the Rhine
AIS	Automatic Identification System (transponder)
<i>ATIS</i>	<i>Automatic Transmitter Identification System</i>
BICS	Electronic Reporting System (in Dutch: Binnenvaart informatie en communicatie systeem)
CCNR	Central Commission for Navigation on the Rhine
<i>CN</i>	<i>Combined Nomenclature (on Goods)</i>
<i>CUSCAR</i>	<i>Customs Cargo Report (Message)</i>
<i>CUSDEC</i>	<i>Customs Declaration (Message)</i>
ECDIS	Electronic Chart Display and Information System
EDI	Electronic Data Interchange
<i>EDIFACT</i>	<i>Electronic Data Interchange for Administration, Commerce and Transport</i>
<i>ERI</i>	<i>Electronic Reporting International</i>
<i>ERINOT</i>	<i>ERI Notification (Message)</i>
<i>ERIRSP</i>	<i>ERI Response (Message)</i>
<i>ERN</i>	<i>Electronic Reporting Number</i>
<i>HS</i>	<i>Harmonized System Code</i>
<i>IFTDGN</i>	<i>Dangerous goods notification (Message)</i>
<i>IFTMIN</i>	<i>Instruction (Message)</i>
IMDG Code	International Maritime Dangerous Goods Code of IMO
IMO	International Maritime Organization
IMO-FAL	Convention on the Facilitation of International Maritime Traffic, 1965, with amendments

INDRIS	Inland Navigation Demonstrator of River Information Services
ISO	International Organization for Standardization
NST/R	Standard Goods Classification for Transport Statistics / Revised
OFS	Official Ship Number
PAXLST	Passenger List (Message)
PIANC	International Navigation Association
PROTECT	International Organisation of North Europeans Ports Dealing with Dangerous Goods
PSTN	Public Switched Telephony Network; thus the normal telephone network, either mobile or fixed.
RIS	River Information Services
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UNECE	United Nations Economic Commission for Europe
UN/LOCODE	United Nations Code for Trade and Transport Locations
UNDG	United Nations Dangerous Goods (Number)
UNTDID	United Nations Trade Data Interchange Directory
VHF	Very High Frequency
VTS	Vessel Traffic Services
XML	Extended Mark-up Language

STANDARD FOR ELECTRONIC SHIP REPORTING IN INLAND NAVIGATION

1 PURPOSE AND SCOPE

(1) It is the purpose of this standard to facilitate electronic data interchange (EDI) between partners in inland navigation as well as partners in multi-modal transport with involvement of inland navigation.

(2) This standard intends to avoid reporting the data related to a voyage more than once to different authorities and/or commercial parties.

(3) This standard provides rules for the interchange of electronic messages between partners in the field of inland navigation. Public authorities and other parties concerned (ship owners, skippers, shippers, ports) shall exchange data in conformity with this standard.

(4) This standard describes the messages, data items and codes to be used in electronic ship reporting for the different services and functions of River Information Services.

(5) This standard is based on internationally accepted trade and transport standards and classifications and complements these for inland navigation. The standard reflects the experiences that have been gained in the European Research and Development Project INDRIS and in the applications of reporting systems in different countries - especially the Dutch application BICS. New developments that have been undertaken in the Working Group "Electronic Reporting International (ERI)" are included.

(6) This standard contains the basic and most important regulations for electronic ship reporting. Some regulations for special conditions have to be complemented after further experiences have been gained. The concerned fields are mentioned in footnotes to the respective paragraphs of this standard.

(7) In order to achieve compatibility with maritime navigation, two documents of the European Commission have been considered:

- Directive 2002/6/EC of the European Parliament and of the Council of 18 February 2002 on reporting formalities for ships arriving in and/or departing from ports of the Member States of the Community,

- Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC.

(8) In this standard the relation between private parties (shippers, skippers, terminal operators, fleet managers) and public parties (waterway authorities, public ports) is addressed. The relations between private parties without interference to public partners (e.g. between skippers and terminal operators) are not addressed.

2 DEFINITIONS

See:

- UN/EDIFACT Glossary, edited by UNECE
(www.unece.org/trade/untdid/texts/d300_d.htm),
- “Transport & Logistics Glossary“ by P&O Nedlloyd, November 2000.

The following generally customary terms are used in this standard:

Barge means a vessel that has no propulsion of its own.

