Appendix 2: Presentation Library for Inland ECDIS

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1. LOOKUP TABLES

The up-to-date Look-up Tables for areas, lines and points are published at https://ienc.openecdis.org.

2. CONDITIONAL SYMBOLOGY PROCEDURES

2.1. Top marks

The CS (TOPMAR01) of S-52 has to be modified because in this CS it is checked on which structure the top mark is fixed. Since the ENC feature BOYLAT was copied, in the CS the feature boylat has to be added to the list of floating structures. If the top mark is located on a boylat the symbols TOPMA1* have to be drawn according the top shape and colour.

2.2. Daymars

A new CS DAYMAR01 has to be introduced. This CS is similar to the CS TOPMAR01 (see clause 2.1) with the exception that there is no need for the distinction of floating and fixed structures, because daymarks exists only for beacons, i.e. fixed structures.

2.3. Restricted areas

Since the ENC feature RESARE and the attribute RESTRN were copied the CS (RESARE03) of S-52 has to be modified because in this CS the values of the attribute RESTRN are checked. That means that in the case that RESTRN is not given it has to be checked for the copied attribute restrn instead.

2.4. Lights

The CS for LIGHTS (LIGHTS05) of S-52 is affected because in this CS there is a check whether a light is located on a floating object or on a fixed object. The list of floating platforms must be extended by the new feature "boylat". To avoid a copy of this CS which would lead to a copy of the official feature LIGHTS, the Inland ECDIS manufacturers have to extend the official CS for LIGHTS as described above.

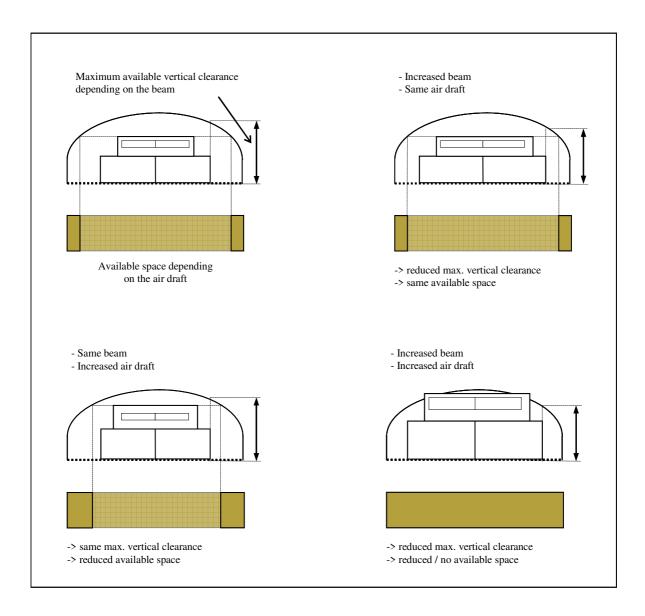
2.5. Bridges

A new CS for bridges has to be introduced to be able to indicate for bridge arches

- a) the maximum vertical clearance depending on the given beam
- b) the available space depending on the given beam and air draft

The condition for this is the encoding of a bridge arch as it is described in the Encoding Guide.

The Inland ECDIS manufacturers have to calculate the vertical clearance of aggregated bridge objects according to the given beam of the ship.



If the vertical clearance of a single bridge object of the aggregation is less than the calculated vertical clearance, this single bridge object must be symbolized by the symbol instruction "AC(CHBRN,3);TX('clr %.1f',1,2,3,'14108',1,1,CHBLK,11)"

If the vertical clearance of a single bridge object of the aggregation is larger or equal than the calculated vertical clearance, this single bridge object must be symbolized by the symbol instruction "AC(CHBRN,2)" without the indication of the non sufficient vertical clearance.

The boundaries of the bridge sequences which are not safe for navigation must be symbolized with the symbol instruction "LS(SOLD,2,DEPSC)".

The boundaries of the bridge sequences which are safe for navigation must be symbolized with the symbol instruction "LS(SOLD,1,CHGRD)".

