

RIS Index Encoding Guide *version 2.0 final*

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1. Management Summary

With the publication of the Directive 2005/44/EC on harmonised River Information Services (RIS) on inland waterways in the Community, the European Commission provided a regulatory and technical framework for the implementation and operation of RIS. It comprises the establishment and further development of technical requirements, specifications and conditions to ensure harmonised, interoperable and open RIS on the Community inland waterways.

Preconditions for interoperable and open RIS are Standards for RIS technologies making excessive use of internationally standardised messages and codes, whereas the codes can be summarised by the term “RIS Reference Data”. Among the many RIS reference data the encoding of locations (e.g. objects along the waterways, in ports, etc.) by means of location codes establishes a key link between the various RIS technologies, implying the highest level of unambiguousness for the encoding of locations.

Location codes are utilised by Tracking and Tracing technologies, Inland Electronic Navigational Charts, Notices to Skippers and Electronic Ship Reporting. Until now only the international Standards and Regulations regarding the technical specifications for Electronic Ship Reporting in inland navigation contain a definition of the locations codes, also referred to as ISRS Location Codes (ISRS, International Ship Reporting Standard). Although a definition of the ISRS Location Code exists (for reference see chapter 2.7 of commission regulation No 164/2010 of 25 January 2010 on the technical specifications for electronic ship reporting in inland navigation), a uniform encoding scheme for the ISRS Location Code has not been introduced into international RIS Standards and Regulations yet.

Already in the early days of RIS there was awareness for the importance of a uniform encoding scheme for the ISRS Location Codes, as applications started to face severe interoperability issues. This led to the introduction of the RIS Index, intended to be a register of all locations with relevance for RIS and supplying to RIS users all relevant data concerning navigation and voyage planning on inland waterways.

Lacking the required regulatory framework, the RIS Index has been enhanced and maintained mainly by the Notices to Skippers Expert Group, as Notices to Skippers applications make extensive use of data contained in the RIS Index. Lately, driven by the initiative of PLATINA to implement a European Reference Data Management Service, the collection, consolidation and provision of uniform and unambiguous waterway network related reference data became more important, and so did the RIS Index as register of such data.

In 2010, PLATINA updated the RIS Index Encoding Guide of the Notices to Skippers Expert Group in order to facilitate the production and provision of harmonised, national RIS Indices. The further elaboration of the RIS Index Encoding Guide is within the responsibility of the so-called Joint Task Force for the RIS Index.

The main objectives of the Joint Task Force for the RIS Index are to establish an unambiguous encoding for the ISRS Location Code as a key element of the RIS Index, elaborate a proposal for the unambiguous encoding of waterway networks and to provide a proposal for a revision of the Annex I of Directive 2005/44/EC stipulating the Minimum Data Requirements for RIS and the required encoding scheme – the RIS Index Encoding Guide.

1. Introduction, Background and Definitions
   1. Introduction

Based on remarks of the RIS Expert Groups, the status and issues concerning the RIS Index were identified in the PLATINA project[[1]](#footnote-1) in 2008. It was concluded that additional work was and still is required on the explanation and specification of the RIS Index. This led to a further development of the RIS Index Encoding Guide – originally a guideline of the Notices to Skippers Expert Group.

In 2010, additional work on the RIS Index Encoding Guide was executed in order to improve the definitions in such a way that it will enable the responsible persons to encode objects and include them into the RIS Index correctly, thereby providing mutual understanding.

In order to achieve a harmonised, common European RIS Index, the national competent authorities responsible for RIS need to provide the national RIS Indices:

* according to a common encoding scheme agreed by the RIS Expert Groups
* in a coordinated approach, fulfilling the information needs of the respective RIS users
* following the provisions of the revised Annex I of Directive 2005/44/EC

The national RIS indices need to be collected by a European RIS Reference Data Management Service, thus providing a unique interface to users of the RIS indices.

The RIS Index covers the following information needs:

* Skippers - need to know (electronically) all information during the pre-planning of a voyage (such as the dimensions of the bridges on the route, blockages of the fairway or locks) as well as on route (for example location information to fulfill their electronic reporting obligations or ad-hoc blockages of the fairway)
* Authorities - need to know the places of departure and destination, the respective places of loading and discharge and moreover most probably the place of border crossing - a combination of the various elements could be very useful.
  1. About this document

The RIS Index Encoding Guide is grouped into several chapters. The second chapter provides some background information and basic definitions of importance for the RIS Index. The third chapter describes which objects should be encoded. The fourth chapter defines the main elements of the RIS Index and their attributes. Chapter five forms the core of the Encoding Guide, the encoding of the objects as such. Chapter six provides guidance on the maintenance of the RIS Index, and Annex 1 covers frequently asked questions and encoding examples.

The RIS Index Encoding Guide should be considered as a living document. All competent authorities responsible for the production and maintenance of the RIS Index are invited to contribute to quality improvements of this document. Together with the experts in the Joint Task Force on the RIS Index, this Encoding Guide will evolve in due time, providing the foundation for the production and maintenance of the RIS Index in compliance with the foreseen revised Annex I of Directive 2005/44/EC.

* 1. Relation of ISRS Location Code to international standardisation

Location Codes:

The UNECE, and for this matter UN/CEFACT, as the centre for Trade Facilitation and Electronic Business, has published and maintained a wide range of recommendations and practical tools to ensure common codes and procedures.

Electronic Ship Reporting for inland navigation (cp. Directive 2005/44/EC) already utilises the United Nations Recommendation 16 UN/LOCODE (Code for Trade and Transport Locations) for the encoding of ports and other trade and transport related locations. However, it became necessary to include certain subsidiary locations[[2]](#footnote-2) (subdivisions) within some ports to ensure the identification of a certain spot/place more accurately. This has been accomplished by so-called related locations, being terminals and or even a certain berth number. For the purposes of fairway management and control, it became evident that further subdivision within the RIS environment was required. For this purpose, the related location two was used indicating the fairway section and even the fairway section hectometre, the ISRS Location Code. In case a requirement the longitude and latitude would, under some circumstances, be available, it was envisioned that a combination of all the elements in an index should be available, the RIS Index.

Definition of the ISRS Location Code

The ISRS Location Code is a unique identifier for each unique part of the infrastructure, which is of importance for RIS. This ISRS Location Code is defined in the “Commission Regulation 164/2010 concerning the technical specifications for electronic ship reporting in inland navigation. This is referred to in Article 5 of Directive 2005/44/EC on harmonised river information services (RIS) on inland waterways in the Community”, part II, chapter 7.

The ISRS Location Code is a 20 digit alphanumerical code that consists of the following mandatory data elements, arranged in 4 information blocks:

**Block 1:** UN/LOCODE (5 letters, alphanumerical), comprising

* UN Country code (2 letters, alphanumerical)[[3]](#footnote-3), and
* Location code (3 letters, alphanumerical)

**Block 2:** Fairway section code (5 digits, alphanumerical)

**Block 3:** Object Reference Code (5 digits, alphanumerical) (= former Terminal code as defined in Commission Regulation 164/2010)

**Block 4:** Fairway section hectometre (5 digits, numerical).

Relevance of the ISRS Location Code for the RIS related Commission Regulations and/or Standards:

* In order to set up RIS, Member States shall[[4]](#footnote-4):

1. supply to RIS users all relevant data concerning navigation and voyage planning on inland waterways. These data shall be provided at least in an accessible electronic format
2. ensure that for all their inland waterways of class Va and above in accordance with the Classification of European Inland Waterways, in addition to the data referred to in point (a), electronic navigational charts suitable for navigational purposes are available to RIS users

* The Standard / Commission Regulation for Electronic Ship Reporting requires the ISRS Location Code of all objects relevant for reporting of voyages, e.g. ports, terminals, passage points, etc.
* The Inland ECDIS Standard (Edition 2.0 and later) requires the ISRS Location Code of all the objects, which are relevant for voyage planning.
* The Commission Regulation on Notices to Skippers (Commission regulation 416/2007) standard requires the ISRS Location Code for the definition of the waterway section, where a message is applicable, and the definition of the affected object. It refers to the definition of the ISRS Location Code in the Standard / Commission Regulation for Electronic Ship Reporting.
* The Standard / Commission Regulation for Inland AIS requires (Commission regulation 415/2007) the ISRS Location Code of all objects relevant for tracking and tracing in inland navigation, e.g. ports, terminals, water level gauges, etc.
* The IRSR Location Code is the only machine readable key link between Electronic Reporting, Inland ECDIS, Inland AIS and Notices to Skippers.

The importance of the link between the various objects could best be described as:

* Static object information data (e.g. dimensions of a lock) are part of Inland ECDIS. Dynamic additional and temporally information related to the objects and fairways ia (e.g. reduced dimensions of a lock due to maintenance works) are published by Notices to Skippers. Software (e.g. voyage planning applications) is only able to connect the information with the object, if the object has a unique ID - the ISRS Location Code. In addition, voyage planning requires and unambiguous description of the network.
* Electronic Reporting requires location codes for start and end point and all the passage points to submit electronic data to the (next) competent authority. The voyage plan will be used to select all relevant Notices to Skippers for a certain voyage. The voyage and the relevant Notices to Skippers can be displayed on the Inland ECDIS screen on board of the vessel. The selection of the relevant messages and the display on Inland ECDIS is done on basis of the ISRS Location Code.

Definition of the RIS Index

The RIS Index is a list of (ISRS) Location Code with additional information on the objects like their characteristics (name, fairway….), restrictions (available depth, clearance….), operating times etc.

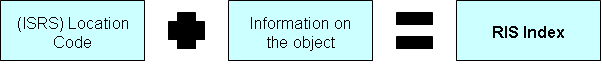


Figure 1: Basic elements of the RIS Index

The basic elements of the RIS Index are the following:

* (ISRS) Location Code
* Information on the object comprising
* one or more geographical reference(s) and
* attributes of the objects (e.g. clearance).

The RIS Index should contain all the objects, which are relevant for:

* Electronic Reporting (departure, loading, passing, discharge and arrival points of voyages).
* Inland ECDIS (all objects with the *unlocd* attribute).
* Notices to Skippers (all the objects, which might be affected by Notices to Skippers).
* Inland AIS (gauges, when water level information is transmitted via Inland AIS).
  1. Legislation relevant for the RIS Index

Current legislation relevant for the RIS Index

Article 4 paragraph 3 a) of RIS Directive 2005/44/EC contains the requirement, that the Member States shall supply to RIS users all relevant data concerning navigation and voyage planning on inland waterways. These data shall be provided at least in an accessible electronic format. For waterways of Class Va and higher, the Directive 2005/44/EC requires Member States in addition to the data referred to in point (a), that electronic navigational charts suitable for navigational purposes are made available to RIS users.

Although not explicitly stated in the RIS Directive 2005/44/EC, the RIS Index eventually enables countries to fulfil the Minimum Data Requirements as referred to in Article 4(3)(a), where in particular the following data shall be supplied:

* waterway axis with kilometre indication,
* restrictions for vessels or convoys in terms of length, width, draught and air draught,
* operation times of restricting structures, in particular locks and bridges,
* location of ports and transhipment sites,
* reference data for water level gauges relevant to navigation.

