ENC Test Datasets for S-58 V5.0

S-58 Test Dataset Report; Edition 1.0 March 2014

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1. Introduction

S-58 validation checks were originally developed to facilitate content and integrity testing of S-57 datasets. The S-58 checks were outlined using descriptive text, however; no standardized testing software was developed for data producers to test their products. As a result, a variety of data production software manufacturers interpreted the S-58 validation check specification and adopted it into their own validation tools.

To reduce ambiguity and improve the precision of validation software, a group of 28 test datasets have been produced, each containing a variety of negative test case scenarios. Each test case scenario was developed to incorporate intentional data errors aiming to trigger the corresponding S-58 errors. This in turn allows software manufacturers to confirm that their validation tools report errors correctly. Using the 28 datasets, 396 tests cases have been established to support systematic software testing.

1.1. References

- a. S-58 Recommended ENC Validation Checks, Edition 5.0
- b. IHO Transfer Standard for Digital Hydrographic Data, Edition 3.1
- c. ENC Product Specification, Edition 2.0
- d. Use of the Object Catalogue for ENC, Edition 3.0.0

1.2. Using the S-58 Test Datasets

This document outlines the content of all 28 S-58 test datasets. It is organized into chapters, one for each dataset and its associated tests. A list of the tests is provided on the first page while a description of each test is listed in tabular format on subsequent pages. For each S-58 test a general test description is provided, followed by one or more test scenarios designed to trigger specific errors or warnings. The expected test results along with a section for the expected secondary errors are also provided. The secondary errors section is intended to list any additional errors which also happen to be triggered by the objects from each test case. The listing of secondary errors aims to facilitate easier cross referencing of errors when reviewing more than one test case scenario at a time or when reviewing cumulative test results for a specific test number.

Please note that secondary errors for the same S-58 check can appear in multiple sections of this document, as many different test case scenarios can trigger instances of the same type of secondary errors. For this reason it is advisable to search the entire document or the corresponding dataset chapter to determine the total count of specific error numbers when reviewing cumulative test results.

It is envisioned that the actual testing will be conducted in one of two ways: test case scenario centric or S-58 check centric. During the first approach, the test case scenario of interest should be reviewed closely and tested. The errors and/or warnings triggered should match those listed under both the primary and the secondary test results. When testing using the second approach, the entire dataset section should be searched for any corresponding S-58 checks that are expected to be triggered by any of the tests and the sum of all errors and/or warnings should match the test results.

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1.3. S-58 Test Case Example; Test Dataset T0062

Dataset Name	AA500001	S-58 test No.	T0062	Туре	W			
S-58 Description	For each PONTON, HULKES or FLODOC object of type area where any edge shares the geometry of a line COALNE or SLCONS object AND the edge does not also share the geometry of a LNDARE object of type area.							
Message	PONTON, HULKES or FLODOC which us LNDARE.	PONTON, HULKES or FLODOC which uses an SLCONS or COALNE edge which is not on the edge of LNDARE.						
Solution	Ensure all SLCONS or COALNE objects a LNDARE objects.	are backed by	Conformity	Logical consisten	су			
Test Case No. 1	PONTON, HULKES and FLODOC areas b	oounded by SLCONS	(L) and COALNE.					
Location	32°23'34.61"S 60°40'55.99"E	S57 Encoding	PONTON (A) HULKES (A) FLODOC (A) COALNE (L) SLCONS (L)	WATLEV = 2				
Screen Capture	01	12						
Expected Test Results	T0062: 6 warnings "PONTON, HULKES or FLODOC which uses an SLCONS or COALNE edge which is not on the edge of LNDARE" must be triggered.							
Secondary Errors	T0057: 3 additional errors "COALNE object not touching LNDARE or SLCONS or not WITHIN or touching LNDARE objects" must be triggered.							

For this test, the corresponding test dataset AA500001 contains PONTON, HULKES and FLODOC areas bounded by SLCONS and COALNE as shown. As a result, six T0062 warnings should be reported by the validation software along with the three T0057 secondary errors.

When looking for cumulative error totals, while testing AA500001, two additional T0057 errors should be reported based on different case scenarios present in this particular dataset. In addition to the above, six more T0057 errors should be reported based on different case scenarios present in AA500003 dataset.

2. S-58 Test Datasets

2.1. Test Dataset: AA500001

S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
43	For each DEPCNT object which is not COINCIDENT with two Group1 objects AND is not WITHIN an UNSARE or DRGARE.
44	For each values of DRVAL1 or DRVAL2 (except the shallowest and the deepest found in the ENC) of DEPARE of type area which are not equal to values of VALDCO on DEPCNT objects found in the ENC.
45a	For each object of type line which shares an edge with another object of the same class of type line where the object is not one of the following BERTHS, CBLOHD, CBLSUB, CONVYR, DWRTCL, FERYRT, MARCUL, MORFAC, NAVLNE, PIPSOL, RCRTCL, RECTRC.
45b	For each object of type line which shares an edge with another object of the same class and attribute values of type line where the object is one of the following BERTHS, CBLOHD, CBLSUB, CONVYR, DWRTCL, FERYRT, MARCUL, MORFAC, NAVLNE, PIPSOL, RCRTCL, RECTRC.
50	For each RECTRC where CATTRK=1 or NAVLNE object where its nodes/vertices do not lie on a straight line.
51a	For each COALNE object which is COINCIDENT with a SLCONS object of type line.
51b	For each COALNE object which is COINCIDENT with a SLCONS object of type area WITHIN a LNDARE AND where WATLEV is not populated or encoded with the values (2) [always dry] or (1) [partly submerged at high water].
55	For each LNDARE object of type point or line which is WITHIN a LNDARE object of type area AND not WITHIN an object LAKARE or RIVERS or DOCARE or LOKBSN or CANALS of type area.
56	For each BUAARE object not WITHIN a LNDARE object of type area or which is COINCIDENT with a LNDARE object of type point or line.
57	For each COALNE object which is not COINCIDENT with a LNDARE or SLCONS object with CONDTN=1 or 3 or 5 or is WITHIN a LNDARE object of type area or is COINCIDENT with LNDARE objects on both sides.
60	For each CBLSUB object INTERSECTS a LNDARE object of type Area.
61a	For each object of type line or area where WATLEV = 3 [always underwater/submerged] which OVERLAPS or is WITHIN an inter-tidal area (DEPARE with DRVAL2 ≤0) OR LNDARE object of type area.
61b	For each object of type point where WATLEV = 3 [always underwater/submerged] which is WITHIN an inter-tidal (DEPARE with DRVAL2 ≤0) area OR is WITHIN a LNDARE of type area OR EQUALS a LNDARE of type point or is situated on a LNDARE of type line.
62	For each PONTON, HULKES or FLODOC object of type area where any edge shares the geometry of a line COALNE or SLCONS object AND the edge does not also share the geometry of a LNDARE object of type area.
63	For each RECTRC object which INTERSECTS line or area objects of the following types LNDARE, PONTON, HULKES, FLODOC OR any object where WATLEV = 1 [partly submerged at high water] or 2 [always dry].
64	For each ACHARE object of type point or area where CATACH does not equal 8 [small craft mooring area] which OVERLAPS another object where RESTRN includes the value 1 [anchoring prohibited].
65	For each LIGHTS object which EQUALS another LIGHTS object AND STATUS does not equal 4 [not in use], 6 [reserved] or 11 [extinguished] where sectors overlap AND none of the values of the following attributes are different CATLIT, EXCLIT, LITCHR, SIGPER or SIGGRP.
67	For each object where its object class, attribution and geometry is identical to another object.
70a	For each DEPARE object of type line which does not EQUAL a Group 1 boundary.
70b	For each DEPARE objects of type line.
72	For each set of hierarchical relationships which form a loop (e.g. no master object is slave of its own slave).
74	For each DEPCNT object which does not share an edge with a Group 1 object AND is WITHIN an area DEPARE object with DRVAL1 AND DRVAL2 equal to not Null AND DRVAL2 <= VALDCO <= DRVAL1.
75	For each DEPCNT object which does not share an edge with a Group 1 object AND is WITHIN an area DRGARE object with DRVAL1 equal to not Null AND VALDCO <= DRVAL1.

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Dataset Name	AA500001	S-58 test No.	T0043		Туре	W
S-58 Description	For each DEPCNT object which is not COINCIDENT with two Group1 objects AND is not WITHIN an UNSARE or DRGARE.					
Message	DEPCNT does not coincide with two gro	oup 1 objects.				
Solution	Amend DEPCNT or Group 1 objects as r	equired.	Conformity	Logical	consiste	ncy
Test Case No. 1	Floating DEPCNT.					
Location	32°23'33.77"S 60°43'19.67"E	S57 Encoding	DEPCNT	VALDC	O=6	
Screen Capture	67 10 ₆					
Expected Test Results	T0043: A warning "DEPCNT does not co	incide with two gro	oup 1 objects" mu	ıst be trig	ggered.	
Secondary Errors	None					
Test Case No. 2	DEPCNT inside DRGARE.					
Location	32°23'35.36"S 60°43'27.65"E	S57 Encoding	DEPCNT DRGARE	VALDCO DRVAL		
Screen Capture	103					
Expected Test Results	T0043: A warning "DEPCNT does not co	incide with two gro	oup 1 objects." m	ust not b	e trigger	ed.
Secondary Errors	T0075: An additional error "Floating DE the DRGARE" must be triggered.					
Test Case No. 3	DEPCNT inside UNSARE.					
Location	32°23'31.56"S 60°43'26.23"E	S57 Encoding	DEPCNT UNSARE	VALDCO	O=1.8	

Screen Capture		1		
Expected Test Results	T0043: A warning "DEPCNT does not co	incide with two gro	oup 1 objects" mu	ust not be triggered.
Secondary Errors	None			
Dataset Name	AA500001	S-58 test No.	T0044	Type W
S-58 Description	For each values of DRVAL1 or DRVAL2 of DEPARE of type area which are not equ ENC.		-	
Message	The value of DRVAL1 (or DRVAL2) is diff	erent than one of	the values of VAL	DCO found in the ENC.
Solution	Amend value of DRVAL1 (or DRVAL2) so value of VALDCO.	that it equals a	Conformity	Logical consistency
Test Case No. 1	DEPARE (A) with bounding DEPCNT VAL	DCO not equal to I	DRVAL1/DRVAL2.	1
Location	32°23'39.90"S 60°43'26.57"E	S57 Encoding	DEPARE	DRVAL1=4.0 DRVAL2=4.9
Screen Capture	10			
Expected Test Results	T0044: 2 warnings "The value of DRVAL found in the ENC" must be triggered.	1 (or DRVAL2) is di	fferent than one	of the values of VALDCO
Secondary Errors	None			
	T		T	T _ T
Dataset Name	AA500001	S-58 test No.	T0045a	Type W
S-58 Description	For each object of type line which share where the object is not one of the follow MARCUL, MORFAC, NAVLNE, PIPSOL, Reference of the share which share	wing BERTHS, CBLC	-	
Message	Coincident line objects of the same clas	S.		

Solution	Delete coincident object.	Conformity	Logical consistency		
Test Case No. 1	Two SLCONS (L) objects sharing the san	ne edge.			
Location	32°23'36.41"S 60°42'45.01"E	S57 Encoding	SLCONS (L) SLCONS (L)	CATSLC=6 WATLEV=2 WATLEV=2	
Screen Capture					
Expected Test Results	T0045a: A warning "Coincident line obj	ects of the same cl	ass" must be trigg	gered.	
Secondary Errors	None				
Test Case No. 2	For each object of type line which shares an edge with another object of the same class and attribute values of type line where the object is one of the following BERTHS, CBLOHD, CBLSUB, CONVYR, DWRTCL, FERYRT, MARCUL, MORFAC, NAVLNE, PIPSOL, RCRTCL, RECTRC.				
Location	All objects except DWRTCL are at 32°23'03.91"S 60°41'01.66"E. DWRTCL is at 32°22'21.43"S 60°43'27.42"E.	S57 Encoding	BERTHS (L) BERTHS (L) CBLOHD (L) CBLOHD (L) CBLSUB (L) CONVYR (L) CONVYR (L) DWRTCL (L) DWRTCL (L) FERYRT (L) MARCUL (L) MORFAC (L) NAVLNE (L) NAVLNE (L) PIPSOL (L) PCRTCL (L) RCRTCL (L) RECTRC (L) RECTRC (L)	OBJNAM=A OBJANM=B VERCLR=12 VERCSA=UNKNOWN VERCLR=10 VERCSA=UNKNOWN CATCBL=empty CATCBL=1 VERCLR=12 VERCLR=10 TRAFIC=3 TRAFIC=4 CATFRY=1 CATFRY=1 CATMFA=1 CATMFA=2 CATMOR=1 CATMOR=2 CATNAV=UNKNOWN CATNAV=1 CATPIP=empty CATPIP=6 OBJNAM=B TRAFIC=3 TRAFIC=3 TRAFIC=4	

Screen Capture			24	00 deg 3
Expected Test Results	T0045a: A warning "Coincident line of	bjects of the same cla	ass" must not be	triggered.
Secondary Errors	None			
			_	
Dataset Name	AA500001	S-58 test No.	T0045b	Type W
S-58 Description	For each object of type line which sh attribute values of type line where th CONVYR, DWRTCL, FERYRT, MARCUL	ne object is one of the	following BERTH	IS, CBLOHD, CBLSUB,
Message	Coincident line objects of the same of	lass and attribute val	ues.	
Solution	Delete coincident object.		Conformity	Logical consistency
Test Case No. 1	Twelve linear objects with the same	edges.		
Location	32°22'31.84"S 60°43'02.05"E	S57 Encoding	BERTHS (L) CBLOHD (L) CBLSUB (L) CONVYR (L) DWRTCL (L) FERYRT (L) MARCUL (L) MORFAC (L) NAVLNE (L) PIPSOL (L) RCRTCL (L) RECTRC (L)	
Screen Capture	0 1 1 2 4 0 3 3 4 2 4 7 3 6 5 7 3 6 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5			
Expected Test Results	T0045b: 12 warnings "Coincident line triggered.	e objects of the same	class and attribut	te values" must be
Secondary Errors	None			

Dataset Name	AA500001	S-58 test No.	T0050	Type E		
S-58 Description	For each RECTRC where CATTRK=1 or NAVLNE object where its nodes/vertices do not lie on a straight line.					
Message	RECTRC where CATTRK=1 or NAVLNE is	not a straight line.				
Solution	Amend geometry to a straight line.		Conformity	Logical consistency		
Test Case No. 1	NAVLNE and RECTRC are not a straight	line.				
Location	32°23'42.74"S 60°41'30.46"E	S57 Encoding	NAVLNE RECTRC	CATNAV=3 ORIENT=55 CATTRK=1 ORIENT=55 TRAFIC=3		
Screen Capture	FI(2)G6s PI(2)W6s					
Expected Test Results	T0050: 2 errors "RECTRC where CATTRK	<=1 or NAVLNE is no	ot a straight line"	must be triggered.		
Secondary Errors	None					
			I			
Dataset Name	AA500001	S-58 test No.	T0051a	Type W		
S-58 Description	n For each COALNE object which is COINCIDENT with a SLCONS object of type line.					
Message	COALNE and SLCONS objects share an edge.					
Solution	Amend objects so that they do not shar	e an edge.	Conformity	Logical consistency		
Test Case No. 1	COALNE and SLCONS (L) are coincident.		•			
Location	32°22'24.92"S 60°42'58.86"E	S57 Encoding	COALNE (L) SLCONS (L)	WATLEV=2		

Screen Capture	0.3	3		
Expected Test Results	T0051a: A warning "COALNE and SLCON	NS objects share an	edge" must be to	riggered.
Secondary Errors	None			
		I		
Dataset Name	AA500001	S-58 test No.	T0051b	Type W
S-58 Description	For each COALNE object which is COINC AND where WATLEV is not populated o submerged at high water].			
Message	COALNE and SLCONS with illogical value		ap.	
Solution	Amend objects so that they do not over WATLEV values.	rlap or amend	Conformity	Logical consistency
Test Case No. 1	SLCONS (A) overlapping LNDARE (A) and	d bounded by COAI	1	
Location	32°22'25.63"S 60°42'58.54"E	S57 Encoding	COALNE (L) SLCONS (A)	WATLEV=1
Screen Capture	03			
Expected Test Results	T0051b: A warning "COALNE and SLCON triggered.	NS with illogical val	ues of WATLEV o	verlap" must be
Secondary Errors	None			
Test Case No. 2	SLCONS (A) overlapping LNDARE (A) and	d bounded by COAI	1	
Location	32°22'26.55"S 60°42'58.21"E	S57 Encoding	COALNE (L) SLCONS (A)	WATLEV=2

Screen Capture	T0051b: A warning "COALNE and SLCOI		uos of WATI IV	vovlan" must be	
Expected Test Results	triggered.	15 WITH HOGICAL VAL	ues of WATLEV O	veriap must be	
Secondary Errors	None				
Test Case No. 3	SLCONS (A) overlapping LNDARE (A) and	d bounded by COAI		1	
Location	32°22'27.17"S 60°42'57.87"E	S57 Encoding	COALNE (L) SLCONS (A)	WATLEV=undefined	
Screen Capture	0,				
Expected Test Results	T0051b: A warning "COALNE and SLCOI triggered.	NS with illogical val	ues of WATLEV o	verlap" must be	
Secondary Errors	None				
		T			
Dataset Name	AA500001	S-58 test No.	T0055	Type W	
S-58 Description	For each LNDARE object of type point or line which is WITHIN a LNDARE object of type area AND not WITHIN an object LAKARE or RIVERS or DOCARE or LOKBSN or CANALS of type area.				
Message	Point LNDARE lies on land.				
Solution	Amend point LNDARE or area LNDARE accordingly. Conformity Logical consistency				
Test Case No. 1	LNDARE (L, P) overlapping LNDARE (A).				
Location	32°23'36.67"S 60°40'38.65"E	S57 Encoding	LNDARE (A) LNDARE (P) LNDARE (L)		

Screen Capture	0
Expected Test Results	T0055: 2 warnings "Point LNDARE lies on land" must be triggered.
Secondary Errors	T1672: An additional error "Object with the same attributes WITHIN an identical object" must be triggered.
Test Case No. 2	LNDARE (L, P) overlapping LAKARE (A).
Location	32°23'43.21"S 60°40'38.94"E
Screen Capture	
Expected Test Results	T0055: A warning "Point LNDARE lies on land" must not be triggered.
Secondary Errors	T1672: An additional error "Object with the same attributes WITHIN an identical object" must be triggered.
Test Case No. 3	LNDARE (L, P) overlapping RIVERS (A).
Location	32°23'40.30"S 60°40'45.62"E
Screen Capture	
Expected Test Results	T0055: A warning "Point LNDARE lies on land" must not be triggered.
Secondary Errors	T1672: An additional error "Object with the same attributes WITHIN an identical object" must be

	triggered.				
Test Case No. 4	LNDARE (L, P) overlapping DOCARE.				
Location	32°23'41.91"S 60°40'42.25"E	S57 Encoding	DOCARE (A) LNDARE (L, P)		
Screen Capture		•			
Expected Test Results	T0055: A warning "Point LNDARE lies or	n land" must not be	triggered.		
Secondary Errors	T1672: An additional error "Object with triggered.	the same attribute	es WITHIN an identical obj	ect" must be	
Test Case No. 5	LNDARE (L, P) overlapping LOKBSN.				
Location	32°23'45.60"S 60°40'33.96"E	S57 Encoding	LOKBSN (A) LNDARE (L, P)		
Screen Capture					
Expected Test Results	T0055: A warning "Point LNDARE lies or				
Secondary Errors	T1672: An additional error "Object with the same attributes WITHIN an identical object" must be triggered.				
Test Case No. 6	LNDARE (L, P) overlapping CANALS.				
Location	32°23'39.20"S 60°40'49.22"E	S57 Encoding	CANALS (A) LNDARE (L, P)		

Screen Capture	03	O ₃		
Expected Test Results	T0055: A warning "Point LNDARE lies or	n land" must not be	triggered.	
Secondary Errors	T1672: An additional error "Object with triggered.	the same attribute	es WITHIN an ider	ntical object" must be
			1	
Dataset Name	AA500001	S-58 test No.	T0056	Type E
S-58 Description	For each BUAARE object not WITHIN a L LNDARE object of type point or line.	NDARE object of ty	/pe area or which	is COINCIDENT with a
Message	BUAARE not located on LNDARE.			
Solution	Amend BUAARE so that it sits on LNDAF	RE.	Conformity	Logical consistency
Test Case No. 1	BUAARE (A, P) overlapping DEPARE (A).			
Location	32°23'21.91"S 60°40'58.16"E	S57 Encoding	BUAARE (A, P)	
Screen Capture	0			
Expected Test Results	T0056: 2errors "BUAARE not located on	LNDARE" must be	triggered.	
Secondary Errors	None			
Dataset Name	AA500001	S-58 test No.	T0057	Type E
S-58 Description	For each COALNE object which is not CC CONDTN=1 or 3 or 5 or is WITHIN a LND objects on both sides.			=
Message	COALNE object not touching LNDARE or	SLCONS or not WI	THIN or touching	LNDARE objects.
Solution	Ensure COALNE touches or lies WITHIN LNDARE.	or touching	Conformity	Logical consistency

Test Case No. 1	COALNE overlapping LNDARE (A).			
Location	32°23'47.09"S 60°40'58.42"E	S57 Encoding	COALNE (L) LNDARE (A)	
Screen Capture				
Expected Test Results	T0057: An error "COALNE object not to LNDARE objects" must be triggered.	uching LNDARE or S	SLCONS or not W	ITHIN or touching
Secondary Errors	None			
Test Case No. 2	COALNE between two LNDARE (A) obje	cts.	1	
Location	32°23'47.26"S 60°40'58.12"E	S57 Encoding	COALNE (L) LNDARE (A)	
Screen Capture				
Expected Test Results	T0057: An error "COALNE object not to LNDARE objects" must be triggered.	uching LNDARE or S	SLCONS or not W	THIN or touching
Secondary Errors	None			
	T	T	1	
Dataset Name	AA500001	S-58 test No.	T0060	Type W
S-58 Description	For each CBLSUB object INTERSECTS a L	NDARE object of ty	pe Area.	
Message	CBLSUB lies on land.			
Solution	Amend CBLSUB object accordingly.		Conformity	Logical consistency
Test Case No. 1	CBLSUB overlapping LNDARE (A).			
Location	32°22'13.74"S 60°43'09.53"E	S57 Encoding	CBLSUB (L) LNDARE (A)	

AA500001 S-58 test No. T0061a Type E For each object of type line or area where WATLEV = 3 [always underwater/submerged] which OVERLAPS or is WITHIN an inter-tidal area (DEPARE with DRVAL2 ≤0) OR LNDARE object of type area. Line or area object which is WATLEV = 3 [always underwater/submerged] lies WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area. Olution Amend value of WATLEV. OBSTRN (L) in intertidal area. OBSTRN (L) on land area. OBSTRN (A) in intertidal area. OBSTRN (P) in intertidal area. OBSTRN (A) OBSTRN (A) OBSTRN (A) TO061a: 4 errors "Line or area object which is WATLEV = 3 [always underwater/submerged] lies TO061a: 4 errors "Line or area object which is WATLEV = 3 [always underwater/submerged] lies	Screen Capture	02	03		
AA500001 S-58 test No. T0061a Type [6] For each object of type line or area where WATLEV = 3 [always underwater/submerged] which OVERLAPS or is WITHIN an inter-tidal area (DEPARE with DRVAL2 ≤0) OR LNDARE object of type area. Line or area object which is WATLEV = 3 [always underwater/submerged] lies WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area. OBSTRN (L) in intertidal area. OBSTRN (L) on land area. OBSTRN (A) in intertidal area. OBSTRN (A) in intertidal area. OBSTRN (P) in intertidal area. OBSTRN (P) in land area. OBSTRN (P) on land area. OBSTRN (P) on land area. OBSTRN (A) OBSTRN (B) on land area. OBSTRN (B) on land area. OBSTRN (B) intertidal area. OBSTRN (B) on land area. OBSTRN (B) in intertidal area. OBSTRN (B) in inter	Expected Test Results	T0060: A warning "CBLSUB lies on land"	must be triggered		
For each object of type line or area where WATLEV = 3 [always underwater/submerged] which OVERLAPS or is WITHIN an inter-tidal area (DEPARE with DRVAL2 ≤0) OR LNDARE object of type area. Line or area object which is WATLEV = 3 [always underwater/submerged] lies WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area. Obstrn (L) on land area. OBSTRN (L) on land area. OBSTRN (A) on land area. OBSTRN (P) on land area. OBSTRN (P) on land area. OBSTRN (P) on land area. Ocation 32°23'45.63"S 60°40'59.92"E S57 Encoding OBSTRN (A) WATLEV=3	Secondary Errors	None			
For each object of type line or area where WATLEV = 3 [always underwater/submerged] which OVERLAPS or is WITHIN an inter-tidal area (DEPARE with DRVAL2 ≤0) OR LNDARE object of type area. Line or area object which is WATLEV = 3 [always underwater/submerged] lies WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area. Obstrn (L) on land area. OBSTRN (L) on land area. OBSTRN (A) on land area. OBSTRN (P) on land area. OBSTRN (P) on land area. OBSTRN (P) on land area. Ocation 32°23'45.63"S 60°40'59.92"E S57 Encoding OBSTRN (A) WATLEV=3					
OVERLAPS or is WITHIN an inter-tidal area (DEPARE with DRVAL2 ≤0) OR LNDARE object of types area. Line or area object which is WATLEV = 3 [always underwater/submerged] lies WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area. OBSTRN (L) in intertidal area. OBSTRN (L) on land area. OBSTRN (A) in intertidal area. OBSTRN (A) in intertidal area. OBSTRN (P) in intertidal area. OBSTRN (P) on land area. OBSTRN (P) on land area. OBSTRN (A) OBSTRN (A) OBSTRN (B) in intertidal area. OBSTRN (B) WATLEV=3 WATLEV=3 TO061a: 4 errors "Line or area object which is WATLEV = 3 [always underwater/submerged] lies with DRVAL2 ≤ 0) or land area" must be	Dataset Name	AA500001	S-58 test No.	T0061a	Type E
olution Amend value of WATLEV. OBSTRN (L) in intertidal area. OBSTRN (L) on land area. OBSTRN (A) in intertidal area. OBSTRN (A) in intertidal area. OBSTRN (P) in intertidal area. OBSTRN (P) on land area. OBSTRN (P) on land area. OBSTRN (P) on land area. OBSTRN (P) on land area. Toocation 32°23'45.63"S 60°40'59.92"E S57 Encoding OBSTRN (L) OBSTRN (A) WATLEV=3 WATLEV=3 WATLEV=3 WATLEV=3 WATLEV=3 WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area" must be	S-58 Description	OVERLAPS or is WITHIN an inter-tidal ar		•	
OBSTRN (L) in intertidal area. OBSTRN (L) on land area. OBSTRN (A) in intertidal area. OBSTRN (A) on land area. OBSTRN (P) in intertidal area. OBSTRN (P) on land area. OBSTRN (A) WATLEV=3 OBSTRN (B) WATLEV=	Message	-	•		ies WITHIN or
OBSTRN (L) on land area. OBSTRN (A) in intertidal area. OBSTRN (A) on land area. OBSTRN (P) in intertidal area. OBSTRN (P) on land area. OBSTRN (P) on land area. OBSTRN (P) on land area. OCATION 32°23'45.63"S 60°40'59.92"E S57 Encoding OBSTRN (L) OBSTRN (L) OBSTRN (A) WATLEV=3 WATLEV=3 WATLEV=3 T0061a: 4 errors "Line or area object which is WATLEV = 3 [always underwater/submerged] lies WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area" must be	Solution	Amend value of WATLEV.		Conformity	Logical consistency
creen Capture T0061a: 4 errors "Line or area object which is WATLEV = 3 [always underwater/submerged] lies with DRVAL2 ≤ 0) or land area" must be	Test Case No. 1	OBSTRN (L) on land area. OBSTRN (A) in intertidal area. OBSTRN (A) on land area. OBSTRN (P) in intertidal area.			
T0061a: 4 errors "Line or area object which is WATLEV = 3 [always underwater/submerged] lies xpected Test Results WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area" must be	Location	32°23'45.63"S 60°40'59.92"E	S57 Encoding		_
xpected Test Results WITHIN or overlapping an inter-tidal area (DEPARE with DRVAL2 ≤ 0) or land area" must be	Screen Capture				
	Expected Test Results	WITHIN or overlapping an inter-tidal are			
	Secondary Errors				

Dataset Name	AA500001	S-58 test No.	T0061b	T	/pe	Е
S-58 Description	For each object of type point where WATLEV = 3 [always underwater/submerged] which is WITHIN an inter-tidal (DEPARE with DRVAL2 ≤0) area OR is WITHIN a LNDARE of type area OR EQUALS a LNDARE of type point or is situated on a LNDARE of type line.					
Message	Point object which is WATLEV = 3 [alwa (DEPARE with DRVAL2 ≤ 0) or is WITHIN				-tidal	area
Solution	Amend value of WATLEV.		Conformity	Logical cor	siste	ncy
Test Case No. 1	OBSTRN (P) in intertidal area. OBSTRN (P) on LNDARE (A). OBSTRN (P) on LNDARE (L). OBSTRN (P) on LNDARE (P).					
Location	32°23'44.62"S 60°40'59.79"E	S57 Encoding	OBSTRN (P)	W	ATLE'	V=3
Screen Capture	*					
Expected Test Results	T0061b: 4 errors "Point object which is an inter-tidal area (DEPARE with DRVAL must be triggered.					
Secondary Errors	None					
Dataset Name	AA500001	S-58 test No.	T0062	Ty	/pe	W
S-58 Description	For each PONTON, HULKES or FLODOC a line COALNE or SLCONS object AND the object of type area.			_		-
Message	PONTON, HULKES or FLODOC which use LNDARE.	es an SLCONS or CC	ALNE edge whic	h is not on th	e edg	ge of
Solution	Ensure all SLCONS or COALNE objects a LNDARE objects.	re backed by	Conformity	Logical cor	siste	ncy
Test Case No. 1	PONTON, HULKES and FLODOC areas bo	ounded by SLCONS	(L) and COALNE.			
Location	32°23'34.61"S 60°40'55.99"E	S57 Encoding	PONTON (A) HULKES (A) FLODOC (A) COALNE (L) SLCONS (L)	WATLEV =		

Screen Capture	01	12		
Expected Test Results	T0062: 6 warnings "PONTON, HULKES o not on the edge of LNDARE" must be tri	ggered.		
Secondary Errors	T0057: 3 additional errors "COALNE objutouching LNDARE objects" must be trigg		NDARE or SLCONS	or not WITHIN or
Test Case No. 2	PONTON (A) bounded by COALNE and of PONTON (A) bounded by SLCONS and of HULKES (A) bounded by COALNE and on HULKES (A) bounded by SLCONS and on FLODOC (A) bounded by COALNE and or FLODOC (A) bounded by SLCONS and or	ne edge shared by I ie edge shared by I e edge shared by L ne edge shared by	LNDARE. LNDARE. .NDARE. LNDARE.	
Location	32°23'34.50"S 60°41'01.21"E	S57 Encoding	PONTON (A) HULKES (A) FLODOC (A) COALNE (L) SLCONS (L) LNDARE	WATLEV = 2
Screen Capture	12			
Expected Test Results	T0062: 6 warnings "PONTON, HULKES o not on the edge of LNDARE" must not b		ses an SLCONS or	COALNE edge which is
Secondary Errors	None			
	1			
Dataset Name	AA500001	S-58 test No.	T0063	Type E
S-58 Description	For each RECTRC object which INTERSEC PONTON, HULKES, FLODOC OR any obje [always dry].			
Message	RECTRC intersects prohibited objects.			

Solution	Amend RECTRC or other objects to ensu WITHIN navigable objects.	ure RECTRC is	Conformity	Logical consistency		
Test Case No. 1	RECTRC overlapping LNDARE, PONTON, HULKES, FLODOC and SLCONS (A).					
Location	32°23'40.46"S 60°42'27.51"E	S57 Encoding	SLCONS (A) SLCONS (A) RECTRC (L) LNDARE (A) PONTON (A) HULKES (A) FLODOC (A) LNDARE (L) PONTON (L) FLODOC (L)	WATLEV = 1 WATLEV = 2		
Screen Capture						
Expected Test Results	T0063: 9 errors "RECTRC intersects prol	nibited objects" mu	ust be triggered.			
Secondary Errors	None					
Dataset Name	AA500001	S-58 test No.	T0064	Type W		
S-58 Description	For each ACHARE object of type point or area where CATACH does not equal 8 [small craft mooring area] which OVERLAPS another object where RESTRN includes the value 1 [anchoring prohibited].					
Message	ACHARE object WITHIN an area with RESTRN = 1 [anchoring prohibited].					
Solution	Amend ACHARE object or object carrying	ng RESTRN=1.	Conformity	Logical consistency		
Test Case No. 1	ACHARE (A, P) overlapping RESARE.		•			
Location	32°23'45.56"S 60°43'15.85"E	S57 Encoding	ACHARE (A, P) RESARE (A)	RESTRN = 1		

Screen Capture	2,			
Expected Test Results	T0064: 2 warnings "ACHARE object WIT be triggered.	HIN an area with R	ESTRN = 1 [ancho	oring prohibited]" must
Secondary Errors	None			
Test Case No. 2	ACHARE (P) inside RESARE.			
Location	32°23'44.74"S 60°43'14.15"E	S57 Encoding	RESARE (A) ACHARE (P)	RESTRN = 1 CATACH = 8
Screen Capture	2,			
Expected Test Results	T0064: A warning "ACHARE object WITH not be triggered.	HIN an area with RE	STRN = 1 [anchor	ring prohibited]" must
Secondary Errors	None			
			T	T
Dataset Name	AA500001	S-58 test No.	T0065	Type W
S-58 Description	For each LIGHTS object which EQUALS a use], 6 [reserved] or 11 [extinguished] of following attributes are different CATLI	where sectors overl	ap AND none of t	the values of the
Message	Coincident lights with overlapping sector	ors and the same ch	aracteristics.	
Solution	Modify light sectors so that they do not delete duplicated sectors.	overlap, or	Conformity	Logical consistency
Test Case No. 1	Two LIGHTS with the same attribute val	ues encoded, with	the exception of	differing sector values.
Location	32°23'34.89"S 60°43'16.29"E	S57 Encoding	LIGHTS	COLOUR=1 LITCHR=2 SECTR1=130 SECTR2=220 SIGGRP=(2) SIGPER=6

			LIGHTS	COLOUR=1
				LITCHR=2
				SECTR1=130
				SECTR2=320
				SIGGRP=(2)
				SIGPER=6
				SIGI EIX O
Screen Capture	2,			
Expected Test Results	T0065: A warning "Coincident lights be triggered.	with overlapping sect	ors and the san	ne characteristics" must
Secondary Errors	None			
Test Case No. 2	8 LIGHTS (2 LIGHTS placed at the sar	ne location with overl	apping sectors)	with differing attribute
rest case No. 2	values: CATLIT, EXCLIT, LITCHR, SIGP	ER and SIGGRP.		
			LIGHTS	CATLIT=12
			LIGHTS	CATLIT=13
			LIGHTS	EXCLIT=2
			LIGHTS	EXCLIT=3
			LIGHTS	LITCHR=2
			LIGHTS	LITCHR=3
			LIGHTS	SIGGRP=(2)
			LIGHTS	SIGGRP=(3)
Location	32°23'34.27"S 60°43'11.63"E	S57 Encoding		
			LIGHTS	SIGPER=4
			LIGHTS	SIGPER=6
			LIGHTS	STATUS=4
			LIGHTS	STATUS=4
			LIGHTS	STATUS=6
			LIGHTS	STATUS=6
			LIGHTS	STATUS=11
			LIGHTS	STATUS=11
Screen Capture	3,			
Expected Test Results	T0065: 8 warnings "Coincident lights not be triggered.	with overlapping sec	tors and the sai	me characteristics" must
Secondary Errors	None			
	<u>i</u>			

Dataset Name	AA500001	S-58 test No.	T0067		Туре	Ε
S-58 Description	For each object where its object class, attribution and geometry is identical to another object.					
Message	Duplicate object exists.					
Solution	Delete duplicate object.		Conformity	Data st	ructure	
Test Case No. 1	Two CBLARE objects with the same geo	metry, same class	and same attribut	te values.		
Location	32°23'45.85"S 60°42'33.35"E	S57 Encoding	CBLARE (A)	CATCBI	L=1	
Screen Capture						
Expected Test Results	T0067: An error "Duplicate object exists	s" must be triggere	d.			
Secondary Errors	None					
Dataset Name	AA500001	S-58 test No.	T0070a		Туре	E
S-58 Description	For each DEPARE object of type line wh	ich does not EQUA	L a Group 1 boun	ıdary.		
Message	Hanging' linear depth area of type line.					
Solution	Delete 'hanging' linear DEPARE.		Conformity	Logical	consiste	ncy
Test Case No. 1	DEPARE (L) object inside a DEPARE (A).					
Location	32°23'45.20"S 60°41'18.43"E	S57 Encoding	DEPARE (L)			
Screen Capture						

Secondary Errors	None					
Dataset Name	AA500001	S-58 test No.	T0070b	Туре	W	
S-58 Description	For each DEPARE objects of type line.					
Message	DEPARE of type line exit in the ENC.					
Solution	Delete linear DEPARE as no longer requ	ired in ENC.	Conformity	Logical consi	stency	
Test Case No. 1	DEPARE (L) object inside a DEPARE (A).					
Location	32°23'28.02"S 60°41'01.50"E	S57 Encoding	DEPARE (L)			
Screen Capture	0 ₈					
Expected Test Results	T0070b: An error "DEPARE of type line		ust be triggered.			
Expected Test Results Secondary Errors	T0070b: An error "DEPARE of type line None		ust be triggered.			
Secondary Errors	None	exit in the ENC" mu		T _		
			ust be triggered.	Тур	e E	
Secondary Errors	None	exit in the ENC" mu	T0072			
Secondary Errors Dataset Name	AA500001 For each set of hierarchical relationship	exit in the ENC" mu	T0072			
Dataset Name S-58 Description	AA500001 For each set of hierarchical relationship own slave).	exit in the ENC" mu	T0072		of its	
Dataset Name S-58 Description Message	AA500001 For each set of hierarchical relationship own slave). Relationships form a loop.	S-58 test No. os which form a loo	T0072 p (e.g. no master	object is slave	of its	

Screen Capture				
Expected Test Results	T0072: 3 errors "Relationships form a	a loop" must be trigge	ered.	
Secondary Errors	None			
	1	1	T	
Dataset Name	AA500001	S-58 test No.	T0074	Type C
S-58 Description	For each DEPCNT object which does area DEPARE object with DRVAL1 AN DRVAL1.	_		
Message	Floating DEPCNT WITHIN a DEPARE v	vith VALDCO less than	n DRVAL1 or grea	ter than DRVAL2.
Solution	Amend floating contour VALDCO bet DRVAL2 of the underlying DEPARE.	ween DRVAL1 and	Conformity	Logical consistency
Test Case No. 1	Floating DEPCNT whose value is not	within the limits of th	e surrounding DE	
Location	32°23'46.37"S 60°42'44.98"E	S57 Encoding	DEPCNT DEPARE	VALDCO=1.8 VALDCO=9.0 DRVAL1=3.6 DRVAL2=5.4
Screen Capture		42		
Expected Test Results	T0074: 2 errors "Floating DEPCNT Withan DRVAL2" must be triggered.			
Secondary Errors	T0043: 2 additional warnings "DEPCN triggered.	IT does not coincide v	with two group 1	objects" must be

	T				T T
Dataset Name	AA500001	S-58 test No.	T0075	Туре	С
S-58 Description	For each DEPCNT object which of area DRGARE object with DRVA	_			an
Message	Floating DEPCNT WITHIN a DRG	ARE with VALDCO less than	n DRVAL1 of the	DRGARE.	
Solution	Amend floating contour VALDCO to be greater than the DRVAL1 of the underlying DRGARE. Or amend DRVAL1 of the DRGARE. Conformity Logical consister				
Test Case No. 1	Floating DEPCNT whose value is	not within the limits of the	e surrounding DR	RGARE.	
Location	32°23'35.32"S 60°43'27.49"E	S57 Encoding	DEPCNT DRGARE	VALDCO=20 DRVAL1=20	
Screen Capture	10				
Screen Capture Expected Test Results	T0075: An error "Floating DEPC DRGARE" must be triggered.	1.1.	VALDCO less tha	an DRVAL1 of the	

2.2. Test Dataset: AA500002

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
54a	For each CRANES, BUISGL, FORSTC, LNDMRK or SILTNK object of type area that is not WITHIN a LNDARE, BRIDGE, FLODOC, OFSPLF or PONTON object of type area.
54b	For each CRANES, BUISGL, FORSTC, LNDMRK, DAYMAR or SILTNK object of type point that is not WITHIN a LNDARE, BRIDGE, FLODOC, OFSPLF or PONTON object of type area OR it does not EQUAL a LNDARE, PILPNT, PYLONS, OFSPLF, SLCONS or UWTROC of type point OR it is not COINCIDENT with a COALNE, DAMCON, BRIDGE, FLODOC, LNDARE, PONTON or SLCONS of type line.
54c	For each BUISGL object of type area that is not WITHIN a LNDARE, BRIDGE, FLODOC, HRBFAC, OFSPLF, or PONTON object of type area OR for each BUISGL of type point that is not WITHIN a LNDARE, BRIDGE, FLODOC, OFSPLF or PONTON of type area OR it does not EQUAL a LNDARE, PILPNT, PYLONS, OFSPLF, SLCONS or UWTROC of type point OR it is not COINCIDENT with a COALNE, DAMCON, BRIDGE, FLODOC, LNDARE, PONTON or SLCONS of type line.
76	For each DEPCNT object WITHIN a FLODOC, HULKES, LNDARE or PONTON object of type Area.
77	For each object of type DEPCNT which crosses another object of type DEPCNT.
78	For each area object where its boundary CROSSES itself.
79	For each line object where component edges CROSSES without a connected node at the crossing point.
81	For each SOUNDG object which is COINCIDENT another SOUNDG object. (COINCIDENT applies to the horizontal component only).
93a	For each object where WATLEV = 4 [covers and uncovers] or 5 [awash] of type line or area which is WITHIN or OVERLAPS a LNDARE object of type area.
93b	For each object where WATLEV = 4 [covers and uncovers] or 5 [awash] of type point which OVERLAPS a LNDARE object of type area or EQUALS a LNDARE object of type point or is COINCIDENT with a LNDARE object of type line.
500	For each object where its geometry is not WITHIN an M_COVR object where CATCOV=1.
516a	For all master objects of type point which does not EQUAL the slave objects linked in the same master/slave relationship.
516b	For all master objects of type line where the slave object does not OVERLAP the master object.
516c	For all master objects of type area where the slave object is not WITHIN or TOUCHING the master object.
519a	For all objects FLODOC, DRGARE, LNDARE, HULKES, PONTON, DEPARE, UNSARE that their combined coverage EQUALS the data coverage M_COVR CATCOV=1.
519b	For all objects FLODOC, DRGARE, LNDARE, HULKES, PONTON, DEPARE, UNSARE that OVERLAP.
544	If an object OVERLAPS or is WITHIN an area of M_COVR where CATCOV=2.
549	For each DEPARE or DRGARE objects which is not WITHIN combined coverage of M_QUAL objects.
550	For each UNSARE object which CONTAIN or OVERLAP the following objects DEPCNT, OBSTRN, SOUNDG, UWTROC or WRECKS and which is not WITHIN combined coverage of M_QUAL objects.
557	For each SIGSEQ attribute value which does not conform to the correct structure (i.e. string content in accordance with format specification).
558	For each object where SIGSEQ is 'not null' and SIGPER is 'not equal to' the sum of the intervals of lit and eclipse given in SIGSEQ.
559a	For all objects where STATUS =1 [permanent] with at least one of 2 [occasional], 5 [periodic/intermittent], 7 [temporary].
559b	For all objects where STATUS =3 [recommended] with at least one of 4 [not in use], 11 [extinguished].
559c	For all objects where STATUS =4 [not in use] with at least one of 5 [periodic/intermittent], 9 [mandatory].
559d	For all objects where STATUS =5 [periodic/intermittent] with 11 [extinguished].
559e	For all objects where STATUS =9 [mandatory] with 11 [extinguished].
559f	For all objects where STATUS =16 [watched] with 17 [un-watched].
559g	For all objects where STATUS =8 [private] with 14 [public].
1524	For each M_QUAL object which is not completely WITHIN a SWPARE object AND where DRVAL1 is not Null.
	For each edge of a LNDARE object of type area which is not COINCIDENT with one of the following objects a) COALNE, SLCONS, GATCON, DAMCON of type line. OR
1565	b) M_COVR, GATCON, DAMCON, RIVERS, TUNNEL, DRYDOC, CANALS, LAKARE, LOKBSN, DOCARE, LNDARE of type area. OR c) CAUSWY, SLCONS, MORFAC, WRECKS, OBSTRN, PYLONS where WATLEV = 1 [partly submerged at high water], 2 [always dry] or 6 [subject to inundation or flooding].

