



Leaflet

Electronic Ship Reporting

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1. Basis

1.1 Purpose

The purpose of the standard for Electronic Reporting in Inland Navigation is

- to facilitate electronic data interchange (EDI) between partners in inland navigation as well as partners in the multi-modal transport chain involving inland navigation,
- to avoid the reporting of the same information related to a voyage several times to different authorities and/or commercial parties,
- to provide rules and standards 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 these standards and rules.

1.2 Terminology

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 ship reporting in Europe, recommended by the ERI Group.

UN/EDIFACT means Rules for Electronic Data Interchange for Administration, Commerce and Transport. The rules are approved and published by the UN/ECE in the UN Trade Data Interchange Directory (UNTDID) and are maintained under agreed procedures.

Other general used terms are in this context:

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 which the goods, cargo or containers are to be received.
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 (EAN number).
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 ship being responsible for the operation of the ship and having the authority to take all decisions pertaining to navigation and ship management. (Synonyms: captain, skipper).
Transport notification means	the announcement of an intended voyage of a ship to a competent authority.

1.3 Features of the international standard for electronic reporting in inland navigation

- The standard for electronic reporting in inland navigation is based on internationally accepted trade and transport standards and recommendations. It complements these for inland navigation. The standard reflects the experiences that have been gained in the European research projects and in the applications of reporting systems in different countries. New developments that have been undertaken in the Working Group “Electronic Reporting International (ERI)” are included.
- In order to achieve compatibility with maritime navigation, two documents of the European Commission have been taken into account:
 - 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.

2. International Standard for Electronic Reporting in Inland Navigation

2.1 Purpose

1. The purpose of this Standard for Electronic Reporting in Inland Navigation is 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. The standard describes the messages, data items, codes and references to be used in electronic reporting for the different services and functions of River Information Services (RIS).
3. The standard contains the basic and most important recommendations for electronic reporting. Some rules and recommended practices for special measures have to be complemented after further experience has been gained.
4. In the 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.

2.2 Legal Basis

- Resolution of the Central Commission for Navigation on the Rhine (CCNR) of 28 May 2003: "Standard for Electronic Reporting in Inland Navigation" (Resolution 2003-I-23).
- United Nations Recommendations regarding the interchange of trade data (UNCEFACT) Recommendation 25, 31 and 32 EDI and E-Commerce agreements.

2.3 Current edition

The current edition 1.0 from 28 May 2003 is published on the Internet under www.ccr-zkr.org.

2.4 Structure of the standard

The standard contains:

- Text in English, Dutch, French and German languages,
- Messaging procedures,
- RIS services to be supported,
- EDIFACT messages and the XML messages derived thereof.

The standard comprises also an annex with the following sub annexes:

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)
 - 4.1 Codes for types of means of transport in inland navigation, Recommendation No. 28 of UN/ECE, extract for inland navigation with amendments by the CCNR for usage in the Standard for Electronic Ship Reporting in Inland navigation, 26 August 2002,
 - 4.2 Vessel and convoy type codes in four languages,
 - 4.3 Examples for the combination of elements in the location code.

2.5 RIS services to be supported

The following services are identified to be supported by electronic reporting¹:

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.

¹ See RIS Guidelines 2004, chi. 4.5

3. Electronic reporting in inland navigation

3.1 Messaging procedures

3.1.1 Ship-to-authority messaging

1. Ship-to-authority messaging consists mainly of:
 - a) Transport notification messages on the voyages of loaded or empty ships within the jurisdictional area of the authority where such is applicable.
 - b) 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 legal representatives of the ship ashore.
3. If a permit for entering a jurisdictional area is needed, the transport notification shall always be sent at the start of the voyage to the authority and subsequently when entering the area.

3.1.2 Transport notification

1. The transport notification message is used to inform the authorities of the intention to make 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 always be sent before the start of a voyage, thereafter before entering the jurisdictional area of an authority and subsequently after every significant change of the voyage data, e.g. number of crew on board or number of barges in the convoy. When a ship requires a permit for the voyage or part thereof, the competent waterway authority shall acknowledge the message after processing the contents of the notification. The acknowledgement will include the permission together with a reference or where applicable a refusal for such a permit together with further details upon the action to be taken.
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 to the message specification preferably as attachment to the E-mail but where required the structured message can also be directly in the text of the message. 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. Where notifications are submitted in the traditional way (e. g. on paper, by fax, by VHF) and further processed electronically, the information should be given in such a way that it can easily be entered into an electronic system.

3.1.3 Arrival notification and position report

1. The arrival notification shall be used to inform local waterway representatives – 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 at least 2 hours 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 passive²:
 - 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.
 - 2 *By VHF radio*

The ship may inform the lock or bridge of its presence by VHF. In this case the 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 transponder (Automatic Identification System, AIS)*

As transponders become more frequently used, they will probably be the ideal way announcing the arrival of a ship. In addition they can send extra information, such as the presence of hazardous cargo on board³.

3.2 Authority-to-authority messaging

1. Authority-to-authority messaging consists mainly of transport notifications for ships, 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 communication, for example a direct connection between the systems. These requirements are applicable also for port authorities which take part in such a service.

² These and other arrival and position reports are not specified in this standard.

³ To be defined in the Standard for Tracking and Tracing in Inland Navigation.

5. A request to forward information contained in a ship-to-authority-message to any other party will not be executed without explicit approval from the owner of the information being the skipper of the vessel or the shipper of the cargo. This approval may be given by indicating this fact explicitly in the original transport notification message.

3.3 Authority-to-ship messaging

1. Authority-to-ship messaging mainly consists 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-skippers and hydro-meteo information. This type of information is not dealt with in this standard.⁴
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 to 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.

