RECOMMENDED INLAND ENC VALIDATION CHECKS

Edition 2.43.5 corr2 rev1 January 202043

Based on Special Publication S-58 Ed. <u>6.0.0</u>4.2 of IHO and Ed. <u>2.43</u> of the IENC Product Specification (Ed. <u>2.4.13.5</u> of the Encoding Guide for Inland ENCs)

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INTRODUCTION 1.

This document was previously Appendix B1, Annex C of S-57 Edition 3.1. It specifies the checks that, at a minimum, producers of IENC validation tools should include in their validation software. This software will be used by hydrographic offices to help ensure that their IENC data are compliant with the Inland ECDIS Standard, Section 2 Product Specification for Inland ENCs. The checklist has been compiled for the IHO $from\ lists\ of\ checks\ provided\ by\ a\ number\ of\ hydrographic\ offices\ and\ software\ companies.\ The\ document$ will be maintained by means of new editions.

IENC validation software checks that the data are in conformance with the Inland ECDIS Standard IENC Product Specification. Any violations are categorised as either "errors" or "warnings". "Errors" are defined as more serious discrepancies or violations. For example, the data may not conform to one of the mandatory requirements of the IENC Product Specification. "Warnings" identify less serious violations or suspicious data. An example would be the apparent location of a building in the sea. The various checks in this document have been categorised with these definitions in mind.

In order to assist software developers, those checks that have been removed from all previous editions of S58 have been retained in Edition 4.2 as struck out text strings.

The Revision 1 of edition 2.4.0 is based on the version 6.0.0 of S-58 and the comments of Frank Hippmann who realized the recommended validation checks 2.4 in the IENC Analyzer (Product of

- Note: Within this document the word "overlap" is used. In the context of this document, this means:

 for two objects of type Area, that their geometric primitives have a certain area in common (there is no overlap when they touch at a point or along an edge), for an object of type Line and an object of type Area, that the line object has a part of one of its
- edges lying within the geometric primitive of the area object (there is no overlap when they touch at a point or along an edge).

LIST OF INLAND ENC VALIDATION CHECKS

2.1 Checks relating to S-57 and Inland ENC Data Structure

No	Check	Conformity to:	Cat
	DATA STRUCTURE		
1	Check that no part of an edge is duplicated (i.e. a pair of coordinates identical for two edges).	Part 2 (2.2.1.2)	W
2	Check that all VE edges have a beginning node and an end node.	Part 2 (2.2.1.2)	Е
3	Check that the record identifier NAME is unique within the file.	Part 3 (2.2)	Е
4	Check that Record Name RCNM contains only the values in table 2.2.	Part 3 (2.2.1)	E
5	Check that the Record Identification Number RCID is in the range 1 to 2 ³² -2.	Part 3 (2.2.2)	E
6	Check the CRC of every file	Part 3 (3.4)	₽
7	Check that all objects have legal AGEN, FIDN and FIDS subfield values.	Part 3 (4.3.1) and (4.3.2)	Е
8	Check that an attribute code does not repeat for a single object.	Part 3 (4.4), (4.5) and (5.1.2)	E
9	For line objects, check that ORNT = 1 [forward] or 2 [reverse], USAG = 255 [null], and MASK = 1 [mask], 2 [show] or 255 [masking is not relevant].	Part 3 (4.7.2) and Appendix B.1 (3.8)	E
10	For point objects, check that ORNT = 255 [direction is not relevant], USAG = 255 [null], and MASK = 255 [masking is not relevant].	Part 3 (4.7.1)	E
11	Check that all segments with USAG = 3 [exterior boundary truncated by the data limit] are linked to an object M COVR.	Part 3 (4.7.3.3)	E
12	Check that all feature objects except C_(collection) have a FSPT.	Part 3 (4.7)	Е
13	Check that for linear features comprising multiple edges, the vector records making up the linear feature are referenced sequentially and that the end node of a vector record is the same as the start node of the following vector record.	Part 3 (4.7.2)	W
14	Check for any area object having outer and inner boundaries that two of these boundaries do not share more than one node.	Part 3 (4.7.3)	E
15	Check that the first and last edges bounding an area meet at a common connected node.	Part 3 (4.7.3.1)	Е
16	Check that area outer boundaries are encoded clockwise.	Part 3 (4.7.3.2)	Е
17	Check that area inner boundaries are encoded counter clockwise.	Part 3 (4.7.3.2)	Е
18	Check that all areas are defined by: Only one outer boundary (referenced first), Optional zero or more inner boundaries which are closed, sequential and with proper use of USAG.	Part 3 (4.7.3.2) and (4.7.3.3)	E
19	Check that all spatial edges which coincide with data limit borders (i.e. limits of M_COVR with CATCOV = 1 [coverage available]) are using USAG = 3 [Exterior boundary truncated by the data limit]	Part 3 (4.7.3.3)	W
20	Check that geometry primitive is compatible with object	Product Specification for	Е

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	class.	Inland ENCs, Part 3 (5.1.1) and Supplement No2 Ch.4 (3.3.1)	
21	Check that all vector record pointer (VRPT) fields are pointed to by an edge vector record.	Part 3 (5.1.3)	E
22	Check for correct sequence of begin/end nodes for edges.	Part 3 (5.1.3.2)	E
23	Check that only SG2D and SG3D coordinates are used in files.	Part 3 (5.1.4)	E
24	Check that soundings are coordinate type SG3D with X, Y and Z values.	Part 3 (5.1.4.1)	E

25	Check that the beginning and end of an edge are explicitly encoded as connected nodes. Check that the geometry of the connected node is not part of an edge. Check that edges directly reference their begin/end nodes using the vector record pointer.	Part 3 (5.1.4.4)	E
26	Check that values in subfields are within the allowable	D-+0 (7004) (70)	E
26	range where applicable: Subfield value ranges according to S-57 format description. Legal ranges for attribute values (for attribute values of type "float", the resolution given in the format	Part 3 (7.2.2.1), (7.3) and Inland ENC Feature Catalogue.	E
	statement by the integer part (e.g. <u>XX</u> .X) must not be		
	checked). (see check 91)		
27	Check all formatted subfields in S-57.	Part 3 (7.2.2.2)	Е
28	Check that the count of records in DSSI is correct.	Part 3 (7.3.1.2)	E
29	Check for valid index position for updating in FFPC-	Part 3 (7.6.5) (7.6.7),	Ē
23	NFPT, FSPC-NSPT, SGCC-CCNC, and VRPC-NVPT.	(7.7.1.5) and (7.7.1.3)	_
30	Check for valid index position for updating in FFPC-FFIX, FSPC-FSIX, SGCC-CCIX, and VRPC-VPIX.	Part 3 (7.7.1.5), (7.6.5), (7.6.7) and (7.7.1.3)	E
31	For all edges, check that all SG2D coordinates are	Part 3 (7.7.1.6)	Е
	different from the start and end node coordinates.	,	
32	Check that record updates refer to a valid record NAME.	Part 3 (8.3.2)	E
33	Check that any attribute update refers to a valid record NAME and attribute label.	Part 3 (8.3.3)	Е
34	Check that pointer index updating refers to a valid record NAME and index within pointer fields FFPT, FSPT and VRPT.	Part 3 (8.3.4)	E
35	Check if record version RVER is out of sequence for objects.	Part 3 (8.4.2.1) and (8.4.3.1)	Е
36	For record updates for feature/vector updates, check that if it is DELETE: the record does not contain further fields, or MODIFY/INSERT: the record contains more information about the update.	Part 3 (8.4.2.2) and (8.4.3.1)	E
37	Check that update and base data have the same lexical level.	Part 3 (8.4.2.2a)	Е
38	Check that an update record only contains one FFPC	See references in the column	Е
	field [8.4.2.3], and one VRPC field [8.4.3.2b], and one	to the left.	
	FSPC field [8.4.2.4], and one SGCC field [8.4.3.3].		
39	Check for connectivity of line segments in an edge after	Part 3 (8.4.3.3)	E
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	undating		
40	updating. Check that any two feature objects of type Line satisfying all of the following conditions are chained together: • both objects are encoded with the same class and attribute values, • both objects refer to linear features for which all referenced edges are encoded with the same spatial attribute values, • linear features of both objects have one (or two) common connected node(s) which is (are) a beginning node or an end node of each linear feature, • each common connected node is not shared by	Logical consistency	W
	more than two objects satisfying the three above conditions.		
41	Check that all areas are closed.	Logical consistency	Е
42	Check that VE edges linked to Group 1 objects appear twice with different ORNT values, or are linked to objects M_COVR with CATCOV = 1 [coverage available].	Logical consistency	E
43 44	Chook that all values (except the electronic	Logical agratists and	W
	Check that all values (except the shallowest and deepest) DRVAL1 and DRVAL2 of DEPARE and depare of type area are also values of VALDCO.	Logical consistency EG 1.3.1 – I11-e, I11-f, I12-g, I12-h	
45	Check that no edge is shared by two or more line objects of the same object class, except for objects from the following list which may share geometry if they are populated with different attribute values: berths, cblohd, CBLSUB, CONVYR, convyr, FERYRT, feryrt, MORFAC, NAVLNE, PIPSOL, RECTRC.	Logical consistency	W
46	Check for any object having both attributes DATEND and DATSTA encoded with explicit values that DATEND is the same or later than DATSTA.	Logical consistency	E
47	Check for any LIGHTS object having SECTR1 encoded that SECTR2 is also encoded (with a different value) and vice versa.	Logical consistency	E
48	Check for any M_SREL object having SCVAL1 and SCVAL2 encoded that the value of SCVAL1 has been set to a larger scale than SCVAL2 (i.e. attribute value for SCVAL1 is smaller than attribute value for SCVAL2).	Logical consistency	Е
49	Check for any object having DRVAL1 and DRVAL2 encoded that DRVAL1 is smaller than or equal to DRVAL2.	Logical consistency	E
50	Check that all the nodes that compose the geometry of any RECTRC with CATTRK=1 [based on a system of fixed marks] or NAVLNE are on a straight line.	Logical consistency	W
51	Check that no edge is shared by a COALNE object and a SLCONS/slcons object of type line or by a COALNE object and a SLCONS/slcons object of the type area covered by a LNDARE and having WATLEV/watlev undefined or encoded with the values (2) [always dry] or (1) [partly submerged at high water]	Logical consistency	W
52 53	Check that any SLOGRD object is covered by a	Appendix B1,	E
53	LNDARE object of type Area. Check that any SLOTOP object is covered by a LNDARE object of type Area or is on its border.	Appendix B1, Annex A (4.7.4, 4.7.5, 4.8.4)	
54	Check for any CRANES, cranes, BUISGL, LNDMRK or	Logical consistency	W

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	SILTNK object, and for any DAYMAR object which is not a slave in a master/slave relationship or part of an overlay cell: • if it is of type Area, that it is covered by a LNDARE, bridge, FLODOC, flodoc, PONTON or ponton object of type Area, • if it is of type Point, that: - it is situated within a LNDARE, bridge, FLODOC, flodoc, PONTON or ponton object of type Area, or - it is coincident with one LNDARE, PILPNT, PYLONS, SLCONS, UWTROC or uwtroc object of type Point, or - it is situated on a COALNE, DAMCON, LNDARE, SLCONS or slcons object of type Line.		
55	Check that no line or point LNDARE object is situated within a LNDARE object of type Area, except for cases where it is covered by a LAKARE, RIVERS, lokbsn or CANALS object.	Logical consistency	W
56	Check that any BUAARE object is covered by a LNDARE object of type Area or is coincident with a LNDARE of type point.	Logical consistency	W
57	Check for any COALNE object which does not share spatial geometry with a LNDARE or SLCONS object that it is not situated within a LNDARE object of type Area, or that it does not have a LNDARE object of type Area on both sides.	Logical consistency	W

58			
59	Check that no OBSTRN object of type Line bounds an	Logical consistency	W
	OBSTRN object of type Area.		
60	Check that no CBLSUB object is situated within a	Logical consistency	W
	LNDARE object of type Area.		
61	Check for any object with WATLEV or watlev = 3 [always	Logical consistency	W
	under water/submerged]:		
	 if it is of type Line or Area, that: 		
	 it is not within or overlaps an intertidal area 		
	(DEPARE with DRVAL2 \leq 0), or		
	 it is not within or overlaps a LNDARE object of 		
	type Area,		
	if it is of type Point, that:		
	 it is not within an intertidal area, or 		
	 it is not within a LNDARE object of type Area, or 		
	 it is not coincident with a LNDARE object of type 		
	point, or		
	 it is not situated on a LNDARE object of type line. 		
62	Check for all PONTON, ponton, HULKES, hulkes, flodoc	Logical consistency	W
	or FLODOC objects of type Area that no edge of their		
	limits shares the geometry of a line COALNE, slcons or		
	SLCONS object, except when this edge also shares the		
	geometry of a LNDARE object of type Area.		
63	Check that no RECTRC object overlaps or intersects a	Logical consistency	E
	linear or area object LNDARE, PONTON, ponton,		
	HULKES, hulkes, FLODOC, flodoc or other objects		
	having WATLEV/watlev = 1 [partly submerged at high		
	water] or 2 [always dry].		

Kommentiert [HC1]: Include also lower case watlev

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64	Check that no point or area achare object is situated within or overlaps another object with attribute RESTRN	Logical consistency	W
	or restrn containing value 1 [anchoring prohibited].		
65	Check that LIGHTS objects in the same spatial position	Logical consistency	W
	whose sectors overlap each other have at least one of		
	the values encoded differently for these attributes:		
	CATLIT, EXCLIT, LITCHR, SIGPER or SIGGRP.		
	Remark: This check must not be applied to LIGHTS		
	objects with STATUS 4 [not in use], STATUS 6		
	[reserved] or STATUS 11 [extinguished]		111
66	Check for any SOUNDG having the value (1) or nothing	Logical consistency	₩
	for EXPSOU that any depth value is situated within a		
	DEPARE or a DRGARE of the corresponding range. See		
07	new checks 1768 and 1769	5	10/
67	Check that no object is duplicated (same class, same attribute description and same geometry).	Data structure	W
68	Check if there is an update to an object without the		W
	corresponding text/graphic file.		
69	Check that the Agency Code of feature objects is valid.	Appendix A, Annex A	₩
70			
71	Check that no object of type Area (except for objects	Logical consistency	W
	where all of the edges have USAG = 3) has all of its		
	edges masked (i.e. USAG = 3 [exterior boundary		
	truncated by the data limit] or MASK = 1 [mask]).		
	Check that no object of type Line has any of it's edges		
70	masked (i.e. MASK = 1 [mask]). Check that no loop exists in the graph of hierarchical	Laniani annaistana.	W
72	relationships (e.g. no master object is slave of its own	Logical consistency	VV
	slave,).		
73	Check that no attribute value contains a leading or a	Logical consistency	W
13	trailing space and no attribute of type List contains any	Logical consistency	VV
	space.		
	зрасс.		-
74	Check for any floating DEPCNT object (i.e. which does not	Logical consistency	E
	share any edge with a Group 1 object) which is within an		
	area DEPARE object, that DRVAL2 > VALDCO > DRVAL1		
	Remark: This check must only be applied if both		
	DRVAL1 and DRVAL2 for the DEPARE object are		
	encoded with explicit and different attribute values.		
75	Check for any floating DEPCNT object (i.e. which does not	Logical consistency	W
	share any edge with a Group 1 object) which is within an		
	area DRGARE object, that VALDCO > DRVAL1.		
	Remark: This check must only be applied if DRVAL1 for		
	the DRGARE object is encoded with an explicit value.		
76	Check that no DEPCNT object is within a FLODOC, HULKES, LNDARE or PONTON object of type Area.	Logical consistency	E
77	Check that no DEPCNT object crosses another	Logical consistency	Е
	DEPCNT object.	- .	_
78	Check for any area object that no boundary crosses itself.	Topology	E
79	Check for any line object that no component edges of a	Topology	W
	line object cross without a connected node at the	. 57	
	aranging point		1

Kommentiert [HW2]: Include additional values of STATUS 6 (reserved) and 11 (extinguished). Cf. S-58 Ed. 6.0.0.

Formatiert: Englisch (Vereinigtes Königreich)

Kommentiert [HW3]: This check has been removed from S-58, as it is possible to update a feature without having to update the corresponding text or picture file.

crossing point.

nesting. i.e. at least one of the following cases detected: An internal boundary is completely within an internal boundary: An internal boundary is completely within an internal boundary: An internal boundary is completely within an internal boundary: An external boundary is completely within an internal boundary. B1 Check that no spot sounding coincides with another spot sounding (of the same or different depth). B2 Check that no ince or area object is using the same edge more than none. B3 Check that no node coincides with another node (connected or isolated). B4 Check that no physically isolated node is marked as connected (and vice versa). B5 Check that no physically isolated node is marked as connected (and vice versa). B6 Check that an physically isolated node is marked as connected (and vice versa). B7 Check that any feature record of type Point (including sounding feature record) only references one vector record. B8 Check that any feature record of type Point (including sounding feature record) only references one vector record. B7 Check for edges with degenerated geometry (when consecutive vertices coincide). B8 For area features, check that ORNT = 1 [forward] or 2 [reverse], USAG = 1 [exterior], 2 [interior] or 3 [exterior boundary truncated by the data limit] and MASK = 1 [mask], 2 [show] or 255 [masking is not relevant]. B9 Check that no master object references the same object as slave more than once and that no slave object is referenced by more than one master object is referenced by more than one master object is referenced by more than one master object is smaller than or equal to the number of digits in the integer part is smaller than or equal to the number of digits in the integer part is smaller than or equal to the number of digits in the integer part is smaller than or equal to the number of digits given in the format statement (e.g. XX X). B9 Check for any update (ER) file having RUIN = 3 [modify] in the FRID filed, that the FOID filed for the modified object is identical i	80	Check that no area object has incorrect boundary	Topology	E
i.e. at least one of the following cases detected: • An internal boundary is completely within an internal boundary; • An internal boundary is completely outside an external boundary; • An external boundary is completely within an internal boundary; • An external boundary is completely within an internal boundary; • An external boundary is completely within an internal boundary; • An external boundary is completely within an internal boundary; • An external boundary is completely within an internal boundary; • An external boundary is completely within an internal boundary; • An external boundary is completely within an internal boundary; • An external boundary is completely within an internal boundary. 8 Check that no spot sounding coincides with another spot sounding (of the same or different depth). 8 Check that no linear or area object is using the same edge more than once connected (and vice versa). 8 Check that all AGEN subfield values in DSID and FOID fields) in an update (ER) file are identical to the AGEN subfield values in the DSID base (EN) file. 8 Check that all AGEN subfield values (in DSID and FOID fields) in an update (ER) file are identical to the AGEN subfield values in the DSID base (EN) file. 8 Check that all AGEN subfield values in the DSID base (EN) file. 8 Check that any feature record of type Point (including sounding feature record) only references one vector record. 8 For area features, check that ORNT = 1 [forward] or 2 [reverse], USAG = 1 [fexetrior], 2 [interior] or 3 [exterior boundary truncated by the data limit] and MASK = 1 [mask], 2 [showl or 255 [masking is not relevant]. 8 Check that no master object references the same object as slave more than once and that no slave object is referenced by more than once and that no slave object is referenced by more than once and that no slave object is referenced by more than once and that no slave object is referenced by more than once and that no slave object is referenced by more than once and that no slave object is re	80		Topology	_
An internal boundary is completely within an internal boundary; An internal boundary is completely outside an external boundary; An an external boundary is completely within an internal boundary. 81 Check that no spot sounding coincides with another spot sounding (of the same or different depth). 82 Check that no inear or area object is using the same edge more than once. 83 Check that no note coincides with another node (connected or isolated). 84 Check that no physically isolated node is marked as connected (and vice versa). 85 Check that al ASEN subfield values (in DSID and FOID fields) in an update (ER) file are identical to the AGEN subfield values in the DSID base (EN) file. 86 Check that any feature record of type Point (including sounding feature record) only references one vector record. 87 Check for edges with degenerated geometry (when consecutive vertices coincide). 88 For area features, check that ORNT = 1 [forward] or 2 [reverse], USAG = 1 [exterior], 2 [interior] or 3 [exterior boundary truncated by the data limit] and MASK = 1 [mask], 2 [show] or 255 [masking is not relevant]. 89 Check that no master object references the same object as slave more than once and that no slave object is referenced by more than one master object. 90 Check the conformity of the DDR (Data Descriptive Record), (in a catalogue file, it only contains the description of the totalogue file, it only contains the description of the update cell file structure. In an ER file, it only contains the description of the update cell file structure. 91 Check for any update (ER) file having RUIN = 3 [modify] in the FRID field, that the FOID field for the modified object is identical in the base (EN) and update (ER) files. 92 Check for any update (ER) file having RUIN = 3 [modify] in the FRID field, that the FOID field for the modified object is identical in the base (EN) and update (ER) files. 93 Check for any update (ER) file having RUIN = 3 [modify] in the FRID field, that the FOID field for the modified o		9		
boundary; An internal boundary is completely outside an external boundary; Check that no spot sounding coincides with another spot sounding (of the same or different depth). Check that no inlear or area object is using the same edge more than once coincides with another node (connected or isolated). Check that no node coincides with another node (connected or isolated). Check that no node coincides with another node (connected or isolated). Check that all ASEN subfield values (in DSID and FOID fields) in an update (ER) file are identical to the AGEN subfield values (in DSID and FOID fields) in an update (ER) file are identical to the AGEN subfield values in the DSID base (EN) file. Check that all ASEN subfield values (in DSID and FOID fields) in an update (ER) file are identical to the AGEN subfield values in the DSID base (EN) file. Check that any feature record of type Point (including sounding feature record) only references one vector record. Check for edges with degenerated geometry (when consecutive vertices coincide). For area features, check that ORNT = 1 [forward] or 2 [reverse], USAG = 1 [exterior], 2 [interior] or 3 [exterior boundary truncated by the data limit] and MASK = 1 [mask], 2 [show] or 255 [masking is not relevant]. Scheck that no master object references the same object as slave more than once and that no slave object is referenced by more than one master object. Check the conformity of the DDR (Data Descriptive Record). (In a catalogue file, it only contains the description of the catalogue file it structure. In an ER file, it only contains the description of the update cell file structure). Check for any update (ER) file having RUIN = 3 [modify] in the FRID field, that the FOID field for the modified object is identical in the base (EN) and update (ER) files. Check for any update (ER) file having RUIN = 3 [modify] in the FRID field, that the FOID field for the modified object is identical				
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93 Check for any object with WATLEV = 4 [covers and uncovers] or 5 [awash] or watlev = 4 [covers] and uncovers]: • if it is of type Line or Area, that: - it is not within or overlaps a LNDARE object of type Area, • if it is of type Point, that: - it is not within a LNDARE object of type Area, or - it is not coincident with a LNDARE object of type point, or - it is not situated on a LNDARE object of type line.				
uncovers] or 5 [awash] or watlev = 4 [covers] and uncovers]: • if it is of type Line or Area, that: - it is not within or overlaps a LNDARE object of type Area, • if it is of type Point, that: - it is not within a LNDARE object of type Area, or - it is not coincident with a LNDARE object of type point, or - it is not situated on a LNDARE object of type line.	02		Logical acceptance	\^/
uncovers]: • if it is of type Line or Area, that: - it is not within or overlaps a LNDARE object of type Area, • if it is of type Point, that: - it is not within a LNDARE object of type Area, or - it is not coincident with a LNDARE object of type point, or - it is not situated on a LNDARE object of type line.	93		Logical consistency	VV
if it is of type Line or Area, that: it is not within or overlaps a LNDARE object of type Area, if it is of type Point, that: it is not within a LNDARE object of type Area, or it is not coincident with a LNDARE object of type point, or it is not situated on a LNDARE object of type line.				
- it is not within or overlaps a LNDARE object of type Area, • if it is of type Point, that: - it is not within a LNDARE object of type Area, or - it is not coincident with a LNDARE object of type point, or - it is not situated on a LNDARE object of type line.				l I
Area, • if it is of type Point, that: - it is not within a LNDARE object of type Area, or - it is not coincident with a LNDARE object of type point, or - it is not situated on a LNDARE object of type line.				
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- it is not within a LNDARE object of type Area, or - it is not coincident with a LNDARE object of type point, or - it is not situated on a LNDARE object of type line.				
- it is not coincident with a LNDARE object of type point, or - it is not situated on a LNDARE object of type line.				
point, or - it is not situated on a LNDARE object of type line.				
		, ,,		
94 Check that no ER file contains instructions for the FSPC Logical consistency E	94	Check that no ER file contains instructions for the FSPC	Logical consistency	E

Kommentiert [HW4]: This is a serious error. It only occurs if there is a bug in the production software. It should be categorises at least as an error.