The boundaries of the single bridge objects inside a bridge sequence, either safe or not safe for navigation, may not be symbolized.

2.6. Notice marks

A new CS has to be introduced for notice marks. If there are several notice marks at the same point the frctnm attributes have to be evaluated for the selection of the correct symbol:

- if there is at least one notice mark with fnctnm = 1 (prohibition mark), the symbol notmrk04 has to be used;
- if there is no prohibition mark, but at least one notice mark with fnctnm = 2 (regulation mark) or fnctnm = 3 (restriction mark), the symbol notmrk05 has to be used;
- if there are only notice marks with fnctnm = 4 (recommendation mark) and/or notice marks with fnctnm = 5 (information mark), the symbol notmrk06 has to be used.

The symbols NMKREG21, NMKREG22, NMKREG23, NMKREG24, NMKRCD07, NMKRCD08, and NMKINF60 shall only be used if the attribute ORIENT is encoded and only for an optional display of detailed notice mark symbols. If ORIENT is not encoded, the symbols NMKREG02, NMKREG03, NMKREG10, NMKREG11, NMKRCD05, NMKRCD06, and NMKINF38 have to be used.

2.7. M_COVR

The CS (DATCVR02) of S-52 has to be modified for the display of bathymetric Inland ENCs. The M_COVR object of the bIENC shall be displayed with a blue outline for a clear distinction between areas which are covered by bIENCs and areas which are not.

2.8. Anchorage areas, depth areas, exceptional navigational structures, shoreline constructions and underwater rocks

The CS procedures for

- anchorage areas (RESTRN01),
- depth areas and exceptional navigational structures (DEPARE02),
- shoreline contructions (SLCONS03) and
- underwater rocks (OBSTRN07)

of S-52 have to be modified to include the display of achare, depare, excnst, slcons and uwtroc.

3. SYMBOLS FOR INLAND ECDIS

Symbols can be defined in vector format or in raster format. Symbols which will be rotated must be defined in vector format. The size of vector symbols is adapted automatically to the resolution and size of the screen. In case of raster symbols, different symbol sets must be designed to meet the requirements of a readable display.

A list of all Inland ECDIS symbols and their pictures is in chapter 4 and 5. The symbols are supplied in digital form at https://ienc.openecdis.org.

4. LIST OF SYMBOL NAMES

4.1. New Symbols to be shown on the chart display

4.1.1. Raster symbols

a) Symbols in general

BORDER01: check point, border

BUNSTA01: bunker station, diesel oil station

BUNSTA02: bunker station, water

BUNSTA03: bunker station, ballast

BUNSTA04: power supply

CUSTOM01: control point, custom

DISMAR05: distance mark on river axis

HECMTR01: hectometre point, 100m

HECMTR02: hectometre point, 1km

HGWTMK01: high water mark

LIFEBUOY: rescue station with life buoy, ring buoy, life ring or life saver

NOTMRK01: notice mark, prohibition

NOTMRK02: notice mark, regulation, restriction

NOTMRK03: notice mark, information, recommendation

NOTMRK04: several notice marks, at least one prohibition mark

NOTMRK05: several notice marks, no prohibition mark, at least one

regulation or restriction mark

NOTMRK06: several notice marks, only information and/or recommendation

marks

REFDMP01: refuse dump

SSENTR01: port entry

SSLOCK01: signal station, lock

SSWARS01: signal station, Wahrschau

TRNBSN01: turning basin

VEHTRF01: vehicle transfer

VTCLMK01: vertical clearance mark at bridges

WTLVGG02: gauge, height of water

b) Navigational aids

BCNSTK03: river beacon, stake – pole

BCNLAT23: river beacon, separation - simplified

BOYLAT25: river buoy, fairway separation – simplified

BOYLAT26: river buoy, obstruction at the right side

BOYLAT27: river buoy, obstruction at the left side

BOYINL01: river buoy right-hand side of the fairway (1.B of CEVNI, can be

combined with a LIGHTS to 1.A or a TOPMA114 to 1.C or

1.D)

