



Inland ECDIS Encoding Guide in DocBook data format

IEHG Meeting 2017

Niteroi, Brasil

IENC EG in DocBook format

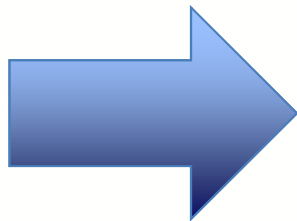
Content

- Motivation for providing the IENC EG in a semantic markup language
- Why DocBook?
- Status quo regarding the transfer of the IENC EG 2.4 into DocBook
- Future prospects

IENC EG in DocBook format

Motivation for providing the IENC EG in a semantic markup language

- Demand for a nationally adapted IENC EG with:
 - International core part (Standard IENC EG)
 - Complemented by regionally adapted encoding rules and pictures
 - National language for parts of the documents
- User-friendliness
 - Text editing supported by pre-defined document structure
- Export functionality for standard document formats (pdf, html, e-pub)
 - Automated document styling (by the use pre-defined stylesheets)



DocBook

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Why DocBook?

- DocBook is a [semantic markup language](#) (XML) for technical [documentation](#)
- DocBook enables its users to create [document content in a presentation-neutral form](#) that captures the logical structure of the content
 - **set:** Titled collection of one or more books, can be nested with other sets
 - **book:** Titled collection of chapters, articles, and/or parts, with optional glossaries, appendices, etc.
 - **part:** Titled collection of one or more chapters—can be nested with other parts, and may have special introductory text
 - **article:** Titled, unnumbered collection of block-level elements
 - **chapter:** Titled, numbered collection of block-level elements—chapters don't require explicit numbers, a chapter number is the number of previous chapter elements in the XML document plus 1
 - **appendix:** Contained text that represents an appendix
 - **dedication:** Text represents the dedication of the contained structural element
- The DocBook data format contains only the logical structure of the document and no rules for the graphical presentation

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Why DocBook?

- Technically, DocBook documents can be handled with all text editors.
- Special DocBook editors, like “XML mind” or “Oxygen” support the document structure by so called “**Snippets**”. These are special masks for supporting the input, e.g. text + lists + pictures.
- Special DocBook editors support also the export of DocBooks in graphically formatted formats, like PDF, HTML, e-pub. In this case specific “**XSL-Stylesheets**” are needed.