Bulk Cargo means unpacked homogenous cargo poured loose in a certain space of a vessel or container, e.g. oil or grain.

Code means a character string used as an abbreviated means of recording or identifying information.

Competent authority means the authorities and organisations authorised by the governments to receive and pass on information reported pursuant to this standard.

Consignee means the party such as mentioned in the transport document by whom the goods, cargo or containers are to be received.

Consignor means the merchant by whom, in whose name or on whose behalf a contract of carriage of goods has been concluded with a carrier or any party by whom, in whose name or on whose behalf the goods are actually delivered to the carrier in relation to the contract of carriage (Synonyms: Shipper, Sender).

Data Element means a unit of data which, in certain context, is considered indivisible and for which the identification, description and value representation has been specified.

EDI number means the electronic address of the sender or receiver of a message (e.g. the sender and receiver of the cargo). This may be an E-mail address, an agreed identifier or a number of the European Article Numbering Association (EANA number).

Electronic Data Interchange (EDI) means the transfer of structured data by agreed standards from applications on the computer of one party to applications on the computer of another party by electronic means.

Electronic reporting international (ERI) means the endeavour to harmonise inland navigation vessel reporting in Europe, recommended by the ERI Group.

Forwarder means the party arranging the carriage of goods including connecting services and/or associated formalities on behalf of shipper and consignee.

Procedure means the steps to be followed in order to comply with a formality, including the timing, format and transmission method for the submission of required information.

Shipmaster means the person on board of the vessel being responsible for the operation of the vessel and having the authority to take all decisions pertaining to navigation and vessel management (synonyms: captain, skipper).

Transport notification means the announcement of an intended voyage of a vessel to a competent authority.

UN/EDIFACT means the United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport. They comprise a set of standards, directories and guidelines for the electronic interchange of structured data, and in particular that related to trade in goods or services between independent computerised information systems. Recommended within the framework of the United Nations, the rules are approved and published by the UNECE in the United Nations Trade Data Interchange Directory (UNTDID) and are maintained under agreed procedures.

Vessel (synonym: ship): In inland navigation, this term includes also small crafts, ferry boats and floating equipment.

Asynchronous Message means a message that can be delivered by the sender without explicitly having to wait for the processing of the message by the receiver. The receiver decides when to process the message.

3 NORMATIVE REFERENCES

- International Navigation Association (PIANC) Guidelines and Recommendations for River Information Services, 2002 (RIS Guidelines 2002)
- UNECE Guidelines and Recommendations for River Information Services, resolution No.57, TRANS/SC.3/165, 2004.
- United Nations Trade Data Interchange Directory (UNTDID) for EDIFACT:
 - Part 1: Introduction
 - Part 2: Uniform rules of conduct for interchange of trade data by teletransmission (UNCID)
 - Part 3: Terms and definitions
 - UN/EDIFACT Glossary
 - Part 4: UN Rules for EDIFACT
 - Chapter 1: Introduction
 - Chapter 2: General information
 - 2.1 Establishment of UN Standard Message Types (UNSM)
 - 2.2 UN/EDIFACT application level syntax rules (ISO 9735-1)
 - 2.3 UN/EDIFACT syntax implementation guidelines
 - 2.4 UN/EDIFACT message design guidelines
 - 2.5 UN/EDIFACT directory version/release procedures
 - 2.6 General description to UNSM descriptions

- Part 5: UNSM Specifications
 - Chapter 1: Introduction
 - Chapter 2: Message type directory EDMD (Edition 98.B, which is stable and recommended by the IMO)
 - Chapter 3: Segment directory EDSD
 - Chapter 4: Composite data element directory EDCD
 - Chapter 5: Data element directory EDED
 - Chapter 6: Consolidated code list UNCL
- UNECE: Trade Data Elements Directory UNTDED
 - Volume I: Standard data elements (ISO 7372)
 - Volume II: User code list
 - Volume III: Compendium of UNECE Trade Facilitation recommendations with i.a.:
 - Rec. 3: ISO Country Code for Representation of Names of Countries
 - Rec. 5: Abbreviations of INCOTERMS
 - Rec. 7: Numerical Representation of Dates, Time and Periods of Time
 - Rec. 10: Codes for the Identification of Ships
 - Rec. 16: UN/LOCODE – Code for Trade and Transport Locations
 - Rec. 19: Codes for Modes of Transport
 - Rec. 20: Codes for Units of Measurements used in International Trade
 - Rec. 25: Use of UN/EDIFACT
 - Rec. 26, Annex: Model interchange agreement for the international commercial use of electronic data interchange
 - Rec. 28: Codes for Types of means of transport
- PROTECT Dangerous Goods Message Scenario, Version 1.0, January 1999
- IMO Compendium on Facilitation and Electronic Business “Electronic Data Interchange (EDI) for the Clearance of Ships”, 2001 edition, FAL.5/Circ. 15
- IMO Convention on the Facilitation of International Maritime Traffic (FAL), 1965 with amendments.