Although data for smaller waterways than Class Va can also be provided through Electronic Navigational Charts (Inland ENCs), this data can also be provided in form of a list at least in an accessible electronic format. The RIS Index provides a template for such a list.

The RIS Directive specifically mentions that the afore mentioned data necessary for navigation shall be provided via the Electronic Navigation Charts (Inland ECDIS) for Class Va fairways and higher. It is recommended to also provide this information (as the RIS Index is utilized by different RIS Services) in a different format, for which the RIS Index is the preferred template. This template can also be used to provide information about the lower class fairways as well, so that the other RIS services (such as route planning) can fully benefit from the RIS Index.

At present, there is no official European legislation available for the RIS Index. Consequently the Expert Groups for Electronic Reporting and Notices to Skippers agreed on the RIS Index template and recommended the use of this Encoding Guide. Afterwards, the Vessel Tracking and Tracing expert group provided amendments to this template and is making use of this Encoding Guide.

Outlook on possible legislation relevant for the RIS Index

The ongoing activities of the Joint Task Force for the RIS Index and the necessity for a revision of the Annex I of Directive 2005/44/EC were brought to the awareness of the RIS Committee and were discussed at its meeting on the 1st March 2011. A text proposal for the amendment of Annex I of Directive 2005/44/EC was provided to the RIS Committee, and given its approval an official legal basis for the encoding of the objects in the RIS Index and their attributes is to be expected in the beginning of 2012.

1. List of Objects in the RIS Index

Over the last years, all the Member States started with the production/generation of their national RIS-index. Although all the Member States started this process, there was no common approach and priority list how and when code objects. This resulted in a consolidated European RIS-index which contains objects, but often with gaps. In order to ensure that the consolidated European RIS-index contains all relevant objects, during the PLATINA projects it was defined which objects are of importance and should encoded first.

* 1. Priority Objects

The following table describes those objects that should be encoded first.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | ETA / ETD reporting | Logistics transhipment | Inland ECDIS | Vessel Tracking & Tracing (VTT) | Notices to Skippers (NtS) | Voyage / route planning | Navigation |
| Object class | Chapter | Object Name4 | Electronic Reporting (ERI) | |
| **Priority Objects** | | | | | | | | | |
| bridge(A) | G.1 | All types of bridges |  |  | X | X | X | X | X |
| C\_AGGR() | G.1 | Bridge Area | X |  | X | X | X | X | X |
| cblohd (L) | G.1.8 | Overhead Cable |  |  | X |  | X | X | X |
| pipohd (L) | G.1.9 | Overhead Pipe |  |  | X |  | X | X | X |
| hrbare(A) | G.3.9 | Harbour Area | X | X | X | X | X | X | X |
| hrbbsn(A) | G.3.10 | Harbour Basin | X | X | X | X | X | X | X |
| prtare(A) | G.3.15 | Port Area | X | X | X | X | X | X | X |
| termnl(P, A) | G.3.19 | All types of Terminals | X | X | X | X | X | X |  |
| lokbsn(A) | G.4.3 | Lock Basin |  |  | X | X | X | X | X |
| lkbspt(A) | G.4.4 | Lock Basin Part |  |  | X | X | X |  |  |
| C\_AGGR() | G.4.3, 4.4 | Lock Area | X |  | X | X | X | X | X |
| excnst(P, A) | G.4.8 | Exceptional Navigational Structure |  |  | X |  | X | X | X |
| achare(P, A) | M.1.1 | Anchorage Area | X | X | X |  | X | X | X |
| achbrt(P, A) | M.1.2 | Anchorage Berth | X | X | X |  | X | X | X |
| berths(P,L,A) | M.1.3 | Berth without Transhipment / Fleeting Areas (O) | X |  | X | X | X | X | X |
| berths(P,L,A) | M.1.4 | Transhipment Berth (O) | X |  | X | X | X | X | X |
| trnbsn(P, A) | M.4.5 | Turning Basin |  |  | X |  | X |  | X |
| wtwgag(P, A) | I.3.4 | Waterway Gauge |  |  | X | X | X | X | X |
| dismar(P) | L.3.2 | Distance mark along waterway axis |  |  | X |  | X |  | X |
| rdocal(P, L) | Q.2.1 | Radio Calling-in Point (notification point) | X |  | X |  |  | X |  |

* 1. Additional Objects

In the opinion of experts these object could have an added value for specific purpose, but are not required in the updated Annex I of Directive 2005/44/EC. Thus their integration into the RIS Index is not compulsory.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | ETA / ETD reporting | Logistics transhipment | Inland ECDIS | Vessel Tracking & Tracing (VTT) | Notices to Skippers (NtS) | Voyage / route planning | | Navigation |
| Object class | Chapter[[5]](#footnote-5) | Object Name5 | Electronic Reporting (ERI) | |
| **Additional Objects** | | | | | | | | | | |
| buaare (P,A) | E.1.1 | Built-up Areas (O) |  |  |  |  |  |  | |  |
| buisgl (P,A) | E.1.2 | Buildings of Navigational Significance (O) |  |  |  |  |  |  | |  |
| ponton(A) | G.3.11 | Landing Stage, Pontoon | X |  | X |  |  | X | |  |
| morfac (P,L,A) | G.3.12 | Mooring Facility |  |  |  |  |  |  | |  |
| hulkes(A) | G.3.14 | Permanently Moored Vessel or Facility (O) | X |  | X |  |  | X | |  |
| refdmp (P) | G.3.17 | Refuse dump |  |  | X |  |  | X | |  |
| bunsta(P, A) | G.3.2 | Bunker / Fuelling Station | X |  | X |  | X | X | | X |
| vehtrf(P, A) | G.3.20 | Vehicle Transfer Location |  |  | X |  |  | X | | X |
| cranes (P,A) | G.3.4 | Crane (O) |  |  |  |  |  |  | |  |
| FERYRT (L),  feryrt (L) | L.2 | All types of ferries |  |  | X |  | X |  | | X |
| chkpnt(P, A) | R.1.1 | Check Point | X |  | X |  |  | X | |  |
| sistat | R.2 | Signal Stations |  |  | X | X |  | X | | X |
| wayp | *n.a.* | Waypoint | X |  |  |  |  | X | |  |
| spec\_con | *n.a.* | Special construction |  |  |  |  | X |  | | X |
| pas | *n.a.* | Passage Points | X |  |  |  |  | | X |  |
| trafp | *n.a.* | Traffic points (first reporting point) | X |  |  |  |  | | X |  |
| junction | *n.a.* | End of waterway / Junction | X |  |  |  |  | | X |  |
| riscen | *n.a.* | RIS Centre | X | X |  | X | X | | X |  |

n.a. … not applicable as object is not included in Inland ENC Encoding Guide

The objects *dismar* and *junction* depict the waterway network thus they are included in the RIS Index template spreadsheet “RIS\_INDEX\_waterway\_network”. All other priority and additional objects are provided in the spreadsheet “RIS Index”.

1. Structure of the RIS Index and its attributes
   1. Main elements of the RIS Index

In the following table, the main elements of the RIS Index are summarised. It needs to be read in conjunction with the spreadsheets “RIS Index” and “RIS\_INDEX\_waterway\_network” in the RIS Index template (provided in .xlsx format).

|  |  |  |
| --- | --- | --- |
| **Elements** | **Brief Description** | **Remark** |
| **Columns A - R**  Official ISRS Location Code and Index data | These elements are the core elements of the RIS Index |  |
| **Columns S - U**  Additional RIS data | The columns S - U, which are marked white in the template, contain additional RIS data |  |
| **Columns V - AF**  Restrictions (if not provided in an IENC[[6]](#footnote-6)) | The columns V - AF can be used to provide the information on restrictions, which are caused by an object (e.g. a bridge or a lock) |  |
| **Columns AG - AP**  Reference data for gauges | The reference data of gauges is very important for the safety of navigation and for voyage planning |  |
| **Columns AQ - AU**  Operation times | The operation times of locks, movable bridges and other pieces of infrastructure (e.g. offices of waterway authorities, harbour masters, police, bunker services, fresh water supplies, refuse dumps, terminals, berths, pontoons) are important for voyage planning |  |
| **Columns AV - BQ**  Additional data on restrictions | The columns AV - BQ provide a possibility to enter additional data on restrictions (e.g. additional possibilities of vessel dimension combinations) |  |
| **Columns BR - CA**  Additional operation times | The columns BR - CA provide a possibility to enter additional data on operation times (e.g. for certain types of ships) |  |
| **Columns CB - CF**  Maintenance data | The columns CB - CF contain the maintenance data of the RIS Index |  |

* 1. Elements and attributes of the RIS Index

(**M**) Mandatory: Information *must* be provided, in any case

(**C**) Conditional: Information *must* be provided, if it exists (if a berth has a name, for example)

(**O**) Optional: Information *can* be provided, as it is useful for RIS provision

Applicability: RIS Index template version 2.0 – available at

[*http://www.ris.eu/library/expert\_groups/nts/reference\_data*](http://www.ris.eu/library/expert_groups/nts/reference_data)