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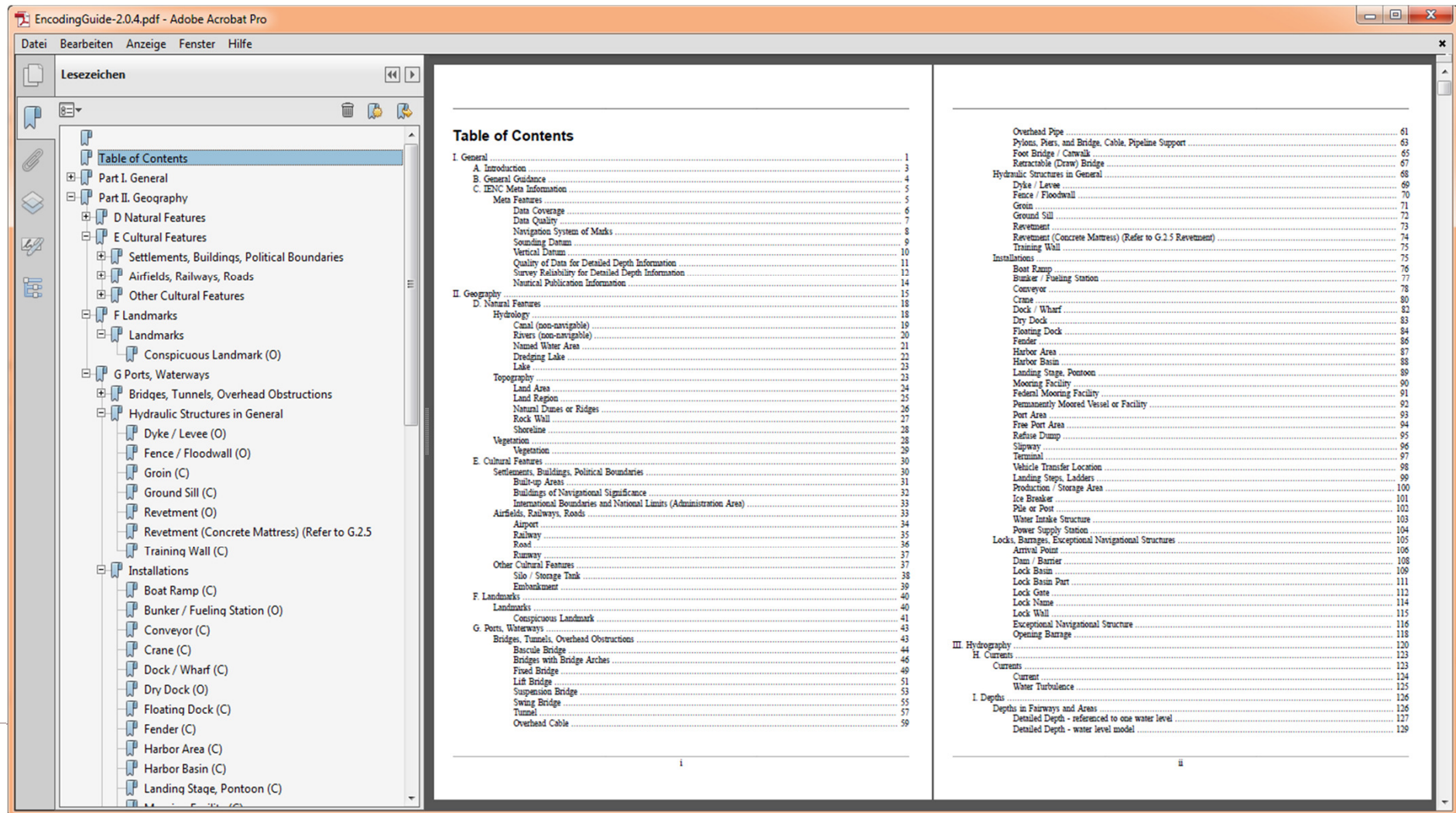
Status quo of transferring the IENC EG 2.4 into DocBook

○ First step of realization:

- The definition of our Encoding Guide document structure in DocBook format
- „Snippets“, regarding our document structure, for supporting the maintenance of the document
- The implementation of the content (Inland ECDIS Encoding Guide 2.4)
- A user's manual, or instruction videos describing the handling of the “Snippets”
- (A DocBook editor is needed, like “Oxygen” for the maintenance of the Encoding guide)
- “XSL-Stylesheets”, which include the rules for the graphical representation in PDF format

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Status quo of transferring the IENC EG 2.4 into DocBook



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Status quo of transferring the IENC EG 2.4 into DocBook

EncodingGuide-2.0.4.pdf - Adobe Acrobat Pro

Datei Bearbeiten Anzeige Fenster Hilfe


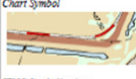

Leeseichen

- Part II. Geography
 - D Natural Features
 - E Cultural Features
 - Settlements, Buildings, Political Boundaries
 - Airfields, Railways, Roads
 - Other Cultural Features
 - F Landmarks
 - Landmarks
 - Conspicuous Landmark (O)
 - G Ports, Waterways
 - Bridges, Tunnels, Overhead Obstructions
 - Hydraulic Structures in General
 - Dyke / Levee (O)
 - Fence / Floodwall (O)**
 - Groin (C)
 - Ground Sill (C)
 - Revetment (O)
 - Revetment (Concrete Mattress) (Refer to G.2.5)
 - Training Wall (C)
 - Installations
 - Boat Ramp (C)
 - Bunker / Fueling Station (O)
 - Conveyor (C)
 - Crane (C)
 - Dock / Wharf (C)
 - Dry Dock (O)
 - Floating Dock (C)
 - Fender (C)
 - Harbor Area (C)
 - Harbor Basin (C)
 - Landing Stage, Pontoon (C)
 - Mooring Facility (C)
 - Federal Mooring Facility (O)
 - Permanently Moored Vessel or Facility (C)

Port, Waterways

Dyke / Levee (O)

Artificial earthen embankment, roughly paralleling the waterway, to keep flood waters within the river course.