BOYINL02: river buoy left-hand side of the fairway (2.B of CEVNI, can be

combined with a LIGHTS to 2.A or a TOPMA115 to 2.C or 2.D)

BOYINL03: river buoy bifurcation of the fairway (3.B of CEVNI, can be

combined with a LIGHTS to 3.A, a TOPMA117 to 3.C or 3.D, a TOPMA114 to 3.E or 3.F and a TOPMA115 to 3.E1 or 3.F1)

BOYINL08: river buoy yellow float (8.C of CEVNI)

TOPMA100: beacon top mark, red cone, point down

TOPMA101: beacon top mark, red boarded cone, point down

TOPMA102: beacon top mark, green cone, point up

TOPMA103: beacon top mark, green boarded cone, point up

TOPMA104: beacon top mark, red boarded cone, point down, green boarded

cone, point up, simplified

TOPMA105: beacon top mark, red boarded cone, point down, green boarded

cone, point up, simplified

TOPMA106: beacon top mark, white-red square board, vertical

TOPMA107: beacon top mark, red boarded square board, vertical

TOPMA108: beacon top mark, white-green square board, diagonal

TOPMA109: beacon top mark, green boarded square board, diagonal

TOPMA110: beacon top mark, yellow-black square board, vertical

TOPMA111: beacon top mark, yellow St. Georg cross

TOPMA112: beacon top mark, yellow-black square board, diagonal

TOPMA113: beacon top mark, yellow Andreas-cross

TOPMA114: buoy top mark, red cylinder

TOPMA115: buoy top mark, green cone, point up

TOPMA116: buoy top mark, red-white-red board, entry prohibited

TOPMA117: buoy top mark, red-green sphere

c) Harbour facilities and terminals

HRBFAC10: default harbour facility

HRBFAC11: harbour facility naval base

HRBFAC12: harbour facility ship yard

HRBFAC13: harbour facility harbour-master's office

HRBFAC14: harbour facility pilot

HRBFAC15: water police

HRBFAC16: customs office

HRBFAC17: harbour facility service and repair

HRBFAC18: harbour facility quarantine station

TERMNL01: terminal, passenger terminal

TERMNL02: terminal, ferry terminal

TERMNL03: terminal, Container trans-shipment

TERMNL04: terminal, Bulk trans-shipment

TERMNL05: terminal, Oil trans-shipment

TERMNL06: terminal, Fuel trans-shipment

TERMNL07: terminal, Chemical trans-shipment

TERMNL08: terminal, Liquid Goods trans-shipment

TERMNL09: terminal, Explosive goods trans-shipment

TERMNL10: terminal, Fish trans-shipment

TERMNL11: terminal, Car trans-shipment

TERMNL12: terminal, General Cargo trans-shipment

TERMNL13: terminal, RoRo Terminal

4.1.2. Vector symbols for European inland waterways (must be rotated, the numbers refer to CEVNI)

- NMKPRH02: no entry (general sign) (A.1)

- NMKPRH12: no passing on left side (A.10)

- NMKPRH13: no passing on right side (A.10)

- NMKRCD01: recommended channel in both directions (D.1a)

- NMKRCD02: recommended channel only in the direction indicated (D.1b)

- NMKRCD03: you are recommended to keep on right side (D.2)

- NMKRCD04: you are recommended to keep on left side (D.2)

- NMKINF01: entry permitted (E.1)

- NMKREG50: wreck pontoon, passage allowed on side showing red-white sign

- NMKREG51: wreck pontoon, passage allowed on both sides

4.2. New symbols to be shown in the "information window on notice marks"

a) Notice marks for European inland waterways (the numbers refer to CEVNI)

- NMKPRH03: sections closed to use, no entry except for non-motorized small

craft (A.1.1)

- NMKPRH04: no overtaking (A.2)

- NMKPRH05: no overtaking of convoys by convoys (A.3)

- NMKPRH06: no passing or overtaking (A.4)

- NMKPRH07: no berthing (i.e. no anchoring or making fast to the bank) on the

side of the waterway on which the sign is placed (A.5)

- NMKPRH08: no anchoring or trailing of anchors, cables or chains on the side

of the waterway on which the sign is placed (A.6)