⁴ The inclusion of notices-to-skippers into electronic ship reporting is dealt with in the standardisation of notices-to-skippers with direct relation to Inland ECDIS.

4. EDIFACT messages

1. In electronic ship reporting, information is exchanged using messages.
2. The message standard currently in use is UN/EDIFACT in accordance with the syntax rules for the message structure (ISO 9735-1). A more recent developed syntax specially designed for personal computers and based on HTML is XML (Extended Mark-up Language) that is flexible and independent of the data format. Both, EDIFACT and XML are using the same data structures and code tables. XML messages are much larger than EDIFACT messages. Presently the UN/ECE together with ISO and other standard bodies are still in the process of defining the contents of XML messages. This is called ebXML. Presently the first what are called core components have been defined and can be used. It is however at this moment not yet clear whether these core components will differ substantially from the data currently available in the UN/EDIFACT directories. To avoid ambiguous interpretation, presently this standard uses only the data and codes of the UN/EDIFACT directories.
3. The ERI format for the dangerous goods notification is the UN/EDIFACT "International Forwarding and Transport Dangerous Goods Notification (IFTDGN) message". 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 conformity between maritime and inland navigation for dangerous and polluting goods.
4. Using some possibilities of the IFTDGN message, the ERI notification message has been slightly extended to allow non-dangerous goods to be notified. This feature makes it possible to submit all data of the transport or voyage notification (ship and cargo data of a voyage) in one single message.
5. The EDIFACT messages shall be applied without any change. Their definitions can be found in the UN/ECE UNTDID (UN Trade Data Interchange Directories) and the subsequent yearly publications thereof.

5. 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.
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, goods),
 - 6 Combined nomenclature (CN, goods),
 - 7 Standard goods classification for transport statistics /Revised (NST/R) (goods)⁵,
 - 8 UN dangerous goods number (UNDG),
 - 9 International maritime dangerous goods code (IMDG),
 - 10 ADNR,
 - 11 UN country code,
 - 12 UN code for trade and transport locations (UN/LOCODE),
 - 13 Fairway section code,
 - 14 Terminal code,
 - 15 Freight container size and type code,
 - 16 Container Identification code,
 - 17 Package type code.

6. 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 agreement on the protection of privacy between all involved public and private parties shall be concluded for new applications, based on UN/ECE Recommendation 26 that contains a "Model Interchange Agreement".

⁵ 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.

7. Implementation of electronic reporting in inland navigation

7.1 Austria

Reporting is only obligatory for the transport of dangerous goods and can be done by fax or by use of the BICS software at the moment. Electronic reporting in accordance with the standard will be possible as soon as software is available.

7.2 Belgium

Flanders Waterways:

During the COMPRIS project the Flemish waterway authorities will implement authority-to-authority and ship-to-authority messaging as an experiment. If the experiments are successful, it is the intention to keep at least some of them operational, and probably extended.

Later, a global messaging service will be developed for Flanders as Part of the GWS-system. A special agency, CORIS (Co-ordination of RIS) is being established to implement the GWS-project.

Walloon Waterways:

MET (Walloon waterway authority) is contributing within the COMPRIS project with the purpose of developing ERI authority-to-authority messaging and a first test of ship-to-authority messaging. With respect to the international standards the message will be used in XML format. The application will be operational for June 2005. The full extension to ship-to-authority and authority-to-ship messaging will take place during year 2006 and 2007.

For the meantime most of the services are totally or partly covered by the specific Walloon applications which do not comply with the international standards.

7.3 France

The French authorities have implemented the BICS software to exchange electronically voyage data with French carriers.

Within the COMPRIS project and with respect to the international standards, the message will be used in an XML format during the trial of electronic reporting from authority to authority with Wallonia.

7.4 Germany

Since the mid-1990's in Germany the "Reporting and Information System Inland Navigation" (MIB) has been used on the Rhine river. With MIB transport data of vessels, required according to § 12.01 Rhine Police Regulation to notify the authorities, are collected in order to pass them on in the case of an accident to the rescue services and the institutions responsible for calamity abatement.

Vessels are able to provide their messages either via radio, fax, telephone or electronic messaging. For electronic messaging the BICS software, provided by the Netherlands free of charge, can be used.

To adapt MIB to the International Standard for Electronic Reporting in Inland Navigation, the software is undergoing a wide-ranging revision. The adaptation will facilitate cross-border data exchange and help to avoid that data has to be reported more than once. Meanwhile, electronic data exchange is ensured using BICS via a conversion routine.

7.5 The Netherlands

The BICS / ERI standards and software have generally been implemented by parts of the Dutch inland river fleet. The reporting software and the possibilities for commercial links are commonly used and both are fulfilling a real need of both the involved authorities and the commercial users. During the COMPRIS project a number of demonstrations have been undertaken with RIS and the electronic charts whilst through a project called "Paperless Sailing" between Antwerp and Rotterdam the possibilities of electronic reporting will even be further extended. It is foreseen that most of the standards as indicated in ERI, including a full manifest (e-Cognoisement) message indicating all cargo on board, will be implemented by various authorities and commercial users in the course of 2005 and 2006.

Through the privacy rules of the traffic registration system IVS90, all data provided by the ships is duly protected against any unauthorised usage, sharing or publication. Any operational data provided will only be kept for the limited period of 7 days.

7.6 Switzerland

Switzerland is connected to the German MIB system and co-operates closely with competent German authorities regarding the adaptation of MIB to the ERI standard. The Swiss authorities can receive ERI messages and pass them on to the other involved authorities.

Contact addresses of the competent waterway authorities

Austria:

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