| **Col** | **Attribute** | **Explanation** |
| --- | --- | --- |
| **Columns A – R**  Official ISRS Location Code and Index data | | The columns A - R, which are marked green in the template, have to be filled in for every object. |
| A | Country code  (2 digits, alphanumeric)  **(M)** | The country code consists of two letters and is defined in ISO standard 3166-1. The official list of country codes is published at  <http://www.unece.org/cefact/locode/service/country.htm> |
| B | UN Location code  (3 digits, alphanumeric)  **(M)** | The UN Location code consists of three digits. The codes are assigned by UN/ECE. The official list of location codes is published for each country at  <http://www.unece.org/cefact/locode/service/location.htm>  “XXX” may be used as a valid entry for RIS purposes in the following exceptional cases:  **Case 1**: no official UN/LOCODE available yet, but application for UN/LOCODE at UNECE possible (temporary utilisation of XXX until an official UN/LOCODE is included into the UN/LOCODE list)  **Case 2:** no official UN/LOCODE possible to assign to the object (permanent utilisation of XXX as Location Codes), the only objects belonging to this category for the time being are the *distance mark* object, indicating the river hectometre on the fairway axis, and the *junction* object.  The Reference Data Managers will ensure that XXX will be used in exceptional cases only. |
| C | Fairway section code  (5 digits, alphanumeric)  **(M)** | The fairway section code consists of five alphanumerical digits and has to be assigned by the national authorities. It represents the coding of a waterway section within a national network and is only unique in combination with the country code. |
| D | Object Reference Code  (*former Terminal code*)  (5 digits, alphanumeric)  **(M)** | The Object Reference code consists of five uppercase alphanumerical characters and has to be assigned by the national authorities. For the encoding of the priority and additional objects (see chapter 3) the encoding provisions of the RIS Index Encoding Guide must be applied (chapter 5).  Examples of the Electronic Reporting standard:  - the Object Reference code 00000 is used in the ISRS Location Code for Germany, river Rhine, km 502.3: DEXXX03900**00000**05023  - the Object Reference code 00FRB can be used for Frankenbach,  - the Object Reference code LEUVE for Leuvehaven,  - the Object Reference code TRACE for traffic centre.  These are only examples. Each authority has to assign its own codes based on the RIS Index Encoding Guide. |
| E | Fairway Hectometre  (5 digits, numeric)  **(M)** | The hectometre code consists of five numerical digits. Example: “00235” for river km 23.5; “00001” for river km 0,1 |
| F | ISRS Location Code  **(M)** | The ISRS Location Code is generated only once from the entries in the columns A to E. Once an ISRS Location code has been generated, it will remain the same. (details are provided in the maintenance guide for the RIS Index) |
| G | Function  **(M)** | The purpose of the function code is to establish an unambiguous link between the “Object Class” of objects in Inland ECDIS and the objects in the RIS Index. The function code enables a grouping of objects with a similar function (e.g. bridge) in RIS applications (e.g. Notices to Skippers).  The Function is restricted to the values of the "function code" element in Chapter 5 of this encoding guide. |
| H | Object name  **(C)** | The object name has to be provided, if it exists (if a berth has a name, for example). For the encoding the provisions of the Inland ENC Encoding Guide are followed:  Names shall be entered in local language using Basic Latin Unicode characters e.g. Baarlerbruecke, Volkeraksluis or Mannswoerth.  Do not include information on characteristics of feature, the type of object shall not be repeated in the object name unless additional information to the object type is given.  E.g.: The lock “Schleuse Freudenau” shall only be named “Freudenau”, the object type “lock” can be added automatically based on the function\_code.  E:g.: The object name for the Railway bridge in Krems (AT) is “Eisenbahnbruecke Krems”. The information ‘railway bridge’ is included in the object name as it adds information in addition to the function\_code “bridge”.  E.g.: The waterway gauge “Pegelstelle Wildungsmauer” is named „Wildungsmauer“ as the information that this object is a gauge is already coded in the function code.  If a waterway section is the borderline between two countries with different languages, the object name can be provided in both languages (e.g. “Staatsgrenze AT-SK/Statna hranica AT-SK”) |
| I | National object name  **(C)** | The national object name has to be provided, if it exists (if a berth has a name, for example).  Names shall be entered in local language using UTF-8 encoding, thus also e.g. diacritics or Cyrillic letters may be used. (e.g. Baarlerbrücke, Volkeraksluis or Mannswörth)  Do not include information on characteristics of feature, the type of object shall not be repeated in the national object name unless additional information to the object type is given. (see examples in column H ‘object name’)  If a waterway section is the borderline between two countries with different languages, the national object name can be provided in both languages (e.g. “Staatsgrenze AT-SK/Statna hranica AT-SK”) |
| J | Location name  **(C)** | The location name is linked to the UN Location Code (see column B). If a UN Location Code exists, then the Location Name according to the UN/ECE list shall be used. A list of available location names can be found here:  <http://www.unece.org/cefact/locode/service/location.htm>  In the exceptional case that the UN Location Code does not exist, then „XXX“ could be used as UN Location Code and the Location name can be entered as a free text.  Place names are given, whenever possible, in their national language versions as expressed in the Roman alphabet using the 26 characters of the character set adopted for international trade data interchange, with diacritic signs, when practicable. |
| K | Waterway name  **(M)** | The name of the waterway shall be entered in local language using Basic Latin Unicode characters.  If a waterway section is the borderline between two countries with different languages, the object name can be provided in both languages (e.g. “Donau – Dunaj”, “Dunaj – Duna”) |
| L | National waterway name  **(M)** | The national name of the waterway shall be entered in local language using UTF-8 encoding, thus also e.g. diacritics or Cyrillic letters may be used. (e.g. Labe, Elbe, Rijn, Donau, Дунав)  If a waterway section is the borderline between two countries with different languages, the national waterway name can be provided in both languages (e.g. “Donau – Dunaj”, “Duna – Дунав”) |
| M | Position code of object related to the fairway  **(O)** | The position of an object related to the fairway enables - language independent - coding of the position of an object without having the logic in the object reference code. Upon creation of notices to skippers this information can be taken from the RIS Index and automatically included in NtS messages.  NtS position codes have to be used in line with the “postion\_code” table as available in the NtS reference tables. (E.g. the left/middle/right/old/new/big/small/north/east/… lock chamber, a signal station on the left/right bank of the waterway, a berth on the left/right bank of the waterway)   |  |  | | --- | --- | | **Value** | **Meaning (EN)** | | LE | left | | MI | middle | | RI | right | | LB | left bank | | RB | right bank | | N | north | | NE | north-east | | E | east | | SE | south-east | | S | south | | SW | south-west | | W | west | | NW | north-west | | BI | big | | SM | small | | OL | old | | EW | new | | MP | movable part | | FP | fixed part | |
| N | Route name  **(O)** | The route name shall be entered in local language using Basic Latin Unicode characters. |
| O | related ISRS  **(C)** | The related ISRS Location Code is used to link two ISRS Location Codes together. For example, if the object “Junction” is used, a related ISRS needs to be assigned to this object. The related ISRS can be used to establish a connection between the various openings of a bridge and the bridge itself or similar relations. It can also be used to establish a relation between the waterway sections of neighbouring countries to create a waterway network (for examples see Annex 2) |
| P | Section node  **(O)** | The section node is used in the Dutch RIS Index and contains national 4 digit codes for sections.  A section is the smallest part of the network where a traffic flow might change. I.e. a change of CEMT Class  One section of the waterway network is a line that represents i.e. one section of a river. The direction of digitizing a section is in most cases downstream.  One section has 2 nodes/junctions (one upstream and one downstream) |
| Q | Lat  **(M)** | The latitude coordinate has to be provided in WGS 84 format. In the RIS Index the decimal format shall be utilised with a precision of 6 decimal digits. Dot should be the comma separator. |
| R | Lon  **(M)** | The longitude coordinate has to be provided in WGS 84 format. In the RIS Index the decimal format shall be utilised with a precision of 6 decimal digits. Dot should be the comma separator.  Examples for Latitude/Longitude: 48.251761, 16.372223; 30.831461,111.010923;-16.606748,-151.50198 |
| **Columns S - U**  Additional RIS data | | Columns S - U contain additional information that link information in the RIS Index with the Inland Electronic Navigational Charts (IENC) |
| S | Related ENCs  **(C)** | If the object is also part of an IENC, the cell number (identifier) of the IENC has to be provided here. |
| T | Communication information (external file for TXTDSC)  **(O)** | Communication information (e.g. of a lock) can be provided. If such information is provided, the standardized XML file in accordance with the Inland ECDIS standard edition 2.0 (and higher) shall be used. The file name of such file can be entered here.  It is recommended to use the ISRS Location Code as the file name to ensure a connection between the object and the file.  Example: ATVIE00001LOCKS19212.xml (communication information for the lock of Freudenau in Vienna)  The file can be created under <http://ienc.openecdis.org/facility_editor>. In case you need a user account contact the facility data editor administrator via the contact information provided at the editor log-in mask. The created XML files can be downloaded and distributed together with the RIS Index. |
| U | National Gauge code **(O)** | This field is filled by the national authority. The national gauge code provides a link between the national encoding systems for gauges (e.g. based on WMO codes) and the encoding system used for RIS (ISRS Location Code). |