Dataset Name	AA500002	S-58 test No.	T0054a	Туре	С	
S-58 Description	For each CRANES, BUISGL, FORSTC, LND LNDARE, BRIDGE, FLODOC, OFSPLF or P		• •	that is not WITH	IIN a	
Message	CRANES, BUISGL, FORSTC, LNDMRK or S PONTON.		•	GE, FLODOC, OF	SPLF or	
Solution	Amend object to ensure it is situated on a suitable object. Conformity Logical consistency					
Test Case No. 1	CRANES, FORSTC, LNDMRK and SILTNK	overlapping DEPAF	Ε (A).			
Location	32°22'07.45"S 60°43'33.15"E	S57 Encoding	CRANES (A) FORSTC (A) LNDMRK (A) SILTNK (A)			
Screen Capture	3					
Expected Test Results	T0054a: 4 errors "CRANES, BUISGL, FOR FLODOC, OFSPLF or PONTON" must be		ILTNK not WITHIN	N a LNDARE, BR	DGE,	
Secondary Errors	None					
Test Case No. 2	CRANES, FORSTC, LNDMRK and SILTNK PONTON areas.	areas overlapping	NDARE, BRIDGE,	, FLODOC, OFSP	LF and	
Location	32°23'12.54"S 60°43'44.41"E	S57 Encoding	CRANES (A) FORSTC (A) LNDMRK (A) SILTNK (A) LNDARE (A) BRIDGE (A) FLODOC (A) OFSPLF (A) FLODOC (A)			
Screen Capture						
Expected Test Results	T0054a: 15 errors "CRANES, BUISGL, FO FLODOC, OFSPLF or PONTON" must not		SILTNK not WITH	IN a LNDARE, BI	RIDGE,	

Secondary Errors	None				
Dataset Name	AA500002	S-58 test No.	T0054b	Type	С
S-58 Description	For each CRANES, BUISGL, FORSTC, WITHIN a LNDARE, BRIDGE, FLODOC a LNDARE, PILPNT, PYLONS, OFSPLF, with a COALNE, DAMCON, BRIDGE, I	, OFSPLF or PONTON SLCONS or UWTROC FLODOC, LNDARE, PO	object of type are of type point OR NTON or SLCONS	ea OR it does not it is not COINC of type line.	ot EQUAL IDENT
Message	CRANES, BUISGL, FORSTC, LNDMRK PONTON.	or SILTNK not WITHIN	a LNDARE, BRID	GE, FLODOC, C	FSPLF or
Solution	Amend object to ensure it is situated	d on a suitable object.	Conformity	Logical cons	sistency
Test Case No. 1	CRANES, FORSTC, LNDMRK, SILTNK a	and DAYMAR objects	overlapping DEPA	ARE (A).	
Location	32°21'59.99"S 60°43'32.77"E	S57 Encoding	CRANES (P) FORSTC (P) LNDMRK (P) SILTNK (P) DAYMAR (P)		
Screen Capture					
Expected Test Results	T0054b: 5 errors "CRANES, BUISGL, FLODOC, OFSPLF or PONTON" must	be triggered.			
Secondary Errors	T1775: An additional error "Equipme appropriate supporting structure ob	ject or underlying obj	ect" must be trig	gered.	
Test Case No. 2	CRANES (P), FORSTC (P), LNDMRK (P FLODOC (A), OFSPLF (A) or PONTON		T	NDARE (A), BR	DGE (A),
Location	32°23'09.57"S 60°43'44.61"E	S57 Encoding	CRANES (P) FORSTC (P) LNDMRK (P) SILTNK (P) DAYMAR (P) LNDARE (A) BRIDGE (A) FLODOC (A) OFSPLF (A) PONTON (A)		

Screen Capture			
Expected Test Results	T0054b: 25 errors "CRANES, BUISGL, FO FLODOC, OFSPLF or PONTON" must not		SILTNK not WITHIN a LNDARE, BRIDGE,
Secondary Errors	None		
Test Case No. 3	CRANES (P), FORSTC (P), LNDMRK (P), D PYLONS (P), OFSPLF (P), SLCONS (P) or L	• •	NK (P) equal to LNDARE (P), PILPNT (P),
Location	32°23'10.63"S 60°43'45.20"E	S57 Encoding	CRANES (P) FORSTC (P) LNDMRK (P) SILTNK (P) DAYMAR (P) LNDARE (P) PYLONS (P) PILPNT (P) OFSPLF (P) SLCONS (P) UWTROC (P)
Screen Capture			
Expected Test Results	T0054b: 25 errors "CRANES, BUISGL, FO FLODOC, OFSPLF or PONTON" must not	be triggered.	
Secondary Errors	T1775: An additional error "Equipment appropriate supporting structure object	•	
Test Case No. 4	CRANES (P), FORSTC (P), LNDMRK (P), D DAMCON (L), BRIDGE (L), FLODOC (L), LI	` '	• • • • • • • • • • • • • • • • • • • •
Location	32°23'07.76"S 60°43'44.95"E	S57 Encoding	CRANES (P) FORSTC (P) LNDMRK (P) SILTNK (P) DAYMAR (P) COALNE (L)

			DAMCON (L)		
			BRIDGE (L) FLODOC (L)		
			LNDARE (L)		
			PONTON (L)		
			SLCONS (L)		
Screen Capture					
Expected Test Results	T0054b: 25 errors "CRANES, BUISC FLODOC, OFSPLF or PONTON" mus	st not be triggered.			
Secondary Errors	T1775: An additional error "Equipr appropriate supporting structure of	•	•		d[]
			1		_
Dataset Name	AA500002	S-58 test No.	T0054c	Туре	W
S-58 Description	OFSPLF, or PONTON object of type		GL of type point t	hat is not WITHIN	a
	LNDARE, BRIDGE, FLODOC, OFSPLF PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD	or UWTROC of type poir OC, LNDARE, PONTON o	nt OR it is not CO	INCIDENT with a	
Message	PILPNT, PYLONS, OFSPLF, SLCONS	or UWTROC of type poir OC, LNDARE, PONTON o	nt OR it is not CO	INCIDENT with a	
	PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD	or UWTROC of type poir OC, LNDARE, PONTON o supporting object.	nt OR it is not CO	INCIDENT with a	
Message	PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD BUISGL not situated on a suitable s	or UWTROC of type poir OC, LNDARE, PONTON o supporting object.	nt OR it is not CO r SLCONS of type	INCIDENT with a e line.	
Message Solution	PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD BUISGL not situated on a suitable s Amend object to ensure it is situated	or UWTROC of type poir OC, LNDARE, PONTON o supporting object.	nt OR it is not CO r SLCONS of type	INCIDENT with a e line.	
Message Solution Test Case No. 1	PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD BUISGL not situated on a suitable samend object to ensure it is situated BUISGL (A) on DEPARE (A).	or UWTROC of type poir OC, LNDARE, PONTON o supporting object.	ot OR it is not CO r SLCONS of type Conformity	INCIDENT with a e line.	
Message Solution Test Case No. 1 Location	PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD BUISGL not situated on a suitable samend object to ensure it is situated BUISGL (A) on DEPARE (A).	or UWTROC of type poir OC, LNDARE, PONTON of supporting object. Sed on a suitable object. S57 Encoding	Conformity BUISGL (A)	INCIDENT with a line. Logical consiste	
Message Solution Test Case No. 1 Location Screen Capture	PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD BUISGL not situated on a suitable samend object to ensure it is situated BUISGL (A) on DEPARE (A). 32°22'45.11"S 60°45'55.86"E	or UWTROC of type poir OC, LNDARE, PONTON of supporting object. Sed on a suitable object. S57 Encoding	Conformity BUISGL (A)	INCIDENT with a line. Logical consiste	
Message Solution Test Case No. 1 Location Screen Capture Expected Test Results	PILPNT, PYLONS, OFSPLF, SLCONS COALNE, DAMCON, BRIDGE, FLOD BUISGL not situated on a suitable shared object to ensure it is situated BUISGL (A) on DEPARE (A). 32°22'45.11"S 60°45'55.86"E	or UWTROC of type poir OC, LNDARE, PONTON of supporting object. Sed on a suitable object. S57 Encoding Tuated on a suitable supporting on a suitable supporting on a suitable supporting on a suitable supporting of the supporti	Conformity BUISGL (A)	Logical consiste	ncy

			BRIDGE (A)	
			FLODOC (A)	
			OFSPLF (A)	
			PONTON (A)	
Screen Capture				
Expected Test Results	T0054c: 5 warnings "BUISGL not situate	ed on a suitable sup	pporting object" m	ust not be triggered.
Secondary Errors	None			
Test Case No. 3	BUISGL (P) inside a DEPARE (A).			
Location	32°22'42.41"S 60°45'58.02"E	S57 Encoding	BUISGL (P)	
Screen Capture				
Expected Test Results	T0054c: A warning "BUISGL not situated	d on a suitable sup	porting object" mu	ust be triggered.
Secondary Errors	None			
Test Case No. 4	BUISGL (P) within a LNDARE (A), BRIDG	E (A), FLODOC (A),		TON (A).
Location	32°22'39.79"S 60°46'01.86"E	S57 Encoding	BUISGL (P) LNDARE (A) BRIDGE (A) FLODOC (A) OFSPLF (A) PONTON (A)	

Screen Capture	24			
Expected Test Results	T0054c: 5 warnings "BUISGL not situat	ed on a suitable sup	pporting object" must not be triggered	d.
Secondary Errors	None			
Test Case No. 5	BUISGL (P) that is on a LNDARE (P), PIL	PNT (P), PYLONS (P)		(P).
Location	32°22'34.09"S 60°46'07.33"E	S57 Encoding	BUISGL (P) LNDARE (P) BRIDGE (P) FLODOC (P) OFSPLF (P) PONTON (P)	
Screen Capture	*			
Expected Test Results	T0054c: 6 warnings "BUISGL not situat	ed on a suitable sup	oporting object" must not be triggered	d.
Secondary Errors	None		-	
Test Case No. 6	BUISGL (P) which is coincident with a C (L), PONTON (L) or SLCONS (L).	COALNE (L), DAMCO		.E
Location	32°22'36.23"S 60°46'05.93"E	S57 Encoding	BUISGL (P) COALNE (L) DAMCON (L) BRIDGE (L) FLODOC (L) LNDARE (L) PONTON (L) SLCONS (L)	

Screen Capture					
Expected Test Results	T0054c: 7 warnings "BUISGL not s	ituated on a suitable su	pporting object" m	nust not be trigger	ed.
Secondary Errors	None				
Dataset Name	AA500002	S-58 test No.	T0076	Туре	E
S-58 Description	For each DEPCNT object WITHIN a	FLODOC, HULKES, LND.	ARE or PONTON o	bject of type Area.	
Message	DEPCNT within prohibited objects				
Solution	Amend DEPCNT to be within appr	opriate objects.	Conformity	Logical consist	ency
Test Case No. 1	DEPCNT inside FLODOC. DEPCNT inside HULKES. DEPCNT inside LNDARE. DEPCNT inside PONTON.				
Location	32°22'36.74"S 60°43'46.83"E	S57 Encoding	DEPCNT (L) FLODOC (A) HULKES (A) PONTON (A) LNDARE (A)	VALDCO=0	
Screen Capture		12	3		
Expected Test Results	T0076: 4 errors "DEPCNT within p	rohibited objects" must	be triggered.		
			with two group 1	- - !	

Dataset Name	AA500002	S-58 test No.	T0077	Туре	С
S-58 Description	For each object of type DEPCNT which	crosses another ob	oject of type DEPC	CNT	
Message	DEPCNT objects cross.				
Solution	Amend DEPCNT objects so they do not	cross.	Conformity	Logical cor	sistency
Test Case No. 1	DEPCNT lines overlapping.			1	
Location	32°22'24.54"S 60°43'42.38"E	S57 Encoding	DEPCNT (L)		
Screen Capture					
Expected Test Results	T0077: 2 errors "DEPCNT objects cross	" must be triggered	d.		
Secondary Errors	T0043: An additional warning "DEPCN" triggered. T0074: 2 additional errors "Floating DE greater than DRVAL2" must be triggered.	PCNT WITHIN a DE		-	
Dataset Name	AA500002	S-58 test No.	T0078	Туре	С
S-58 Description	For each area object where its bounda	ry CROSSES itself.			
Message	Boundary of an area object crosses itse	elf.			
Solution	Amend boundary to remove part which	h crosses itself.	Conformity	Logical cor	sistency
Test Case No. 1	ACHARE (A) is self-crossing.		•	1	
				1	

Screen Capture					
Expected Test Results	T0078: An error "Boundary of an area of	bject crosses itself	" must be triggere	d.	
Secondary Errors	T0080c: An additional error "External b	oundary WITHIN ar	n internal boundar	ry" must be trigge	ered.
Dataset Name	AA500002	S-58 test No.	T0079	Туре	E
S-58 Description	For each line object where component point	edges CROSS ES wit	hout a connected	node at the cross	sing
Message	Component edges of a line object cross	without a connect	ed node at the cro	ossing point.	
Solution	Insert connected node at crossing point	t.	Conformity	Topology	
Test Case No. 1	CBLSUB (L) is self-crossing.				
Location	32°23'28.19"S 60°43'37.52"E	S57 Encoding	CBLSUB (L)		
Screen Capture		}			
Expected Test Results	T0079: An error "Component edges of a point" must be triggered.	a line object cross v	vithout a connecto	ed node at the cro	ossing
Secondary Errors	None				
5	4450000		T0004		_
Dataset Name	AA500002	S-58 test No.	T0081	Туре	E

S-58 Description	For each SOUNDG object which is CO the horizontal component only).	INCIDENT another SO	OUNDG object. (Co	OINCIDENT applie	s to
Message	SOUNDG objects are coincident.				
Solution	Delete coincident SOUNDG objects		Conformity	Topology	
Test Case No. 1	Two SOUNDG objects with the same	value, located at the	same position.		
Location	32°22'29.75"S 60°43'44.81"E	S57 Encoding	SOUNDG	Depth = 3.6	
Screen Capture	36				
Expected Test Results	T0081: An error "SOUNDG objects ar	e coincident" must b	e triggered.		
Secondary Errors	T0067: An additional error "Duplicate	e object exists" must	be triggered.		
Test Case No. 2	Two SOUNDG objects with different	values, located at the	same position.		
Location	32°22'32.94"S 60°43'36.70"E	S57 Encoding	SOUNDG	Depths are 1.5 1.8m	5 and
Screen Capture	18				
Expected Test Results	T0081: An error "SOUNDG objects ar	e coincident" must b	e triggered.		
Secondary Errors	None				
Dataset Name	AA500002	S-58 test No.	T0093a	Туре	E

S-58 Description	For each object where WATLEV = 4 OVERLAPS a LNDARE object of typ] or 5 [awash] of ty	pe line or area which
Message	Object with WATLEV 4 or 5 on a LN	NDARE object.		
Solution	Amend LNDARE object to ensure of tidal zone.	bject is within inter-	Conformity	Logical consistency
Test Case No. 1	SLCONS (L) on LNDARE (A). OBSTRN (A) on LNDARE (A).			
Location	32°22'52.40"S 60°43'41.83"E	S57 Encoding	SLCONS (L) SLCONS (L) OBSTRN (A) OBSTRN (A)	WATLEV = 4 WATLEV = 5 WATLEV = 4 WATLEV = 5
Screen Capture				
Expected Test Results	T0093a: 4 errors "Object with WA"	TLEV 4 or 5 on a LNDAR	RE object" must be	triggered.
Secondary Errors	None			
Dataset Name	AA500002	S-58 test No.	T0093b	Type E
S-58 Description	For each object where WATLEV = 4 OVERLAPS a LNDARE object of typ COINCIDENT with a LNDARE object	e area or EQUALS a LNI		pe point which
Message	Object with WATLEV 4 or 5 on a LN	NDARE object.		
Solution	Amend LNDARE object to ensure of tidal zone.	bject is within inter-	Conformity	Logical consistency
Test Case No. 1	OBSTRN (P) on LNDARE (A). OBSTRN (P) on LNDARE (P). OBSTRN (P) on LNDARE (L).	_		
Location	32°22'51.69"S 60°43'44.29"E	S57 Encoding	OBSTRN (P) X3 OBSTRN (P) X3 LNDARE (L) LNDARE (P)	$ M/\Delta H = 4$

Screen Capture						
Expected Test Results	T0093b: 12 errors "Object with WATI	EV 4 or 5 on a LNDA	RE object" must b	e triggered.		
Secondary Errors	None					
Dataset Name	AA500002	S-58 test No.	T0500	Туре	С	
S-58 Description	For each object where its geometry is	s not within an M_Co	OVR object where	CATCOV=1.		
Message	Objects fall outside the coverage obje	Objects fall outside the coverage object.				
Solution	Ensure objects are not outside of the	limits of the cell.	Conformity	2.2		
Test Case No. 1	ACHARE (P) inside a 'no coverage' are	ea.				
Location	32°22'59.82"S 60°43'36.51"E	S57 Encoding	M_COVR (A) ACHARE (P)	CATCOV=2		
Screen Capture	ŧ					
Expected Test Results	T0500: An error "Objects fall outside					
Secondary Errors	T0544: An additional error "Object W	ITHIN an area of no	coverage" must b	e triggered.		
5	4450000	0.50 :	T0516		1_	
S-58 Description	AA500002 For all master objects of type point w master/slave relationship.	S-58 test No.	T0516a L the slave objects	Type s linked in the sar	ne	
Message	Master and slave point objects do no	t share the same no	de.			

Solution	Ensure master and slave point object node.	Conformity	3.9 and Appe		
Test Case No. 1	SILTNK (P) with LIGHTS at different sp		& 12.1.2)		
Location	32°23'24.53"S 60°43'40.02"E	S57 Encoding	SILTNK (P) LIGHTS (P)		
Screen Capture			, , , , , , , , , , , , , , , , , , , ,		
Expected Test Results	T0516a: An error "Ensure master and	l slave point objects	share the same no	ode" must be trig	gered.
Secondary Errors	T1723: An additional error "Object fo object" must be triggered.	orming a navigational	aid does not poir	nt to the same sp	atial
Dataset Name	AA500002	S-58 test No.	T0516b	Туре	E
S-58 Description	For all master objects of type line wh	ere the slave object	does not OVERLAI	the master obje	ect.
Message	Master and slave line objects do not	overlap.			
Solution	Ensure the Master and Slave overlap.		Conformity	3.9 and Appe B1, Annex A & 12.1.2)	
Test Case No. 1	SLCONS (L) with LIGHTS slave at diffe	rent spatial positions			
Location	32°23'19.83"S 60°43'44.06"E	S57 Encoding	SLCONS (L) LIGHTS (P)		
Screen Capture					
Expected Test Results	T0516b: An error "Master and slave I	ine objects do not ov	verlap" must be tr	iggered.	
Secondary Errors	None				
Dataset Name	AA500002	S-58 test No.	T0516c	1	E

S-58 Description	For all master objects of type area	where the slave object	is not WITHIN or	TOUCHING the master		
	object.					
Message	Slave object of type area does not touch or fall WITHIN the master object.					
Solution	Ensure the Slave object touches of Master.	Ensure the Slave object touches or lies WITHIN the Master. Conformity 3.9 and Appen B1, Annex A (1				
Test Case No. 1	SILTNK (A) with LIGHTS slave at dif	ferent spatial positions				
Location	32°23'22.65"S 60°43'41.21"E	S57 Encoding	SILTNK (A) LIGHTS (P)			
Screen Capture						
Expected Test Results	T0516c: An error "Slave object of the triggered.	type area does not touc	h or fall WITHIN th	ne master object" must		
Secondary Errors	None					
		T				
S-58 Description	For all objects FLODOC, DRGARE, I combined coverage EQUALS the d			Type C ARE that their		
Message	Skin of the earth (TG1) objects do	not cover the data cove	erage (M_COVR=1)).		
Solution	Adjust TG1 object limits to match	data coverage.	Conformity	3.10.1.		
Test Case No. 1	UNSARE inside DEPARE (A).		1	1		
Location	32°21'56.84"S 60°46'28.45"E	S57 Encoding	UNSARE (A)			
Screen Capture	•					

Secondary Errors	T0042: An additional error "GROUP 1 is	not correct, a hole	e or an overlap exi	ists" must be trig	gered.
Detect Name	AAF00003	C FO toot No	T0F10h	Tuna	Τ.
Dataset Name	AA500002	S-58 test No.	T0519b	Туре	С
S-58 Description	For all objects FLODOC, DRGARE, LNDARE, HULKES, PONTON, DEPARE, UNSARE that OVERLAP.				
Message	Skin of the earth (TG1) objects overlap.				
Solution	Ensure TG1 objects do not overlap.		Conformity	3.10.1.	
Test Case No. 1	UNSARE inside DEPARE (A).		•	•	
Location	32°22'23.07"S 60°43'51.68"E	S57 Encoding	UNSARE (A)		
Screen Capture			5 ₁		
Expected Test Results	T0519b: 2 errors "Skin of the earth (TG	1) objects overlap"	' must be triggered	d.	
Secondary Errors	T0042: An additional error "GROUP 1 is	not correct, a hole	e or an overlap exi	ists" must be trig	ggered.
Dataset Name	AA500002	S-58 test No.	T0544	Туре	С
S-58 Description	If an object OVERLAPS or is WITHIN an	area of M_COVR w	here CATCOV=2.		
Message	Object within an area of no coverage.				
Solution	Remove object or amend coverage.		Conformity	2.2	
Test Case No. 1	SLCONS (L) inside 'no coverage' area.				
Location	32°22'42.10"S 60°43'39.05"E	S57 Encoding	M_COVR (A) SLCONS (L)	CATCOV=2	

Screen Capture					
Expected Test Results	T0544: An error "Object within an are	a of no coverage" m	ust be triggered.		
Secondary Errors	T0019: 5 additional errors "Edge coinc	_		does not equa	al 3
·	{Exterior boundary truncated by the d	ata limit]" must be	triggered.		
Dataset Name	AA500002	S-58 test No.	T0549	Туре	E
Dataset Name	AA300002	3-36 test No.	10349	Туре	
S-58 Description	For each DEPARE or DRGARE objects v	which is not WITHIN	combined covera	age of M_QUA	L objects.
Message	DEPARE or DRGARE objects not cover		bject.		
Solution	Ensure full coverage of M_QUAL object DRGAREs.	cts over DEPARE or	Conformity	3.4	
Test Case No. 1	DEPARE, DRGARE not within M_QUAL		_ _		
Location	32°22'06.25"S 60°43'57.50"E	S57 Encoding	M_QUAL (A) DRGARE (A) DEPARE (A)		
Screen Capture	91				
Expected Test Results	T0549: 2 errors "DEPARE or DRGARE of	bjects not covered	by an M_QUAL ol	bject" must be	triggered.
Secondary Errors	None				
Dataset Name	AA500002	S-58 test No.	T0550	Туре	E
S-58 Description	For each UNSARE object which CONTA SOUNDG, UWTROC or WRECKS and w				

Message	UNSARE containing bathymetric fe	eatures not completely	covered by M_QU	IAL.	
Solution	Ensure M_QUAL objects complete objects	ly cover UNSARE	Conformity	3.4	
Test Case No. 1	DEPCNT (L), OBSTRN (A, L, P), SOU	NDG, UWTROC, WREC	KS (A, P) inside UN	SARE (A).	
Location	32°22'16.76"S 60°43'40.31"E	S57 Encoding	UNSARE (A) SOUNDG (P) WRECKS (A, P) UWTROC (P) OBSTRN (A, P, L)		
Screen Capture					
Expected Test Results	T0550: 8 errors "UNSARE containing must be triggered.	ng bathymetric feature	s not completely c	overed by M_	QUAL"
Secondary Errors	None				
Dataset Name					
	AA500002	S-58 test No.	T0557	Type	E
S-58 Description	For each SIGSEQ attribute value w content in accordance with format	hich does not conform		1	
	For each SIGSEQ attribute value w	hich does not conform t specification).		1	
S-58 Description	For each SIGSEQ attribute value w content in accordance with format	hich does not conform t specification). prrectly.		1	ng A Ch.2
S-58 Description Message	For each SIGSEQ attribute value w content in accordance with format SIGSEQ attribute not formatted co	hich does not conform t specification). prrectly. bute value.	to the correct stru	Appendix	ng A Ch.2

Screen Capture				
Expected Test Results	T0557: An error "SIGSEQ attribute not	formatted correctly	" must be trigger	ed.
Secondary Errors	None			
Dataset Name	AA500002	S-58 test No.	T0558	Type E
Dataset Name				1 7.
S-58 Description	For each object where SIGSEQ is 'not n and eclipse given in SIGSEQ.	ull' and SIGPER is 'r	ot equal to' the s	um of the intervals of lit
Message	SIGPER does not correspond to SIGSEQ		_	
Solution	Ensure SIGPER corresponds to the valu	e of SIGSEQ	Conformity	Appendix A Ch.2 (code 143) and logical consistency
Test Case No. 1	LIGHTS with attributes SIGSEQ and SIG	PER encoded.		
Location	32°22'38.69"S 60°45'45.93"E	S57 Encoding	DAYMAR LIGHTS	SIGPER=1 SIGSEQ=00.4+(03.6)
Screen Capture				
Expected Test Results	T0558: An error "SIGPER does not corre	espond to SIGSEQ"	must be triggered	d.
Secondary Errors	None			

Dataset Name	AA500002	S-58 test No.	T0559a	Туре	Е
S-58 Description	For all objects where STATUS =1 [pern [periodic/intermittent], 7 [temporary]	-	t one of 2 [occasi	onal], 5	
Message	Illogical combination of STATUS values	5.			
Solution	Amend values for STATUS.		Conformity	Appendix A (code 149) a logical cons	and
Test Case No. 1	OFSPLF (P) with attributes encoded.				
Location	32°23'04.15"S 60°43'58.55"E	S57 Encoding	OFSPLF (P)	STATUS=1,2 STATUS=1,5 STATUS=1,7	5
Screen Capture					
Expected Test Results	T0559a: 3 errors "Illogical combination	n of STATUS values"	must be triggere	d.	
Secondary Errors	T2000: An additional error "Attribute triggered.	value which is not a	llowed use on an	object" must be	1
Dataset Name	AA500002	S-58 test No.	T0559b	Туре	E
S-58 Description	For all objects where STATUS =3 [reco [extinguished].	mmended] with at I	least one of 4 [no	t in use], 11	
Message	Illogical combination of STATUS values	5.			
Solution	Amend values for STATUS.		Conformity	Appendix A (code 149) a logical cons	and
Test Case No. 1	OFSPLF (P) with attribute values encode	ded.			
Location	32°23'07.85"S 60°44'08.52"E	S57 Encoding	OFSPLF (P)	STATUS=3,4 STATUS=3,1	

Screen Capture	•				
Expected Test Results	T0559b: 2 errors "Illogical combination				
Secondary Errors	T2000: 2 additional errors "Attribute vatriggered.	llue which is not allo	owed use on an ob	oject" must be	
		1			1
Dataset Name	AA500002	S-58 test No.	T0559c	Туре	E
S-58 Description	For all objects where STATUS =4 [not in [mandatory].	use] with at least o	one of 5 [periodic/i	ntermittent], 9	
Message	Illogical combination of STATUS values.				
Solution	Amend values for STATUS.		Conformity	Appendix A Ch (code 149) and logical consiste	b
Test Case No. 1	OFSPLF (P) with attribute values encode	ed.			
Location	32°23'13.97"S 60°44'07.21"E	S57 Encoding	OFSPLF (P)	STATUS=4,5 STATUS=4,9	
Screen Capture	•				
Expected Test Results	T0559c: 2 errors "Illogical combination				
Secondary Errors	T2000: 2 additional errors "Attribute vatriggered.	llue which is not allo	owed use on an ob	eject" must be	
5				_	
S-58 Description	AA500002 For all objects where STATUS =5 [period	S-58 test No.	T0559d th 11 [extinguished	Type d].	E

Message	Illogical combination of STATUS val	ues.			
Solution	Amend values for STATUS.		Conformity	Appendix A Ch (code 149) and logical consist	d
Test Case No. 1	OFSPLF (P) with attribute values en	icoded.			
Location	32°23'09.11"S 60°44'01.44"E	S57 Encoding	OFSPLF (P)	STATUS=5,11	
Screen Capture	7	82			
Expected Test Results	T0559d: An error "Illogical combina	ation of STATUS value	s" must be triggere	d.	
Secondary Errors	T2000: An additional error "Attribu triggered.	te value which is not	allowed use on an	object" must be	
				T	
Dataset Name	AA500002	S-58 test No.	T0559e	Туре	E
S-58 Description	For all objects where STATUS =9 [m		rtinguished].		
Message	Illogical combination of STATUS val	ues.			
Solution	Amend values for STATUS.		Conformity	Appendix A Ch (code 149) and logical consist	d
Test Case No. 1	OFSPLF (P) with attribute values en	coded.			
Location	32°23'07.30"S 60°43'54.67"E	S57 Encoding	OFSPLF (P)	STATUS=9,11	
Screen Capture	•				
	T0559e: An error "Illogical combina	ation of STATUS value	s" must he triggere	d	
Screen Capture Expected Test Results Secondary Errors	T0559e: An error "Illogical combination." T2000: An additional error "Attribu				

Dataset Name	AA500002	S-58 test No.	T0559f	Туре	Ε				
S-58 Description	For all objects where STATUS =16 [water	For all objects where STATUS =16 [watched] with 17 [un-watched].							
Message	Illogical combination of STATUS values.								
Solution	Amend values for STATUS.		Conformity	Appendix A ((code 149) ar logical consis	nd				
Test Case No. 1	OFSPLF (P) with attribute values encod	ed.	•						
Location	32°23'14.06"S 60°44'01.17"E	S57 Encoding	OFSPLF (P)	STATUS=16,1	.7				
Screen Capture	•								
Expected Test Results	T0559f: An error "Illogical combination	of STATUS values"	must be triggere	d.	T0559f: An error "Illogical combination of STATUS values" must be triggered.				
Secondary Errors	T2000: An additional error "Attribute v	alue which is not a	llowed use on an						
	triggered.	aide Willeli is flot a	nowed use on an	object" must be					
		alue Willer is flot a	nowed use on an	object" must be					
Dataset Name		S-58 test No.	T0559g	Type	E				
Dataset Name S-58 Description	triggered.	S-58 test No.	T0559g		E				
	triggered. AA500002	S-58 test No. te] with 14 [public]	T0559g		E				
S-58 Description	triggered. AA500002 For all objects where STATUS =8 [private	S-58 test No. te] with 14 [public]	T0559g		Ch.2				
S-58 Description Message	AA500002 For all objects where STATUS =8 [private of STATUS] Illogical combination of STATUS values.	S-58 test No. te] with 14 [public]	T0559g	Type Appendix A C (code 149) ar	Ch.2				

Screen Capture	7 4 ₅				
Expected Test Results	T0559g: An error "Illogical combinati				
Secondary Errors	T2000: An additional error "Attribute triggered.	value which is not a	llowed use on an c	object" must be	
Dataset Name	AA500002	S-58 test No.	T1524	Туре	Е
S-58 Description	For each M_QUAL object which is no not Null.	t completely WITHIN	a SWPARE object	AND where DRV	AL1 is
Message	M_QUAL which is not covered by a S	WPARE object contai	ns DRVAL1.		
Solution	Remove value of DRVAL1.		Conformity	2.2.3.1	
Test Case No. 1	M_QUAL (A) with attribute DRVAL1 e	encoded.			
Location	32°23'32.25"S 60°43'36.20"E	S57 Encoding	M_QUAL (A)	DRVAL1=50	
Screen Capture		91			
Expected Test Results	T1524: An error "M_QUAL which is n triggered.	ot covered by a SWP.	ARE object contair	ns DRVAL1" must	be
Secondary Errors	None				
Dataset Name	AA500002	S-58 test No.	T1565	Туре	E
S-58 Description	For each edge of a LNDARE object of objects; a) COALNE, SLCONS, GATCON, DAMC b) M_COVR, GATCON, DAMCON, RIV	ON of type line. OR			_

	LNDARE of type area. OR					
	* *	c) CAUSWY, SLCONS, MORFAC, WRECKS, OBSTRN, PYLONS where WATLEV = 1 [partly submerged at				
	high water], 2 [always dry] or 6 [subject to inundation or flooding].					
Message	LNDARE not enclosed by appropriat	LNDARE not enclosed by appropriate linear or area object.				
Solution	Ensure LNDARE is enclosed by an ap	propriate object.	Conformity	4.5		
Test Case No. 1	LNDARE not enclosed with any of the a) COALNE, SLCONS, GATCON, DAM b) M_COVR, GATCON, DAMCON, RI'LNDARE of type area. OR c) CAUSWY, SLCONS, MORFAC, WRE high water], 2 [always dry] or 6 [sub	CON of type line. OR VERS, TUNNEL, DRYDO ECKS, OBSTRN, PYLON	S where WATLEV =			
Location	32°23'27.59"S 60°43'33.13"E	S57 Encoding	LNDARE (A)			
Screen Capture						
Expected Test Results	T1565: An error "LNDARE not enclose	sed by appropriate lin	ear or area object"	must be triggered.		
Secondary Errors	None					
Test Case No. 2	LNDARE enclosed with the following	g (L) objects: COALNE,	SLCONS, GATCON,	DAMCON.		
Location	32°22'34.05"S 60°45'44.08"E	S57 Encoding	LNDARE (A) COALNE (L) SLCONS (L) GATCON (L) DAMCON (L)			
Screen Capture						
Expected Test Results	T1565: 4 errors "LNDARE not enclos	sed by appropriate line	ear or area object"	must not be triggered.		
Secondary Errors	None		<u> </u>			
Test Case No. 3	LNDARE with the following (A) object CANALS, LAKARE, LOKBSN, DOCARE	-	N, DAMCON, RIVER	S, TUNNEL, DRYDOC,		

Location	32°21'57.37"S 60°43'32.09"E	S57 Encoding	LNDARE (A) M_COVR (A) GATCON (A) DAMCON (A) RIVERS (A) TUNNEL (A) DRYDOC (A) CANALS (A) LAKARE (A) LOKBSN (A) DOCARE (A) LNDARE (A)	
Screen Capture	TASSE 41 away (INDADS not an least			
Expected Test Results	T1565: 11 errors "LNDARE not enclosed triggered.	i by appropriate iin	ear or area object	must not be
Secondary Errors	None			
Test Case No. 4	LNDARE with the following objects: CAL WATLEV = 1 [partly submerged at high flooding].			
Location	32°22'49.53"S 60°45'42.83"E	S57 Encoding	CAUSWY (A) SLCONS (A) MORFAC (A) WRECKS (A) OBSTRN (A) PYLONS (A)	WATLEV = 1 WATLEV = 2 WATLEV = 6
Screen Capture	As. Top			
Expected Test Results	T1565: 18 errors "LNDARE not enclosed triggered.	l by appropriate line	ear or area object"	must not be

T2000: 2 additional errors "Attribute value which is not allowed use on an object" must be triggered.

T1663: An additional warning "WRECKS object with illogical attribute combination" must be triggered.

T1786: An additional error "Area object with WATLEV = (2) but not on an area LNDARE object" must be triggered.

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2.3. Test Dataset: AA500003

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1566	For each edge of a COALNE object OR SLCONS object of type line which is COINCIDENT with a RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or LOKBSN object AND is not COINCIDENT with a DEPARE, DRGARE, UNSARE, PONTON, FLODOC or HULKES object.
1568	For each SLCONS object of type area which is not WITHIN a LNDARE, DEPARE or UNSARE of type area.
1569	For each SLCONS object of type area where WATLEV = 3 [always under water/submerged], 4 [covers and uncovers] or 5 [awash] AND which is not WITHIN a DEPARE and/or UNSARE of type area.
1573	For each DRYDOC object which is not WITHIN a LNDARE object of type area.
1580	For each GATCON which is not WITHIN a DEPARE, DRGARE, UNSARE or LNDARE of type area.
1599a	For each RAPIDS or WATFAL object which is not WITHIN or COINICIDENT with a RIVERS object.
1599b	For each RAPIDS or WATFAL object which is not WITHIN a LNDARE or UNSARE object.
1607a	For each COALNE object where CATCOA is not (7) [mangrove] AND is COINCIDENT with a VEGATN object where CATVEG = (7) [mangroves].
1067b	For each VEGATN object where CATVEG = (7) [mangroves] AND the QUAPOS of the spatial object is not (4) [approximate].
1617	For each DAMCON object of type area which is not WITHIN a LNDARE object of type area.
1619	For each DYKCON object of type area which is not WITHIN a LNDARE object of type area.
1648	For each DRGARE object where QUASOU is not Null AND its value is NOT (10) [maintained depth] or (11) [not regularly maintained].
1649	For each DRGARE where SOUACC is not Null AND the M_QUAL object it lies WITHIN has an equivalent or lesser value of SOUACC.
1651	For each SWPARE object which is not WITHIN DEPARE and/or DRGARE objects of type area.
1652	For each SWPARE object which EQUALS an M_QUAL object AND the DRVAL1 values of the two objects are not equal.
1662	For each WRECKS object OR OBSTRN object of type area which is not WITHIN a DEPARE, LNDARE or UNSARE object of type area.
1670	For each WRECKS or OBSTRN object of type area which CONTAINS objects of type WRECKS or OBSTRN of type point AND the values of EXPSOU, QUASOU, SOUACC, VALSOU and WATLEV of the area object are not equal to the values of the shallowest point object.
1671	For each object of type line which is COINCIDENT with an area object of the same object type and attribute values except attributes SORIND, SORDAT and SCAMIN.

Dataset Name	AA500003	S-58 test No	. T1566	Туре	E	
S-58 Description	For each edge of a COALNE object OR SLCONS object of type line which is COINCIDENT with a RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or LOKBSN object AND is not COINCIDENT with a DEPARE, DRGARE, UNSARE, PONTON, FLODOC or HULKES object.					
Message	COALNE or SLCONS used as the boundary of obje	ects on LAND.				
Solution	Not required therefore remove COALNE or SLCO	NS object.	Conformity	4.5, 4.6 4.6.6.3	.6.1,	
Test Case No. 1	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L LNDARE (A).	OKBSN areas bou	unded by COALN	NE\SLCONS	S (L) on	
Location	32°22'26.45″S 60°47'57.90″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) SLCONS (L) COALNE (L)			
Screen Capture						
Expected Test Results	T1566: 12 errors "COALNE or SLCONS used as the triggered.	e boundary of ob	jects on LAND"	must be		
Secondary Errors	T0057: 6 additional errors "COALNE object not to touching LNDARE objects" must be triggered.	ouching LNDARE	or SLCONS or no	ot WITHIN	or	
Test Case No. 2	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L shared by DEPARE (A).	OKBSN areas bou	ınded by COALI	NE with ed	ges	
Location	32°22'29.91″S 60°47'55.85″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) COALNE (L) DEPARE (A)			

Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L	OKBSN areas bou	unded by SLCONS (L) with edges
Test Case No. 3	shared by DEPARE.		
Location	32°22'30.78″S 60°47'55.49″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) SLCONS (L) DEPARE (A)
Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 4	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L shared by DRGARE (A).	OKBSN areas bou	
Location	32°22'31.18″S 60°47'55.30″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) COALNE (L) DRGARE (A)

Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the	boundary of obje	ects on LAND" must not be
	triggered.		
Secondary Errors	None	OVDEN areas has	unded by SLCONS (1) with edges
Test Case No. 5	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L shared by DRGARE (A).	TOVDON ALGAS DOI	unded by Secons (e) with eages
Location	32°22'31.87″S 60°47'54.86″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) SLCONS (L) DRGARE (A)
Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 6	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L shared by UNSARE.	OKBSN areas bo	
Location	32°22'32.45″S 60°47'54.66″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) COALNE (L) UNSARE (A)

Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 7	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or I	OKBSN areas boo	unded by SLCONS (L) with edges
rest case 140. 7	shared by UNSARE.	1	
Location	32°22'33.05"S 60°47'54.50"E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) SLCONS (L) UNSARE (A)
Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 8	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or I shared by PONTON.	LOKBSN areas bou	
Location	32°22'33.80″S 60°47'54.20″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) COALNE (L) PONTON (A)

Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 9	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L	OKBSN areas boo	unded by SLCONS (L) with edges
Test Case NO. 9	shared by PONTON.	T	
Location	32°22'41.38″S 60°47'53.82″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) SLCONS (L) PONTON (A)
Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 10	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L shared by FLODOC.	OKBSN areas bou	,
Location	32°22'46.70″S 60°47'51.54″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) COALNE (L) FLODOC (A)

Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 11	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L	OKBSN areas boo	unded by SLCONS (L) with edges
iest case NU. 11	shared by FLODOC.	1	I = 0.750 (1)
Location	32°22'51.44″S 60°47'49.71″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) SLCONS (L) FLODOC (A)
Screen Capture			
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" must not be
Secondary Errors	None		
Test Case No. 12	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L shared by HULKES.	OKBSN areas bou	unded by COALNE with edges
Location	32°22'59.12″S 60°47'47.21″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) COALNE (L) HULKES (A)

Screen Capture			LAND"	
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on Land" m	ust not be
Secondary Errors	None			
Test Case No. 13	RIVERS, CANALS, LAKARE, DOCARE, DRYDOC or L shared by HULKES.	OKBSN areas bou	unded by SLCON	S (L) with edges
Location	32°22'55.15″S 60°47'48.36″E	S57 Encoding	RIVERS (A) LAKARE (A) CANALS (A) DOCARE (A) DRYDOC (A) LOKBSN (A) SLCONS (L) HULKES (A)	
Screen Capture				
Expected Test Results	T1566: 6 errors "COALNE or SLCONS used as the triggered.	boundary of obje	ects on LAND" m	ust not be
Secondary Errors	None			
Dataset Name	AA500003	S-58 test No	. T1568	Type E
S-58 Description	For each SLCONS object of type area which is no area.			1 2- 1
Message	Area SLCONS not covered by an appropriate TG1 object.			
Solution	Amend appropriate TG1 object to cover SLCONS object. Conformity 4.5.2			
Test Case No. 1	SLCONS (A) overlapping PONTON.			
Location	32°22'27.65″S 60°47'56.43″E	S57 Encoding	SLCONS (A)	WATLEV=2

			PONTON (A)	
Screen Capture				
Expected Test Results	T1568: An error "Area SLCONS not covered by ar			
Secondary Errors	T1786: An additional error "Area object with WA must be triggered.	TLEV = (2) but no	t on an area LNI	OARE object"
				T _ T _
Dataset Name	AA500003	S-58 test No		Type E
S-58 Description	For each SLCONS object of type area where WAT [covers and uncovers] or 5 [awash] AND which is area.			
Message	Area SLCONS not covered by an appropriate TG1	object.		
Solution	Amend appropriate TG1 object to cover SLCONS	object.	Conformity	4.5.2
Test Case No. 1	SLCONS (A) overlapping PONTON.			
Location	32°22'16.70″S 60°48'07.72″E	S57 Encoding PONTON (A) SLCONS (A) SLCONS (A) SLCONS (A)		WATLEV=3 WATLEV=4 WATLEV=5
Screen Capture	09			
Expected Test Results	T1569: 3 errors "Area SLCONS not covered by an	appropriate TG1	object" must be	triggered.
Secondary Errors	T1568: 3 additional errors "Area SLCONS not cov triggered.	ered by an appro	priate TG1 objec	t" must be
Dataset Name	AA500003	S-58 test No	. T1573	Type E
S-58 Description	For each DRYDOC object which is not WITHIN a L	NDARE object of	type area.	