Normative references on classifications (codes) are given in Annex 4

4 MESSAGING PROCEDURES

4.1 Ship-to-authority messaging

(1) Ship-to-authority messaging consists mainly of:

1. Transport notification messages on the voyages of loaded or empty ships within the jurisdictional area of the authority where such is applicable.
2. Arrival notification and position reports at locks, bridges, reporting points of traffic centres.

(2) Ship-to-authority messaging is not confined to messages sent from a ship directly to the authority. All messages concerning the ship, sent by or on behalf of the ship, count as ship-to-authority messaging even if sent by shippers ashore.

(3) If a permit for entering a jurisdictional area is needed, the notification shall be sent already at the start of the voyage to the authority and when entering the area.

4.1.1 Transport notification

(1) The transport notification message is used to inform the authorities of the intention to make a specified voyage with a specified ship either carrying a specified cargo or being empty.

(2) The transport notification can either originate from the skipper of the ship or from the shipper of the cargo on behalf of the skipper.

(3) Transport notifications shall be sent before the start of a voyage, before entering the jurisdictional area of an authority and after every significant change of the voyage data, e.g. number of crew on board or number of barges in the convoy. If a ship requires a permit for (a part of) the voyage, the competent waterway authority shall return an acknowledgement after processing the notification. This can indicate permission or refusal.

(4) Transport notification message exchanges shall be sent asynchronous but within short time.

(5) Every authority shall accept messages delivered as E-mail (electronic mail) in accordance with the message specification, either directly in the text or preferably as attachment to the E-mail. The mailbox itself shall be reachable directly by public telephone (PSTN) and indirectly through the Internet.

(6) Any authority can decide to accept additional other means of delivery. In case where notifications are given in the traditional way (e. g. on paper, by fax, by VHF), but further processed in an electronic way, the information has to be given in a way that it can be entered into an electronic system by the operators of the traffic centre, the lock or the bridge.

4.1.2 Arrival notification and position report

(1) The arrival notification shall be used to inform local waterway operators -- such as lock masters, bridge operators, traffic centre operators, ports and docking crew -- of the impending arrival of a ship. Arrival notifications shall be sent before arrival at a lock, bridge or port.

(2) Position reports shall be sent at certain reporting points at the waterway.

(3) Arrival notifications and position reports can be obtained by several means, either active or passive ^{4/}:

1 Visual / manual

The traditional way of notifying the arrival of a ship is visual. The exact time of arrival at the specific point is noted and in some cases manually entered into a computer system.

^{4/} These and other arrival and position reports are not specified in this standard.

2 By VHF radio

The ship may inform the lock or bridge of its presence by VHF. In this case the Automatic Transmitter Identification System (ATIS) code can be used to identify the calling ship and to insert the passage of the ship into the waiting queue of the lock's computer system. In this case, visual or radar control by the lock master is still necessary to avoid vessels entering themselves into the waiting queue prematurely.

3 By transponders (Automatic Identification System, AIS)

As transponders become more frequently used, they will probably be the ideal way of announcing the arrival of a ship. In addition they can send extra information, such as the presence of hazardous cargo on board.^{5/}

4.2 Authority-to-authority messaging

(1) Authority-to-authority messaging consists mainly of transport notifications for ships, either carrying cargo or being empty, travelling from one jurisdictional area to the other.

(2) A message shall be sent to the neighbouring authority if the ship passes a mutually agreed point on the fairway.

(3) All messages shall be sent asynchronous but within short time. The sending authority is allowed to ask for acknowledgement from the receiving authority.