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| --- | --- | --- |
| **Columns V - AF**  Restrictions for navigability | | The columns V - AF can be used to provide the information on restrictions, which are caused by an object (e.g. a bridge or a lock). This information is required based on Article 4 of Directive 2005/44/EC.  Columns V - Y contain the maximum dimensions of vessels (if defined), columns Z - AF contain the available dimensions of the object (bridge opening, lock chamber …) itself. The available dimensions should be provided as physical values without safety margins. |
| V | vessel/convoy length **(C)** | in metres [xxx.xx] |
| W | vessel/convoy breadth **(C)** | in metres [xxx.xx] |
| X | vessel/convoy draught **(C)** | in metres [xxx.xx] |
| Y | vessel/convoy air draught **(C)** | in metres [xxx.xx] |
| Z | available length **(C)** | in metres [xxx.xx] |
| AA | clearance width **(C)** | in metres [xxx.xx] |
| AB | available depth code (C) | The 'available depth code' includes the reference for the 'available depth value' in line with the NtS reference\_code table. See table below: (e.g. RNW, LDC)   |  |  | | --- | --- | | **Value** | **Meaning (EN or local language)** | | NAP | Normaal Amsterdams [Peil](http://nl.wikipedia.org/wiki/Peil) | | KP | Kp | | FZP | Fzp | | ADR | Adria | | TAW | Taw | | PUL | Pulkovo 1942 | | NGM | Ngm | | ETRS | Etrs89 | | POT | Potsdamer Datum | | LDC | Low water level Danube Commission | | HDC | High water level Danube Commission | | ZPG | Zero point of gauge | | GLW | Equivalent low water level | | HSW | Highest navigable water level | | LNW | Low Navigable Water | | HNW | High Navigable Water | | IGN | IGN 69 | | WGS | WGS 84 | | RN | Normal level | | HBO | High water level of attention | |
| AC | available depth **(C)** | in metres [xxx.xx] |
| AD | clearance height code (C) | The 'clearance height code' includes the reference for the 'clearance height value' in line with the NtS reference\_code (e.g. HDC, HSW) see NtS reference\_code table |
| AE | clearance height **(C)** | in metres [xxx.xx] |
| AF | reference gauge (C) | The ‘reference gauge’ includes the ISRS Location Code of the applicable reference gauge for provided restrictions (e.g. which water level measurement station is to be considered for bridge clearance calculation or reduced depth statement) |
| **Columns AG - AP**  Reference data for gauges | | The reference data of water level gauges is required for the safety of navigation and for voyage planning. It is also required by Article 4 of Directive 2005/44/EC. The columns AG - AP can be used to provide the reference data for gauges. This data can also be provided in an Inland ENC in accordance with the Inland ECDIS standard. |
| AG | applicability from rhm  **(C)** | Each gauge has an area, where the information from this gauge is applicable. The starting point of this area can be entered here. (5 digits) |
| AH | applicability to rhm  **(C)** | Each gauge has an area, where the information from this gauge is applicable. The end point of this area can be entered here. (5 digits) |
| AI | Reference level 1 code **(C)** | e.g. LDC for regulated low water level (Danube Commission)  Normally there are several reference water levels defined for each waterway, e.g. a low water level, a medium water level and a high water level. The definitions and the abbreviations or codes of these reference water levels vary from waterway to waterway. The codes, which are used for other services (e.g. Notices to Skippers), should be entered here in line with the NtS reference\_code table.   |  |  | | --- | --- | | **Value** | **Meaning (EN or local language)** | | NAP | Normaal Amsterdams [Peil](http://nl.wikipedia.org/wiki/Peil) | | KP | Kp | | FZP | Fzp | | ADR | Adria | | TAW | Taw | | PUL | Pulkovo 1942 | | NGM | Ngm | | ETRS | Etrs89 | | POT | Potsdamer Datum | | LDC | Low water level Danube Commission | | HDC | High water level Danube Commission | | ZPG | Zero point of gauge | | GLW | Equivalent low water level | | HSW | Highest navigable water level | | LNW | Low Navigable Water | | HNW | High Navigable Water | | IGN | IGN 69 | | WGS | WGS 84 | | RN | Normal level | | HBO | High water level of attention | |
| AJ | Reference level 1 value  **(C)** | The value, which is displayed by the gauge at the reference water level 1 has to be provided in [cm].  Example: can be used to provide the reference water level for regulated low water level on the Danube (LDC). |
| AK | Reference level 2 code **(C)** | Is used to provide the information on medium water level.  *See provisions for column AI* |
| AL | Reference level 2 value  **(C)** | in [cm]  *See provisions for AJ* |
| AM | Reference level 3 code **(C)** | e.g. HNW for high navigable water. Is used to provide the information on high water level.  *See provisions for column AI* |
| AN | Reference level 3 value  **(C)** | in [cm]  *See provisions for column AJ* |
| AO | Zero point  **(C)** | The height of the zero point of the gauge above a geodetic reference has to be entered in [cm]. If the zero point of the gauge is e.g. Adriatic sea level, “0” has to be entered. If the zero point of the gauge is e.g. the bottom of the riverbed, which is 235 m above Adriatic sea, “23500” has to be entered. |
| AP | Geod. ref.  **(C)** | The geodetic reference of the zero point of the gauge, e.g. Adriatic sea, Baltic sea or NAP (*see also provisions for column AI*) |
| **Columns AQ - AU**  Operation times | | The operation times of locks, movable bridges and other pieces of infrastructure (e.g. offices of waterway authorities, harbour masters, police, bunker services, fresh water supplies, refuse dumps, terminals, berths, and pontoons) are important for voyage planning and are required by Article 4 of Directive 2005/44/EC. The data can be provided in an Inland ENC in accordance with the Inland ECDIS standard. |
| AQ | Category of time schedule (cattab)  **(C)** | The category of the time schedule is defined by  value “1” (operational period) or  value “2” (non-operational period)  in accordance with the Inland ECDIS Standard |
| AR | For ship type (shptyp)  **(C)** | The ship type is defined by  “1” (general cargo vessel),  “2” (container vessel),  “3” (tanker),  “4” (sailing vessel) or  “5” (fishing vessel)  in accordance with the Inland ECDIS Standard.  If the time schedule is applicable for all kinds of vessels, nothing has to be entered. If there are different time schedules for different types of ships, the columns BR - CA have to be used, too. |
| AS | For use of ship (useshp)  **(C)** | The use of the ship is defined by  “1” (liner trade),  “2” (occasional professional shipping) or  “3” (leisure)  in accordance with the Inland ECDIS Standard.  If the time schedule is applicable for all types of use, nothing has to be entered. If there are different time schedules for different types of use, the columns BR - CA have to be used, too. |
| AT | Link to external XML file time schedule (schref)  **(C)** | The time schedule itself is provided in an external structured XML file in accordance with the Inland ECDIS Standard. The file name has to be entered here. Operating times have to be encoded in local time in the XML file.  It is recommended to use the ISRS Location Code as the file name to ensure a connection between the object and the file. If there are several XML files for one object, the file name should consist of the ISRS Location Code and “\_1”, “\_2” and so on. |
| AU | Link to external XML file passage time (aptref)  **(C)** | The average passing time is provided in an external structured XML file in accordance with the Inland ECDIS Standard. The file name has to be entered here.  It is recommended to use the ISRS Location Code as the file name to ensure a connection between the object and the file. If there are several XML files for one object, the file name should consist of the ISRS Location Code and “\_1”, “\_2” and so on. |
| **Columns AV - BQ**  Additional data on restrictions  (additional possibilities of vessel dimension combinations) | | The columns AV - BQ provide a possibility to enter additional data on restrictions.  Example: The maximum draught of a vessel with a width of 22 m might be 1.6 m on a certain waterway, while the maximum draught of a vessel with a width of 9 m might be 1.9 m, for example. |
| AV | vessel/convoy length 2  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| AW | vessel/convoy breadth 2  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| AX | vessel/convoy draught 2  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| AY | vessel/convoy air draught 2 **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| AZ | available length 2  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BA | clearance width 2  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BB | Available depth 2 code (C) | See encoding provisions for columns V - AF |
| BC | available depth 2  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BD | Clearance height 2 code (C) | See encoding provisions for columns V - AF |
| BE | clearance height 2  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BF | Reference gauge 2 (C) | See encoding provisions for columns V - AF |
| BG | vessel/convoy length 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BH | vessel/convoy breadth 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BI | vessel/convoy draught 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BJ | vessel/convoy air draught 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BK | available length 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BL | clearance width 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BM | Available depth 3 code (C) | See encoding provisions for columns V - AF |
| BN | available depth 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BO | Clearance height 3 code (C) | See encoding provisions for columns V - AF |
| BP | clearance height 3  **(C)** | in metres [xxx.xx]  *See encoding provisions for columns V - AF* |
| BQ | Reference gauge 3 (C) | See encoding provisions for columns V - AF |
| **Columns BR - CA**  Additional operation times | | The columns BR - CA provide a possibility to enter additional data on operation schedules, e.g. for certain types of ships. |
| BR | Category of time schedule (cattab) 2  **(C)** | *See encoding provisions for columns AQ - AU* |
| BS | for ship type (shptyp) 2  **(C)** | *See encoding provisions for columns AQ - AU* |
| BT | for use of ship (useshp) 2  **(C)** | *See encoding provisions for columns AQ - AU* |
| BU | Link to external XML file time schedule (schref) 2  **(C)** | *See encoding provisions for columns AQ - AU* |
| BV | Link to external XML file passage time (aptref) 2  **(C)** | *See encoding provisions for columns AQ - AU* |
| BW | Category of time schedule (cattab) 3  **(C)** | *See encoding provisions for columns AQ - AU* |
| BX | for ship type (shptyp) 3  **(C)** | *See encoding provisions for columns AQ - AU* |
| BY | for use of ship (useshp) 3  **(C)** | *See encoding provisions for columns AQ - AU* |
| BZ | Link to external XML file time schedule (schref) 3  **(C)** | *See encoding provisions for columns AQ - AU* |
| CA | Link to external XML file passage time (aptref) 3  **(C)** | *See encoding provisions for columns AQ - AU* |

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| --- | --- | --- |
| **Columns CB - CF**  Maintenance data | | The columns CB - CF contain the maintenance data of the RIS Index. |
| CB | Start date for applicability of the data set  **(C)** | If the data of a specific object is only applicable in a specified period (e.g. due to replacement, building, other changes), the dates have to be entered here.  This attribute gives information if the object (record) is valid. It is recommended to assign each record a starting date. In case an object (record) gets invalid, an end date needs to be provided (se column CC). This method ensured that ISRS Location Codes are kept in the records, so (historical) statistics analysis can be performed. It also ensures that ISRS Location Codes are not assigned multiple times.  *It should be discussed within the JTF if the elements BC should be made mandatory instead of conditional.* |
| CC | End date for applicability of the data set  **(C)** | If the data of a specific object is only applicable in a specified period (e.g. due to replacement, building, other changes), the dates have to be entered here. |
| CD | Date of the information  **(M)** | In case data changed (e.g. name or dimensions of an object), the change date has to be entered here. The date provides the possibility to find the latest data, if there are several versions of the RIS Index. Furthermore only mutations have to be imported to ERDMS. ‘Date of information’ shall be used to identify changed datasets. |
| CE | Source of information  **(C)** | The source of the respective entry is listed in this column. The (short version of the) organization name is provided in plain text. E.g. ‘viadonau’ |
| CF | Reason for changes  **(C)** | The reason, why the data of an object has been changed, can be entered here. |

1. Encoding Guide for Objects in the RIS Index
   1. Encoding approach and example

As the objects in the RIS Index are aligned with the objects in the Inland Electronic Navigational Charts (IENC), it was decided to follow the encoding provisions of the Inland ECIDS Standard, in specific the Inland ENC Encoding Guide. Considering the actual status of Inland ENC production in Europe, the Inland ECDIS Standard 2.1 is the common state of union. As encoding basis the Inland ENC Encoding Guide Edition 2.3.6 was utilised. In the Inland ENCs the attribute [unlocd] is used to fill the ISRS Location Code.

For some objects in the Inland ENCs it is not possible yet to assign the ISRS Location Code, as no [unlocd] attribute exists for them. The required attributes for these objects will be amended in higher versions of the Inland ECDIS Standard, respectively the Inland ENC Encoding Guide. However, downwards compatibility is thus ensured.

The alignment of the RIS Index objects with the Inland ENCs enables the implementation of management tools, respectively Inland ENC – RIS Index converters, that in (semi)automatic operation allow an efficient maintenance of the RIS Index on national level just on basis of the Inland ENCs. This approach also allows performing quality checks on a national level before the RIS Index is submitted to the European Reference Data Management.