Message	DRYDOC not covered by LNDARE.				
Solution	Averaged LAID ADS are DDVD OS are required.		Conformity	4.6.6.1	
Test Case No. 1	Amend LNDARE or DRYDOC as required.		Comornity	4.0.0.1	
	DRYDOC inside DEPARE (A).	657.5	DDVDQQ (A)		
Location	32°22'12.96"S 60°48'09.90"E	S57 Encoding	DRYDOC (A)		
Screen Capture					
Expected Test Results	T1573: An error "DRYDOC not covered by LNDAF	RE" must be trigge	ered.		
Secondary Errors	None				
Dataset Name	AA500003	S-58 test No	. T1580	Туре	Е
S-58 Description	For each GATCON which is not WITHIN a DEPARI	E, DRGARE, UNSA	RE or LNDARE o	f type area	a.
Message	GATCON not covered by DEPARE, DRGARE, UNSA		T		
Solution	Amend objects to ensure GATCON is covered by DRGARE, UNSARE or LNDARE.	DEPARE,	Conformity	4.6.6.4	
Test Case No. 1	GATCON in DEPARE (A) overlapping PONTON.				
Location	32°22'22.73"S 60°48'00.27"E	S57 Encoding	GATCON (A) PONTON (A)		
Screen Capture					
Expected Test Results	T1580: An error "GATCON not covered by DEPAF triggered.	RE, DRGARE, UNS	ARE or LNDARE"	must be	
Secondary Errors	None				
Dataset Name	AA500003	S-58 test No	T1599a	Type	W

S-58 Description	For each RAPIDS or WATFAL object which is not WITHIN or COINICIDENT with a RIVERS object.					
Message	RAPIDS or WATFAL not WITHIN or touching a RIV	RAPIDS or WATFAL not WITHIN or touching a RIVERS object.				
Solution	Ensure that each RAPIDS or WATFAL object falls touching a RIVERS object.	WITHIN or is	Conformity	4.7.7.1 at 4.7.7.2	nd	
Test Case No. 1	RAPIDS and WATFAL features not surrounded by	RIVERS.				
Location	32°22'57.60″S 60°47'48.15″E	S57 Encoding	RAPIDS (L) WATFAL (L) RIVERS (A)			
Screen Capture						
Expected Test Results	T1599a: 2 warnings"RAPIDS or WATFAL not WITI triggered.	HIN or touching a	RIVERS object"	must be		
Secondary Errors	None					
Dataset Name	AA500003	S-58 test No	T1599b	Туре	W	
S-58 Description	For each RAPIDS or WATFAL object which is not	WITHIN a LNDAR	E or UNSARE obj	ect.		
Message	RAPIDS or WATFAL not WITHIN LNDARE or UNSA	ARE.				
Solution	Ensure covered by LNDARE or UNSARE. Confo			4.7.7.1 at 4.7.7.2	nd	
Test Case No. 1	RAPIDS and WATFAL features overlapping DEPAR	RE (A).				
Location	32°22'57.34″S 60°47'47.77″E	S57 Encoding	RAPIDS (L) WATFAL (L)			

Screen Capture				
Expected Test Results	T1599b: 2 warnings "RAPIDS or WATFAL not WIT			
Secondary Errors	T1599a: 2 additional warnings "RAPIDS or WATF be triggered.	AL not WITHIN or	r touching a RIVE	RS object" must
Dataset Name	AA500003	S-58 test No	T1607a	Type W
S-58 Description	For each COALNE object where CATCOA is not (object where CATVEG = (7) [mangroves].	7) [mangrove] AN	ID is COINCIDEN	T with a VEGATN
Message	Value of CATCOA is not (7) [mangrove] where a coincident.	VEGATN object v	with CATVEG = (7) [mangroves] is
Solution	Populate CATCOA (7) [mangrove] on the COALN	E object.	Conformity	4.7.11
Test Case No. 1	VEGATN (A) adjacent to COALNE without CATCO)A=7.		
Location	32°23'02.21"S 60°47'46.23"E	S57 Encoding	VEGATN (A) COALNE (L)	CATVEG=7
Screen Capture				
Expected Test Results	T1607a: A warning "Value of CATCOA is not (7) [= (7) [mangroves] is coincident" must be triggere		e a VEGATN obje	ct with CATVEG
Secondary Errors	None			
Dataset Name	AA500003	S-58 test No	T1607b	Type W
S-58 Description	For each VEGATN object where CATVEG = (7) [r is not (4) [approximate].	mangroves] AND	the QUAPOS of t	the spatial object

Message	VEGATN object where CATVEG = (7) [mangroves] without QUAPOS = (4) [approximate].				
Solution	Populate QUAPOS = (4) [approximate].		Conformity	4.7.11	
Test Case No. 1	VEGATN (A) overlapping LNDARE (A) without QUA	APOS=4.		•	
Location	32°23'02.47"S 60°47'48.11"E	S57 Encoding	VEGATN (A)	CATVEG	=7
Screen Capture					
Expected Test Results	T1607b: A warning "VEGATN object where CATVE [approximate]" must be triggered.	EG = (7) [mangro	ves] without QU	APOS = (4))
Secondary Errors	None				
				_	
Dataset Name	AA500003	S-58 test No	. T1617	Type	С
S-58 Description	For each DAMCON object of type area which is no	ot WITHIN a LND	ARE object of ty	pe area.	
Message	DAMCON not covered by LNDARE.				
Solution	Ensure DAMCON is covered by LNDARE.		Conformity	4.8.5	
Test Case No. 1	DAMCON (A) overlapping DEPARE (A).				
Location	32°23'07.25″S 60°47'45.03″E	S57 Encoding	DAMCON (A) DEPARE (A)		
Screen Capture					
Expected Test Results	T1617: An error "DAMCON not covered by LNDA	RE" must be trigg	gered.		
Secondary Errors	None				
Dataset Name	AA500003	S-58 test No	. T1619	Type	E

S-58 Description	For each DYKCON object of type area which is not WITHIN a LNDARE object of type area.					
Message	DYKCON not covered by LNDARE.					
Solution	Ensure DYKCON is covered by LNDARE.		Conformity	4.8.7		
Test Case No. 1	DYKCON (A) overlapping DEPARE (A).					
Location	32°23'05.30"S 60°47'44.20"E					
Screen Capture						
Expected Test Results	T1619: An error "DYKCON not covered by LNDAF	RE" must be trigg	ered.			
Secondary Errors	None					
Dataset Name	AA500003	S-58 test No	T1648	Type E		
S-58 Description	For each DRGARE object where QUASOU is not or (11) [not regularly maintained].	Null AND its valu	e is NOT (10) [m	aintained depth]		
Message	Invalid value of QUASOU on DRGARE.					
Solution	Remove invalid value of QUASOU.		Conformity	5.5		
Test Case No. 1	DRGARE with QUASOU attributed.					
Location	32°22'25.17″S 60°47'54.40″E	S57 Encoding	DRGARE (A)	QUASOU=6		
Screen Capture						
Expected Test Results	T1648: An error "Invalid value of QUASOU on DR					
Secondary Errors	T2000: An additional error "Attribute value whic triggered.	h is not allowed ι	use on an object'	" must be		

Dataset Name	AA500003	S-58 test No.	T1649	Type	E	
S-58 Description	For each DRGARE where SOUACC is not Null equivalent or lesser value of SOUACC.	AND the M_QUA	AL object it lies	WITHIN	has an	
Message	Value of SOUACC on DRGARE is equivalent to or	degrades the valu	e on the underly	ying M_Q	UAL.	
Solution	Amend or remove value of SOUACC as appropria	ite.	Conformity	5.5 and	2.2.3.1	
Test Case No. 1	A DRGARE and M_QUAL with different SOUACC.					
Location	32°22'35.28"S 60°47'51.00"E	S57 Encoding	DRGARE (A) M_QUAL (A)	SOUAC		
Screen Capture						
Expected Test Results	T1649: An error "Value of SOUACC on DRGARE is underlying M_QUAL" must be triggered.					
Secondary Errors	T1530: An additional error "SOUACC value on ob lies WITHIN" must be triggered.	ject is equivalent	to value used or	n the M_C	QUAL it	
Test Case No. 2	DRGARE and M_QUAL with the same SOUACC.	Г		Π		
Location	32°22'35.47″S 60°47'52.53″E	S57 Encoding	DRGARE (A) M_QUAL (A)	SOUAC		
Screen Capture						
Expected Test Results	T1649: An error "Value of SOUACC on DRGARE is equivalent to or degrades the value on the underlying M_QUAL" must be triggered.					
Secondary Errors	T1530: An additional error "SOUACC value on oblies WITHIN" must be triggered.	ject is equivalent	to value used or	the M_C	QUAL it	
Dataset Name	AA500003	S-58 test No.	T1651	Type	С	

S-58 Description	For each SWPARE object which is not WITHIN DEPARE and/or DRGARE objects of type area.				
Message	SWPARE not covered by DRGARE or DEPARE obje	ects.			
Solution	Amend limits of SWPARE or edit DEPARE and/or objects.	DRGARE	Conformity	5.6	
Test Case No. 1	SWPARE overlapping UNSARE.				
Location	32°23'24.99"S 60°49'16.81"E	S57 Encoding	SWPARE (A) UNSARE (A)	DRVAL1=	:1
Screen Capture					
Expected Test Results	T1651: An error "SWPARE not covered by DRGAF	RE or DEPARE obj	ects" must be tr	iggered.	
Secondary Errors	None				
Dataset Name	AA500003	S-58 test No	T1652	Type	E
S-58 Description	For each SWPARE object which EQUALS an M_ objects are not equal.	QUAL object AN	D the DRVAL1 v	alues of th	e two
Message	SWPARE object sharing the position and geome equal.	try of M_QUAL o	bject but DRVAL	.1 Values a	re not
Solution	Amend values of DRVAL1.		Conformity	5.6	
Test Case No. 1	SWPARE and M_QUAL objects with the same geo	ometry.	•	•	
Location	32°23'31.64″S 60°49'07.44″E	SS7 Encoding SWPARE (A) DR		DRVAL1= DRVAL1=	

Screen Capture					
Expected Test Results	T1652: An error "SWPARE object sharing the post DRVAL1 Values are not equal" must be triggered		try of M_QUAL o	object but	
Secondary Errors	None				
Dataset Name	AA500003	S-58 test No	T1662	Туре	E
S-58 Description	For each WRECKS object OR OBSTRN object of or UNSARE object of type area.	type area which is	s not WITHIN a	DEPARE, L	.NDARE
Message	Area WRECKS or OBSTRN object not within a DE	PARE, LNDARE or	UNSARE type ol	oject.	
Solution	Amend to ensure appropriate group 1 object is to object.	he underlying	Conformity	6.2.1 ar	ıd 6.2.2
Test Case No. 1	WRECKS (A) and OBSTRN (A) overlapping PONTO	ON (A).	T	_	
Location	32°23'15.60"S 60°47'39.19"E	S57 Encoding	OBSTRN (A) WRECKS (A) PONTON (A)		
Screen Capture	13,				
Expected Test Results	T1662: 2 errors "Area WRECKS or OBSTRN object" must be triggered.	t not within a DEF	PARE, LNDARE o	r UNSARE	type
Secondary Errors	None				
Dataset Name	AA500003	S-58 test No	T1670	Type	W

S-58 Description	For each WRECKS or OBSTRN object of type at OBSTRN of type point AND the values of EXPSOL				
3 30 Description	area object are not equal to the values of the sha			a WATELV OF the	
Message	·	Point WRECKS or OBSTRN within area WRECKS or OBSTRN have attribute values not reflected on			
Solution	Ensure area object attribute values reflect the shobject.	nallowest point	Conformity	6.3.2	
Test Case No. 1	Overlapping OBSTRN (A, P) with different attribu	ite values.			
Location	32°23'38.52″S 60°47'49.39″E	S57 Encoding	OBSTRN (A) OBSTRN (P)	VALSOU=1.5 WATLEV=3 EXPSOU=1 QUASOU=7 SOUACC=0.1 TECSOU=6 VALSOU=-2.0 WATLEV=4 EXPSOU=2 QUASOU=6 SOUACC=0.0 TECSOU=5	
Screen Capture		••••			
Expected Test Results	T1670: 6 warnings "Point WRECKS or OBSTRN wi values not reflected on the area object" must be		S or OBSTRN hav	e attribute	
Secondary Errors	None				
Test Case No. 2	Overlapping WRECKS (A, P) with different attribu	ıte values.			
Location	32°23'38.91"S 60°47'49.71"E	S57 Encoding	WRECKS (A) WRECKS (P)	WATLEV=3 EXPSOU=1 QUASOU=7 SOUACC=0 TECSOU=5 VALSOU=1 WATLEV=4 EXPSOU=2 QUASOU=6	

				COLLACC	_1
				SOUACC= TECSOU=	
				VALSOU=	
Screen Capture					
Expected Test Results	T1670: 6 warnings "Point WRECKS or OBSTRN w values not reflected on the area object" must be		S or OBSTRN hav	ve attribute	9
Secondary Errors	None				
Dataset Name	AA500003	S-58 test No	T1671	Туре	W
S-58 Description	For each object of type line which is COINCIDEN attribute values except attributes SORIND, SORD		oject of the same	e object typ	oe and
Message	Line object touching object with the same attrib	ute values except	: SORIND, SORDA	AT and SCAI	MIN.
Solution	Delete unnecessary object.		Conformity	Logical consister	ncy
Test Case No. 1	Coincident SLCONS (A, L) objects with the same	attribute values.			
Location	32°22'25.20"S 60°47'55.86"E	S57 Encoding	SLCONS (A) SLCONS (L)	CATSLC= WATLEV	
Screen Capture					
Expected Test Results	T1671: A warning "Line object touching object w SORDAT and SCAMIN" must be triggered.	vith the same attr	ibute values exc	ept SORIND),
Secondary Errors	None				
Test Case No. 2	Coincident SLCONS (A, L) objects where one of the SORDAT and SCAMIN assigned.	he SLCONS object	ts has attributes	SORIND,	

Location	32°22'26.10"S 60°47'56.28"E	S57 Encoding	SLCONS (L) SLCONS (A)	CATSLC=10 WATLEV=2 CATSLC=10 WATLEV=2 SCAMIN=4999 99 SORDAT=2012 0628 SORIND=US,U
Screen Capture				S,reprt,S-58
Expected Test Results	T1671: A warning "Line object touching object w SORDAT and SCAMIN" must not be triggered.	rith the same attr	ibute values exc	ept SORIND,
Secondary Errors	None			

2.4. Test Dataset: AA500004

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test		Descrip	tion			
1672	For each object of type point which is WITHIN an object of the same class AND which had the same attribute values AND is not of type LNDARE, WRECKS, or OBSTRN.					
1674	For each SBDARE or type Area WITHIN a DEPARE where DRVAL1 is less than 0 AND WATLEV is not equal to (4) [covers and uncovers].					
1681	For each RECTRC object of type line where ORIENT is not Null AND the direction of digitising is not greater than 5 degrees greater than or less than the value of ORIENT.					
1682		hich is not part of a C_AGGR collection	on object AND is not a RECTRC object with CATTRK equal to (2) [not			
1692	For each DWRTPT object which is NO	Γ WITHIN the combined coverage of	objects of type DEPARE or DRGARE.			
1693	For each object of type DWRTPT and	DWRTCL where OBJNAM is not Null	AND the object is aggregated in a collection object.			
1694	For each DWRTCL object where ORIEN greater than or less than the value of		(2) or (3) AND the direction of digitising is not greater than 5 degrees			
1696	0		digitizing is not 5 degrees greater than or less than the value of			
1698	For each TWRTPT object where VERD	AT or DRVAL2 are present.				
	type List) is encoded, it should contain attributes which do not appear in the	n one or more values selected from t table may be encoded.	the table below; For each specific case, when QUASOU (attribute of the list of allowed values given in the table. In addition, other			
	WATLEV	VALSOU	QUASOU			
	1, 2, 5 or 7	Undefined	Undefined			
1710	4	< 0	1, 3, 4, 6, 7, 8, 9 or undefined			
1719		Undefined or unknown	2 or undefined			
	5	0	1, 3, 4, 6, 8, 9 or undefined			
	-	Undefined or unknown	2 or undefined			
	3	> 0	1, 3, 4, 6, 7, 8, 9 or undefined			
	_	Unknown	2 or undefined			
	Unknown	Unknown	2 or undefined			
1722a	object. NOTE: CRANES, FLODOC, FORSTC, FSF structure objects, in addition to the li	HFAC, HULKES, PONTON, OBSTRN, PY st given in Annex A (12.1.1).	ational aid structure object OR another navigational aid equipment (LONS, SILTNK and WRECKS objects must be considered as possible			
1722b	For each DAYMAR object EQUALS and NOTE: CRANES, FLODOC, FORSTC, FSF structure objects, in addition to the li	HFAC, HULKES, PONTON, OBSTRN, PY	ked as an equipment object LONS, SILTNK and WRECKS objects must be considered as possible			
1724	For each navigational aid equipment of	object where OBJNAM equals the OE	SJNAM of the master object.			
1725		TAW and/or TOPMAR AND where at	and slaves) are of the classes DAYMAR, FOGSIG, LIGHTS, RADSTA, t least one object DAYMAR or LIGHTS is in the list AND where a			
1726	If the M_COVR object where CATCOV	=1 does not EQUAL the combined co	verage of M_NSYS objects where MARSYS is not Null.			
1732	For each BCNLAT object where VERDA	AT OR VERACC are present.				
1765a	If the cell contains both M_QUAL and equals (1) [coverage available].	M_ACCY objects and their combined	d coverage does not EQUAL the M_COVR objects where CATCOV			
1765b	If objects of type M_QUAL and M_AC	CY OVERLAP.				
1766	For each attribute of type PICREP. TXT	TDSC and NTXTDS where the attribut	e value contains more than one file name.			
1767	For each edge which is COINCIDENT was area DEPARE or DRGARE object where	vith a SBDARE object of type area wh e DRVAL2=< 0 AND is COINCIDENT w	ere WATLEV = 4 [covers and uncovers] AND is COINCIDENT with an ith an area DEPARE or DRGARE object where DRVAL1 >=0 OR an S or LNDARE object AND is not COINCIDENT with a DEPCNT object			

Dataset Name	AA500004	S-58 test No.	T1672	Туре	E	
S-58 Description	For each object of type point which is same attribute values AND is not of type	-		ID which had th	ne	
Message	Object with the same attributes within	an identical objec	t.			
Solution	Delete repeated object or amend attributes accordingly. Conformity Logical consistency					
Test Case No. 1	SILTNK (A) inside SILTNK (P).					
Location	32°22'21.13"S60°49'38.17"E	S57 Encoding	SILTNK (A, P)			
Screen Capture						
Expected Test Results	T1672: An error "Object with the same	attributes within a	an identical object"	must be trigge	red.	
Secondary Errors	None					
Test Case No. 2	LNDARE, WRECKS & OBSTRN (P) object	ts inside LNDARE, V		(A) objects.		
Location	32°22'22.00"S60°49'48.22"E	S57 Encoding	LNDARE (A, P) WRECKS (A, P) OBSTRN (A, P)			
Screen Capture						
Expected Test Results	T1672: 3 errors "Object with the same triggered.		-			
Secondary Errors	T0055: An additional warning "Point LI	NDARE lies on land	" must be triggered			
Detect Nove	AAF00004	C FO 4 + N -	T1674	-	114	
Dataset Name	AA500004	S-58 test No.	T1674	Туре	W	
S-58 Description	For each SBDARE or type Area WITHIN equal to (4) [covers and uncovers].	a DEPARE where D	ORVAL1 is less than (0 AND WATLEV	' is not	

Message	SBDARE object in drying area without \	WATLEV = (4).			
Solution	Populate WATLEV = (4) [covers and uncovers].		Conformity	7.1(e) and 7.1 (g)	
Test Case No. 1	SBDARE (A) with WATLEV=3 in intertidal area.				
Location	32°22'13.70"S 60°51'34.47"E	S57 Encoding	SBDARE (A) DEPARE (A)	NATSUR=9 WATLEV=1,2,3,5,6, 7 DRVAL1=-1 DRVAL2=0	
Screen Capture					
Expected Test Results	T1674: 6 warnings "SBDARE object in d	Irying area without	WATLEV = (4)" m	nust be triggered.	
Secondary Errors	T0061a: An additional error "Line or an underwater/submerged] lies WITHIN o or land area" must be triggered. T1786: An additional error "Area object must be triggered. T2000: 4 additional errors "Attribute vatriggered.	or overlapping an in	ter-tidal area (DE	PARE with DRVAL2 ≤ 0) rea LNDARE object"	
		ı	1		
Dataset Name	AA500004	S-58 test No.	T1681	Type C	
S-58 Description	For each RECTRC object of type line wh greater than 5 degrees greater than or			ection of digitising is not	
Message	RECTRC where ORIENT does not corres	spond to the directi	on of digitising.		
Message Solution	RECTRC where ORIENT does not corres Amend value of ORIENT.	spond to the directi	on of digitising.	10.1.1	

Location	22022124 54115 60040142 62115	CE7 Franking	DECEDO (L)	ODIENT 100
Location	32°22'34.54"S 60°49'43.63"E	S57 Encoding	RECTRC (L)	ORIENT=100
Screen Capture	76			
Expected Test Results	T1681: An error "'RECTRC where ORIEN be triggered.			
Secondary Errors	T1789: An additional error "DWRTCL, N geometry is not consistent with the val	· · · · · · · · · · · · · · · · · · ·		he orientation of the
		T	1	
Dataset Name	AA500004	S-58 test No.	T1682	Type W
S-58 Description	For each RECTRC or NAVLNE object wh RECTRC object with CATTRK equal to (2	•		·=
Message	RECTRC or NAVLNE object not part of C	C_AGGR collection	(except RECTRC \	where CATTRK=2).
Solution	Add to C_AGGR collection object.		Conformity	10.1.2
Test Case No. 1	RECTRC and NAVLNE			
Location	32°22'27.81"S 60°49'46.15"E	S57 Encoding	NAVLNE (L) RECTRC (L)	
Screen Capture	6	228		
Expected Test Results	T1682: 2 warnings "RECTRC or NAVLNE where CATTRK=2)" must be triggered.			
Secondary Errors	T1788: An additional warning "NAVLNE C_AGGR" must be triggered.	and RECTRC share	e an edge but are	not aggregated using
Test Case No. 2	RECTRC			
Location	32°22'29.16"S 60°49'50.21"E	S57 Encoding	RECTRC (L)	CATTRK = 2
	1	_	1	

Screen Capture	6 22			
Expected Test Results	T1682: A warning "RECTRC or NAVLNE where CATTRK=2)" must not be trigger		C_AGGR collection	on (except RECTRC
Secondary Errors	None			
Dataset Name	AA500004	S-58 test No.	T1692	Type E
S-58 Description	For each DWRTPT object which is NOT or DRGARE.	WITHIN the combi	ned coverage of	objects of type DEPARE
Message	DWRTPT object not covered DEPARE of	r DRGARE objects.		
Solution	Encode appropriate DEPARE or DRGAR	E objects.	Conformity	10.2.2.1
Test Case No. 1	DWRTPT inside UNSARE.			
Location	32°22'13.41"S60°50'19.66"E	S57 Encoding	UNSARE (A) DWRTPT (A)	
Screen Capture	216	23		
Expected Test Results	T1692: An error "DWRTPT object not co	overed DEPARE or	DRGARE objects	" must be triggered.
Secondary Errors	None			
Test Case No. 2	DWRTPT inside DRGARE and DEPARE.			
Location	32°22'02.75"S 60°50'16.85"E	S57 Encoding	DWRTPT (A)	

Screen Capture	207			
Expected Test Results	T1692: 2 errors "DWRTPT object not co	vered DEPARE or I	DRGARE objects"	must not be triggered.
Secondary Errors	None			
Dataset Name	AA500004	S-58 test No.	1693	Type W
S-58 Description	For each object of type DWRTPT and DV aggregated in a collection object.	WRTCL where OBJ	NAM is not Null A	AND the object is
Message	DWRTPT or DWRTCL objects with OBJN	AM form part of a	collection object	t.
Solution	Encode the name using the C_AGGR me create a SEARRE. Remove it from DWRT DWRTCL.		Conformity	10.2.2.1
Test Case No. 1	DWRTPT (A) and DWRTCL (L) with OBJN	IAM attributes agg	regated in a colle	ection object.
Location	32°22'15.64"S60°50'47.48"E	S57 Encoding	DWRTCL (L) DWRTPT (A)	OBJNAM = Deep Water
Screen Capture	14 ₃	106		
Expected Test Results	T1693: 2 warnings "DWRTPT or DWRTC must be triggered.	CL objects with OBJ	INAM form part o	of a collection object"
Secondary Errors	None			
Dataset Name	AA500004	S-58 test No.	T1694	Type C
S-58 Description	For each DWRTCL object where ORIENT direction of digitising is not greater that			
Message	One way DWRTCL where ORIENT does	not correspond to	the direction of o	digitising.

Target Case No. 1 Location 32*22*47.20*560*49*52.09*E S57 Encoding DWRTCL (L) CATTRK=2 ORIENT=320 TRAFIC=3 Target-3 Tar	Solution	Amend value of ORIENT.		Conformity	10.2.2.2
Screen Capture Screen Capture	Test Case No. 1	DWRTCL (L).		•	
Expected Test Results T1694: An error "One way DWRTCL where ORIENT does not correspond to the direction of digitising" must be triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the geometry is not consistent with the value of ORIENT" must be triggered.	Location	32°22'47.20"S60°49'52.09"E	S57 Encoding	DWRTCL (L)	ORIENT=320
digitising" must be triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the geometry is not consistent with the value of ORIENT" must be triggered. Dataset Name	Screen Capture	7 18 16 ₅ 25 ₂	20 ₇ 24 ₃		
Dataset Name AA500004 S-58 test No. T1696 Type C S-58 Description For each RCRTCL where TRAFIC equals (1), (2) or (3) AND the direction of digitizing is not 5 degrees greater than or less than the value of ORIENT. Message One way RCRTCL where ORIENT does not correspond to the direction of digitising. Solution Amend value of ORIENT. Conformity 10.2.4 Test Case No. 1 RCRTCL (L). CATTRK=2 ORIENT=5 TRAFIC=3 Screen Capture Screen Capture T1696: An error "One way RCRTCL where ORIENT does not correspond to the direction of digitising which is triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the		digitising" must be triggered.		•	
S-58 Description For each RCRTCL where TRAFIC equals (1), (2) or (3) AND the direction of digitizing is not 5 degrees greater than or less than the value of ORIENT. Message One way RCRTCL where ORIENT does not correspond to the direction of digitising. Solution Amend value of ORIENT. Conformity 10.2.4 Test Case No. 1 RCRTCL (L). Soreen Capture Screen Capture T1696: An error "One way RCRTCL where ORIENT does not correspond to the direction of digitising" must be triggered. Secondary Errors T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the	Secondary Errors				
S-58 Description For each RCRTCL where TRAFIC equals (1), (2) or (3) AND the direction of digitizing is not 5 degrees greater than or less than the value of ORIENT. Message One way RCRTCL where ORIENT does not correspond to the direction of digitising. Solution Amend value of ORIENT. Conformity 10.2.4 Test Case No. 1 RCRTCL (L). Soreen Capture Screen Capture T1696: An error "One way RCRTCL where ORIENT does not correspond to the direction of digitising" must be triggered. Secondary Errors T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the					
Description	Dataset Name	AA500004	S-58 test No.	T1696	Type C
Solution Amend value of ORIENT. Conformity 10.2.4 Test Case No. 1 Location 32°22'28.79"S60°50'00.33"E S57 Encoding RCRTCL (L) CATTRK=2 ORIENT=5 TRAFIC=3 Screen Capture 21 22 22 Expected Test Results 71696: An error "One way RCRTCL where ORIENT does not correspond to the direction of digitising" must be triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the	S-58 Description			the direction of o	digitizing is not 5
Test Case No. 1 RCRTCL (L). Screen Capture T1696: An error "One way RCRTCL where ORIENT does not correspond to the direction of digitising" must be triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the secondary Errors. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the	Message	One way RCRTCL where ORIENT does r	not correspond to t	he direction of d	igitising.
Screen Capture Screen Capture T1696: An error "One way RCRTCL where ORIENT does not correspond to the direction of digitising" must be triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the	Solution	Amend value of ORIENT.		Conformity	10.2.4
Screen Capture Sometimes	Test Case No. 1	RCRTCL (L).			
Screen Capture 25 22 22 24 T1696: An error "One way RCRTCL where ORIENT does not correspond to the direction of digitising" must be triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the	Location	32°22'28.79"S60°50'00.33"E	S57 Encoding	RCRTCL (L)	ORIENT=5
digitising" must be triggered. T1789: An additional error "DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the	Screen Capture	25/ ₉ / A / 2	1		
Sacondary Frence	Expected Test Results	digitising" must be triggered.			
geometry is not consistent with the value of ORIENT" must be triggered.	Secondary Errors				ne orientation of the

Dataset Name	AA500004		S-58 test No.	T1698		Type	Е
S-58 Description	For each TWRTPT	object where VERDA	T or DRVAL2 are	present.			
Message	VERDAT or DRVAL	VERDAT or DRVAL2 are present on TWRTPT object.					
Solution	Remove VERDAT o	r DRVAL2.		Conformity	10.2.6		
Test Case No. 1	TWRTPT with VERI	DAT and DRVAL2 atti	ribute values enc	oded.	•		
Location	32°22'27.63"S60°5	0'16.87"E	S57 Encoding	TWRTPT (A)	VERDA DRVAL		
Screen Capture		*	219				
	T1698: 2 errors "VERDAT or DRVAL2 are present on TWRTPT object" must be triggered.						
Expected Test Results	T1698: 2 errors "V	ERDAT OF DRVALZ ar	e present on TW	RIPI object" must	t be trigge	ereu.	
Expected Test Results Secondary Errors	T1503: An addition be triggered.	nal error "Value of Vi	ERDAT without co	orresponding verti	cal distar	nce value	" must
·	T1503: An addition be triggered.	nal error "Value of VI	ERDAT without co	orresponding verti	cal distar	nce value	" must
Secondary Errors	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select	nal error "Value of VI	S-58 test No. cribute values do ribute of type List	T1719 not correspond to) is encoded, it she	cal distar be trigge the table	Type e below;	W
Secondary Errors	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select	nal error "Value of Vinal error "Attribute not be n	S-58 test No. cribute values do ribute of type List	T1719 not correspond to) is encoded, it she in the table. In oded.	cal distar be trigge the table	Type e below;	W
Secondary Errors Dataset Name	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do	object where the att when QUASOU (attribute of order of the color of t	S-58 test No. cribute values do ribute of type List llowed values give able may be enco	T1719 not corresponded, it sheen in the table. In oded.	cal distar be trigge the table ould cont addition,	Type e below;	W
Secondary Errors	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV 1, 2, 5 or 7	object where the att when QUASOU (attribute of one) object where the attribute of all when QUASOU (attribute of all o not appear in the to VALSOU Undefined	S-58 test No. cribute values do ribute of type List llowed values give able may be enco	T1719 not corresponded, it sheen in the table. In oded. QUA Unde	cal distar be trigge the table ould cont addition, SOU efined 9 or unde	Type e below; tain one o	W
Secondary Errors Dataset Name	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV	object where the att when QUASOU (attr ted from the list of al o not appear in the t VALSOU Undefined VALSOU < Undefined	S-58 test No. cribute values do ribute of type List llowed values giv able may be ence	T1719 not correspond to) is encoded, it she en in the table. In oded. QUA Unde 1, 3, 4, 6, 7, 8, 2 or under	the table ould contaddition, SOU Ifined 9 or unded defined	Type e below; cain one o	W
Secondary Errors Dataset Name	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV 1, 2, 5 or 7	object where the att when QUASOU (attribute of the control of the	S-58 test No. cribute values do ribute of type List llowed values giv able may be ence	T1719 not corresponding vertice in the table. In oded. QUA Unde 1, 3, 4, 6, 7, 8, 2 or und 1, 3, 4, 6, 8, 9	cal distar be trigge the table ould cont addition, addition, sou	Type e below; cain one o	W
Secondary Errors Dataset Name	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV 1, 2, 5 or 7	object where the att when QUASOU (attribute of viced from the list of all o not appear in the t VALSOU Undefined VALSOU < Undefined or un VALSOU = Undefined or un	S-58 test No. cribute values do ribute of type List llowed values giv rable may be ence	T1719 not correspond to is encoded, it sheen in the table. In oded. QUA Unde 1, 3, 4, 6, 7, 8, 2 or und 1, 3, 4, 6, 8, 9	cal distar be trigge the table ould cont addition, SOU fined 9 or under defined or under	Type e below; cain one o other	W
Secondary Errors Dataset Name	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV 1, 2, 5 or 7	object where the att when QUASOU (attribute of vice of from the list of all or not appear in the to the valsou of vals	S-58 test No. cribute values do ribute of type List llowed values giv able may be ence d known 0 known 0	T1719 not corresponding vertice object class" must be solved in the table. In orded. QUA Unde 1, 3, 4, 6, 7, 8, 2 or und 1, 3, 4, 6, 8, 9 2 or und 1, 3, 4, 6, 7, 8,	cal distar be trigge the table ould cont addition, SOU efined 9 or undef defined or undef defined 9 or undef	Type e below; cain one o other	W
Secondary Errors Dataset Name	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV 1, 2, 5 or 7 4 5	nal error "Value of Vinal error "Attribute in all error "Attribute in object where the att when QUASOU (attribute from the list of all o not appear in the to VALSOU Undefined VALSOU < Undefined or un VALSOU = Undefined or un VALSOU > Unknown	S-58 test No. cribute values do ribute of type List llowed values giv rable may be ence d 0 known 0 known 0	T1719 not corresponding vertice object class" must be solved to the solv	cal distar cal distar be trigge the table ould cont addition, sSOU fined 9 or under defined or under defined 9 or under	Type e below; cain one o other	W
Secondary Errors Dataset Name	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV 1, 2, 5 or 7 4 5 Unknown	object where the att when QUASOU (attribute of vice of from the list of all or not appear in the to the valsou of vals	S-58 test No. cribute values do ribute of type List llowed values giv able may be ence d known 0 known	T1719 not corresponding vertice object class" must be solved in the table. In orded. QUA Unde 1, 3, 4, 6, 7, 8, 2 or und 1, 3, 4, 6, 8, 9 2 or und 1, 3, 4, 6, 7, 8,	cal distar cal distar be trigge the table ould cont addition, sSOU fined 9 or under defined or under defined 9 or under	Type e below; cain one o other	W
Secondary Errors Dataset Name S-58 Description	T1503: An addition be triggered. T0547: An addition AA500004 For each MARCUL each specific case, more values select attributes which do WATLEV 1, 2, 5 or 7 4 5 Unknown Illogical attribute companies to the select attributes which do the select attributes which attri	object where the att when QUASOU (attribute of vice of from the list of all or not appear in the to the valsou of valsour of valsou	S-58 test No. cribute values do ribute of type List llowed values giv rable may be ence known 0 known 0	T1719 not corresponding vertice object class" must be solved to the solv	cal distar cal distar be trigge the table ould cont addition, sSOU fined 9 or under defined or under defined 9 or under	Type e below; cain one o other efined	W

	<u></u>		1	
Location	32°23'00.20"S 60°50'41.15"E	S57 Encoding	MARCUL (P)	VALSOU=- 1/1/2/3/4/6 QUASOU=UNKNOWN, 1,2,3,4,5,6,7,8,9,10,1 1 WATLEV=1,2,3,4,5,6,7
Screen Capture		Y A N		
Expected Test Results	T1719: 546 warnings "Illogical attribute	e combination for I	MARCUL" must b	e triggered.
Secondary Errors	T2000: 245 additional errors "Attribute triggered. T0507: 26 additional errors "Mandator			•
Dataset Name	AA500004	S-58 test No.	T1722a	Type W
	For each navigational aid equipment o	hiect which is not a	a clavo to a navig	ational aid atmosphere
S-58 Description	object OR another navigational aid equ NOTE: CRANES, FLODOC, FORSTC, FSH WRECKS objects must be considered a Annex A (12.1.1).	uipment object. FAC, HULKES, PON	TON, OBSTRN, PY	LONS, SILTNK and
S-58 Description Message	object OR another navigational aid equ NOTE: CRANES, FLODOC, FORSTC, FSH WRECKS objects must be considered a	uipment object. FAC, HULKES, PON s possible structure	TON, OBSTRN, PY e objects, in addit	LONS, SILTNK and tion to the list given in
	object OR another navigational aid equ NOTE: CRANES, FLODOC, FORSTC, FSH WRECKS objects must be considered a Annex A (12.1.1).	uipment object. FAC, HULKES, PON s possible structure	TON, OBSTRN, PY e objects, in addit	LONS, SILTNK and tion to the list given in
Message	object OR another navigational aid equinote: CRANES, FLODOC, FORSTC, FSHI WRECKS objects must be considered a Annex A (12.1.1). Equipment object which is not a slave	uipment object. FAC, HULKES, PON s possible structure	TON, OBSTRN, PY e objects, in addit	LONS, SILTNK and tion to the list given in tobject.
Message Solution	object OR another navigational aid equivalent NOTE: CRANES, FLODOC, FORSTC, FSHI WRECKS objects must be considered a Annex A (12.1.1). Equipment object which is not a slave Amend equipment object to slave.	uipment object. FAC, HULKES, PON s possible structure	TON, OBSTRN, PY e objects, in addit	LONS, SILTNK and tion to the list given in tobject.
Message Solution Test Case No. 1	object OR another navigational aid equivorte: CRANES, FLODOC, FORSTC, FSHI WRECKS objects must be considered a Annex A (12.1.1). Equipment object which is not a slave Amend equipment object to slave. AIRARE (master) and LIGHTS (slave).	uipment object. FAC, HULKES, PON s possible structure of a structure or ar	TON, OBSTRN, PY e objects, in addit	LONS, SILTNK and tion to the list given in tobject.
Message Solution Test Case No. 1 Location	object OR another navigational aid equivorte: CRANES, FLODOC, FORSTC, FSHI WRECKS objects must be considered a Annex A (12.1.1). Equipment object which is not a slave Amend equipment object to slave. AIRARE (master) and LIGHTS (slave).	s possible structure of a structure or ar	TON, OBSTRN, PY e objects, in additional conformity AIRARE (P) LIGHTS (P)	tobject. 12.1.2 and 12.1.1

Dataset Name	AA500004	S-58 test No.	T1722b	Туре	W				
S-58 Description	For each DAYMAR object EQUALS another structure object and is not marked as an equipment object. NOTE: CRANES, FLODOC, FORSTC, FSHFAC, HULKES, PONTON, OBSTRN, PYLONS, SILTNK and WRECKS objects must be considered as possible structure objects, in addition to the list given in Annex A (12.1.1).								
Message	DAYMAR marked as structure object where another exists.								
Solution	Amend DAYMAR to slave.		Conformity	12.1.2 and 12	.1.1				
Test Case No. 1	BUISGL (master), LIGHTS (slave) and	DAYMAR.	•						
Location	32°22'29.92"S 60°49'38.61"E	S57 Encoding	BUISGL (P) LIGHTS (P) DAYMAR (P)						
Screen Capture									
Expected Test Results	T1722b: A warning "DAYMAR marke triggered.	d as structure object	where another e	exists" must be					
Secondary Errors	None								
				T	1				
Dataset Name	AA500004	S-58 test No.	T1724	Туре	W				
S-58 Description	For each navigational aid equipment object.	object where OBJNA	AM equals the OE	BJNAM of the ma	aster				
Message	OBJNAM on navigational aid equipm	ent object repeats th	nat of the master	object.					
Solution	Remove repeated OBJNAM value.		Conformity	12.1.2					
					Remove repeated OBJNAM value. Conformity 12.1.2				
Test Case No. 1	The same OBJNAM has been encode	d for both master an	id slave objects.						

Screen Capture	25 ₂ 25 ₆ T1724: A warning "OBJNAM on navigat	21 ₆	nt object reneats	that of the master
Expected Test Results	object" must be triggered.	ional ala equipmer	it object repeats	that of the master
Secondary Errors	T0547: An additional error "Attribute n	ot permitted on ob	ject class" must	be triggered.
Dataset Name	AA500004	S-58 test No.	T1725	Type W
S-58 Description	For each master/slave relationship whe classes DAYMAR, FOGSIG, LIGHTS, RAD TOPMAR AND where at least one object a LIGHTS is not the master object.	STA, RDOSTA, RETI	RFL, RTPBCN, SIS	TAT, SISTAW and/or
Message	Equipment object does not have coincid	dent DAYMAR or L	IGHTS object as a	a master.
Solution	Amend relationship so that the equipm slave to the LIGHTS or DAYMAR object.		Conformity	12.1.2
Test Case No. 1	LIGHTS as master and DAYMAR as slave	2.	<u>, </u>	<u>, </u>
Location	32°22'45.32"S 60°49'32.74"E	S57 Encoding	DAYMAR (P) LIGHTS (P)	SIGPER=4 SIGGRP=(1)
Screen Capture				
Expected Test Results	T1725: A warning "Equipment object do master" must be triggered.	oes not have coinc	ident DAYMAR o	r LIGHTS object as a
Expected Test Results Secondary Errors		oes not have coinci	ident DAYMAR o	r LIGHTS object as a
-	master" must be triggered.		ident DAYMAR o	r LIGHTS object as a

Screen Capture					
Expected Test Results	T1725: A warning "Equipment object do master" must be triggered.	oes not have coinc	ident DAYMAR o	or LIGHTS object	t as a
Secondary Errors	T1722a: An additional warning "Equipm equipment object" must be triggered.	nent object which	is not a slave of a	structure or a	nother
Dataset Name	AA500004	C EQ toot No	T1726	T,	\ \ C
Dataset Name		S-58 test No.	T1726	Туре	I
S-58 Description	If the M_COVR object where CATCOV=: objects where MARSYS is not Null.	I does not EQUAL	the combined co	verage of M_N	SYS
Message	Data coverage not completely covered	by M_NSYS object	s with a value for	r MARSYS.	
Solution	Ensure complete coverage of M_NSYS of MARSYS populated.	objects with	Conformity	12.2	
Test Case No. 1	M_NSYS not overlapping a portion of D	EPARE (A).	1	T	
Location	32°23'34.00"S 60°50'22.13"E	S57 Encoding	M_NSYS (A)		
Screen Capture	10 ₉ 10 ₉ 10 ₆ 10 ₆ 15	14 11 <u>.</u> 2			
Expected Test Results	T1726: An error "Data coverage not con MARSYS" must be triggered.	npletely covered b	oy M_NSYS objec	ts with a value	for
Secondary Errors	None				
	1		1		
Dataset Name	AA500004	S-58 test No.	T1732	Туре	e E
S-58 Description	For each BCNLAT object where VERDAT	OR VERACC are p	resent.		
Message	VERDAT or VERACC are present on BCN	LAT object.			

Solution	Remove VERDAT or VERACC.	Conformity	12.3.1	
Test Case No. 1	BCNLAT with VERDAT and VERACC attr	ibutes encoded.		
Location	32°22'46.78"S60°50'16.25"E	S57 Encoding	BCNLAT (P)	VERACC=10 VERDAT=3
Screen Capture	22 ₅ 0 ₇	19 ₅		
Expected Test Results	T1732: 2 errors "VERDAT or VERACC ar	•	<u> </u>	
Secondary Errors	T1503: An additional error "Value of VE be triggered. T1546: An additional error "Value for VVERCCL" must be triggered.			
Dataset Name	AA500004	S-58 test No.	T1765a	Type W
Dataset Name		1		71
S-58 Description	If the cell contains both M_QUAL and N EQUAL the M_COVR objects where CA			
Message	M_QUAL or M_ACCY do not provide fu	II coverage.		
Solution	Amend objects to provide complete co	verage.	Conformity	2.2.3.1
Test Case No. 1	M_QUAL contains a hole.		_	1
Location	32°23'42.48"S 60°49'48.28"E	S57 Encoding	M_QUAL (A)	
Screen Capture				
Expected Test Results	T1765a: A warning "M_QUAL or M_AC			
Secondary Errors	T0549: An additional error "CSCL is not	populated with a	value" must be ti	riggered.
	1.1500004			_
Dataset Name	AA500004	S-58 test No.	T1765b	Type W
S-58 Description	If objects of type M_QUAL and M_ACC	Y OVERLAP.		

Message	M_QUAL and M_ACCY objects overlap.							
Solution	Amend objects to remove overlap. Conformity 2.2.4.1							
Test Case No. 1	M_ACCY overlapping M_QUAL.							
Location	32°23'42.66"S 60°49'35.51"E	S57 Encoding	M_ACCY (A) M_QUAL (A)					
Screen Capture		14,] 4 ₆						
Expected Test Results	T1765b: A warning "M_QUAL and M_A	CCY objects overla	p" must be trigge	ered.				
Secondary Errors	None							
			_					
Dataset Name	AA500004	S-58 test No.	T1766	Type E				
S-58 Description	For each attribute of type PICREP, TXTE than one file name.	OSC and NTXTDS w	here the attribut	e value contains more				
Message	PICREP, TSTDSC or NTXTDS contain mo	re than one file na	me.					
Solution	Amend value to only contain a single fi	le name.	Conformity	2.3 and 4.8.20				
Test Case No. 1	LNDMRK with multiple text files in PICF	REP, TXTDSC and N	TXTDS.					
Location	32°22'05.11"S60°51'48.50"E	S57 Encoding	LNDMRK (P)	PICREP=US003151.TIF ;US003150.TIF TXTDSC=US003151.TX T;US003152.TXT NTXTDS=US003151.T XT;US003152.TXT				
Screen Capture								
Expected Test Results	T1766: 3 errors "PICREP, TSTDSC or NT.	XTDS contain more	than one file na	me" must be triggered.				
Secondary Errors	T1005: 3 additional errors "Referenced be triggered.							

Dataset Name	AA500004	S-58 test No.	T1767	Type W				
S-58 Description	For each edge which is COINCIDENT with and uncovers] AND is COINCIDENT with AND is COINCIDENT with an area DEPA object AND is not COINCIDENT with a ICOINCIDENT with a DEPCNT object wh	h an area DEPARE o RE or DRGARE objo DAMCON, GATCON	or DRGARE object ect where DRVAL	t where DRVAL2=< 0 1 >=0 OR an UNSARE				
Message	Missing zero metre depth contour.							
Solution	Capture an appropriate zero metre DE	Capture an appropriate zero metre DEPCNT. Conformity 5.2						
Test Case No. 1	SBDARE without a surrounding DEPCN	Т.						
Location	32°22'30.47"S60°49'40.53"E	S57 Encoding	UNSARE (A) SBDARE (A) DEPARE (A) DEPARE (A) DRGARE (A)	NATSUR=9 WATLEV=4 DRVAL2=0 DRVAL1=0 DRVAL1=1				
Screen Capture								
Expected Test Results	T1767: 4 warnings "Missing zero metre	depth contour" m	nust be triggered.					
Secondary Errors	None							
Test Case No. 2	SBDARE surrounded by LNDARE, DAMO	CON, GATCON and						
Location	32°22'28.81"S 60°49'41.20"E	S57 Encoding	UNSARE (A) SBDARE (A) DEPARE (A) DEPARE (A) DRGARE (A) LNDARE (L) DAMCON (L) GATCON (L) SLCONS (L)	NATSUR=9 WATLEV=4 DRVAL2=0 DRVAL1=0 DRVAL1=1				

Screen Capture	
Expected Test Results	T1767: 4 warnings "Missing zero metre depth contour" must not be triggered.
Secondary Errors	None

2.5. Test Dataset: AA500005

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description											
1771												= VALDCO < minimum
1//1	DRVAL1 AND m								-			gational aid structure as a
1775		•	•								-	R, COALNE, DAMCON (with
1775	CATDAM = 3 [fl BRIDGE object.		ige]), BRID	GE, FLOD	OC, LNDAF	RE, MORF	AC, PIPOH	D, PONTOI	N or SLCO	NS object	OR is not W	/ITHIN a area CONVYR or
1778	For each LIGHT	S object w	vhere CAT	LIT = 1 [di	rectional fu	unction] A	ND SECTR	1 – SECTR	2 is greate	er than 10.		
	For each SBDAI	RE object	where NA	TSUR AN	D NATQUA	are not N	ull AND th	ne combina	ation of va	alues of NA	TSUR AND	NATQUA are not as listed in
	the table below		1.2	12	14	1 -	1.6	1 7	10	10	10	\neg
	NATQUA NATSUR	1	2	3	4	5	6	7	8	9	10	
	1					х	х	x	х	х	х	_
	2					x	x	х		-	x	
	3	х	х	х		х	х	х			х	
	4	х	х	х			х		х	х	х	
1780	5	x	х	х					х	х		
	6	X	X	x					X	X		_
	7 8	х	х	х					x x	x		_
	9								x	x		_
	11								x			
	14				х							
	17	х	х	х	х					х		
	18								х	х		
1781	For each BUISG (9) as slave ANI				•			ship AND	reference	s a LIGHTS	object whe	ere CATLIT is not (6), (8) or
1782	For each SWPA	RE object	which OV	'ERLAPS a	nother SW	PARE obje	ct.					
1783a	For each object	t of type a	rea where	WATLEV	= 4 [cover:	s and unc	overs] OVI	ERLAPS a D	EPARE ob	ject where	DRVAL1>=	=0.
1783b	For each object	t of type a	rea where	WATLEV	= 5 [awash	n] OVERLA	.PS a DEP <i>A</i>	RE object	where DR	VAL1 > 0.		
1784	For each spatia	l object w	here the	alue of H	ORDAT, PC	SACC or (QUAPOS is	Null.				
1785	For each object	t with CAT	LMK = 18	[windmill] or 19 [wir	ndmotor]	where CO	NDTN = 4	[wingless]			
1786	For each object	t of type A	rea wher	e WATLEV	equals (2)	[always d	ry] AND is	not WITH	IN a LNDA	RE object	of type are	a.
1787	For each NAVLI	NE and RE	CTRC whi	ch are CO	INCIDENT A	AND have	values of	ORIENT wh	nich are no	ot equal or	reciprocal	
1788	For each NAVLI	NE object	which is C	OINCIDEN	NT with a R	ECTRC ob	ect AND a	re not par	t of the sa	me C_AG	GR object.	
1789	For each object geometry is mo											tation of the spatial
1790a	For each LIGHT	S object w	vhere ORI	ENT is not	Null AND	SECTR1 O	R SECTR2	are not Nu	II.			
1790b	For each LIGHT	S object w	vhere ORI	ENT is not	: Null AND i	t is aggre	gated to a	RECTRC o	r NAVLNE	within a c	ollection ob	oject C_AGGR.
1790c	For each LIGHT collection objection	•		ENT is not	Null AND	the struct	ure object	of this LIG	iHTS obje	ct is aggre	gated to a R	RECTRC or NAVLNE within a
1791	For each NAVLI	NE object	where CA	TNAV = 3	which is no	t COINCI	DENT with	a RECTRC	where CA	ATTRK = 1.		
1793	For each maste 7.	er/slave re	lationship	which re	ferences m	ore than	one LIGHT	S object A	ND all of t	he LIGHTS	objects are	e encoded with LITVIS = 6 or
1794	LITFLT.											y of BOYXXX, LITVES or
1795	For each object of DATEND, DA				•					PEREND o	r PERSTA a	re not Null AND the values
1797	For each of the	object ty	pe, geome	etry and a	ttribute co	mbinatior	s in the ta	ble below	;			

Object	Geometry	Attributes	
BRIDGE	Р	-	
DAMCON	Р	CATDAM ≠ 3	
GRIDRN	Р		
PIPSOL	Р		
PRDARE	Р	CATPRA = not present	
RAPIDS	Р		
ROADWY	Р		
RUNWAY	Р		
SLOGRD	А	CATSLO = 1,2,3,4,5,7 AND CONRAD ≠ 1, or CATSLO = not present	
TUNNEL	Р		
VEGATN	P,A	CATVEG = 1, 10, 11, 12 or not present	
WATFAL	Р		

Dataset Name	AA500005	S-58 test No.	T1771		Туре	E
S-58 Description	For each edge which is COINCIDENT wi maximum DRVAL2 <= VALDCO < minin edge is COINCIDENT with a DEPARE ob	num DRVAL1 AND i			•	
Message	VALDCO on DEPCNT between two DEP	ARE objects has illo	ogical value.			
Solution	Amend VALDCO to a logical value.		Conformity	5.4.3		
Test Case No. 1	DEPCNT with incorrect VALDCO attribu	ıte encoded.		•		
Location	32°24'06.59"S 60°50'09.00"E	S57 Encoding	DEPARE (A) DEPCNT (L) DEPARE (A)	DRVAI VALDO DRVAI	L1=1.8 L2=3.6 CO=5.4 L1=3.6 L2=5.4	
Screen Capture	33					
	T1771 An array (VALDEO en DEDCAT)	DED.	DE abianta kan ili	la si sal		a* la a
Expected Test Results	T1771: An error "VALDCO on DEPCNT I triggered.	between two DEPA	RE objects has ill	logical va	alue" mus	st be
Expected Test Results Secondary Errors		between two DEPA	RE objects has ill	logical va	alue" mus	st be
Secondary Errors	triggered. None		,	logical va	1	
*	triggered. None AA500005	S-58 test No.	T1775		Туре	С
Secondary Errors	triggered. None	S-58 test No. 1) which is WITHIN ture as a master OF CH a line CBLOHD, FLODOC, LNDARE,	T1775 a DEPARE, DRGA does not TOUCH CONVYR, COALN MORFAC, PIPOH	ARE or U H a HULk IE, DAM(Type NSARE AI KES, LNDA	C ND ARE or
Dataset Name S-58 Description	triggered. None AA500005 For each equipment object (UOC 12.1. does not have a navigational aid struct PYLONS point object OR does not TOU CATDAM = 3 [flood barrage]), BRIDGE,	S-58 test No. 1) which is WITHIN cure as a master OF CH a line CBLOHD, FLODOC, LNDARE, R or BRIDGE object	T1775 a DEPARE, DRGA does not TOUCH CONVYR, COALN MORFAC, PIPOH	ARE or U H a HULK IE, DAMO ID, PONT	Type NSARE AI KES, LNDA CON (with	C ND ARE or
Secondary Errors Dataset Name	triggered. None AA500005 For each equipment object (UOC 12.1. does not have a navigational aid struct PYLONS point object OR does not TOU CATDAM = 3 [flood barrage]), BRIDGE, object OR is not WITHIN a area CONVY Equipment object within DEPARE, DRG	S-58 test No. 1) which is WITHIN ture as a master OF CH a line CBLOHD, FLODOC, LNDARE, YR or BRIDGE objections of the control	T1775 a DEPARE, DRGA does not TOUCH CONVYR, COALN MORFAC, PIPOH	ARE or U H a HULk IE, DAMO ID, PONT riate sup	Type NSARE AI KES, LNDA CON (with	C ND ARE or h
Secondary Errors Dataset Name S-58 Description Message	triggered. None AA500005 For each equipment object (UOC 12.1. does not have a navigational aid struct PYLONS point object OR does not TOU CATDAM = 3 [flood barrage]), BRIDGE, object OR is not WITHIN a area CONVY Equipment object within DEPARE, DRG structure object or underlying object. Ensure equipment object is encoded was a supplied to the structure object or underlying object.	S-58 test No. 1) which is WITHIN ture as a master OF CH a line CBLOHD, FLODOC, LNDARE, YR or BRIDGE object ARE or UNSARE with an tying object.	T1775 a DEPARE, DRGA does not TOUCH CONVYR, COALN MORFAC, PIPOH t. thout an approp	ARE or U H a HULK IE, DAMO ID, PONT riate sup	Type NSARE AI SES, LNDA CON (with ON or SL oporting and 12.8	C ND ARE or h

-		•		
			SISTAW (P) TOPMAR (P) DEPARE (A) DRGARE (A) UNSARE (A)	3x 3x
Screen Capture				
Expected Test Results	T1775: 30 errors "Equipment object w supporting structure object or underly	ing object" must be	e triggered.	
Secondary Errors	T1722a: 27 additional warnings "Equip equipment object" must be triggered. T0054b: 3 additional errors "CRANES, on a suitable supporting object" must	B UISGL, FORSTC, LN		
Dataset Name	AA500005	S-58 test No.	T1778	Type E
S-58 Description	For each LIGHTS object where CATLIT	= 1 [directional fund	ction] AND SECTF	R1 – SECTR2 is greater
	than 10.			
Message	than 10. LIGHTS object with CATLIT = (1) with a	sector arc greater	than 10 degrees.	
Message Solution			than 10 degrees. Conformity	12.8.6.5 and Appendix A Ch.2 (code 37)
-	LIGHTS object with CATLIT = (1) with a	TLIT = (1).	Conformity	12.8.6.5 and Appendix A Ch.2 (code 37)
Solution	LIGHTS object with CATLIT = (1) with a Check SECTR1/2 values, or remove CA	TLIT = (1).	Conformity	12.8.6.5 and Appendix A Ch.2 (code 37)
Solution Test Case No. 1	LIGHTS object with CATLIT = (1) with a Check SECTR1/2 values, or remove CA LIGHTS with the difference between S	TLIT = (1). ECTR1 and SECTR2 S57 Encoding	Conformity being greater that LIGHTS (P) LNDMRK (P)	12.8.6.5 and Appendix A Ch.2 (code 37) an 10 degrees. CATLIT=1 SECTR1=90 SECTR2=130

	be triggered.											
Secondary Errors	None											
Dataset Name	AA500005				S-5	8 test N	lo.	T1780			Туре	W
	For each SBDARE object where NATSUR AND NATQUA are not Null AND the com										ombina	tion of
	values of NATSUR AND NATQUA are not as listed in the table below;											
	NATQUA	1	2	3	4	5	6	7	8	9	10	
	NATSUR											
	1					Х	Х	Х	Х	Х	Х	
	2					Х	Х	Х			Х	
	3	Х	Х	Х		Х	X	Х			Х	
	4	Х	Х	Х		1	X		Х	Х	Х	
S-58 Description	5	Х	X	X					Х	Х		
	6	X	X	X					X	X		
	7	X	X	Х					X	X		
	9					1			X	X		
	11								X	Х		
	14				x				Х			
	17	x	х	х	X					х		
	18		^	^	^				х	x		
Message	Illogical comb											
Solution	Amend NATSI							Conform	ity L	ogical c	onsiste	ency
Test Case No. 1	78 SBDARE (P											
Location	32°24'03.77"S	60°50	0'31.26"	E	S57	' Encodi	ing	SBDARE (F	?)	78x		
Screen Capture	32°24'03.77"S 60°50'31.26"E											
Expected Test Results	T1780: 78 wai	rnings	"Illogical	combir	nation of	NATSU	R and N	IATQUA" r	nust be	trigger	ed.	
Secondary Errors	None											
Test Case No. 2	78 SBDARE (L)	objec ⁻	ts, other	than co	mbinatio	ons shov	wn in t	he table.				