(4) Every authority shall accept messages delivered as electronic mail in accordance to the message specification, either directly in the text or preferably as attachment to the E-mail. The mailbox itself shall be reachable either directly by public telephone (PSTN) and / or indirectly through the Internet. Authorities can decide to accept additional other means of delivery, for example a direct connection between the systems. These requirements are applicable also for port authorities which take part in such a service.

(5) If it is intended to forward a ship-to-authority-message from a waterway authority to a public port or a terminal, the skipper or shipper has to give the allowance explicitly in the original transport notification message.

4.3 Authority-to-ship messaging

(1) Authority-to-ship messaging consists mainly of acknowledgements and responses to previously submitted notification messages on travelling within the jurisdictional area of the authority.

(2) Authority-to-ship messaging could also encompass the sending of fairway information, such as notices-to-skipper and hydro-meteo information. This type of information is not dealt with in this standard.^{6/}

^{5/} To be defined in the Standard for Tracking and Tracing in Inland Navigation.

^{6/} The inclusion of notices-to-skipper into electronic ship reporting is dealt with in the standardisation of notices-to-skipper with direct relation to Inland ECDIS.

- (3) All messages shall be asynchronous but within short time.
- (4) Every sender of a notification message (skipper or shipper) participating in electronic reporting shall have access to a personalised mailbox to allow the reception of messages sent by an authority as electronic mail in accordance with the message specification, either as plain text or preferably as attachment to the electronic mail. To ensure the ease of use, such a mailbox shall be accessible by all parties in a permanent and consistent fashion taking into account costs, maintainability and convenience.
- (5) Authorities shall not send messages which do not comply with published standards. Authorities may only implement and send non-standard messages for specific purposes unique to the particular combinations of applications.

5 RIS SERVICES AND FUNCTIONS TO BE SUPPORTED

- (1) The following services are identified to be supported by electronic ship reporting ^{7/}:
- 1 Traffic management (strategic traffic information, lock and bridge management)
 - 2 Calamity abatement
 - 3 Transport management (port and terminal management, fleet and cargo management)
 - 4 Statistics
 - 5 Waterway infrastructure charges
 - 6 Border control
 - 7 Customs services.

The data items to be used in the different services are depicted in Annex 1 with some additional definitions.

6 EDIFACT MESSAGES

- (1) In electronic ship reporting, information is exchanged using messages.
- (2) The message standard currently in use is UN/EDIFACT that has the syntax rules for the message structure (ISO 9735-1). A recently developed competitive syntax is XML which is flexible and independent of the data format. Both, EDIFACT and XML use the same data structures and code tables. XML messages are much larger than EDIFACT messages. Since United Nations are still in the middle of XML message design, only EDIFACT is considered in this standard.
- (3) The ERI format for the dangerous goods notification is the UN/EDIFACT “Dangerous goods notification message (IFTDGN)”. The port authorities of Antwerp, Bremen, Felixstowe, Hamburg, Le Havre and Rotterdam have derived the PROTECT message from the IFTDGN message. Out of PROTECT, the ERI notification message has been derived for inland navigation. This procedure ensures that conformity between maritime and inland navigation is granted for dangerous and polluting goods.

^{7/} See Guidelines and Recommendations for River Information Services, UNECE Resolution No. 57, TRANS/SC.3/165, Ch. 4.5.

(4) Using some liberties of the IFTDGN message, the ERI notification message has been extended to allow non-dangerous goods to be notified. This feature allows to put all data of the transport or voyage notification (ship and cargo data of a voyage) in one single message.

(5) In this standard the following notation for acronyms has been used:

UPPER CASE: Original EDIFACT message

UPPER BOLD CASE: ERI message derived from EDIFACT message

(6) The structure of the ERI message is given in the branching diagram of **Annex 2**.

(7) The following messages shall be used in electronic ship reporting on inland waterways:

- **ERINOT**, means “ERI Notification Message”, derived from the IFTDGN 98B message and the PROTECT 1.0 message with the following **types**:
 - Transport notification from vessel to authority (identifier “VES”), from ship to shore
 - Transport notification from carrier to authority (“CAR”), from shore to shore
 - Passage notification (“PAS”), from authority to authority and the following **functions** to show what can be expected:
 - New message (identifier "9")
 - Modification of message (“5”)
 - Cancellation of message (“1”).
- **ERIRSP**, means “ERI Response Message”, derived from the APERAK message.
- PAXLST, means the “Passenger List Message”, using the IMO-FAL Form 6, including passengers, crew and service personnel.
- CUSCAR, means the “Customs Cargo Report Message”, using the IMO-FAL Form 2, as accepted by the G7 Group and the World Customs Organisation.
- CUSDEC, means the “Customs Declaration Message”.
- IFTMIN, means the “Instruction message” from barge operator to skipper with the functions.
 - container transport
 - tank transport ^{8/}

^{8/} To be developed within the work of the BICS container ship and the BICS tank ship expert groups.