Encoding example for a bridge object

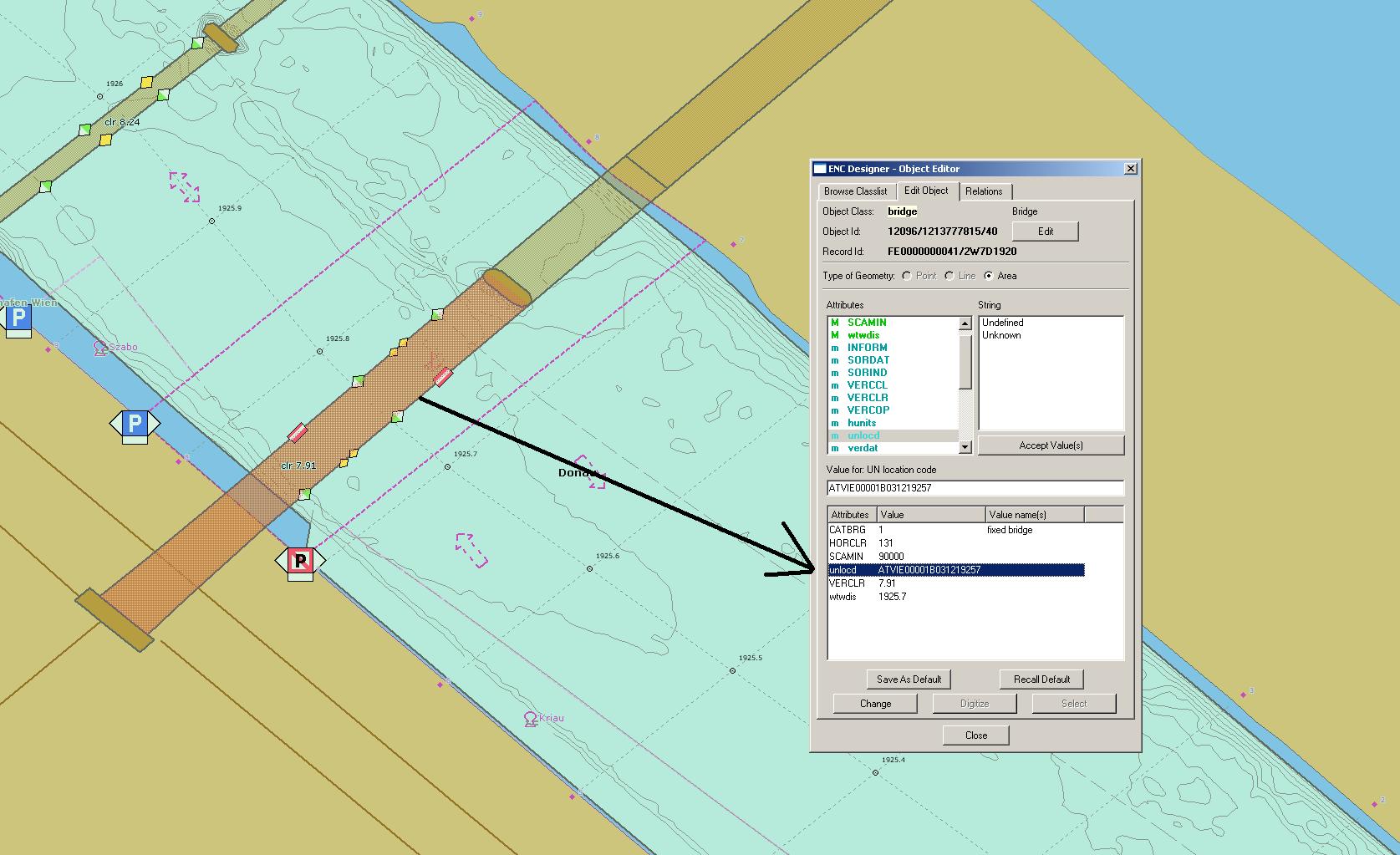
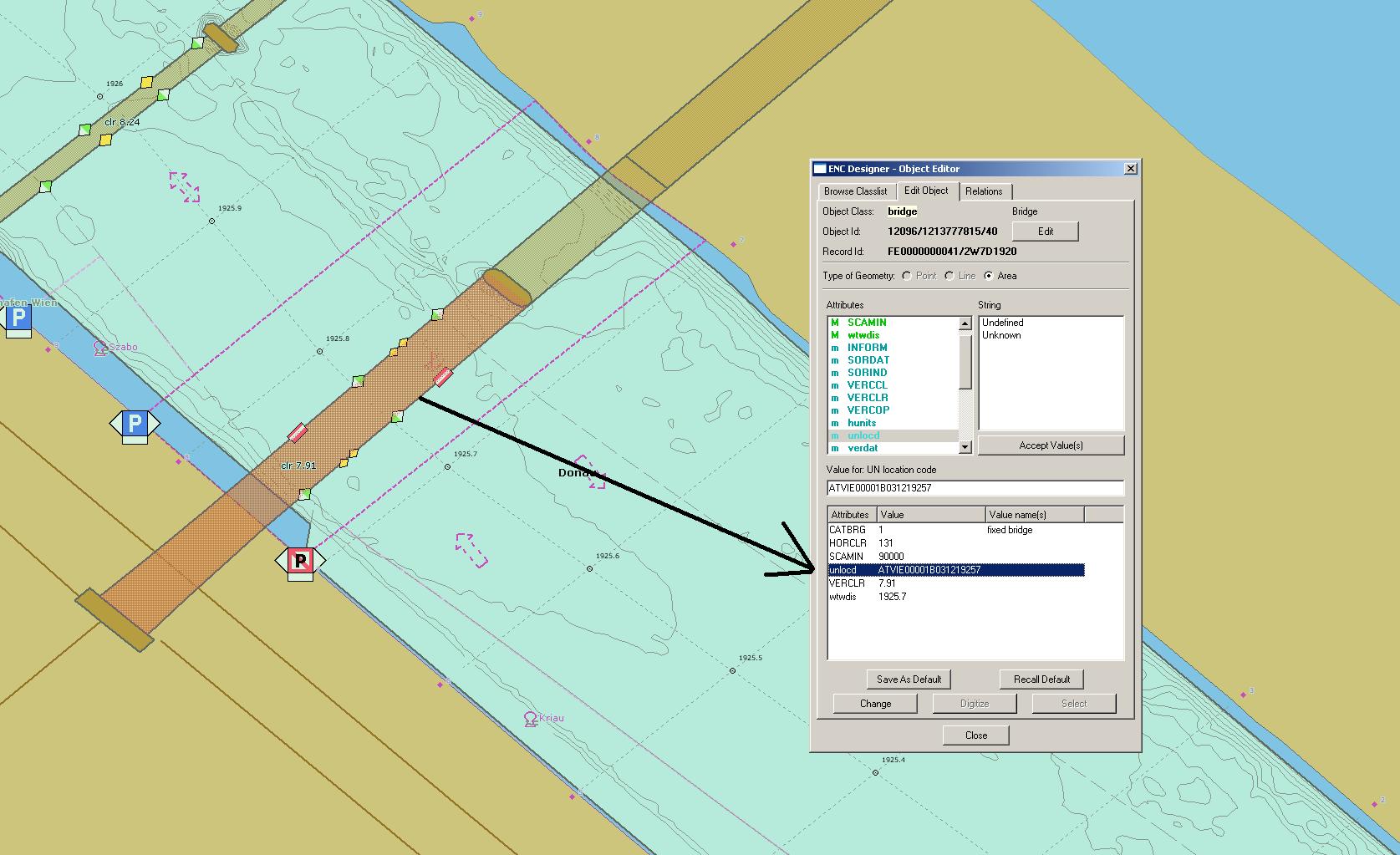


Figure 2: Bridge object in an Inland ENC

The information on the Inland ENC object ‘bridge’ consists of ‘UN location code’ (meaning the ISRS Location Code) and some other attributes of the object (e.g. vertical clearance of the bridge, etc.). The ‘UN Location Code’ is a 20 digit alphanumeric code and the bridge has 2 bridge openings. The ‘UN Location Code’ of the highlighted bridge opening (see figure) looks as follows:

**ATVIE00001B031219257**

Whereas:

* AT = Austria (Country code)
* VIE = Vienna (UN Location code)
* 0000 = Waterway section number
* B0312 = Object Reference code

B03 = Fixed Bridge,

1 = Number of the bridge,

2 = Number of the bridge opening,

* 19257 = Hectometre

Priority objects

***General Remarks***

1. It might be important to provide some additional information to the object. For example in the case of terminals, berths and anchorage areas it could be important to know whether it is allowed to moor with a vessel carrying dangerous goods. As this information cannot be provided directly in the RIS Index, this information could be provided by means of the function code.
2. The Inland ENC Encoding Guide Edition 2.3.6 (July 2014), was used as the main reference for the definitions in the RIS Index Encoding Guide. Some of these definitions are not in compliance to other RIS-services and/or other modalities and/or definitions used in the commercial environment and transport sector. In this case it is possible to amend other definitions for those objects, whereas a valid reference to this definition must be provided, in order to ensure a proper maintenance of the RIS Index Encoding Guide. Definitions without a valid reference are not acceptable.

### G.1 Bridge(s)

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Bridge G.1 Bridge(s) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.1 | | |
| Definition | Bascule Bridge: A counterpoise bridge rotated in a vertical plane about an axis at one or both ends  Bridges with Bridge Arches: A Bridge which has bridge arches rather than straight construction.  Fixed Bridge: A bridge having permanent horizontal and vertical alignment.  Lift Bridge: A moveable bridge (or span thereof) which is capable of being lifted vertically to allow vessels to pass beneath.  Suspension Bridge: A fixed bridge consisting of either a roadway or a truss suspended from two or more cables which pass over towers and are anchored by backstays to a firm foundation.  Swing Bridge: A Moveable bridge (or span thereof) that rotates in a horizontal plane about a vertical pivot to allow the passage of vessels.  Drawbridge: A retractable bridge is a type of movable bridge in which the deck can be rolled or slid backwards to open a gap for crossing traffic, usually a ship on a waterway. This type is sometimes referred to as a thrust bridge. The bridge deck of a thrust bridge is retracted to one side and is related to the type S57 CATBRG 7 : Drawbridge [see G.1.12 Retractable (Draw) Bridge (Inland ENC Encoding Guide Edition 2.4.0)] | | |
|  | **Bridges**  G.1.1 Bascule Bridge  G.1.2 Bridges with Bridge Arches  G.1.3 Fixed Bridge  G.1.4 Lift Bridge  G.1.5 Suspension Bridge  G.1.6 Swing Bridge  G.1.12 Drawbridge | Function Code  **bridge\_(x)x**  (x)x = bridge type  bridge\_5  bridge\_1  bridge\_1  bridge\_4  bridge\_12  bridge\_3  bridge\_7 | Object Reference Code (coding proposal)  **Bxxyz**  xx = bridge type  B05yz  B01yz  B01yz  B04yz  B12yz  B03yz  B07yz |
| y = number of the bridge (Necessary in case there are several bridges on the same river hectometre. In that case only the Object Reference Code can distinguish the individual bridges, 1-9)  z = number of the opening of that bridge (Necessary in case a bridge has several openings and they have to be encoded separately. In that case only the Object Reference Code can distinguish the individual openings, 1-9) | |
| Recommended encoding of position |  | Alternative 1: The coordinate of any (single) corner of the bridge-object provides the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)  Alternative 2: Centre of the object; but in case of curved bridges the calculation of the centre of the bridge might be outside of the bridge object. (see green dot in the illustration) | |
| Recommended encoding (if done on basis of IENC) | See above |  | |
| Conditions for codification |  | | |
| Recommendations for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | There are two different bridge constructions (G.1.2 and G.1.3) with the same category of the bridge (1 = fixed bridge), see the Inland ENC Encoding Guide. | | |

### G.1.1 - G.1.6 Bridge Area

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Bridge area [C\_AGGR()] brgare G.1 Bridges | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapters G.1.1 – G.1.6 | | |
| Definition | A bridge having permanent horizontal and vertical alignment. | | |
|  | **Bridge Area** | Function Code    **brgare** | Object Reference Code (coding proposal)  **BRGAx**  x = number of bridge at same river hectometre (1-9) |
| Recommended encoding of position | 2 | Alternative 1: The coordinates of any corner of the Bridge Area-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)  Alternative 2: Centre of the object; but in case of curved bridges the calculation of the centre of the bridge might be outside of the bridge object. (see green dot in the illustration) | |
| Recommended encoding (if done on basis of IENC) | See above |  | |
| Conditions for codification | Bridge Area to be encoded in the RIS Index if a bridge consists of more than one opening. Each opening is encoded individually, therefore the bridge area [C\_AGGR()] has to be used to summarise the entire bridge object. | | |
| Recommendations for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The attribute for the ISRS Location Code (unlocd) was included in version 2.3.6 (July 2014) of the Inland ECDIS standard for this object, thus the ISRS Location Code cannot be defined within IENCs using older versions than 2.3. | | |

### G.1.8 Overhead Cable

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Overhead Cable cblohd(L) G.1.8 Overhead Cable (C) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.1.8 | | |
| Definition | An overhead cable is an assembly of wires or fibres, or a wire rope or chain, which is supported by structures such as poles or pylons and passing over or nearby navigable waters. | | |
|  | **Overhead Cable** | Function Code    **cblohd** | Object Reference Code (coding proposal)  **CBOHx**  x = number of overhead cable  (1-9; necessary in case there are several overhead cables on the same river hectometre) |
| Recommended encoding of position | 1 | Alternative 1: The coordinates of any node of the Overhead Cable-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above |  | |
| Conditions for codification | Clearance height might have impact on navigation | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The attribute for the ISRS Location Code (unlocd) was included in version 2.3.6 (July 2014) of the Inland ECDIS standard for this object, thus the ISRS Location Code cannot be defined within IENCs using older versions than 2.3. | | |