Screen Capture	fly bkeb. sfs. fly bks. sfs. sfs. meb. bkeb. sor. fly clav. sor. he. sor. he. sor. he. sor. he. sor. he.	₹. v. hGe → hR.		
Expected Test Results	T1780: 78 warnings "Illogical combinat	ion of NATSUR and	I NATQUA" must	be triggered.
Secondary Errors	None			
Test Case No. 3	78 SBDARE (A) objects with attributes a	assigned, other tha	n combinations	shown in the table.
Location	32°24'35.19"S 60°50'06.54"E	S57 Encoding	SBDARE (A)	78x
Screen Capture	4 ₅ 3 4 6 6 6 7 4 4			
Expected Test Results	T1780: 78 warnings "Illogical combinat	ion of NATSUR and	l NATQUA" must	be triggered.
Secondary Errors	None			
Dataset Name	AA500005	S-58 test No.	T1781	Type W
S-58 Description	For each BUISGL or LNDMRK object where CATLIT is not (6), [light support].	•		
Message	BUISGL or LNDMRK object with a slave	LIGHTS object with	nout FUNCTN = (33) [light support].
Solution	Populate FUNCTN = (33) [light support]		Conformity	12.3.2 and S-52
Test Case No. 1	LNDMRK and BUISGL where FUNCTN is	not encoded.		
Location	32°24'50.71"S 60°50'05.51"E	S57 Encoding	BUISGL (P) LNDMRK (P) LIGHTS (P)	FUNCTN=UNDEFINED FUNCTN=UNDEFINED

Screen Capture				
Expected Test Results	T1781: 2 warnings "BUISGL or LNDMRK [light support]" must be triggered.	object with a slav	e LIGHTS object	without FUNCTN = (33)
Secondary Errors	None			
Test Case No. 2	LIGHTS with CATLIT encoded as 6, 8 and	d 9.		
Location	32°24'50.67"S 60°50'07.19"E	S57 Encoding	LIGHTS (P) BUISGL (P) LNDMRK (P)	CATLIT=6 CATLIT=8 CATLIT=9
Screen Capture				
Expected Test Results	T1781: 6 warnings "BUISGL or LNDMRK [light support]" must not be triggered.	object with a slav	e LIGHTS object	without FUNCTN = (33)
Expected Test Results Secondary Errors		object with a slav	e LIGHTS object	without FUNCTN = (33)
	[light support]" must not be triggered.	object with a slav	e LIGHTS object	without FUNCTN = (33)
	[light support]" must not be triggered.	object with a slav	e LIGHTS object	without FUNCTN = (33) Type E
Secondary Errors	[light support]" must not be triggered. None	S-58 test No.	T1782	
Secondary Errors Dataset Name	[light support]" must not be triggered. None AA500005	S-58 test No.	T1782	
Dataset Name S-58 Description	[light support]" must not be triggered. None AA500005 For each SWPARE object which OVERLA	S-58 test No. APS another SWPA	T1782	
Dataset Name S-58 Description Message	[light support]" must not be triggered. None AA500005 For each SWPARE object which OVERLA SWPARE objects overlap.	S-58 test No. APS another SWPA	T1782 RE object.	Type E

Screen Capture					
Expected Test Results	T1782: An error "SWPARE objects over	iap" must be trigge	erea.		
Secondary Errors	None				
	1.450005		T-1-00	T - T -	
Dataset Name	AA500005	S-58 test No.	T1783a	Type E	
S-58 Description	For each object of type area where WA where DRVAL1>=0.	For each object of type area where WATLEV = 4 [covers and uncovers] OVERLAPS a DEPARE object where DRVAL1>=0.			
Message	Illogical value of WATLEV given the DRV	/AL1 of the underly	ying object.		
Solution	Populate appropriate value of WATLEV		Conformity	Logical consistency	
Test Case No. 1	SLCONS (A) with WATLEV=4.				
Location	32°24'23.11"S 60°50'27.58"E	S57 Encoding	SLCONS(A)	WATLEV=4	
Screen Capture	0,				
Expected Test Results	T1783a: 2 errors "Illogical value of WAT triggered.	TLEV given the DRV	'AL1 of the under	rlying object" must be	
Secondary Errors	None				
Dataset Name	AA500005	S-58 test No.	T1783b	Type E	
S-58 Description	For each object of type area where WA DRVAL1 > 0.			1 2. 1	
Message	Illogical value of WATLEV given the DRV	/AL1 of the underly	ying object.		
Solution	Populate appropriate value of WATLEV		Conformity	Logical consistency	
Test Case No. 1	SLCONS (A) with WATLEV=5.		•	•	
Location	32°24'21.45"S 60°50'27.97"E	S57 Encoding	SLCONS(A)	WATLEV=5	
	•		•		

Screen Capture				
Expected Test Results	T1783b: An error "Illogical value of WA triggered.	TLEV given the DR	VAL1 of the unde	erlying object" must be
Secondary Errors	None			
Dataset Name	AA500005	S-58 test No.	T1784	Type W
S-58 Description	For each spatial object where the value	e of HORDAT, POSA	ACC or QUAPOS is	s Null.
Message	POSACC, HORDAT or QUAPOS populate	ed with an unknow	n value.	
Solution	Remove unknown value or populate wi value.	ith a known	Conformity	Logical consistency
Test Case No. 1	LNDELV, ROADWY and RAILWAY lines v	vith attribute value	1	
Location	32°25'14.62"S 60°49'58.03"E	S57 Encoding	LNDELV (L) ROADWY (L) RAILWY (L)	HORDAT=UNKNOWN POSACC =UNKNOWN QUAPOS= UNKNOWN
Screen Capture				
Expected Test Results	T1784: 3 warnings "POSACC, HORDAT of triggered.			
Secondary Errors	T1502: An additional error "HORDAT us	sed on an object" r	nust be triggered	1.
	T			
S-58 Description	AA500005 For each object with CATLMK = 18 [win	S-58 test No.	T1785 motor] where CO	Type E NDTN = 4 [wingless].
Message	Object other than windmill or windmot	tor with CONDTN =	4 [wingless].	

Solution	Remove value of CONDTN or use LNDN	ЛRK object.	Conformity	Logical consistency
Test Case No. 1	LNDMRK with CONDTN=4 and CATLMK	ζ=3.		
Location	32°25'32.12"S 60°49'50.68"E	S57 Encoding	LNDMRK (A, L, P)	CATLMK=3 CONDTN=4 CONVIS=1
Screen Capture				
Expected Test Results	T1785: 3 errors "Object other than win triggered.	idmill or windmoto	r with CONDTN =	= 4 [wingless]"must be
Secondary Errors	None			
Dataset Name	AA500005	S-58 test No.	T1786	Type E
S-58 Description	For each object of type Area where Wa object of type area.	ATLEV equals (2) [a	always dry] AND	is not WITHIN a LNDARE
Message	Area object with WATLEV = (2) but not	on an area LNDAR	E object.	
Solution	Amend WATLEV value or ensure object	t is on land.	Conformity	Logical consistency
Test Case No. 1	SLCONS (A) with WATLEV=2.			
Location	32°25'32.22"S 60°49'33.25"E	S57 Encoding	SLCONS (A)	WATLEV=2
Screen Capture	27			
Expected Test Results	T1786: An error "Area object with W triggered.	ATLEV = (2) but n	ot on an area L	NDARE object" must be
Secondary Errors	None			
	1	1	1	
Dataset Name	AA500005	S-58 test No.	T1787	Type E

S-58 Description	For each NAVLNE and RECTRC which are COINCIDENT AND have values of ORIENT which are not equal or reciprocal.					
Message	ORIENT values for NAVLNE and RECTRC objects sharing an edge are not equal or reciprocal.					
Solution	Ensure values of ORIENT agree or are reciprocal. Conformity Logical consistency					
Test Case No. 1	RECTRC and NAVLNE with different OR	RECTRC and NAVLNE with different ORIENT values encoded.				
Location	32°24'27.50"S 60°50'13.86"E	S57 Encoding	RECTRC (L) NAVLNE (L)	ORIENT=116° ORIENT=115°		
Screen Capture						
Expected Test Results	T1787: An error "ORIENT values for NA reciprocal" must be triggered.					
Secondary Errors	T1683: An additional error "RECTRC an values of ORIENT" must be triggered.	d NAVLNE as part (of a C_AGGR do i	not have consistent		
Data set Nove	AA500005	C FO toot No	T1700	Type W		
S-58 Description	For each NAVLNE object which is COINCC_AGGR object.	S-58 test No. CIDENT with a REC	T1788	71		
Message	NAVLNE and RECTRC share an edge but	t are not aggregate	ed using C_AGGR			
Solution	Aggregate objects using C_AGGR object	t.	Conformity	10.1.2		
Test Case No. 1	RECTRC and NAVLNE with different C_A	AGGR.	1	•		
Location	32°24'00.17"S 60°50'48.44"E	S57 Encoding	RECTRC (L) NAVLNE (L) C_AGGR			
Screen Capture	3	,				

Expected Test Results	T1788: A warning "NAVLNE and RECTR must be triggered.	C share an edge bu	t are not aggrega	ated using C_AGGR"	,
Secondary Errors	None				
Dataset Name	AA500005	S-58 test No.	T1789	Type	С
S-58 Description	For each object of type DWRTCL, NAVLNE, RECTRC and RCRTCL of type line where ORIENT is not Null AND the orientation of the spatial geometry is more than 5 degrees greater than or less than the value (or reciprocal) of the value of ORIENT.				
Message	DWRTCL, NAVLNE, RECTRC or RCRTCL where the orientation of the geometry is not consistent with the value of ORIENT.				
Solution	Populate an appropriate value of ORIENT consistent with the geometry of the object. Conformi			Logical consistenc	Су
Test Case No. 1	DWRTCL, NAVLNE, RECTRC and RCRTC	L line objects with a		encoded.	
Location	32°24'00.90"S 60°50'15.78"E	S57 Encoding	NAVLNE (L) DWRTCL (L) RECTRC (L) RCRTCL (L)		
Screen Capture	10 ₃ 15 ₄ 10 ₃ 15 ₈	13,			
Expected Test Results	T1789: 4 errors "DWRTCL, NAVLNE, RE not consistent with the value of ORIEN			ion of the geometry	y is
Secondary Errors	None				
		I	1		
Dataset Name	AA500005	S-58 test No.	T1790a	Type E	E
S-58 Description	For each LIGHTS object where ORIENT	is not Null AND SEC	CTR1 OR SECTR2	are not Null.	
Message	LIGHTS object where ORIENT and SECT	R1/SECTR2 are pop	oulated.		
Solution	Remove values of SECTR1/SECTR2 or C	PRIENT.	Conformity	12.8.6.5 and 12.8.	.6.6
Test Case No. 1	LIGHTS with attributes ORIENT, SECTR	l and SECTR2 enco	ded.	<u> </u>	
Location	32°25'15.72"S 60°49'44.00"E	S57 Encoding	LIGHTS (P)	SECTR1=80 SECTR2=85 ORIENT=85	

Screen Capture	T1790a: An error "LIGHTS object where	ORIENT and SECTI	R1/SECTR2 are p	opulated" must be
Expected Test Results	triggered.			•
Secondary Errors	None			
			T	
Dataset Name	AA500005	S-58 test No.	T1790b	Type E
S-58 Description	For each LIGHTS object where ORIENT i within a collection object C_AGGR.	s not Null AND it is	aggregated to a	RECTRC or NAVLNE
Message	LIGHTS object where ORIENT and is agg	regated within a C	_AGGR collection	n object.
Solution	Remove LIGHTS object from C_AGGR coaggregation.	ollection object	Conformity	12.8.6.5 and 12.8.6.6
Test Case No. 1	RECTRC, NAVLNE and LIGHTS with ORIE	NT aggregated in (C_AGGR.	
Location	32°25'12.29"S 60°49'46.02"E	S57 Encoding	LIGHTS (P) NAVLNE (L) RECTRC (L) C_AGGR	ORIENT=85
Screen Capture				
Expected Test Results	T1790b: An error "LIGHTS object where object" must be triggered.			
Secondary Errors	T1722a: An additional warning "Equipm equipment object" must be triggered.	nent object which i	s not a slave of a	structure or another
	1		T = . = .	<u> </u>
Dataset Name	AA500005	S-58 test No.	T1790c	Type E
S-58 Description	For each LIGHTS object where ORIENT i aggregated to a RECTRC or NAVLNE wit		-	of this LIGHTS object is
Message	LIGHTS object where ORIENT and the m collection object.	naster structure ob	ject is aggregate	d within a C_AGGR

Solution	Remove the LIGHTS structure master C_AGGR collection object aggregation	Conformity	12.8.6.5 and 12.8.6.6	
Test Case No. 1	RECTRC, NAVLNE, LNDMRK (as maste		ittribute ORIENT	encoded.
Location	32°25'19.70"S 60°49'42.13"E	S57 Encoding	LIGHTS (P) NAVLNE (L) RECTRC (L) LNDMRK (P) C_AGGR	ORIENT=85
Screen Capture				
Expected Test Results	T1790c: An error "LIGHTS object whe within a C_AGGR collection object" m		naster structure (object is aggregated
Secondary Errors	None			
Dataset Name	AA500005	S-58 test No.	T1791	Type E
S-58 Description	For each NAVLNE object where CATTRK = 1.	TNAV = 3 which is	not COINCIDENT	with a RECTRC where
Message	NAVLNE with CATNAV =3 but does no	ot share the line geo	metry of a RECTF	RC with CATTRK = 1.
Solution	Ensure NAVLNE with CATNAV = 3 has RECTRC with CATTRK = 1.	a coincident	Conformity	Logical consistency
Test Case No. 1	RECTRC with attribute CATTRK=1. NA	AVLNE with attribute	CATNAV =3	
Location	32°25'03.94"S 60°49'41.42"E	S57 Encoding	RECTRC (L) NAVLNE (L)	CATTRK=1 CATNAV =3
Screen Capture	13 ₄ 10 ₃ 12 ₄	8		
Screen Capture Expected Test Results	103	3	hare the line geo	metry of a RECTRC with

Dataset Name	AA500005	S-58 test No.	T1793		Type	Е
S-58 Description	-	For each master/slave relationship which references more than one LIGHTS object AND all of the LIGHTS objects are encoded with LITVIS = 6 or 7.				
Message	Group of LIGHTS where all are LITVIS =	Group of LIGHTS where all are LITVIS = 6 or 7.				
Solution	Confirm values of LITVIS or encode pri	mary light.	Conformity	Logica	l consiste	ency
Test Case No. 1	BOYLAT, LIGHTS with attributes LITVIS= 6 and 7.					
Location	32°24'40.47"S 60°49'36.08"E	S57 Encoding	LIGHTS (P) BOYLAT (P)	LITVIS	= 6 and 7	7
Screen Capture	16 ₁	•				
Expected Test Results	T1793: 2 errors "Group of LIGHTS whe	re all are LITVIS = 6	or 7" must be tr	iggered.		
Secondary Errors	None					
					T	
Dataset Name	AA500005	S-58 test No.	T1794		Type	
S-58 Description	For each LIGHTS object where CATLIT	= (1) AND is a slav	a in a mastar/sla			E
	master object is any of BOYXXX, LITVE		e III a IIIastei/sia	ve relati	onship A	I
Message	Directional light a slave to a master ob	S or LITFLT.			onship A	ı
Message Solution		S or LITFLT. ject of type BOYXX		.T.		ND the
	Directional light a slave to a master ob Amend master to a logical object or re	S or LITFLT. ject of type BOYXX move value of	X, LITVES or LITFI Conformity	.T. Logica	l consiste	ND the

Screen Capture		*		
Expected Test Results	T1794: 8 errors "Directional light a slamust be triggered.	ave to a master obje	ct of type BOYXX	X, LITVES or LITFLT"
Secondary Errors	None			
Dataset Name	AA500005	S-58 test No.	T1795	Type C
S-58 Description	For each object which is a master in a PEREND or PERSTA are not Null AND identical to those on the slave objects	the values of DATEN	•	
Message	Temporal attributes on a master obje	ect do not match tho	se on slave objec	ets.
Solution	Populate appropriate temporal attrib objects.		Conformity	Logical consistency
Test Case No. 1	BCNSPP attributed with DATEND, DATattributes.	TSTA, PEREND & PEF	RSTA; LIGHTS with	nout temporal
Location	32°23'56.84"S 60°49'34.39"E	S57 Encoding	LIGHTS (P) BCNSPP (P)	DATEND=20130612 DATSTA=20110611 PEREND=20090411 PERSTA=20110203 STATUS=5 DATEND=20120613 DATSTA=20120613 PEREND=20120410 PERSTA=20120204
Screen Capture				
Expected Test Results	T1795: 4 errors "Temporal attributes must be triggered.	on a master object (do not match tho	se on slave objects"
Secondary Errors	None			

Dataset Name	А	A500005		S-58 test No.	T1797	Туре	Ε
		or each of the object t	type, geometry a				
		Object	Geometry		Attributes	,	
		BRIDGE	P		-		
		DAMCON	Р		CATDAM ≠ 3		
		GRIDRN	Р				
		PIPSOL	P				
		PRDARE	P	CA	TPRA = not prese	ent	
S-58 Description		RAPIDS	P				
5 50 Description		ROADWY	Р				
		RUNWAY	Р				
			А	CATSLO = 1.2	2,3,4,5,7 AND CO	NRAD ≠ 1. or	
		SLOGRD			ATSLO = not prese		
		TUNNEL	Р				
		VEGATN	P,A	CATVEG =	1, 10, 11, 12 or n	ot present	
		WATFAL	P		_,,,		
			·				
Solution		elete objects which delete	o not display in L	CDI3 of use	Conformity	4.7.11; 4.8.3; 4.8.8; 4.8.10;	
		of the state of				4.8.8; 4.8.10; 4.8.13 and 11	
Test Case No. 1	Т	he objects with attribu	utes as listed abo	N/A		4.0.13 and 11	.0.1
rest case No. 1	''	ne objects with attrib	utes as listed abo	ove.	WATFAL (P)		
					TUNNEL (P)		
					RUNWAY (P)		
					ROADWY (P)		
					, ,		
	l l				RAPIDS (P)		
					RAPIDS (P) PIPSOL (P)		
					PIPSOL (P)		
					PIPSOL (P) GRIDRN (P)	CATDAM=1	
					PIPSOL (P) GRIDRN (P) BRIDGE (P)	CATDAM=1 CATDAM=2	
					PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P)		pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P)	CATDAM=2	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P)	CATDAM=2 CATVEG= <em< td=""><td>pty></td></em<>	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P) VEGATN (P)	CATDAM=2 CATVEG= <em CATVEG=1</em 	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P) VEGATN (P) VEGATN (P)	CATDAM=2 CATVEG= <em CATVEG=1 CATVEG=10 CATVEG=11 CATVEG=12</em 	
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) PRDARE (P)	CATDAM=2 CATVEG= <em catpra="<Em</td" catveg="12"><td>pty></td>	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) SLOGRD (A)	CATDAM=2 CATVEG= <em catpra="<Em" catslo="<Em</td" catveg="12"><td>pty></td>	pty>
Location	3	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) PRDARE (P)	CATDAM=2 CATVEG= <em catpra="<Em</td" catveg="12"><td>pty></td>	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) SLOGRD (A)	CATDAM=2 CATVEG= <em catpra="<Em" catslo="<Em</td" catveg="12"><td>pty></td>	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) VEGATN (P) SLOGRD (A) SLOGRD (A) SLOGRD (A)	CATDAM=2 CATVEG= <em catpra="<Em" catslo="3</td" catveg="12"><td>pty></td>	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) DAMCON (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) VEGATN (P) SLOGRD (A) SLOGRD (A) SLOGRD (A) SLOGRD (A)	CATDAM=2 CATVEG= <em catpra="<Em" catslo="4</td" catveg="12"><td>pty></td>	pty>
Location	3.	2°24'37.84"S 60°51'1	1.46"E	S57 Encoding	PIPSOL (P) GRIDRN (P) BRIDGE (P) DAMCON (P) VEGATN (P) SLOGRD (A) SLOGRD (A) SLOGRD (A)	CATDAM=2 CATVEG= <em catpra="<Em" catslo="3</td" catveg="12"><td>pty></td>	pty>

Screen Capture	
Expected Test Results	T1797: 23 errors "Object, geometry and attribute combination which do not display in ECDIS present" must be triggered.
Secondary Errors	None

2.6. Test Dataset: AA500006

S-58 Test	Description
58	For each SBDARE object of type line which is COINCIDENT with an SBDARE object of type area.
59	For each OBSTRN object of type line which is COINCIDENT with an OBSTRN object of type area.
548	If the combined coverage of M_COVR objects are not equal to the cell limits.
1533	For each DRGARE object where SOUACC is not Null AND it is equivalent to or degrades the value of CATZOC on the M_QUAL object it is WITHIN.
1534	For each UWTROC object where SOUACC is not Null AND is equivalent to or degrades the value of CATZOC on the M_QUAL object it is WITHIN.
1536	For each WRECKS object where SOUACC is not Null AND is equivalent to or degrades the value of CATZOC on the M_QUAL object it is WITHIN.
1538	For each OBSTRN object where SOUACC is not Null AND is equivalent to or degrades the value of CATZOC on the M_QUAL object it is WITHIN.
1637	For each PYLONS object of type area where WATLEV equals 1 [partly submerged at high water], 2 [always dry] or 6 [subject to inundation or flooding] which is not WITHIN a LNDARE object of type area.
1683	For each C_AGGR object with a single instance of both NAVLNE AND RECTRC AND their ORIENT values are not equal or reciprocal.
1684	For each group of objects forming a measured distance where the beacons and transit lines are not aggregated into a C_AGGR collection object AND the C_AGGR collection objects are not aggregated into another C_AGGR object including the track to be followed.
1685	For each object of type TSSBND is not COINCIDENT with the outer limit of a TSSRON, TSSLPT or TSSZNE.
1686	For each TSELNE object which is not COINCIDENT with two TSSLPT objects OR one TSSLPT object and one ISTZNE object.
1687	For each TSEZNE object which is not COINCIDENT with two TSSLPT objects OR one TSSLPT object and one ISTZNE object OR COINCIDENT with a TSSRON object.
1688	For each TSSCRS object which does not touch greater than 3 TSSLPT or TWRTPT objects.
543	If any TS_TSP attribute value does not conform to the correct structure, (i.e. values separated by commas).
1559	For each T_NHMN object which is not associated (using the C_ASSO collection object with a T_TIMS or T_HMON object).
1562	For each TS_PNH object which is not associated with (using the collection object C_ASSO) a TS_TIS OR TS_PRH object.
1605	For each ICEARE object which is not WITHIN a LNDARE or UNSARE or DEPARE object of type area.
1625	For each AIRARE or RUNWAY object encoded using a collection object which is not C_ASSO.
1729	For each geo object forming part of a BCNXX or BOYXX object AND MARSYS is not (9) or (10) where the attributes for structure, topmark and lights do not conform to the value of MARSYS on the geo object or the M_NSYS object it is WITHIN.

Dataset Name	AA500006	S-58 test No	. T0058	Туре	W	
S-58 Description	For each SBDARE object of type line which is CO	For each SBDARE object of type line which is COINCIDENT with an SBDARE object of type area.				
Message	Line SBDARE bounds an area SBDARE.					
Solution	Delete line SBDARE. Conformity Logical consistency			псу		
Test Case No. 1	SBDARE (L) bounding SBDARE (A).			_		
Location	1 32°73'52 16"S 60°48'46 25"F S57 Encoding			NATSUR: WATLEV		
Screen Capture	Ray 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					
Expected Test Results	T0058: A warning "Line SBDARE bounds an area					
Secondary Errors	T1671: An additional warning "Line object touch SORIND, SORDAT and SCAMIN" must be triggered		ne same attribu	te values e	xcept	
Dataset Name	AA500006	S-58 test No	. тоо59	Туре	w	
S-58 Description	For each OBSTRN object of type line which is CO			·		
Message	Line OBSTRN bounds an area OBSTRN.					
Solution	Amend or delete OBSTRN of type line.		Conformity	Logical consister	ncy	
Test Case No. 1	OBSTRN (L) bounding OBSTRN (A).					
Location	32°24'04.48"S 60°48'14.20"E	S57 Encoding	OBSTRN (A, L)	CATOBS= WATLEV= QUASOU VALSOU= NOWN	=3 I=2	

Screen Capture				
Expected Test Results	T0059: A warning "Line OBSTRN bounds an are	a OBSTRN" must l	oe triggered.	
Secondary Errors	T1671: An additional warning "Line object touc SORIND, SORDAT and SCAMIN" must be trigger		he same attribu	te values except
	30KIND, 30KDAT and 3CAIVIIIV Thust be trigger	reu.		
Dataset Name	AA500006	S-58 test No	. T0548	Type C
S-58 Description	If the combined coverage of M_COVR objects a	are not equal to th	e cell limits.	•
Message	Cell not entirely covered by M_COVR objects.			
Solution	Correct M_COVR coverage to match cell limits.		Conformity	3.4
Test Case No. 1	M_COVR objects with CATCOV=1 and CATCOV=	=2 overlapping eac	ch other.	
Location	32°23'55.33"S 60°46'33.24"E	S57 Encoding	M_COVR (A) M_COVR (A)	CATCOV=1 CATCOV=2
Screen Capture	8 ₂			
Expected Test Results	T0548: 2 errors "Cell not entirely covered by M	I COVR objects" n	nust be triggered	d.
Secondary Errors	T0019: 3 additional errors "Edge coincides with {Exterior boundary truncated by the data limit] T0519a: An additional error "Skin of the earth ((M_COVR=1)" must be triggered. T1726: An additional error "Data coverage not value for MARSYS" must be triggered. T0042: An additional error "GROUP 1 is not cor	n the edge of data "must be triggere (TG1) objects do n completely covere	and USAG does d. ot cover the dat ed by M_NSYS o	not equal 3 a coverage bjects with a

	triggered. T0554: An additional error "edge is shared by 'n must be triggered. T0501: An additional error "Check that cells are			o TG1 obje	ect"
		1			T
Dataset Name	AA500006	S-58 test No.	T1533	Туре	E
S-58 Description	For each DRGARE object where SOUACC is not of CATZOC on the M_QUAL object it is WITHIN.	Null AND it is equ	iivalent to or de	egrades the	e value
Message	SOUACC on DRGARE is equivalent to or degrade M_QUAL object.	es the value of CA	,	derlying	
Solution	Amend CATZOC on M_QUAL.		Conformity	2.2.3.1	
Test Case No. 1	DRGARE (A) SOUACC value that degrades the ac	curacy indicated	by the M_QUAL	. CATZOC v	alue.
Location	32°25'14.65"S 60°48'40.00"E	S57 Encoding	M_QUAL (A) DRGARE (A)	CATZOC= DRVAL1= SOUACC=	20
Screen Capture					
Expected Test Results	T1533: An error "SOUACC on DRGARE is equival underlying M_QUAL object" must be triggered.	ent to or degrade	s the value of C	ATZOC on	the
Secondary Errors	None				
					1
Dataset Name	AA500006	S-58 test No.	T1534	Туре	E
S-58 Description	For each UWTROC object where SOUACC is not of CATZOC on the M_QUAL object it is WITHIN.	Null AND is equiv	alent to or degr	ades the v	alue
Message	SOUACC on UWTROC degrades the value of CAT	ZOC on the unde	rlying M_QUAL	object.	-
Solution	Amend CATZOC on M_QUAL.		Conformity	2.2.3.1	
Test Case No. 1	UWTROC SOUACC value that degrades the accu	racy indicated by	the M_QUAL C	ATZOC valu	ie.
Location	32°25'11.24"S 60°48'42.90"E	S57 Encoding	M_QUAL (A) UWTROC (P)	CATZOC= QUASOU SOUACC= VALSOU= WATLEV=	=1 =5 =21

Screen Capture	(21)			
Expected Test Results	T1534: An error "SOUACC on UWTROC degrades object" must be triggered.	the value of CAT	ZOC on the und	lerlying M_QUA
Secondary Errors	None			
Dataset Name	AA500006	S-58 test No.	T1536	Type E
S-58 Description	For each WRECKS object where SOUACC is not N CATZOC on the M_QUAL object it is WITHIN.	Iull AND is equiva	lent to or degra	des the value of
Message	SOUACC on WRECKS degrades the value of CATZ	OC on the underl	ying M_QUAL o	bject.
Solution	Amend CATZOC on M_QUAL.		Conformity	2.2.3.1
Test Case No. 1	WRECKS (P) SOUACC value that degrades the acc	curacy indicated b	y the M_QUAL	CATZOC value.
Location	32°25'16.55"S 60°48'34.71"E	S57 Encoding	M_QUAL (A) WRECKS (P)	CATZOC=1 CATWRK=2 SOUACC=5 VALSOU=21 WATLEV=3 QUASOU=6
Screen Capture	(21)			
Expected Test Results	T1536: An error "SOUACC on WRECKS degrades object" must be triggered.	the value of CATZ	OC on the unde	erlying M_QUAL
Secondary Errors	None			

Dataset Name	AA500006	S-58 test No.	T1538	Туре	E
S-58 Description	For each OBSTRN object where SOUACC is not Null AND is equivalent to or degrades the value of CATZOC on the M_QUAL object it is WITHIN.				
Message	SOUACC on OBSTRN is equivalent to or degrades the value of CATZOC on the underlying M_QUAL object.				
Solution	Amend SOUACC on M_QUAL or OBSTRN as app	ropriate.	Conformity	2.2.3.1	
Test Case No. 1	OBSTRN (P) SOUACC value that degrades the ac	curacy of the M_0	QUAL (A) CATZO	C value.	
Location	32°25'11.20"S 60°48'34.36"E	S57 Encoding	M_QUAL (A) OBSTRN (P)	CATZOC= SOUACC: VALSOU= WATLEV: QUASOU	=5 =21 =3
Screen Capture	(21)				
Expected Test Results	T1538: An error "SOUACC on OBSTRN is equival underlying M_QUAL object" must be triggered.	ent to or degrade	s the value of C	ATZOC on	the
Secondary Errors	None				
Dataset Name	AA500006	S-58 test No.		Туре	E
S-58 Description	For each PYLONS object of type area where WA [always dry] or 6 [subject to inundation or flood area.				
Message	PYLONS object with WATLEV 1, 2 or 6 not situat	ed on a LNDARE o	bject.		
Solution	Ensure PYLONS object is situated on LNDARE of	type area.	Conformity	4.8.18	
Test Case No. 1	PYLONS (A) with WATLEV=1, 2 or 6 without a co	incident LNDARE.			
Location	32°24'06.10"S 60°48'20.59"E	S57 Encoding	PYLONS (A)	CATPYL= wn WATLEV: or 6	

Screen Capture	19			
Expected Test Results	T1637: 3 errors "PYLONS object with WATLEV 1, triggered.			
Secondary Errors	T1786: An additional error "Area object with Wamust be triggered.	AILEV = (2) DUT NO	on an area LN	IDAKE ODJECT
	1150000		71.500	Τ_ Ιο
Dataset Name	AA500006	S-58 test No		Type C
S-58 Description	For each C_AGGR object with a single instance of values are not equal or reciprocal.	of both NAVLNE A	ND RECTRC ANI	O their ORIENT
Message	RECTRC and NAVLNE as part of a C_AGGR do no	t have consistent	values of ORIEN	NT.
Solution	Amend values of ORIENT to agree.		Conformity	10.1.2
Test Case No. 1	NAVLNE and RECTRC objects with differing ORIE	NT values.		
Location	32°24'02.60"S 60°48'27.83"E	S57 Encoding	NAVLNE (L) RECTRC (L)	CATNAV=3 ORIENT=335 CATTRK=1 ORIENT=336 TRAFIC=3
Screen Capture	048 deg 67	11		
	73 103	14 ₆		
Expected Test Results	T1683: An error "RECTRC and NAVLNE as part of ORIENT" must be triggered. T0050: An additional error "RECTREC where CAT	f a C_AGGR do no		

	T1787: 2 additional errors "ORIENT values fo	or NAVLNE and RECTF	RC objects shari	ng an edge	are
	not equal or reciprocal" must be triggered.				
Dataset Name	AA500006	S-58 test No	T1684	Туре	Е
S-58 Description	For each group of objects forming a measure not aggregated into a C_AGGR collection obj aggregated into another C_AGGR object includes the collection of the	ed distance where the	e beacons and t R collection obje	ransit lines	are
Message	Measured distance not grouped using C_AGG	GR collection objects			
Solution	Encode C_AGGR objects and relate as approp	priate.	Conformity	10.1.3	
Test Case No. 1	NAVLNE and BCNSPP objects with CATNAV a	ind CATSPM attribute	values encode	d.	
Location	32°23'55.15"S 60°48'03.02"E	S57 Encoding	NAVLNE (L) BCNSPP (P)	CATNAV= ORIENT= wn INFORM= Measured distance= metres CATSPM=	unkno = d =145
Screen Capture		11			
Expected Test Results	T1684: 3 errors "Measured distance not groutriggered.	uped using C_AGGR o	collection object	ts" must be	
Expected Test Results Secondary Errors	T1684: 3 errors "Measured distance not grou		collection object	ts" must be	· · · · · · · · · · · · · · · · · · ·
	T1684: 3 errors "Measured distance not groutriggered.		collection object	ts" must be	
-	T1684: 3 errors "Measured distance not groutriggered.			ts" must be	E
Secondary Errors	T1684: 3 errors "Measured distance not groutriggered. None	uped using C_AGGR of S-58 test No	. T1685	Туре	E
Secondary Errors Dataset Name	T1684: 3 errors "Measured distance not groutriggered. None AA500006 For each object of type TSSBND is not COINC	S-58 test No	. T1685	Туре	E
Secondary Errors Dataset Name S-58 Description	T1684: 3 errors "Measured distance not groutriggered. None AA500006 For each object of type TSSBND is not COINC TSSZNE.	S-58 test No CIDENT with the oute iate TSS object.	. T1685	Туре	E
Secondary Errors Dataset Name S-58 Description Message	T1684: 3 errors "Measured distance not groutriggered. None AA500006 For each object of type TSSBND is not COINC TSSZNE. TSSBND not on the outer limit of an appropriate Amend TSSBND or other TSS objects so that	S-58 test No CIDENT with the oute iate TSS object. it forms the outer	T1685 r limit of a TSSR	Type ON, TSSLP1	E

	Te	´5			
Screen Capture	161				
Expected Test Results	T1685: An error "TSSBND not on the outer limit	of an appropriate	TSS object" mi	ust be trigg	ered.
Secondary Errors	None				
Dataset Name	AA500006	S-58 test No.	T1686	Туре	E
S-58 Description	For each TSELNE object which is not COINCIDEN and one ISTZNE object.	T with two TSSLP	T objects OR on	e TSSLPT ol	bject
Message	TSSLNE does not separate TSSLPT objects or TSS	PLT and ISTZNE o	bjects.		
Solution	Amend TSELNE to ensure it separates appropria	te objects.	Conformity	10.2.1.3	
Test Case No. 1	TSELNE (L) without traffic lanes or inshore traffic	c zone.			
Location	32°24'22.36"S 60°48'29.28"E	S57 Encoding	TSELNE (L)		
Screen Capture	97				
Expected Test Results	T1686: An error "TSSLNE does not separate TSSL be triggered.	LPT objects or TSS	PLT and ISTZNE	objects" m	nust
Secondary Errors	None				
_		_			
Dataset Name	AA500006	S-58 test No.	T1687	Type	E
S-58 Description	For each TSEZNE object which is not COINCIDEN and one ISTZNE object OR COINCIDENT with a TS		T objects OR on	e TSSLPT o	bject

Message	TSEZNE does not separate appropriate TSS objects.				
Solution	Amend TSSZNE to separate appropriate objects. Conformity 10.2.1.4				
Test Case No. 1	TSEZNE (A) which does not separate two traffic	lanes, TSELNE, IS	STZNE and TSSRC	N.	
Location	32°24'15.46"S 60°47'45.97"E				
Screen Capture	85				
Expected Test Results	T1687: A warning "TSEZNE does not separate ap	propriate TSS o	bjects" must be t	riggered.	
Secondary Errors	None				
Dataset Name	AA500006	S-58 test N	o. T1688	Туре	E
S-58 Description	For each TSSCRS object which does not touch gr		SLPT or TWRTPT	objects.	
Message	TSSCRS object does not encode a crossing of 4 o	r more lanes.	_	1	
Solution	Encode all lane parts or use another object.		Conformity	10.2.1.5	
Test Case No. 1	TSSCRS (A) without traffic lanes.	<u> </u>	1	1	
Location	32°24'10.26"S 60°47'15.08"E	S57 Encoding	TSSCRS (A)		
Screen Capture					
Expected Test Results	T1688: An error "TSSCRS object does not encode triggered.	e a crossing of 4	or more lanes" r	nust be	
Secondary Errors	None				

Dataset Name	AA500006	S-58 test No	. T0543	Type E
S-58 Description	If any TS_TSP attribute value does not conform commas).	to the correct stru	ucture, (i.e. valu	es separated by
Message	TS_TSP value not formatted correctly.			
Solution	Correct formatting of TS_TSP value.		Conformity	Appendix A Ch.2 (code 159).
Test Case No. 1	TS_PAD (P) with attribute TS_TSP improperly en	icoded.		
Location	32°24'57.45"S 60°47'05.16"E	S57 Encoding	TS_PAD (P)	TS_TSP=63230, Darwin,HW,12 4,2.2,128,2.1,1 25,2.9,116,2.8, 110,2.0,095,0. 6,020,0.2,320, 1.9,315,2.1,30 0,2.8,268,2.6,2 00,2.4,1652.5
Screen Capture	◆			
Expected Test Results	T0543: An error "TS_TSP value not formatted co	orrectly" must be	triggered.	
Secondary Errors	None			
Dataset Name	AA500006	S-58 test No.	. T1559	Type E
S-58 Description	For each T_NHMN object which is not associate T_TIMS or T_HMON object).	d (using the C_AS	SO collection ol	oject with a
Message	T_NHMN which is not associated with an appro	priate object.		
Solution	Associate T_NHMN with a T_TIMS or T_HMON (object.	Conformity	3.2.3
Test Case No. 1	T_NHMN (A, P) without an associated collection	object with T_TI	MS or T_HMON	
Location	32°25'29.81"S 60°48'19.92"E	S57 Encoding	T_NHMN (A, P)	

-		
Screen Capture	201	
Expected Test Results	T1559: 2 errors "T_NHMN which is not associated with ar	appropriate object" must be triggered.
Secondary Errors	None	
Test Case No. 2	T_NHMN (A, P) associated with a collection object. T_NHMN (A) associated with a collection object with T_T T_NHMN (P) associated with a collection object with T_H	MON (A).
Location	32°25'30.28"S 60°48'32.33"E	coding T_NHMN (A, P) T_TIMS (P) T_HMON (A)
Screen Capture		
Expected Test Results	T1559: 2 errors "object must be associated with an object triggered.	t 'C_AGGR' using 'c_asso'" must not be
Secondary Errors	None	
Detect News	AAF00006	tost No. T1562 Time 5
S-58 Description	AA500006 S-58 For each TS_PNH object which is not associated with (usin TS_TIS OR TS_PRH object.	test No. T1562 Type E ng the collection object C_ASSO) a
Message	TS_PNH not associated to a TS_TIS or TS_PRH object.	
Solution	Associate TS_PNH to a TS_TIS or TS_PRH object using C_A	ASSO. Conformity 3.3.4
Test Case No. 1	TS_PNH (A, P) without an associated collection object with	
iest Case NO. 1	_ 13_1 WIT (A, 1) WITHOUT AIT ASSOCIATED CONECTION OBJECT WIT	11 13_113 OF 13_CIVII.

Location	32°25'27.91"S 60°47'53.54"E	S57 Encoding	TS_PNH (A, P)	T_MTOD=unkn own T THDF=1	
Screen Capture	12,				
Expected Test Results	T1562: 2 errors "TS_PNH not associated to a TS_	_TIS or TS_PRH ob	ject" must be t	riggered.	
Secondary Errors	None				
Test Case No. 2	TS_PNH (A, P) associated with a collection object w TS_PNH (A) associated with a collection object w TS_PNH (P) associated with a collection object w	vith TS_TIS (A).			
Location	32°25'32.43"S 60°47'35.81"E	S57 Encoding	TS_PNH (P) TS_TIS (P) TS_PRH (P)		
Screen Capture	11 ₈ 11 ₂ 11 ₀ 11 ₄ 11 ₈ 12 ₁				
Expected Test Results	T1562: 2 errors "TS_PNH not associated to a TS_	_TIS or TS_PRH ob	ject" must not	be triggered.	
Secondary Errors	None				
Dataset Name	AA500006	S-58 test No.	T1605	Type E	
S-58 Description			F or DEPARE oh	icat of tune area	
	For each ICEARE object which is not WITHIN a LN			ject of type area.	
Message	For each ICEARE object which is not WITHIN a LN ICEARE not covered by appropriate TG1 objects.			ject of type area.	