Kommentiert [HC5]: Also consider lower case watlev = 4

	field to modify a FSPT field of a feature object to a value that it already contains.		
i1	Check that only LNDMRK objects having CATLMK = 18 [windmill] or 19 [windmotor], have been encoded with CONDTN = 4 [wingless].	Logical consistency	W

2.2 Checks relating to the Inland ENC Product Specification edition $2.\underline{43}$

	Inland ENC PRODUCT SPECIFICATION		
500	Check that all data are within the cell limits.	2.2	Е
501			
502	Check that the dataset file contains no more than 5 megabytes of data.	2.2	W
503	Check that all objects in a cell have a unique FOID.	3.1	E-W
504	Check for all prohibited object classes for Inland ENC.	3.2	Е
505	Check for mandatory meta object classes.	3.4 and Inland ENC Encoding Guide	E
506	Check that mandatory subfields in EN and ER files contain a value (which may be a missing attribute value in the ATVL subfield of the ATTF field).	3.5.1 and Part 3 (2.1)	E
507	Check for all mandatory attributes.	3.5.2 and	Е
		Inland ENC Encoding Guide and Inland ENC Feature Catalogue	
508	Check that COLPAT is encoded for every object (except LIGHTS) with more than one COLOUR. Check that no object with a value for COLPAT has only one COLOUR.	3.5.2 Logical consistency	E
509	Check for all the following cases that the mandatory attribute has a value: CTNARE: INFORM DEPARE: DRVAL1 and DRVAL2 depare: DRVAL1 and DRVAL2 DEPCNT: VALDCO m_sdat: verdat m_vdat: verdat m_nsys: marsys	3.5.2 and Inland ENC Encoding Guide and Inland ENC Feature Catalogue	W
	Remark: For these objects, the above mandatory attributes are meaningless without values.		
510			
511	Check that all S-57 attributes, that are not mentioned in the Inland ENC Feature Catalogue, are not used"	IENC Feature Catalogue	E
512	Check for numeric attribute values (i.e. of type float ('F') or integer('I')) padded with non-significant zeroes.	3.5.4	E
513	Check that an attribute on an individual Geo object does not have the same value as the general value defined by the meta object.	3.5.6	E
514	Check that no use of cartographic objects has been made.	3.6	E
515	Check that all edges with USAG = 3 [exterior boundary, truncated by the data limit] have MASK = 255 [null].	3.8	Е

516			
310	Check that all master/slave relations are valid. If the master object is of type point, check that the slave object is sharing the same node as the master object. If the master object is of type line, check that the slave object is situated on the line covered by the master object. If the master object is of type area, check that the slave object is situated within or on the boundary of the area covered by the master object. NOTE: bridge, CRANES, cranes, FLODOC, flodoc, HULKES, hulkes, PONTON, ponton, OBSTRN, PYLONS, SILTNK and WRECKS objects must be considered as possible structure objects.	3.9 and Inland ENC Encoding Guide	W
517	For a collection feature record: Check that it references at least two other feature objects. Check that it does not reference itself. Check that PRIM = 255 [no geometry]. Check that there is only one master relationship per collection feature – all others must be slaves. Check that if a relationship is peer, then all other features in the collection are peer.	3.9 and Inland ENC Encoding Guide	Е
518	Check that all feature objects belong to the correct group: Check for all Group 1 objects having a Geometric Primitive of type Area, that the GROUP subfield [GRUP] of the Feature Record Identifier [FRID] is set to (1) [Group 1]. Check for all others feature objects that the GROUP subfield [GRUP] of the Feature Record Identifier [FRID] is set to (2) [Group 2].	3.10 IENC Product Specification 3.10.1	Е
519	Check Group 1 coverage and consistency in cells of usage 1 to 9.	3.10.1 and Inland ENC Encoding Guide	E
520	Check that the use of international character sets complies with ENC Prod Spec: Check that the general text in the ATTF field is lexical level (0) [NB see right for explanation], with appropriate encoding of DSSI-ATTF. Check that the general text in the NATF field is lexical levels (0), (1) or (2) with appropriate encoding of DSSI-NATF. If attribute NINFOM contains data, check that corresponding INFORM contains data: or report an error if they do not contain data. Report an error if lexical level (2) is used anywhere else than in the NATF field. The report should contain a statement if international character sets are used and the invoking sequence, so that a check can be made on the language used. Check the consistency between the use of international characters and the encoding of DSSI-AALL/NALL. Check that the UT and FT are encoded at the lexical level specified and used for that field.	3.11 and 3.5.5 Inland ENC Encoding Guide	E

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	encoded in the Feature Record National Attribute (NATF) field.		
	Check that all feature object attributes (non national)		
	are encoded in the Feature Record Attribute (ATTF) field.		
521	Check that OBJNAM and NOBJNM values, or INFORM	3.11.1	W
	and NINFOM values, are different for any particular		
500	object.	2444	W
522	Check that if NOBJNM is encoded, then OBJNAM has also been encoded.	3.11.1 Inland ENC Encoding Guide	VV
523	Check that HDAT = 2 [WGS 84].	4.1	Е
524	Check that DUN I = 1 [metres] or 3 [feet].	4.4	Ē
	t to the term of t	Inland ENC Product	
		Specification 4.4	
525	Check that PUN I = 1 [metres] or 4 [feet].	4.4	Е
		Inland ENC Product	
		Specification 4.4	
526	Check that COUN = 1 [latitude/longitude].	4.4	E
527	Check that all files referenced by TXTDSC, NTXTDS and PICREP attributes exist.	5.4.1 and 5.6.4	E
	and FICKEF allibutes exist.	5.6.4	
528	Check for existence of a catalogue file.	5.4.1	Е
529	Check that volume names are in accordance with the	5.4.2	E
	Inland ENC Product Specification.		
530	Check that the directory structure for physical media is in	5.4.3	E
	accordance with the Inland ENC Product Specification.		
	 An ENC_ROOT directory must exist in the first 		
504	volume.	504500 1500	
531	Check that file names are in accordance with the Inland	5.6.1, 5.6.2 and 5.6.3	E
532	ENC Product Specification. Check that text and graphic file names are unique, with	5.6.4	W
332	extension (e.gTXT, .HTM, .XML, .JPG and .TIF) for	3.0.4	VV
	new editions and re-issues.		
533	Check that the DSID-UADT subfield is not used in an ER	5.7	Е
	file.		
534	Check that a delete cell message only contains the DSID field with EDTN = 0.	5.7	Е
535	Check that the CRC value computed on the received file	5.9.1	Е
	is the same as the CRC value transmitted.		
536	Check that only fields that have a repetition factor repeat.	6.1.3	E
537	Check that the format of the catalogue file is correct.	6.2	E
538	Check that CADT-IMPL = "BIN".	6.2.2	E
539	Check that DSID-PROF subfield value is either 1 [EN] or 2 [ER].	6.3 and 6.4	E
540	Check that mandatory records, fields and subfields for	6.3 and 6.4	Е
J-10	EN and ER files are included and contain data and that	0.0 and 0.4	_
	prohibited records, fields and subfields are not used.		
541	Check that the SIGGRP format is correct for all LIGHTS,		Е
	except for fixed LIGHTS, which must not have a value	Inland ENC Encoding Guide	
	for SIGGRP.	-	
542	Check that any attribute value SIGGRP starts and		E
	finishes with a bracket.	Inland ENC Encoding Guide	
543	Observations and the MICONES And CONES	0.0 1	
544	Check that any area covered by a M_COVR object with	2.2 and	E
	CATCOV = 2 [no coverage available] does not contain any other object.	Inland ENC Encoding Guide	
545	Check that each object has a valid object class code as	3.2 and	Е
3.0	Shook that sach object has a valid object slass code as	0.2 4114	

	defined by the Inland ENC Feature Catalogue	Inland ENC Feature Catalogue	
546	Check that each attribute has a valid attribute class code as defined by the Inland ENC Feature Catalogue.	3.2 and Inland ENC Feature Catalogue	E
547	Check that no object contains attributes outside the list of permissible attributes for the object's class (as defined in the Inland ENC Feature Catalogue) for the specified object.	3.2 and Inland ENC Feature Catalogue	Е
548	Check that M_COVR meta objects provide exhaustive non-overlapping coverage of the whole cell.	3.4 and Inland ENC Encoding Guide	Е
549	Check that all DEPARE, depare and DRGARE objects are covered by M_QUAL objects without gaps or overlaps. (This check may only be used outside of Europe)	3.4 and Inland ENC Encoding Guide	E
550			
551	Check that text attribute values do not use format effecting (C0) characters (C0 as defined in S-57 Part 3, Annex B). Check that the delete character is only used in the update mechanism (i.e. in records with RUIN = 3 [modify]).	3.5.5	Е
552	Check for any object that has been encoded with one of the new attribute values introduced in S-57 Edition 3.1 that INFORM contains a description of the enumerate value.	3.5.7	E
553	Check that no Group 1 object contains the attributes DATSTA, DATEND, PERSTA or PEREND	3.10.1 and logical consistency	E
554	Check for any edge used by only one M_COVR object with CATCOV = 1 [coverage available], that it is also shared with one, and only one, Group 1 object.	3.10.1	E
555	Check that the order of data in each base or update file is correct.	6.1.1	E
556	Check for the limits of data set files given in the Catalogue Directory field (CATD) of the catalogue file (subfields SLAT, WLON, NLAT, ELON): 1. That the limits for base cell files are identical to the furthest coordinates of M_COVR geometry found in the corresponding base cell files. 2. That the limits for update cell files are identical to the limits of the base cell file to which they apply.	5.6.3, 6.2.2 and logical consistency	Е
557	Check that any SIGSEQ attribute value conforms to the correct structure (i.e. string content in accordance with format specification).	Inland ENC Encoding Guide	E
558	Check for any object having SIGSEQ encoded that the value of SIGPER is equal to the sum of intervals of light and intervals of eclipse described by SIGSEQ.	Inland ENC Encoding Guide and logical consistency	E
559	Check that no STATUS attribute value contains an impossible combination: • 3 [recommended] with 4 [not in use]; • 4 [not in use] with 9 [mandatory]; • 16 [watched] with 17 [un-watched]; • 8 [private] with 14 [public].	Inland ENC Encoding Guide and logical consistency	W
560	Check that all feature objects in a data set having the same FOID have the same description (same object class and attribute values) and are of type Line or Area.	3.1	E
561	Check that all feature objects in a data set having the	3.1	E

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	same FOID are not part of a collection object or a	
	master/slave relationship.	İ
562		

563	Check for any RESARE object that has been encoded with values (27) [Environmentally Sensitive Sea Area (ESSA)] and/or (28) [Particularly Sensitive Sea Area (PSSA)] for CATREA, that at least one of the attributes INFORM or TXTDSC contains the meaning of the value. The text must commence with the meaning of the value (i.e. Environmentally Sensitive Sea Area (ESSA) or Particularly Sensitive Sea Area (PSSA).	Supplement No1 Ch.4 (3.5.7.1)	E
564	Check for any base (EN) or update (ER) file containing at least one object of the following list: ARCSLN, ASLXIS, NEWOBJ, or RESARE having CATREA = 27 [Environmentally Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (PSSA)], that it contains the following subfield values in the DSID field: (03.1) for the STED subfield, (2.0) for the PRED subfield, that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field.	Supplement No1 Ch.4 (6.3.2.1 and 6.4.2.1)	E
565	Check for any update (ER) file applying to a base (EN) file which has the text "STED:3.1.1;" included in the COMT subfield of the DSID field, that it contains the following subfield values in the DSID field: (03.1) for the STED subfield, (2.0) for the PRED subfield, that it has the text "STED:3.1.1;" included in the COMT subfield of the DSID field.	Supplement No1 Ch.4 (6.4.2.1)	E
566			

2.3 Checks relating to Inland ECDIS

	Inland ECDIS		
1000	Check that the file extension is sequential until a new edition of the base set is issued.	Inland ENC Product Specification	E
1001	Check if DSID-UPDN is out of sequence.	Inland ENC Product Specification	E
1002	Check for proper usage of file extension, EDTN, UPDN, UADT and ISDT for re-issues of an ENC.	Inland ENC Product Specification	E
1003	Check that EDTN starts one higher than the previous edition number.	Inland ENC Product Specification	E
1004	Check that the file names of a base set and the reissue are identical.	Inland ENC Product Specification	E
	See check 1797		
i1001	Check that all external files in an exchange set are referenced by a dataset in the same exchange set.	Inland ENC Product Specification	W

2.4 Checks relating to the Inland ENC Encoding Guide

Appendix B.1- Annex A Logical consistency, ENC EG		Inland ENC Encoding Guide		
Check that certain area objects do not overlap for logical reasons: LNDARE and SBDARE. LNDARE and CBLARE, achare, achbrt, FAIRWY, TWRTPT, lokbsn, lkbspt.				
LNDARE and SBDARE. LNDARE and CBLARE, achare, achbrt, FARWY, TWRTPT, lobbsn, lkbspt. 1502 1503 Check that no object has an attribute value for verdat without a value for at least one of ELEVAT, HEIGHT, VERCCL, VERCLRORVERCOP. Exceptions are m, vdat and m sdat objects (subject to their own QA tests). 1504 Check that the value in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) is not null. 1505 Check that there are no m_vdat objects which have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM). 1506 Check that life oo objects which have attribute values relative to a Height Datum and which cross a m_vdat object boundary are split at that boundary. 1507 Check that no m_vdat objects overlap one another. 1508 Check that no m_vdat objects overlap one another. 1509 Check that no were percently of the Data Set Parameter field (DSPM). 1510 Check that no were percently one another. 1500 Check that the value in the Sounding Datum subfield (SDAT) of the Data Set Parameter field (DSPM). 1510 Check that there are no m_sdat objects, that have an attribute value for verdat equal to that given in the Sounding Datum subfield (SDAT) of the Data Set Parameter field (DSPM). Check that all SOUNDG objects and all those objects that have at least one of VALSOU, VATLOU, WATLEV, watlev, DRVALI or DRVALZ encoded with an explicit value and which cross a m_sdat object boundary are split at that boundary. 1513 Check that no M_UNIT objects exist 1515 Check that no M_UNIT obj	1500		Logical consistency, ENC	W
LNDARE and CBLARE, achare, achbrt, FAIRWY, TWRTPT, lokbsn, lkbspt. 48.44 4601 Check that no M_HDAT-objects exist. 2.4.4 E 1502 1503 Check that no object has an attribute value for verdat without a value for at least one of ELEVAT, HEIGHT, VERCCL, VERCLROYERCOP. Exceptions are m_votal and m_sdat objects (subject to their own QA tests). 1504 Check that the value in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) is not null. 1505 Check that there are no m_vdat objects which have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM). 1506 Check that all Geo objects which have attribute values relative to a Height Datum and which cross a m_vdat object boundary are split at that boundary. 1507 Check that no m_vdat objects overlap one another. 1508 Check that no m_vdat objects overlap one another. 1509 Check that no well-based that objects overlap one another. 1509 Check that no well-based that we			EG	
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1511 Check that there are no m_sdat objects, that have an attribute value for verdat equal to that given in the Sounding Datum subfield (SDAT) of the Data Set Parameter field (DSPM). 1512 Check that all SOUNDG objects and all those objects that have at least one of VALSOU, VALDCO, WATLEV, watlev, DRVAL1 or DRVAL2 encoded with an explicit value and which cross a m_sdat object boundary are split at that boundary. 1513 1514 Check that no M_UNIT objects exist 1515 Check that if an object contains a value for the attributes DATEND, DATSTA, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988. 1516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attribute STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.			Logical consistency	
attribute value for verdat equal to that given in the Sounding Datum subfield (SDAT) of the Data Set Parameter field (DSPM). 1512 Check that all SOUNDG objects and all those objects that have at least one of VALSOU, VALDCO, WATLEV, watlev, DRVAL1 or DRVAL2 encoded with an explicit value and which cross a m_sdat object boundary are split at that boundary. 1513 1514 Check that no M_UNIT objects exist 1515 Check that if an object contains a value for the attributes DATEND, DATSTA, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988. 1516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.	1511			-
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Parameter field (DSPM). 1512 Check that all SOUNDG objects and all those objects that have at least one of VALSOU, VALDCO, WATLEV, watlev, DRVAL1 or DRVAL2 encoded with an explicit value and which cross a m_sdat object boundary are split at that boundary. 1513 Check that no M_UNIT objects exist 2.1.4 E 1515 Check that if an object contains a value for the attributes DATEND, DATSTA, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988. 1516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.			12110 20 0.1.4	
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1513 1514 Check that no M_UNIT objects exist 1515 Check that if an object contains a value for the attributes DATEND, DATSTA, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988. 1516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.				
1514 Check that no M_UNIT objects exist 1515 Check that if an object contains a value for the attributes DATEND, DATSTA, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988. 1516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.	1512	split at that boundary.		
1515 Check that if an object contains a value for the attributes DATEND, DATSTA, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988. 1516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.		Check that no M. UNIT objects exist	214	E
DATEND, DATSTÁ, PEREND, PERSTA, SORDAT, SUREND or SURSTA, that this value conforms to ISO 8601:1988. 1516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.				
SUREND or SURSTA, that this value conforms to ISO 8601:1988. 4516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.				_
A516 Check that any Group 2 seasonal/periodic object (if the object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.		SUREND or SURSTA, that this value conforms to ISO		
object class is concerned at once by the attributes STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.				
STATUS, PERSTA and PEREND) with the attribute STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.	1516		15110 50 5 1	₩
STATUS containing the value (5) [periodic/intermittent] also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.			IENC EG B.J	
also has the start and end of the active period encoded in PERSTA and PEREND, and vice versa.				
in PERSTA and PEREND, and vice versa.				
			Edition 2.43	3. <u>0rev1</u> 5

Kommentiert [HC6]: Reference to 4.8.14 is not relevant

Formatiert: Zentriert

Formatiert: Durchgestrichen

1517			
1518	Check that the value of the Producing agency subfield		Е
	(AGEN) of the Data Set Identification field (DSID) is	IENC PS 6.3.2.1	
	correct, and that it is the same as the first two		
	characters of the data set file name.		
1519	Check that no M_PROD objects exist.	2.2.1	Ŧ

1520	Check that the value of the Edition Number (EDTN) subfield of the Data Set Identification field (DSID) is	IENC PS 5.7	E
	correct.		
1521	Check that the value of the Update Number (UPDN)	IENO DO 5.7	E
	subfield of the Data Set Identification field (DSID) is correct, and that it is equivalent to the extension of the	IENC PS 5.7	
	data set file name, except in the case of a re-issue; in		
	which case, it should be equal to the last update number.		
1522			Е
	(UADT) subfield of the Data Set Identification field (DSID)	IENC PS 5.7	
	is correct for data sets with a file name extension of		
	".000", or that it is null in all other cases.		
1523	Check that the value of the Issue date (ISDT) subfield of	DO 5.7	Е
	the Data Set Identification field (DSID) is correct, and that for data sets with a file name extension of ".000" it is	PS 5.7	
	greater than or equal to the value of the Update		
1	application date (UADT) subfield.		
1524	application date (ONDT) easierd.		
1525			
1526			
1527		2.2.3.1	E
	objects is greater than or equal to the maximum depth to		
1	which the CATZOC category for that M_QUAL object		
4500	indicates.	2.2.3.1	E
1528	Check that if there is an attribute value for TECSOU for a given M QUAL object, that only one sounding technique	2.2.3.1	₩
1	has been used within that M QUAL object coverage.		
1529	Check that no object falling within a given M_QUAL		Е
.020	object coverage has an attribute value for TECSOU that	IENC EG C.1.2/	For US/
	is equivalent to an attribute value for TECSOU on the	C.1.6/ C.1.7	RU
	M_QUAL object.	IENC PS 3.5.6	
1530	Check that no object falling within a given M_QUAL		_ E
	object coverage has an attribute value for SOUACC that	IENC EG C.1.2/	For US/
	is equivalent to the SOUACC or CATZOC attributes for the M_QUAL object.	C.1.6/ C.1.7 IENC PS 3.5.6	RU
1531	Check that no M QUAL object has attribute values for	ILING F 3 3.3.0	F
1001	POSACC, SOUACC, QUASOU or TECSOU which are	IENC EG C.1.2/	For US/
	equivalent to or degrade the accuracy indicated by the	C.1.6/ C.1.7	RU
	attribute value of CATZOC.	IENC PS 3.5.6	
1532	Check that if there is an attribute value for SURSTA for a		Е
	given M_QUAL object that it relates to the oldest survey	IENC EG C.1.2	For US/
	of two or more surveys for that M_QUAL object		RU

Kommentiert [HC7]: M_QUAL does not have attribute QUASOU

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	coverage.	
1533		
1534		
1535		
1536		
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1538		

1539			
	Check that SORIND has not been used for encoding the SURATH.	2.2.3.2 and 2.2.5.1	E
1541			
1542			
1543	Check that no object falling within a given M_ACCY object coverage has an attribute value for QUAPOS that is equivalent to the QUAPOS attribute for the M_ACCY object.	2.2.4.1	E
1544			
1545			
1546			
1547	Check that any bathymetric or hydrographic object that is of Point geometric type with an attribute value for SORIND has a corresponding attribute value for SORDAT, and that the values are different to those given by SORIND and SORDAT of the overlying M_SREL.		₩
1548	Check that any non-bathymetric object, which has an attribute value for SORIND has a corresponding attribute value for SORDAT.	IENC EG B.B / C.1.7 IENC PS 3.5.6	W For EU/US
1549	Check that the value in the Compilation Scale of data subfield (CSCL) of the Data Set Parameter field (DSPM) is not null.	IENC PS 6.3.2.3	E
1550			
1551			
1552	Check that no object contains the attribute SCAMAX.	2.2.7	E
1553	Check that any value of SCAMIN is set to a scale value smaller than or equal to the compilation scale of the data for the area.	Logical consistency	E
1554	Check that no Group 1 area objects and no meta objects have been encoded with the attribute SCAMIN.	IENC EG C.1, D.1.4, G.3.7, G.3.11, G.3.14, I.1.3, I.1.5, I.1.6, I.1.7, I.1.9	Е
	Check that no attribute value for INFORM and NINFOM contains formatting characters (C0 as defined in S-57 Part 3, Annex B). (see check 551)	2.3	E
1556	Check that any text files forming part of the dataset are Hypertext Metafiles (HTM), text (TXT), or Standardized External XML files (XML).	IENC EG B, B	Е
1557			
1558			
1559			
1560			