- NMKPRH09: no making fast to the bank on the side of the waterway on which

the sign is placed (A.7)

- NMKPRH10: no turning (A.8)

- NMKPRH11: do not create wash likely to cause damage (A.9)

- NMKPRH14: motorized craft prohibited (A.12)

- NMKPRH15: sports or pleasure craft prohibited (A.13)

- NMKPRH16: water skiing prohibited (A.14)

- NMKPRH17: sailing vessels prohibited (A.15)

- NMKPRH18: all craft other than motorized vessels or sailing craft prohibited

(A.16)

- NMKPRH19: use of sail boards prohibited (A.17)

- NMKPRH20: water bikes prohibited (A.20)

- NMKPRH21: end of zone authorized for high speed navigation of small sport

and pleasure craft (A.18)

- NMKPRH22: no launching or beaching of vessels (A.19)

- NMKREG01: there are restrictions on navigation: make enquiries (with

additional sign at bottom of main sign) (C.4)

- NMKREG02: proceed in left direction (B.1)

- NMKREG03: proceed in right direction (B.1)

- NMKREG04: move to the side of the fairway on your port side (B.2a)

- NMKREG05: move to the side of the fairway on your starboard side (B.2b)

- NMKREG06: keep the side of the fairway on your port side (B.3a)

- NMKREG07: keep the side of the fairway on your starboard side (B.3b)

- NMKREG08: cross fairway to port (B.4a)

- NMKREG09: cross fairway to starboard (B.4b)

- NMKREG10: stop as prescribed in the regulations (B.5)

- NMKREG11: give a sound signal (B.7)

- NMKREG12: keep a particularly sharp outlook (B.8)

- NMKREG13: do not enter the main waterway until certain that this will not

oblige vessels proceeding on it to change their course or speed

(B.9a)

- NMKREG14: do not cross the main waterway until certain that this will not

oblige vessels proceeding on it to change their course or speed

(B.9b)

- NMKREG15: obligation to enter in a radiotelephone link on the channel as

indicated on the board (B.11)

- NMKREG16: depth of water limited(C.1)

- NMKREG17: headroom limited (C.2)

- NMKREG18: width of passage or channel limited (C.3)

- NMKREG19: the channel lies at a distance from the left bank (C.5)

- NMKREG20: the channel lies at a distance from the right bank (C.5)

- NMKREG21: proceed in left direction (B.1), orientation encoded-

NMKREG22: proceed in right direction (B.1), orientation

encoded

- NMKREG23: stop as prescribed in the regulations (B.5), orientation encoded

- NMKREG24: give a sound signal (B.7), orientation encoded

- NMKREG25: obligation to use onshore power supply point (B.12)

- NMKRCD05: you are recommended to proceed in the left direction (D.3)

- NMKRCD06: you are recommended to proceed in the right direction (D.3)

- NMKRCD07: you are recommended to proceed in the left direction (D.3),

orientation encoded

- NMKRCD08: you are recommended to proceed in the right direction (D.3),

orientation encoded

- NMKINF02: overhead cable crossing (E.2)

- NMKINF03: weir (E.3)

- NMKINF04: ferry-boat not moving independently (E.4)

- NMKINF05: ferry-boat moving independently (E.4b)

- NMKINF06: berthing (i.e. anchoring or making fast to the bank) permitted on

the side of the waterway on which the sign is placed (E.5)

- NMKINF07: berthing area reserved for pushing navigation vessels that are

not required to carry blue lights or blue cones on the side of the

waterway on which the sign is placed (E.5.4)

- NMKINF08: berthing area reserved for pushing navigation vessels that are

required to carry one blue light or one blue cone on the side of the

waterway on which the sign is placed (E.5.5)