Test Case No. 1	ICEARE (A) overlapping PONTON (A), HULKES (A) or FLODOC (A).									
Location	32°23'54.97"S 60°46'58.06"E S57 Encoding ICEARE (A) PONTON (A) HULKES (A) FLODOC (A)									
Screen Capture	8 ₈ 9 ₁	9 ₁								
Expected Test Results	T1605: 3 errors "ICEARE not covered by appropr	riate TG1 objects'	' must be trigge	red.						
Secondary Errors	None									
		l		<u> </u>						
Dataset Name	AA500006	S-58 test No	. T1625	Туре	W					
S-58 Description	For each AIRARE or RUNWAY object encoded us	ing a collection o	bject which is n	ot C_ASSO.						
Message	RUNWAY or AIRARE associated using C_AGGR.									
Solution	Encode association using C_ASSO not C_AGGR.		Conformity	4.8.12						
Test Case No. 1	AIRARE (A) & BUISGL (P) encoded using collection	on object C_AGGF	1		AIRARE (A) & BUISGL (P) encoded using collection object C_AGGR.					
	32°23'51.08"S 60°48'22.79"E									
Location	32°23'51.08"S 60°48'22.79"E	S57 Encoding								
Screen Capture	32°23'51.08"S 60°48'22.79"E	S57 Encoding								
	•		BUISGL (P)	ered.						
Screen Capture	全 公 金 全 全 全 全 全 全		BUISGL (P)	ered.						

Location	32°23'51.55"S 60°48'27.99"E	S57 Encoding	RUNWAY(A) BUISGL (A)		
Screen Capture					
Expected Test Results	T1625: A warning "RUNWAY or AIRARE associate	ed using C_AGGR"	' must be trigge	ered.	
Secondary Errors	None				
Dataset Name	AA500006	S-58 test No.	T1729	Туре	E
S-58 Description	For each geo object forming part of a BCNXX or where the attributes for structure, topmark and the geo object or the M_NSYS object it is WITHI	l lights do not conf			-
Message	Component of an aid to navigation does not con in M_NSYS.	nform to the IALA	system defined	on the obj	ject or
Solution	Ensure attributes conform to the IALA system of	encoded in MARSY	S. Conformi	ity 12.2 a	
Test Case No. 1	BOYLAT, BCNLAT & LIGHTS encoded using value	s opposite to the i	indicated IALA	system.	
Location	32°25'28.02"S 60°46'39.96"E	S57 Encoding	BCNLAT (P) TOPMAR (P) LIGHTS (P) Encoding BOYLAT (P) TOPMAR (P) LIGHTS (P)		=1 =2 =4 =1 =4 2 =4 (1) 4 =1 =3 =5 =3 2 =3 (1)

Screen Capture	1.1.45	.G4s				
Expected Test Results	T1729: 6 Errors "Component of an aid to navigat on the object or in M_NSYS" must be triggered.	tion does not cor	nform to the IAL	A system defined		
Secondary Errors	None					
Test Case No. 2	BOYLAT, BCNLAT & LIGHTS encoded using value where MARSYS attribute values are encoded.	s opposite to the	indicated IALA	system and		
Location	32°25'32.17"S 60°46'57.56"E	S57 Encoding	BCNLAT (P) TOPMAR (P) LIGHTS (P) BOYLAT (P) TOPMAR (P) LIGHTS (P)	BCNSHP=1 CATLAM=2 COLOUR=3 MARSYS=9 TOPSHP=1 COLOUR=3 LITCHR=2 COLOUR=3 SIGGRP=(1) SIGPER=4 BOYSHP=1 CATLAM=1 COLOUR=4 MARSYS=9 TOPSHP=5 COLOUR=4 LITCHR=2 COLOUR=4 SIGGRP=(1) SIGPER=4		

Screen Capture	FI.G4s			
Expected Test Results	T1729: 6 Errors "Component of an aid to navigate on the object or in M_NSYS" must not be trigger		form to the IAL	A system defined
Secondary Errors	None			
Test Case No. 3	BOYLAT, BCNLAT & LIGHTS encoded using value where MARSYS attribute values are encoded.	s opposite to the	indicated IALA	system and
Location	32°25'23.65"S 60°46'57.61"E	S57 Encoding	BCNLAT (P) TOPMAR (P) LIGHTS (P) BOYLAT (P) TOPMAR (P) LIGHTS (P)	BCNSHP=1 CATLAM=2 COLOUR=3 MARSYS=10 TOPSHP=1 COLOUR=3 LITCHR=2 COLOUR=3 SIGGRP=(1) SIGPER=4 BOYSHP=1 CATLAM=1 COLOUR=4 MARSYS=10 TOPSHP=5 COLOUR=4 LITCHR=2 COLOUR=4 SIGGRP=(1) SIGPER=4

Screen Capture	FI.G4s FI.R4s		
Expected Test Results	T1729: 6 Errors "Component of an aid to navigation does not conform to the IALA system defined on the object or in M_NSYS" must not be triggered.		
Secondary Errors	None		

2.7. Test Dataset: AA500007

For all VE edges which do not have a beginning or end node.	S-58 Test		Descript	tion				
For each feature of type line which references multiple edges where the vector records are not referenced sequentially. For each area outer or inner boundary which is not closed (i.e. the first and last edges bounding the area do not meet at a common connected node). For each edge which is COINCIDENT with the data limit borders (i.e. limits of M_COVR with CATCOV = 1 [coverage available]) where USAG does not equal 3 [Eactorio boundary truncated by the data limit). 21 For each vector record pointer (VRPT) fields which are not pointed to by an edge vector record. For any pair of line objects where class and attribute values are identical AND all referenced edges have the same spatial attribute values AND with have one or two common connected nodes within (saye) a beginning node or an end node of each linear feature AND each common connected node is not shared by more than two objects which are not chained together. For Vec deges which are referenced by Group 1 objects and are not linked to objects M_COVR with CATCOV = 1 [coverage available] which do not appear twice with different ORNT values or are not linked to objects M_COVR with CATCOV = 1 [coverage available]. For each object of type area where all edges are have not USAG = 3 [exterior boundary truncated by the data limit] has AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. Closet that any NEWOBi object has attributes CLOSEF, CLSNAM and SYMINS populated with exactly one of the following combinations: CLSDEF A Virtual object which indicates navigable water lies northwards Virtual AtoN, East Cardinal A Virtual object which indicates navigable water lies southwards A Virtual object which indicates North and the provided of the proper side of a channel A Virtual object marking the port side of a channel A Virtual o	2	For all VE edges which do not have a begini	ning or end node.					
For each area outer or inner boundary which is not closed (i.e. the first and last edges bounding the area do not meet at a common connected node).	11	For each edge where USAG = 3 [exterior boundary truncated by the data limit] not referencing an M_COVR object.						
15 node). 19 For sach edge which is COINCIDENT with the data limit borders (i.e. limits of M_COVR with CATCOV = 1 [coverage available]) where USAG does not equal 3 [Exterior boundary truncated by the data limit.) 21 For each vector record pointer (VRPT) fields which are not pointed to by an edge vector record. 22 For any pair of line objects where class and attribute values are identical AND all referenced edges have the same spatial attribute values and use of the connected node is not shared by more than two objects which are not chained together. 32 For vice deges which are referenced by Group 1 objects which are not chained together. 33 For VE deges which are referenced by Group 1 objects and are not linked to objects M. COVR with CATCOV = 1 [coverage available] which do not appear twice with different ORBN values or are not linked to objects M. COVR with CATCOV = 1 [coverage available]. 34 For each object of type area where all edges are have not USAG = 3 [exterior boundary truncated by the data limit) has AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]). 35 For all attributes TXTDSC,NTXTDS,PICREP which are 'not Null' and referenced files do not exist or their names do not conform to the ENC Produ Specification. 36 For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. 36 For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. 37 Check that any NEWOBI object has attributes CLSDEF, CLSNAM SYMINIS populated with exactly one of the following combinations: CLSDEF A Virtual object which indicates navigable water lies southwards Virtual AtoN, North Cardinal Navigable water lies osturbwards Virtual AtoN, North Cardinal SY(BRTHNOO1)SY(BCOCAROD); NORTH CARDINAL AND SYBERTHNOO1]SYBERCORADO]; NORTH CARDINAL AND SYBERTHNOO1]SYBERCORADO]; NORTH CARDINAL AND SYBERTHNOO1]SYBERCORADO]; NORTH CARDINAL Object marking the port side of a channel	13a	For each feature of type line which referen	For each feature of type line which references multiple edges where the vector records are not referenced sequentially.					
19 not equal 3 [Exterior boundary truncated by the data limit]. 21 For each vector record pointer (VRPT) fields which are not pointed to by an edge vector record. For any pair of line objects where class and attribute values are identical AND all referenced edges have the same spatial attribute values AND which have one or two common connected nodes which is (are) a beginning node or an end node of each linear feature AND each common connected node is not shared by more than two objects which are not chained together. For VE edges which are referenced by Group 1 objects and are not linked to objects M.COVR with CATCOV = 1 (coverage available) which do not appear twice with different ORIN values or are not linked to objects M.COVR with CATCOV = 1 (coverage available). For each object of type area where all edges are have not USAG = 3 (exterior boundary truncated by the data limit) has AND all edges are masked (i.e. USAG = 3 or MASE = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. WASK = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For each object of type line wh	15							
For any pair of line objects where class and attribute values are identical AND all referenced edges have the same spatial attribute values AND which have one or two common connected nodes which is (are) a beginning node or an end node of each linear fleature AND each common connected node is not shared by more than two objects which are not chained together. For VE edges which are referenced by Group 1 objects and are not linked to objects. M_COVR with CATCOV = 1 [coverage available] which do not appear twice with different ORNT values or are not linked to objects. M_COVR with CATCOV = 1 [coverage available]. For each object of type area where all edges are have not USAG = 3 [exterior boundary truncated by the data limit] has AND all edges are masked (i.e. DASAE = 1 mask). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For all attributes TXTDSC,NTXTDS,PICREP which are 'not Null' and referenced files do not exist or their names do not conform to the ENC Produ Specification. To act a catalogue file does not exist. CLISPE CLISPE CLISPE A Virtual Object which indicates navigable water lies onthwards A Virtual object which indicates navigable water lies eastwards A Virtual object which indicates navigable water lies eastwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which ind	19			f M_COVR with CATCOV = 1 [coverage available]) where USAG do	oes			
which have one or two common connected nodes which is (are) a beginning node or an end node of each linear feature AND each common connected node is not shared by more than two objects which are not chained to degether. 142	21	For each vector record pointer (VRPT) fields	s which are not pointed to by an	edge vector record.				
appear twice with different ORNT values or are not linked to objects. M_COVR with CATCOV = 1 [coverage available]. For each object of type area where all edges are have not USAG = 3 [exterior boundary truncated by the data limit] has AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]). For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). For all attributes TXTDSC,NTXTDS,PICREP which are 'not Null' and referenced files do not exist or their names do not conform to the ENC Produ Specification. For all attributes TXTDSC,NTXTDS,PICREP which are 'not Null' and referenced files do not exist or their names do not conform to the ENC Produ Specification. For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. CLSDEF	40	which have one or two common connected	nodes which is (are) a beginning	node or an end node of each linear feature AND each common)			
masked (i.e. USAG = 3 or MASK = 1 [mask]). 71b For each object of type line which has any edges masked (i.e. MASK = 1 [mask]). 1005 For all attributes TXTDSC,NTXTDS,PICREP which are 'not Null' and referenced files do not exist or their names do not conform to the ENC Produ Specification. 1006 If a catalogue file does not exist. 554 For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. Check that any NEWOBJ object has attributes CLSDEF, CLSNAM and SYMINS populated with exactly one of the following combinations: CLSDEF A Virtual object which indicates navigable water lies enorthwards A Virtual object which indicates navigable water lies estswards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards Cardinal A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object water lies westwards A Virtual object water lies westwards A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side	42				o not			
For all attributes TXTDSC,NTXTDS,PICREP which are 'not Null' and referenced files do not exist or their names do not conform to the ENC Produ Specification. 1006 If a catalogue file does not exist. For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. Check that any NEWOBJ object has attributes CLSDEF, CLSNAM and SYMINS populated with exactly one of the following combinations: CLSDEF A Virtual object which indicates navigable water lies northwards A Virtual object which indicates virtual AtoN, North Cardinal navigable water lies northwards A Virtual object which indicates navigable water lies outhwards A Virtual object which indicates virtual AtoN, South SY(BRTHNOO1);SY(BCNCARO3); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object which indicates virtual AtoN, West SY(BRTHNOO1);SY(BCNCARO3); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT24); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking the starboard virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT23); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking the starboard virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT23); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking the starboard Virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT23); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking an isolated Virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT23); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking an isolated Virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT23); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking an isolated Virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT23); TX(V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking an isolated Virtual AtoN, Starboard SY(BRTHNOO1);SY(BOYLAT23); TX(V-AIS',3,2,2,	71a	, ,,		or boundary truncated by the data limit] has AND all edges are				
Specification. 1006 If a catalogue file does not exist. For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. Check that any NEWOBJ object has attributes CLSDEF, CLSNAM and SYMINS populated with exactly one of the following combinations: CLSDEF A Virtual object which indicates navigable water lies northwards A Virtual object which indicates navigable water lies eastwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object which indicates navigable water lies westwards A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking an isolated virtual Aton, Starboard side of a Channel A Virtual object marking an isolated virtual Aton, Starboard side of stannel A Virtual object marking an isolated virtual Aton, Starboard side of a Channel A Virtual object marking an isolated virtual Aton, Starboard side of stannel A Virtual object marking an isolated virtual Aton, Starboard side of a Channel A Virtual object marking an isolated virtual Aton, Starboard side of stannel A Virtual object marking an isolated virtual Aton, Starboard side of stannel A	71b	For each object of type line which has any e	edges masked (i.e. MASK = 1 [ma	sk]).				
For each edge referenced by only one M_COVR object with CATCOV = 1 [coverage available], that is also shared by more than one Group 1 object. Check that any NEWOBJ object has attributes CLSDEF, CLSNAM and SYMINS A Virtual object which indicates navigable water lies northwards A Virtual object which indicates navigable water lies northwards A Virtual object which indicates navigable water lies northwards A Virtual object which indicates navigable water lies eastwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates navigable water lies water lies water lies outhwards A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking an isolated danger A Virtual object marking an isolated danger A Virtual object marking safe water Virtual Aton, Safe Water SYBRTHNOO1);SYBONLATI13); TX("A-IS',3,2,2,155110',2,0,CHMGD,11) A Virtual object marking safe water Virtual Aton, Starboard SYBRTHNOO1);SYBONLATI2); TX("A-IS',3,2,2,155110',2,0,CHMGD,11) A Virtual object marking safe water Virtual Aton, Safe Water TX("A-IS',3,2,2,155110',2,0,CHMGD,11) A Virtual object marking safe water Virtual Aton, Safe Water SYBRTHNOO1);SYBONLATI2); TX("A-IS',3,2,2,155110',2,0,CHMGD,11) A Virtual object marking safe water Virtual Aton, Safe Water TX("V-AIS',3,2,2,155110',2,0,CHMGD,11) A Virtual object marking safe water Virtual Aton, Safe Water TX("V-AIS',3,2,2,155110',2,0,CHMGD,11) A Virtual object marking safe water Virtual Aton, Sa	1005		hich are 'not Null' and reference	d files do not exist or their names do not conform to the ENC Pro	oduct			
Object Check that any NEWOBJ object has attributes CLSDEF, CLSNAM and SYMINS populated with exactly one of the following combinations: CLSDEF	1006	If a catalogue file does not exist.						
CLSDEF A Virtual object which indicates navigable water lies northwards A Virtual Aton, North Cardinal navigable water lies eastwards A Virtual Object which indicates navigable water lies eastwards A Virtual Object which indicates navigable water lies outhwards A Virtual Object which indicates navigable water lies outhwards A Virtual Object which indicates navigable water lies water lies outhwards A Virtual Object which indicates navigable water lies water lies outhwards A Virtual Object which indicates navigable water lies water li	554		OVR object with CATCOV = 1 [co	verage available], that is also shared by more than one Group 1				
navigable water lies eastwards A Virtual object which indicates navigable water lies southwards A Virtual object which indicates Nirtual Aton, West SY(BRTHN001);SY(BCNCAR03); TX('V-AIS',3,2,2,15110',2,0,CHMGD,11) A Virtual object marking the port side of a channel A Virtual object marking the starboard Side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard Virtual Aton, Starboard SY(BRTHN001);SY(BOYLAT24); Side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard Virtual Aton, Port Lateral SY(BRTHN001);SY(BOYLAT13); Side of a channel A Virtual object marking the starboard Virtual Aton, Port Lateral SY(BRTHN001);SY(BOYLAT13); Side of a channel A Virtual object marking the starboard Virtual Aton, Starboard SY(BRTHN001);SY(BOYLAT14); Side of a channel A Virtual object marking the starboard Virtual Aton, Starboard Virtual Aton, Starboard SY(BRTHN001);SY(BOYLAT14); Side of a channel A Virtual object marking an isolated Virtual Aton, Starboard Virtual Aton, Starboard SY(BRTHN001);SY(BOYLAT14); Side of a channel A Virtual object marking an isolated Virtual Aton, Starboard Virtual Aton, Starboard SY(BRTHN001);SY(BOYLSD11); A Virtual object marking safe water Virtual Aton, Safe Water SY(BRTHN001);SY(BOYSD11); TX('V-AIS',3,2,2'15110',2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual Aton, Wreck SY(BRTHN001);SY(BOYSPP11); TX('V-AIS',3,2,2,15110',2,0,CHMGD,11)		CLSDEF A Virtual object which indicates	CLSNAM	SYMINS SY(BRTHNO01);SY(BCNCAR01);				
A Virtual object which indicates navigable water lies southwards Cardinal TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object which indicates virtual AtoN, West SY(BRTHNO01);SY(BCNCAR04); navigable water lies westwards A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard Lateral SY(BRTHNO01);SY(BOYLAT24); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking the port side of a channel TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking the starboard side of a channel TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking an isolated danger SY(BRTHNO01);SY(BOYLAT24); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking an isolated Danger TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking safe water Virtual AtoN, Safe Water SY(BRTHNO01);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Wreck SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)			Virtual AtoN, East Cardinal	, , , , , , , , , , , , , , , , , , , ,				
navigable water lies westwards A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking an isolated side of a channel A Virtual object marking an isolated side of a channel A Virtual object marking safe water Virtual Aton, Isolated SY(BRTHNO01);SY(BOYLAT14); TX("V-AIS",3,2,2,"15110",2,0,CHMGD,11) A Virtual object marking safe water Virtual Aton, Safe Water Virtual Aton, Safe Water SY(BRTHNO01);SY(BOYSAW12); TX("V-AIS",3,2,2,"15110",2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual Aton, Wreck SY(BRTHNO01);SY(BOYSPP11); TX("V-AIS",3,2,2,"15110",2,0,CHMGD,11)		A Virtual object which indicates		SY(BRTHNO01);SY(BCNCAR03);				
A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard SY(BRTHNOO1);SY(BOYLAT13); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking the starboard side of a channel A Virtual object marking an isolated danger A Virtual object marking safe water Virtual AtoN, Isolated SY(BRTHNOO1);SY(BOYLAT14); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking safe water Virtual AtoN, Safe Water Virtual AtoN, Safe Water SY(BRTHNOO1);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Wreck SY(BRTHNOO1);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)		1		, , , , , , , , , , , , , , , , , , , ,				
of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking an isolated danger A Virtual object marking safe water Virtual AtoN, Starboard SY(BRTHNO01);SY(BOYLAT14); SY(BRTHNO01);SY(BOYLAT14); SY(BRTHNO01);SY(BOYLAT14); SY(BRTHNO01);SY(BOYLAT14); SY(BRTHNO01);SY(BOYLAT14); SY(BRTHNO01);SY(BOYLAT14); SY(BRTHNO01);SY(BOYLAT14); SY(BRTHNO01);SY(BOYSAM12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking safe water Virtual AtoN, Safe Water SY(BRTHNO01);SY(BOYSAW12); TX('Y-AIS',3,2,2,'15110',2,0,CHMGD,11) SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking a wreck Virtual AtoN, Wreck Marking SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)								
A Virtual object marking the starboard side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking an isolated side of a channel A Virtual object marking an isolated danger A Virtual object marking safe water A Virtual object marking safe water Virtual Aton, Safe Water Virtual Aton, Safe Water A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual Aton, Wreck Marking Virtual Aton, Wreck SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)			Virtual Aton, Port Lateral	, , , , , , , , , , , , , , , , , , , ,				
A Virtual object marking the port side of a channel A Virtual object marking the port side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking the starboard side of a channel A Virtual object marking an isolated suggest of a channel A Virtual object marking an isolated suggest of a channel A Virtual object marking an isolated suggest of a channel A Virtual object marking safe water A Virtual object marking safe water Virtual AtoN, Isolated suggest of a channel A Virtual object marking safe water Virtual AtoN, Safe Water Virtual AtoN, Safe Water SY(BRTHNO01);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area of feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Wreck A Virtual object marking a wreck Virtual AtoN, Wreck Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)	566		Virtual AtoN, Starboard					
of a channel A Virtual object marking the starboard side of a channel A Virtual object marking an isolated danger A Virtual object marking an isolated danger A Virtual object marking safe water A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck A Virtual object marking a wreck Virtual AtoN, Wreck Marking A Virtual object marking a wreck Virtual AtoN, Wreck Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)	500							
A Virtual object marking the starboard side of a channel Lateral TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking an isolated danger Danger TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking safe water Virtual AtoN, Safe Water SY(BRTHNO01);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Wreck Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)			Virtual AtoN, Port Lateral	, , , , , , , , , , , , , , , , , , , ,				
side of a channel Lateral TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking an isolated danger Danger TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking safe water Virtual AtoN, Safe Water Virtual AtoN, Safe Water SY(BRTHN001);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Wreck Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) SY(BRTHN001);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)			Virtual AtoN, Starboard					
danger Danger TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object marking safe water Virtual AtoN, Safe Water SY(BRTHNO01);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Wreck Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)				, , , , , , , , , , , , , , , , , , , ,				
A Virtual object marking safe water Virtual AtoN, Safe Water SY(BRTHNO01);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area or feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Special SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)		, ,	T i	, , , , , , , , , , , , , , , , , , , ,				
TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11) A Virtual object used to mark an area virtual AtoN, Special SY(BRTHNO01);SY(BOYSPP11); or feature referred to in nautical documents A Virtual object marking a wreck virtual AtoN, Wreck SY(BRTHNO01);SY(BOYSPP11); Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)		•		(, , , , , , , , , , , , , , , , , , ,				
or feature referred to in nautical documents A Virtual object marking a wreck Virtual AtoN, Wreck SY(BRTHN001);SY(BOYSPP11); Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)		7. Virtual object marking safe water	Virtual Acold, Suite Water	, , , , , , , , , , , , , , , , , , , ,				
Marking TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)		or feature referred to in nautical	· ·	, , , , , , , , , , , , , , , , , , , ,				
25c For each edge where the beginning and end nodes are not referenced using the vector record pointer.				, , , , , , , , , , , , , , , , , , , ,				
	25c	For each edge where the beginning and end	d nodes are not referenced using	the vector record pointer.				
28 If the count of records in the DSSI field does not equal the total number of records.	28	If the count of records in the DSSI field doe	s not equal the total number of r	records.				

Dataset Name	AA500007	S-58 test No.	T0002		Туре	С
S-58 Description	For all VE edges which do not have a b	eginning or end no	de.			
Message	VE edge missing beginning or end node	е.				
Solution	Add nodes as required.		Conformity	Part 2	(2.2.1.2)	
Test Case No. 1	CBLSUB (L) without connected nodes.		1	1		
Location	32°24'54.03"S 60°44'54.20"E	S57 Encoding	CBLSUB (L)			
Screen Capture		7 ₈				
Expected Test Results	T0002: An error "VE edge missing begin	nning or end node'	' must be trigger	ed.		
Secondary Errors	T0084a: An additional error "isolated r T0012: An additional error "Missing FS be triggered. T0021: An additional error "Vector rec record" must be triggered.	PT [Feature Record	l to Spatial Recor	d pointer	r field]" n	
		1	T			ı
Dataset Name	AA500007	S-58 test No	T0011		Туре	E
S-58 Description	For each edge where USAG = 3 [exterion M_COVR object.	or boundary trunca	ted by the data l	imit] not	referenc	ing a
Message	Edge with USAG = 3 [exterior boundary M_COVR object.	y truncated by the	data limit] does r	not refere	ence an	
Solution	Set USAG to 1 or 2.		Conformity	Part 3	(4.7.3.3)	
Test Case No. 1	ACHARE (A) with truncated edges.		•			
Location	32°23'51.34"S 60°43'36.08"E	S57 Encoding	ACHARE (A)			

Screen Capture				
Expected Test Results	T0011: An error "Edge with USAG = 3 [6 reference an M_COVR object" must be	•	runcated by the	data limit] does not
Secondary Errors	None			
Dataset Name	AA500007	S-58 test No.	T0013a	Type C
S-58 Description	For each feature of type line which referenced sequentially.	rences multiple ed	lges where the v	ector records are not
Message	Edges are not referenced sequentially.			
Solution	Amend records to reference edges sequ	uentially.	Conformity	Part 3 (4.7.2)
Test Case No. 1	CBLSUB (L) as a single object with two e	edges.		
Location	32°24'39.15"S 60°45'00.11"E	S57 Encoding	CBLSUB (L)	
Screen Capture	82	88		
Expected Test Results	T0013a: An error "Edges are not refere	nced sequentially"	must be triggere	ed.
Secondary Errors	None			
Dataset Name	AA500007	S-58 test No.	T0015	Type C
	For each area outer or inner boundary which is not closed (i.e. the first and last edges bounding the area do not meet at a common connected node).			
S-58 Description			(i.e. the first an	d last edges bounding

Solution	Amend edges bounding the area to me connected node.	et at a common	Conformity	Part 3 (4.7.3.1)
Test Case No. 1	CBLSUB bounding an area without mee	eting at a common	connected node.	
Location	32°24'50.17"S 60°44'20.17"E	S57 Encoding	CBLARE (A)	
Screen Capture	5	82		
Expected Test Results	T0015: An error "First and last edge of node" must be triggered.	an area boundary o	do not meet at a	common connected
Secondary Errors	None			
		T	1	
Dataset Name	AA500007	S-58 test No.	T0019	Type E
S-58 Description	For each edge which is COINCIDENT CATCOV = 1 [coverage available]) whe the data limit].	re USAG does not	equal 3 [Exterior	boundary truncated by
Message	Edge coincides with the edge of data at the data limit].		equal 3 {Exterior	boundary truncated by
Solution	Amend edge to USAG = 3 [Exterior bou by the data limit].	ndary truncated	Conformity	Part 3 (4.7.3.3).
Test Case No. 1	M_COVR exterior boundary is truncate	d.	1	1
Location	32°25'40.43"S 60°44'02.86"E	S57 Encoding	M_COVR (A)	
Screen Capture	73	8	5	
Expected Test Results	T0019: An error "Amend edge to USAG be triggered.	= 3 [Exterior boun	dary truncated b	y the data limit]" must

Secondary Errors	None				
					_
Dataset Name	AA500007	S-58 test No.	T0021	Туре	С
S-58 Description	For each vector record pointer (VRPT)	fields which are no	t pointed to by a	n edge vector rec	ord.
Message	Vector record pointer field (VRPT) not	referenced by an e	dge vector recor	d.	
Solution	Ensure Vector record pointer field (VR by an edge vector record or delete.	PT) is referenced	Conformity	Appendix B.1 (3 Part 3 (5.1.1) a Supplement No (3.3.1)	nd
Test Case No. 1	Spatial node with null class.				
Location	32°24'54.47"S 60°43'47.10"E	S57 Encoding	VE		
Screen Capture					
Expected Test Results	T0021: An error "Vector record pointe must be triggered.	r field (VRPT) not re	eferenced by an	edge vector recor	d"
Secondary Errors	None				
Dataset Name	AA500007	S-58 test No.	T0040	Туре	W
S-58 Description	For any pair of line objects where class edges have the same spatial attribute nodes which is (are) a beginning node connected node is not shared by more	values AND which l or an end node of	nave one or two each linear featu	common connect re AND each com	ed
Message	Linear objects with the same class, att connected are not chained together.	ribute values and s	patial attribute v	alues which are	
Solution	Chain linear objects together.		Conformity	Logical consiste	ency
Test Case No. 1	SLCONS (L) encoded with different obj	ect class and attrib	utes.		
Location	32°25'38.79"S 60°46'22.09"E	S57 Encoding	SLCONS (L) LNDELV (L)	CATSLC=4 WATLEV=2 QUAPOS=2 and	i 4

Expected Test Results Secondary Errors None Dataset Name AA500007 S-58 test No. T0042 Type C S-58 Description AA500007 S-58 test No. T0042 Type C S-58 Description For VE edges which are referenced by Group 1 objects and are not linked to objects M_COVR with CATCOV = 1 [coverage available] which do not appear twice with different ORNT values. Message GROUP 1 is not correct, a hole or an overlap exists. Solution Correct GROUP 1, to remove hole or overlap. Expected Test Results Screen Capture Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Screen Capture Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Screen Capture For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Screen Capture					
Secondary Errors None Dataset Name AA5000007 S-58 test No. T0042 Type C S-58 Description For VE edges which are referenced by Group 1 objects and are not linked to objects M_COVR with CATCOV = 1 [coverage available] which do not appear twice with different ORNT values. Message GROUP 1 is not correct, a hole or an overlap exists. Solution Correct GROUP 1, to remove hole or overlap. Conformity Logical consistency Test Case No. 1 Edge referenced by only one Group 1 feature. Location 32°25'39.24"S 60°46'25.66"E S57 Encoding Screen Capture T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W S-58 Description For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Expected Test Results		•		d spatial attribut	e
S-58 Description For VE edges which are referenced by Group 1 objects and are not linked to objects M_COVR wit CATCOV = 1 [coverage available] which do not appear twice with different ORNT values. Message GROUP 1 is not correct, a hole or an overlap exists. Solution Correct GROUP 1, to remove hole or overlap. Edge referenced by only one Group 1 feature. Location 32°25'39.24"S 60°46'25.66"E S57 Encoding Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Secondary Errors		amea toBether m			
S-58 Description For VE edges which are referenced by Group 1 objects and are not linked to objects M_COVR wit CATCOV = 1 [coverage available] which do not appear twice with different ORNT values. Message GROUP 1 is not correct, a hole or an overlap exists. Solution Correct GROUP 1, to remove hole or overlap. Edge referenced by only one Group 1 feature. Location 32°25'39.24"S 60°46'25.66"E S57 Encoding Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).						
CATCOV = 1 [coverage available] which do not appear twice with different ORNT values. Message GROUP 1 is not correct, a hole or an overlap exists. Solution Correct GROUP 1, to remove hole or overlap. Test Case No. 1 Edge referenced by only one Group 1 feature. Location 32°25'39.24"S 60°46'25.66"E S57 Encoding Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W S-58 Description For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Dataset Name	AA500007	S-58 test No.	T0042	Туре	С
Solution Correct GROUP 1, to remove hole or overlap. Conformity Logical consistency Test Case No. 1 Edge referenced by only one Group 1 feature. Screen Capture Size Applied Tools and the series of	S-58 Description	_ ·			-	VR with
Test Case No. 1 Edge referenced by only one Group 1 feature. Screen Capture Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Message	GROUP 1 is not correct, a hole or an ov	erlap exists.			
Screen Capture Expected Test Results Secondary Errors None AA500007 S-58 Description Screen Capture S57 Encoding T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Type W Type W Type W Type W Type AA500007 Type W Type W Type AA500007 Type W Type W Type AA500007 Type AA500007 Type W Type AA500007 Type W Type AA500007	Solution	Correct GROUP 1, to remove hole or ov	verlap.	Conformity	Logical consiste	ency
Screen Capture Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Test Case No. 1	Edge referenced by only one Group 1 fo	eature.			
Expected Test Results T0042: An error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered. Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Location	32°25'39.24"S 60°46'25.66"E	S57 Encoding			
Secondary Errors None Dataset Name AA500007 S-58 test No. T0071a Type W S-58 Description For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Screen Capture					
Dataset Name AA500007 S-58 test No. T0071a Type W For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Expected Test Results	T0042: An error "GROUP 1 is not correct	ct, a hole or an ove	erlap exists" must	t be triggered.	
S-58 Description For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Secondary Errors	None				
S-58 Description For each object of type area where all edges have not USAG = 3 [exterior boundary truncated by the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).						
the data limit] AND all edges are masked (i.e. USAG = 3 or MASK = 1 [mask]).	Dataset Name	AA500007	S-58 test No.	T0071a	Туре	W
	S-58 Description	1	_		•	ed by
Message Area object has all of its edges masked and is not the edge of the data coverage.	Message	Area object has all of its edges masked	and is not the edg	e of the data cov	erage.	

Solution	Remove masking.		Conformity	Logical consistency
Test Case No. 1	LNDARE (A) with a masked edge.		1	
Location	32°25'40.00"S 60°46'22.78"E	S57 Encoding	LNDARE(A)	
Screen Capture				
Expected Test Results	T0071: A warning "Area object has all coverage" must be triggered.	of its edges masked	l and is not the e	dge of the data
Secondary Errors	None			
Dataset Name	AA500007	S-58 test No.	T0071b	Type E
S-58 Description	For each object of type line which has	any edges masked	(i.e. MASK = 1 [m	ask]).
Message	Line object with masked edges.			
Solution	Remove masking from line object.		Conformity	Logical consistency
Test Case No. 1	LNDELV (L) with a masked edge.			
Location	32°25'40.18"S 60°46'21.26"E	S57 Encoding	LNDELV (L)	
Screen Capture				
Expected Test Results	T0071: An error "Line object with mask	ked edges" must be	triggered.	
Secondary Errors	None			
Dataset Name	AA500007	S-58 test No.	T1005	Type C

S-58 Description	For all attributes TXTDSC, NTXTDS, I their names do not conform to the			nced files do not exist or	
Message	Referenced files are missing or their names are non-conformant.				
Solution	Ensure referenced files exist and are named correctly. Conformity 5.4.1 and 5.6.4				
Test Case No. 1	BUISGL (A, P).		1	1	
Location	32°25'34.41"S 60°44'55.10"E	S57 Encoding	BUISGL (A, P)	TXTDSC=US500527.TX T NTXTDS= US500527.TXT PICREP = US500527.TIF	
Screen Capture					
Expected Test Results	T1005: 6 errors "Referenced files triggered.	are missing or their	r names are noi	n-conformant" must be	
Secondary Errors	None				
Test Case No. 2	BUISGL (A, P).				
Location	32°25'35.57"S 60°44'55.21"E	S57 Encoding	BUISGL (A, P)	TXTDSC=GB50527.TXT NTXTDS= GB50527.TXT PICREP = GB50527.TIF	
Screen Capture					
Expected Test Results	T1005: 6 errors "Referenced files ar	e missing or their nan	nes are non-confo	ormant" must be	

	triggered.					
Secondary Errors	None					
·						
Dataset Name	AA500007	S-58 test No.	T1006		Туре	С
S-58 Description	If a catalogue file does not exist.					
Message	No catalogue file exists.					
Solution	Create a catalogue file.		Conformity	5.4.1		
Test Case No. 1	Catalogue file deleted after creating El	NCROOT.	•			
Location	N/R	S57 Encoding	N/R			
Screen Capture						
Expected Test Results	T1006: An error "No catalogue file exis	sts" must be trigge	red.			
Secondary Errors	None					
Dataset Name	AA500007	S-58 test No.	T0554		Туре	С
S-58 Description	For each edge referenced by only one is also shared by more than one Group	-	th CATCOV = 1 [c	overage	available], that
Message	Edge of M_COVR coverage available re	eferenced by more	than one Group	1 object.		
Solution	Ensure edges on the edge of data covereference one Group 1 object.	erage only	Conformity	3.10.1		
Test Case No. 1	FLODOC (A) overlapping DEPARE.					
Location	32°23'48.90"S 60°44'04.92"E	S57 Encoding	FLODOC (A) DEPARE (A)			
Screen Capture						
Expected Test Results	T0554: An error "Edge of M_COVR cov object" must be triggered.	_				
Secondary Errors	T0519b: 2 additional errors "Check Groobjects overlap" must be triggered. T0548: An additional error "Cell not er T0042: An additional error "GROUP 1 i for the objects created must be trigger T0019: An additional error "Edge coince {Exterior boundary truncated by the defended of the objects of the defended of the objects of the object	ntirely covered by N s not correct, a hol red. cides with the edge	M_COVR objects" le or an overlap e	must be xists" mu	triggere ust be tri	d. ggered

Detect Name	AAE00007		C FO 4+ N	TOFEE	T	
Dataset Name	AA500007		S-58 test No.	T0566	Туре	E
	Check that any NEWOBJ object	ct has attributes C	LSDEF, CLSNAM and SY	MINS populated with	n exactly one of the f	ollowin
	combinations:					
	CLSDEF		CLSNAM		SYMINS	
	A Virtual object	Virtual Ato	N, North Cardinal	SY(BRTH	NO01);SY(BCNCARO	1);
	which indicates			TX('V-AIS',3,2	2,2,'15110',2,0,CHM	GD,11)
	navigable water lies			, , , , ,		
	northwards			21/2-2-11		_,
	A Virtual object	Virtual At	oN, East Cardinal	,	NO01);SY(BCNCARO	**
	which indicates			TX("V-AIS",3,2	2,2,'15110',2,0,CHM	GD,11)
	navigable water lies					
	eastwards	3.0° -1 -1 A1 -	N. Co. H. Co. disal	CV/DDTII	NOOA) CV/DCNCADO	21
	A Virtual object	Virtual Ato	N, South Cardinal	· ·	NO01);SY(BCNCARO	
	which indicates			TX("V-AIS",3,2	2,2,'15110',2,0,CHM	GD,11)
	navigable water lies					
	southwards	\	NI Mark Condinal	CV/DDTU	NOO1) CV/DCNCADO	41.
	A Virtual object	Virtual Att	N, West Cardinal	,	NO01);SY(BCNCAR04	**
	which indicates navigable water lies			1X(V-AIS ,3,2	2,2,'15110',2,0,CHM	(בד,עם
	westwards	Virtual At	toN Port Latoral	CV/DDTU	INO01);SY(BOYLAT24	1\.
	A Virtual object marking the port	VII LUAI AI	toN, Port Lateral	•	1,2,15110',2,0,CHM	
	side of a channel			1A(V-AI3 ,3,2	2,2, 13110 ,2,0,001010	(בני,טט
-58 Description	A Virtual object	Virtual AtoN, Starboard Lateral		SY(BRTHNO01);SY(BOYLAT13);		٥١.
-	marking the	VII LUAI ALUN	i, Starboard Lateral	•	2,2,'15110',2,0,CHM	
	starboard side of a			1A(V-AI3 ,3,2	2,2, 13110 ,2,0,0111010	JD,11)
	channel					
	A Virtual object	Virtual At	toN, Port Lateral	SV/RRTH	INO01);SY(BOYLAT23	51.
	marking the port	VIItual A	ion, i oit Laterai	,	2,2,'15110',2,0,CHM	,.
	side of a channel			17(\$ 713,3,2	2,2, 13110 ,2,0,0111	00,11)
	A Virtual object	Virtual AtoN	I, Starboard Lateral	SY/BRTH	INO01);SY(BOYLAT14	1):
	marking the		., 5.4. 554. 4 24.0.4.		2,2,'15110',2,0,CHM	
	starboard side of a			(- /-/	,,,,-	- , ,
	channel					
	A Virtual object	Virtual Atol	N, Isolated Danger	SY(BRTH	HNO01);SY(BCNISD21	L) ;
	marking an isolated		_		2,2,'15110',2,0,CHM	
	danger					
	A Virtual object	Virtual A	toN, Safe Water	SY(BRTHNO01);SY(BOYSAW12);		2);
	marking safe water			TX('V-AIS',3,2,2,'15110',2,0,CHMGD,		GD,11)
	A Virtual object used	Virtual Ato	N, Special Purpose	SY(BRTH	INO01);SY(BOYSPP11	L);
	to mark an area or			TX('V-AIS',3,2	2,2,'15110',2,0,CHM	GD,11)
	feature referred to in					
	nautical documents					
	A Virtual object	Virtual Ato	N, Wreck Marking		INO01);SY(BOYSPP11	
	marking a wreck			TX('V-AIS',3,2	2,2,'15110',2,0,CHM	GD,11)
Message	Invalid use of New Object	t.				
Solution	Amend to reflect TSMAD	guidance.		Conformity	EB 54	
Test Case No. 1	New Object (A, L, P).					•
	22°24'20 80"5 60°44'26		CF7 Fr!: =	NEWOBJ		
ocation	32°24'20.80"S 60°44'36.	JØ E	S57 Encoding	(A, L, P)		

Screen Capture	7 ₃			
Expected Test Results	T0566: 9 errors "Check that there is no an IHO ENC Encoding Bulletin" must be		the data that ha	s not been approved by
Secondary Errors	T0562: 9 additional errors "INFORM me triggered.		n the value 'New	object'" must be
Dataset Name	AAF00007	C FO tost No	T002Fa	Tune
Dataset Name	AA500007	S-58 test No.	T0025c	Type C
S-58 Description	For each edge where the beginning a pointer.	nd end nodes are	not referenced	using the vector record
Message	Beginning or end nodes not referenced	l by the vector reco	ord pointer.	
Solution	Amend edge to ensure beginning and e referenced	end nodes are	Conformity	Part 3 (5.1.4.4)
Test Case No. 1	PIPSOL (L).			
Location	32°23'53.31"S 60°46'20.89"E	S57 Encoding	PIPSOL (L)	
Screen Capture				
Expected Test Results	T0025c: An error "Beginning or end not triggered.			
Secondary Errors	T0012: An additional error "Missing FSI be triggered.	r i freature Record	to Spatial Record	u pointer fieldj" must
Dataset Names	AAF00007	C FO to at No	T0028	Toron 5
Dataset Name	AA500007	S-58 test No.	T0028	Type E

S-58 Description	If the count of records in the DSSI field does not equal the total number of records.			
Message	DSSI field record count incorrect.			
Solution	Correct the DSSI field record count. Conformity Part 3 (7.3.1.2)			Part 3 (7.3.1.2)
Test Case No. 1	The count of records is not equal to the total number of physical records in the cell.			
Location	N/A	S57 Encoding	N/A	
Screen Capture				
Expected Test Results	T0028: An error "DSSI field record count incorrect" must be triggered.			
Secondary Errors	None			

2.8. Test Dataset: AA500008

S-58 Test	Description
14	For each area object where outer or inner boundaries share more than one node.
16	For each area outer boundary which is not encoded clockwise.
17	For each area inner boundary which is not encoded counter-clockwise.
20	For each object where a geometric primitive is not one of those permitted.
80a	For each area object where an internal boundary is WITHIN an internal boundary.
80b	For each area object where an internal boundary is not WITHIN an external boundary.
80c	For each area object where an external boundary is WITHIN an internal boundary.

Dataset Name	AA500008	S-58 test No.	T0014	Type C	
S-58 Description	For each area object where outer or in	ner boundaries sha	re more than on	ne node.	
Message	Outer or inner boundaries share more than one node.				
Solution	Amend boundaries so that they share a	at most one node.	Conformity	Part 3 (4.7.3).	
Test Case No. 1	Two SEAARE (A) objects sharing a single	e node.			
Location	32°24'43.18"S 60°42'06.52"E	S57 Encoding	SEAARE (A)		
Screen Capture	2				
Expected Test Results	T0014: An error "Outer or inner bound	aries share more th	nan one node" m	nust be triggered.	
Secondary Errors	None				
Dataset Name	AA500008	S-58 test No.	T0016	Type C	
S-58 Description	For each area outer boundary which is	not encoded clock	wise.		
Message	Area outer boundary not encoded cloc	kwise.			
Solution	Ensure area outer boundary is encoded	d clockwise.	Conformity	Part 3 (4.7.3.2).	
Test Case No. 1	SEAARE (A) outer boundary is encoded	as clockwise.			
Location	32°25'00.42"S 60°42'18.18"E	S57 Encoding	SEAARE (A)		
Screen Capture	45				

Expected Test Results	T0016: An error "Area outer boundar	ry not encoded clock	wise" must be tri	iggered.	
Secondary Errors	None				
			I		ı
Dataset Name	AA500008	S-58 test No.	T0017	Туре	С
S-58 Description	For each area inner boundary which	is not encoded count	er-clockwise.		
Message	Area inner boundary not encoded co	unter-clockwise.			
Solution	Ensure area inner boundary is encod clockwise.	ed counter-	Conformity	Part 3 (4.7.3.2).	
Test Case No. 1	SEAARE (A) inner boundary is encode	ed as counter clockwi	se.		
Location	32°25'00.42"S 60°42'18.18"E	S57 Encoding	SEAARE (A)		
Screen Capture	15				
Expected Test Results	T0017: An error "Area inner boundar	y not encoded count	er-clockwise" m	ust be triggered.	
Secondary Errors	None				
					1.
Dataset Name	AA500008	S-58 test No.	T0020	Туре	С
S-58 Description	For each object where a geometric p	rimitive is not one of	those permitted	l.	
Message	Geometric primitive of this type is no	ot permitted on this c	bject class.		
Solution	Use alternative geometric primitive c class as required.	or alternative object	Conformity	Appendix B.1 Part 3 (5.1.1) Supplement I Ch.4 (3.3.1).	and
Test Case No. 1	SOUNG to isolated node.		ı	, , ,	

Screen Capture	್ತುಡ 4 ₈			
Expected Test Results	T0020: An error "Geometric primitive of triggered.	of this type is not p	ermitted on this	object class" must be
Secondary Errors	T0547: An additional error "Attribute n	ot permitted on o	bject class" must	be triggered.
Dataset Name	AA500008	S-58 test No.	T0080a	Type C
S-58 Description	For each area object where an internal	boundary is WITH	IN an internal bo	oundary.
Message	Internal boundary WITHIN an internal l	boundary.		
Solution	Amend boundaries so that internal bou WITHIN another internal boundary.	undary is not	Conformity	Topology.
Test Case No. 1	SEAARE (A)	т.	T	T
Location	32°24'51.50"S 60°42'09.21"E	S57 Encoding	SEAARE (A)	
Screen Capture	○)		
Expected Test Results	T0080: An error "Internal boundary WI	THIN an internal b	oundary" must b	e triggered.
Secondary Errors	None			
Dataset Name	AA500008	S-58 test No.	T0080b	Type C
S-58 Description	For each area object where an internal	boundary is not W	/ITHIN an externa	al boundary.

Message	Internal boundary outside of an exte	ernal boundary.		
Solution	Amend boundaries so that internal be external boundary.	boundary is WITHIN	Conformity	Topology
Test Case No. 2	SEAARE (A)			
Location	32°24'52.72"S 60°42'13.90"E	S57 Encoding	SEAARE (A)	
Screen Capture				
Expected Test Results	T0080: An error "Internal boundary	outside of an externa	l boundary" mus	t be triggered.
Secondary Errors	None			
Dataset Name	AA500008	S-58 test No.	T0080c	Type C
S-58 Description	For each area object where an exter	nal boundary is WITH	IIN an internal bo	oundary.
Message	External boundary WITHIN an intern	nal boundary.		
Solution	Amend boundaries so that internal be external boundary.	boundary is WITHIN	Conformity	Topology
Test Case No. 3	SEAARE (A)			
Location	32°24'52.92"S 60°42'17.29"E	S57 Encoding	SEAARE (A)	
Screen Capture				
Screen Capture Expected Test Results	T0080: An error "External boundary	WITHIN an internal b	oundary" must b	e triggered.