1561		
1562		

1563 Check that any RIVERS, CANALS or LAKARE objects are covered by a LNDARE object of type Area. 1564 1565 Check for all LNDARE objects of type Area that any edge of the limits shares the geometry of at least one object of the following list: • linear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. • area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE. • area objects with WATLEV = 1 [partly submerged at	W
1564 1565 Check for all LNDARE objects of type Area that any edge of the limits shares the geometry of at least one object of the following list: • linear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. • area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.	W
Check for all LNDARE objects of type Area that any edge of the limits shares the geometry of at least one object of the following list: Inear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.	
of the limits shares the geometry of at least one object of the following list: Inear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.	
the following list: Ilinear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.	:G
 linear objects: COALNE, SLCONS, slcons, GATCON, gatcon, DAMCON. area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE. 	
GATCON, gatcon, DAMCON. area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.	
area objects: M_COVR, GATCON, gatcon, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.	
DAMCÓN, RIVĒRS, TUNNEL, DRYDOC, CANALS, LAKARE, lokbsn, DOCARE, LNDARE.	
LAKARE, lokbsn, DOCARE, LNDARE.	
aroa objects with WATLEV - 1 [partly submarged at	
high water]or 2 [always dry]	
SLCONS, slcons, MORFAC, WRECKS, OBSTRN,	
PYLONS, UWTROC,.	
 area objects with watlev = 1 [partly submerged at 	
high water]or 2 [always dry] or 8 [above mean water	
level]: slcons, uwtroc	
1566 Check that no edge of a COALNE or linear, SLCONS or	
slcons object bounds an area RIVERS, CANALS, Logical consistency, IENC	G W
LAKARE DOCARE, DRYDOC lokbsn, hulkes, ponton or	"
flodoc object, except when this edge is also shared by a	
boundary of a DEPARE, depare, DRGARE, PONTON,	
FLODOC or HULKES object	
i Lebes di Nelles abject	
1567	
1568 Check that any SLCONS and slcons objects of type Area	E
are covered by a LNDARE, DEPARE or depare object of IENC EG G.2	
type Area.	
1569 Check that any SLCONS objects of type Area with	E
WATLEV = 3 [always under water/submerged], 4 [covers IENC EG G.2	
and uncovers] or 5 [awash] are covered by DEPARE	
and/or depare objects of type Area.	
i1501 Check that any slcons objects of type Area with watlev = IENC EG G.2	E
3 [always under water/submerged], 4 [covers and	_
uncovers] or 9 [below mean water level] are covered by	
DEPARE, and/or depare objects of type Area.	
1570	
1571	
1572	
1573 Check that any DRYDOC object is covered by a	Е
LNDARE object of type Area. IENC EG G.3.6	
1574 Check that no DRYDOC object is bounded (except for 4.6.6.1	E
the gate) by a separate object SLCONS or COALNE.	=
1575	_
i1502 Check that there are no flodoc objects, that have an EG G.3.7	E
attribute value for verdat equal to that given in the	
Vertical Datum subfield (VDAT) of the Data Set	
Parameter field (DSPM) or in the verdat attribute of the	
Meta object m_vdat. 1576 Check that no DOCARE object is bounded (except for 4.6.6.3	E
	₩
the gate) by a separate object SLCONS or COALNE.	
1577	
1578 A 570 Charlette a CATCON abject has an attribute value for	+-
1579 Check that no GATCON object has an attribute value for 4.6.6.4	₽
VERACC without an attribute value for VERCLR. Edition 2.43 (rev/15.	

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1580	Check that any area GATCON object is covered by a		
	DEPARE or a depare, UNSARE, DRGARE or LNDARE	IENC EG G.4.5	<u> </u>
	object of type Area.		
11503	Check that any area gatcon object is covered by a	IENC EG G.4.5	W
	DEPARE or a depare object of type Area.	F0.0.1.5	For EU
i1504	Check that there are no gatcon objects, that have an	EG G.4.5	E
	attribute value for verdat equal to that given in the		For EU
	Vertical Datum subfield (VDAT) of the Data Set		
	Parameter field (DSPM) or in the verdat attribute of the		
4504	Meta object m_vdat.		
1581	Oh II the -t I - II	EG G.4.3	E
11505	Check that any area lokbsn object is covered by a DEPARE	EG G.4.3	
:4500	or a depare object of type Area.	FO 0 4 2/	
i1506	Check that all objects which belong to one lock (lokbsn or		E
	lkbspt) must be combined to one aggregation area (C_AGGR.)	G.4.4	
i1507	Check that all lokbsn objects have a value for the	EG G.4.3	E
4500	attributes horcll and horclw.		
1582			
1583	OL LILL MARKET EV		
1584	Check that any area MORFAC object with a WATLEV	IENIO EO O 0 10	E
	attribute value of 2 [always dry] is covered by a LNDARE	IENC EG G.3.12	
14=00	object of type Area.	IENIO EO O O 10	
i1508	Check that any MORFAC object shares only one	IENC EG G.3.13	E
4=0=	SEAARE object.		
1585			
1586			
11509	Check that any ponton object of type Area is covered by	IENC EG G.3.11	<u>EW</u>
4505	a DEPARE or depare object of type Area.		
1587			
11510	Check that any hulkes object of type Area is covered by a	IENC EG G.3.14	<u>EW</u>
4500	DEPARE or depare object of type Area.	1000	
1588	Check that no object CRANES has an attribute value for	4.6.9.3	₽
1500	VERACC without an attribute value for VERCLR.		
1589	OL LILL LANDRON LILL CONTROL CONTROL		10/
1590	Check that any LNDRGN object is covered (partially or	IENO EO D E/D O O	W
	entirely) by a LNDARE object of type Area (or contains a	IENC EG B.E/ D.2.2	
1591	point or a line LNDARE).		
1591			
1592			
1594	OL LILL OLOTOP LILL IN THE LACTOR		14/
1595	Check that no SLOTOP object with a value of (6) [cliff]	In aire I ann airte ann a	W
	for the attribute CATSLO shares the same geo-spatial	logical consistency	
4500	position and geometry as a COALNE object.	475	14/
1596	Check that no SLOGRD object with a value of (6) for the	4.7.5	₩
	attribute CATSLO shares the same geo-spatial position		
4507	and geometry as a COALNE object.		
1597	Check that no RIVERS object shares the same geo-	IENO EO D 4 4/ D 4 0	E
4500	spatial position and geometry as a SEAARE object.	IENC EG D.1.1/ D.1.2	
1598			
1599			
1600			
1601	OL LIBERT AND THE STATE OF THE		
1602	Check that no LAKARE object shares the same geo-	IENIO EG 5 / -	E
	spatial position and geometry as a SEAARE object.	IENC EG D.1.5	
1603	Check that no LAKSHR objects exist.	4.7.8	E

Kommentiert [HC8]: S-58 Ed. 6.1.0 also allows UNSARE, DRGARE and LNDARE

Kommentiert [HC9]: Change Request 360

Kommentiert [HC10]: Change Request 361

September April July 201953

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1604		
1605		
1606		

1607			
1608			
1609	Check that no CANALS object shares the same geo- spatial position and geometry as a SEAARE object.	IENC EG D.1.1, D.1.3	Е
1610			
1611			
1612	Check that any TUNNEL object is covered by LNDARE, DEPARE, depare or DRGARE objects.	IENC EG G.1.7	W
1613			
1614	Check that no TUNNEL object has any other non- hydrographic object (RAILWY, ROADWY etc) encoded within it.	IENC EG G 1.7	E
1615	Check that no object TUNNEL has an attribute value for VERACC without an attribute value for VERCLR.	4.8.3	E
1616			
1617	Check that any DAMCON object of type Area is covered by a LNDARE object of type Area.	IENC EG G.4.2	E
1618	Ob a light at a condition of the conditi		_
1619	Check that any DYKCON object of type Area is covered by a LNDARE object of type Area.	IENC EG G.2.1	E
1620	Check for any edge of a DYKCON object which is shared by both a LNDARE object of type area and a DEPARE, depare, or DRGARE object of type area, that it is also shared by a linear SLCONS or slcons object without a value for CATSLC or catslc.	IENC EG G.2.1	E
1621	Check that no ROADWY object has a value of (7) for the attribute CATROD.	4.8.8	₩
1622	Check that no object BRIDGE has an attribute value for VERACC without an attribute value for at least one of VERCLR, VERCCL or VERCOP.	4.8.10	E
1623	Check that if an object bridge overlaps navigable water, its supports are encoded as PYLONS with a value of (4) [bridge pylon/tower] or (5) [bridge pier] for the attribute CATPYL.	IENC EG G.1.10	E
i1511	Check that all objects of a bridge (pylons, lights, sistat) which belong to one bridge must be combined to one aggregation area (C_AGGR.)	IENC EG G.1/ R.2.1	Е
i1512	Check that there are no bridge objects, that have an attribute value for verdat equal to that given in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM) or in the verdat attribute of the Meta object m_vdat.	IENC EG G.1	Е
<u>i1557</u>	If the notmrk is a bridge notmrk (catnmk=12.13.44.45.46.47 or 50) then it must have the attribute ORIENT defined. If the notmrk with attribute catnmk = 50 (value name E.1) is not positioned at a bridge, then ORIENT is not required.	IENC EG 0.3.2	Ē
1624	Check that no object CONVYR has an attribute value for VERACC without an attribute value for VERCLR.	4.8.11	€
1625	Check that, if one of the component objects (AIRARE) of an airfield is encoded using a collection object, that only C_ASSO is used.		W
1626			
1627			

Kommentiert [HC11]: Change Request 368

1628						
1629						
1630						
1631						
1632						
1633						
1634						
1635						
1636						
1637	WATLEV attribute value of water]or 2 [always dry] is type Area.	of 1 [partly submerge covered by a LNDAR	d at high RE object of		C EG G.1.10	E
1638	Check that any picture file according IENC format de		ne ENC are		NC EG B.B IC PS 5.6.4	E
1639						
1640						
1641	Check that no UWTROC same spatial position as a		res the	IEN	IC EG J.1.1	E
1642						
1643	Check that where depth of (type Line) object is creat VALDCO on the DEPCN DRVAL1 on the DEPARE	ed, and that the valuer of the control of the contr	e for	5.4	.1 and 5.4.3	₩
1644		00,000				
1645	Check that the overall sur DRVAL2 in the whole ma				5.4.3	₩
1646	DRVALZ IN the whole ma	ritime area is continu	ous.			+
1647						_
1648						
1649						
1650						
1651	<u> </u>					
1652						
1653						
1654						
1655						
1656						
<u>1657</u>	Check for any UWTROC attribute values correspon				6.1.2	₩
	For each UWTROC feature object where the values of VALSOU, QUASOU, WATLEY, TECSOU and SOUACC are not as defined in the table below (additional values may be encoded	values for UWTROC object.	attribute combina UWTRO	ation for OC object.	6.1.2, S-58	<u>vl</u> /
	<u>VALSOU</u>	<u>QUASOU</u>	WATL	EV	TECSOU SOUACC	-
					SULIVEE	
	unknown 2 0	OR undefined 3	. 4 OR 5		ot Present	-

Kommentiert [HC12]: For consistency use the values tabulated in S-58 check 1657

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		2 OR undefined	unknown	Not Present	
	< 0	1, 3, 4, 6, 8, 9 OR	4	notNull	1
		undefined	_		
		7	4	Not Present	
	0	1, 3, 4, 6, 8, 9 OR	<u>5</u>	notNull	
	_	undefined			
		<u>7</u>	<u>5</u>	Not Present	
	> 0	1, 3, 4, 6, 8, 9 OR	3	notNull	
		undefined			
		<u>7</u>	3	Not Present	
	VALSOU			WATLEV	
	unknown			3, 4 or 5	
				unknown	
	< 0			4	
	0			5	
	> 0			3	
				-	
i1514	Check for any uwt	roc object that the comb	ination of		
		rresponds to the following			
		VALSOU	-	watlev	
		Unknown		1,2,3,4,8,9, unknown	
		< 0		4,8	
		0		5,8,9	
		> 0		3,8,9	
1658					
1659					
1660					
1661					
1662	Check that any are	ea WRECKS or area OB	STRN object		Е
		EPARE, LNDARE or dep	IENC EG J.2.1		
	type Area.		<i>'</i>		
i1515	Check that no area	a hrbbsn object is covere	ed by a	IENC EG G.3.10	Е
	LNDARE object of	type Area.	-		
i1516		ea lkbspt object is covered object of type Area.	ed by a	IENC EG G.4.4	E
i1523	attribute value for value for value for value (VI	are no wtwprf objects, the verdat equal to that give DAT) of the Data Set Pa verdat attribute of the Me	n in the Vertical rameter field	IENC EG I.3.5	E
i1524		ect wtwprf has an attribu	te value for	IENC EG I.3.5	Е
		n attribute value for refle			_
	•				

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i1537	Check that there are no boylat objects, that have an attribute value for marsys equal to that given in the marsys attribute of the Meta object m_nsys.	IENC EG 0.1.2	E
i1539	Check, if any bcnlat object shares the same geo-spatial position and geometry as a DAYMAR, that the DAYMAR object is encoded as the slave object.	IENC EG 0.2.1	E
i1545	Check that any tisdge object is associated (using the collection object C_ASSO with the other objects of the facility).	IENC EG T.1.1	W

	Check for any WRECKS object that the combination of attribute values corresponds to the following table.						
	•			J.2.			
		lue is encoded	-				
	"any value" means, -for mandatory attribute: any predefined value or						
	unknown value.						
		predefined val	ue or				
undefined.							
Other attribute	s which do not	appear in the to	ahle may he				
encoded.	3 WHIOH GO HOL	appear in the t	able may be				
For each WR	RECKS	WRECKS object	Amend at	<u>tributes</u>	6.2.1		
feature object		with illogical	in accorda				
attribute value		attribute	the logica				
correspond to	o the table	combination.	defined in	<u>the</u>			
VALSOU	WATLEV	CATWRK	table. QUASOU	HEIGHT	TECSOU		
VALSOU	VVAILLV	CATWIKK	QUASOU	HEIGHT	SOUACC		
	3 or unknown	1, 2, 3	2 or	not Present	Undefined	1	
	undefined	or unknown	undefined				
Undefined	4 or 5	Any value	2 or	not Present	undefined		
	4 0	4 5	undefined	A l			
	1 or 2	4 or 5 or unknown	undefined	Any value	<u>undefined</u>		
	3 or unknown	1, 2, 3	<u>2 or</u>	not Present	undefined		
	<u>undefined</u>	or not	<u>undefined</u>				
		encoded <u>unkn</u> own					
unknown	4 or 5	Any value	2 or	not Present	undefined		
u		7 my value	undefined	1000110			
	1 or 2	4 <u>. or</u> 5	<u>undefined</u>	Any value	<u>undefined</u>		
		or not					
		encoded <u>unkn</u>					
	4	own Any value	7	not Present	undefined		
	4	Any value	1, 3, 4, 6, 8, 9	not Present	Any value		
<0		-	or undefined				
	5	1, 2, 3 or	<u>7</u>	<u>not</u>	undefined		
0		unknown		<u>PresentAny</u>			
	<u>5</u>	Any value	1, 3, 4, 6, 8, 9	value not Present	Any value		
	<u>5</u>	Ally value	or undefined	HOLF TESETIL	Ally value		
	3	1, 2, 3	7	not Present	undefined		
		or	_				
> 0	1	undefinedunk					
		nown					
	3	1, 2, 3	1, 3, 4, 6, 8, 9	not Present	Any value		
	1	or undefined unk	or undefined				
	1	nown					
Check that WF	RECKS object I		TWRK and	IENC	EG	Е	
		22000(EU)) or		J.2.	1		
1						<u> </u>	
Check that any	y WRECKS obj	ect with WATLI	=V = 3	IENC	EG	Е	

Kommentiert [HC13]: For consistency use the values tabulated in S-58 check 1663

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1664							
1664	[always under w	/ater/submerged] I	nas attr	bute VALSOU.	J.	2.1	
1665							
1666							
1667							
1668							
1669	attribute values Other attributes	DBSTRN object the corresponds to the which do not appe	e follow	ing table.	IENC E	EG J.3.1	W
	encoded.			1			
	VALSOU	WATLEV					
		3, 4, 5 or unknown					
	unknown	1 or 2					
		7					
	VALSOU < 0	4	1				
	VALOUDE	4	1				
	VALSOU = 0	5					
	VALSOU > 0	3	+				
	VALSOU > 0	3	-				
1670	Chock whore a	WRECKS or OBS	TDN or	oo includes		l	l w
	other WRECKS or OBSTRN point objects, that the encoded values of the attributes QUASOU, SOUACC, TECSOU, VALSOU and WATLEV for the area object are identical to the values for the shallowest point object.				EG J.3.1		
1671	with the geomet	ne object whose g try of an area obje lues except for att CAMIN.	ct of the	same class	Logical c	onsistency	E
1672	Check for the or an area object of	ccurrence of any pof the same class a ARE, WRECKS ar	and attr	ibute values,	Logical c	onsistency	E
1673							
1674							
1675							
1676		RESARE object has a ' REA also has a ' RN.			9.	1.2	₩
1677							
1678							
1679		bject that attribute nteger ('I') or code					E
1680	Check that no F	RECTRC object co	ntains a	a value of (3) for	10	.1.1	₩
1681	a value for ORIENT encoded, that the direction of digitizing is consistent (i.e. deviation less than 5 degrees) with the direction of the traffic flow (as encoded in			IENC E	EG L.1.2	E	
	ORIENT).						
1682	ORIENT).						
1682 1683	ORIENT).						

1684			
1685			
1686			
1687			
1688			
1689			+
1690			+
1691			_
1692			
1693			
1694			
1695			
1696			
1697			
1698			
1699			
1700			
1701			
1702			
1702	Check for any CBLSUB object, if the attribute CATCBL is		E
1703	encoded, that the value is (1) [power line], (3)	IENC EG K.1.1	
	[transmission line] (4) [telephone], (5) [telegraph] or (6)	IENC EG K.T.T	
	[mooring cable/chain]. only optional now)		
1704	Check that any cblohd object has attribute VERCLR with		E
1704		IENO EO O 4 9	-
	meaningful value, attribute catch with value (1) [power	IENC EG G.1.8	
	line], (3) [transmission line], (4) [telephone], (5)		
4705	[telegraph], (6) [mooring cable/chain] or (7) [ferry cable].	11.5.2	
1705	Check that no CBLOHD object contains an attribute	11.5.2	₽
	value for VERACC, without an attribute value for at least		
4700	one of VERCLR or VERCSA.		
1706			
1707	Check that any CBLARE object has the attribute		E
	CATCBL with value (1) [power line], (3) [transmission	IENC EG K.1.2	
	line], (4) [telephone], (5) [telegraph] or 6 [mooring		
	cable/chain) (only optional now) and attribute RESTRN		
	with value (1). (only optional now)		
1708			
1709			
1710	Check that no PIPOHD object has an attribute value for	11.6.3	E
	VERACC without an attribute value for VERCLR.		
1711	Check that no PIPOHD object has an attribute value for	11.6.3	E
	VERDAT without an attribute value for VERCLR.		
1712			
1713			
	Check that any OBSTRN object that has a value of (2) for	11.7.1 and 6.2.2	₩
	the attribute CATOBS also has a value of (4) for the	-	
	attribute STATUS.		
1715			
1716			
1717			
1718			
1710	ı		

Kommentiert [HC14]: This should be handled by check

1719			
1720			
1721			
	Check that any navigational aid equipment object is a		W
1722	slave to a navigational aid structure object or another	IENC EG N.1, O.1, O.2, O.4,	VV
	navigational aid equipment object.	P.1, Q.1	
	When two objects (including one DAYMAR/daymar)	P.1, Q.1	1
	contained in the list of structure objects are part of the		ı
	navigational aid, then the DAYMAR/daymar object must		1
	be considered as an equipment object.		1
	NOTE: CRANES, FLODOC, HULKES, hulkes, PONTON,		
	pontoon, OBSTRN, PYLONS, SILTNK, boylat, sicons		1
	and WRECKS objects must be considered as possible		
	structure objects, in addition to the list given in Annex A		
	(12.1.1) of S-57. Only one object can be coded as master		
	in a master/slave relation.		
1723			E
1720	are pointing to the same point spatial object.	IENC EG N.1, O.1, O.2, O.4,	-
	are pointing to the same point spatial object.	P.1, Q.1	
172/	Check that no navigational aid equipment object contains	1.1, Q.1	W
1727	a value for OBJNAM equivalent to the OBJNAM value of	IENC EG O.1, O.2, O.4, P.1	**
	the master object.	12140 20 0.1, 0.2, 0.4, 1 .1	
1725	ine master object.		
1726	Check that the entire area of the data set is covered by		Е
1720	one or more m_nsys objects, with a value for the attribute	IENC EG C.1.3	_
	marsys indicating the buoyage system in operation.	12110 20 0.1.0	
1727	Check that no minsys object overlaps any other minsys		Е
1/2/	object.	IENC EG C.1.3	_
1728	object.	ILINO EG C.1:5	
1720			
1700	Charle for any see shiret forming part of a series time!		10/
1729	Check for any geo object forming part of a navigational	IENO EO O 4 a	W
	aid (buoy or beacon), that the combination of	IENC EG C.1.3	
	characteristics for structure, topmark and lights conforms		
	to CEVNI, Russian inland waterway regulatios or the		
	IALA system being used (given in marsys or MARSYS of		
	the geo object or, if not encoded, in marsys of the meta-		

Kommentiert [HC15]: Lower case boylat and slcons are possible structure objects and lower case daymar is also a possible equipment object