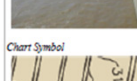

Graphics	Encoding Instructions	Object Encoding
	A. When a dyke is coincident with the coastline, it must be encoded as a DYKCON and in addition a SLOCON of type line, without CATSLO, along its seaward border.	Object Encoding Object Class = DYKCON(LA) (O) HEIGHT = [xxxx.x] metres, e.g., 27.4 (C) OBINAM = (Refer to letter E) (O) NOBNAM = (Refer to Section B, General Guidance) (O) INFORM = ["Levee or European dyke"] (O) NINFORM = (Refer to Section B, General Guidance)
	B. When the DYKCON is of type area, it must have a LNDARE underneath.	(O) NINFORM = (Refer to Section B, General Guidance)
	C. At large scale, the dyke crown (the top line of the dyke) may be encoded as a SLOTOP with CATSLO = 2 (embankment).	(O) CONDIN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)]
	D. The altitude / elevation of the highest point of a dyke above the vertical reference level may be encoded by the attribute HEIGHT	(O) SCAMIN = [22000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance)
	E. US: For OBINAM use name of levee or levee district.	Object Encoding Object Class = SLOTOP(L) (M) CATSLO = [2 (embankment)] (O) NATSUR = [1 (mud), 2 (clay), 3 (silt), 4 (sand), 5 (stone), 6 (gravel), 7 (pebbles), 8 (cobble), 9 (rock), 11 (lava), 14 (coral), 17 (shell), 18 (boulder)] (O) CONDIN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)] (M) SCAMIN = [22000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance)

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Port, Waterways

Fence / Floodwall (O)

A natural or man-made barrier used as an enclosure or boundary or for protection, including floodwalls.

Graphics	Encoding Instructions	Object Encoding
	A. Fences, which are highly relevant for calamity statement or for the access to navigation facilities, might be encoded.	Object Encoding Object Class = FNCLNE(L) (M) CATFNC = [1 (fence), 4 (wall)] (O) CATFNC = 4 (wall), INFORM = floodwall
	B. Floodwalls can be encoded as FNCLNE. CATFNC = 4 (wall), INFORM = floodwall	(O) TITDSC = (Refer to letter C) (O) OBINAM = (Refer to letter E) (O) NOBNAM = (Refer to Section B, General Guidance)
	C. If a structured external XML-file with more detailed communication information regarding access to the fenced area is available, the reference to the file has to be entered in the TITDSC attribute.	(O) NINFORM = (Refer to letter B) (O) NINFORM = (Refer to Section B, General Guidance)
	D. If the fence or flood gate has a special time schedule or special operating hours apply, the object can be combined with a time schedule. For this purpose please refer to the time schedule object 'tside' see T.1.1	(O) CONDIN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)]
	E. US: For OBINAM use name of floodwall (e.g., Southwest Jefferson County floodwall)	(M) SCAMIN = [EU: 12000; US: 18750] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance)

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Status quo of transferring the IENC EG 2.4 into DocBook

EncodingGuide-2.0.4.xml [C:\Users\vaebe\Documents\I4D\IEHG\EncodingGuide-2.0.4.xml] - oXygen XML Editor

Datei Bearbeiten Suchen Projekt Optionen Werkzeuge DocBook5 Dokument Fenster Hilfe

XPath 1.0 XPath ausführen auf 'Aktuelle Datei'

Projekt

Encoding Guide.xpr

IEHG

out

pic

Encoding Guide.xpr

EncodingGuide.pdf

EncodingGuide-2.0.4.xml

Projekt Ressourcen öffnen/finden

Gliederung

Elementnamen-Filter

chapter Ports, Waterways

title Ports, Waterways

sect1 Bridges, Tunnels, Overhead Obstruc

sect1 Hydraulic Structures in General

title Hydraulic Structures in General

sect2 Dyke / Levee (O)

title Dyke / Levee (O)

titleabbrev Dyke / Levee

subtitle Artificial earthen embankm

para

sect2 Fence / Floodwall (O)

sect2 Groin (C)

sect2 Revetment (O)

sect2 Revetment (Concrete Mattress)

sect2 Training Wall (C)

sect1 Installations

sect1 Locks, Barrages, Exceptional Naviga

part Hydrography

title Hydrography

chapter Currents

chapter Depths

chapter J - Rocks, Wrecks, Obstructions and N

chapter K - Offshore Installations

chapter L - Tracks, Routes

chapter M - Areas, Limits

Section 7.2: Hydraulic Structures in General

Section 7.2.1: Dyke / Levee (O)

Dyke / Levee

Artificial earthen embankment, roughly paralleling the waterway, to keep flood waters within the river course.