2.9. Test Dataset: AA500009

S-58 Test	Description
553	For each Group 1 object where any of DATSTA, DATEND, PERSTA, PEREND are present and not Null.
1532	For each M_QUAL object where SURSTA is not equal to the smallest (oldest) value of SURSTA on any M_SREL objects WITHIN the M_QUAL object.
1721	For each RADRFL object which is associated with a navigational aid (BCNXXX, BOYXXX, LITFLT, LITVES objects).
1530	For each object WITHIN an M_QUAL object where SOUACC is not Null AND the value of SOUACC is equivalent to the SOUACC or CATZOC values on the M_QUAL object.

Null. Message Attributes DA Solution Delete these a Test Case No. 1 PONTON (A)	p 1 object where any o	or PEREND are enco	ded on Group 1	objects.
Solution Delete these at Test Case No. 1 PONTON (A)				
Test Case No. 1 PONTON (A)	ttributes from Group 1	1 objects.		-
			Conformity	3.10.1 and logical consistency.
Location 32°25'44.36"S				
32 25 1186 6	60°42'28.53"E	S57 Encoding	PONTON	PERSTA=20100102 PEREND=20110112 STATUS=5
Screen Capture	4	15		
Expected Test Results T0553: 2 error objects" must	s "Attributes DATSTA, be triggered.	DATEND, PERSTA or F	PEREND are enco	oded on Group 1
Secondary Errors None				
Test Case No. 2 FLODOC (A)				
Location 32°25'44.81"S	60°42'21.44"E	S57 Encoding	FLODOC	DATSTA=20100719 DATEND=20110719
Screen Capture	2,	2 ₄		
T0553: 2 error	s "Attributes DATSTA,	DATEND PERSTA or F	PEREND are enco	nded on Group 1
Expected Test Results objects" must		DATEND, I ENGIACOTT	EVELAND GIE EUC	oucu on Group I

Dataset Name	AA500009	S-58 test No.	T1532	Type E		
S-58 Description		For each M_QUAL object where SURSTA is not equal to the smallest (oldest) value of SURSTA on any M_SREL objects WITHIN the M_QUAL object.				
Message	SURSTA on M_QUAL object does not re	elate to the oldest	survey WITHIN th	ne M_QUAL object.		
Solution	Amend value of SURSTA on M_QUAL to oldest survey within it.	o reflect the	Conformity	2.2.3.1		
Test Case No. 1	1 M_QUAL, 2 M_SREL.	,		·		
			M_QUAL	CATZOC=2 SURSTA=20120623 SUREND=20120723		
Location	32°26'04.12"S 60°43'14.77"E	S57 Encoding	M_SREL	SURSTA=20100723 SUREND=20120723		
			M_SREL	SURSTA=20110623 SUREND=20120723		
Screen Capture						
Expected Test Results	T1532: An error "SURSTA on M_QUAL M_QUAL object" must be triggered.	object does not rel	late to the oldest	survey WITHIN the		
Secondary Errors	None					
		T				
Dataset Name	AA500009	S-58 test No.	T1721	Type E		
S-58 Description	For each RADRFL object which is associ LITVES objects).	ated with a naviga	tional aid (BCNX)	XX, BOYXXX, LITFLT,		
Message	RADRFL encoded on a navigational aid.					
Solution	Encode CONRAD = (3) [radar conspicuo reflector)} on the navigational aid obje	•	Conformity	12.1.1		
Test Case No. 1	RADRFL on BOYSPP.					
Location	32°26'12.90"S : 60°42'41.49"E	S57 Encoding	BOYSPP RADRFL	CONRAD=3		

Screen Capture	33			
Expected Test Results	T1721: An error "RADRFL encoded on a	a navigational aid" r	nust be triggere	d.
Secondary Errors	T1762: An additional error "Unnecessa T0516a: An additional warning "Maste be triggered.			
Dataset Name	AA500009	S-58 test No.	T1530	Type E
S-58 Description	For each object WITHIN an M_QUAL or is equivalent to the SOUACC or CATZO	•		the value of SOUACC
Message	SOUACC value on object is equivalent	to value used on the	e M_QUAL it lies	within.
Solution	Remove unnecessary value of SOUACC	· ·	Conformity	2.2.3.1 and 2.2.3.4
Test Case No. 1	FAIRWY (A) SOUACC value encoded the	e same as the SOUA	CC value of the	overlapping M_QUAL.
Location	32°26'59.17"S 60°43'20.25"E	S57 Encoding	M_QUAL (A) FAIRWY (A)	CATZOC=6 SOUACC=5 DRVAL1=5 SOUACC=5
Screen Capture	45		• •	
Expected Test Results	T1530: An error "SOUACC value on obj within" must be triggered.	ect is equivalent to	value used on th	ne M_QUAL it lies
Secondary Errors	None			

Test Case No. 2	FAIRWY (A) SOUACC value encoded the same as the CATZOC value of the overlapping M_QUAL.
Location	32°26'50.20"S 60°43'23.07"E
Screen Capture	39
Expected Test Results	T1530: An error "SOUACC value on object is equivalent to value used on the M_QUAL it lies within" must be triggered.
Secondary Errors	T0513: An additional error "An attribute value given on a meta object is duplicated on a geo object" must be triggered.

2.10. Test Dataset: AA500010

List of S-58 Recommended ENC Validation Checks covered in this section:

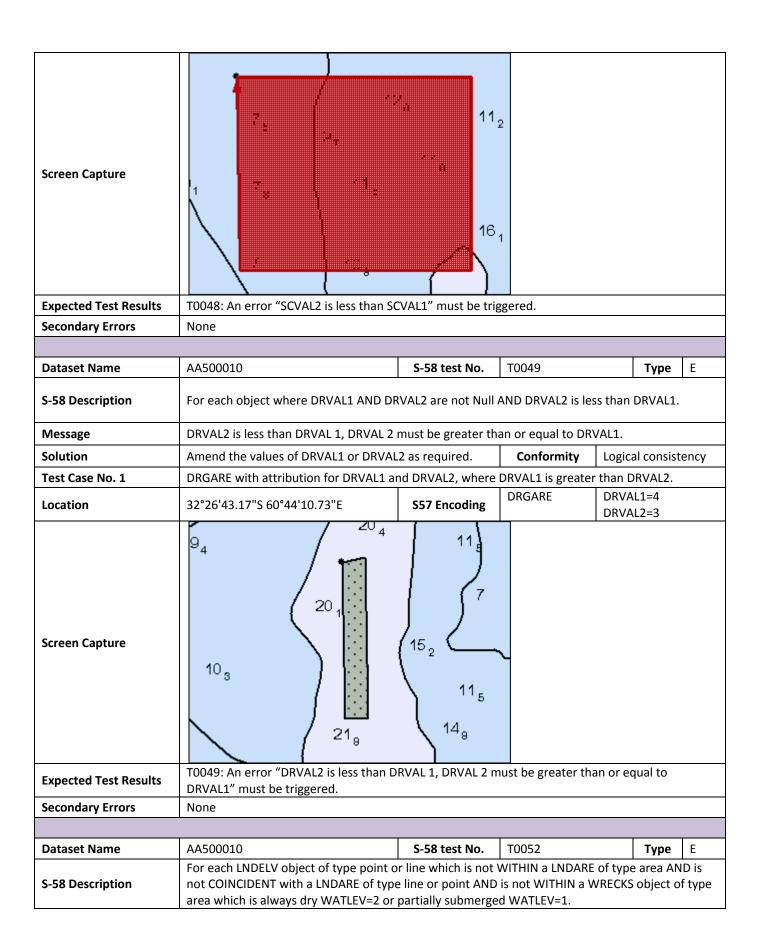
S-58 Test	Description
1	If any parts of two edges are COINCIDENT.
12	For each feature object which is not a C_(collection) object AND which does not have an FSPT.
46	For each object where DATEND and DATSTA are not Null DATEND is less than or equal to DATSTA.
47a	For each LIGHTS or RTPBCN object where SECTR1 is not Null and SECTR2 is null or equal to SECTR1. (0 and 360 must be treated as the same value).
47b	For each LIGHTS or RTPBCN object where SECTR2 is not Null and SECTR1 is null or equal to SECTR2.(0 and 360 must be treated as the same value).
48	For each M_SREL object where SCVAL1 and SCVAL2 are not Null AND SCVAL2 is less than SCVAL1.
49	For each object where DRVAL1 AND DRVAL2 are not Null AND DRVAL2 is less than DRVAL1.
52	For each LNDELV object of type point or line which is not WITHIN a LNDARE of type area AND is not COINCIDENT with a LNDARE of type line or point AND is not WITHIN a WRECKS object of type area which is always dry WATLEV=2 or partially submerged WATLEV=1.
53a	For each SLOGRD object which is not WITHIN a LNDARE object of type area.
53b	For each SLOTOP object which is not WITHIN a LNDARE object of type area.
83	For each node which is COINCIDENT with another node (connected or isolated).
87	For each edge with coincident consecutive vertices.

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Dataset Name	AA500010	S-58 test No.	T0001	Тур	е	E
S-58 Description	If any parts of two edges are COINCIDI	ENT.				
Message	Partially duplicated edges.					
Solution	Remove duplication, add nodes and ed required.	dit edges as	Conformity	Part 2 (2.2.	1.2)	
Test Case No. 1	2 x SLCONS (L)					
Location	32°26'38.69"S 60°44'38.69"E	S57 Encoding	SLCONS (L)			
Screen Capture						
Expected Test Results	T0001: 4 errors "Partially duplicated e	dges" must be trigg	gered.			
Secondary Errors	None					
Dataset Name	AA500010	S-58 test No.	T0012	Тур	e	С
S-58 Description	For each feature object which is not a	C_ (collection) obje	ect AND which doe	es not have ar	n FSP	Т.
Message	Missing FSPT [Feature Record to Spatia	al Record pointer fi	eld].			
Solution	Add FSPT [Feature Record to Spatial Rifield].	ecord pointer	Conformity	Part 3 (4.7)	ı	
Test Case No. 1	SLCONS (P)	_		_		
Location	Nil	S57 Encoding	SLCONS (P)			
Screen Capture	No preview is available for this case.					
Expected Test Results	T0012: An error "Missing FSPT [Featur triggered.		•			
Secondary Errors	T0020: An additional error "Geometric must be triggered. T0544: An additional error "Object WI T0548: An additional error "Cell not er	THIN an area of no	coverage" must b	e triggered.		
B	A A E 0 0 0 4 0	C FO + + N -	T0046	T		Ε
Dataset Name	AA500010	S-58 test No.	10046	Тур		
S-58 Description	For each object where DATEND and DA	-1	l	<u>l</u>		

Solution	Amend values of DATEND or DATSTA accord	rdingly.	Conformity	Logical consistency		
Test Case No. 1	ACHARE (P) with different dates for DATST	ACHARE (P) with different dates for DATSTA and DATEND.				
Location	32°26'26.99"S 60°44'35.22"E	557 Encoding	ACHARE (P)	DATSTA=25.06.2011 DATEND=25.06.2010		
Screen Capture	42	2 ₇				
Expected Test Results	T0046: An error "DATEND less than DATST	A" must be trigg	gered.			
Secondary Errors	None					
Dataset Name	AA500010	S-58 test No.	T0047a	Type E		
S-58 Description	For each LIGHTS or RTPBCN object where S SECTR1. (0 and 360 must be treated as the		ıll and SECTR2 is ı	null or equal to		
Message	SECTR2 not populated with a valid value, n	nust not be the	same as SECTR1.			
Solution	Populate SECTR2 with a valid value.		Conformity	Logical consistency		
Test Case No. 1	LIGHTS and RTPBCN with only SECTR1 valu	ie encoded.				
Location	32°26'25.01"S 60°44'30.47"E	557 Encoding	LIGHTS (P) RTPBCN (P)	SECTR1=30 SECTR1=30		
Screen Capture	5 ₇	3				
Expected Test Results Secondary Errors	T0047a: 2 errors "SECTR2 not populated w must be triggered.	rith a valid value	, must not be the	same as SECTR1"		

Dataset Name	AA500010	S-58 test No.	T0047b	Type E
S-58 Description	For each LIGHTS or RTPBCN object who SECTR2. (0 and 360 must be treated as		lull and SECTR1 is	null or equal to
Message	SECTR1 not populated with a valid valu	ie, must not be the	same as SECTR2.	
Solution	Populate SECTR1 with a valid value.		Conformity	Logical consistency
Test Case No. 2	LIGHTS and RTPBCN with only SECTR2	value encoded.		
Location	32°26'24.51"S 60°44'37.56"E	S57 Encoding	LIGHTS (P) RTPBCN (P)	SECTR2=30 SECTR2=30
Screen Capture	42	*	27	
Expected Test Results	T0047b: 2 errors "SECTR1 not populate must be triggered.	ed with a valid valu	e, must not be the	e same as SECTR2"
Secondary Errors	None			
Dataset Name	AA500010	S-58 test No.	T0048	Type E
S-58 Description	For each M_SREL object where SCVAL1	L and SCVAL2 are n	ot Null AND SCVA	L2 is less than SCVAL1.
Message	SCVAL2 is less than SCVAL1.			
Solution	Amend values of SCVAL1/2 value of SC greater than SCVAL1.	VAL2 must be	Conformity	Logical consistency
Test Case No. 1	M_SREL with attributes SCVAL1 and SC	CVAL2 encoded.		
Location	32°26'21.86"S 60°43'57.40"E	S57 Encoding	M_SREL	SCVAL1=15000 SCVAL2=10000



Message	LNDELV object not situated on LNDARE	or on a drying or p	partially submerge	ed WRECKS object.
Solution	Ensure LNDELV object is situated on a L drying/partially submerged WRECKS ob		Conformity	Appendix B1, Annex A (4.7.2, 4.7.4, 6.1.1 and 6.2.1)
Test Case No. 1	LNDELV (L, P) overlapping a depth area.			
Location	32°27'25.82"S 60°43'58.53"E	S57 Encoding	LNDELV (L, P)	
Screen Capture	55	26 ₂		
Expected Test Results	T0052: 2 errors "LNDELV object not situ WRECKS object" must be triggered.	ated on LNDARE o	r on a drying or p	artially submerged
Secondary Errors	None			
Test Case No. 2	LNDELV (L, P) overlapping WRECKS (A) a	and point objects.		1
Location	32°27'31.44"S 60°44'24.19"E	S57 Encoding	LNDELV (L) X2 LNDELV (P) X2 WRECKS (A) WRECKS (A)	ELEVAT=10 ELEVAT=10 WATLEV=2 WATLEV=1
Screen Capture		(°		
			<u> </u>	
Expected Test Results	T0052: 4 errors "LNDELV object not situ WRECKS object" must not be triggered.		r on a drying or p	artially submerged

Dataset Name	AA500010	S-58 test No.	T0053a	Туре	Е
S-58 Description	For each SLOGRD object which is not V	VITHIN a LNDARE o	bject of type area	ı.	
Message	SLOGRD not covered by LNDARE.				
Solution	Amend LNDARE or SLOGRD accordingle	y.	Conformity	Appendix B1, A (4.7.4, 4.7.5	
Test Case No. 1	SLOGRD (A) overlapping DEPARE (A).				
Location	32°25'41.64"S 60°44'46.92"E	S57 Encoding	SLOGRD (A)		
Screen Capture					
Expected Test Results	T0053a: An error "SLOGRD not covere	d by LNDARE" mus	t be triggered.		
Secondary Errors	None				
			1		1
Dataset Name	AA500010	S-58 test No.	T0053b	Туре	E
S-58 Description	For each SLOTOP object which is not V	VITHIN a LNDARE o	bject of type area		
Message	SLOTOP not covered by LNDARE.				
Solution	Amend LNDARE or SLOTOP accordingly	y.	Conformity	Appendix B1, A (4.7.4, 4.7.5	
Test Case No. 1	SLOTOP (L) overlapping DEPARE (A).				
Location	32°25'41.87"S 60°44'49.88"E	S57 Encoding	SLOTOP (L)		

Screen Capture					
Expected Test Results	T0053b: An error "SLOTOP not covered	by LNDARE" must	be triggered.		
Secondary Errors	None				
Dataset Name	AA500010	S-58 test No.	T0083	Туре	W
S-58 Description	For each node which is COINCIDENT wit	th another node (c	onnected or isola	ited).	
Message	Nodes are coincident.				
Solution	Delete or amend coincident nodes.		Conformity	Topology	
Test Case No. 1	Two S57 objects captured as connected	nodes coinciding	with an isolated r	node.	
Location	32°27'25.74"S 60°44'33.23"E	S57 Encoding	LNDMRK (P) CBLOHD (L)		
Screen Capture	<u>&</u>	~			
Expected Test Results	T0083: A warning "Nodes are coinciden	it" must be triggere	ed.		
Secondary Errors	None				
Dataset Name	AA500010	S-58 test No.	T0087	Туре	E
S-58 Description	For each edge with coincident consecut	tive vertices.			

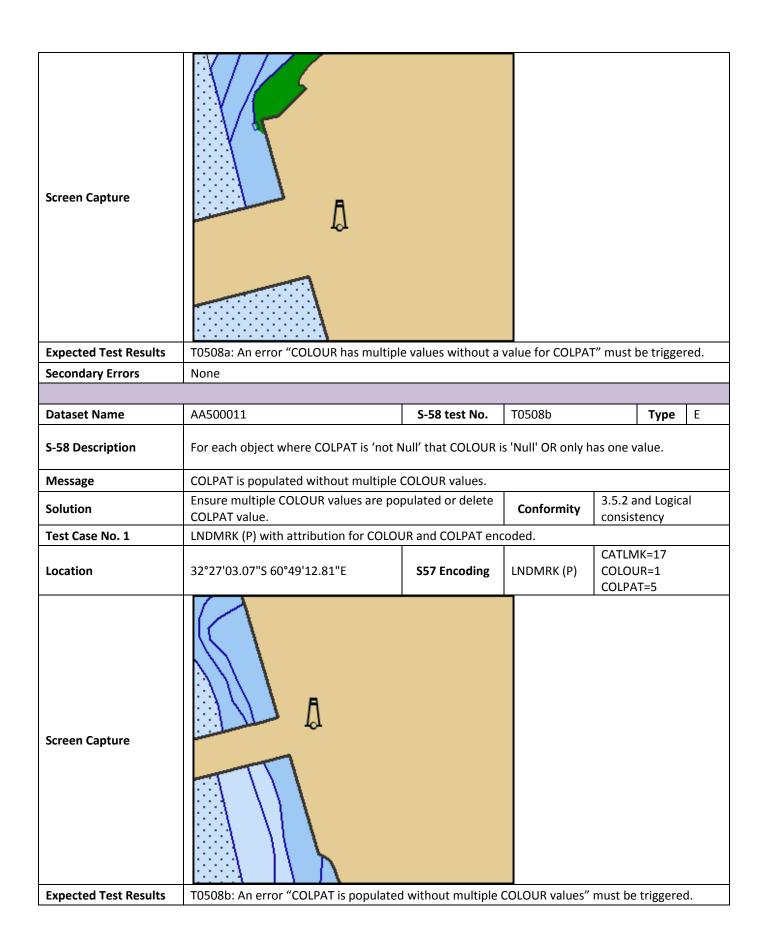
Solution	Remove coincident vertices from edge.		Conformity	Part 3 (4.7.2)
Test Case No. 1	SLCONS (L) captured as a straight line w	vith a vertex.	•	
Location	32°26'08.31"S 60°44'44.61"E	S57 Encoding	SLCONS (L)	
Screen Capture	27			
Expected Test Results	T0087: An error "Consecutive vertices	are coincident" mi	ust be triggered.	
Secondary Errors	None	,		

2.11. Test Dataset: AA500011

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description				
501	If the combined coverage of all M_COV R objects limits are not rectangular.				
508a	For each object where more than one value of COLOUR are encoded that COLPAT is 'Null'.				
508b	For each object where COLPAT is 'not Null' that COLOUR is 'Null' OR only has one value.				
511	For each object where any of DUNITS, HUNITS, RECDAT, RECIND, SCAMAX, PUNITS, CATQUA are null or not Null.				
521a	For all objects where OBJNAM AND NOBJNM are 'not Null' AND that they are EQUAL.				
521b	For all objects where INFORM and NINFOM are 'not Null' AND that they are EQUAL.				
521c	For all objects where PILDST and NPLDST are 'not Null' AND that they are EQUAL.				
521d	For all objects where TXTDSC and NTXTDS are 'not Null' AND that they are EQUAL.				
522	For all objects where NOBJNM is 'not Null' AND OBJNAM is 'Null' OR not present.				
524	Where DUNI does not equal 1 [metres].				
1510	If the SDAT (Sounding Datum subfield) of the DPSM (Data Set Parameter field) is null.				
1542	For each object WITHIN an M_ACCY object where the value of POSACC (on the associated spatial object) is equivalent to the value of POSACC on the M_ACCY object it lies WITHIN.				

Dataset Name	AA500011	S-58 test No.	Т0501 Туре		Е
S-58 Description	If the combined coverage of all M_CO	V R objects limits a	re not rectangula	ır.	
Message	Cell is not rectangular.				
Solution	Amend cell limits to make them recta	ngular.	Conformity	2.2	
Test Case No. 1	Modified south east corner co-ordina	te values.			
Location	32°27'32.61"S 60°49'26.23"E	S57 Encoding	M_COVR (A)		
Screen Capture					
Expected Test Results	T0501: An error "Cell is not rectangula	ar" must be triggere	d.		
Secondary Errors	T0548: 15 additional errors "Cell not e	entirely covered by I	M_COVR objects	" must be trigge	red.
Dataset Name	AA500011	S-58 test No.	T0508a	Туре	E
S-58 Description	For each object where more than one	value of COLOUR a	re encoded that	COLPAT is 'Null'	
Message	COLOUR has multiple values without	a value for COLPAT.			
Solution	Ensure COLPAT has a value where mu values are encoded.	ltiple COLOUR	Conformity	3.5.2 and Log consistency	ical
Test Case No. 1	LNDMRK (P) with attribution for COLO	OUR and COLPAT unassigned.			
Location	32°26'53.54"S 60°49'09.77"E	S57 Encoding	LNDMRK (P) CATLMK=17 COLOUR=1,3 COLPAT=UNE		EFINE



Secondary Errors	None						
Dataset Name	AA500011	S-58 test No.	T0511	Type C			
S-58 Description	For each object where any of DUNITS, I null or not Null.	For each object where any of DUNITS, HUNITS, RECDAT, RECIND, SCAMAX, PUNITS, CATQUA are null or not Null.					
Message	Prohibited attributes have been encode	ed.					
Solution	Delete prohibited attributes.		Conformity	3.5.3			
Test Case No. 1	M_UNIT with attribute values for PUNI	TS, DUNITS, HUNIT	S, RECDAT and R	ECIND encoded.			
Location	32°27'29.76"S 60°49'17.69"E	S57 Encoding	M_UNIT (A)	PUNITS=1 DUNITS=1 HUNITS=1 RECDAT=15.02.2010 RECIND=US,US,digi			
Screen Capture							
Expected Test Results	T0511: 4 errors "Prohibited attributes h	nave been encoded	d" must be trigge	red.			
Secondary Errors	T0504: An additional error "Prohibited T0545: An additional error "Object has						
Test Case No. 2	M_QUAL with attribute values encoded encoded for SCAMAX.	d for CATZOC and C					
Location	32°26'05.44"S 60°49'23.46"E	S57 Encoding	MAGVAR (P) M_QUAL (A)	SCAMAX=15000 CATQUA=1			
Screen Capture		4					

Expected Test Results	T0511: 2 errors "Prohibited attributes l	nave been encoded	d" must be trigge	red.		
Secondary Errors	None					
Dataset Name	AA500011	S-58 test No.	T0521a		Type	W
S-58 Description	For all objects where OBJNAM AND NC	BJNM are 'not Nul	ll' AND that they are EQUAL.			
Message	Values for OBJNAM and NOBJNM are in	dentical.				
Solution	Ensure that national language attribute with the correct values.	es are populated	Conformity	3.11.1		
Test Case No. 1	PILBOP (P)					
Location	32°27'22.98"S 60°47'33.15"E	S57 Encoding	PILBOP (P)	Harbor	M= Judit	
Screen Capture	Plt Judith ⊢	Plt Judith Harbor				
Expected Test Results	T0521a: A warning "Values for OBJNAN	/I and NOBJNM are	identical" must	be trigge	red.	
Secondary Errors	None					
Dataset Name	AA500011	S-58 test No.	T0521b		Туре	W
S-58 Description	For all objects where INFORM and NIN	FOM are 'not Null'	AND that they ar	re EQUAI		
Message	Values for INFORM and NINFOM are id		T-			
Solution	Ensure that national language attribute with the correct values.	es are populated	Conformity	3.11.1		
Test Case No. 1	PILBOP (P)					
Location	32°27'22.98"S 60°47'42.05"E	S57 Encoding	PILBOP (P)	Harbor	M= Judit	

Screen Capture	•						
Expected Test Results	T0521b: A warning "Values for INFORM	identical" must b	oe triggered.				
Secondary Errors	None						
Dataset Name	AA500011	S-58 test No.	T0521c	Type W			
S-58 Description	For all objects where PILDST and NPLDS	ST are 'not Null' Af	ND that they are	EQUAL.			
Message	Values for PILDST and NPLDST are ident		_				
Solution	Ensure that national language attribute with the correct values.	es are populated	Conformity	3.11.1			
Test Case No. 1	PILBOP (P)						
Location	32°27'22.67"S 60°47'50.65"E	S57 Encoding	PILBOP (P)	PILDST= Judith Harbor NPLDST= Judith Harbor			
Screen Capture	34						
Expected Test Results	T0521c: A warning "Values for PILDST a	and NPLDST are ide	entical" must be	triggered.			
Secondary Errors	None						
_			T :				
Dataset Name	AA500011	S-58 test No.	T0521d	Type W			
S-58 Description	For all objects where TXTDSC and NTXT		ND that they are	e EQUAL.			
Message	Values for TXTDSC and NTXTDS are iden	alues for TXTDSC and NTXTDS are identical.					

Solution	Ensure that national language attribute with the correct values.	es are populated	Conformity	3.11.1
Test Case No. 1	PILBOP (P)		•	1
Location	32°27'23.45"S 60°47'23.14"E	S57 Encoding	PILBOP (P)	TXTDSC=AA123456.TX T NTXTDS=AA123456.T XT
Screen Capture	•			
Expected Test Results	T0521d: A warning "Values for TXTDSC	and NTXTDS are ic	lentical" must be	triggered
Secondary Errors	None			
			_	
Dataset Name	AA500011	S-58 test No.	T0522	Type E
S-58 Description	For all objects where NOBJNM is 'not N	Iull' AND OBJNAM	is 'Null' OR not p	present.
Message	Object name in national language is po	pulated without O	bject name.	,
Solution	Populate Object name.		Conformity	3.11.1
Test Case No. 1	AIRARE (P) with attribution for NOBJNN	M but not OBJNAM	l.	
Location	32°26'44.54"S : 60°47'16.32"E	S57 Encoding	AIRARE (P)	NOBJNM=Judith
Screen Capture				
Expected Test Results	T0522: An error "Object name in nation triggered.	nal language is pop	oulated without (Object name" must be

Secondary Errors	None					
Dataset Name	AA500011	S-58 test No.	T0524		Туре	С
S-58 Description	Where DUNI does not equal 1 [metres]					
Message	DUNI does not equal 1 metres.					
Solution	Ensure DUNI equals 1 metres.		Conformity	4.4		
Test Case No. 1	Modified depth units in DSPM paramet	ters.				
Location	DSPM Parameters	S57 Encoding		DUNI=	4	
Screen Capture	[DP-000000002] DSPM i Horizontal geodetic datum [HDAT]: WGS 84 i Vertical datum [VDAT]: Mean high water i Sounding datum [SDAT]: <empty> i Compilation scale of data [CSCL]: 1:20000 i Units of depth measurement [DUNI]: fathoms and fractions i Units of height measurement [HUNI]: metres i Units of positional accuracy [PUNI]: metres i Coordinate units [COUN]: LL - Latitude / Longitude i Coordinate multiplication factor [COMF]: 10000000 i 3-D (sounding) multiplication factor [SOMF]: 10 i Comment [COMT]: i) Geodetic Context odes</empty>					
Expected Test Results	T0524: An error "DUNI does not equal	1 metre" must be t	riggered.			
Secondary Errors	None					
			I			
Dataset Name	AA500011	S-58 test No.	T1510		Туре	С
S-58 Description	If the SDAT (Sounding Datum subfield)	of the DPSM (Data	Set Parameter f	ield) is nu	ull.	
Message	SDAT (Sounding Datum subfield) is not	populated.				
Solution	Populate SDAT (Sounding Datum subfice	eld).	Conformity	2.1.3		
Test Case No. 1	Modified SDAT in DSPM parameters.					
Location	DSPM Parameters	S57 Encoding		SDAT=	EMPTY	

Screen Capture	[DP-0000000002] DSPM i Horizontal geodetic datum [HDAT]: Vertical datum [VDAT]: Mean high was Sounding datum [SDAT]: <empty> i Sounding datum [SDAT]: <empty> i Units of depth measurement [DUNI]: i Units of height measurement [HUNI]: i Units of positional accuracy [PUNI]: I Coordinate units [COUN]: LL - Latitum i Coordinate multiplication factor [COM i 3-D (sounding) multiplication factor [COM comment [COMT]: i Geodetic Context odes</empty></empty>	ater 20000 : fathoms and fractio : metres metres de / Longitude MF]: 10000000	ns	
Expected Test Results	T1510: An error "SDAT (Sounding Datu	m subfield) is not բ	populated" must	be triggered.
Secondary Errors	None			
Detect Name	AA500011	C FO to at No	T1542	T 5
Dataset Name	AA500011	S-58 test No.	T1542	Type E
S-58 Description	For each object WITHIN an M_ACCY ob object) is equivalent to the value of PO	-		
Message	POSACC on object equivalent to that of	n the underlying N	1_ACCY object.	
Solution	Remove unnecessary value.		Conformity	2.2.4.1
Test Case No. 1	LNDELV (P) POSACC value equivalent to	M_ACCY POSACC	1	
Location	32°27'20.07"S 60°49'20.97"E	S57 Encoding	M_ACCY (A) LNDELV (P)	POSACC=5 POSACC=5
Screen Capture	1			
Expected Test Results	T1542: An error "POSACC on object eq triggered.	uivalent to that on	the underlying N	M_ACCY object" must be
Secondary Errors	None			

2.12. Test Dataset: AA500012

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
525	Where PUNI does not equal 1 [metres].
541a	For all objects of type LIGHTS If CATLIT is EQUAL TO 1 [Fixed] AND SIGGRP is encoded.
542	For all objects of type LIGHTS If CATLIT is NOT EQUAL TO 1 [Fixed] where SIGGRP does not start and finish with a bracket.
547	For each object which contains attributes outside the list of permissible attributes for the object's class (as defined in the Object Catalogue and S-57 Supplement No 2 for the specified object).
562	For all objects of type NEWOBJ where INFORM or TXTDSC does not contain the CLSNAM of the feature.
1500	For each LNDARE of type area which OVERLAPS a CBLARE or SBDARE of type area.
1502	For each feature object except M_HOPA where the attribute HORDAT is present.
1503	For each object not of type M_VDAT and M_SDAT where VERDAT is not Null AND none of the following are not Null ELEVAT, HEIGHT, VERCCL, VERCLR, VERCOP or VERCSA.
1504	If the value of VDAT (Vertical Datum subfield) of the DPSM (Data set Parameter field) is NULL.

Dataset Name	AA500012	S-58 test No.	T0525 Type		С			
S-58 Description	Where PUNI does not equal 1 [metres].							
Message	PUNI does not equal 1 metres.	UNI does not equal 1 metres.						
Solution	Ensure PUNI equals 1 metres.		Conformity	4.4				
Test Case No. 1	PUNI=4 (feet) has been assigned							
Location	DSPM Parameters							
Screen Capture	i [DP-0000000002] DSPM i Horizontal geodetic datum [H i Vertical datum [VDAT]: <emp (sounding)="" 3-d="" [coun]:="" [cs="" [i="" [sdat]:="" accuracy="" compilation="" context="" coordinate="" data="" datum="" depth="" fact="" geodetic="" i="" ll="" mea="" measurement="" multiplication="" nodes<="" of="" positional="" scale="" sounding="" th="" units=""><th>oty> an lower low water an lower low water an [1:20000 [DUNI]: metres [HUNI]: metres PUNI]: feet - Latitude / Longitude or [COMF]: 10000000</th><th></th><th></th><th></th><th></th></emp>	oty> an lower low water an lower low water an [1:20000 [DUNI]: metres [HUNI]: metres PUNI]: feet - Latitude / Longitude or [COMF]: 10000000						
Expected Test Results	T0525: An error "PUNI does not equal:	1 metres" must be	triggered.					
Secondary Errors	None							
		Ι				I		
Dataset Name	AA500012	S-58 test No.	T0541a		Туре	E		
S-58 Description	For all objects of type LIGHTS If CATLIT	is EQUAL TO 1 [Fix	ed] AND SIGGRP	is encod	ed.			
Message	SIGGRP is encoded for a fixed light.							
Solution	Delete SIGGRP from fixed light.		Conformity	Appen (code	dix A Ch. 141).	2		
Test Case No. 1	LIGHTS with SIGGRP attribution.							
Location	32°26'10.42"S 60°49'28.40"E	S57 Encoding	LIGHTS (P)	CATLIT SIGGR	= 1 (Fixe P=(1)	d)		

Screen Capture	F.R					
Expected Test Results	T0541: An error "SIGGRP is encoded fo T1752: An additional error "SIGGRP, SIG			object w	here LIT	 CHR =
Secondary Errors	(1) [fixed]" must be triggered.	or Err or Siddled pro		object W	THE ETT	
Dataset Name	AA500012	S-58 test No.	T0542		Type	E
S-58 Description	For all objects of type LIGHTS If CATLIT and finish with a bracket.			SIGGRP d	Type oes not s	
Message	SIGGRP is not formatted correctly.					
Solution	Correct the formatting of SIGGRP.		Conformity	Appen (code :	dix A Ch. 141).	2
Test Case No. 1	LIGHTS with SIGGRP attribution.	.	1	1		
Location	32°26'23.10"S 60°49'26.61"E	S57 Encoding	LIGHTS (P)	SIGGRI	P=1	
Screen Capture	AeroFl					
Expected Test Results	T0542: An error "SIGGRP is not formatt	ed correctly" must	be triggered.			
Secondary Errors	None					
Dataset Name	AA500012	S-58 test No.	T0547		Туре	С
S-58 Description	For each object which contains attribut class (as defined in the Object Catalogu	tes outside the list	of permissible a		for the o	object's

Message	Attribute not permitted on object cla	ass.		
Solution	Remove attribute.		Conformity	3.2 and Supplement No2 Ch.2.
Test Case No. 1	HRBARE with attribution.			
Location	32°26'16.87"S 60°49'28.68"E	S57 Encoding	HRBARE (A)	DATSTA=20120701 DATEND=20120709
Screen Capture				
Expected Test Results	T0547: 2 errors "Attribute not permi	tted on object class"	must be triggere	ed.
Secondary Errors	None			
			_	
Dataset Name	AA500012	S-58 test No.	T0562	Type C
S-58 Description	For all objects of type NEWOBJ when feature.	e INFORM or TXTDS	C does not contai	n the CLSNAM of the
Message	CLSNAM not included in INFORM or	TXTDSC for a NEWO	BJ object.	
Solution	Populate INFORM or TXTDSC with th New Object.	Conformity	Supplement No2 Ch.4 (3.3.1) and Appendix B1, Annex A (16).	
Test Case No. 1	NEWOBJ with attribution.		•	, ,
Location	32°26'18.63"S 60°49'53.72"E	S57 Encoding	NEWOBJ (A)	CLSDEF=CLSDEF CLSNAM=New Object INFORM=Newobject

Screen Capture	 0 	- - - - -				
Expected Test Results	T0562: An error "CLSNAM not included triggered.	d in INFORM or TXT	DSC for a NEWO	BJ object	" must b	e
Secondary Errors	T0566: An additional error "Invalid use	of New Object" m	ust be triggered.			
Dataset Name	AA500012	S-58 test No.	T1500		Туре	W
S-58 Description	For each LNDARE of type area which OVERLAPS a CBLARE or SBDARE of type area.					
Message	SBDARE or CBLARE sit on a LNDARE ob	ject.				
Solution	Amend CBLARE or SBDARE objects the not sit on land.		Conformity	Logica	consiste	ncy
Test Case No. 1	SBDARE (A) on LNDARE. CBLARE (A) on	LNDARE.	T (.)	1		
Location	32°26'06.70"S 60°49'34.42"E	S57 Encoding	SBDARE (A) CBLARE (A)			
Screen Capture		LYLY E	çlı			
Expected Test Results	T1500: 2 warnings "SBDARE or CBLARE	sit on a LNDARE o	bject" must be tr	iggered.		
Secondary Errors	T0093a: An additional error "Object wi	th WATLEV 4 or 5 o	on a LNDARE obje	ect" mus	t be trigg	ered.
Dataset Name	AA500012	S-58 test No.	T1502		Туре	E
S-58 Description	For each -feature object except M_HOP	A where the attrib	ute HORDAT is p	resent.		

Message	HORDAT used on an object.			
Solution	Remove HORDAT.		Conformity	2.1.1
Test Case No. 1	ACHARE (P)			1
Location	32°26'15.08"S 60°49'28.50"E	S57 Encoding	ACHARE (P)	HORDAT=2
Screen Capture	±			
Expected Test Results	T1502: An error "HORDAT used on an o	object" must be trig	ggered.	
Secondary Errors	None			
Dataset Name	AA500012	S-58 test No.	T1503	Type E
S-58 Description	For each object not of type M_VDAT ar following are not Null ELEVAT, HEIGHT,	, VERCCL, VERCLR,	VERCOP or VERC	
Message	Value of VERDAT without corresponding			1
Solution	Remove VERDAT or populate vertical d	listance attribute.	Conformity	2.1.2
Test Case No. 1	BRIDGE (A)	T	T	1
Location	32°26'13.47"S 60°49'35.55"E	S57 Encoding	BRIDGE (A)	VERDAT=3
Screen Capture		Aqui	d	
Expected Test Results	T1503: An error "Value of VERDAT with triggered.	nout corresponding	vertical distance	e value" must be
Secondary Errors	None			

Dataset Name	AA500012	S-58 test No.	T1504		Type	С		
S-58 Description	If the value of VDAT (Vertical Datum subfield) of the DPSM (Data set Parameter field) is NULL.							
Message	Vertical Datum subfield (VDAT) not po	pulated within DPS	M field.					
Solution	Populate VDAT with the vertical datum	n of the cell.	Conformity	2.1.2				
Test Case No. 1	VDAT has been assigned "0" null value		•					
Location	DSPM Parameters							
Screen Capture	☐ IDP-0000000002] DSPM i Horizontal geodetic datum [H i Vertical datum [VDAT]: <emp (sounding)="" 3-d="" [="" [coun]:="" [cs="" [sdat]:="" accuracy="" compilation="" context="" coordinate="" data="" datum="" depth="" fact="" geodetic="" i="" ll="" mea="" measurement="" multiplication="" nodes<="" of="" positional="" scale="" sounding="" th="" units=""><th>oty> an lower low water (CL]: 1:20000 [DUNI]: metres :[HUNI]: metres PUNI]: feet - Latitude / Longitud :or[COMF]: 1000000</th><th></th><th></th><th></th><th></th></emp>	oty> an lower low water (CL]: 1:20000 [DUNI]: metres :[HUNI]: metres PUNI]: feet - Latitude / Longitud :or[COMF]: 1000000						
Expected Test Results	T1504: An error "Vertical Datum subfie triggered.	eld (VDAT) not pop	ulated within DP	SM field'	' must be	!		
Secondary Errors	None							

2.13. Test Dataset: AA500013

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1505	For each M_VDAT object where VERDAT is equal to the value of VDAT (Vertical Datum subfield) of the DSPM (Data Set Parameter field).
1506	For each object where any of ELEVAT, HEIGHT, VERCCL, VERCLR, VERCOP or VERCSA is not Null AND which OVERLAPS more than one M_VDAT object.
1507	For each object of type M_VDAT which OVERLAPS another object of type M_VDAT.
1508	For each object of type M_SDAT which OVERLAPS another object of type M_SDAT.
1511	For each M_SDAT object where VERDAT is equal to the value of SDAT (Sounding Datum subfield) of the DSPM (Data Set Parameter field).
1512a	For each object of type SOUNDG which OVERLAPS more than one M_SDAT object.
1512b	For each object of where any of VALSOU, VALDCO, WATLEV, EXPSOU, DRVAL1 or DRVAL2 is not Null AND which OVERLAPS more than one M_SDAT object.
1513	If the value of the HUNI (Units of Height measurement subfield) of the DSPM (Data Set Parameter field) is not equal to (1) [metres].
1515a	For each object where a value of DATEND, DATSTA, PEREND, PERSTA, does not conform to the formatting defined in ISO 8601:1988.
1515b	For each object where a value of SORDAT, CPDATE, SUREND or SURSTA does not conform to the formatting defined in ISO 8601:1988.
1516	For each Group 2 object having STATUS, PERSTA and PEREND allowable where STATUS equals (5) [periodic/intermittent] AND PERSTA or PEREND are null or not present.
1517	For each object where TIMSTA OR TIMEND is not Null AND their values do not conform to the format defined in Chapter 2 of S-57 Appendix A.
1014	If the value of the EDTN (Edition Number) subfield of the DSID (Data Set Identification) field is incorrect.
1523b	If the data set file name extension equals ".000" AND the ISDT (Issue date) subfield of the DSID (Data Set Identification) field is less than the value of the UADT (Update application date) subfield.
1525	For each M_QUAL object where POSACC is not Null AND DRVAL1 is not Null.
1529	For each object WITHIN an M_QUAL object where TECSOU is not Null AND the value of TECSOU is equivalent to the TECSOU on the M_QUAL object.
1535	For each UWTROC object where SOUACC is not Null AND it is identical to or degrades the value of SOUACC on the M_QUAL object it is WITHIN.