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1732			
1733			
1734			
1735			
1736			
1737			
1738			
1739			
1740			
1740			
1741			
1742	Charlethat as Donne abiant anatains a contra fauth		-
1743	Check that no Buoy object contains a value for the	IENC EG O.1	E
	attribute marsys that is identical to the value for marsys	IENC EG 0.1	
4744	within the object m_nsys that covers the Buoy object.		
1744			
1745			
1746			
1747			
1748			
1749			
1750			
1751	Check that no LIGHTS object has a value for ORIENT		Е
	without a value of (1) [directional function] for CATLIT.	IENC EG N.1	
1752	Check that no LIGHTS object with a value of (1) [fixed]		Е
_	for LITCHR contains the attributes SIGGRP, SIGPER	IENC EG N.1	
	and SIGSEQ.		
1753	Check that no LIGHTS object has an attribute value for	12.8.1	E
	VERDAT without an attribute value for HEIGHT.		_
1754			
1755			
1756	Check that no LIGHTS object having a value of (4)		F
1730	[leading light] for the attribute CATLIT has a value for	IENC EG N.1	_
İ	ORIENT, unless CATLIT also contains a value of (1)	IENO EO N.1	
	[directional function].		
1757	[unectional function].		
1757			
1759			
1760			
1761			
1762			
1763	Check that the Relationship Indicator [RIND] subfield of	15 and Appendix B.1 (3.9)	E
	the Feature Record to Feature object Pointer [FFPT] field		
	for any C_ASSO or C_AGGR object is set to (3) [peer].		
1764	Check that no permanent object with a value of (1)	logical	₽
	[permanent] for the attribute STATUS has PERSTA	consistency	
	and/or PEREND encoded.		
1765			
1766	Check for any attribute PICREP, TXTDSC and NTXTDS		Е
	that the attribute value only contains one file name.	IENC EG B	
1767			
1768		5.3	W
1769			
1700			·

Formatiert: Durchgestrichen

1770	
1771 Check for any edge which is shared by a DEPCNT	W

1772 1773 1774	by no line DEPARE, that: (Maximum value of DR' (Minimum value of DR\ (Minimum value of DR\ (Maximum value of DR'	/AL1), and /AL2) = VALDCO ≥ VAL1).	,	W	
1775	1775 Check for any equipment object (see UOC 12.1.1) which is situated within a DEPARE, depare or DRGARE, that: • it has a navigational aid structure as master, or • it shares the same spatial object as a point FLODOC, HULKES, LNDARE, PONTON or PYLONS object, or • it is situated on a line CBLOHD, cblohd, CONVYR, convyr, COALNE, DAMCON (with CATDAM = 3 [flood barrage]), FLODOC, flodoc, LNDARE, MORFAC, PIPOHD, pipohd, PONTON, ponton, slcons or SLCONS object.				
1776	Check that any LIGHTS object having value 7 or 9 for LITCHR is encoded with the corresponding value for SIGGRP: LITCHR = 7 [isophase], then SIGGRP = (1) LITCHR = 9 [interrupted quick-flashing], then SIGGRP = ()				
1777	7 Check that all the pointers of any collection object in a cell reference objects that exist in that cell.				
1779	Check that no area DEPARI to DRVAL2.	IENC EG I.1 and logical consistency	Е		
1780					
1781	Check that any BUISGL or LNDMRK object which is part of a master/slave relationship and references	LNDMRK object with al slave 5.1 Set 33 (light	C EG E.1, FUNCTN to ht support) BUISGL or	. W	

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	a LIGHTS object as slave	without FUNCTN = LNDMRK		
	and CATLIT is Not equal to	33 (light support)		
	6 (air obstruction light) or 8			
	(flood light) or 9 (strip light)			
	and FUNCTN does not			
	contain, has a value of (33)			
	[light support] for the			
	attribute FUNCTN.			
1782				
1783	Check that no object of type	logical	W	
	Area with:	consistency		
	- WATLEV <u>or</u>			
	watlev = 4 [covers			Kommentiert [HC16]: Include also lower case watlev
	and uncovers]			
	overlaps a			
	DEPARE or			
	depare object with			
	DRVAL1 >= 0.			
	- WATLEV = 5			
	[awash] overlaps a			
	DEPARE or			
	depare object with			
	DRVAL1 > 0.			
1784	Check for any spatial object	logical	W	
	that no attribute HORDAT,	consistency		
	POSACC, or QUAPOS is			
	populated with a missing			
	value (unknown).			
1785				
1786	Check that any objects of	logical	W	
	type Area with WATLEV <u>or</u>	consistency		
	watlev = 2 [always dry] are			Kommentiert [HC17]: Include also lower case watlev
	covered by LNDARE objects			
	of type Area.			
1787	Check for any objects	logical	W	
	NAVLNE and RECTRC	consistency		
	sharing an edge that they			
	have the same or reciprocal			
4700	attribute value for ORIENT.		107	4
1788	Check that when one object	Landard and Arthur	W	
	NAVLNE and one object	Logical consistency		
	RECTRC share an			
	edge, they belong to the			
4700	same C_AGGR object.	1	147	
1789	Check for any object	Logical	W	
	NAVLNE and RECTRC of	consistency		
1	type Line with a value for			
	ORIENT encoded, that the			
	orientation of the spatial			
1	geometry is consistent (i.e. deviation less than 5			
	degrees) with the attribute			
	value (or the reciprocal			
1790	value) encoded in ORIENT.		W	
1790	Check for any LIGHTS	Logical consistency	VV	
	having ORIENT encoded	Logical consistency		
	with an explicit value, that: dition 2.43.0rev15	temberApril July 201953 January 2020		
E	JIIION Z.44.Urev10	temperAprii July 201953 January 2020		

	• SECTR1 and SECTR2 are	Γ	
	not populated, or		
	• it is not aggregated to a		
	RECTRC or a NAVLNE in a		
	collection object		
	C_AGGR, or		
	the structure object which		
	is the master of this LIGHTS		
	in a		
	master/slave relationship is		
	not aggregated to a		
	RECTRC or a NAVLNE		
	in a collection object		
	C_AGGR.		
1791	Check for any NAVLNE	Logical	W
	having CATNAV = 3 [leading	consistency	
	line bearing a		
	recommended track] that a		
	RECTRC with CATTRK = 1		
	[based on a system of fixed		
	marks] shares a part of the		
	line geometry used for the		
4700	NAVLNE, and vice versa.	Francisco Dellatia FD40	10/
1792	Check that no cell crosses	Encoding Bulletin EB18	W
1700	the 180° meridian.		
1793	Check for any LIGHTS	Logical	W
1794	object having CATLIT = 1	consistency	VV
	[directional function] and	consistency	
	which is a slave in a		
	master/slave relationship.		
	that the master object is not		
	a		
	BOYCAR, BOYLAT,		
	BOYSAW or BOYSPP.		
1795	Check for any master object	Logical	W
	in a master/slave	consistency	
	relationship containing	,	
	temporal attribution		
	(DATEND, DATSTA,		
	PEREND, PERSTA) that its		
	slave		
	objects also contain the		
	same temporal attributes.		
1796			
1797		wing feature object and geometric primitive	
		display in inland ECDIS, are present in the	
	dataset:		
	- bridge of type poin		
	- DAMCON of type		
	- PIPSOL of type po		
	ROADWY of typeTUNNEL of type p		
	- TOININEL OF TYPE P	piit.	
i1550	For any DEPARE <u>and</u>	IENC EG I.1.9	W
	depare with QUASOU=2		
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Formatiert: Hervorheben

Kommentiert [HC18]: Include also lower case depare

Formatiert: Hervorheben

	() () ()		
	(depth unknown). Check that DRVAL1=UNKNOWN if the DEPARE is bounded by a COALNE, whose edges have attribute QUAPOS=4.		
i1551	For any DEPARE and depare with QUASOU=2 (depth unknown). Check that DRVAL1=0 if the DEPARE is bounded by a COALNE, whose edges have attribute QUAPOS not equal 4	IENC EG I.1.9	W
i1552	For any DEPARE_and depare with QUASOU=8 (reported), Check that at least one of DRVAL1 or DRVAL2 are encoded.	Logical consistency	E
i1553	Check that any curent feature has populated at least one of the velocity attributes: curvhw, curvlw, curvmw, curvow	Logical consistency	W
i1554	Check that any curent feature with geometric primitive = Area has a value for attribute direction of impact (dirimp)	IENC EG H.1.1	W
i1555	Check that any curent feature with geometric primitive = Point has a value for attribute ORIENT	IENC EG H.1.1	W
i1556	Check that if feature curent has water level name attribute entered then the corresponding velocity attribute must also be encoded: hignam must have curvhw lownam must have curvlw meanam must have curvmw othnam must have curvow	IENC EG H.1.1	E

Kommentiert [HC19]: Bei COALNE ist ein Attribut QUAPOS nicht vorhanden und macht auch keinen Sinn. Regel überprüfen

Formatiert: Hervorheben
Formatiert: Hervorheben

Kommentiert [HC20]: Include also lower case depare

Formatiert: Hervorheben

Kommentiert [HC21]: Include also lower case depare

2.5 Checks relating to allowable attribute values for particular object classes

2000		for any object that attributes only contain allowable listed in the following table for the given object	W
	x-y-z *	allowable values (alone or in a list) all the pre-defined attribute values as listed in the IENC Feature Catalogue are allowed. the attribute is mandatory, and the missing value	
	(#)	(Unknown) is allowed. the attribute is mandatory, but the missing value (Unknown) is prohibited (no logical sense).	

ļ	(Ontriowin) io	oronibitou (no logical sense).	
A 44 11 4	01 1 1 01 1		Alleria bla attaibire i alica	
Attribute	Object Class	code	Allowable attribute values	
BCNSHP		2	(1,2,3,4,5)	
DONOITI	BCNISD	6	* #	
	BCNLAT	7	1 .5 #	
	bcnlat	17028	1,5 #	
	Domac		1,0 "	
BOYSHP		4	(1,2,3,4,5,6,8)	
	BOYCAR	14	*#	
	BOYISD	16	4,5 #	
	BOYLAT	17	*#	
	BOYSAW	18	* #	
	BOYSPP	19	* #	
	boylat	17029	* #	
BURDEP		5	numerical, 1 decimal digit	
	TUNNEL	151	* <u>m</u>	
CATAIR		7	(1,2,4,6)	
	AIRARE	2	*	
	1			
CATBRG		9	(1,3,4,5, <u>7,</u> 9,12 <u>,13</u>)	
	bridge	17011	* #	
		1		
CATBUA		10	(1,2,3,4,5)	
	BUAARE	13	*	
0.470.444		40	(4.0.0.4)	
CATCAM	201012	13	(1,2,3,4)	
	BOYCAR	14	" #	
CATCBL		4.4	(4.2.4.5.6)	
CATCBL	CBLARE	20	(1,3,4,5,6)	
	CBLSUB	22	*	
L	CDLOUD	22		
CATCOA		15	(1,2,3,4,5,6,7,8,9,10,11)	
CATCOA	COALNE	30	(1,2,0,7,0,0,1,0,3,10,11) *	
<u> </u>	COALNE	50		

	17	(2)
CONVYR	34	*#
convyr	17034	* #
	18	(1,2)
M_COVR	302	* (#)
	19	(2,3,4,5)
CRANES	35	*
cranes	17030	*
	20	(1,2,3)
DAMCON	38	*#
	21	(1,2,3,4)
dismar	17004	*#
	_	(2,4,5)
DMPGRD	48	* #
		(1,4)
FNCLNE	52	* #
		(1,2,3,4,5,6,7,8,9,10)
FOGSIG	58	*#
		(1,2)
FERYRT	53	* #
1		T
		(2,4)
		4 #
gatcon	17031	*#
	00	(5)
		(5)
HRBFAC	64	* #
1	0.4	(4.0.0.4.5)
	_	(1,2,3,4,5)
HULKES	65	" #
I	26	(4.2.2.4)
DOM: AT		(1,2,3,4)
		<u>*1,2</u> #
BUTLAT	17	#
	27	(1 4 5 6 12 13 14 15)
LICHTS		(1,4, <u>5,6,</u> 12,13,14,15)
LIGHTS	75	
	2/	(2,9,11,12)
LNDRGN		<u>\Z,\J,11,1Z,</u> *
FINDINGIA	10	-
	35	(1,-2,-3,-4,-5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21)
LNDMRK	74	(1,-2,-3,-4,-3,0,7,8,9,10,11,12,13,14,13,16,17,16,19,20,21) *#
	74	π
LINDIVIKK		
LNDWIKK	38	(1 2 3 4)
MARCUL	38 82	(1,2,3,4)
	M_COVR CRANES cranes DAMCON	CONVYR convyr 17034 18 M_COVR 302 19 CRANES 35 cranes 17030 DAMCON 38 20 DAMCON 38 21 dismar 17004 23 DMPGRD 48 24 FNCLNE 52 FOGSIG 58 27 FOGSIG 58 29 GATCON 61 gatcon 17031 30 HRBFAC 64 HULKES 65 36 BCNLAT 7 BOYLAT 17 LIGHTS 75

Kommentiert [JNE22]: In FC IES 2.4 attribute values 1 – 22, in EG IES 2.4 attribute values 1-21

CATMOD		40	(4.0.4.5.7)	
CATMOR		40	(1,3, <u>4,</u> 5,7)	I.
	MORFAC	84	* #	
CATNAV		41	(1,2,3)	
	NAVLNE	85	*	
CATOBS		42	(1,2,3,4,5,6,7,8,9,10,11)	
0711000	OBSTRN	86	*	I
	OBSTRIA	00		
CATOLD		4.4	(4.0)	
CATOLB		44	(1,2)	
	OILBAR	89	*	
	T.			
CATPIP		47	(2,3,4,6)	
	PIPARE	92	*	
	PIPSOL	94	*	
	pipohd	17024	* #	
	pipoliu		1 "	
CATPRA		48	(1,2,3,4,5,6,7,8,9,10)	
OAIFKA	DDDADE	97	(1,4,0,4,0,0,1,0,3,10)	
	PRDARE	91		
0.470\#		1.0	(4.0.0.4.5)	
CATPYL		49	(1,2,3,4,5)	
	PYLONS	98	* #	
CATRAS		51	(1)	
	RADSTA	102	* #	
CATREA		56	(4,5,9,12,19,22,23,25,26)	
	RESARE	112	12	
	resare	17005	*	
	TOSUIC	17000		
CATROD		57	(4.2.2.4)	
CATROD	DO A DIANY		(1,2,3,4)	
	ROADWY	116	* #	
CATRTB		52	(1,2,3)	
	RTPBCN	103	* #	
				\Box
CATRUN		<u>58</u>	(1,2)	
	RUNWAY	117	*	
L		<u> </u>	- I -	
CATSEA		59	(5,12,13,51,52,53,54,57,58,59)	П
J, 11 JE/1	SEAARE	119	*	I
	JEAARE	1119		
CATOU		60	(4.2.2.4)	1
CATSIL		63	(1,2,3,4)	
	SILTNK	125	^	
	1			,
CATSCF		65	(1 - 33)	
	SMCFAC	128	* #	
•	*	*	·	
CATSLC		60	(1,2,4,5,6,7,8,9,10,11,12,13,14,15,16)	
31.1.320	SLCONS	122	* #	
	0200110		1 "	
CATSLO		64	(2.3.6)	
CATOLO			(2,3,6)	= mi
			SeptemberApril July 201953	Edition 2.43.0rev15

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	SLOGRD	127	2,3 #
	SLOTOP	126	*#
CATSPM		66	(6,10,12,37,39,41,45,50,54,55)
	BOYSPP	19	*#
CATTRK		54	(1,2)
OMMINIC	RECTRC	109	*#
	RECIRC	109	#
CATTOO		0.7	(4.0)
CATTSS		67	(1,2)
	TSEZNE	150	* #
	1		
CATVEG		68	(6, <u>11,</u> 13)
	VEGATN	155	* #
CATWAT		69	(6)
	WATTUR	156	*#
			<u> </u>
CATWRK		71	(1,2,3,4,5)
OMITATION	WRECKS	159	*#
	WKECKS	139	#
CATZOC		72	(4.0.2.4.5.6)
CATZOC			(1,2,3,4,5,6)
	M_QUAL	308	*
CLSDEF		<u>18027</u>	<u>free text</u>
	<u>NEWOBJ</u>	<u>18005</u>	<u>* #</u>
CLSNAM		18028	free text
	NEWOBJ	18005	*#
COLOUR		75	(1,2,3,4,5,6,7,8,9,10,11,12,13)
00200	BCNISD	6	(2,3) #
	BCNLAT	7	* <u>(1,2,3,4)</u> #
		14	<u>_(1,2,3,4)</u> # *#
	BOYCAR		
	BOYISD	16	(2,3) #
	BOYLAT	17	*#
	BOYSAW	18	*#
	BOYSPP	19	*#
	DAYMAR	39	*#
	LIGHTS	75	* #
	TOPMAR	144	*#
	bcnlat	17028	*#
	boylat	17029	*#
	daymar	17035	*#
	auymai	1.000	1 "
COLPAT		76	(1,2,3,4,5,6)
COLPAI	DCNICD	6	1#
	BCNISD	7	
	BCNLAT		<u>1#*</u>
	BOYCAR	14	*
	D 61//6D	16	1#
	BOYISD		
	BOYLAT	17	*
			* * #
	BOYLAT	17	

DAYMAR	39	*
TOPMAR	144	*
bcnlat	17028	*
boylat	17029	*
daymar	17035	*

COMCHA		77	free textformat = "[[XXXX]:[XXXX]:]"
	comare	17055	* #
	rdocal	17017	* #

CONDTN		81	(1,2,3,4,5)
	ADMARE	1	3
	AIRARE	2	1,2,3,5
	BCNISD	6	1,2,3,5
	BCNLAT	7	1,2,3,5
	BUAARE	13	1,2,3,5
	BUISGL	12	*
	CBLARE	20	1,2,3,5
	CONVYR	34	1,2,3,5
	CRANES	35	1,2,3,5
	DAMCON	38	1,2,3,5
	DAYMAR	39	1,2,3,5
	DRYDOC	47	1,2,3,5
	DYKCON	49	1,2,3,5
	FLODOC	57	1,2,3,5
	FNCLNE	52	1,2,3,5
	FRPARE	60	1,2,3,5
	GATCON	61	1,2,3,5
	HRBFAC	64	1,2,3,5
	HULKES	65	1,2,3,5
	LIGHTS	75	1,2,3,5
	LNDMRK	74	*
	LNDRGN	73	1,2,3,5
	MORFAC	84	1,2,3,5
	PILPNT	90	1,2,3,5
	PIPARE	92	1,2,3,5
	PIPSOL	94	1,2,3,5
	PONTON	95	1,2,3,5
	PRDARE	97	1,2,3,5
	PYLONS	98	1,2,3,5
	RAILWY	106	1,2,3,5
	ROADWY	116	1,2,3,5
	RTPBCN	103	1,2,3,5
	SEAARE	119	1,2,3,5
	SILTNK	125	1,2,3,5
	SLCONS	122	1,2,3,5
	SLOTOP	126	1,2,3,5
	SMCFAC	128	1,2,3,5
	TOPMAR	144	1,2,3,5
	TUNNEL	151	1,2,3,5
	bcnlat	17028	1,2,3,5
	bridge	17011	1,2,3,5
	bunsta	17054	1,2,3,5
			September April July 201953 Edition 2.43, 0 rev1

Edition 2.<u>4</u>3.<u>0rev1</u>5

Formatiert: Standard, Zeilenabstand: Mindestens 0,05 Pt.

	cblohd	17012	1,2,3,5
	convyr	17034	1,2,3,5
	cranes	17030	1,2,3,5
	daymar	17035	1,2,3,5
	excnst	17070	1,2,3,5
	flodoc	17025	1,2,3,5
	gatcon	17031	1,2,3,5
	hrbare	17014	1,2,3,5
	hrbbsn	17056	1,2,3,5
	hrbfac	17015	1,2,3,5
	hulkes	17020	1,2,3,5
	lkbspt	17058	1,2,3,5
	lokbsn	17016	1,2,3,5
	notmrk	17050	1,2,3,5
	pipohd	17024	1,2,3,5
	ponton	17021	1,2,3,5
	prtare	17059	1,2,3,5
	refdmp	17062	1,2,3,5
	sicons	17032	1,2,3,5
	sistat	17007	1,2,3,5
	sistaw	17008	1,2,3,5
	termnl	17064	1,2,3,5
	vehtrf	17069	1,2,3,5
	wtwgag	17067	1,2,3,5
	wtwgag	17007	1,2,0,0
		ļ.	
CONRAD		82	(3)
CONTORD	BCNISD	6	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	boylat	17029	*
	Doylat	17023	
CONVIS		83	(1,2)
CONVIO	BUISGL	12	*
	LNDMRK	74	1*#
	PRDARE	97	*
	RUNWAY	117	*
	VEGATN	155	*
	VEGATIV	133	
DATEND		85	numerical (CCYYMMDD)
DATEND	ADMARE	1	*
-	AIRARE	2	*
-	BCNISD	6	*
-	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
-		16	*
	BOYLAT		*
-	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	
Edition 2	.43.0rev15	Sentember	rApril July 201953 January 2020

	ISGL	12	*
	NALS	23	*
	LARE	20	*
	LSUB	22	*
	ALNE	30	*
СО	NVYR	34	*
CR.	ANES	35	*
	NARE	27	*
DAI	MCON	38	*
DA	YMAR	39	*
DEI	PARE	42	Attribute deleted for this object class
DEI	PCNT	43	*
DR	GARE	46	Attribute deleted for this object class
DR	YDOC	47	*
DYI	KCON	49	*
FAI	RWY	51	*
FEF	RYRT	53	*
FLO	DDOC	57	Attribute deleted for this object class
FNO	CLNE	52	*
FO	GSIG	58	*
FRI	PARE	60	*
GA [*]	TCON	61	*
HR	BFAC	64	*
HU	LKES	65	Attribute deleted for this object class
LAI	KARE	69	*
	HTS	75	*
	DARE	71	Attribute deleted for this object class
	OMRK	74	*
	DRGN	73	*
	RCUL	82	*
	RFAC	84	*
	VLNE	85	*
	WOBJ	18005	*
	STRN	86	*
	BAR	89	*
	PNT	90	*
	ARE	92	*
	SOL	94	*
	NTON	95	Attribute deleted for this object class
	DARE	97	*
	ONS	98	*
	DSTA	102	*
	LWY	106	*
	CTRC	109	*
	SARE	112	*
	ERS	114	*
	ADWY	116	*
	CSTA	111	*
	PBCN	103	*
	AARE	119	*
	TNK	125	*
	CONS	122	*
	OGRD	127	*
	OTOP	126	*
SLC	J. 01		entember April July 201953 Edition 2 43 Orey 45

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CMCEAC	400	*
SMCFAC	128	*
SOUNDG	129	*
TOPMAR	144	*
TSEZNE	150	
TUNNEL	151	*
TWRTPT	152	*
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
bridge	17011	*
boylat	17029	*
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
depare	17003	Attribute deleted for this object class
daymar	17035	*
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17015	*
hulkes	17020	*
lg_sdm	18001	*
lg_vsp	18002	*
lkbspt	17028 17	*
	058	
lokbsn	17016	*
notmrk	17050	*
pipohd	17024	*
ponton	17021	*
prtare	17059	*
rdocal	17017	*
refdmp	17062	*
resare	17005	*
sistat	17007	*
sistaw	17008	*
slcons	17032	*
termnl	17064	*
trnbsn	17065	*
uwtroc	17033	*
vehtrf	17069	*
wtware	17066	*
wtwaxs	17051	*
		-