- NMKINF09: berthing area reserved for pushing navigation vessels that are required to carry two blue lights or two blue cones on the side of the waterway on which the sign is placed (E.5.6) - NMKINF10: berthing area reserved for pushing navigation vessels that are required to carry three blue lights or three blue cones on the side of the waterway on which the sign is placed (E.5.7) - NMKINF11: berthing area reserved for vessels other than pushing navigation vessels that are not required to carry blue lights or blue cones on the side of the waterway on which the sign is placed (E.5.8) - NMKINF12: berthing area reserved for vessels other than pushing navigation vessels that are required to carry one blue light or one blue cone on the side of the waterway on which the sign is placed (E.5.9) - NMKINF13: berthing area reserved for vessels other than pushing navigation vessels that are required to carry two blue lights or two blue cones on the side of the waterway on which the sign is placed (E.5.10) berthing area reserved for vessels other than pushing navigation - NMKINF14: vessels that are required to carry three blue lights or three blue cones on the side of the waterway on which the sign is placed (E.5.11)- NMKINF15: berthing area reserved for all vessels that are not required to carry blue lights or blue cones on the side of the waterway on which the sign is placed (E.5.12) - NMKINF16: berthing area reserved for all vessels that are required to carry one blue light or one blue cone on the side of the waterway on which the sign is placed (E.5.13) berthing area reserved for all vessels that are required to carry two - NMKINF17: blue lights or two blue cones on the side of the waterway on which the sign is placed (E.5.14) - NMKINF18: berthing area reserved for all vessels that are required to carry three blue lights or three blue cones on the side of the waterway on which the sign is placed (E.5.15) - NMKINF19: anchoring or trailing of anchors, cables or chains permitted on the side of the waterway on which the sign is placed (E.6) - NMKINF20: making fast to the bank permitted on the side of the waterway on which the sign is placed (E.7) - NMKINF21: berthing area reserved for loading and unloading vehicles (E.7.1)

crossing with secondary waterway ahead (E.9a)

turning area (E.8)

- NMKINF22:

- NMKINF23:

- NMKINF24: secondary waterway ahead on the right (E.9.b)

- NMKINF25: secondary waterway ahead on the left (E.9.c)

- NMKINF26: secondary waterway ahead (main waterway right)

- NMKINF27: secondary waterway ahead (main waterway left)

- NMKINF28: secondary waterway left (main waterway right)

- NMKINF29: secondary waterway right (main waterway left)

- NMKINF30: secondary waterway ahead and left (main waterway right)

- NMKINF31: secondary waterway ahead and right (main waterway left)

- NMKINF32: crossing with main waterway ahead (E.10.a)

- NMKINF33: junction with main waterway ahead (E.10.b)

- NMKINF34: junction with main waterway ahead and right

- NMKINF35: junction with main waterway ahead and left

- NMKINF36: junction with main waterway ahead and right (secondary

waterway left)

- NMKINF37: junction with main waterway ahead and left (secondary waterway

right)

- NMKINF38: end of prohibition or obligation applying to traffic in one direction

only, or end of restriction (E.11)

- NMKINF39: drinking water supply (E.13)

- NMKINF40: telephone (E.14)

- NMKINF41: motorized vessels permitted (E.15)

- NMKINF42: sport and pleasure craft permitted (E.16)

- NMKINF43: water skiing permitted (E.17)

- NMKINF44: sailing vessels permitted (E.18)

- NMKINF45: craft other than motorized vessels or sailing craft permitted (E.19)

- NMKINF46: use of sailboards permitted (E.20)

- NMKINF47: possibility of obtaining nautical information by radio-telephone

on the channel indicated (E.23)

- NMKINF48: water bikes permitted (E.24)

- NMKINF49: zone authorized for high speed navigation of small sport and

pleasure craft (E.21)

- NMKINF50: launching or beaching of small craft permitted (E.22)

- NMKINF51-55: maximum number of vessels permitted to berth abreast (E.5.3)

- NMKINF56: electrical power supply point (E.25)

- NMKINF57: winter harbour (E.26)

- NMKINF58: winter shelter (E.27)

- NMKINF59: use of spuds permitted (E.6.1)

- NMKINF60: end of prohibition or obligation applying to traffic in one direction

only, or end of restriction (E.11), orientation encoded

b) Notice marks for Russian inland waterways (the numbers refer to GOST 26600-98)