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Dataset Name	AA500013	S-58 test No.	T1505	Туре	E
S-58 Description	For each M_VDAT object where VERDA the DSPM (Data Set Parameter field).	T is equal to the va	alue of VDAT (Ve	rtical Datum subf	ield) of
Message	Value of VERDAT matches that in the V	DAT subfield of the	DSPM field.		
Solution	Remove unnecessary value of VERDAT.		Conformity	2.1.2	
Test Case No. 1	M_VDAT (A) VERDAT equal to the Data (VDAT)	Set Parameter fiel	d (DSPM) Vertica	al Datum subfield	
Location	32°29'06.92"S 60°51'26.34"E	S57 Encoding	M_VDAT (A)	VERDAT=16	
Screen Capture					
Expected Test Results	T1505: An error "Value of VERDAT mate triggered.	ches that in the VL	AT subfield of th	ie DSPM field" mi	ust be
Secondary Errors	None				
			ı		1
Dataset Name	AA500013	S-58 test No.	T1506	Туре	E
S-58 Description	For each object where any of ELEVAT, F AND which OVERLAPS more than one N		ERCLR, VERCOP (or VERCSA is not	Null
Message	Object with height value not split at bo	undary of M_VDA	Γobject.		
	Culit abject at boundary of MA VDAT ab	iect.	Conformity	2.1.2	
Solution	Split object at boundary of M_VDAT ob	,			
Test Case No. 1	BRIDGE (A) crosses M_VDAT object bou	-			

Screen Capture	clr 3.3					
Expected Test Results	T1506: 5 errors "Object with height valu triggered.	ue not split at bou	ndary of M_VDA	T object" mu	st be	
Secondary Errors	T0513: An additional error "An attribute object" must be triggered.	e value given on a	meta object is du	uplicated on	a geo	
D	44500043	C 50 1 1 N	T4507	Τ_		_
Dataset Name	AA500013	S-58 test No.	T1507	Ty	/pe	E
S-58 Description	For each object of type M_VDAT which	OVERLAPS anothe	r object of type I	M_VDAT.		
Message	M_VDAT objects overlap.			•		
Solution	Edit M_VDAT objects so that they do no	ot overlap.	Conformity	2.1.2		
Test Case No. 1	Overlapping M_VDAT objects.					
Location	32°29'02.21"S 60°51'18.76"E	S57 Encoding	M_VDAT (A) M_VDAT (A)	VERDAT=1 VERDAT=1		
Screen Capture						
Expected Test Results	T1507:2 errors "M_VDAT objects overla	np" must be trigge	red.			
Secondary Errors	None	33				
		S-58 test No.	T1508			E

S-58 Description	For each object of type M_SDAT which	OVERLAPS anothe	r object of type I	M_SDAT.
Message	M_SDAT objects overlap.			
Solution	Edit M_SDAT objects so that they do no	ot overlap.	Conformity	2.1.3
Test Case No. 1	SOUNDG datum areas overlapping.			
Location	32°29'23.65"S 60°52'01.12"E	S57 Encoding	M_SDAT (A)	VERDAT=27
Screen Capture			M_SDAT (A)	VERDAT=12
Expected Test Results	T1508: 2 errors "M_SDAT objects overla	ap" must be trigge	red.	
Secondary Errors	None			
Dataset Name	AA500013	S-58 test No.	T1511	Type E
S-58 Description	For each M_SDAT object where VERDA' of the DSPM (Data Set Parameter field)		alue of SDAT (Sou	ınding Datum subfield)
Message	M_SDAT object has the same VERDAT a	s in the SDAT sub	field of the DSPM	1.
Solution	Delete M_SDAT object or amend value	of VERDAT.	Conformity	2.1.3
Test Case No. 1	SOUNDG datum area with VERDAT attri	ibution.		
Location	32°29'23.37"S 60°52'02.04"E	S57 Encoding	M_SDAT (A)	VERDAT=12
Screen Capture				

Expected Test Results	T1511: An error "M_SDAT object has the must be triggered.	ne same VERDAT as	s in the SDAT sub	field of the	DSPIV	1"
Secondary Errors	None					
,						
Dataset Name	AA500013	S-58 test No.	T1512a	1	Гуре	E
S-58 Description	For each object of type SOUNDG which	OVERLAPS more t	:han one M_SDA	T object.		
Message	SOUNDG object overlaps multiple M_S	DAT objects.				
Solution	Split SOUNDG object at boundary of M	_SDAT objects.	Conformity	2.1.3		
Test Case No. 1	SOUNDG crossing over M_SDAT (A) bo	undary.	•			
Location	32°29'24.31"S 60°52'00.13"E	S57 Encoding	SOUNDG (P)			
Screen Capture	11	1				
Expected Test Results	T1512a: An error "SOUNDG object ove	rlaps multiple M_S	DAT objects" mu	ıst be trigge	red.	
Secondary Errors	None					
Dataset Name	AA500013	S-58 test No.	T1512b	1	Гуре	E
S-58 Description	For each object of where any of VALSO Null AND which OVERLAPS more than o			/AL1 or DRV	/AL2 is	not
Message	Object with depth information overlap	s multiple M_SDAT	Γ objects.			
Solution	Split object at boundary of M_SDAT ob	jects.	Conformity	2.1.3		
Test Case No. 1	SOUNDG, DEPARE (A), DEPCNT (L) and	OBSTRN (A) crossii	ng M_SDAT (A) b	oundary.		
Location	32°29'23.88"S 60°51'59.98"E	S57 Encoding	DEPARE (A) DEPCNT (L) OBSTRN (A)	DRVAL1= DRVAL2= VALDCO= VALSOU= EXPSOU=	1.8 =0 =11	

Screen Capture	11 2		1	
Expected Test Results	T1512b: 3 errors "Object with depth in triggered.	formation overlaps	s multiple M_SDAT	objects" must be
Secondary Errors	None			
Dataset Name	AA500013	S-58 test No.	T1513	Type C
S-58 Description	If the value of the HUNI (Units of Heigh field) is not equal to (1) [metres].	t measurement su	ubfield) of the DSPI	M (Data Set Parameter
Message	Units of Height measurement subfield	s not set to (1) [m	etres].	
Solution	Set Units of Height measurement to (1)	[metres].	Conformity	2.1.4
Test Case No. 1	Data Set Parameter field (DSPM)HUNI	feet(2)		
Location	DSPM Parameters			
Screen Capture	i [DP-0000000002] DSPM i Horizontal geodetic datum [HDA1 i Vertical datum [VDAT]: Mean high i Sounding datum [SDAT]: Mean location scale of data [CSCL] i Units of depth measurement [DU i Units of height measurement [HU i Units of positional accuracy [PUN i Coordinate units [COUN]: LL - La i Coordinate multiplication factor [i 3-D (sounding) multiplication factor [i Geodetic Context Nodes Edges	n water wer low water : 1:20000 NI]: metres INI]: feet I]: metres titude / Longitude COMF]: 10000000 or [SOMF]: 10		
Expected Test Results	T1513: An error "Units of Height measu triggered.	rement subfield is	s not set to (1) [me	tres]." must be
Secondary Errors	None			
	1.1500010	0.00	T =	<u> </u>
Dataset Name	AA500013 For each object where a value of DAT	S-58 test No.	T1515a	Type C
S-58 Description	formatting defined in ISO 8601:1988.	LIVO, DATSTA, PEI	NEND, FENSIA, UU	es not comorni to the

Message	Date attribute not formatted according	Date attribute not formatted according to ISO 8601:1988.				
Solution	Amend formatting to conform to ISO 8	601:1988.	Conformity	2.1.5		
Test Case No. 1	2 BCNLAT (P) objects with attributes e	ncoded.				
Location	32°29'23.21"S 60°52'02.69"E	S57 Encoding	BCNLAT (P) BCNLAT (P)	PERSTA=3101 PEREND=3107 DATSTA=25062010 DATEND=25122010		
Screen Capture	1	L				
Expected Test Results	T1515a: 2 errors "Date attribute not fo	ormatted according	to ISO 8601:198	8" must be triggered.		
Secondary Errors	T0073: 3 additional warnings "Check to or a trailing space. Check that the form	·	• •			
-			T			
Dataset Name	AA500013	S-58 test No.	T1515b	Type E		
S-58 Description	For each object where a value of SOR formatting defined in ISO 8601:1988.	DAT, CPDATE, SUR	END or SURSTA	does not conform to the		
Message	Date attribute not formatted according	g to ISO 8601:1988				
Solution	Amend formatting to conform to ISO 8	601:1988.	Conformity	2.1.5		
Test Case No. 1	BCNLAT (P) with attributes encoded. N	M_QUAL (A) with a	ttributes encode	d.		
Location	32°29'23.83"S 60°52'03.89"E	S57 Encoding	BCNLAT (P) SORDAT=111120			

Screen Capture	1				
Expected Test Results	T1515b: 2 errors "Date attribute not fo	ormatted according	to ISO 8601:198	88" must be trig	gered.
Secondary Errors	None				
Dataset Name	AA500013	S-58 test No.	T1516	Turn	e W
S-58 Description	For each Group 2 object having STATU [periodic/intermittent] AND PERSTA or	IS, PERSTA and PER	REND allowable v	where STATUS	
Message	PERSTA or PEREND not populated whe	re STATUS equals 5	5.		
Solution	Populate PERSTA or PEREND with value STATUS (5) [periodic/intermittent].		Conformity	2.1.5.1	
Test Case No. 1	BCNLAT (P) with attribute STATUS enco	oded. BCNLAT (P) v	with attributes Pl	ERSTA & PEREN	ID
Location	32°29'24.12"S 60°52'02.71"E	S57 Encoding	BCNLAT (P) BCNLAT (P)	STATUS=5 PERSTA=30.0 PEREND=01.0	
Screen Capture	1	1			
Expected Test Results	T1516: 2 warnings "PERSTA or PEREND				
Secondary Errors	T0073a: An additional warning "Attributriggered.	ute value contains l	eading or trailing	g spaces" must	be
Dataset Name	AA500013	S-58 test No.	T1517	Турс	e E
_ = = = = = = = = = = = = = = = = = = =				. , p	_ _

S-58 Description	For each object where TIMSTA OR TIMEND is not Null AND their values do not conform to the format defined in Chapter 2 of S-57 Appendix A.				
Message	TIMEND or TIMSTA are not formatted correctly.				
Solution	Correct the formatting of TIMEND or	TIMSTA.	Conformity	2.1.6	
Test Case No. 1	TS_TIS (P) with TIMSTA & TIMEND at	tributes encoded.	1	1	
Location	32°29'23.68"S 60°52'02.38"E	S57 Encoding	TS_TIS (P)	TIMSTA=210708T201 20629 TIMEND=210701T202 20630	
Screen Capture	•				
Expected Test Results	T1517: An error "TIMEND or TIMSTA	are not formatted c	orrectly" must be	triggered.	
Secondary Errors	None				
Dataset Name	AA500013	S-58 test No.	T1014	Type C	
S-58 Description	If the value of the EDTN (Edition No incorrect.	umber) subfield of t	he DSID (Data S	et Identification) field i	
Message	Incorrect value of Edition Number.				
Solution	Correct Edition Number.		Conformity	2.2.2	
Test Case No. 1	Data Set Identification field (DSID) wi	ith EDTN = 0	•	•	
Location	DSID Parameters	S57 Encoding			

	Data set description				
	[DS-000000001] DSID				
	Exchange Purpose [EXPP]: N - New				
	Intended usage [INTU]: 5				
	Data set name [DSNM]: AA500013.00	00			
	😟 Edition number [EDTN]: 0				
	Update number [UPDN]: 0				
Same and Combine	Update application date [UADT]: 01-0)2-2014			
Screen Capture	issue date [ISDT]: 27-11-2011				
	Edition number of S-57 [STED]: 03.1				
	Product specification [PRSP]: ENC				
	Product specification description [PSD	-			
	Product specification edition number [_			
	Application profile identification [PROF	-J: EN - ENC New			
	Producing agency [AGEN]: AA				
	Comment [COMT]: STED:3.1.1;				
Expected Test Results	T1014: An error "Incorrect value of Edit	ion Number" must	he triggered		
-					
Secondary Errors	T0534: An additional error "Incorrect d	elete cell message"	must be trigger	ed.	
Dataset Name	AA500013	S-58 test No.	T1523b	Туре	С
	If the data set file name extension equa	als ".000" AND the	ISDT (Issue date)	subfield of the D	SID
S-58 Description	(Data Set Identification) field is less tha				
3 30 Description	subfield.	in the value of the v	ond (opaate ap	opineation date;	
Message	For a base data set the update applicat	ion data falls befor	o the issue date		
iviessage	Amend update application date or issue		e the issue date.	1	
Solution		e uate	Conformity	2.2.2	
	accordingly.	. 27.44.2044			
Test Case No. 1	Data Set Identification (DSID) with ISDT	=27-11-2011; wnic	n is less than the	e value of the Upd	ate
	application date (UADT) subfield.				
Location	DSID Parameters	S57 Encoding			
) Data set description				
	(E) [DS-0000000001] DSID				
	Exchange Purpose [EXPP]: N - New				
	Intended usage [INTU]: 5				
	Data set name [DSNM]: AA500013.00	00			
	Data set name [DSNM]: AA500013.00	00			
	Data set name [DSNM]: AA500013.00 Edition number [EDTN]: 0 Update number [UPDN]: 0				
Scroon Cantura	Data set name [DSNM]: AA500013.00 Edition number [EDTN]: 0 Update number [UPDN]: 0 Update application date [UADT]; 01-0				
Screen Capture	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011				
Screen Capture	Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of 5-57 [STED]: 03.1				
Screen Capture	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of S-57 [STED]: 03.1 i Product specification [PRSP]: ENC)2-2014			
Screen Capture	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of S-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD])2-2014 N]:			
Screen Capture	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of 5-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD] i Product specification edition number [)2-2014 N]: PRED]: 2.0			
Screen Capture	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of 5-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD i Product specification edition number [Application profile identification [PROfile identif)2-2014 N]: PRED]: 2.0			
Screen Capture	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of S-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD i Product specification edition number [Application profile identification [PROfile identification]] i Producing agency [AGEN]: AA)2-2014 N]: PRED]: 2.0			
Screen Capture	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of 5-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD i Product specification edition number [Application profile identification [PROfile identif)2-2014 N]: PRED]: 2.0			
	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of S-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD i Product specification edition number [Application profile identification [PROfile identification]] i Producing agency [AGEN]: AA	02-2014 N]: PRED]: 2.0 =]: EN - ENC New	ion date falls bef	ore the issue date	<u>.</u> "
Screen Capture Expected Test Results	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of 5-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD i Product specification edition number [Application profile identification [PROfile Producing agency [AGEN]: AA i Comment [COMT]: STED:3.1.1;	02-2014 N]: PRED]: 2.0 =]: EN - ENC New	ion date falls bef	ore the issue date	·"
	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of S-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSD i Product specification edition number [i Application profile identification [PROfile Producing agency [AGEN]: AA i Comment [COMT]: STED:3.1.1;	02-2014 N]: PRED]: 2.0 =]: EN - ENC New	ion date falls bef	ore the issue date	,"
Expected Test Results	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of S-57 [STED]: 03.1 i Product specification (PRSP): ENC i Product specification description (PSD) i Product specification edition number [Application profile identification [PROFILE PROFILE PROFIL	02-2014 N]: PRED]: 2.0 =]: EN - ENC New	ion date falls bef	ore the issue date	,"
Expected Test Results	i Data set name [DSNM]: AA500013.00 i Edition number [EDTN]: 0 i Update number [UPDN]: 0 i Update application date [UADT]: 01-0 i Issue date [ISDT]: 27-11-2011 i Edition number of S-57 [STED]: 03.1 i Product specification (PRSP): ENC i Product specification description (PSD) i Product specification edition number [Application profile identification [PROFILE PROFILE PROFIL	02-2014 N]: PRED]: 2.0 =]: EN - ENC New	ion date falls bef T1525	ore the issue date	E

S-58 Description	For each M_QUAL object where POSACC is not Null AND DRVAL1 is not Null.						
Message	M_QUAL object where DRVAI1 and POSACC are pop	M. OLIAL object where DRVAI1 and POSACC are nonulated					
Solution	Amend attribute values accordingly.	Conformity	2.2.3.1				
Test Case No. 1	M_QUAL with DRVAL1 & POSACC attribution encod						
Location	32°29'24.06"S 60°51'58.85"E		DRVAL1=1 POSACC=10				
Screen Capture							
Expected Test Results	T1525: An error "M_QUAL object where DRVAl1 and	d POSACC are populate	ed" must be triggered.				
Secondary Errors	None						
Dataset Name	AA500013 S-58 test	No. T1529	Type E				
S-58 Description	For each object WITHIN an M_QUAL object where I equivalent to the TECSOU on the M_QUAL object.	TECSOU is not Null ANI	O the value of TECSOU is				
Message	TECSOU value on object is equivalent to value used	on the M_QUAL it lies	WITHIN.				
Solution	Remove unnecessary value of TECSOU.	Conformity	2.2.3.1 and 2.2.3.5				
Test Case No. 1	OBSTRN (A) with attribution for TECSOU. M_QUAL	(A) without attribution	for TECSOU.				
Location	32°29'24.37"S 60°51'58.34"E	ding M_QUAL (A) OBSTRN (A)	TECSOU=6				
Screen Capture							

Expected Test Results	T1529: An error "TECSOU value on object is equivalent to value used on the M_QUAL it lies WITHIN" must be triggered.					
Secondary Errors	None					
Dataset Name	AA500013					
S-58 Description	For each UWTROC object where SOUACSOUACC on the M_QUAL object it is W		it is identical to	or degrades the v	alue of	
Message	SOUACC on UWTROC matches or degra	ades that on the ur	nderlying M_QUA	AL object.		
Solution	Delete or amend SOUACC on M_QUAL.		Conformity	2.2.3.1		
Test Case No. 1	UWTROC attributed with SOUACC with	in a M_QUAL attril	buted with an eq	uivalent SOUACC		
Location	32°29'24.46"S 60°51'58.91"E	S57 Encoding	M_QUAL (A) UWTROC (P)	SOUACC=2 SOUACC=2 VALSOU=10		
Screen Capture	(10)					
Expected Test Results	T1535: An error "SOUACC on UWTROC object" must be triggered.	_				
Secondary Errors	T1530: An additional error "SOUACC valies WITHIN" must be triggered.	alue on object is eq	uivalent to value	e used on the M_0	QUAL it	
Test Case No. 2	UWTROC attributed with SOUACC with	in a M_QUAL attril	buted with a diffe	erent SOUACC.		
Location	32°29'24.45"S 60°51'59.07"E	S57 Encoding	M_QUAL (A) UWTROC (P)	SOUACC=0.6 CATZOC=5 SOUACC=1		

Screen Capture	
Expected Test Results	T1535: An error "SOUACC on UWTROC matches or degrades that on the underlying M_QUAL object" must be triggered.
Secondary Errors	None

2.14. Test Dataset: AA500014

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1537	For each WRECKS object where SOUACC is not Null AND is equivalent to or degrades the value of SOUACC on the M QUAL object it is WITHIN.
1539	For each OBSTRN object where SOUACC is not Null AND it is equal to or degrades the value of SOUACC on the M_QUAL object it is WITHIN.
1541	For each single sounding WITHIN an M_SREL object where the value of QUASOU of the SOUNDG object is identical to the value of QUASOU on the M_SREL object it lies WITHIN.
1544	For each M_ACCY object where HORACC, SOUACC or VERACC are present.
1545	For each object where HORACC is not Null AND HORCLR is NULL or not present.
1546	For each object where VERACC is not Null AND VERCLR, VERCOP, VERCSA VERCCL are all NULL or not present.
1548	For each object which is not of type SOUNDG, DEPCNT, DEPARE, DRGARE, OBSTRN where SORIND is not Null and SORDAT is NULL or not present.
1550	For each M_CSCL object where CSCALE is equal to the value of CSCL (Compilation scale of data) subfield in the DPSM (Data Set Parameter) field.
1551	For each M_CSCL object which OVERLAPS another M_CSCL object.
1553	For each value of SCAMIN which is less than or equal to the compilation scale of the data for the area.
1554a	For each Group 1 object where SCAMIN is present.
1554b	For each meta object where SCAMIN is present.
1557	For each T_HMON object where T_MTOD does not equal (1) [simplified harmonic method of tidal prediction] or (2) [full harmonic method of tidal prediction].
1558	For each T_NHMN object where T_MTOD does not equal (3) [time and height difference non-harmonic method].
1560	For each TS_PRH object where T_MTOD is not equal to (1) [simplified harmonic method of tidal prediction] OR (2) [full harmonic method of tidal prediction].
1561	For each TS_PNH object where T_MTOD does not equal (3) (time and height difference non-harmonic method).
1563	For each RIVERS, CANALS, LAKARE, DOCARE or LOKBSN object which is not WITHIN a LNDARE or UNSARE object of type area.
1564	For each CTRPNT object where VERDAT or VERACC are present.
1567	For each COALNE object where VERDAT or VERACC are present.

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Dataset Name	AA500014	S-58 test No.	T1537	Type E	
S-58 Description	For each WRECKS object where SOUACC is not Null AND is equivalent to or degrades the value of SOUACC on the M_QUAL object it is WITHIN.				
Message	SOUACC on WRECKS is equivalent to or degrades the value of SOUACC on the underlying M_QUAL object.				
Solution	Amend SOUACC on M_QUAL or WRECKS as appr	opriate.	Conformity	2.2.3.1	
Test Case No. 1	WRECKS (A, P) SWPARE (A) and M_QUAL objects	with SOUACC att	ribution encoded	d.	
Location	32°29'14.87"S 60°47'35.78"E	S57 Encoding	WRECKS (A, P) SWPARE (A) M_QUAL (A)	CATWRK=2 SOUACC=1 WATLEV=3 QUASOU=6 VALSOU=10 DRVAL1=10 CATZOC=5 SOUACC=2 DRVAL1=10	
Screen Capture	10				
Expected Test Results	T1537: 2 errors "SOUACC on WRECKS is equivale underlying M_QUAL object" must be triggered.				
Secondary Errors	T1655: An additional error "POSACC and SOUACC object" must be triggered.	C encoded on M_(QUAL object whi	ch covers SWPARE	
Test Case No. 2	WRECKS (A, P) SWPARE (A) and M_QUAL objects	with SOUACC att	ribution encoded	d.	
Location	32°29'14.89"S 60°47'40.75"E	S57 Encoding	WRECKS (A, P) SWPARE (A) M_QUAL (A)	CATWRK=2 SOUACC=0.5 WATLEV=3 QUASOU=6 VALSOU=10 DRVAL1=10 CATZOC=5 SOUACC=1 DRVAL1=10	
Screen Capture	**				
Expected Test Results	T1537: 2 errors "SOUACC on WRECKS is equivale underlying M_QUAL object" must be triggered.	nt to or degrades	the value of SOL	JACC on the	

Secondary Errors	T1655: An additional error "POSACC and SOUAC object" must be triggered.	C encoded on M_C	QUAL object which	ch covers SWPARE
Data and Name	A 4 5 0 0 0 4 4	C 50 4 N	T4520	*
Dataset Name	AA500014	S-58 test No.		Type E
S-58 Description	For each OBSTRN object where SOUACC is not N SOUACC on the M_QUAL object it is WITHIN.	ull AND it is equal	to or degrades t	he value of
Message	SOUACC on OBSTRN matches or degrades that o	n the underlying N	/I_QUAL object.	
Solution	Delete or amend SOUACC on M_QUAL.		Conformity	2.2.3.1
Test Case No. 1	OBSTRN (A), SWPARE (A) and M_QUAL objects w	ith SOUACC attrib	ution encoded.	
Location	32°29'13.66"S 60°47'56.18"E	S57 Encoding	OBSTRN (A, L, P) SWPARE (A) M_QUAL (A)	WATLEV=3 VALSOU=10 QUASOU=6 SOUACC=1 DRVAL1=10 CATZOC=5 SOUACC=2 DRVAL1=10
Screen Capture	14 ₈ 18 18 14			
Expected Test Results	T1539: 3 errors "SOUACC on OBSTRN matches of must be triggered.			
Secondary Errors	T1655: An additional error "POSACC and SOUAC object" must be triggered.	C encoded on M_C	QUAL object which	ch covers SWPARE
Test Case No. 2	OBSTRN (A, L, P) and M_QUAL objects with SOU	ACC attribution en		
Location	32°29'15.53"S 60°47'48.28"E	S57 Encoding	OBSTRN (A, L, P) SWPARE (A) M_QUAL (A)	WATLEV=3 VALSOU=10 QUASOU=6 SOUACC=0.5 DRVAL1=10 CATZOC=5 SOUACC=1 DRVAL1=10

Screen Capture	(18) + 18			
Expected Test Results	T1539: 3 errors "SOUACC on OBSTRN matches of must be triggered.	r degrades that on	the underlying I	M_QUAL object"
Secondary Errors	T1655: An additional error "POSACC and SOUAC object" must be triggered.	C encoded on M_0	QUAL object whi	ch covers SWPARE
		T		
Dataset Name	AA500014	S-58 test No.	T1541	Type E
S-58 Description	For each single sounding WITHIN an M_SREL objobject is identical to the value of QUASOU on the			f the SOUNDG
Message	QUASOU on SOUNDG equal to that on the under	rlying M_SREL obj	ect.	
Solution	Remove unnecessary value.		Conformity	2.2.3.3
Test Case No.1	SOUNDG and M_SREL with identical QUASOU at:	tribution.		1
Location	32°28'05.46"S 60°46'33.46"E	S57 Encoding	SOUNDG (P) M_SREL (A)	QUASOU=8 QUASOU=8
Screen Capture	6			
Expected Test Results	T1541: An error "QUASOU on SOUNDG equal to triggered.			
Secondary Errors	T0513: An additional error "An attribute value gi must be triggered.	ven on a meta obj	ect is duplicated	on a geo object"
Dataset Name	AA500014	S-58 test No.	T1544	Type E
S-58 Description	For each M_ACCY object where HORACC, SOUAC	CC or VERACC are p	oresent.	
Message	M_ACCY object includes HORACC, SOUACC or VE	ERACC.		
Solution	Remove attribute values.		Conformity	2.2.4.1
	1		·	I.

Test Case No.1	M_ACCY with attributes HORACC, SOUACC and \	VERACC encoded.		
Location	32°29'12.53"S 60°49'03.38"E	S57 Encoding	M_ACCY (A)	HORACC=1 SOUACC=1 VERACC=1 POSSAC=1
Screen Capture				
Expected Test Results	T1544: 3 errors "M_ACCY object includes HORAC	CC, SOUACC or VER	RACC" must be tr	iggered.
Secondary Errors	T0547: An additional error "Attribute not permit	ted on object clas	s" must be trigge	ered.
Dataset Name	AA500014	S-58 test No.	T1545	Type E
S-58 Description	For each object where HORACC is not Null AND I	HORCLR is NULL or	not present.	
Message	Value for HORACC without a value of HORCLR.			
Solution	Add HORCLR value or remove HORACC.		Conformity	2.2.4.2
Test Case No.1	BRIDGE (L, P) with HORACC attribution encoded	and without an at	tribute value for	HORCLR.
Location	32°29'14.81"S 60°48'38.94"E	S57 Encoding	BRIDGE (A, L, P) PYLONS (A, P)	CATBRG=1 HORACC=10 CATPYL=4
Screen Capture				
Expected Test Results	T1545: 3 errors "Value for HORACC without a va	lue of HORCLR" m	ust be triggered.	

Secondary Errors	T1797: An additional error "Object, geometry an ECDIS present" must be triggered.	d attribute combin	nation which do	not display in
		1		_ _
Dataset Name S-58 Description	AA500014 For each object where VERACC is not Null AND V	S-58 test No. 'ERCLR, VERCOP, V		Type E re all NULL or not
	present.			
Message	Value for VERACC without value of VERCLR, VER		I	2242
Solution Test Case No.1	Remove VERACC of populate vertical clearance vertic	and without a corr	Conformity esponding attrib	2.2.4.3 oute value for at
Location	32°29'17.70"S 60°48'36.76"E	S57 Encoding	BRIDGE (A, L, P) PYLONS (A, P)	CATBRG=1 VERACC=10 CATPYL=4
Screen Capture	• • • • • • • • • • • • • • • • • • •			
Expected Test Results	T1546: 3 errors "Value for VERACC without value triggered.	e of VERCLR, VERC	OP, VERCSA or V	ERCCL" must be
Secondary Errors	T1797: An additional error "Object, geometry an ECDIS present" must be triggered.	d attribute combin	nation which do	not display in
Dataset Name	AA500014	S-58 test No.	T1548	Type W
S-58 Description	For each object which is not of type SOUNDG, Do not Null and SORDAT is NULL or not present.	EPCNT, DEPARE, D	RGARE, OBSTRN	where SORIND is
Message	Value of SORIND without a value of SORDAT on	non-bathymetric o	bject.	
Solution	Populate SORDAT with an appropriate value.		Conformity	2.2.5.2
Test Case No.1	CBLARE (A) with attribution encoded for SORING	without an attrib	ute value for SOI	RDAT.
Location	32°29'21.68"S 60°48'39.72"E	S57 Encoding	CBLARE (A)	CATCBL=1 SORIND=AA,AA,g raph,chart0014

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Screen Capture	48				
Expected Test Results	T1548: 3 warnings "Value of SORIND without a vitriggered.	alue of SORDAT on no	on-bathymet	ric object'	' must be
Secondary Errors	None				
Dataset Name	AA500014	S-58 test No.	T1550	Type	E
S-58 Description	For each M_CSCL object where CSCALE is equal t subfield in the DPSM (Data Set Parameter) field.	o the value of CSCL (Compilation s	scale of da	ita)
Message	CSCALE of M_CSCL is identical to the value given	as the Compilation s	cale of the da	itaset.	
Solution	Remove unnecessary M_CSCL object.		Conformity	2.2.6	
Test Case No.1	M_CSCL (A) where CSCALE attribution is equal to Parameter.	the compilation scal	e subfield of	the Data :	Set
Location	32°28'46.54"S 60°47'33.94"E	S57 Encoding N	1_CSCL (A)	CSCALE	=20000
Screen Capture	25 27 29 20 24 27 29 20 24 27 29 29 20 24 24 25 26 27 29 20 24 25 26 27 29 20 24 25 26 26 26 26 26 26 26 26 26 26 26 26 26	10 11 11 11 11 12 10 14 10 14 15 16 16 12			
Expected Test Results	T1550: An error "CSCALE of M_CSCL is identical t dataset" must be triggered.		·		
Secondary Errors	T0513: An additional error "An attribute value gimust be triggered.	ven on a meta object	is duplicated	I on a geo	object"
Dataset Name	AA500014	S-58 test No.	T1551	Туре	E
Dataset Haille	\ \(\(\tau \) \(\ta	3 30 test 140.	11331	·ype	_

S-58 Description	For each M_CSCL object which OVERLAPS anoth	er M_CSCL object.				
Message	M_CSCL object overlap.					
Solution	Amend M_CSCL objects so that they do not over	·lap.	Conformity	2.2.6		
Test Case No.1	M_CSCL objects with differing compilation scale	s are overlapping.		•		
Location	32°28'32.43"S 60°48'59.49"E	S57 Encoding	M_CSCL (A) M_CSCL (A)	CSCALE=25000 CSCALE=30000		
Screen Capture						
Expected Test Results	T1551: 2 errors "M_CSCL object overlap" must b	e triggered.				
Secondary Errors	None					
Dataset Name	AA500014	S-58 test No.	T1553	Type E		
S-58 Description	For each value of SCAMIN which is less than or e	equal to the compi	lation scale of th	e data for the are		
Message	SCAMIN value less than compilation scale.					
Solution	Amend SCAMIN value accordingly.		Conformity	2.2.6 and 2.2.7		
Test Case No.1	AIRARE (A, P) SCAMIN attribution is less than or	equal to the comp	ilation scale.	•		
Location	32°27'56.67"S 60°48'56.00"E	S57 Encoding	AIRARE (A, P)	SCAMIN=10000		

Screen Capture		8		
Expected Test Results	T1553: 2 errors "SCAMIN value less than compila	tion scale" must	be triggered.	
Secondary Errors	None		•	
Dataset Name	AA500014	S-58 test No	. T1554a	Type C
S-58 Description	For each Group 1 object where SCAMIN is preser	nt.		
Message	SCAMIN present on a Group 1 object.			
Solution	Remove SCAMIN.		Conformity	2.2.7
Test Case No.1	SCAMIN attribution assigned to 7 Group 1 object	s.		
Location	32°28'34.91"S 60°48'25.59"E	S57 Encoding	DEPARE (A) LNDARE (A) UNSARE (A) FLODOC (A) PONTON (A) HULKES (A) DRGARE (A)	SCAMIN=25000
Screen Capture				
Screen Capture Expected Test Results	T1554a: 7 errors "SCAMIN present on a Group 1	object" must be t	riggered.	

Dataset Name	AA500014	S-58 test No.	T1554b	Type	С
S-58 Description	For each meta object where SCAMIN is present.				
Message	SCAMIN present on a meta object.				
Solution	Remove SCAMIN.		Conformity	2.2.7	
Test Case No.1	SCAMIN attribution assigned for meta object.				
Location	32°28'35.53"S 60°48'19.80"E	S57 Encoding	M_NSYS	ORIENT SCAMII	
Screen Capture	3				
Expected Test Results	T1554b: An error "SCAMIN present on a meta o				
Secondary Errors	T0547: An additional error "Attribute not permi	tted on object class	" must be trigge	ered.	
Dataset Name	AA500014	S-58 test No.	T1557	Type	E
S-58 Description	For each T_HMON object where T_MTOD does prediction] or (2) [full harmonic method of tidal		lified harmonic r	method o	f tidal
Message	T_HMON object where the value of T_MTOD is	not (1) or (2).			
Solution	Amend T_MTOD to valid value.		Conformity	3.2.2	
Test Case No.1	T_HMON (A, P) with T_MTOD attribution.				
			T_HMON		

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Screen Capture	→			
Expected Test Results	T1557: 2 errors "T_HMON object where the val			
Secondary Errors	T2000: 2 additional errors "Attribute value which	th is not allowed use of	on an object"	must be triggered.
Dataset Name	AA500014	S-58 test No.	T1558	Type E
S-58 Description	For each T_NHMN object where T_MTOD does harmonic method].	not equal (3) [time ar	nd height diffe	erence non-
Message	T_NHNM object where the value of T_MTOD is	not (3).		
Solution	Amend T_MTOD to a valid value.		Conformity	3.2.3
Test Case No.1	T_NHMN (A, P) with T_MTOD attribution.			
Location	32°27'43.98"S 60°47'52.54"E	NS / Encoding	Γ_NHMN (A, P)	T_MTOD=1
Screen Capture				
Expected Test Results	T1558: 2 errors "T_NHNM object where the val			
Secondary Errors	T2000: 2 additional errors "Attribute value which	th is not allowed use of	on an object"	must be triggered.
Dataset Name	AA500014	S-58 test No.	T1560	Type E
S-58 Description	For each TS_PRH object where T_MTOD is not e prediction] OR (2) [full harmonic method of tidal		d harmonic me	ethod of tidal
Message	TS_PRH object has a value other than (1) or (2)	for T_MTOD.		
<u> </u>				

Solution	Amend T_MTOD (A, P) to a valid value.		Conformity	3.3.3
Test Case No.1	TS_PRH with T_MTOD attribution.			
Location	32°27'51.80"S 60°47'52.06"E	S57 Encoding	TS_PRH (A, P)	T_MTOD=3
Screen Capture				
Expected Test Results	T1560: 2 errors "TS_PRH object has a value other	r than (1) or (2) fo	r T_MTOD" must	be triggered.
Secondary Errors	T2000: 2 additional errors "Attribute value which	is not allowed us	se on an object" r	nust be triggered.
Dataset Name	AA500014	S-58 test No.	. T1561	Type E
S-58 Description	For each TS_PNH object where T_MTOD does no method).	t equal (3) (time a	and height differe	ence non-harmonic
Message	For TS_PNH T_MTOD is not (3) (time and height of	difference non-ha	rmonic method).	
Solution	Amend T_MTOD to (3).		Conformity	3.3.4
Test Case No.1	TS_PNH (A, P) with T_MTOD attribution.			
Location	32°28'02.10"S 60°47'56.41"E	S57 Encoding	TS_PNH (A, P)	T_MTOD=1
Screen Capture				
Expected Test Results	T1561: 2 errors "For TS_PNH T_MTOD is not (3) (must be triggered.			·
Secondary Errors	T2000: 2 additional errors "Attribute value which	is not allowed us	se on an object" r	nust be triggered.
Dataset Name	AA500014	S-58 test No.	T1563	Type W

S-58 Description	For each RIVERS, CANALS, LAKARE, DOCAL UNSARE object of type area.	RE or LOKBSN object whi	ch is not WITHIN	a LNDARE or		
Message	Non navigable water objects not covered by UNSARE or LNDARE.					
Solution	Amend LNDARE Or UNSARE to cover these	e object types.	Conformity	4.1		
Test Case No.1	RIVERS (A), CANALS (A), LAKARE (A), DOCA	ARE (A) and LOKBSN (A) o	bjects are overla	apping DEPARE (A).		
Location	32°29'19.04"S 60°46'52.86"E	S57 Encoding	RIVERS (A) CANALS (A) LAKARE (A) DOCARE (A) LOKBSN (A)			
Screen Capture						
Expected Test Results	T1563: 5 warnings "Non navigable water of triggered.	objects not covered by U	NSARE or LNDAR	E" must be		
Secondary Errors	None					
Dataset Name	AA500014	S-58 test No.	T1564	Type E		
S-58 Description	For each CTRPNT object where VERDAT or	r VERACC are present.				
Message	VERDAT or VERACC present on a CTRPNT	object.				
Solution	Remove VERDAT or VERACC.		Conformity	4.3		
Test Case No.1	CTRPNT object with attributes VERDAT an	d VERACC encoded.	•	•		
Location	32°28'49.13"S 60°48'47.10"E	S57 Encoding	CTRPNT (P)	VERDAT=27 VERACC=1 ELEVAT=10		

Screen Capture	0			
Expected Test Results	T1564: 2 errors "VERDAT or VERACC present			
Secondary Errors	T0547: An additional error "Attribute not per	rmitted on object clas	s" must be trigge	ered.
Dataset Name	AA500014	S-58 test No	. T1567	Type E
S-58 Description	For each COALNE object where VERDAT or V	ERACC are present.		
Message	COALNE object includes VERACC or VERDAT.			
Solution	Remove values of VERACC or VERDAT.		Conformity	4.5.1
Test Case No.1	COALNE with attribution encoded for VERDA	T and VERACC.		
Location	32°29'04.15"S 60°47'32.72"E	S57 Encoding	COALNE (L)	VERDAT=27 VERACC=1 ELEVAT=10
Screen Capture				
Expected Test Results	T1567: 2 errors "COALNE object includes VEF	RACC or VERDAT" mus	st be triggered.	
Secondary Errors	T0547: An additional error "Attribute not per		"	

2.15. Test Dataset: AA500015

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1570	For each SLCONS object where VERDAT or VERACC are present.
1571	For each BERTHS object where VERDAT is present.
1572	For each DRYDOC object where VERDAT is present.
1575	For each FLODOC object where VERDAT or VERACC are present.
1577	For each DOCARE where its geometric primitive EQUALS a SEAARE object.
1578	For each GATCON object where VERDAT is not Null AND VERCLR is not present.
1581	For each LOKBSN where its geometric primitive EQUALS a SEAARE object.
1582	For each GRIDRN object where HORACC or VERACC are present.
1583	For each MORFAC object where VERDAT or VERACC are present.
1584	For each MORFAC object where WATLEV = 1 [partly submerged at high water] OR 2 [always dry] OR 6 [subject to inundation or flooding] which is not WITHIN a LNDARE object of type area.
1585	For each PILPNT object where VERDAT or VERACC are present.
1586	For each PONTON object where VERACC is present.
1587	For each HULKES object where HORACC OR VERACC are present.
1589	For each object where CONDTN equals (1) [under construction], (3) [under reclamation] or (5) [planned construction] AND SORDAT is null or not present.
1590	For each LNDRGN object which is not OVERLAPPED by a LNDARE object.
1591	For each LNDELV object where VERDAT or VERACC are present.
1592	For each COALNE object which is COINCIDENT with a LNDRGN object where CATLND equals (2) [marsh] AND CATCOA on the COALNE object does not equal (8) [marshy shore] OR QUAPOS does not equal (4) [approximate].
1593	For each SLOGRD object where NATCON OR NATQUA are present.
1594	For each SLOTOP object where NATCON, NATQUA, VERACC OR VERDAT are present.

Dataset Name	AA500015	S-58 test No.	T1570	Туре	E			
S-58 Description	For each SLCONS object where VERDAT	For each SLCONS object where VERDAT or VERACC are present.						
Message	SLCONS object includes VERACC or VER	RDAT.						
Solution	Remove values of VERACC or VERDAT.		Conformity	4.5.2				
Test Case No. 1	SLCONS (A, L, P) object with attribution	CONS (A, L, P) object with attribution encoded for VERDAT and VERACC.						
Location	32°28'57.01"S 60°44'50.90"E							
Screen Capture		>						
Expected Test Results	T1570: 6 errors "SLCONS object include	es VERACC or VERD	OAT" must be triggere	ed.				
Secondary Errors	T0547: 3 additional errors "Attribute no	ot permitted on ob	oject class" must be to	riggered.				
Dataset Name	AA500015	S-58 test No.	T1571	Туре	E			
S-58 Description	For each BERTHS object where VERDAT	Γ is present.						
Message	BERTHS object includes VERDAT.							
Solution	Remove value of VERDAT.		Conformity	4.6.2				
Test Case No. 1	BERTHS (A, L, P) objects with VERDAT a	attribution.	•					
Location	32°29'00.52"S 60°46'01.31"E	S57 encoding	BERTHS (A, L, P)	VERDAT=	3			
Screen Capture								
Expected Test Results	T1571: 3 errors "BERTHS object include	es VERDAT" must b	e triggered.					
Secondary Errors	T0547: 3 additional errors "Attribute no			riggered.				
-	1			-				

S-58 Description For each DRYDOC object where VERDAT is present. Message DRYDOC object includes VERDAT.						
Message DRYDOC object includes VERDAT.	For each DRYDOC object where VERDAT is present.					
The second secon	DRYDOC object includes VERDAT.					
Solution Remove value of VERDAT. Conformity 4.6.	5.1					
Test Case No. 1 DRYDOC (A) with VERDAT attribution.						
Location 32°29'00.30"S 60°45'59.19"E S57 encoding DRYDOC (A) VER	DAT=3					
Screen Capture						
Expected Test Results T1572: An error "DRYDOC object includes VERDAT" must be triggered.						
Secondary Errors T0547: An additional error "Attribute not permitted on object class" must be triggere	d.					
Dataset Name AA500015 S-58 test No. T1575 Ty	pe	E				
S-58 Description For each FLODOC object where VERDAT or VERACC are present.						
Message FLODOC object includes VERACC or VERDAT.						
Solution Remove values of VERACC or VERDAT. Conformity 4.6.	5.2					
Test Case No. 1 FLODOC (A, L) object with attributes for VERDAT & VERACC encoded.						
Location	DAT=3 ACC=3					
Screen Capture						
Expected Test Results T1575: 4 errors "FLODOC object includes VERACC or VERDAT" must be triggered.						
Secondary Errors T0547: 2 additional errors "Attribute not permitted on object class" must be triggered						

	1				
S-58 Description	For each DOCARE where its geometric	primitive EQUALS	a SEAARE object.		
Message	DOCARE overlaps SEAARE.				
Solution	Amend or delete SEAARE as required.		Conformity	4.6.6.3	
Test Case No. 1	DOCARE overlapping SEAARE.		_	_	
Location	32°29'00.63"S 60°45'58.17"E	S57 encoding	SEAARE (A, P) DOCARE (A)	OBJNAM=	Denis
Screen Capture					
Expected Test Results	T1577: 2 warnings "DOCARE overlaps S	SEAARE" must be to	riggered.		
Secondary Errors	None				
		T		T	T
Dataset Name	AA500015	S-58 test No.	T1578	Туре	E
S-58 Description	For each GATCON object where VERDA	T is not Null AND \	/ERCLR is not present		
Message	VERDAT populated without VERCLR be	ing present.			
Solution	Remove VERDAT or populate VERCLR.		Conformity	4.6.6.4	
Test Case No. 1	GATCON (A, L, P) objects with VERDAT	attribution.	•		
Location	32°29'01.19"S 60°45'58.35"E	S57 encoding	GATCON (A, L, P)	VERDAT=3 HORCLR=5 line feature	50 (for
Screen Capture	(1)				
Expected Test Results	T1578: 3 errors "VERDAT populated wi				
Secondary Errors	T1503: An additional error "Value of VE be triggered.	ERDAT without cor	responding vertical di	stance value	" must
Dataset Name	AA500015	S-58 test No.	T1581	Туре	W

S-58 Description	For each LOKBSN where it's geometric	primitive EQUALS	a SEAARE object.	
	-			
Message	LOKBSN overlaps SEAARE.		Conformation	
Solution	Amend or delete SEAARE as required.		Conformity	4.6.6.5
Test Case No. 1	LOKBSN (A) overlapping SEAARE.		LOKBSN (A)	
Location	32°28'58.28"S 60°45'58.82"E	S57 encoding	SEAARE (A, P)	OBJNAM=Denis
Screen Capture				
Expected Test Results	T1581: 2 warnings "LOKBSN overlaps SI	EAARE" must be tr	iggered.	
Secondary Errors	None			
Dataset Name	AA500015	S-58 test No.	T1582	Type E
S-58 Description	For each GRIDRN object where HORAC	C or VERACC are p	resent.	
Message	GRIDRN object includes VERACC or HOI	RACC.		
Solution	Remove values of VERACC or HORDAT.		Conformity	4.6.6.6
Test Case No. 1	GRIDRN (A, P) objects with attribution	for HORACC and V	ERACC.	
Location	32°28'37.15"S 60°46'17.65"E	S57 encoding	GRIDRN (A, P)	HORACC=50 VERACC=3
Screen Capture	•			
Expected Test Results	T1582: 4 errors "GRIDRN object include	es VERACC or HOR	ACC" must be trigger	ed.
Secondary Errors	T1797: An additional error "Object, geo ECDIS present" must be triggered for th T0547: 2 additional errors "Attribute no	ometry and attribune point object.	te combination which	h do not display in

AA500015 For each MORFAC object where VERDA MORFAC object includes VERACC or VE Remove values of VERACC or VERDAT. MORFAC (A, L, P) with attribution for V	RDAT.		Туре	E				
MORFAC object includes VERACC or VE Remove values of VERACC or VERDAT.	RDAT.							
Remove values of VERACC or VERDAT.		1	For each MORFAC object where VERDAT or VERACC are present.					
	ERDAT and VERAC							
MORFAC (A, L, P) with attribution for V	ERDAT and VERAC	Conformity	4.6.7.1					
		C.						
32°28'36.20"S 60°46'19.83"E	S57 encoding	MORFAC (A, L, P)	VERDAT=: VERACC=: CATMOR= HEIGHT=3	3 ∶1				
-								
T0547: 3 additional errors "Attribute no	ot permitted on ob	ject class" must be tri	ggered.					
AA500015	S-58 test No.	T1584	Туре	E				
MORFAC with WATLEV=1, 2 or 6 not co	overed by LNDARE.							
Amend MORFAC or LNDARE as require	d.	Conformity	4.6.7.1					
MORFAC (A) with WATLEV attribution a	and no LNDARE (A)	object.						
32°28'42.07"S 60°46'08.40"E	S57 encoding	MORFAC (A)	and 6					
T1584: 3 errors "MOREAC with WATLE)	W=1 2 or 6 not cov	ered by I NDARF" mus	st he triggers	2d				
	AA500015 For each MORFAC object where WATLI OR 6 [subject to inundation or flooding MORFAC with WATLEV=1, 2 or 6 not compared to the MORFAC or LNDARE as required MORFAC (A) with WATLEV attribution at 32°28'42.07"S 60°46'08.40"E	AA500015 S-58 test No. For each MORFAC object where WATLEV = 1 [partly subm OR 6 [subject to inundation or flooding] which is not WITH MORFAC with WATLEV=1, 2 or 6 not covered by LNDARE. Amend MORFAC or LNDARE as required. MORFAC (A) with WATLEV attribution and no LNDARE (A) 32°28'42.07"S 60°46'08.40"E S57 encoding	AA500015 S-58 test No. T1584 For each MORFAC object where WATLEV = 1 [partly submerged at high water] on 6 [subject to inundation or flooding] which is not WITHIN a LNDARE object on MORFAC with WATLEV=1, 2 or 6 not covered by LNDARE. Amend MORFAC or LNDARE as required. Conformity MORFAC (A) with WATLEV attribution and no LNDARE (A) object. 32°28'42.07"S 60°46'08.40"E S57 encoding MORFAC (A)	T1583: 6 errors "MORFAC object includes VERACC or VERDAT" must be triggered. T0547: 3 additional errors "Attribute not permitted on object class" must be triggered. AA500015 S-58 test No. T1584 Type For each MORFAC object where WATLEV = 1 [partly submerged at high water] OR 2 [always OR 6 [subject to inundation or flooding] which is not WITHIN a LNDARE object of type area. MORFAC with WATLEV=1, 2 or 6 not covered by LNDARE. Amend MORFAC or LNDARE as required. Conformity 4.6.7.1 MORFAC (A) with WATLEV attribution and no LNDARE (A) object.				