### G.1.9 Overhead Pipe

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Overhead Pipe pipohd(L) G.1.9 Overhead Pipe (C) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.1 | | |
| Definition | A pipeline is a string of interconnected pipes used for the transport of matter, nowadays mainly oil or gas.  An overhead pipeline is a pipeline supported by pylons and passing over or nearby navigable waters. | | |
|  | **Overhead Pipe** | Function Code    **pipohd** | Object Reference Code (coding proposal)  **PIOHx**  x = number of overhead pipe  (1-9; necessary in case there are several overhead pipes on the same river hectometre) |
| Recommended encoding of position | 4 | Alternative 1: The coordinate of any node of the Overhead Pipe-Object provides the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above |  | |
| Conditions for codification | Clearance height might have impact on navigation | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The attribute for the ISRS Location Code (unlocd) was included in version 2.3.6 (July 2014) of the Inland ECDIS standard for this object, thus the ISRS Location Code cannot be defined within IENCs using older versions than 2.3. | | |

### G.3.9 Harbour Area

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Harbour Area hrbare(A) G.3.9 harbour Area (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3 | | |
| Definition | The area of water and land with the works necessary for its formation, protection and maintenance. | | |
|  | **Harbour (Area)** | Function Code    **hrbare** | Object Reference Code (coding proposal)  **HRBAx**  x = number of harbour area (1-9) |
| Recommended encoding of position |  | The coordinates of any corner of the harbour Area-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.3.10 Harbour Basin

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Harbour Basin hrbbsn(A) G.3.10 harbour Basin (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.10 | | |
| Definition | An enclosed area of water surrounded by quay walls constructed to provide means for the transfer of cargo from and to ships. | | |
|  | **Harbour Basin** | Function Code    **hrbbsn** | Object Reference Code (coding proposal)  **HRBSx**  x = number of basin (1-9) |
| Recommended encoding of position |  | The coordinates of any corner of the harbour Basin-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.3.15 Port Area

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Port Area prtare(A) G.3.15 Port Area (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.15 | | |
| Definition | Apart from harbours, a port includes a city or borough with accommodations and facilities for landing passengers and goods and some amount of overseas trade. A port may possess a harbour but a harbour is not necessary a port. | | |
|  | **Port Area** | Function Code    **prtare** | Object Reference Code (coding proposal)  **PRTAR** |
| Recommended encoding of position | *No illustration available*  A country having such object in their official IENCs should provide a screenshot. | The coordinates of any corner of the Port Area-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | To be added (see above) |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index | | |
| Remark |  | | |

### G.3.19 Terminal

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Terminal termnl(P, A) G.3.19 Terminal | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3 | | |
| Definition | A terminal covers that area on shore that provides buildings and constructions for the transfer of cargos from and to ships. | | |
|  | **Terminal**  **RORO-terminal**  **Ferry-terminal**  **Tanker-Terminal**  **Passenger Terminal**  **Container Terminal**  **Bulk Terminal** | Function Code  **termnl**  **trm01**  **trm03**  **trm07**  **trm08**  **trm10**  **trm11** | Object Reference Code (coding proposal)  *terminal encoded by RIS-authorities:*  **TRMxx**  xx = number of terminal (01-99)  *terminal encoded by logistics parties:*  **xxxxx**  xxxxx= is the unique terminal code as used in trade |
| Recommended encoding of position |  | Alternative 1: The coordinates of any corner of the Terminal-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | A significant number of terminals are not available in the RIS-index as they are situated outside the area of a competent RIS-authority. However these terminals are of utmost importance in order to submit the correct ERI-reports to the competent authorities. For this reason these terminals should be available in the consolidated RIS-index, but with a distinguishing qualifier to signify that these terminals are not coded by the competent RIS-authority. These locations could be situated in a country, which is not considered as a RIS-country or situated along non RIS-fairways. The maintenance of these terminals will be coordinated by BTB and SMDG  Principles:   * For these terminals the combination UNLOCODE+ Object Reference Code shall be unique in the consolidated RIS-index * Terminals situated in non RIS-areas as mentioned in the RIS-directive will be coded as follows <UNLOCODE>+00000+<Object Reference Code>+00000 * Object reference codes that are used in trade that have less than 5 alphanumeric positions will be prefixed by 0. E.g. code 947 in trade will become 00947. * Terminals situated in RIS-areas as mentioned in the RIS-directive will be linked with a RIS-index which is provided by a competent RIS-authority after consultation of the respective competent RIS-authority. If linking is not possible, these terminals will be coded in accordance with terminals situated in non RIS-areas as mentioned in the RIS-directive. | | |

### G.4.3 Lock Basin

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Lock Basin lokbsn(A) G.4.3 Lock Basin (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.4.3 | | |
| Definition | A lock basin is a wet dock in a waterway, permitting a ship to pass from one level to another. | | |
|  | **Lock Basin** | Function Code  **lokbsn** | Object Reference Code (coding proposal)  **LOKBx**  x = number of basin (1-9) |
| Recommended encoding of position |  | Alternative 1: The coordinates of any corner of the Lock Basin-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendations for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.4.4 Lock Basin Part

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Lock Basin Part lkbspt(A) G.4.4 Lock Basin Part (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.4.4 | | |
| Definition | A lock basin is divided into several lock basin parts, if this lock basin has one ground level but several gates. | | |
|  | **Lock Basin Part** | Function Code    **lkbspt** | Object Reference Code (coding proposal)  **LKPxy**  x = number of basin (1-9)  y = number of part of that basin (1-9) |
| Recommended encoding of position |  | Alternative 1: The coordinates of any corner of the Lock Basin Part-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.4.3 / G.4.4 Lock Area

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Lock Area [C\_AGGR()] lokare G.4.3 Lock Basin / G.4.4 Lock Basin Part | | |
| Reference of definition | IENC Feature Catalogue Edition 2.3, 2013-04-05, page 4, and  Joint Task Force RIS Index Encoding Guide | | |
| Definition | The aggregated area containing one or more lock basins (or other exceptional navigational structures to overcome height differences in the fairway), the buildings and areas around the lock used to support navigation of vessels through the lock. | | |
|  | **Lock Area** | Function Code    **lokare** | Object Reference Code (coding proposal)  **LOCKS** |
| Recommended encoding of position | C_AGGR_Schleuse Freudenau_crop_and_dot | Alternative 1: The coordinates of any corner of the Lock Area-Object provide the position (lat-long) for that object within the RIS Index.  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above |  | |
| Conditions for codification | Lock Area has to be encoded in the RIS Index if a lock consists of more than one lock basin. Each lock basin is encoding individually, therefore the lock area [C\_AGGR()] has to be used to summarise the entire lock object. | | |
| Recommendations for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The attribute for the ISRS Location Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS Location Code cannot be defined within IENCs using older versions than 2.3. | | |

### G.4.8 Exceptional Navigational Structure

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Exceptional Navigational Structure excnst(P, A) G.4.8 Exceptional Navigational Structure (M) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6(July 2014), chapter G.4.8 | | |
| Definition | An exceptional navigational construction such as an aqueduct, lift-lock, etc. | | |
|  | **Exceptional Navigational Structure** | Function Code    **excnst** | Object Reference Code (coding proposal)  **EXCNS** |
| Recommended encoding of position | *No illustration available*  A country having such object in their official IENCs should provide a screenshot. | Alternative 1: The coordinates of any corner of the Exceptional Navigational Structure-Object provide the position (lat-long) for that object within the RIS Index.  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | To be added (see above) |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### M.1.1 Anchorage Area

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Anchorage Area achare(P, A) M.1.1 Anchorage Area (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter M.1.1 | | |
| Definition | An area in which vessels anchor or may anchor. | | |
|  | **Anchorage Area** | Function Code    **achare** | Object Reference Code (coding proposal)  **ACHAx**  x = number of area at same river hectometre (1-9)  *Alternative:*  x = berths on left/right bank (L/R) |
| Recommended encoding of position | *No illustration available*  A country having such object in their official IENCs should provide a screenshot. | The coordinates of any corner of the Anchorage Area-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | To be added (see above) |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### M.1.2 Anchorage Berth

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Anchorage Berth achbrt(P, A) M.1.2 Anchorage Berth (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter M.1.2 | | |
| Definition | A designated area of water where a single vessel, convoy, sea plane, etc. may anchor. | | |
|  | **Anchorage Berth** | Function Code    **achbrt** | Object Reference Code (coding proposal)  **ACHBx**  x = number of berth at same river hectometre (1-9)  *Alternative:*  x = berths on left/right bank (L/R) |
| Recommended encoding of position | *No illustration available*  A country having such object in their official IENCs should provide a screenshot. | The coordinates of any corner of the Anchorage Berth-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | To be added (see above) |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### M.1.3 Berth without Transhipment / Fleeting Areas

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Berth without Transhipment / Fleeting Areas berths(P, L, A)  M.1.3 Berth without Transhipment / Fleeting Areas (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter M.1.3 | | |
| Definition | A designated named or numbered place at the bank of the river or in a harbour basin for the mooring of vessels without transhipment of cargo. | | |
|  | **Berth without transhipment** | Function Code    **berths\_3** | Object Reference Code (coding proposal)  **BER3x**  x = number of berth at same river hectometre (1-9)  *Alternative:*  x = berths on left/right bank (L/R) |
| Recommended encoding of position |  | The coordinates of any corner of the Berth-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### M.1.4 Transhipment Berth

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Transhipment Berth berths(P, L, A) M.1.4 Transhipment Berth (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter M.1.4 | | |
| Definition | A designated named or numbered place at the bank of the river or in a harbour basin for the mooring of vessels and transhipment. | | |
|  | **Transhipment Berth** | Function Code    **berths\_1** | Object Reference Code (coding proposal)  **BER1x**  x = number of berth at same river hectometre (1-9)  *Alternative:*  x = berths on left/right bank (L/R) |
| Recommended encoding of position |  | The coordinates of any corner of the Berth-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### M.4.5 Turning Basin

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Turning Basin trnbsn(P, A) M.4.5 Turning Basin (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter M.4.5 | | |
| Definition | An area of water or enlargement of a channel used for turning vessels. | | |
|  | **Turning Basin** | Function Code    **trnbsn** | Object Reference Code (coding proposal)  **TRNBS** |
| Recommended encoding of position |  | The coordinates of distance mark along the waterway axis provide the position (lat-long) of the Turning Basin within the RIS Index.  Alternative 1: The coordinates of any corner of the Turning Basin-Object provide the position (lat-long) for that object within the RIS Index.  Alternative 2: Centre of the object | |
| Recommended encoding (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### I.3.4 Waterway Gauge