- NMKPR101: no anchoring or trailing of anchors, cables or chains (1.1)

- NMKPR102: no passing or overtaking of convoys (1.2)

- NMKPR103: no passing or overtaking (1.3)

- NMKPR104: do not create wash (1.4)

- NMKPR105: small crafts prohibited (1.5)

- NMKRE101: Attention! (keep caution) (2.1)

- NMKRE102: fairway crossing (2.2)

- NMKRE103: headroom limited (2.4)

- NMKIN101: turning area (3.2)

- NMKIN102: shipping inspection point (3.3)

c) Auxiliary panels (CEVNI Annex 7, Section II)

- ADDMRK01: right (triangle to the right)

- ADDMRK02: left (triangle to the left)

- ADDMRK03: bottom (rectangle, portrait main board)

- ADDMRK04: top (rectangle, portrait main board)

- ADDMRK05: bottom (rectangle)

- ADDMRK06: top (rectangle)

- ADDMRK07: right (triangle to the right, landscape main board)

- ADDMRK08: left (triangle to the left, landscape main board)

- ADDMRK09: bottom (triangle to the bottom)

- ADDMRK10: bottom (triangle to the bottom, portrait main board)

5. PICTURES OF INLAND ECDIS SYMBOLS

5.1. Raster symbols

5.1.1. Symbols in general

9					
BORDER01	BUNSTA01	BUNSTA02	BUNSTA03	BUNSTA04	CUSTOM01
	•	•	Y II		7
DISMAR05	HECMTR01	HECMTR02	HGWTMK01	LIFEBUOY01	NOTMRK01
NOTMRK02	NOTMRK03	NOTMRK04	NOTMRK05	NOTMRK06	REFDMP01
	• 0		(G)		
SSENTR01	SSLOCK01	SSWARS01	TRNBSN01	VEHTRF01	VTCLMK01
WTLVGG02					

5.1.2. Navigational aids

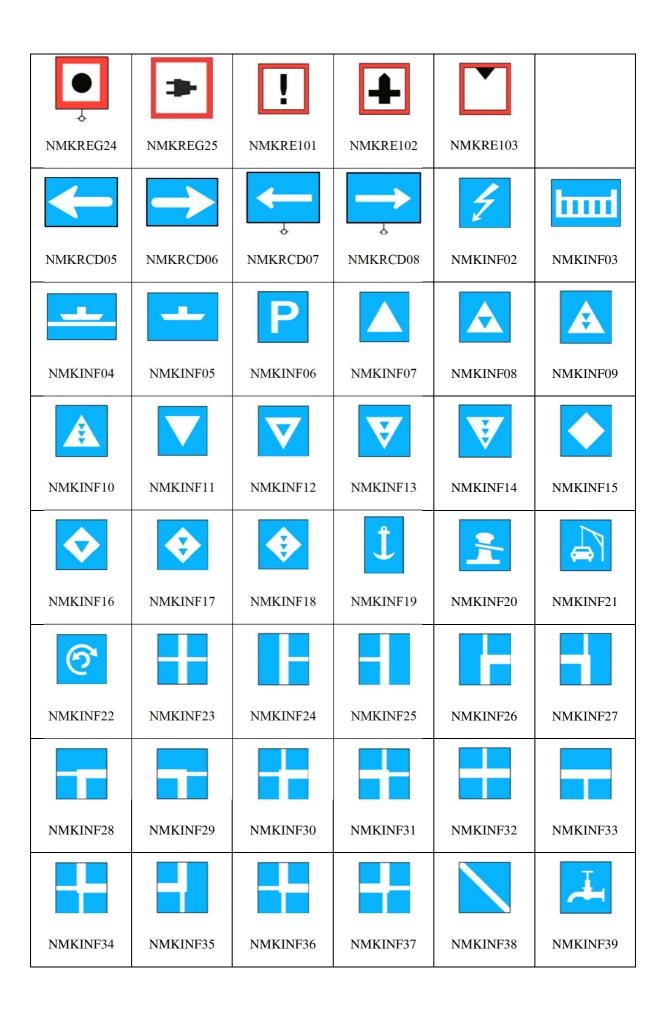
<u></u>					
BCNSTK03	BCNLAT23	BOYLAT25	BOYLAT26	BOYLAT27	TOPMA100
				X	
TOPMA101	TOPMA102	TOPMA103	TOPMA104	TOPMA105	TOPMA106
				-	
TOPMA107	TOPMA108	TOPMA109	TOPMA110	TOPMA111	TOPMA112
TOPMA113	TOPMA114	TOPMA115	TOPMA116	TOPMA117	BOYINL01
BOYINL02	BOYINL03	BOYINL08			