Edition 2.43.0rev15

17067 17052

82

84

85 18005 86

89

90

92 94

95

97

MARCUL

MORFAC

NAVLNE NEWOBJ

OBSTRN OILBAR

PILPNT

PIPARE PIPSOL

PONTON

PRDARE

wtwgag

wtwprf

		1	I	
DATSTA		86	numerical (CCYYMMDD)	
DATOTA	ADMARE	1	*	
	AIRARE	2	*	
	BCNISD		*	
		6	*	
	BCNLAT	7	*	
	BOYCAR	14		
	BOYISD	16	*	
	BOYLAT	17	*	
	BOYSAW	18	*	
	BOYSPP	19	*	
	BUAARE	13	*	
	BUISGL	12	*	
	CANALS	23	*	
	CBLARE	20	*	
	CBLSUB	22	*	
	COALNE	30	*	
	CONVYR	34	*	
	CRANES	35	*	
	CTNARE	27	*	
	DAMCON	38	*	
	DAYMAR	39	*	
	DEPARE	4 2	Attribute deleted for this object class	
	DEPCNT	43	*	
	DRGARE	46	Attribute deleted for this object class	
		47	*	
	DRYDOC		*	
	DYKCON	49	*	
	FAIRWY	51	*	
	FERYRT	53		
	FLODOC	57	Attribute deleted for this object class	
	FNCLNE	52	,	
	FOGSIG	58	*	
	FRPARE	60	*	
	GATCON	61	*	
	HRBFAC	64	*	
	HULKES	65	Attribute deleted for this object class	
	LAKARE	69	*	
	LIGHTS	75	*	
	LNDARE	71	Attribute deleted for this object class	
	LNDMRK	74	*	
	LNDRGN	73	*	
	MARCIII	92	*	

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Attribute deleted for this object class

DVI ONC	00	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	*
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	129	*
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
depare	17013	Attribute deleted for this object class
daymar	17035	*
dismar	17004	*
excnst	17070	*
feryrt	17070	*
flodoc	17013	*
gatcon	17023	*
hrbare	17031	*
	17014	*
hrbbsn hrbfac	17056	*
		*
hulkes	17020	*
lg_sdm	18001	*
lg_vsp	18002	*
lkbspt	17028 170	
lakhan	<u>58</u>	*
lokbsn	17016	*
notmrk	17050	*
pipohd	17024	

Formatiert: Hervorheben

	ponton	17021	*	_
	prtare	17059	*	
	rdocal	17017	*	
	refdmp	17062	*	
	resare	17005	*	
	sistat	17007	*	
	sistaw	17008	*	
	sicons	17032	*	
	termnl	17064	*	
	trnbsn	17065	*	
	uwtroc	17033	*	
	vehtrf	17069	*	
	wtware	17066	*	
	wtwaxs	17051	*	
	wtwgag	17067	*	
	wtwprf	17052	*	
	wwpii	17002		
DMPGRD		48	Primitive P deleted	
DIVIFGRU		40	Fillillive F deleted	
DRVAL1		87	numerical 2 decimal digits	
DKVALI		07	numerical, 2 decimal digits	i
	DEDARE	42	** m #	
	DEPARE	46	- 	
	DRGARE	47	** <u>m</u>	
		57	** <u>m</u>	
	FLODOC		** <u>m</u>	
	M_QUAL	308	<u>**</u> _m	
	RECTRC	109	* <u>m</u>	
	berths	17010	* <u>m</u>	
	depare	17003	* # <u>m</u>	
	excnst	17070	* # <u>m</u>	
	flodoc	17025	* <u>m</u>	
		1		
DRVAL2		88	Numerical, 2 decimal digits	
	DEPARE	42	<u>*</u> * <u>m</u> #	
	RECTRC	109	* <u>m</u>	
	depare	17003	* # <u>m</u>	
ELEVAT		90	numerical, 2 decimal digits	
	wtwgag	17067	* <u>m</u>	
EXCLIT		92	(1,2,3,4)	
	LIGHTS	75	*	
EXPSOU		93	(1,2,3)	
	MARCUL	82	*	
	OBSTRN	<u>86</u>	* _	
	UWTROC	<u>153</u>	* _	
	WRECKS	<u>159</u>	* _	
	uwtroc	17033	* _	
•			•	
FUNCTN		94	(2-42)	
	BUISGL	12	*	
	LNDMRK	74	*	
L		1	1	
			September April July 201953	Edition 2 43 Oroyale

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HEIGHT		95	numerical, 2 decimal digits
	DYKCON	49	<u>**</u> <u>m</u>
	LIGHTS	<u>75</u>	<u>*m</u>
	vehtrf	17069	* # <u>m</u>
	wtwprf	17052	* <u>m</u>

HORCLR		98	numerical, 2 decimal digits
	DRYDOC	47	<u>**</u> <u>m</u>
	FLODOC	57	<u>**</u> <u>m</u>
	GATCON	61	<u>*</u> * <u>m</u> #
	TUNNEL	151	* <u>m</u>
	bridge	17011	* <u>m</u>
	flodoc	17025	* <u>m</u>
	gatcon	17031	* # <u>m</u>
	trnbsn	17065	* m

HORLEN		99	numerical, 2 decimal digits
	DRYDOC	47	<u>**</u> <u>m</u>
	FLODOC	57	<u>*</u> * <u>m</u>
	flodoc	17025	* <u>m</u>
	hrbbsn	17056	* <u>m</u>
	lkbspt	17058	* <u>m</u>
	lokbsn	17016	* <u>m</u>

HORWID		100	numerical, 2 decimal digits
	DRYDOC	47	<u>** m</u>
	FLODOC	57	<u>**</u> <u>m</u>
	flodoc	17025	* <u>m</u>
	hrbbsn	17056	* <u>m</u>
	lkbspt	17058	* <u>m</u>
	lokbsn	17016	* <u>m</u>

INFORM		102	free text
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
-	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	* #
-	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	*

DEP		<u>43</u>	*
DMP	_	48	*
DRG		<u>46</u>	*
DRY	DOC	47	*
DYK	CON	49	*
FAIR	WY	51	*
FER	YRT	53	*
FLOI	DOC	57	*
FNC		52	*
FOG		58	*
FRP		60	*
GAT		61	*
HRB		64	*
HULI		65	*
LAK		69	*
LIGH		75	*
LND		71	*
LND		74	*
		73	*
LND	_		*
MAR		82	*
MOR		84	*
NAV		85	*
NEW		<u>18005</u>	_
OBS		86	*
OILB		89	*
PILP		90	*
PIPA		92	*
PIPS		94	*
PON		95	*
PRD	ARE	97	*
PYLO	ONS	98	*
RAD	STA	102	*
RAIL	.WY	106	*
REC	TRC	109	*
RESA	ARE	112	*
RIVE	RS	114	*
ROA	DWY	116	*
RSC		111	*
RTPI		103	*
	WAY	117	*
SBD		121	*
SEA		119	*
SILT		125	*
SLC		122	*
SLO		127	*
SLO		126	*
SMC		128	*
SOU		129	*
TOPI		144	*
TSEZ		150	*
TUNI		151	*
		152	*
TWR		152 154	
UNS			*attribute deleted for this object class
UNS	AKE	<u>154</u>	
		Se	ptemberApril July 201953 Edition 2.43.0rev15

Kommentiert [JNE23]: INFORM is missing in EG IES 2.4

	UWTROC	153	*
	VEGATN	155	*
			*
	WATTUR	<u>156</u>	*
	WRECKS	159	*
	C_AGGR	400	*
	C_ASSO	401	
	achare	17001	*
	achbrt	17000	*
	bcnlat	17028	*
	berths	17010	*
	boylat	17029	*
	bridge	17011	*
	bunsta	17054	*
	c_brga	18003	*
	cblohd	17012	*
	chkpnt	17027	*
	comare	17055	*
	convyr	17034	*
	cranes	17034	*
	curent	17019	*
		17019	*
	daymar	17004	*
	dismar		*
	excnst	17070	*
	feryrt	17013	
	flodoc	17025	*
	gatcon	17031	*
	hrbare	17014	*
	hrbbsn	17056	*
	hrbfac	17015	*
	hulkes	17020	*
	lkbspt	17058	*
	lokbsn	17016	*
	notmrk	17050	*
	pipohd	17024	*
	ponton	17021	*
	prtare	17059	*
	rdocal	17017	*
	refdmp	17062	*
	resare	17005	*
	sensor	18004	*
	sistat	17007	*
	sistaw	17007	*
	sicons	17003	*
	termnl	17064	*
		17064	*
<u> </u>	trnbsn	17065	*
<u> </u>	uwtroc		*
	vehtrf	17069	*
	wtware	17066	*
	wtwaxs	17051	
	wtwgag	17067	*
	wtwprf	17052	*
	m_vdat	17023	*

JRSDTN	103	(1.2.3)

	ADMARE	1	* #
	/ LD III / LT L		ıı .
LITCHR		107	(1,2,3,4, <u>5,6,</u> 7, <u>8,</u> 9, <u>10,11,12,13,14,15,16,17,18,19,20,25,26</u> 27,28,29)
	LIGHTS	75	*#
LITVIS		108	(4)
	LIGHTS	75	*
MARSYS		109	(1,2)
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
MLTYLT		110	numerical, min = 2
	LIGHTS	75	*
NATCON		112	(1,2,3,4,5,6,7,8,9)
	DAMCON	38	*
	MORFAC	84	*
	<u>OBSTRN</u>	<u>86</u>	<u>1,2,3,4,6,7,8*</u>
	ROADWY	116	4,5
	RUNWAY	<u>117</u>	4.5
	SLCONS	122	*
	sicons	17032	*
			Ta
NATION		111	free text, 2 characters
	ADMARE	1	*#
	chkpnt	17027	*#
NIATOLIA		444	(4.0.0.4)
<u>NATQUA</u>	000405	114	(1,2,3,4)
	SBDARE	<u>121</u>	
NATSUR		113	(4.2.2.4.5.6.7.0.0.44.4.4.7.40)
NATSUR	ODCTDN		(1,2,3,4,5,6,7,8,9,11,14,17,18)
	OBSTRN SBDARE	86 121	9 1,2,3,4,5,6,7,8,9,18
<u> </u>	SLOGRD	127	1,2,3,4,3,0,1,0,3,10 *
-	SLOGRD	126	*
	UWTROC	153	* (5,9,11,14,18) m
	CHINOC	100	<u></u>
-	achare	17001	*
	achbrt	176000	*
	resare	17005	*
	uwtroc	17003	*(5,9,11,14,18)
	uniioo	17000	10101.11.11.01
NINFOM		300	free text
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
1	, =		SeptemberApril July 201953 Edition 2.43.0rev

	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
			*
	BUAARE	13	*
	BUISGL	12	
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	*
	DEPCNT	43	*
	DMPGRD	48	*
	DRGARE	46	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	*
	HULKES	65	*
	LAKARE	69	*
	LIGHTS	75	*
	LNDARE	71	*
	LNDMRK	74	*
		73	*
	LNDRGN MARCUL	82	*
			*
	MORFAC	84 85	*
	NAVLNE	18005	*
	NEWOBJ		*
	OBSTRN	86	*
	OILBAR	89	*
	PILPNT	90	*
	PIPARE	92	*
	PIPSOL	94	*
	PONTON	95	*
	PRDARE	97	
	PYLONS	98	*
	RADSTA	102	
	RAILWY	106	*
	RECTRC	109	*
	RESARE	112	*
	RIVERS	114	*
	ROADWY	116	*
	RSCSTA	111	*
=	3 Orev15	0 1 1	horil July 201053 January 2020

	T	
RTPBCN	103	*
RUNWAY	<u>117</u>	* _
SBDARE	<u>121</u>	* _
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	<u>129</u>	* _
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UNSARE	154	*attribute deleted for this object class
UNSARE	<u>154</u>	* _
UWTROC	153	*
VEGATN	155	*
WATTUR	<u>156</u>	*
WRECKS	159	*
C AGGR	400	*
C ASSO	401	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
c_brga	18003	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
daymar	17035	*
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17015	*
hulkes	17020	*
Ikbspt	17058	*
lokbsn	17016	*
notmrk	17050	*
pipohd	17024	*
ponton	17021	*
prtare	17059	*
rdocal	17017	*
refdmp	17017	*
retuilip		September April July 201953 Edition 2.43 Oray 15

resare	17005	*
sensor	18004	*
sistat	17007	*
sistaw	17008	*
slcons	17032	*
termnl	17064	*
trnbsn	17065	*
uwtroc	17033	*
vehtrf	17069	*
wtware	17066	*
wtwaxs	17051	*
wtwgag	17067	*
wtwprf	17052	*
m_vdat	17023	*

NOBJNM		301	free text
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	Attribute deleted for this object class
	DAMCON	<u>38</u>	* _
	DAYMAR	39	*
	DMPGRD	48	*
	DRYDOC	47	*
	DRGARE	<u>46</u>	* _
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	*
	HULKES	65	*
	LAKARE	69	*
	LIGHTS	75	*
	LNDARE	71	*
	LNDMRK	74	*

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	convyr	17034 17030	*
1	comare	17055	
	chkpnt	17027	*
	cblohd	17012	*
	c_brga	18003	*
	bunsta	17054	*
	bridge	17011	*
	boylat	17029	*
	berths	17010	*
	bcnlat	17028	*
	achbrt	17000	*
	achare	17001	
	C_ASSO	401	*
	C_AGGR	400	*
	WRECKS	159	*
	WATTUR	<u>156</u>	*
	VEGATN	155	*
	UWTROC	153	*
	UNSARE	154	*
	TWRTPT	152	*
	TUNNEL	151	*
	TSEZNE	150	*
	TOPMAR	144	*
	SOUNDG	129	*
	SMCFAC	128	*
	SLOTOP	126	*
	SLOGRD	127	*
	SLCONS	122	*
	SILTNK	125	*
	SEAARE	119	*
	SBDARE	121	* _
	RUNWAY	<u>117</u>	* _
	RTPBCN	103	*
	RSCSTA	111	*
	ROADWY	116	*
	RIVERS	114	*
	RESARE	112	*
	RECTRC	109	*
	RAILWY	106	*
	RADSTA	102	*
	PYLONS	98	*
	PRDARE	97	*
	PONTON	95	*
	PIPSOL	94	*
	PIPARE	92	*
	PILPNT	90	*
	OILBAR	89	*
	OBSTRN	86	*
	NEWOBJ	18005	* _
	NAVLNE	85	*
	MORFAC	84	*
	MARCUL	82	*
	LNDRGN	73	*

curent	17019	*
daymar	17035	*
dismar	17004	*
excnst	17070	*
excnst	17010	<u>*</u>
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17015	*
hulkes	17020	*
lkbspt	17058	*
lokbsn	17016	*
notmrk	17050	*
pipohd	17024	*
ponton	17021	*
prtare	17059	*
rdocal	17017	*
refdmp	17062	*
resare	17005	*
sensor	<u>18004</u>	*
sistat	17007	*
sistaw	17008	*
slcons	17032	*
termnl	17064	*
trnbsn	17065	*
uwtroc	17033	*
vehtrf	17069	*
 wtware	17066	*
wtwaxs	17051	*
 wtwgag	17067	*
 wtwprf	17052	*
m_vdat	17023	*attribute deleted for this object class

NTXTDS		304	free text
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	<u>6</u>	* _
	BCNLAT	<u>7</u>	* _
	BUISGL	<u>12</u>	* _
	BUUARE	<u>13</u>	* _
	BOYCAR	<u>14</u>	* _
	BOYISD	<u>16</u>	*
	BOYLAT	<u>17</u>	* _
	BOYSAW	<u>18</u>	* _
	BOYSPP	<u>19</u>	* _
	CBLARE	<u>20</u>	* _
	CBLSUB	22	* _
	CANALS	<u>23</u>	* _
	CTNARE	<u>27</u>	* _
	COALNE	30	* _
	CONVYR	<u>34</u>	* _
	CRANES	35	*

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Kommentiert [JNE24]: Not available in FC and EG with this attribute and code number

DAMCON	20	*	
DAMCON	38	*	
DAYMAR	<u>39</u>	*	
DRGARE	<u>46</u>	*	
DRYDOC	<u>47</u>	*	
DMPGRD	<u>48</u>	*	
DYKCON	<u>49</u>	*	
FAIRWY	<u>51</u>	*	
FNCLNE	<u>52</u>	 	
FERYRT	<u>53</u>	* * *	
FLODOC	<u>57</u>		
FOGSIG	<u>58</u>	*	
FRPARE	<u>60</u>	* *	
GATCON	<u>61</u>	* _	
<u>HRBFAC</u>	<u>64</u>	<u>*</u>	
<u>HULKES</u>	<u>65</u>	* _	
LAKARE	<u>69</u>	* _	
LNDARE	<u>71</u>	* _	
LNDRGN	<u>73</u>	*_	
LNDMRK	<u>74</u>	* _	
LIGHTS	<u>75</u>	*	
MARCUL	82	*	
MORFAC	84	*	
M_NPUB	305	*	
NAVLNE	<u>85</u>	*	
NEWOBJ	18005	*	
OBSTRN	86	*	
OILBAR	89	*	
PILPNT	90	*	
PIPARE	92	*	
PIPSOL	94	*	
PONTON	95	*	
PRDARE	97	*	
PYLONS	98	*	
RADSTA	102	*	
RTPBCN	103	*	
RAILWY	106	*	
RECTRC	109	*	
RESARE	112	*	
RIVERS	114	*	
ROADWY	116	*	
RUNWAY	117	*	
SEAARE	119	*	
SBDARE	121	*	
SLCONS	122	*	
SILTNK	125	*	
SLOTOP	126	*	
SLOGRD	127	*	
SMCFAC	128	*	
SOUNDG	129	*	
TOPMAR	144	*	+
TSEZNE	150	*	+
	151	*	
TUNNEL		*	
TWRTPT	152 153	*	
UWTROC	<u>153</u>	SeptemberApril July 201953	Edition 2.43.0rev1

Edition 2.<u>43.0rev1</u>5

VEGATN 155 -	111	INCADE	154	*
WATTUR				*
WRECKS 159				I =
achbrt 17000 achare 17001 bcnlat 17002 bcnlat 17028 berths 17010 bridge 17011 c bridge 17011 c bridge 17011 c c brga 18003 bunsta 17029 cblohd 17012 cclohd 17012 cclohd 17012 cclohd 17027 ccomare 17055 ccomyr 17034 cranes 17030 curent 17019 cdaymar 17035 cdaymar 17036 dismar 17004 excnst 17070 dismar 17004 cranes 17005 cdaymar 17031 cdaymar 17035 cdaymar 17036 cdaymar 17036 cdaymar 17031 cdaymar 17036 cdaymar 17004 cdaymar 17036 cdaymar 17004 cdaymar 17006 cdaymar 17014 cdaymar 17016 cdaymar 17058 cdaymar 17058 cdaymar 17059 cdaymar 17059 cdaymar 17059 cdaymar 17059 cdaymar 17059 cdaymar 17059 cdaymar 17062 cdaymar 17062 cdaymar 17062 cdaymar 17062 cdaymar 17063 cdaymar 17064 cdaymar 17065 cdaymar 17065 cdaymar 17066 cdaymar 17066 cdaymar 17066 cdaymar 17066 cdaymar 17007 cdaymar 17008 cdaymar 17006 cdaymar 17008 cdaymar 17008 cdaymar 17066				
achare 17001 bcnlat 17028 berths 17010 bridge 17011 c_braa 18003 bunsta 17054 boylat 17029 cblohd 17012 chkpnt 17027 comare 17055 convyr 17034 cranes 17030 daymar 17035 dismar 17040 except 17075 flodoc 17025 gatcon 17031 hrbare 17014 hrbbsn 17056 hrbfac 17015 hulkes 17020 lokbsn 17016 lokbsn 17058 hulkes 17020 lokbsn 17059 hulkes 17059 hulkes 17059 honton 17024 ponton 17024 ponton 17024 ponton 17024 ponton 17025 lokbsn 17066 hrbfac 17016 lokbsn 17068 hrbfac 17016 lokbsn 17069 lokbsn 17060 lokbsn				
berlat 17028				I <u> </u>
berths				I =
bridge 17011				l -
C				I <u> </u>
bunsta 17054 - boylat 17029 - cblohd 17012 - chkpnt 17027 - comare 17055 - convyr 17034 - cranes 17030 - curent 17019 - dawnar 17035 - dismar 17004 - exenst 17070 - flodoc 17025 - gatcon 17031 - hrbare 17014 - hrbsn 17056 - hulkes 17020 - lokbsn 17016 - lkbspt 17058 - notmrk 17059 - pipohd 17024 - priare 17059 - rdocal 17017 - redmp 17062 - sensor 18004 - sistaw 17008 - sistat 17008 - uwtroc 17032 - wtware 17069 - wtware 17069 - wtware 17069 - wtware 17061 - wtware 17062 - RSCSTA 111 - C_AGGR 400 - C_ASSO 401 - feryrt 17013 -				l <u> </u>
boylat 17029				
Cobins				
chkpnt 17027 * comare 17055 * convyr 17034 * cranes 17030 * curent 17019 * daymar 17004 * excnst 17070 * flodoc 17025 * gatcon 17031 * hrbare 17015 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lokbsn 17016 * lkbspt 17058 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17065 * sensor 18004 * slcons 17005 * sensor 18004 * slcons 17005 * sistat 17007 * sistaw 17008 * termin 17066 * termin 17067 * termin 17062 * termin 17066 * termin 17066 * termin 17066 * termin 17067 * termin 17062 * termin 17066 * termin 17066 * termin 17066 * termin 17066 * termin 17066 * termin 17067 * termin 17062 * termin 17066 * termin 17066 * termin 17067 * termin 17062 * termin 17066 * termin 17067 * termin 17062 * termin 17066 * termin 17067 * termin 17062 * termin 17067 * termin 17062 * termin 17067 * termin 17062 * termin 17067 * termin 17067 * termin 17067 * termin 17069 * termin 17069 * termin 17069 * termin 17069 * termin 17069 * termin 17062 * termin 17067 * termin 17062 * termin 17067 * termin 17062 *				
Comare 17055 Convyr 17034 Convyr 17034 Convyr 17030 Convyr 17030 Courent 17019 Courent 17019 Courent 17004 Courent 17070 Courent 17056 Courent 17057 Courent 17058 Courent 17059 Courent 17059 Courent 17059 Courent 17059 Courent 17062 Courent 17062 Courent 17062 Courent 17064 Courent 17066 Courent 17066 Courent 17066 Courent 17066 Courent 17067				
Convyr				
cranes 17030				
Curent 17019 17035 17035 17035 17035 17035 17035 17035 17035 17035 17035 17035 17036 17031 170				l <u> </u>
daymar 17035 * dismar 17004 * excnst 17070 * flodoc 17025 * gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hulkes 17020 * lokbsn 17016 * lkbspt 17058 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * refdmp 17062 * resare 17005 * sensor 18004 * slcons 17032 * sistat 17008 * sistaw 17008 * trmbsn 17064 * trmbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtware 17067 * wtware 17067 * wtware 17068 * wtware 17066 * wtware 17067 * wtware 17067 * wtware 17068 * wtware 17066 * wtware 17067 * wtware 17068 * wtware 17066 * wtware 17066 * wtware 17067 * wtware 17062 * RSCSTA 111 * C_AASO 401 * feryrt 17013 *				
dismar 17004				
excnst 17070 * flodoc 17025 * gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lokbsn 17016 * lkbspt 17058 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * slcons 17032 * sistat 17007 * sistaw 17064 * termnl 17064 * termnl 17064 * termnl 17064 * wtware 17066 * wtwaxs 17051 * wtware 17062 * resare 17066 * uwtroc 17033 * wtware 17066 * wtwaxs 17061 * wtway 17062 * resare 17065 * uwtroc 17033 * wtware 17066 * wtwaxs 17061 * wtware 17066 * wtway 17066 * wtway 17066 * wtway 17067 * wtware 17066 * wtway 17067 * wtway 17067 * wtway 17067 * wtway 17067 * wtway 17067 * wtway 17066 * wtway 17066 * wtway 17066 * wtway 17067 * wtwy 17067 * wtwy 17067 * wtwy 17067 * wtwy 17068 * wtwy 17067 * wtwy 17068 * wtwy 17067 * wtwy 17067 * wtwy 17067 * wtwy 17067 * wtwy 17067 * wtwy 17068 * wtwy 17067 * wtwy 17069 * wtwy 17067 * wtwy 17069 * wtwy 17067 * wtwy 17069 * wtwy 17067 * wtwy 17067 * wtwy 17067 * wtwy 17068 * wtwy 17067 * wtwy 17068 * wtwy 17069 * wtwy 17067 * wtwy 17069 * wtwy 17067 * wtwy 17069 * wtwy 17067 * wtwy 17069				l -
Section 17025 17036 17031 17031 17036 17031 17036 17037 17038 17	<u>d</u>	<u>ismar</u>		l -
gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hrbfac 17015 - hulkes 17020 * lokbsn 17016 * lkbspt 17058 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * slcons 17032 * sistat 17007 * sistaw 17008 * termnl 17064 * termnl 17066 * uwtroc 17033 * yehtrf 17069 * wtware 17066 * wtware 17067 * wtware 17067 * wtware 17066 * wtware 17067 * wtware 17066 * wtware 17067 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17066 * wtware 17067 * wtware 17052 * RSCSTA 111 * C_AGGR 400 * C_AASO 401 *	<u>e</u>	xcnst		I =
hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lokbsn 17016 * lkbspt 17058 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * reddmp 17062 * resare 17005 * sensor 18004 * slcons 17032 * sistat 17007 * sistat 17008 * termn 17064 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtware 17067 * wtwagg 17067 * wtwagg 17067 * wtwagg 17067 * wtwagg 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *	<u>fl</u>	odoc	17025	
India	g	atcon	17031	I <u> </u>
Introduction Interest	<u>h</u>	rbare	17014	*
hulkes	<u>h</u>	rbbsn	17056	
Idkbsn	h	rbfac	17015	*
Ikbspt	h	ulkes	17020	I <u> </u>
	lo	okbsn	17016	
notmrk	Ik	cbspt	17058	
Donton 17021 *			17050	*
prtare	р	ipohd	17024	
prtare	р	onton	17021	*
refdmp 17062 * resare 17005 * sensor 18004 * slcons 17032 * sistat 17007 * sistaw 17064 * termnl 17064 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 * wtwgag 17067 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *			17059	*
refdmp 17062 * resare 17005 * sensor 18004 * sicons 17032 * sistat 17007 * sistaw 17008 * termnl 17064 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwagaq 17051 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *	ro	docal	17017	*
resare 17005 * sensor 18004 * sicons 17032 * sistat 17007 * sistaw 17064 * termnl 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaga 17051 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *			17062	*
sensor 18004 * slcons 17032 * sistat 17007 * sistaw 17008 * termnl 17064 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *			17005	
sicons 17032 * sistat 17007 * sistaw 17008 * termnl 17064 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
sistat 17007 - sistaw 17008 * termnl 17064 * trnbsn 17065 - uwtroc 17033 * vehtrf 17069 * wtware 17066 - wtwaxs 17051 * wtwpf 17052 - RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				
sistaw 17008 * termnl 17064 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
termnl 17064 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 * wtwgag 17067 * wtwprf 17052 * RSCSTA 1111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				
trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwgag 17051 * wtwgag 17067 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				
uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 * wtwgaq 17067 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
vehtrf 17069 * wtware 17066 * wtwaxs 17051 * wtwgaq 17067 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
wtware 17066 * wtwaxs 17051 * wtwgag 17067 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
wtwaxs 17051 * wtwgag 17067 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				
wtwgaq 17067 * wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
wtwprf 17052 * RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				
RSCSTA 111 * C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
C_AGGR 400 * C_ASSO 401 * feryrt 17013 *				*
C_ASSO 401 * feryrt 17013 *				*
feryrt 17013 *		_		*
				*
TMM6 11 020				<u>*</u>
			0=0	I

