

## Paper for Consideration by ENCWG8

## S58-SubWG review of outstanding GitHub Issues

<b>Submitted by:</b>	S-58 SubWG
<b>Executive Summary:</b>	Outcomes of S-58 SubWG VTC (20230911)
<b>Related Documents:</b>	IHO GitHub, ENCWG-5.5_2023, S-58 Edition 8.0.0_redline
<b>Related Projects:</b>	Any related projects that may impact upon considerations

## Introduction / Background

Following the publication of S-58 edition 7.0.0, 9 issues remained on the GitHub for review

- #37 relating to check 1686
  - #38 relating to check 3
  - #39 relating to check 2000
  - #40 relating to check 1
  - #41 relating to checks 1663 and 1669
  - #42 relating to check 1778
  - #43 relating to check 507
  - #44 relating to check 1769
  - #45 relating to checks 1550 to 1551
- ❖ ENCWG-5.5\_2023 – Proposed new check 548c

## Analysis/Discussion

The S-58subWG has reviewed the issues raised on the GitHub, and as a result, have agreed to recommend the, amendment of 8 checks (#s 1,3,509,1551,1669,1686,1778,and 2000) , addition of 2 new checks (1551b, 1778b) and the removal of check 1769.

We also discussed the issue raised in paper ENCWG-5.5\_2023 and recommend the addition of new check 548c. (See summary of changes below).

Considering the nature of the proposed changes the S-58subWG recommend that a new edition of S-58 (edition 8.0.0) be prepared and submitted to HSSC for approval to be published.

## Summary of changes.

**Check 1** – proposed new wording to ensure that instances of edges that cross themselves.

No	Check description	Check message	Check solution	Conformity to:	Cat
1	For each edge which is COINCIDENT with another full or a segment of an edge of the same or another line.	Partially duplicated edges <b>or their segments.</b>	Remove duplication, add nodes and edit edges as required.	Part 2 (2.2.1.2)	E

**Check 3** – proposed new wording to align with EB65

No	Check description	Check message	Check solution	Conformity to:	Cat
3	For each record where the record identifier NAME (concatenation of the RCNM & RCID subfields) is not unique within <b>the dataset (Base dataset (EN) file and all subsequent Update (ER) files) applicable to a single Edition of an ENC.</b>	Record identifier NAME is not unique.	Amend Record identifier NAME to be unique.	Part 3 (2.2)	C

**Check 509** – proposed rewording and addition of a footnote to clarify that air obstruction and fog detector lights must have a value for the attribute CATLIT

No	Check description	Check message	Check solution	Conformity to:	Cat
509	For each feature object listed below where the attribute stated is Unknown: ARCSLN: NATION; ASLXIS: NATION; CONZNE: NATION; COSARE: NATION; CTNARE: INFORM or TXTDSC; CUSZNE: NATION; DEPARE: DRVAL1 and DRVAL2; DEPCNT: VALDCO; DRGARE: DRVAL1; DWRTPT: ORIENT; DWRTCL: ORIENT; EXEZNE: NATION; FSHZNE: NATION; LNDELV: ELEVAT; <b>LIGHTS: CATLIT<sup>1</sup></b> M_COVR: CATCOV; M_CSCL: CSCALE; M_NSYS: MARSYS or ORIENT; M_QUAL: CATZOC; M_SDAT: VERDAT; M_VDAT: VERDAT; MAGVAR: VALMAG; NEWOBJ: CLSDEF and CLSNAM; RCTLPT: ORIENT; RESARE: CATREA or RESTRN; STSLNE: NATION; SWPARE: DRVAL1; TESARE: NATION; TS_PAD: TS_TSP.	Mandatory attribute has not been populated with a value.	Populate mandatory attributes; in these cases the object is meaningless without this value.	3.5.2 and Supplement No.3 Ch.4 (3.5.2.1)	E

<sup>1</sup> For air obstruction light and fog detector light CATLIT must be set to 6 or 7 respectively

**Check 548c** – proposed new check to report adjacent M\_COVR features with identical attribution that could be merged.

No	Check description	Check message	Check solution	Conformity to:	Cat
548c	For Each M_COVR feature object where the boundary geometry is coincident with the boundary of another M_COVR feature object with identical attribution.	M_COVR object unnecessarily split	Merge adjacent M_COVR objects with identical attribution.	2.2	W

**Check 1551** – proposal to renumber check 1551 to 1551a and add new check 1551b to report M\_CSCL features with identical geometry to an M\_COVR feature.

No	Check description	Check message	Check solution	Conformity to:	Cat
1551a	For each M_CSCL meta object which OVERLAPS OR is WITHIN another M_CSCL meta object.	M_CSCL objects overlap.	Amend M_CSCL objects so that they do not overlap.	2.2.6	E
1551b	For each M_CSCL meta object which EQUALS a M_COVR meta object with CATCOV = 1 (coverage is available)	M_CSCL object has the same geometry as a M_COVR meta object with CATCOV = 1.	Consider removing the M_CSCL meta object and/or reconsider the value of the CSCL of the dataset.	2.2.6	W

**Check 1669** – proposed re-classification to W and re-alignment of table to be consistent with check 1663.

No	Check description	Check message	Check solution	Conformity to:	Cat
1669	For each OBSTRN feature object where the attribute values do not correspond to the table below.	OBSTRN object with illogical attribute value combinations.	Amend attributes in accordance with the logical values defined in the table.	6.2.2	EW
	VALSOU	WATLEV	QUASOU	<del>TECSOU</del> <del>SOUACC</del> HEIGHT	<del>HEIGHT</del> <del>TECSOU</del> SOUACC
	not Present	1 OR 2	not Present	<del>not Present</del>	<del>not Present</del>
	Unknown	3, 4, 5 OR Unknown	2 OR not Present	not Present	not Present
		7	not Present	not Present	not Present
	< 0	4	1, 3, 4, 6, 8, 9 OR not Present	<del>Optional</del> not Present	<del>not Present</del> Optional
		4	7	not Present	not Present
	0	5	1, 3, 4, 6, 8, 9 OR not Present	<del>Optional</del> not Present	<del>not Present</del> Optional I
	>0	3	1, 3, 4, 6, 8, 9 OR not Present	<del>Optional</del> not Present	<del>not Present</del> Optional
3		7	not Present	not Present	

**Check 1686** – proposed amended wording to exclude instances of TSELNE separating a TSSLPT and a DWRLPT or TSSRON and an ISTZNE.