5.1.3. Harbour facilities, terminals

i	N	Y	Ţ	P	WP
HRBFAC10	HRBFAC11	HRBFAC12	HRBFAC13	HRBFAC14	HRBFAC15
	9	•			
HRBFAC16	HRBFAC17	HRBFAC18	TERMNL01	TERMNL02	TERMNL03
	oil	fuel	che	liq	
TERMNL04	TERMNL05	TERMNL06	TERMNL07	TERMNL08	TERMNL09
			RoRo		
TERMNL10	TERMNL11	TERMNL12	TERMNL13		

5.2. Symbols for the "information window on notice marks"

	**	‡	M	R	1
NMKPRH03	NMKPRH04	NMKPRH05	NMKPRH06	NMKPRH07	NMKPRH08
	©	*			X
NMKPRH09	NMKPRH10	NMKPRH11	NMKPRH12	NMKPRH13	NMKPRH14
SPORT	X	1	×	A	
NMKPRH15	NMKPRH16	NMKPRH17	NMKPRH18	NMKPRH19	NMKPRH20
*		A		N	
NMKPRH21	NMKPRH22	NMKPR101	NMKPR102	NMKPR103	NMKPR104
8		←	→	†	7
NMKPR105	NMKREG01	NMKREG02	NMKREG03	NMKREG04	NMKREG05
1	↓ ↑	↑	X	-	
NMKREG06	NMKREG07	NMKREG08	NMKREG09	NMKREG10	NMKREG11
1		\blacksquare	VHF		
NMKREG12	NMKREG13	NMKREG14	NMKREG15	NMKREG16	NMKREG17
			<u></u>	<u></u>	•
NMKREG18	NMKREG19	NMKREG20	NMKREG21	NMKREG22	NMKREG23



C	7	SPORT	7	1	7
NMKINF40	NMKINF41	NMKINF42	NMKINF43	NMKINF44	NMKINF45
A	VHF				
NMKINF46	NMKINF47	NMKINF48	NMKINF49	NMKINF50	NMKINF51
П	Ш	IV	V	=[n-	
NMKINF52	NMKINF53	NMKINF54	NMKINF55	NMKINF56	NMKINF57
	~ 			(C)	35
NMKINF58	NMKINF59	NMKINF60	NMKINF58	NMKIN101	NMKIN102
ADDMRK01	ADDMRK02	ADDMRK03	ADDMRK04	ADDMRK05	ADDMRK06
ADDMRK07	ADDMRK08	ADDMRK09	ADDMRK10		

5.3. Vector symbols

				\Diamond	$\Diamond \Diamond$
NMKINF01	NMKPRH02	NMKPRH12	NMKPRH13	NMKRCD01	NMKRCD02
NMKRCD03	NMKRCD04	NMKREG50	NMKREG51		

6. BATHYMETRIC INLAND ENCS

Bathymetric Inland ENCs must be displayed as complementary layer only. It is not allowed to display bIENCs if the respective geographic area is not fully covered by an IENC or ENC. The usage of the respective ENCs/IENCs must be within the usage band of the bIENC. This means for example a bIENC with usage 5 to 7 may not be displayed together with an IENC of usage 4.

The bIENC has display priority over:

depare

DEPARE

DRGARE

DEPCNT

SOUNDG

UNSARE

M_COVR

and over the safety contour of the ENC or IENC. The bIENC must not have display priority over any other features of the IENC.