OBJNAM		116	free text
	ADMARE	1	*#
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	Attribute deleted for this object class
	DAMCON	38	*
	DAYMAR	39	*
	DMPGRD	48	*
	DRGARE	46	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	*#
	HULKES	65	*
	LAKARE	69	*
	LIGHTS	75	*
	LNDARE	71	*
	LNDMRK	74	*
	LNDRGN	73	*#
	MARCUL	82	*
	MORFAC	84	*
	NAVLNE	85	*
	NEWOBJ	18005	*
	OBSTRN	86	*
	OILBAR	89	*
	PILPNT	90	*
·	PIPARE	92	*
	PIPSOL	94	*
	PONTON	95	*
	PRDARE	97	*
	PYLONS	98	*
		400	*
	RADSTA	102	*

	RECTRC	109	*
		112	*
	RESARE	114	*
	ROADWY		*
	_	116	*
	RUNWAY	117	*
	SBDARE	<u>121</u>	*
	RSCSTA	111	*
	RTPBCN	103	
	SEAARE	119	* #
	SILTNK	125	*
	SLCONS	122	*
	SLOGRD	127	*
	SLOTOP	126	
	SOUNDG	129	*
	SMCFAC	128	*
	TOPMAR	144	*
	TSEZNE	150	*
	TUNNEL	151	*
_	TWRTPT	152	*
	UNSARE	154	*
	UWTROC	153	*
	VEGATN	155	*
	WATTUR	<u>156</u>	*
	WRECKS	159	*
	C_AGGR	400	* #
	C_ASSO	401	*
	achare	17001	*
	achbrt	17000	*
	bcnlat	17028	*
	berths	17010	*
	boylat	17029	*
	bridge	17011	*
	bunsta	17054	*
	c_brga	18003	*
1	cblohd	17012	*
	chkpnt	17027	*
	comare	17055	*
	convyr	17034	*
	cranes	17030	*
	curent	17019	*
1	daymar	17035	*
	dismar	17004	*
	excnst	17070	Attribute deleted for this object class
	excnst	17070	*
	feryrt	17013	*
	flodoc	17025	*
	gatcon	17031	*
	hrbare	17014	*
	hrbbsn	17056	*
	hrbfac	17015	*
	hulkes	17020	*
	lkbspt	17058	*
	lokbsn	17016	*
	notmrk	17050	*
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	pipohd	17024	*
	ponton	17021	*
	prtare	17059	*
	rdocal	17017	*
	refdmp	17062	*
	resare	17005	*
	sensor	18004	*
	sistat	17007	*
	sistaw	17007	*
	sicons	17032	*
	termnl	17064	*
	trnbsn	17065	*
	uwtroc	17003	*
-	vehtrf	17053	*
-		17069	*
	wtware		* #
	wtwaxs	17051	*
	wtwgag	17067	*
	wtwprf	17052	
	m_vdat	17023	*attribute deleted for this object class
ODJENIT		447	1
ORIENT		117	numerical, 2 decimal digits
	LIGHTS	75	*
	NAVLNE	85	*#
	RECTRC	109	* #
	TWRTPT	152	*#
	curent	17019	
	daymar	17035	*
	notmrk	17050	*
	rdocal	17017	* #
PEREND		118	numerical (CCYYMMDD)
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
1	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	Attribute deleted for this object class
	DEPCNT	43	*
	DRGARE	46	Attribute deleted for this object class
			September April July 201953 Edition 2.43 Orey 4

DRYDOC	47	*
DYKCON	49	*
FAIRWY	51	*
FERYRT	53	*
FLODOC	57	Attribute deleted for this object class
FNCLNE	52	*
FOGSIG	58	*
FRPARE	60	*
GATCON	61	*
HRBFAC	64	*
HULKES	65	Attribute deleted for this object class
LAKARE	69	*
LIGHTS	75	*
LNDARE	71	Attribute deleted for this object class
LNDMRK	74	*
LNDRGN	73	*
MARCUL	82	*
MORFAC	84	*
NAVLNE	85	*
NEWOBJ	18005	*
OBSTRN	86	*
OILBAR	89	*
PILPNT	90	*
PIPARE	92	*
PIPSOL	94	*
PONTON	95	Attribute deleted for this object class
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	100	*
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
	119	*
SEAARE	125	*
SILTNK SLCONS	125	*
SLOGRD	127	*
SLOGRD	126	*
SMCFAC	126	*
		*
SOUNDG	129	*
TOPMAR	144 150	*
TSEZNE		*
TUNNEL	151	*
TWRTPT	152	*attribute deleted for this object -1
UNSARE	154	*attribute deleted for this object class
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	^

Kommentiert [JNE25]: PEREND is not available in the EG IES 2.4 In FC IES 2.4 no allowable attribute values are defined

Edition 2.<u>4</u>3.<u>0rev1</u>5

	berths	17010	*
		17010	*
	boylat		*
	bridge	17011	*
	bunsta	17054	*
	cblohd	17012	*
	chkpnt	17027	*
	comare	17055	
	convyr	17034	*
	cranes	17030	*
	curent	17019	*
	daymar	17035	*
	depare	17003	Attribute deleted for this object class
	dismar	17004	*
	excnst	17070	*
	feryrt	17013	*
	flodoc	17025	*
	gatcon	17031	*
	hrbare	17014	*
	hrbbsn	17056	*
	hrbfac	17015	*
	hulkes	17020	*
	lg_sdm	18001	*
	lg_vsp	18002	*
	lkbspt	17058	*
	lokbsn	17016	*
	notmrk	17050	*
	pipohd	17024	*
	ponton	17021	*
	prtare	17059	*
	rdocal	17017	*
	refdmp	17062	*
	resare	17005	*
	sistat	17007	*
	sistaw	17008	*
	slcons	17032	*
	termnl	17064	*
	trnbsn	17065	*
	uwtroc	17033	*
	vehtrf	17069	*
	wtware	17066	*
	wtwaxs	17051	*
	wtwgag	17067	*
	wtwprf	17052	*
	m vdat	17023	*attribute deleted for this object class
		1	
PERSTA		119	numerical (CCYYMMDD)

PERSTA		119	numerical (CCYYMMDD)
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*

DOVCDD	40	*
BOYSPP	19	*
BUAARE	13	*
BUISGL	12	*
CANALS	23	*
CBLARE	20	
CBLSUB	22	*
COALNE	30	*
CONVYR	34	*
CRANES	35	*
CTNARE	27	*
DAMCON	38	*
DAYMAR	39	*
DEPARE	42	Attribute deleted for this object class
DEPCNT	43	*
DRGARE	46	Attribute deleted for this object class
DRYDOC	47	*
DYKCON	49	*
FAIRWY	51	*
FERYRT	53	*
FLODOC	57	Attribute deleted for this object class
FNCLNE	52	*
FOGSIG	58	*
FRPARE	60	*
GATCON	61	*
HRBFAC	64	*
HULKES	65	Attribute deleted for this object class
LAKARE	69	*
LIGHTS	75	*
LNDARE	71	Attribute deleted for this object class
LNDMRK	74	*
LNDRGN	73	*
MARCUL	82	*
MORFAC	84	*
NAVLNE	85	*
	18005	*
NEWOBJ OBSTRAL		*
OBSTRN	86	*
OILBAR	89	*
PILPNT	90 92	*
PIPARE		*
PIPSOL	94	
PONTON	95	Attribute deleted for this object class
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	
RESARE	112	*
RIVERS	114	*
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	*
SEAARE	119	*
SILTNK	125	*
SLCONS	122	*

SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
	129	*
SOUNDG	_	*
TOPMAR	144	
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	
UNSARE	154	*attribute deleted for this object class
UWTROC	153	*
VEGATN	155	*
WRECKS	159	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
cblohd	17012	*
chkpnt	17027	*
comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
daymar	17035	*
depare	17003	Attribute deleted for this object class
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
hrbbsn	17056	*
hrbfac	17015	*
hulkes	17010	*
lg_sdm	18001	*
lg_vsp	18002	*
lkbspt	17058	*
lokbsn	17016	*
notmrk	17010	*
pipohd	17030	*
pipona	17024	*
prtare	17021	*
	17039	*
rdocal	17017	*
refdmp	_	*
resare	17005	*
sistat	17007	*
sistaw	17008	*
sicons	17032	*
termnl	17064	*
trnbsn	17065	*
uwtroc	17033	*
vehtrf	17069	
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Kommentiert [JNE26]: PERSTA is not available in the EG IES 2.4 In FC IES 2.4 no allowable attribute values are defined

wtware	17066	*
wtwaxs	17051	*
wtwgag	17067	*
wtwprf	17052	*
m vdat	17023	*attribute deleted for this object class

PICREP		120	free text
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPCNT	43	*
	DMPGRD	48	*
	DRGARE	46	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
			*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
-	HRBFAC	64	*
-	HULKES	65	*
-	LAKARE	69	*
-	LIGHTS	75	*
-	LNDARE	71	*
	LNDMRK	74	* *
	LNDRGN	73	* *
-	MARCUL	82	* *
	MORFAC	84	* *
	NAVLNE	85	
	NEWOBJ	<u>18005</u>	*
	OBSTRN	86	*
	OILBAR	89	*
	PILPNT	90	*
	PIPARE	92	*

DID	SOL	94	*
		95	*
	NTON	97	*
	DARE LONS	98	*
		102	*
	DSTA ILWY	102	*
			*
	CTRC	109	*
	SARE	112 114	*
	/ERS		*
	ADWY	116	*
	CSTA	111	*
	PBCN	117	*
	NWAY	_	*
	DARE	121	*
	AARE	119	*
	.TNK	125	*
	CONS	122	*
	OGRD	127	*
	ОТОР	126	*
	CFAC	128	*
	UNDG	129	I_
	PMAR	144	*
	EZNE	150	*
	NNEL	151	
	RTPT	152	*
	SARE	<u>154</u>	*
	/TROC	153	*
	GATN	155	*
	<u>ATTUR</u>	<u>156</u>	* _
	RECKS	159	*
	AGGR	400	*
	ASSO	401	*
	nare	17001	*
	nbrt	17000	*
	nlat	17028	*
	rths	17010	*
	ylat	17029	*
brio	dge	17011	*
	nsta	17054	*
<u>c_t</u>	orga_	<u>18003</u>	* _
	ohd	17012	*
	kpnt	17027	*
cor	mare	17055	*
cor	nvyr	17034	*
	ines	17030	*
	rent	17019	*
day	ymar	17035	*
dis	mar	17004	*
exc	enst	17070	*
fer	yrt	17013	*
	doc	17025	*
gat	con	17031	*
hrb	oare	17014	*
hrb	bsn	17056	*
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	1		
-	hrbfac	17015	*
	hulkes	17020	*
	lkbspt	17058	*
	lokbsn	17016	*
	notmrk	17050	*
	pipohd	17024	*
	ponton	17021	*
	prtare	17059	*
	rdocal	17017	*
	refdmp	17062	*
	resare	17005	*
	sensor	18004	*
	sistat	17007	*
	sistaw	17008	*
	sicons	17032	*
	termnl	17064	*
	trnbsn	17065	*
	uwtroc	17033	*
	vehtrf	17069	*
	wtware	17066	*
	wtware	17051	*
	wtwgag	17067	*
	wtwprf	17057	*
	wtwpii	17002	
PILDST		121	deleted
POSACC		401	numerical,2 decimal digits
	M_QUAL	308	* <u>m</u>
		'	
PRODCT		123	(1,2,3,4,5,6,7,8,14,15,17,21,22)
	CONVYR	34	*
	PIPARE	92	*
	PIPSOL	94	*
	PRDARE	97	1,2,4,5,6,7,14,15,17,21,22* no change
	SILTNK	125	*
	SILTNK	125 17034	*
	convyr	17034	* * *
QUAPOS	convyr	17034	
QUAPOS	convyr	17034 17024	*#
QUAPOS	convyr pipohd	17034 17024 402	*#
QUAPOS	convyr pipohd	17034 17024 402	*#
	convyr pipohd	17034 17024 402 310	* # (4,10) * (1,2,3,4,6,7,8,9,10,11)
	convyr pipohd M_SREL	17034 17024 402 310 125 42	(4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11)
	convyr pipohd M_SREL DEPARE M_SREL	17034 17024 402 310	* # (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) #
	convyr pipohd M_SREL	17034 17024 402 310 125 42 310	(4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11)
	convyr pipohd M_SREL DEPARE M_SREL	17034 17024 402 310 125 42 310	* # (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9)
	DEPARE M_SREL MARCUL UNSARE	17034 17024 402 310 125 42 310 82	* # (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9) (2,8)
	DEPARE MARCUL UNSARE UWTROC	17034 17024 402 310 125 42 310 82 154 153	* # (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9) (2,8) (1,2,8,10,11)
	DEPARE M_SREL MARCUL UNSARE UWTROC WRECKS	17034 17024 402 310 125 42 310 82 154 153 159	* # (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9) (2,8) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11)
	DEPARE M_SREL MARCUL UNSARE UWTROC WRECKS berths	17034 17024 402 310 125 42 310 82 154 153 159 17010	* # (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9) (2,8) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11)
	DEPARE M_SREL DEPARE M_SREL MARCUL UNSARE UWTROC WRECKS berths depare	17034 17024 402 310 125 42 310 82 154 153 159 17010 17003	*# (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9) (2,8) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11)
	DEPARE M_SREL MARCUL UNSARE UWTROC WRECKS berths	17034 17024 402 310 125 42 310 82 154 153 159 17010	* # (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9) (2,8) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11)
	DEPARE M_SREL DEPARE M_SREL MARCUL UNSARE UWTROC WRECKS berths depare	17034 17024 402 310 125 42 310 82 154 153 159 17010 17003	*# (4,10) * (1,2,3,4,6,7,8,9,10,11) (1,2,8,10,11) (1,2,8,10,11) # (1,2,3,4,6,7,8,9) (2,8) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11) (1,2,8,10,11)

Formatiert: Hervorheben Formatiert: Hervorheben

			band)free text	
	RTPBCN	103	<u>**</u>	1+
RESTRN		131	(1,3,5,7,8,24 <u>.38</u>)	
	CBLARE	20	1 <u>,38</u>	
	DMPGRD	48	* no change	

RESTRN		131	(1,3,5,7,8,24 <u>.38</u>)
	CBLARE	20	1 <u>.38</u>
	DMPGRD	<mark>48</mark>	<u>* no change</u>
	PIPARE	92	1 <u>.38</u> #
	RESARE	112	1,7,8,38 #

SCAMIN		133	numerical, min = "1"	
	ADMARE	1	*#	
	AIRARE	2	* #	
	BCNISD	6	* #	
	BCNLAT	7	* #	
	BOYCAR	14	* #	
	BOYISD	16	* #	
	BOYLAT	17	* #	
	BOYSAW	18	*#	
	BOYSPP	19	* #	
	BUAARE	13	* #	
	BUISGL	12	*#	
	CANALS	23	* #	
	CBLARE	20	* #	
	CBLSUB	22	*#	
	COALNE	30	* #	
	CONVYR	34	* #	
	CRANES	35	* #	
	CTNARE	27	*#	
	DAMCON	38	* #	
	DAYMAR	39	* #	
	DEPCNT	43	* #	
	DMPGRD	48	* #	
	DRYDOC	47	* #	
	DYKCON	49	* #	
	FAIRWY	51	* #	
	FERYRT	53	* #	
	FNCLNE	52	* #	
	FOGSIG	58	* #	
	FRPARE	60	* #	
	GATCON	61	* #	
	HRBFAC	64	* #	
	HULKES	65	* #	
	LAKARE	69	* #	
	LIGHTS	75	* #	
	LNDARE	71	*#attribute deleted for this object class	
	LNDMRK	74	* #	
	LNDRGN	73	* #	
	MARCUL	82	* #	
	MORFAC	84	* #	
	NAVLNE	85	* #	
	NEWOBJ	18005	<u>* #</u>	
	OBSTRN	86	* #	į
	OILBAR	89	* #	
	PILPNT	90	* #	
			SeptemberApril July 201953	Edition 2.43.0rev15

Kommentiert [JNE27]: According to FC SCAMIN is allowed, according to EG no SCAMIN available