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Waterway Gauge wtwgag(P, A) I.3.4 Waterway Gauge (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter I.3.4 | | |
| Definition | A waterway gauge is an instrument for measuring water levels. Waterway gauges provide the actual water level information to calculate actual depths and vertical clearances, taking into account the sloped nature or river water surfaces. | | |
|  | **Waterway Gauge** | Function Code  **wtwgag** | Object Reference Code (binding coding rule to ensure interoperability with Inland AIS) **Gxxxx**  xxxx = number of waterway gauge (0001-2047) |
| Recommended encoding of position |  | The coordinates of the Waterway Gauge-Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding (if done on basis of IENC) |  |  | |
| Conditions for codification | The Object Reference Code (ORC) for gauges is assigned by the national authorities and is based on the commonly agreed encoding (see details in the Frequently Asked Questions section). ORC consists of combination of five alphanumerical characters “**Gnnnn**”, where **G** is default not changeable character identifying **G**auge and **nnnn** is a four-digit number with value less than 2048 (**nnnn < 2048**). Each ORC for a gauge must be unique per country.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Country code | UN location code | Waterway section code | ORC | Hectometre | ISRS | National gauge code | | AT | GRN | 00001 | G0005 | 20791 | ATGRN00001G000520791 |  | | NL | SVW | 0150C | G0022 | 00064 | NLSVW0150CG002200064 | 0STEV |   Inland AIS code for gauges:   |  |  |  | | --- | --- | --- | | Country code used in AIS | ORC (without G) = Gauge ID | Inland AIS code | | AT | 0005 | AT0005 | | NL | 0022 | NL0022 | | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | For details see Change Request 036 of the NtS Expert Group (accepted on the 08.04.2008) | | |

### L.3.2 Distance Mark along Waterway Axis

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Distance Mark Along Waterway Axis dismar(P)  L.3.2 Distance Mark Along Waterway Axis (C) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter L.3.2 | | |
| Definition | A distance mark indicates the distance measured from an origin and consists of a distinct location without special installation, used to serve as a reference along the waterway. (*Here*: used to encode the waterway axis with kilo/hectometre indication) | | |
|  | **Distance Mark Along Waterway Axis** | Function Code  **dismar** | Object Reference Code (binding coding rule, used in NtS web service ID parameters)  **00000** |
| Recommended encoding of position | 5 | The coordinate of the Distance Mark Along Waterway Axis-Object provides the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding of position (if done on basis of IENC) | See above |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The objects “dismar” and “junction” are provided in the spreadsheet “RIS\_INDEX\_waterway\_network” of the RIS Index template.  Please note that the UN/LOCODE “XXX” may be used as a valid entry for RIS purposes in the ISRS Location Code for the objects *distance mark* and *junction*.  e.g.: AT**XXX**000010000019999  For more details compare Change Request CR 073 of the NtS Expert Group. | | |

### Q.2.1 Radio Calling-In Point (notification point)

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Radio Calling Point rdocal(P, L) Q.2.1 Radio Calling-in Point (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter Q.2.1 | | |
| Definition | Also called radio reporting points, they have been established in certain busy waterways and port approaches to assist traffic control. On passing these points or crossing a defined line vessels are required to report on VHF to a Traffic Control Centre. | | |
|  | **Radio Calling Point** | Function Code    **rdocal** | Object Reference Code (coding proposal)  **RDCAL** |
| Recommended encoding of position | *No illustration available*  A country having such object in their official IENCs should provide a screenshot. | The coordinate of the Radio Calling Point-Object provides the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding (if done on basis of IENC) | To be added (see above) |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The attribute for the ISRS Location Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS Location Code cannot be defined within IENCs using older versions than 2.3. | | |

* 1. Additional objects

These objects could have an added value for specific purposes. However, their integration into the RIS Index is not compulsory.

### E.1.1 Built-Up Areas

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Built-up Area BUAARE(P, A) E.1.1 Built-up Areas (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter E.1.1 | | |
| Definition | An area containing a concentration of buildings and the supporting road or rail infrastructure. | | |
|  | **Build-up Area** | Function Code    **BUAARE** | Object Reference Code (coding proposal)  **BUAAx**  x = number of area at same river hectometre (1-9)  *Alternative:*  x = area on left/right bank (L/R)  **CITYX**  (for important cities / towns along the fairway) |
| Recommended encoding of position | 6 | Alternative 1: BUAARE is a polygon or a node. Therefore, the coordinates of any corner or the coordinates of the node of the Build-up Area-Object provide the position (lat-long) for that object within the RIS Index.  Alternative 2: Centre of the object | |
| Recommended encoding of position (if done on basis of IENC) | See above |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | It is necessary to add the attribute “unlocd = [ISRS Location Code]” to the object ‘BUAARE’ within higher versions than 2.3 of the Inland ECDIS Standard. | | |

### E.1.2 Building of Navigational Significance

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Buildings of Navigational Significance BUISGL(P, A)  E.1.2 Buildings of Navigational Significance (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter E.1.2 | | |
| Definition | Buildings with a special function, which may be of interest for the skipper. | | |
|  | **Buildings of Navigational Significance** | Function Code    **BUISGL** | Object Reference Code (coding proposal)  **BIxxx**  xxx = number of building at same river hectometre (001-999)  *Alternative:*  xxx = building on left/right bank (Lxx/Rxx) |
| Recommended encoding of position | BUISGL_2 | BUISGL is a polygon or a node. Therefore, the coordinates of any corner or the coordinates of the node of the BUISGL-Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding of position (if done on basis of IENC) | See above |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | It is necessary to add the attribute “unlocd = [ISRS Location Code]” to the object ‘BUISGL’ within higher versions than 2.3 of the Inland ECDIS Standard. | | |

### G.3.11 Landing Stage, Pontoon

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Landing Stage / Pontoon ponton(A)  G.3.11 Landing Stage, Pontoon (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.3 | | |
| Definition | A floating structure, usually rectangular in shape which serves as landing, pier head or bridge support. | | |
|  | **Landing Stage / Pontoon** | Function Code    **ponton** | Object Reference Code (coding proposal)  **POxxx**  xxx = number of object at same river hectometre (001-999)  *Alternative:*  xxx = object on left/right bank (Lxx/Rxx) |
| Recommended encoding of position |  | Alternative 1: The coordinates of any corner of the Landing Stage / Pontoon-Object provide the position (lat-long) for that object within the RIS Index.  Alternative 2: Centre of the object | |
| Recommended encoding of position (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.3.12 Mooring Facility

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Mooring Facility MORFAC(P, L ,A) G.3.12 Mooring Facility | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.12 | | |
| Definition | The equipment or structure used to secure a vessel. | | |
|  | **Mooring Facility** | Function Code    **morfac** | Object Reference Code (coding proposal)  **MOxxx**  xxx = number of facility at same river hectometre (001-999)  *Alternative:*  xxx = facility on left/right bank (Lxx/Rxx) |
| Recommended encoding of position | MOFAC_Hafen Freudenau | The coordinates of the Mooring Facility-Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding of position (if done on basis of IENC) | See above |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | It is necessary to add the attribute “unlocd = [ISRS Location Code]” to the object ‘MORFAC’ within higher versions than 2.3 of the Inland ECDIS Standard. | | |

### G.3.14 Permanently Moored Vessel or Facility

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Permanently Moored Vessel or Facility hulkes(A)  G.3.14 Permanently Moored Vessel or Facility (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.14 | | |
| Definition | A permanently moored ship. | | |
|  | **Permanently Moored Vessel or Facility** | Function Code    **hulkes** | Object Reference Code (coding proposal)  **HLKxx**  xx = number of hulkes at same river hectometre (01-99)  *Alternative:*  xx = hulkes on left/right bank (Lx/Rx) |
| Recommended encoding of position |  | The coordinates of any corner of the Permanently Moored Vessel or Facility-Object provide the position (lat-long) for that object within the RIS Index.  Alternative: Centre of the object | |
| Recommended encoding of position (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.3.17 Refuse Dump

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Refuse Dump refdmp (P)  G.3.17 Refuse Dump (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.17 | | |
| Definition | At a refuse dump the vessels are able to unload their refuse like waste oil or black water. | | |
|  | **Refuse Dump** | Function Code    **refdmp** | Object Reference Code (coding proposal)  **RExxx**  xxx = number of object at same river hectometre (001-999)  *Alternative:*  xxx = object on left/right bank (Lxx/Rxx) |
| Recommended encoding of position |  | The coordinates of the refuse dump -Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding of position (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | Furthermore, the distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The attribute for the ISRS Location Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS Location Code cannot be defined within IENCs using older versions than 2.3. | | |

### G.3.2 Bunker / Fuelling Station

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Bunker / Fuelling Station bunsta(P, A)  G.3.2 Bunker / Fuelling Station (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.2 | | |
| Definition | A station, at which a vessel is able to bunker fuel, water or ballast. | | |
|  | **Bunker / Fuelling Station** | Function Code    **bunsta** | Object Reference Code (coding proposal)  **BUxxx**  xxx = number of object at same river hectometre (001-999)  *Alternative:*  xxx = object on left/right bank (Lxx/Rxx) |
| Recommended encoding of position |  | The coordinates of the Bunker / Fuelling Station -Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding of position (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | Furthermore, the distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.3.20 Vehicle Transfer Location

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Vehicle Transfer Location vehtrf(A)  G.3.20 Vehicle Transfer Location (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.20 | | |
| Definition | A place where vehicles can be loaded or unloaded from the inland vessel with onboard or onshore facilities. | | |
|  | **Vehicle Transfer Location** | Function Code    **vehtrf** | Object Reference Code (coding proposal)  **VEHTx**  x = number of object at same river hectometre (1-9)  *Alternative:*  x = object on left/right bank (L/R) |
| Recommended encoding of position |  | Alternative 1: The coordinates of any corner of the Vehicle Transfer Location-Object provide the position (lat-long) for that object within the RIS Index.  Alternative 2: Centre of the object | |
| Recommended encoding of position (if done on basis of IENC) |  |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### G.3.4 Crane

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Crane CRANES(P, A) G.3.4 Crane (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter G.3.4 | | |
| Definition | A machine for lifting, shifting and lowering objects or materials by means of a swinging boom or with a lifting apparatus supported on an overhead track. | | |
|  | **Crane** | Function Code    **cranes** | Object Reference Code (coding proposal)  **CRxxx**  xxx = number of object at same river hectometre (001-999)  *Alternative:*  xxx = object on left/right bank (Lxx/Rxx) |
| Recommended encoding of position | 8 | The coordinate of any corner of the Crane-Object provides the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding of position (if done on basis of IENC) | See above |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | It is necessary to add the attribute “unlocd = [ISRS Location Code]” to the object ‘CRANES’ within higher versions than 2.3 of the Inland ECDIS Standard. | | |