Spalteneinstellungen...



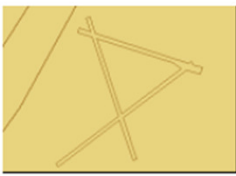
Graphics	Encoding Instructions	Object Encoding
<p>Real World⁴</p>	<p>A. When a dyke is coincident with the coastline, it must be encoded as a DYKCON and in addition a SLCONS of type line, without CATSLC, along its seaward border.</p>	<p>Object Encoding⁴</p> <p>Object Class = <DYKCON(L,A)</p> <p>(O) HEIGHT = [xxx.x] metres, e.g., 27.4</p> <p>(C) OBJNAM = (Refer to letter E)</p> <p>(O) NOBJNM = (Refer to Section B, General Guidance)</p> <p>(O) INFORM = ["Levee or European dyke"]</p> <p>(O) NINFOM = (Refer to Section B, General Guidance)</p> <p>(O) CONDTN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)]</p> <p>(M) SCAMIN = [22000]</p> <p>(C) SORDAT = [YYYYMMDD]</p> <p>(C) SORIND = (Refer to Section B, General Guidance)</p> <p>Object Encoding⁴</p>
<p>Chart Symbol⁴</p>	<p>B. When the DYKCON is of type area, it must have a LNDARE underneath.</p>	
<p>IENC Symbolization⁴</p>	<p>C. At large scale, the dyke crown (the topline of the dyke) may be encoded as a SLOTOP with CATSLO = 2 (embankment).</p> <p>D. The altitude / elevation of the highest point of a dyke above the vertical reference level may be encoded by the attribute HEIGHT</p> <p>E. US: For OBJNAM use name of levee or levee district.</p>	

Text Raster Autor

C:\Users\vaebe\Documents\I4D\IEHG\EncodingGuide-2.0.4.xml [DocBook PDF - Kopie] Transformation - erfolgreich (11.5s) U+0000 1 neue Meldung(en) 455 of 847M

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Status quo of transferring the IENC EG 2.4 into DocBook

Airfields, Railways, Roads		
Airport (C)		
An area containing at least one runway, used for landing, take-off, and movement of aircraft. (S-57 Standard)		
Graphics	Encoding Instructions	Object Encoding
<p>Real World</p> 	<p>A. Code outline of runways. Include taxiways and tarmacs, if the information is available.</p> <p>B. Coding as a point is subject to data availability or subject to the scale of the chart.</p> <p>C. Runways where lights can be seen from passing vessels shall be encoded.</p> <p>D. If an airfield consists of several component objects (AIRARE), C_ASSO could be used to associate them.</p>	<p>Object Encoding</p> <p>Object Class =AIRARE(P,A)</p> <p>(O) CATAIR = [1 (military aeroplane airport), 2 (civil aeroplane airport), 4 (civil heliport), 6 (small planes airfield)]</p> <p>(O) OBJNAM = [(Name) + "Airport" or (Name) + "Airfield"]</p> <p>(O) NOBJNM = (Refer to Section B, General Guidance)</p> <p>(O) CONDTN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)]</p> <p>(M) SCAMIN = [45000]</p> <p>(C) SORDAT = [YYYYMMDD]</p> <p>(C) SORIND = (Refer to Section B, General Guidance)</p>
<p>Chart Symbol</p> 		
<p>IENC Symbolization</p> 		

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Future prospects

○ Next step of realization:

- “XSL-Stylesheets”, which contain the rules for the graphical representation in other formats (HTML, e-pub)
- A tool for checking the content regarding the conformity with the IENC Feature Catalogue (XML Schema file)
- National amendments
- Translation of parts into national languages

○ **Can this proceeding be used for the core part of IENC Encoding Guide in future?** (discussion)

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Thank you for your attention!

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