Formatiert: Default, Zeilenabstand: einfach

Formatiert: Hervorheben

PIPARE 92 * #
PONTON 95
PRDARE 97 * # PYLONS 98 * # RADSTA 102 * # RAILWY 106 * # RECTRC 109 * # RESARE 112 * # RIVERS 114 * # ROADWY 116 * # RSCSTA 111 * # RTPBCN 103 * # RTPBCN 103 * # SBDARE 121 * # SBDARE 121 * # SEAARE 119 * # SILTNK 125 * # SILTNK 125 * # SLCONS 122 * # SLOORD 127 * # SLOTOP 126 * # SMCFAC 128 * # SOUNDG 129 * # TOPMAR 144 * # TSEZNE 150 * # TUNNEL 151 * # TWRTPT 152 * # UWTROC 153 * # UWTROC 153 * #
PYLONS 98 *# RADSTA 102 *# RAILWY 106 *# RECTRC 109 *# RESARE 112 *# RIVERS 114 *# ROADWY 116 *# RSCSTA 111 *# RTPBCN 103 *# RUNWAY 117 *# SBDARE 121 *# SEAARE 119 *# SILTNK 125 *# SLCONS 122 *# SLOGRD 127 *# SLOGRD 127 *# SLOTOP 126 *# SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *# VEGATN 155 *#
RADSTA 102 *# RAILWY 106 *# RECTRC 109 *# RESARE 112 *# RIVERS 114 *# ROADWY 116 *# RSCSTA 111 *# RTPBCN 103 *# RUNWAY 117 *# SBDARE 121 *# SEAARE 119 *# SILTNK 125 *# SLCONS 122 *# SLOGRD 127 *# SLOGRD 127 *# SLOTOP 126 *# SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# UWTROC 153 *# VEGATN 155 *#
RAILWY 106 *# RECTRC 109 *# RESARE 112 *# RIVERS 114 *# ROADWY 116 *# RSCSTA 111 *# RTPBCN 103 *# RUNWAY 117 *# SBDARE 121 *# SEAARE 119 *# SILTNK 125 *# SLCONS 122 *# SLOGRD 127 *# SLOTOP 126 *# SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
RECTRC 109 *# RESARE 112 *# RIVERS 114 *# ROADWY 116 *# RSCSTA 111 *# RTPBCN 103 *# RUNWAY 117 *# SBDARE 121 *# SEAARE 119 *# SILTNK 125 *# SLCONS 122 *# SLOGRD 127 *# SLOTOP 126 *# SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
RESARE 112 *# RIVERS 114 *# ROADWY 116 *# RSCSTA 111 *# RTPBCN 103 *# RUNWAY 117 *# SBDARE 121 *# SEAARE 119 *# SILTNK 125 *# SILTNK 125 *# SLCONS 122 *# SLOGRD 127 *# SLOTOP 126 *# SMOFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
RIVERS 114 * # ROADWY 116 * # RSCSTA 111 * # RTPBCN 103 * # RUNWAY 117 * # SBDARE 121 * # SEAARE 119 * # SILTNK 125 * # SLCONS 122 * # SLOORD 127 * # SLOTOP 126 * # SMCFAC 128 * # SOUNDG 129 * # TOPMAR 144 * # TSEZNE 150 * # TUNNEL 151 * # UWTROC 153 * # VEGATN 155 * #
ROADWY 116 *# RSCSTA 111 *# RTPBCN 103 *# RUNWAY 117 *# SBDARE 121 *# SEAARE 119 *# SILTNK 125 *# SLCONS 122 *# SLOGRD 127 *# SLOTOP 126 *# SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
RSCSTA 111 *# RTPBCN 103 *# RUNWAY 117 *# SBDARE 121 *# SEAARE 119 *# SILTNK 125 *# SLCONS 122 *# SLOGRD 127 *# SLOGRD 127 *# SLOTOP 126 *# SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
RTPBCN
RUNWAY
SBDARE 121 * # SEAARE 119 * # SILTNK 125 * # SLCONS 122 * # SLOGRD 127 * # SLOTOP 126 * # SMCFAC 128 * # SOUNDG 129 * # TOPMAR 144 * # TSEZNE 150 * # TUNNEL 151 * # TWRTPT 152 * # UWTROC 153 * # VEGATN 155 * #
SEAARE
SILTNK
SLCONS 122 * #
SLCONS 122 * #
SLOGRD 127 * #
SLOTOP 126 *# SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
SMCFAC 128 *# SOUNDG 129 *# TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
SOUNDG 129 * #
TOPMAR 144 *# TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
TSEZNE 150 *# TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
TUNNEL 151 *# TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
TWRTPT 152 *# UWTROC 153 *# VEGATN 155 *#
UWTROC 153 *# VEGATN 155 *#
VEGATN 155 *#
WRECKS 159 *#
C_AGGR 400 *
C ASSO 401 *#
achare 17001 * #
achbrt 17000 * #
bcnlat 17028 * #
berths 17010 * #
boylat 17029 * #
bridge 17011 * #
bunsta 17054 * #
cblohd 17012 *#
chkpnt 17027 * #
comare 17055 * #
convyr 17034 *#
cranes 17030 * #
curent 17019 * #
daymar 17035 * #
dismar 17004 * #
excnst 17070 *#
feryrt 17013 * #
flodoc 17025 * #
gatcon 17031 *#
hrbare 17014 *#
hrbbsn 17056 *#
hrbfac 17015 * #
Edition 2.43.0rev15 SeptemberApril July 201953 January 2020

	hulkes	17020	* #		
	lkbspt	17058	* #		
	lokbsn	17016	* #		
	notmrk	17050	* #		
	pipohd	17024	* #		
	ponton	17021	* #		
	prtare	17059	* #		
	rdocal	17017	* #		
	refdmp	17062	* #		
	resare	17005	* #		
	sensor	<u>18004</u>	<u>* #</u>		
	sistat	17007	* #	1	
	sistaw	17008	* #		
	sicons	17032	* #		
	termnl	17064	* #		
	trnbsn	17065	* #		
	uwtroc	17033	* #		
	vehtrf	17069	* #		
	wtware	17066	* #		
	wtwaxs	17051	* #		
	wtwgag	17067	* #		
	wtwprf	17052	* #		
ECTR1		136	numerical, 2 decimal digits		
	LIGHTS	75	*		
FOTDO		1.0=			
ECTR2		137	numerical, 2 decimal digits		
	LIGHTS	75	1		
IOEDO		400			
IGFRQ	FOGSIG	139 58	numerical		
	rudaid	36			
IGGEN		140	(1,2)		
IOOLIV	FOGSIG	58	(1,∠) *		
	1 00010	30			
IGGRP		141	format = "(c)(c)", e.g., (), (2), (2+1)free text		Formatiert: Deutsch (Österreich)
iooiti	FOGSIG	58	* <u>*</u>		
	LIGHTS	75	*		Formatiert: Deutsch (Österreich)
	RTPBCN	103	*		Formatiert: Default, Zeilenabstand: einfach
	KII DON	100			
SIGPER		142	numerical, 2 decimal digits		
OI LIX	FOGSIG	58	*		
	LIGHTS	75	*		
	2.00	7.0			
SIGSEQ		143	format = "I.II+(e.ee)" (seconds) free text	T+	Formatiert: Default, Zeilenabstand: einfach
	FOGSIG	58	*		
	LIGHTS	75	*		
	1	1	·		
ORDAT		147	Numerical (CCYYMMDD)		
	M_COVR	302	*		
	M NPUB	305	*		
	M QUAL	308	*		
		310	*		
	IN SKEL				
	M_SREL ADMARE	1	*		

	AIRARE	2	*
		6	*
	BCNISD		*
	BCNLAT	7	*
	BOYCAR	14	
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	*
	DEPCNT	43	*
	DMPGRD	48	*
	DRGARE	46	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	*
	HULKES	65	*
	LAKARE	69	*
	LIGHTS	75	*
<u> </u>	LNDARE	71	*
	LNDMRK	74	*
-	LNDRGN	73	*
-	MARCUL	82	*
-		84	*
	MORFAC NAVLNE	85	*
			*
<u> </u>	NEWOBJ OBSTRN	<u>18005</u> 86	*
			*
	OILBAR	90	*
	PILPNT		*
	PIPARE	92	*
	PIPSOL	94	*
	PONTON	95	*
<u> </u>	PRDARE	97	*
	PYLONS	98	*
	RADSTA	102	*
	RAILWY	106	*
	RECTRC	109	

| RECTRC | 109 | "
Edition 2.<u>43 0rev1</u>5 | SeptemberApril <u>July 201953 January 2020</u>

			*
	RESARE	112	*
	RIVERS	114	*
	ROADWY	116	*
	RSCSTA	111	*
	RTPBCN	103	*
	RUNWAY	<u>117</u>	I_
	SBDARE	<u>121</u>	*
	SEAARE	119	*
	SILTNK	125	*
	SLCONS	122	
	SLOGRD	127	*
	SLOTOP	126	*
	SMCFAC	128	*
	SOUNDG	129	*
	TOPMAR	144	*
	TSEZNE	150	*
	TUNNEL	151	*
	TWRTPT	152	*
	UNSARE	154	*
	UWTROC	153	*
	VEGATN	155	*
	WATTUR	<u>156</u>	*
	WRECKS	159	*
	C_AGGR	400	*
	C_ASSO	401	*
	achare	17001	*
	achbrt	17000	*
	bcnlat	17028	*
	berths	17010	*
	boylat	17029	*
	bridge	17011	*
	bunsta	17054	*
	c_brga	18003	*
	cblohd	17012	*
	chkpnt	17027	*
	comare	17055	*
	convyr	17034	*
	cranes	17030 17019	*
	curent	17019	*
	daymar	17033	*
	depare dismar	17003	*
		17004	*
	excust	17070	*
	feryrt flodoc	17013	*
	gatcon	17025	*
	gatcon hrbare	17031	*
		17014	*
	hrbbsn hrbfac	17056	*
	hulkes	17015	*
		18001	*
	lg_sdm	18001	*
	lg_vsp lkbspt	17058	*
	lokbsn	17056	*
1 1	IOKDSII	17010	potember April July 201953 Edition 2.43 Oray/15

Edition 2.<u>4</u>3.<u>0rev1</u>5

m_nsy	vs 17018	*
m sda		*
		*
m_vda		*
notmr		
pipoho	d 17024	*
ponto	n 17021	*
prtare	17059	*
rdocal	l 17017	*
refdm	p 17062	*
resare	17005	*
senso	<u>18004</u>	* _
sistat	17007	*
sistaw	17008	*
slcons	s 17032	*
termn	I 17064	*
tisdge	17068	*
trnbsn	17065	*
uwtro	c 17033	*
vehtrf	17069	*
wtware	e 17066	*
wtwax	s 17051	*
wtwga	ng 17067	*
wtwpr	f 17052	*

SORIND		148	format = "cc,cc,cccc,c" 2 character country code, other
			codes (no restriction on number of characters)
			free text
	M_COVR	302	*
	M_NPUB	305	*
	M_QUAL	308	*
	M_SREL	310	*
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DEPARE	42	*
	DEPCNT	43	*
	DMPGRD	48	*

Edition 2.<u>43</u>.<u>0rev1</u>5

DRGARE	46	*	
DRYDOC	47	*	
DYKCON	49	*	
FAIRWY	51	*	
FERYRT	53	*	
FLODOC	57	*	
		*	
FNCLNE	52	*	
FOGSIG	58 60	*	
FRPARE		*	
GATCON	61	*	
HRBFAC	64	*	
HULKES	65	*	
LAKARE	69	*	
LIGHTS	75	*	
LNDARE	71	*	
LNDMRK	74	*	
LNDRGN	73	*	
MARCUL	82	*	
MORFAC	84		
NAVLNE	85	*	
NEWOBJ	<u>18005</u>	* _	
OBSTRN	86	*	I I
OILBAR	89	*	
PILPNT	90	*	
PIPARE	92	*	
PIPSOL	94	*	
PONTON	95	*	
PRDARE	97	*	
PYLONS	98	*	
RADSTA	102	*	
RAILWY	106	*	
RECTRC	109	*	
RESARE	112	*	
RIVERS	114	*	
ROADWY	116	*	
RSCSTA	111	*	
RTPBCN	103	*	
RUNWAY	117	*	
SBDARE	<u>121</u>	*	
SEAARE	119	*	I
SILTNK	125	*	
SLCONS	122	*	
SLOGRD	127	*	
SLOTOP	126	*	
SMCFAC	128	*	
SOUNDG	129	*	
TOPMAR	144	*	
TSEZNE	150	*	
TUNNEL	151	*	
TWRTPT	152	*	
UNSARE	154	*	
UWTROC	153	*	
VEGATN	155	*	
WATTUR	156	*	
		SeptemberApril July 201953	Edition 2.43.0rev15

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C_AGGR	WRECKS	159	*
C_ASSO 401			*
achare 17001			*
achbrt 17000			*
benlat			*
berths			*
boylat 17029 * bridge 17701 * * bunsta 17054 * * * * * * * * * * * * * * * * * * *			*
bridge 17011 * bunsta 17054 * c. brga 18003 * cblohd 17012 * chkpnt 17027 * comare 17055 * convyr 17034 * cranes 177030 * curent 17019 * daymar 17035 * depare 17003 * dismar 17004 * excnst 17070 * feryrt 17013 * flodoc 17025 * gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lg_sdm 18001 * lg_vsp 18002 * lkbspt 17058 * lokbsn 17016 * m_nsys 17018 * m_sdat 17022 * m_vdat 17023 * notmrk 17020 * pipohd 17024 * ponton 17021 * prare 17059 * rdocal 17020 * mydat 17038 * lokbsn 17016 * m_nsys 17018 * m_sdat 17022 * m_vdat 17020 * pipohd 17024 * ponton 17021 * prare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17009 *			*
Dunsta			*
c brga 18003 c blohd 17012 c chkpnt 17027 c comare 17055 c convyr 17034 c cranes 17030 c curent 17019 c daymar 17035 c depare 17003 c dismar 17004 c const 17070 c comare 17071 c comare 17072 c comare 17073 c comare 17074 c comare 1707			*
Colond 17012 * Colond 17027 * Colond 17025 * Convert 17034 * Convert 17034 * Convert 17039 * Convert 17039 * Convert 17039 * Convert 17030 * C			*
Chkpnt			*
Comare			*
Convyr			*
cranes 17030 * curent 17019 * daymar 17035 * depare 17003 * dismar 17004 * excnst 17070 * feryrt 17013 * flodoc 17025 * gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lg_sdm 18001 * lg_vsp 18002 * lkbspt 17058 * lokbsn 17016 * m_nsys 17018 * m_sdat 17022 * m_vdat 17023 * notmrk 17050 * pipohd 17024 * ponton 17021 prare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * sloops 17008 * sloops 17008 * sloops 17009 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * sloops 17008 * sloops 17008 * sloops 17009 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * sloops 17008 * termnl 17068 * tuwtroc 17033 * vehtrf 17066 *			*
Curent 17019 *			*
daymar			*
depare			*
dismar 17004 * excnst 17070 * feryrt 17013 * flodoc 17025 * gatcon 17031 * hrbare 17056 * hrbfac 17056 * hrbfac 17015 * hulkes 17020 * lg_sdm 18001 * lg_vsp 18002 * lkbspt 17058 * lokbsn 17016 * m_sys 17018 * m_sdat 17022 * m_vdat 17023 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * slcons 17032 * trmbsn 17032 * trmbsn 17032 * trmbsn 17065 * trmbsn 17065 * trmbsn 17066 * trmbsn 17066 * trmbsn 17066 * trmbsn 17068 * trmbsn 17068 * trmbsn 17069 * trmbsn 17066 * trmbsn			*
excnst 17070 * feryrt 17013 * flodoc 17025 * gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lg_sdm 18001 * lg_vsp 18002 * lkbspt 17058 * lokbsn 17016 * m_nsys 17018 * m_sdat 17022 * m_vdat 17023 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sistat 17007 * sistaw 17008 * sicons 17032 * trmbsn 17064 * trmbsn 17065 * uwtroc 17033 * termil 17064 * tisdge 17068 * turbsn 17069 * turbce 17069 * turbce 17069 * turbce 17069 * termil 17064 * tisdge 17068 * turbce 17066 * uwtroc 17033 * vehtrf 17069 * turbce 17066 * uwtware 17066 * utware 17066 *			*
feryrt 17013 * flodoc 17025 * gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lg_sdm 18001 * lg_vsp 18002 * lkbspt 17058 * lokbsn 17016 * m_nsys 17018 * m_sdat 17022 * m_vdat 17023 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistat 17008 * slcons 17008 * slcons 17008 * slcons 17008 * slcons 17008 * slcons 17008 * slcons 17008 * slcons 17008 * slcons 17008 * slcons 17008 * slcons 17008 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * veture 17066 * uwtware 17066 * wtware 17066 *			*
flodoc			*
gatcon 17031 * hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lg_sdm 18001 * lg_vsp 18002 * lkbspt 17058 * lokbsn 17016 * m_nsys 17018 * m_sdat 17022 * m_vdat 17023 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistat 17008 * slcons 17032 * termnl 17064 * trnbsn 17065 * tuwtore 17066 * tutore 17066			*
hrbare 17014 * hrbbsn 17056 * hrbfac 17015 * hulkes 17020 * lg_sdm 18001 * lg_vsp 18002 * lkbspt 17058 * lokbsn 17016 * m_nsys 17018 * m_sdat 17022 * m_vdat 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * redcal 17017 * refdmp 17062 * resare 17005 * sistat 17007 * sistaw 17008 * sicons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17066 * uwtvare 17066 * utwaxs 17066 * wtwaxs 17051 *			*
hrbbsn			*
hrbfac			*
hulkes			*
Ig_sdm		17020	*
Ig_vsp		18001	*
Ikbspt		18002	*
lokbsn		17058	*
m_sdat 17022 * m_sdat 17023 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * slcons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *		17016	*
m_vdat 17023 * m_vdat 17023 * notmrk 17050 * pipohd 17024 * ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * slcons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17066 * wtwaxs 17051 *	m_nsys	17018	*
Injust	m_sdat	17022	
District 17030 17024	m_vdat	17023	
ponton 17021 * prtare 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistat 17008 * slcons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *	notmrk	17050	*
pritori 17059 * rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * sicons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtwaxs 17051 *	pipohd	17024	
rdocal 17017 * refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * slcons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *	ponton		
refdmp 17062 * resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * sicons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *	prtare	17059	
resare 17005 * sensor 18004 * sistat 17007 * sistaw 17008 * slcons 17032 * termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *	rdocal		
Sensor	refdmp		
Selfsol 17007			
Sistat			
Sistaw 17006			
termnl 17064 * tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *			
tisdge 17068 * trnbsn 17065 * uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *			
trnbsn 17065 * uwtroc 17033 * vehtrf 17066 * wtware 17066 * wtwaxs 17051 *			
uwtroc 17033 * vehtrf 17069 * wtware 17066 * wtwaxs 17051 *			
vehtrf 17069 * wtware 17066 * wtwaxs 17051 *			
wtware			
wtware 17000 ** wtwaxs 17051 **			
WLWAXS 17001			
wtwgag 17067 *			
Edition 2.43 Oray15 September April July 201953 January 2020	 		

Edition 2.43.0rev15

	wtwprf	17052	*	
SOUACC		144	numerical, 2 decimal digits	
	M_QUAL	308	* <u>m</u>	
	MARCUL	82	*	
	berths	17010	<u>**_m</u>	
STATUS		149	(2,3,4,8,9,12,14,16,17,18)	
0171100	CBLARE	20	18	
	CBLSUB	22	(18	
	FERYRT	53	2,3,4,8,9,12,14,16,17	
	LIGHTS	75	2,3,4,8,9,12,14,16,17	
	MARCUL	82	2,4	
	PIPARE	92	18	
	PIPSOL	94	18	
	PRDARE	97	2,12,16,17	
	RSCSTA	111	2,4	
	SLCONS	122	2,3,4,8,9,12,14,16,17	
	TSEZNE	150	3,9	
	WRECKS	159	12,16,17,18	
	achare	17001	2,3,4,8,9,12,14,16,17	
	achbrt	17000	2,3,4,8,9,12,14,16,17	
	berths	17010	2,3,4,8,9,12,14,16,17	
	comare	17005	2,3,4,8,9,12,14,16,17	
	feryrt	17013	2,3,4,8,9,12,14,16,17	
	notmrk	17050	2,3,4,8,9,12,14,16,17	
SURATH		150	free text	
	M_SREL	310	*#	
SUREND		151	Numerical (CCYYMMDD)	
	M_QUAL	308	*	Kommentiert [JNE28]: Not available in EG IES 2.4
	M_SREL	310	*CCYYMMDD (full date), CCYYMM (no specific day required)	
			-11	
SURSTA		152	Numerical (CCYYMMDD)	
	M_QUAL	308	*	Kommentiert [JNE29]: Not available in EG IES 2.4
	M_SREL	310	CCYYMMDD (full date), CCYYMM (no specific day required) 4 #	
			"	
SURTYP		153	(2)	
	M_SREL	310	*	
CAMINIC		18029	fron toyt	
<u>SYMINS</u>	NEWORI	18005	free text *#	
	<u>NEWOBJ</u>	10000	<u>"</u>	
TECSOU		156	(1 – 14)	
	M_QUAL	308	*	
	WRECKS	159	*	
T000::-		1	14. 00)	
TOPSHP		171	(1 – 33)	Formatiert: Hervorheben
	DAYMAR	39	<u>1,2,7,8,10,12,19,24,25,33</u> *# <u>21,22</u> *#	Formatiert: Hervorheben
	TOPMAR	144		

	IWRIPI	152	" #
	rdocal	17017	* #
TXTDSC		158	free text
	M_NPUB	305	* #
	ADMARE	1	*
	AIRARE	2	*
	BCNISD	6	*
	BCNLAT	7	*
	BOYCAR	14	*
	BOYISD	16	*
	BOYLAT	17	*
	BOYSAW	18	*
	BOYSPP	19	*
	BUAARE	13	*
	BUISGL	12	*
	CANALS	23	*
	CBLARE	20	*
	CBLSUB	22	*
	COALNE	30	*
	CONVYR	34	*
	CRANES	35	*
	CTNARE	27	*
	DAMCON	38	*
	DAYMAR	39	*
	DMPGRD	48	*
	DRGARE	46	*
	DRYDOC	47	*
	DYKCON	49	*
	FAIRWY	51	*
	FERYRT	53	*
	FLODOC	57	*
	FNCLNE	52	*
	FOGSIG	58	*
	FRPARE	60	*
	GATCON	61	*
	HRBFAC	64	*
	HULKES	65	*
	LAKARE	69	*
	LIGHTS	75	*
	LNDARE	71	*
	LNDMRK	74	*
	LNDRGN	73	*
	MARCUL	82	*
	MORFAC	84	*
	NAVLNE	85	*
			*
	NEWOBJ	<u>18005</u>	*
	OBSTRN	86	*
	OILBAR	89	*
	PILPNT	90	
Edition 2	2. <u>43</u> . <u>0rev1</u> 5	Septembe	erApril July 201953January 2020

Formatiert: Hervorheben
Formatiert: Hervorheben

DID 4 D.E.	00	*
PIPARE	92	*
PIPSOL	94	*
PONTON	95	*
PRDARE	97	*
PYLONS	98	*
RADSTA	102	*
RAILWY	106	*
RECTRC	109	*
RESARE	112	*
RIVERS	114	
ROADWY	116	*
RSCSTA	111	*
RTPBCN	103	
RUNWAY	<u>117</u>	*
SBDARE	<u>121</u>	*
SEAARE	119	1
SILTNK	125	*
SLCONS	122	*
SLOGRD	127	*
SLOTOP	126	*
SMCFAC	128	*
SOUNDG	<u>129</u>	* _
TOPMAR	144	*
TSEZNE	150	*
TUNNEL	151	*
TWRTPT	152	*
UNSARE	<u>154</u>	* _
UWTROC	153	*
VEGATN	155	*
WATTUR	<u>156</u>	* _
WRECKS	159	*
C_AGGR	400	*
C_ASSO	401	*
achare	17001	*
achbrt	17000	*
bcnlat	17028	*
berths	17010	*
boylat	17029	*
bridge	17011	*
bunsta	17054	*
c brqa	<u>18003</u>	* _
cblohd	17012	*
chkpnt	17027	*
 comare	17055	*
convyr	17034	*
cranes	17030	*
curent	17019	*
daymar	17035	*
dismar	17004	*
excnst	17070	*
feryrt	17013	*
flodoc	17025	*
gatcon	17031	*
hrbare	17014	*
		entember April July 201953 Edition 2.43 Orey 15