### L.2 Ferries

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Ferries L.2 Ferries | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter L.2 | | |
| Definition | Cable Ferry: A route in a body of water where a ferry crosses from one shoreline to another. In this specific case a ferry that follows a fixed route guided by a cable. Cable ferries (either assisted by propulsion or not) are fixed to a cable. This cable is crossing the river either above or below water surface.  Free Moving Ferry: A route in a body of water where a ferry crosses from one shoreline to another. In this specific case a ferry which may have routes that vary with weather, tide and traffic.  Swinging Wire Ferry: A route in a body of water where a ferry crosses from one shoreline to another. A "Swinging Wire Ferry" is connected to a fixed point (e.g., an anchor in the middle of the waterway) and swings around this point from shore to shore via a cable to an anchor. The cable runs more or less parallel to the current. | | |
|  | **Ferries**  L.2.1 Cable Ferry  L.2.2. Free Moving Ferry  L.2.3. Swinging Wire Ferry | Function Code  FERYRT\_2  FERYRT\_1  feryrt\_4 | Object Reference Code (coding proposal)  FERYx  x = number of ferry at same river hectometre (1-9) |
| Recommended encoding of position | Fähre Freudenau - Donauinsel-900 | Alternative 1: The coordinates of any node of the ferry object provide the position (lat-long) for that object within the RIS Index.  Alternative 2: Centre of the object | |
| Recommended encoding of position (if done on basis of IENC) | See above. |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | Furthermore, the distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | It is necessary to add the attribute “unlocd = [ISRS Location Code]” to the object ‘Ferries’ within higher versions than 2.3 of the Inland ECDIS Standard. | | |

### R.1.1 Check Point

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Check Point chkpnt(P, A) R.1.1 Check Point (O) | | |
| Reference of definition | Inland ENC Encoding Guide Edition 1, 2.3.6 (July 2014), chapter R.1.1 | | |
| Definition | An official place to register, declare or check goods and/or people. | | |
|  | **Check Point** | Function Code    **chkpnt** | Object Reference Code (coding proposal)  **CHKPT** |
| Recommended encoding of position (if done on basis of IENC) | *No illustration available*  A country having such object in their official IENCs should provide a screenshot. | The coordinates of the Check Point-Object provide the position (lat-long) for that object within the RIS Index. | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark |  | | |

### R.2 Signal Stations

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Signal Stations R.2 Signal Stations | | |
| Reference of definition | Inland ENC Encoding Guide Edition 2.3.6 (July 2014), chapter R.2.1 | | |
| Definition | Bridge Passage: Place on shore from which signals are made for the control of vessels wishing to pass under a bridge.  Lock: Place on shore from which signals are made for the control of vessels entering or leaving a lock.  Oncoming Traffic Indicator: Place on shore from which signals are made to inform about oncoming traffic.  Port Entry and Departure: Place on shore from which signals are made for the control of vessels entering or leaving a port. | | |
|  | **Signal Stations**    R.2.1 Traffic Sistat – Bridge Passage  R.2.2 Traffic Sistat – Lock  R.2.3 Traffic Sistat – Oncoming Traffic Indicator  R.2.4 Traffic Sitat – Port Entry and Departure | Function Code    **sistat\_(x)x**  x = type of Traffic Signal Station    sistat\_8  sistat\_6  sistat\_10  sistat\_2 | Object Reference Code (coding proposal)  **SIxxz**  xx = type of Traffic Signal Station  z = number of signal station  SI08z  SI06z  SI10z  SI02z |
| z = number of signal stations (Necessary in case there are several signal stations on the same river hectometre. In that case only the Object Reference Code can distinguish the individual Signal Stations, 1-9) | |
| Recommended encoding of position |  | The coordinates of the Signal Station-Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding (if done on basis of IENC) | See above |  | |
| Conditions for codification | The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index. | | |
| Recommendations for attributes |  | | |
| Remark | The attribute for the ISRS Location Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS Location Code cannot be defined within IENCs using older versions than 2.3. | | |

### Waypoint

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Waypoint wayp | | |
| Reference of definition | The definition is maintained by the ERI Expert Group | | |
| Definition | A waypoint is defined by a virtual line perpendicular on the fairway axis running from side to side of the fairway. When a vessel crosses that line in any position of the vessel in the navigable part of the fairway it is said that the vessel has passed a waypoint. | | |
|  | **Waypoint** | Function Code    **waypt** | Object Reference Code (coding proposal)  **WAYPT** |
| Recommended encoding of position | No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide | The coordinates of the related Waypoint-Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding (if done on basis of IENC) |  |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | There is no such object within the Inland ECDIS Standard and IENC Encoding Guide. | | |

### Special Construction

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Special Construction specon | | |
| Reference of definition |  | | |
| Definition |  | | |
|  | **Special Construction** | Function Code    **specon** | Object Reference Code (coding proposal)  **SPECx**  x = number of object at same river hectometre (1-9)  *Alternative:*  x = object on left/right bank (L/R) |
| Recommended encoding of position | No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide | The coordinates of any corner of the Special Construction-Object provide the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding (if done on basis of IENC) |  |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | There is no such object within the Inland ECDIS Standard and IENC Encoding Guide. | | |

### Passage Points

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Passage Points pas | | |
| Reference of definition | The definition underneath is defined by the ERI Expert Group | | |
| Definition | A passage point is a defined distinguishable spot which serves as a marker to determine parts of a voyage of a vessel and triggering a certain action. | | |
|  | **Passage Point** | Function Code    **pas** | Object Reference Code (coding proposal)  **PASSP** |
| Recommended encoding (if done on basis of IENC) | No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide | The coordinates of (any corner of) the Passage Point-Object provide the position (lat-long) for that object within the RIS Index. | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | There is no such object within the IENC Standard and IENC Encoding Guide. | | |

### Traffic Points (first reporting points)

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Traffic Points trafp | | |
| Reference of definition | The definition is maintained by the ERI Expert Group | | |
| Definition | A traffic point is a defined distinguishable spot which serves as a marker to determine where the necessary electronic reporting towards the fairway authorities should be done. Also first reporting point | | |
|  | **Traffic Point** | Function Code    **trafp** | Object Reference Code (coding proposal)  **TRAFP** |
| Recommended encoding (if done on basis of IENC) | No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide | The coordinates of (any corner of) the Traffic Point-Object provide the position (lat-long) for that object within the RIS Index. | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | There is no such object within the IENC Standard and IENC Encoding Guide. | | |

### Waterway node / Junction

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | Waterway node / Junction junction | | |
| Reference of definition | Joint Task Force RIS Index Encoding Guide | | |
| Definition | A waterway node / junction is a place where two or more fairway sections converge or diverge or the start or end of a fairway. This implies a physical connection between the beds of the two fairways. | | |
|  | **Waterway node / Junction** | Function Code    **junction** | Object Reference Code (binding coding rule)  **Jxxxx**  xxxx = Number of junction (0001-9999) |
| Recommended encoding of position | No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide | The coordinate of the related Junction-Object provides the position (lat-long) for that object within the RIS Index. | |
| Recommended encoding (if done on basis of IENC) |  |  | |
| Conditions for codification |  | | |
| Recommendation for attributes | The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index. | | |
| Remark | The objects “dismar” and “junction” are provided in the spreadsheet “RIS\_INDEX\_waterway\_network” of the RIS Index template.  Please note that the UN/LOCODE “XXX” may be used as a valid entry for RIS purposes in the ISRS Location Code for the objects *distance mark* and *junction*.  e.g.: AT**XXX**00001J002322014  There is no such object within the Inland ECDIS Standard and IENC Encoding Guide. More information on junctions is provided in a separate document dealing with the encoding of the European waterway network. | | |

### RIS Centre

|  |  |  |  |
| --- | --- | --- | --- |
| Full title | RIS Centre riscen | | |
| Reference of definition | Directive 2005/44/EC | | |
| Definition | According to the Directive 2005/44/EC the RIS centre is defined as “RIS centre means the place where the services are managed by operators”.  RIS centre is the place, where the services are managed by operators. A RIS may exist without a RIS centre (e.g. an Internet service, a buoys service). When ship/shore interaction in both ways (e.g. by VHF service) is intended, one or more RIS centres are needed. If a VTS centre or a lock exists in a RIS area, they may also be used as RIS centres. It is recommended to concentrate all services in a RIS area into one single RIS centre *(Source: RIS-Guidelines 2007/414/EC)*  In terms of the R2D2 (RIS Data exchange Reference Documentation), developed within the IRIS Europe initiative, a RIS centre is the logical identifier for RIS services within a country, area or organization. A RIS centre addresses other RIS centres using their ID in order to exchange ERI, VTT, Hull and other data. RIS centre IDs are also used to specify ERI(NOT) reporting points. | | |
|  | **RIS Centre** | Function Code    **riscen** | Object Reference Code (coding proposal)  **RISxx**  xx = Number of RIS centre (01-99, must not be used twice per country) |
| Recommended encoding of position | No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide | The coordinate of the related RIS Centre-Object provides the position (lat-long) for that object within the RIS Index. (e.g. VTS centre, RIS operator office) | |
| Recommended encoding (if done on basis of IENC) |  |  | |
| Conditions for codification | If one RIS centre is serving two or more countries, one common country code shall be agreed for this RIS centre. | | |
| Recommendation for attributes |  | | |
| Remark | There is no such object within the IENC Standard and IENC Encoding Guide. The existing Object Reference Code for encoding vessel traffic centres (TRACE) does not apply for a RIS centre, thus an additional Object Reference Code is recommended. | | |

Annex 1: Frequently Asked Questions

The Frequently Asked Questions (FAQ) are provided in a separate Annex to this document. The FAQ are continuously extended to provide clarifications related to the RIS Index. The FAQ are maintained by the Joint Task Force on the RIS Index.

Annex 2: Waterway Network Encoding Guide

The objects “dismar” and “junction” are used to specify the waterway network and are provided in the spreadsheet “RIS\_INDEX\_waterway\_network” of the RIS Index template.

As of June 2015 Annex 2 has not been finalised. For the moment this Annex will be kept as placeholder for future waterway network encoding provisions.

Annex 3: Maintenance Guidelines for the RIS Index

As of October 2012 this Annex has not been finalised. The Maintenance Guidelines will be provided in a separate Annex to this document. As of October 2012 this Annex has not been finalised.

## Agreed procedure for RIS Index uploads onto the different RIS websites

1. Respective national organizations prepare the RIS Index file for objects under their responsibility according to the RIS Index Encoding Guide and template in force in coordination with the respective national reference data manager.
2. The respective national reference data manager sends the RIS Index file to the NtS Expert Group chairperson.
3. The NtS Expert Group chairperson takes care of uploading the respective RIS Index file to the RIS community system ([www.ris.eu](http://www.ris.eu) and <http://eg.ris.eu> sites).
4. The respective national reference data manager takes care of providing the RIS Index information to the European Reference Data Management System (ERDMS) by means of the related specified services.
5. In case the RIS Index is provided on additional (national) sources (e.g. national RIS site) the respective national reference data manager also takes care of updating these sources.
6. The respective national reference data manager is responsible to provide updates, mutations to the addressees mentioned under point 2, 4 and 5.

1. PLATINA – Platform for the Implementation of the NAIADES Action plan for Promotion of Inland Navigation (EU FP 7 project, 2008-2012) [↑](#footnote-ref-1)
2. [↑](#footnote-ref-2)
3. Please note that UN country code refers to the definition in Commission Regulation 164/2010, chapter 2.4.2.12. The UN country code equals the ISO 3166-1 Alpha-2 Country Code. [↑](#footnote-ref-3)
4. See Directive 2005/44/EC [↑](#footnote-ref-4)
5. Inland ENC Encoding Guide Edition 2.3.6, (July 2014) [↑](#footnote-ref-5)
6. The data can be provided in an Inland ENC in accordance with the Inland ECDIS Standard. If no IENC is available, it needs to be provided in the RIS Index. [↑](#footnote-ref-6)