(8) The following table defines the usage of the messages:

RIS Service and Function	Messages (and their types) in the procedures		
	Ship-to-authority	Authority-to-ship	Authority-to-authority
Traffic management	ERINOT (VES) ERINOT (CAR)	ERIRSP Notices to skippers	ERINOT (PAS)
Calamity abatement	ERINOT (VES) ERINOT (CAR) PAXLST	ERIRSP Notices to skippers	ERINOT (PAS) PAXLST
Transport management	ERINOT (VES) ERINOT (CAR) CUSCAR, CUSDEC	ERIRSP Notices to skippers	ERINOT (PAS) CUSCAR, CUSDEC
Statistics	ERINOT (VES) ERINOT (CAR) PAXLST CUSCAR, CUSDEC		
Waterway charges	ERINOT (VES) ERINOT (CAR)	ERIRSP	
Border control	PAXLST	ERIRSP	PAXLST
Customs services	CUSCAR, CUSDEC	ERIRSP	CUSCAR, CUSDEC

(9) The reporting procedure shall always start with the **ERINOT** message and send additional data by the PAXLST, CUSCAR and CUSDEC ^{9/} messages, using a reference to the **ERINOT** message.

(10) The EDIFACT messages shall be applied without any change. Their definitions can be found in the UNECE UNTDID.

(11) The specifications for the **ERINOT** and **ERIRSP** messages are given in **Annex 3**.

7 CLASSIFICATIONS AND CODE LISTS

(1) In order to minimise translating work to be done by the receivers of messages, classifications and code lists shall be used to the highest possible extent.

(2) Existing codes shall be used in order to avoid special work to be done for the assembling and maintenance of new code lists.

^{9/} The implementation manual for the specific use of these 3 messages in inland navigation has still to be developed.

(3) The following classifications shall be used in inland ship reporting:

- 1 Vessel and convoy type
- 2 Official ship number (OFS)
- 3 IMO ship identification number (IMO)
- 4 ERI ship identification number
- 5 Harmonized commodity description and coding system 2002 (HS 2002, goods)
- 6 Combined nomenclature (CN, goods)
- 7 Standard goods classification for transport statistics /Revised (NST/R) (goods) ^{10/}
- 8 UN dangerous goods number (UNDG)
- 9 International maritime dangerous goods code (IMDG)
- 10 Regulations concerning the Carriage of Dangerous Goods on the Rhine (ADNR)
- 11 United Nations codes for the representation of the names of countries
- 12 United Nations code for trade and transport locations (UN/LOCODE)
- 13 Fairway section code
- 14 Terminal code
- 15 Freight container size and type code (ISO)
- 16 Container identification code (ISO)
- 17 Package type code

(4) Details and remarks on application of these codes in inland navigation are given in **Annex 4**.

(5) The codes for types of means of transport in inland navigation are given by Recommendation No. 28 of the UNECE (**Annex 4.1**). The usage of the convoy and vessel type codes in the ERINOT message is given in **Annex 4.2** together with the names in 4 languages. Examples for the combination of the elements of the above named codes 11 to 14 are given in **Annex 4.3**

8 CONFIDENTIALITY AND SECURITY OF INFORMATION

(1) The competent authorities shall take the necessary measures to ensure the confidentiality, integrity and security of information sent to them pursuant this standard. They must use such information only for the purposes of the intended services, for example calamity abatement, border control, customs.

(2) An interchange agreement on the protection of privacy between all involved public and private parties shall be concluded for new applications, based on UNECE Recommendation 26 that contains an example “Model Interchange Agreement” in general terms.

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^{10/} Since the 4-digit NSTR/codes of the different countries are not compatible, it is strongly recommended to use the common HS code of the World Customs Organization for cargo description.