Edition 2.<u>4</u>3.<u>0rev1</u>5

	hrbbsn	17056	*
	hrbfac	17015	*
	hulkes	17020	*
	lkbspt	17058	*
	lokbsn	17016	*
	m vdat	17023	*
	notmrk	17050	*
	pipohd	17024	*
	ponton	17021	*
		17059	*
	prtare rdocal	17039	*
			*
	refdmp	17062	*
	resare	17005	*
	sensor	<u>18004</u>	*
	sistat	17007	
	sistaw	17008	*
	sicons	17032	*
	termnl	17064	*
	trnbsn	17065	*
	uwtroc	17033	*
	vehtrf	17069	*
	wtware	17066	*
	wtwaxs	17051	*
	wtwgag	17067	*
	wtwprf	17052	*
I.			
VALDCO		174	numerical, 1 decimal digit
.,	DEPCNT	43	* # m
L	DEI SINI	1.0	
VALMXR		177	numerical, 1 decimal digit
VALIVIAIS	FOGSIG	58	* nm
	FUGSIG	30	<u> </u>
VALNMR		178	numerical, 1 decimal digit
VALINIVIA	LICHTS		*
	<u>LIGHTS</u>	<u>75</u>	_
VALSOU		179	numerical 2 decimal digita
VALSOU	MADOLII		numerical, 2 decimal digits
1	MARCUL	82	format = *[sxxxxx.xx] (s: sign, negative values only)
	OBSTRN	86	* <u>m</u>
	UWTROC	153	* # <u>m</u>
	WRECKS	159	* <u>m</u>
	uwtroc	17033	* # <u>m</u>
VERCCL		182	numerical, 2 decimal digits
	bridge	17011	* <u>m</u>
VERCLR		181	numerical, 2 decimal digits
	CONVYR	34	<u>** m</u>
	CRANES	35	<u>** m</u>
	GATCON	61	<u>** m</u>
	TUNNEL	151	* <u>m</u>
	bridge	17011	* m
	cblohd	17012	* # m
1	convyr	17034	* m
	cranes	17034	* m
	CIAIICS	17000	

cranes
Edition 2.43.0rev15

17030 <u>* m</u>
<u>SeptemberApril July 201953 January 2020</u>

Pipohd 17024 * # m		gatcon	17031	* <u>m</u>	
VERCOP bridge					
		pipoliu	17024	π <u>111</u>	<u> </u>
	VERCOP		183	numerical 2 decimal digits	
VERDAT GATCON 61 * WATLEV MARCUL 82 MORFAC 84 1,2,3,4,5 OBSTRN 86 1,2,3,4,5 PYLONS 98 1,2,3,4,5 UWTROC 153 1,2,3,4,5 WRECKS 159 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 WRECKS 159 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17050 1,2,3,4,5 MORFAC 17054 1,2,3,4,5 MORFAC 17054 1,2,3,4,5 MORFAC 17056 1,2,2 MORFAC 17056 1,2,2 MORFAC 17065 1,2,2 MORFAC 17065 1,2,2 MORFAC 17065 1,2,2 MORFAC 17065 1,2,2 MORFAC 17066 1,2,3,4,5,6,7,9,10,11,12,13) MORFAC 17066 17066 17067 1,2,3,4,5,6,7,8,9) MORFAC 17068 17066 17068 17066 17068 17066 17068 1706	V E11001	bridge			
MARCUL 187		bridge	17011		
MARCUL 187	VERDAT		185	(4)	
MATLEV		GATCON			
MARCUL 82 * MORFAC 84 1,2,3,4,5 OBSTRN 86 1,2,3,4,5 MORFAC 84 1,2,3,4,5 MORFAC 84 1,2,3,4,5 MORFAC 85 1,2,3,4,5 MORFAC 122 1,2,3,4,5 MORFAC 159 1,2,3,4,5 MORFAC 159 1,2,3,4,5 MORFAC 159 1,2,3,4,5 MORFAC 17050 * MORFAC 17050 * MORFAC 17054 * MOR		101110011			
MORFAC 84	WATLEV		187	(1,2,3,4,5,7)	
OBSTRN 86		MARCUL	82	*	
PYLONS 98 1,2,3,4,5 #		MORFAC	84	1,2,3,4,5	
SLCONS 122 1,2,3,4,5		OBSTRN	86		
UWTROC 153 1,2,3,4,5 # WRECKS 159 1,2,3,4,5 addmrk 17050 (1,2,3,4,5) allcon 18024 integer bunsta 17054 * aptref 17099 free text tisdge 17068 * bunkwtw 17105 (1,2) notmrk 17050 * bunsta 17054 * aptref 17099 free text tisdge 17068 * bunkwtw 17105 (1,2) bunves 17065 (1,2) bunves 17065 (1,2) bunves 17066 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achare 17001 * achbrt 17000 * catbun 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catcbl 17067 (1,2,3,4) bunsta 17054 * catcbl 17010 (1,3,4,5,6,7) catcbl 17010 (1,3,4,5,6,7) catcbl 17010 (1,3,4,5,6,7) catcbl 17010 (1,3,4,5,6,7) catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 *# wtware 17066 *# wtware 17066 *# wtware 17066 *#		PYLONS	98	1,2,3,4,5 #	
WRECKS 159 1,2,3,4,5 addmrk 17050 (1,2,3,4,5) notmrk 17050 * allcon 18024 integer bunsta 17054 * amoamp 18023 integer bunsta 17054 * aptref 17099 free text tisdge 17068 * bnkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunves 17065 (1,2) bunsta 17004 * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * catbrt 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17064 * catcbl 17101 (1,2,3,4,5,6,7,8,9,10,11,12) catcbl 17068 (1,2,3,4,5,6,7,8,9,10,11,12)		SLCONS			
17050 (1,2,3,4,5)					
notmrk		WRECKS	159	1,2,3,4,5	
notmrk					
18024 integer	addmrk			(1,2,3,4,5)	
bunsta 17054 * amoamp 18023 integer bunsta 17054 * aptref 17099 free text tisdge 17068 * bunkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunsta 17054 * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achare 17000 * catbut 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 * # catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 * # wtware 17066 * # wtware 17066 * # wtware 17066 * # wtware 17061 * # wtware 17066 * # wtware 17066 * # wtware 17061 * #		notmrk	17050	*	,
bunsta 17054 * amoamp 18023 integer bunsta 17054 * aptref 17099 free text tisdge 17068 * bunkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunsta 17054 * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achare 17000 * catbut 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 * # catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 * # wtware 17066 * # wtware 17066 * # wtware 17066 * # wtware 17061 * # wtware 17066 * # wtware 17066 * # wtware 17061 * #			4000:		
18023 integer	allcon			integer	
bunsta 17054 * aptref 17099 free text tisdge 17068 * bunkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunsta 17054 * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achbrt 17000 * catbrt 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 * # catccl wtware 17066 * # wtware 17066 * # wtware 17061 *		<u>bunsta</u>	<u>17054</u>		
bunsta 17054 * aptref 17099 free text tisdge 17068 * bunkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunsta 17054 * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achbrt 17000 * catbrt 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 * # catccl wtware 17066 * # wtware 17066 * # wtware 17061 *					
aptref tisdge 17068 * binkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunsta 17054 *# catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achbrt 17000 * catbrt 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcol 17101 (1,3,4,5,6,7) catcol 17101 (1,3,4,5,6,7) catcol 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 *# wtwaxs 17051 *	amoamp			integer	
tisdge 17068 * bnkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunsta 17054 * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achbrt 17000 * catbrt 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 * # catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 * # wtwaxs 17051 *		<u>bunsta</u>	<u>17054</u>	_	
tisdge 17068 * bnkwtw 17105 (1,2) notmrk 17050 * bunves 17065 (1,2) bunsta 17054 * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achbrt 17000 * catbrt 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 * # catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 * # wtwaxs 17051 *			47000	for a tour	<u>'</u>
bnkwtw 17105 (1,2)	aptrer	4in days		ree text	
notmrk		tisage	17000		
notmrk	hnkwtw		17105	(1.2)	
bunves 17065 (1,2) * # catach 17000 (1,2,3,4,5,6,7,9,10,11,12,13) achare 17001 * achbrt 17000 * catbrt 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) catcbl 17012 * # catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 * # wtwaxs 17051 *	DIRWW	notmrk		*	
bunsta		пошик	17000		
bunsta	hunves		17065	(1.2)	
catach	Danvoo	hunsta			
achare 17001 * achbrt 17000 * catbr 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 *# catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 *# wtwaxs 17051 *		Dunota	11.00	"	
achare 17001 * achbrt 17000 * catbr 17066 (1,2,3,4,5,6,7,8,9) berths 17010 * catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 *# catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 *# wtwaxs 17051 *	catach		17000	(1,2,3,4,5,6,7,9,10.11.12.13)	
achbrt 17000 * achbrt 17000 * catbre				, , , , , , , , , , , , , , , , , , , ,	
achbrt		achare	17001	*	
catbrt 17066 (1,2,3,4,5,6,7,8,9)				*	
berths		•		·	
catbun 17067 (1,2,3,4) bunsta 17054 * catcbl 17101 (1,3,4,5,6,7) cblohd 17012 * # catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 * # wtwaxs 17051 *	catbrt		17066	(1,2,3,4,5,6,7,8 <u>,9</u>)	
bunsta		berths	17010	*	·
bunsta					<u> </u>
catcbl	catbun			(1,2,3 <u>.4</u>)	
catcol		bunsta	17054	*	
catcol					
catccl 17068 (1,2,3,4,5,6,7,8,9,10,11,12) wtware 17066 * # wtwaxs 17051 *	catcbl				
wtware 17066 * # wtwaxs 17051 *		cblohd	17012	* #	
wtware 17066 * # wtwaxs 17051 *					T
wtwaxs 17051 *	catccl				
WIWAAS					
		wtwaxs	17051	*	

Edition 2.<u>4</u>3.<u>0rev1</u>5

			14.0
catchp		17010	(1,2)
	chkpnt	17027	*#
catcom		17069	(1,2,3,4,5,6,7,8 <u>.9</u>)
	comare	17055	*
	rdocal	17017	<u>1,2,3,4,5,6,7,8,*</u> #
		47400	(4.0.2.4.5)
catexs		17100 17070	(1,2,3,4,5) * #
	excnst	17070	¨#
catfrq		18021	(4.2)
calify	bunsta	17054	<u>(1,2)</u>
	bunsta	17054	<u> -</u>
catfry		17007	(4)
cattry	feryrt	17007	*#
	ieryrt	17010	π
catgag		17078	(1,2,3,4,5)
	wtwgag	17067	*
	gug		
cathaf		17008	(1,3,4,6,7,8,9,10,11,12,13,16,17)
	hrbfac	17015	4,6,9,12,13,16,17 #
	termnl	17064	1,3,7,8,10,11 #
	,		
cathbr		17070	(1,2,3,4,5)
	hrbare	17014	*
	<u>'</u>	'	T.
cathlk		17102	(1,2,3,4,5,6)
	hulkes	17020	*
catlam		17011	(1-273)
	bcnlat	17028	* #
	boylat	17029	* #
catnmk		17052	(1 - 116<u>122</u>)
	notmrk	17050	*#
<u>catplg</u>		<u>18034</u>	<u>free text</u>
	<u>bunsta</u>	<u>17054</u>	
a a turb of		47074	(4.2.2.4)
catrfd		17071 17062	(1,2,3,4)
	refdmp	17002	
catrsc		17106	(1,2,3,4,5,6,7,8, 910)
ouliso	RSCSTA	111	1,2,4,5,6,7,8,9 10 #
	NOODIA	1111	1,2,1,0,0,1,0,0,10,10
lg_fnc		18009	attribute class deleted
-30	1	1.0000	
lc_sp1		18024	attribute class deleted
lc_sp2		18025	attribute class deleted
-			
		18019	(1,2)
<u>catsen</u>	sensor	<u>18004</u>	*#

catsit		17002	(2,6,8,10)	
	sistat	17007	* #	
catsiw		17003	(15,16,18)	
	sistaw	17008	* #	
catslc		17012	(2,7,8,9,18,19 <u>,20</u>)	
	sicons	17032	* #	
cattab		17092	(1,2)	
	tisdge	17068	* #	
		10001	(4.0)	
<u>catvol</u>		18031	(1,2)	
	<u>bunsta</u>	<u>17054</u>	*	
		47004	(4.0.0.4.5.0)	
catvtr		17091	(1,2,3,4,5,6)	
	vehtrf	17069	* #	
cledna	1	17055	(1,2,3,4,5)	
clsdng		17055	(1,2,3,4,5)	
	achara	17001	*	
	achare achbrt	17001	*	
	berths	17010	*	
	bertns	17010		
curvhw		17095	numerical, 1 decimal digit	
CUIVIIW	curent	17093	*	
	Curent	17013		
curvlw		17096	numerical, 1 decimal digit	
	curent	17019	*	
	0	1		
curvmw		17097	numerical, 1 decimal digit	
	curent	17019	*	
		· · · · · · · · · · · · · · · · · · ·		
curvow		17098	numerical, 1 decimal digit	
	curent	17019	*	
dirimp		17056	(1,2,3,4,5)	
	bcnlat	17028	1,2,3,4	
	curent	17019	1,2,3,4	
	daymar	17035	1,2,3,4	
	notmrk	17050	*	
	sistat	17007	1,2,3,4	
	tisdge	17068	1,2,3,4	
	wtware	17066	1,2,3,4 #	
		T		
disbk1		17057	numerical, 1 decimal digit	
	notmrk	17050	* <u>m</u>	
		1=0==		
disbk2		17058	numerical, 1 decimal digit	
	notmrk	17050	* <u>m</u>	
atata 1		47000	anneaded Ade Cont. 1979	
disipd		17060	numerical, 1 decimal digit	Т
	notmrk	17050	* <u>m</u>	Edition 2.43.0rev1
			SeptemberApril July 201953	

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Edition 2.<u>43</u>.<u>0rev1</u>5

	wtwgag	17067	* <u>m</u>
disipu		17059	numerical, 1 decimal digit
шэгри	notmrk	17050	* m
		17050	* m
	wtwgag	17007	<u> </u>
eleva1		17061	numerical, 2 decimal digits
Cicvai	depare	17003	* m
	асрагс	17000	<u></u>
eleva2		17062	numerical, 2 decimal digits
	depare	17003	* <u>m</u>
fnctnm		17063	(1,2,3,4,5)
	notmrk	17050	* #
<u>fnctsn</u>		<u>18020</u>	<u>(1)</u>
	sensor	<u>18004</u>	<u>*#</u>
him a		47004	
hignam		17081	free text
	curent	17019	*
	wtwgag	17067	"
higwat		17080	numerical, 2 decimal digits
iligwat	wtwgag	17067	* m
	wiwgag	17007	<u> </u>
horcll		17074	numerical, 2 decimal digits
	flodoc	17025	* <u>m</u>
	lkbspt	17058	* # m
	lokbsn	17016	* # <u>m</u>
		·	
horclw		17075	numerical, 2 decimal digits
	flodoc	17025	* <u>m</u>
	lkbspt	17058	* # <u>m</u>
	lokbsn	17016	* # <u>m</u>
1		47400	(4.0.0.4.5.0)
hunits	la al al aca	17103	(1,2,3,4,5,6)
	bridge	17011	*
	cblohd	17012 17003	* #
	depare dismar	17003	*#
	excnst	17004	*#
	gatcon	17070	*
	pipohd	17031	*
	wtwgag	17024	*
	wtwprf	17052	1,2,3,5,6 #
lc_ase		18015	(1,2,3,5,6,7,8,9,10)
	lg_sdm	18001	*#
	lg_vsp	18002	* #
lc_asi	1	18014	(1,2,3,5,6,7,8,9,10)
IC_asi			
ic_asi	lg_sdm lg_vsp	18001 18002	*#

lg_spr lig_wdp lig_wdu lig_wdu lownam c	g_sdm g_vsp g_vsp g_vsp g_sdm g_sdm g_sdm curent vtwgag	18001 18002 18002 18002 18002 18002 18006 18001 18007 18001 17083 17019 17067	* # * # numerical, 2 decimal digits * # km/h (1,2,3) * # numerical, 1 decimal digit * # (1,2,3) * # free text * numerical, 2 decimal digits
Ig_spr Iş Ig_wdp Iş Ig_wdu Iş Iownam c	g_vsp g_vsp g_sdm g_sdm	18002 18001 18002 18002 18002 18006 18001 18007 18001 17083 17019	*# numerical, 2 decimal digits *# (1,2,3) *# numerical, 1 decimal digit *# (1,2,3) *# free text *
Ig_spr Iş Ig_wdp Iş Ig_wdu Iş Iownam	g_vsp g_vsp g_vsp g_sdm g_sdm	18002 18001 18002 18002 18002 18006 18001 18007 18001 17083 17019	*# numerical, 2 decimal digits *# (1,2,3) *# numerical, 1 decimal digit *# (1,2,3) *# free text *
lg_spr lıg_wdp lıg_wdu lıg_wdu	g_vsp g_vsp g_vsp g_sdm	18002 18001 18002 18002 18002 18006 18001 18007 18001	*# numerical, 2 decimal digits *#_km/h (1,2,3) *# numerical, 1 decimal digit *# (1,2,3) *#
Ig_spr	g_vsp g_vsp g_vsp g_sdm	18002 18001 18002 18002 18002 18006 18001	* # numerical, 2 decimal digits * #_km/h (1,2,3) * # numerical, 1 decimal digit * # (1,2,3)
Ig_spr	g_vsp g_vsp g_vsp g_sdm	18002 18001 18002 18002 18002 18006 18001	* # numerical, 2 decimal digits * #_km/h (1,2,3) * # numerical, 1 decimal digit * # (1,2,3)
lg_spr lg	g_vsp g_vsp g_vsp	18002 18001 18002 18002 18002 18006 18001	* # numerical, 2 decimal digits * # km/h (1,2,3) * # numerical, 1 decimal digit * #
lg_spr lg_wdp	g_vsp g_vsp g_vsp	18002 18001 18002 18002 18002 18006	*# numerical, 2 decimal digits *# km/h (1,2,3) *# numerical, 1 decimal digit
lg_spr lg_wdp	g_vsp g_vsp g_vsp	18002 18001 18002 18002 18002 18006	*# numerical, 2 decimal digits *# km/h (1,2,3) *# numerical, 1 decimal digit
lg_spr	g_vsp g_vsp	18002 18001 18002 18002 18002	*# numerical, 2 decimal digits *#_km/h (1,2,3) *#
lg_spr	g_vsp g_vsp	18002 18001 18002	*# numerical, 2 decimal digits *#_km/h (1,2,3)
lg_spr	g_vsp g_vsp	18002 18001 18002	*# numerical, 2 decimal digits *#_km/h (1,2,3)
Iç	g_vsp	18002 18001	*# numerical, 2 decimal digits
le le	g_vsp	18002 18001	*# numerical, 2 decimal digits
		18002	*#
lg_spd			
19			
	a odm	19001	
lg_rel		18008	(1,2,3,4)
la rol		10000	(4.2.2.4)
l j	g_vsp	18002	*
Ig	g_sdm	18001	*
lg_pbr		18011	free text
	_		· -
	g_sdm	18001	* # m
lg_lgs		18004	numerical, 2 decimal digits
l li	g_sdm	18001	* # <u>m</u>
lg_drt	a odm	18005	numerical, 2 decimal digits
In dat		40005	a constraint of the constraints
lg	g_vsp	18002	*
	g_sdm	18001	*
lg_des		18010	free text
1-3			·
	g_sdm	18001	* # m
lg_bme		18003	numerical, 2 decimal digits
19	g_vsp	10002	π
	g_sdm	18001 18002	* # * #
lc_csi		18012	(1,2,3,5 – 32)
		100/-	144005 000
Iç	g_vsp	18002	* #
	g_sdm	18001	*#
lc_cse		18013	(1,2,3,5-32)
1.3	5_10P		"
	g_vsp	18002	*#
	g_sdm	18001	(1,2,4,0,0,7,0,9) * #
Ic_cci		18016	(1,2,4,5,6,7,8,9)
I I	g_vsp	18002	* #
	g_sdm	18001	* #
lc_cce		18017	(1,2,4,5,6,7,8,9)

	utwasa	17067	* m
	wtwgag	17067	* <u>m</u>
marsys		17009	(1,2,9,10,11,12,13,14,15)
marsys	boylat	17009	*
	m_nsys	17023	*#
	notmrki	17010	*
	HOUHIKI	17030	
meanam		17085	free text
	curent	17019	*
	wtwgag	17067	*
meawat		17084	numerical, 2 decimal digits
	wtwgag	17067	* <u>m</u>
othnam		17087	free text
	curent	17019	*
	wtwgag	17067	*
othwat		17086	numerical, 2 decimal digits
	wtwgag	17067	* <u>m</u>
<u>refgag</u>		<u>18018</u>	<u>free text</u>
	<u>bridge</u>	<u>17011</u>	*
	<u>cblohd</u>	<u>17012</u>	*
	<u>pipohd</u>	<u>17024</u>	*
reflev		17088	(1,2,3,4,5,6,7,8,9 <u>,10</u>)
	wtwgag	17067	* *
	wtwprf	17052	*
rootro		17004	(4 0 7 0 40 44 07 00 00 00 04 00 00 04 05 06 07 00)
restrn		17004 17001	(1,2,7,8,13,14,27,28,29,30,31,32,33,34,35,36,37,38)
	achare	17001	1,2,7,8,13,14,27,28,29,30,31,32,33,34,35,36, <u>38</u> 1,2,7,8,13,14,27,28,29,30,31,32,33,34,35,36, <u>38</u>
	achbrt	17000	1,2,7,6,13,14,27,26,29,30,31,32,33,34,33,36 <u>,36</u> * #
	resare	17005	#
schref		17093	free text
3011161	tisdge	17093	* #
	lisuge	17000	#
sdrlev		17089	free text
551101	wtwgag	17067	*
	ສ ແ ສ		
shptyp		33066	(1 – 15)
1.75	tisdge	17068	*#
shrnum		18026	integer
	bunsta	17054	*
trshgd		17076	(1,2,3,4,5,6,7,8,9,10)
	berths	17010	*
	termnl	17064	*
		*	
unlocd		17077	free text
	GATCON	61	*
	C AGGR	400	*

Edition 2.<u>4</u>3.<u>0rev1</u>5

	TUNNEL	<u>151</u>	*
	achare	17001	*
	achbrt	17000	*
	berths	17010	*
	bridge	17011	*
	bunsta	17054	*
	cblohd	17012	*
	chkpnt	17027	*
	dismar	17004	*
	excnst	17070	*
	gatcon	17070	*
	hrbare	17014	*
	hrbbsn	17014	*
	hulkes	17030	*
			*
	lkbspt	17058 17016	*
	lokbsn		*
	pipohd	17024	*
	ponton	17021	* *
	prtare	17059	* *
	rdocal	17017	
	refdmp	17062	*
	sistat	17007	*
	termnl	17064	*
	trnbsn	17065	*
	vehtrf	17069	*
	wtware	17066	*
	wtwgag	17067	*
useshp		17094	(1,2,3)
	tisdge	17068	* #
vcrlev		17090	free text
	wtwgag	17067	*
		•	
verdat		17005	(12,31,32,33,34,35,36,37,38,39,40,41,42,43,44)
	berths	17010	*
	bridge	17011	*
	cblohd	17012	*
	convyr	17034	*
	cranes	17030	*
	excnst	17070	*
	flodoc	17025	*
	gatcon	17031	*
	m sdat	17022	*#
	m_vdat	17023	*#
	pipohd	17023	*
	vehtrf	17024	*
		17069	*
	wtwgag	17067	*
	wtwprf	17052	
.uotlos		17104	(4.2.2.4.0.0)
watlev	-1	17104 17032	(1,2,3,4,8,9)
	sicons	17032	•

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17033 * #

uwtroc

wtwdis		17064	numerical. 3 decimal digits
	bridge	17011	*
	cblohd	17012	*
	depare	17003	* #
	dismar	17004	numerical, 1 decimal digit*#
	excnst	17070	* #
	gatcon	17031	*
	pipohd	17024	*
	wtwgag	17067	*
	wtwprf	17052	* #