No	Check description	Check message	Check solution	Conformity to:	Cat
1686	For each TSELNE feature object that is not COINCIDENT with two TSSLPT feature objects OR (one TSSLPT feature object and one ISTZNE feature object) OR (a TSSLPT and a DWRLPT) OR (a TSSRON and an ISTZNE).	TSELNE object does not separate TSSLPT objects or TSSPLT and ISTZNE objects or TSSRON and ISTZNE objects.	Amend TSELNE object to ensure it separates appropriate objects.	10.2.1.3	E

**Check 1769** – proposed removal of check 1769.

No	Check description	Check message	Check solution	Conformity to:	Cat
<del>1769</del>	<del>Check removed. For each SOUNDG feature object where EXPSOU is Not equal to 3 (deeper than the range of the depth of the surrounding depth area) AND the depth value is Greater than the DRVAL2 of the DEPARE feature object it is WITHIN AND DRVAL2 is Known.</del>	<del>SOUNDG object deeper than the DRVAL2 value of the underlying DEPARE object without EXPSOU = 3.</del>	<del>Populate EXPSOU = 3 (deeper than the range of depth of the surrounding depth area) for SOUNDG object.</del>	<del>5.3</del>	<del>E</del>

**Check 1778** – proposal to renumber check 1778 to 1778a and add new check 1778b to report directional lights without known values ORIENT and SECTR1/SECTR2

No	Check description	Check message	Check solution	Conformity to:	Cat
1778a	For each LIGHTS feature object where CATLIT contains the value 1 (directional function) OR contains the value 16 (moiré effect) AND the value of the angle between SECTR1 and SECTR2 is Greater than 10.	LIGHTS object with CATLIT = 1 (directional function) or 16 (moiré effect) with a sector arc greater than 10 degrees.	Amend SECTR1 or SECTR2, or remove CATLIT = 1 (directional function) or 16 (moiré effect) for LIGHTS object.	12.8.6.5 and Appendix A Ch.2 (code 37)	W
1778b	For each LIGHTS feature object where CATLIT contains the value 1 (directional function) OR contains the value 16 (moiré effect) AND SECTR1 and SECTR2 have no values AND ORIENT is Unknown AND the associated structure feature object is not aggregated to a RECTRC or NAVLNE feature object in a C_AGGR collection object.	LIGHTS object with CATLIT = 1 (directional function) or 16 (moiré effect) with possible missing attribute values for SECTR1 and SECTR2 or for ORIENT.	Populate SECTR1 and SECTR2, or ORIENT reconsider the CATLIT value.	12.8.6.5 and 12.8.6.6	W

Note: FOR REASONS OF ECONOMY, DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING

**Check 2000** – proposed removal of CONDTN = 3 (under reclamation) as allowable attribute value for RAILWY, ROADWY & RUNWAY

No	Check description	Check message	Check solution	Conformity to:	Cat																				
2000	For each feature object where an attribute of type "L" (list) or type "E" (enumerated) is Present AND contains a value that is not listed in the table below for the given feature object class. - x-y-z: Allowable values (alone or in a list); *: All the pre-defined attribute values as listed in S-57 Edition 3.1 – Appendix A, Chapter 2 are allowed; #: The attribute is mandatory, and an Unknown value is allowed; (#): The attribute is mandatory, but an Unknown value is prohibited (no logical sense).	Attribute value which is not permitted on an object.	Remove disallowed attribute value.	Logical consistency	E																				
<table border="1"> <thead> <tr> <th>Attribute</th> <th></th> <th>Code</th> <th>Allowable attribute values</th> </tr> </thead> <tbody> <tr> <td>CONDTN</td> <td></td> <td>81</td> <td></td> </tr> <tr> <td></td> <td><b>RAILWY</b></td> <td>106</td> <td>1-<del>3</del>-5</td> </tr> <tr> <td></td> <td><b>ROADWY</b></td> <td>116</td> <td>1-2-<del>3</del>-5</td> </tr> <tr> <td></td> <td><b>RUNWAY</b></td> <td>117</td> <td>1-2-<del>3</del>-5</td> </tr> </tbody> </table>						Attribute		Code	Allowable attribute values	CONDTN		81			<b>RAILWY</b>	106	1- <del>3</del> -5		<b>ROADWY</b>	116	1-2- <del>3</del> -5		<b>RUNWAY</b>	117	1-2- <del>3</del> -5
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**Recommendations**

It is recommended that ENCWG approve the proposed changes applied to the draft edition 8.0.0 of S-5 ENC Validation Checks listed above; and subsequently endorse this revision to be submitted for publication in accordance with the processes specified in IHO resolution 2/2007.

**Action Required of ENCWG**

The ENCWG is invited to:

- a. Discuss and approve the proposed changes to S-58.
- b. Endorse the submission of S-58 ENC Validation Checks 8.0.0 for publication.