	T1786: An additional error "Area obje	ct with WATLEV = (2	2) but not on an area	LNDARE obj	ect"
Secondary Errors	must be triggered.	·			
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Dataset Name	AA500015	S-58 test No.	T1585	Type	E
S-58 Description	For each PILPNT object where VERDA	T or VERACC are pre	esent.		
Message	PILPNT object includes VERACC or VER	RDAT.			
Solution	Remove values of VERACC or VERDAT		Conformity	4.6.7.2	
Test Case No. 1	PILPNT (P) with attribution for VERDA	T, HEIGHT and VERA	ACC.		
Location	32°28'14.89"S 60°45'34.56"E	S57 encoding	PILPNT (P)	VERDAT= VERACC= HEIGHT=:	3
Screen Capture	•				
Expected Test Results	T1585: 2 errors "PILPNT object include	es VERACC or VERD	AT" must be triggered	d.	
Secondary Errors	T0547: An additional error "Attribute	not permitted on ol	oject class" must be t	riggered.	
					_
Dataset Name	AA500015	S-58 test No.	T1586	Type	E
S-58 Description	For each PONTON object where VERA	CC is present.			
Message	PONTON object includes VERACC.				
Solution	Remove value of VERACC.		Conformity	4.6.7.3	
Test Case No. 1	PONTON (A, L) with VERACC attribution	on encoded.	1		
Location	32°28'58.93"S 60°44'48.40"E	S57 encoding	PONTON (A, L)	VERACC=	3

Expected Test Results	T1586: 2 errors "PONTON object include	des VERACC" must	be triggered.		
Secondary Errors	T0547: 2 additional errors "Attribute n			iggered.	
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Dataset Name	AA500015	S-58 test No.	T1587	Туре	E
S-58 Description	For each HULKES object where HORAC	C OR VERACC are p	resent.		
Message	HULKES object includes HORACC or VE	RACC.			
Solution	Remove value of VERACC or HORACC.		Conformity	4.6.8	
Test Case No. 1	HULKES (A, P) with attribution for HOR	ACC and VERACC.		_	
Location	32°29'01.28"S 60°44'50.21"E	S57 encoding	HULKES (A, P)	HORACC=	
Screen Capture					
Expected Test Results	T1587: 4 errors "HULKES object include	es HORACC or VERA	ACC" must be triggere	d.	
Secondary Errors	T0547: 2 additional errors "Attribute n	ot permitted on ob	ject class" must be tr	iggered.	
					1
Dataset Name	AA500015	S-58 test No.	T1589	Туре	W
S-58 Description	For each object where CONDTN equal [planned construction] AND SORDAT is			reclamation] or (5)
Message	Object has a value of CONDTN equal to	1, 3 or 5 without a	a value for SORDAT.		
Solution	Populate SORDAT.		Conformity	4.6.10	
Test Case No. 1	SLCONS (A, L, P) objects with CONDTN	attribute encoded.			
Location	32°28'31.85"S 60°46'24.83"E	S57 encoding	SLCONS (A, L, P)	CONDTN= and 5	=1,3
Screen Capture					

Expected Test Results	T1589: 9 warnings "Object has a value must be triggered.	ot CONDTN equal	to 1, 3 or 5 without a	value for SO	RDAT"
Secondary Errors	None				
Dataset Name	AA500015	S-58 test No.	T1590	Туре	W
S-58 Description	For each LNDRGN object which is not 0	OVERLAPPED by a L	.NDARE object.		
Message	LNDRGN not covered by LNDARE object	ct.			
Solution	Ensure LNDRGN is covered by or conta object.	ins a LNDARE	Conformity	4.7.1	
Test Case No. 1	LNDRGN (A, P) objects within a DEPAR	E.	•		
Location	32°28'33.73"S 60°46'23.75"E	S57 encoding	LNDRGN (A, P)	OBNMAN	1=Deni
Screen Capture					
Expected Test Results	T1590: 2 warnings "LNDRGN not cover	ed by LNDARE obje	ect" must be triggere	d.	
-	T1590: 2 warnings "LNDRGN not cover None	ed by LNDARE obje	ect" must be triggere	d.	
		red by LNDARE obje	ect" must be triggere	d.	
Secondary Errors		ed by LNDARE obje	ect" must be triggere T1591	d.	E
Expected Test Results Secondary Errors Dataset Name S-58 Description	None	S-58 test No.	T1591		E
Dataset Name S-58 Description	None AA500015	S-58 test No. T or VERACC are pr	T1591		E
Dataset Name S-58 Description Message	None AA500015 For each LNDELV object where VERDA	S-58 test No. T or VERACC are pr	T1591		E
Secondary Errors Dataset Name	None AA500015 For each LNDELV object where VERDA LNDELV object includes VERACC or VER	S-58 test No. T or VERACC are pr	T1591 esent. Conformity	Туре	E

Screen Capture					
Expected Test Results	T1591: 4 errors "LNDELV object include	es VERACC or VERD	OAT" must be triggere	ed.	
Secondary Errors	T0547: 2 additional errors "Object confor the object class" must be triggered		tside of the list of per	missible attr	ibutes
5	4.4500045	6.501 1.11	74502	T _	T >47
Dataset Name	AA500015	S-58 test No.	T1592	Type	W (2)
S-58 Description	For each COALNE object which is COI [marsh] AND CATCOA on the COALNE not equal (4)[approximate]. Invalid value of QUAPOS or CATCOA fo	object does not ed	qual (8) [marshy shor	e] OR QUAP(OS does
Message	equals (2) [marsh].	i a COALINE Object	aujacent to a ENDING	IN WHELE CAT	LIND
Solution	Amend value of QUAPOS or CATCOA as	s required.	Conformity	4.7.3	
Test Case No. 1	a) Assigned attributes CATCOA=8 for b) Assigned attributes CATCOA= UND	COALNE.	OS=4 for COALNE.	CATCOA=	Q
Location	32°27'57.68"S 60°45'59.63"E	S57 encoding	LNDRGN (A)	CATLND =	
Screen Capture	本 不 不 不 不 不				
Expected Test Results	T1592: 2 warnings "Invalid value of QU LNDRGN where CATLND equals (2) [ma			adjacent to a	
Secondary Errors	None				
Dataset Name	AA500015	S-58 test No.	T1593	Туре	E
S-58 Description	For each SLOGRD object where NATCO	N OR NATQUA are	present.		
Message	SLOGRD object includes NATCON or NA	ATQUA.			
					

Solution	Remove values of NATCON or NATQU	A.	Conformity	4.7.4
Test Case No. 1	SLOGRD (A, P) with attributes NATCO	N and NATQUA enco	oded.	•
Location	32°28'08.40"S 60°46'23.28"E	S57 encoding	SLOGRD (A, P)	NATCON=3 NATQUA=3 CATSLO=6
Screen Capture	*			
Expected Test Results	T1593: 4 errors "SLOGRD object include	des NATCON or NAT	QUA" must be trigge	red.
Secondary Errors	T0547: 2 additional errors "Attribute i	not permitted on ob	ject class" must be tr	iggered.
Dataset Name	AA500015	S-58 test No.	T1594	Type E
S-58 Description	For each SLOTOP object where NATCO	ON, NATQUA, VERA	CC OR VERDAT are pre	esent.
Message	SLOTOP contains values for NATCON,	NATQUA, VERACC o	or VERDAT.	
Solution	Remove unnecessary values of NATCO VERACC or VERDAT.	DN, NATQUA,	Conformity	4.7.5
Test Case No. 1	SLOTOP (L) objects with attributes NA	TCON, NATQUA, VE	RACC and VERDAT en	coded.
Location	32°28'07.69"S 60°46'04.80"E	S57 encoding	SLOTOP (L)	NATCON=3 NATQUA=3 VERACC=3 VERDAT=3 ELEVAT=3
Screen Capture		O ₆		
Expected Test Results	T1594: 4 errors "SLOTOP contains valutriggered.	ues for NATCON, NA	ATQUA, VERACC or VE	RDAT" must be
Secondary Errors	T0547: An additional error "Attribute	not permitted on o	bject class" must be ti	riggered.

2.16. Test Dataset: AA500016

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1595	For each SLOTOP object where CATSLO equals (6) [cliff] AND the object is COINCIDENT with a COALNE object.
1597	For each RIVERS where its geometric primitive EQUALS a SEAARE object.
1598	For each RAPIDS object where VERACC is present.
1600	For each WATFAL object where VERACC is present.
1601	For each LAKARE object where VERDAT or VERACC is present.
1602	For each LAKARE where its geometric primitive EQUALS a SEAARE object.
1604	For each COALNE object which is COINCIDENT with a LNDRGN object where CATLND equals (15) [salt pan] AND CATCOA on the COALNE object does not equal (2) [flat coast).
1606	For each COALNE object where CATCOA is not equal to (6) [glacier (seaward end)] AND which is COINCIDENT with an ICEARE object where CATICE = (5) [glacier].
1608	For each VEGATN object where VERDAT OR VERACC are present.
1609	For each CANALS object where its geometric primitive EQUALS a SEAARE object.
1610	For each RAILWY object where VERACC is present.
1611	For each TUNNELS object where BURDEP is present.
1613	For each TUNNEL object which CONTAINS a CANALS object AND where any of HORCLR, VERACC or VERCLR are not Null.
1614	For each object of type TUNNEL which CONTAINS any non-hydrographic object. (for this check hydrographic objects are DEPARE, DEPCNT, DRGARE, LNDARE)
1616	For each DAMCON object where VERDAT OR VERACC are present.
1618	For each DYKCON object where VERDAT OR VERACC are present.
1620	For each edge of a DYKCON object which is COINCIDENT with both a LNDARE object AND a DEPARE or DRGARE or UNSARE object of type area AND is not COINCIDENT with an SLCONS of type line where CATSLC is not present.
1623	For each BRIDGE object which OVERLAPS a DEPARE or DRGARE object AND its supports are not encoded with PYLONS objects where CATPYL equals (4) [bridge pylon/tower] or (5) [bridge pier].
1626	For each AIRARE object where CONVIS is present.
1627	For each RUNWAY object where CONVIS is present.

Dataset Name	AA500016	S-58 test N	o. T1595	Туре	W
S-58 Description	For each SLOTOP object where CATSLO equals (6 COALNE object.	6) [cliff] AND the o	object is COINCID	ENT with a	
Message	SLOTOP object where CATSLO=(6) coincides with	a COALNE objec	t.		
Solution	Delete SLOTOP object only COALNE with CATCO encoded.	A=(1) should be	Conformity	4.7.5	
Test Case No. 1	SLOTOP (L) with CATSLO attribution sharing geor	netry with COAL	NE.		
Location	32°27'33.01"S 60°43'03.10"E	S57 Encoding	SLOTOP (L) COALNE (L)	CATSLO=	6
Screen Capture					
Expected Test Results	T1595: A warning "SLOTOP object where CATSLO triggered.	D=(6) coincides w	ith a COALNE obje	ect" must b	e
Secondary Errors	None				
Dataset Name	AA500016	S-58 test N	o. T1597	Туре	E
S-58 Description	For each RIVERS where its geometric primitive E	QUALS a SEAARE	object.		
Message	RIVERS object overlaps a SEAARE object.				
Solution	Amend SEAARE object.		Conformity	4.7.6	
Test Case No. 1	RIVERS (A) sharing geometry with SEAARE (A).		•	•	
Location	32°27'36.20"S 60°43'03.57"E	S57 Encoding	RIVERS (A) SEAARE (A)	OBJNAM NOWN	=UNK

Screen Capture				
Expected Test Results	T1597: An error "RIVERS object overlaps a SEAAF	RE object" must b	e triggered.	
Secondary Errors	None			
Dataset Name	AA500016	S-58 test N	lo. T1598	Type E
Dataset Ivallie	AA300010	3-36 test N	11338	Type L
S-58 Description	For each RAPIDS object where VERACC is presen	t.		
Message	RAPIDS object includes value of VERACC.			
Solution	Remove value of VERACC.		Conformity	4.7.7.1
Test Case No.1	RAPIDS (A, L, P) with VERACC attribution overlap	ping a river area.	_	_
Location	32°27'37.61"S 60°43'03.97"E	S57 Encoding	RIVERS (A) RAPIDS (A, L, P)	VERACC=1
Screen Capture	0			
Expected Test Results	T1598: 3 errors "RAPIDS object includes value of	VERACC" must b	e triggered.	
Secondary Errors	T1797: An additional error "Object, geometry an ECDIS present" must be triggered.	d attribute comb	ination which do	not display in
Dataset Name	AA500016	S-58 test N	lo. T1600	Type E
S-58 Description	For each WATFAL object where VERACC is present	nt.		

Message	WATFAL object includes value of VERACC.			
Solution	Remove value of VERACC.		Conformity	4.7.7.2
Test Case No.1	WATFAL (L, P) with VERACC attribution overlapp	ing a RIVERS (A)		
Location	32°27'39.33"S 60°43'04.55"E	S57 Encoding	RIVERS (A) WATFAL (L, P)	VERACC=1
Screen Capture	0			
Expected Test Results	T1600: 2 errors "WATFAL object includes value of			
Secondary Errors	T1797: An additional error "Object, geometry an	d attribute com	bination which do	not display in
	ECDIS present" must be triggered.			
	ECDIS present" must be triggered.			
Dataset Name	AA500016	S-58 test	No. T1601	Type E
Dataset Name S-58 Description	-		No. T1601	Туре Е
	AA500016	CC is present.	No. T1601	Type E
S-58 Description	AA500016 For each LAKARE object where VERDAT or VERAGE	CC is present.	No. T1601 Conformity	Type E 4.7.8
S-58 Description Message	AA500016 For each LAKARE object where VERDAT or VERAGE LAKARE object includes value of VERACC or VERE	CC is present.		
S-58 Description Message Solution	AA500016 For each LAKARE object where VERDAT or VERAGE LAKARE object includes value of VERACC or VERE Remove values of VERACC and VERDAT.	CC is present.	Conformity	
S-58 Description Message Solution Test Case No.1	AA500016 For each LAKARE object where VERDAT or VERAGE LAKARE object includes value of VERACC or VERE Remove values of VERACC and VERDAT. LAKARE (A) with attribution for VERACC and VERA	DAT.	Conformity	4.7.8 VERACC=1
S-58 Description Message Solution Test Case No.1 Location	AA500016 For each LAKARE object where VERDAT or VERAGE LAKARE object includes value of VERACC or VERE Remove values of VERACC and VERDAT. LAKARE (A) with attribution for VERACC and VERA	DAT. S57 Encoding	Conformity LAKARE (A)	4.7.8 VERACC=1 VERDAT=1

Dataset Name	AA500016	S-58 test N	0.	T1602	Туре	W
S-58 Description	For each LAKARE where its geometric primitive E	EQUALS a SEAARE	object.			
Message	LAKARE overlaps SEAARE object.					
Solution	Amend objects to remove overlap.		Conf	formity	4.7.8	
Test Case No.1	LAKARE (A) & SEAARE (A) share geometry.					
Location	32°27'44.84"S 60°43'01.29"E	S57 Encoding	LAKAR SEAAR		OBJNAM: NOWN	=UNK
Screen Capture						
Expected Test Results	T1602: A warning "LAKARE overlaps SEAARE obje	ect" must be trigg	gered.			
Expected Test Results Secondary Errors	T1602: A warning "LAKARE overlaps SEAARE obje	ect" must be trigg	gered.			
-		ect" must be trigg	gered.			
-		ect" must be trigg		T1604	Туре	W
Secondary Errors	None	S-58 test N	o.	re CATLNI		1
Secondary Errors Dataset Name	None AA500016 For each COALNE object which is COINCIDENT w	S-58 test N ith a LNDRGN obj oes not equal (2)	o. ect whe	re CATLNI st).	D equals (1	5)
Dataset Name S-58 Description Message	None AA500016 For each COALNE object which is COINCIDENT w [salt pan] AND CATCOA on the COALNE object do	S-58 test N ith a LNDRGN obj oes not equal (2) D = salt pans doe	ect whe	re CATLNI st).	D equals (1	5)
Dataset Name S-58 Description	None AA500016 For each COALNE object which is COINCIDENT w [salt pan] AND CATCOA on the COALNE object do COALNE object adjacent to LNDRGN with CATLN	S-58 test N ith a LNDRGN objoes not equal (2) D = salt pans doe ast].	ect whe [flat coa s not ha	re CATLNI st). ve CATCO formity	D equals (1 A = flat coa 4.7.9	5)

Screen Capture					
Expected Test Results	T1604: A warning "COALNE object adjacent to LI CATCOA = flat coast" must be triggered.	NDRGN with CATLND = s	alt pans doe	es not have	2
Secondary Errors	None				
Dataset Name	AA500016	S-58 test No.	T1606	Туре	W
S-58 Description	For each COALNE object where CATCOA is not ed COINCIDENT with an ICEARE object where CATIC		ard end)] A	ND which	is
Message	COALNE without CATCOA (6) touching an ICEARE	with CATICE (5) [glacier].		
Solution	Populate CATCOA = (6)) [glacier (seaward end)] object.	for the COALNE Cor	formity	4.7.10	
Test Case No.1	ICEARE (A) with CATICE attribution adjacent to C				
Location	32°28'35.43"S 60°42'43.50"E	NS / Encoding	RE (A) .NE (L)	CATICE=5	5
Screen Capture					
Expected Test Results	T1606: A warning "COALNE without CATCOA (6) be triggered.	touching an ICEARE with	CATICE (5)	[glacier]"	must
Secondary Errors	None				
Dataset Name	AA500016	S-58 test No.	T1608	Туре	Е

S-58 Description	For each VEGATN object where VERDAT OR VERACC are present.					
Message	VEGATN object includes VERDAT or VERACC.					
Solution	Remove values of VERDAT or VERACC.		Conformity	4.7.11		
Test Case No.1	VEGATN (A, L, P) with attribution encoded for VI	ERACC and VERDA	AT.	•		
Location	32°28'30.06"S 60°42'45.07"E	32°28'30.06"S 60°42'45.07"E				
Screen Capture						
Expected Test Results	T1608: 6 errors "VEGATN object includes VERDA	T or VERACC" mu	ist be triggered.			
Secondary Errors	None					
Dataset Name	AA500016	S-58 test N	lo. T1609	Type W		
S-58 Description	For each CANALS object where its geometric primitive EQUALS a SEAARE object.					
Message	CANALS overlaps SEAARE object.					
Solution	Amend objects to remove overlap.		Conformity	4.8.1		
Test Case No.1	CANALS (A) sharing geometry with SEAARE (A).		•	•		
Location	32°28'18.41"S 60°42'43.63"E S57 Encoding CANALS (A) SEAARE (A) OBJNAM=UNK NOWN					

Screen Capture				
Expected Test Results	T1609: A warning "CANALS overlaps SEAARE obje	ect" must be trigg	ered.	
Secondary Errors	None			
Dataset Name	AA500016	S-58 test N	o. T1610	Type E
S-58 Description	For each RAILWY object where VERACC is presen	ıt.		
Message	RAILWY object includes value of VERACC.			
Solution	Remove value of VERACC.		Conformity	4.8.2
Test Case No.1	RAILWY (L) with attribution for VERACC encoded		,	<u>, </u>
Location	32°27'40.25"S 60°42'09.61"E	S57 Encoding	RAILWY (L)	VERACC=1
Screen Capture	•			
Expected Test Results	T1610: An error "RAILWY object includes value o	f VERACC" must b	oe triggered.	
Secondary Errors	None			
Dataset Name	AA500016	S-58 test N	o. T1611	Type E
S-58 Description	For each TUNNELS object where BURDEP is prese	ent.		

Solution	Remove value of BURDEP.	Conformity	4.8.3				
Test Case No.1	TUNNELS (A, L, P) with attribution for BURDEP encoded.						
Location	32°27'41.02"S 60°42'43.57"E	S57 Encoding	TUNNEL (A, L, P)	BURDEP=1			
Screen Capture	•]					
Expected Test Results	T1611: 3 errors "TUNNELS object includes value	of BURDEP" must	be triggered.				
Secondary Errors	T1797: An additional error "Object, geometry an ECDIS present" must be triggered.	d attribute combi	ination which do i	not display in			
Dataset Name	AA500016	S-58 test N	o. T1613	Type E			
S-58 Description	For each TUNNEL object which CONTAINS a CAN VERCLR are not Null.	ALS object AND w	here any of HORG	CLR, VERACC or			
Message	TUNNEL which covers a CANALS has values of HO	DRCLR, VERACC or	VERCLR.				
Solution	Remove unnecessary attribute values.		Conformity	4.8.3			
Test Case No.1	TUNNEL (A, L) with attribution for HORACC, HORL).	CLR, VERACC and	VERCLR overlapp	ing CANALS (A,			
Location	32°27'51.57"S 60°42'41.77"E	S57 Encoding	CANALS (A, L) TUNNEL (A, L)	HORCLR=1 HORACC=1 VERACC=1 VERCLR=1			

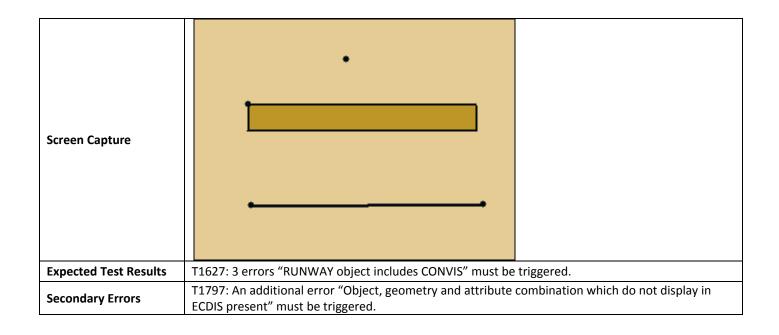
Screen Capture	•				
Expected Test Results	T1613: 8 errors "TUNNEL which covers a CANALS be triggered.	S has values of HC	ORCLR, VERACC or	VERCLR" m	nust
Secondary Errors	None				
Dataset Name	AA500016	S-58 test N	o. T1614	Туре	W
S-58 Description	For each object of type TUNNEL which CONTAIN hydrographic objects are DEPARE, DEPCNT, DRG		raphic object. (fo	r this check	(
Message	TUNNEL contains non Hydrographic object.				
Solution	Delete objects within TUNNEL which are unnece	ssary.	Conformity	4.8.3	
Test Case No.1	TUNNEL (A, L) containing a non-hydrographic RO	ADWY (A, L).		•	
Location	32°28'03.57"S 60°42'19.06"E	S57 Encoding	TUNNEL (A, L, P) ROADWY (A, L)		
Screen Capture		-			
Expected Test Results	T1614: 4 warnings "TUNNEL contains non Hydro				
Secondary Errors	T1797: An additional error "Object, geometry an ECDIS present" must be triggered.	d attribute comb	ination which do r	not display	in
Dataset Name	AA500016	S-58 test N	o. T1616	Туре	Е

S-58 Description	For each DAMCON object where VERDAT OR VERACC are present.						
Message	DAMCON object includes VERDAT or VERACC.						
Solution	Remove values of VERDAT or VERACC. Conformity 4.8.5						
Test Case No.1	DAMCON (A, L, P) with attributes VERACC a	nd VERDAT encoded.	-				
Location	32°28'09.87"S 60°42'55.19"E	S57 Encoding	DAMCON (A, L, P)	VERACC= VARDAT=			
Screen Capture							
Expected Test Results	T1616: 6 errors "Remove values of VERDAT	or VERACC" must be t	riggered.				
Secondary Errors	T1797: An Additional error "Object, geomet ECDIS present" must be triggered.	ry and attribute comb	ination which do	not display	in		
Dataset Name	AA500016	S-58 test N	lo. T1618	Туре	Е		
S-58 Description	For each DYKCON object where VERDAT OR	VERACC are present.					
Message	DYKCON object includes VERDAT or VERACO						
Solution	Remove values of VERDAT or VERACC.		Conformity	4.8.7			
Test Case No.1	DYKCON (A, L) with attributes VERDAT and	/ERACC encoded.	L	1			
	DYKCON (A, L) with attributes VERDAT and VERACC encoded. 32°28'05.49"S 60°42'57.94"E S57 Encoding DYKCON (A, L) VERACC=1 VERDAT=1						

Screen Capture				
Expected Test Results	T1618: 2 errors "DYKCON object includes VERDA	AT or VERACC" mu	ust be triggered.	
Secondary Errors	None			
Dataset Name	AA500016	S-58 test N	lo. T1620	Type E
S-58 Description	For each edge of a DYKCON object which is COIN or DRGARE or UNSARE object of type area AND where CATSLC is not present.	ICIDENT with bot	h a LNDARE obje	ct AND a DEPARE
Message	DYKCON not enclosed by SLCONS object where	it forms the boun	dary between wa	iter and land.
Solution	Add SLCONS to ensure boundary between land a shown.	and water is	Conformity	4.8.7
Test Case No.1	DYKCON (A) coincident with LNDARE (A), DEPAR with SLCONS (L).	E (A), DRGARE an	d UNSARE, that i	t is not coincident
Location	32°28'39.16"S 60°40'46.90"E	S57 Encoding	DRGARE (A) DYKCON (A) UNSARE (A)	DRVAL1=1
Screen Capture				
Expected Test Results	T1620: 3 errors "DYKCON not enclosed by SLCOI water and land" must be triggered.	NS object where i	t forms the boun	dary between
Secondary Errors	None			
Test Case No.2	DYKCON (A) which is coincident with LNDARE (A coincident with SLCONS (L) with CATSLC attribut		GARE and UNSA	RE, that it is also

Location	32°28'51.47"S 60°40'52.58"E	S57 Encoding	DYKCON (A) UNSARE (A) DRGARE (A) SLCONS (L)	DRVAL1=1 CATSLC=10 WATLEV=2
Screen Capture				
Expected Test Results	T1620: 3 errors "DYKCON not enclosed by SLCON water and land" must be triggered.	NS object where it	forms the bound	lary between
Secondary Errors	None			
Dataset Name	AA500016	S-58 test N	o. T1623	Type E
S-58 Description	For each BRIDGE object which OVERLAPS a DEPA encoded with PYLONS objects where CATPYL eq			
Message	BRIDGE over navigable water with supports not combination.		alid PYLONS obje	ct/attribute
Solution	Ensure bridge supports are encoded using PYLOI equals (4) [bridge pylon/tower] or (5) [bridge pie	er].	Conformity	4.8.10
Test Case No.1	PYLONS (A, P) with CATPYL attribution encoded,	being used as a b		
Location	32°29'15.69"S 60°41'04.90"E		BRIDGE (A)	CATBRG=1 VERCLR=UNKN
	32 29 13.09 3 00 41 04.90 L	S57 Encoding	PYLONS (A, P)	OWN CATPYL=1,2 or 3

	object/attribute combination" must be triggere	d.					
Secondary Errors	None	None					
Dataset Name	AA500016	S-58 test N	lo. T1626	Type E			
S-58 Description	For each AIRARE object where CONVIS is preser	nt.					
Message	AIRARE object includes CONVIS.						
Solution	Remove value of CONVIS.		Conformity	4.8.12			
Test Case No.1	AIRARE (A, P) with attribute CONVIS.						
Location	32°29'11.95"S 60°42'33.72"E	S57 Encoding	AIRARE (A, P)	CONVIS=1			
Screen Capture		<u>2</u>					
Expected Test Results	T1626: 2 errors "AIRARE object includes CONVI	S" must be trigger	ed.				
Secondary Errors	None						
Dataset Name	AA500016	S-58 test N	l o. T1627	Type E			
S-58 Description	For each RUNWAY object where CONVIS is pres	ent.					
Message	RUNWAY object includes CONVIS.						
Solution	Remove value of CONVIS.		Conformity	4.8.12			
Test Case No.1	RUNWAY (A, L, P) with attribute CONVIS.		•	•			
Location	32°29'18.96"S 60°42'37.14"E	S57 Encoding	RUNWAY (A, L, P)	CONVIS=1			



2.17. Test Dataset: AA500017

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1628	For each PRDARE object where VERDAT OR VERACC are present.
1629	For each BUAARE object where VERDAT OR VERACC are present.
1630	For each RIVERS, LOKBSN, DOCARE, LAKARE or CANALS object of type area which OVERLAPS a BUAARE object.
1631	For each BUISGL object where VERDAT OR VERACC are present.
1632	For each SILTNK object where VERDAT OR VERACC are present.
1633	For each LNDMRK object where VERDAT OR VERACC are present.
1634	For each FNCLNE object where VERDAT OR VERACC are present.
1635	For each FORSTC object where VERDAT OR VERACC are present.
1636	For each PYLONS object where VERDAT OR VERACC are present.
1017	For each picture file which is not in the TIFF format.
1639	For each DEPCNT object where VERDAT is present.
1640	For each SOUNDG object where VERDAT is present.
1641	For each UWTROC object which is COINCIDENT with a SOUNDG object. (COINCIDENT applies to the horizontal component only).
1642	For each DEPARE object where VERDAT OR SOUACC are present.
1644	For each edge bounding a DEPARE object which is COINCIDENT with an M_COVR object AND is COINCIDENT with a geo object of type line.
1646	For each DRGARE object where DRVAL2 is not Null and it is equal to the value of DRVAL1.
1647	For each DRGARE object where VERDAT is present.
1650	For each SWPARE object where VERDAT is present.
1653	For each SWPARE object WITHIN an M_QUAL object where SOUACC is not Null AND SOUACC on the M_QUAL object relates to all SOUNDINGS WITHIN it.
1654	For each SWPARE object where TECSOU is not Null AND is not (6) [swept by wire-drag], (8) [swept by vertical acoustic system] or (13) [swept by side-scan sonar].

Dataset Name	AA500017	S-58 test No.	T1628	Туре	E
S-58 Description	For each PRDARE object where VERDA	T OR VERACC are p	resent.		
Message	PRDARE object includes VERDAT or VE	RACC.			
Solution	Remove values of VERDAT or VERACC.		Conformity	4.8.13	
Test Case No. 1	PRDARE (A, P) with attributes VERDAT	and VERACC.			
Location	32°29'28.91"S 60°42'36.35"E	S57 Encoding	PRDARE (A, P)	CATPRA=8 or VERACC=3 VERDAT=3 HEIGHT=1.0	1
Screen Capture	*	•			
Expected Test Results	T1628: 4 errors "PRDARE object includ	es VERDAT or VERA	ACC" must be trig	ggered.	
Secondary Errors	T1546: 2 additional errors "Value for V VERCCL" must be triggered. T0547: 2 additional errors "Attribute n				or
	T		T		1_
Dataset Name	AA500017	S-58 test No.	T1629	Туре	E
S-58 Description	For each BUAARE object where VERDA	T OR VERACC are p	oresent.		
Message	BUAARE object includes VERDAT or VE	RACC.			
Solution	Remove values of VERDAT or VERACC.		Conformity	4.8.14	
Test Case No. 1	BUAARE (A, P) with attributes VERDAT	and VERACC.			
Location	32°29'42.40"S 60°42'29.21"E	S57 Encoding	BUAARE (A, P)	VERACC=3 VERDAT=3 HEIGHT=1.0	

Screen Capture	•			
Expected Test Results	T1629: 4 errors "BUAARE object include	es VERDAT or VERA	ACC" must be trig	gered.
Secondary Errors	T1546: 2 additional errors "Value for VIVERCCL" must be triggered. T0547: 2 additional errors "Attribute no		·	·
Dataset Name	AA500017	S-58 test No.	T1630	Type W
S-58 Description	For each RIVERS, LOKBSN, DOCARE, LAI BUAARE object.	KARE or CANALS ob	oject of type area	which OVERLAPS a
Message	BUAARE object overlaps a RIVERS, LOK	BSN, DOCARE, LAK	ARE or CANALS o	bject of type area.
Solution	Amend BUAARE object to remove over	lap.	Conformity	4.8.14
Test Case No. 1	RIVERS (A) on BUAARE (A). LOKBSN (A) on BUAARE (A). DOCARE (A) on BUAARE (A). LAKARE (A) on BUAARE (A). CANALS (A) on BUAARE (A).			
Location	32°29'49.62"S 60°42'51.53"E	S57 Encoding	BUAARE(A) RIVERS(A) LOKBSN(A) DOCARE(A) LAKARE(A) CANALS(A)	

Screen Capture				
Expected Test Results	T1630: 5 warnings "BUAARE object ove object of type area" must be triggered.	rlaps a RIVERS, LOI	KBSN, DOCARE, L	AKARE or CANALS
Secondary Errors	None			
				1
Dataset Name	AA500017	S-58 test No.	T1631	Type E
S-58 Description	For each BUISGL object where VERDAT	OR VERACC are pro	esent.	
Message	BUISGL object includes VERDAT or VER	ACC.		
Solution	Remove values of VERDAT or VERACC.		Conformity	4.8.15
Test Case No. 1	BUISGL (A, P) with attributes VERDAT a	nd VERACC.		
Location	32°29'56.73"S 60°42'51.39"E	S57 Encoding	BUISGL (A, P)	VERACC=3 VERDAT=3 HEIGHT=1.0
Screen Capture		•		
Expected Test Results	T1631: 4 errors "BUISGL object include:	S VERDAT or VERAC	CC" must be trigg	gered.
Secondary Errors	T1546: 2 additional errors "Value for VIVERCCL" must be triggered. T0547: 2 additional errors "Attribute no			
Dataset Name	AA500017	S-58 test No.	T1632	Type E

S-58 Description	For each SILTNK object where VERDA	T OR VERACC are pr	esent.		
Message	SILTNK object includes VERDAT or VE	RACC.			
Solution	Remove values of VERDAT or VERACO		Conformity	4.8.15	
Test Case No. 1	SILTNK (A, P) with attributes VERDAT		comorning	4.0.13	
Location	32°30'06.75"S 60°42'50.07"E	S57 Encoding	SILTNK (A, P)	CATSIL=2 VERACC=3 VERDAT=3 HEIGHT=1.0	
Screen Capture		•			
Expected Test Results	T1632: 4 errors "SILTNK object includ	es VERDAT or VERA	CC" must be trigg	gered.	
Secondary Errors	T1546: 2 additional errors "Value for VERCCL" must be triggered. T0547: 2 additional errors "Attribute				
Dataset Name	AA500017	S-58 test No.	T1633	Туре	E
S-58 Description	For each LNDMRK object where VERD			- 777	<u> </u>
Message	LNDMRK object includes VERDAT or V	/ERACC.			
Solution	Remove values of VERDAT or VERACO		Conformity	4.8.15	
Test Case No. 1	LNDMRK (A, P) with attributes VERDA	T and VERACC.			
Location	32°30'18.20"S 60°42'45.79"E	S57 Encoding	LNDMRK (A, P)	CATLMK=9 or 1 CONVIS=2 VERACC=3 VERDAT=3 HEIGHT=1.0	7

Screen Capture		1		
Expected Test Results	T1633: 4 errors "LNDMRK object include	des VERDAT or VER	ACC" must be trigg	gered.
Secondary Errors	T1546: 2 additional errors "Value for V VERCCL" must be triggered. T0547: 2 additional errors "Attribute n			
Dataset Name	AA500017	S-58 test No.	T1634	Type E
S-58 Description	For each FNCLNE object where VERDA	T OR VERACC are p	resent.	
Message	FNCLNE object includes VERDAT or VE	RACC.		
Solution	Remove values of VERDAT or VERACC.		Conformity	4.8.16
Test Case No. 1	FNCLNE (L) with attributes VERDAT and	d VERACC.	1	1
Location	32°30'19.36"S 60°42'18.89"E	S57 Encoding	FNCLNE (L)	VERACC=3 VERDAT=3 HEIGHT=1.0
Screen Capture				
Expected Test Results	T1634: 2 errors "FNCLNE object includ	es VERDAT or VERA	CC" must be trigge	ered.
Secondary Errors	T1546: An additional error "Value for VERCCL" must be triggered. T0547: An additional error "Attribute r	/ERACC without val	ue of VERCLR, VER	COP, VERCSA or

Dataset Name	AA500017	S-58 test No.	T1635	Туре	Е	
S-58 Description	For each FORSTC object where VERDAT OR VERACC are present.					
Message	FORSTC object includes VERDAT or VEI	RACC.				
Solution	Remove values of VERDAT or VERACC.		Conformity	4.8.17		
Test Case No. 1	FORSTC (A, P) with attributes VERDAT	and VERACC.	1			
Location	32°30'35.41"S 60°41'59.42"E	S57 Encoding	FORSTC (A, P)	CATFOR=1 VERACC=3 VERDAT=3 HEIGHT=1.0		
Screen Capture						
Expected Test Results	T1635: 4 errors "FORSTC object include	es VERDAT or VERA	ACC" must be trig	gered.		
Secondary Errors	T1546: 2 additional errors "Value for V VERCCL" must be triggered. T0547: 2 additional errors "Attribute n					
Dataset Name	AA500017	S-58 test No.	T1636	Туре	E	
S-58 Description	For each PYLONS object where VERDA	L	- L	Type	<u> </u>	
Message	PYLONS object includes VERDAT or VE	RACC.				
Solution	Remove values of VERDAT or VERACC.		Conformity	4.8.18		
Test Case No. 1	PYLONS (A, P) with attributes VERDAT	and VERACC.	1	1		
Location	32°30'56.29"S 60°42'02.96"E	S57 Encoding	PYLONS (A, P)	CATPYL=1 VERACC=3 VERDAT=3 HEIGHT=1.0		

Screen Capture	•				
Expected Test Results	T1636: 4 errors "PYLONS object include	es VERDAT or VERA	CC" must be trig	gered.	
Secondary Errors	T1546: 2 additional errors "Value for V VERCCL" must be triggered. T0547: 2 additional errors "Attribute no				•
Dataset Name	AA500017	S-58 test No.	T1017	Туре	С
S-58 Description	For each picture file which is not in the	TIFF format.			
Message	Picture file not in Tiff format.				
Solution	Replace picture file with Tiff format ver	rsion.	Conformity	4.8.20	
Test Case No. 1	LNDMRK (P)		l	1	
Location	32°31'09.56"S 60°42'07.20"E	S57 Encoding	LNDMRK (P)	PICREP=AA1234	456.TX
Screen Capture	A				
Expected Test Results	T1017: An error "Picture file not in Tiff				
Secondary Errors	T1005: An additional error "Referenc must be triggered.	ed files are missin	g or their name	es are non-confo	rmant"
					1
Dataset Name	AA500017	S-58 test No.	T1639	Туре	E

S-58 Description	For each DEPCNT object where VERDAT is present.				
Message	VERDAT present on DEPCNT.				
Solution	Remove VERDAT.		Conformity	5.2	
Test Case No. 1	DECPNT (L) with attribute VERDAT.		•	-	
Location	32°31'00.27"S 60°42'46.34"E	S57 Encoding	DEPCNT (L)	VALDCO=3.6 VERDAT=3	
Screen Capture					
Expected Test Results	T1639: An error "VERDAT present on D	EPCNT" must be tr	iggered.		
Secondary Errors	T1503: An additional error "Value of VI be triggered. T0547: An additional error "Attribute n				ue" must
Dataset Name	AA500017	S-58 test No.	T1640	Type	. E
Dataset Name	AA30001/	3-36 test NO.	11040	Туре	: -
S-58 Description	For each SOUNDG object where VERDA	AT is present.			
Message	SOUNDG object includes VERDAT.				
Solution	Remove VERDAT.		Conformity	5.3	
Test Case No. 1	SOUNDG with attribute VERDAT.		1	l	
Location	32°31'04.78"S 60°43'09.93"E	S57 Encoding	SOUNDG	VERDAT=3	

Screen Capture	14				
Expected Test Results	T1640: An error "SOUNDG object inclu	des VERDAT" must	be triggered.		
Secondary Errors	T1503: An additional error "Value of VE be triggered. T0547: An additional error "Attribute n				e" must
5			T 1.5.11	T _	T
Dataset Name	AA500017	S-58 test No.	T1641	Туре	E
S-58 Description	For each UWTROC object which is COIN the horizontal component only).	NCIDENT with a SOL	INDG object. (Co	OINCIDENT appli	es to
Message	UWTROC object coincident with SOUN	DG object.			
Solution	Remove object which is not required.		Conformity	5.3	
Test Case No. 1	UWTROC and SOUNDG points using the	e same spatial node	·.		
Location	32°31'09.85"S 60°42'40.71"E	S57 Encoding	SOUNDG (P) UWTROC (P)	QUASOU=2 WATLEV=3 VALSOU=UNK	NOWN
Screen Capture	10 ₆ ₩24	11 ₅			
Expected Test Results	T1641: An error "UWTROC object coinc	cident with SOUND	object" must b	oe triggered.	
Secondary Errors	None		.,	- 00	
2230					
Dataset Name	AAE00017	C EQ tost No	T1642	Turne	E
Dataset Name	AA500017	S-58 test No.	T1642	Туре	E

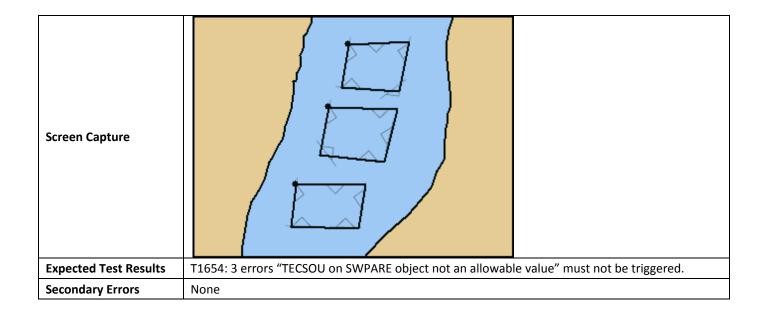
S-58 Description	For each DEPARE object where VERDAT OR SOUACC are present.				
Message	VERDAT or SOUACC present on a DEPA	ARE object.			
Solution	Remove VERDAT or SOUACC.		Conformity	5.4.1	
Test Case No. 1	DEPARE (A) with attributes VERDAT ar	id SOUACC.	1	1	
Location	32°30'26.25"S 60°43'16.18"E	S57 Encoding	DEPARE (A)	DRVAL1=5.4 DRVAL2=9.1 SOUACC=3 VERDAT=3	
Screen Capture	11 ₅		14		
Expected Test Results	T1642: 2 error "VERDAT or SOUACC pr	esent on a DEPARE	object" must be	triggered.	
Secondary Errors	T1503: An additional error "Value of V be triggered. T0547: An additional error "Attribute				e" mus
Dataset Name	AA500017	S-58 test No.	T1644	Туре	W
S-58 Description	For each edge bounding a DEPARE obj COINCIDENT with a geo object of type		IDENT with an M	J.	D is
Message	DEPARE objects on the edge of data coobjects.	overage not bounde	ed by line spatial	objects without	geo
Solution	-	Ensure DEPARE objects at the edge of dataset only have spatial objects without geo objects as their outer Conformity 5.4.2 (Fig.5).			
Test Case No. 1	DEPCNT (L) extended along the data li	mit border.	•	•	
Location	32°29'24.55"S 60°42'57.47"E	S57 Encoding	DEPCNT (L)	VALDCO=5.4	

Screen Capture	39			
Expected Test Results	T1644: A warning "DEPARE objects on tobjects without geo objects" must be to	_	verage not bour	nded by line spatial
Secondary Errors	T0043: An additional error "DEPCNT do triggered.		h two group 1 o	bjects" must be
_			I	
Dataset Name	AA500017	S-58 test No.	T1646	Type W
S-58 Description	For each DRGARE object where DRVAL2	2 is not Null and it i	s equal to the va	alue of DRVAL1.
Message	DRVAL1 and DRVAL2 have the same val	ue for a DRGARE o	bject.	
Solution	Amend values or remove value of DRVA	AL2.	Conformity	5.5
Test Case No. 1	DRGARE (A) with attributes DRVAL1 and	d DRVAL2.		
Location	32°31'09.12"S 60°40'54.00"E	S57 Encoding	DRGARE (A)	DRVAL1=4.5 DRVAL2=4.5
Screen Capture				
Expected Test Results	T1646: A warning "DRVAL1 and DRVAL2 triggered.	2 have the same va	lue for a DRGAR	E object" must be
Secondary Errors	None			
Dataset Name	AA500017	S-58 test No.	T1647	Type E

S-58 Description	For each DRGARE object where VERDAT is present.				
Message	DRGARE object includes VERDAT.				
Solution	Remove VERDAT.		Conformity	5.5	
Test Case No. 1	DRGARE (A) with attribute VERDAT.				
Location	32°30'54.96"S 60°40'54.79"E	S57 Encoding	DRGARE (A)	DRVAL1=3 VERDAT=3	
Screen Capture		7			
Expected Test Results	T1647: An error "DRGARE object inclu	des VERDAT" must	be triggered.		
Secondary Errors	T1503: An additional error "Value of V be triggered. T0547: An additional error "Attribute in the control of th				" mus
	,	_			
Dataset Name	AA500017	S-58 test No.	T1650	Туре	Е
S-58 Description	For each SWPARE object where VERDA	AT is present.			
Message	SWPARE object includes VERDAT.				
Solution	Remove VERDAT.		Conformity	5.6	
Test Case No. 1	SWPARE (A) with attribute VERDAT.		•	•	
Location	32°30'42.87"S 60°41'01.70"E	S57 Encoding	SWPARE (A)	DRVAL1=1 VERDAT=3	

Screen Capture		7		
Expected Test Results	T1650: An error "SWPARE object includ	es VERDAT" must	be triggered.	
Secondary Errors	T1503: An additional error "Value of VE be triggered. T0547: An additional error "Attribute n		_	
Dataset Name	AA500017	S-58 test No.	T1653	Type E
S-58 Description	For each SWPARE object WITHIN an M_ the M_QUAL object relates to all SOUN	= =	re SOUACC is not	t Null AND SOUACC on
Message	SOUACC on M_QUAL object does not a	pply to all SOUND	NGS it covers.	
Solution	Amend SOUACC value on M_QUAL or re	emove.	Conformity	5.6
Test Case No. 1	SWPARE (A) and M_QUAL with attribut	ion encoded.		
Location	32°30'56.72"S 60°43'16.00"E	S57 Encoding	SWPARE (A) M_QUAL (A) SOUNDG	DRVAL1=2 SOUACC=1 CATZOC=2 DRVAL1=2 SOUACC=10 SOUACC=1
Screen Capture	124	14		
Expected Test Results	T1653: An error "SOUACC on M_QUAL triggered.	object does not ap	oply to all SOUNE	DINGS it covers" must be

Secondary Errors	T1530: An additional error "SOUACC values WITHIN" must be triggered. T1531: An additional error "Value of Pequivalent to or degrades the accuracy triggered.	OSACC, SOUACC, Q	UASOU or TECSC	DU on object is
				T - T -
Dataset Name	AA500017	S-58 test No.	T1654	Type E
S-58 Description	For each SWPARE object where TECSO [swept by vertical acoustic system] or			oy wire-drag] , (8)
Message	TECSOU on SWPARE object not an allo	wable value.		
Solution	Ensure value of TECSOU is an allowable	e value.	Conformity	5.6
Test Case No. 1	SWPARE (A) with attribute TECSOU=1 SWPARE (A) with attribute TECSOU=2 SWPARE (A) with attribute TECSOU=3 SWPARE (A) with attribute TECSOU=4 SWPARE (A) with attribute TECSOU=5 SWPARE (A) with attribute TECSOU=7 SWPARE (A) with attribute TECSOU=9 SWPARE (A) with attribute TECSOU=1	0 1 2		
Location	32°30'03.73"S 60°41'04.53"E	S57 Encoding	SWPARE (A)	DRVAL1=1 TECSOU=1,2,3,4,5,7,9, 10,11,12 or 14
Screen Capture				
Expected Test Results	T1654: 11 errors "TECSOU on SWPARE	object not an allov	vable value" mus	st be triggered.
Secondary Errors	T2000: 11 additional errors "Attribute triggered.	value which is not	allowed use on a	n object" must be
Test Case No. 2	SWPARE (A) with attribute TECSOU=6 SWPARE (A) with attribute TECSOU=8 SWPARE (A) with attribute TECSOU=1			
Location	32°30'13.30"S 60°41'03.49"E	S57 Encoding	SWPARE (A)	DRVAL1=1 TECSOU=6,8 or 13



2.18. Test Dataset: AA500018

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1655	For each SWPARE object which EQUALS an M_QUAL object where POSACC AND SOUACC is encoded.
1656	For each UWTROC object where VERDAT is present.
1658	For each WRECKS object where any of VERDAT, VERACC and VERLEN are present.
1659	For each WRECKS object where VALSOU is not Null AND EXPSOU is equal to (1) or is not present AND VALSOU is less than or equal to the DRVAL1 OR greater than DRVAL2 of the DEPARE OR DRGARE object it is WITHIN AND DRVAL1 AND DRVAL2 are not Null AND not equal.
1660	For each WRECKS object where VALSOU is not Null AND EXPSOU is equal to (2) AND the value of VALSOU is greater than the DRVAL1 of the DEPARE or DRGARE object it is WITHIN AND DRVAL1 is not Null.
1661a	For each WRECKS object where VALSOU is not Null AND EXPSOU = (3) AND the VALSOU is less than or equal to DRVAL2 of the DEPARE it is WITHIN where DRVAL2 is not unknown.
	For each WRECKS object where EXPSOU = (3) AND the VALSOU is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null.
1661c	For each WRECKS object where EXSPOU = (3) where the VALSOU is less than or equal to the DRVAL1 of the DRGARE object it is WITHIN where DRVAL2 is not present.
1664	For each OBSTRN object where VERACC or VERDAT is present.
1665	For each OBSTRN object where VALSOU is not Null AND EXPSOU is equal to (1) or not present AND VALSOU is less than or equal to DRVAL1 OR greater than DRVAL2 of the DEPARE or DRGARE object it is WITHIN where DRVAL1 AND DRVAL2 are not Null.
1666	For each OBSTRN object where VALSOU is not Null AND EXPSOU is equal to (2) AND the value of VALSOU is greater than the DRVAL1 of the DEPARE or DRGARE object it is WITHIN AND DRVAL1 is not Null.
1667a	For each OBSTRN object where VALSOU is not Null AND EXPSOU = (3) AND the VALSOU is less than or equal to DRVAL2 of the DEPARE it is WITHIN where DRVAL2 is not unknown.
I hh/n	For each OBSTRN object where EXPSOU = (3) AND the VALSOU is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null.
1667c	For each OBSTRN object where EXSPOU = (3) where the VALSOU is less than or equal to the DRVAL1 of the DRGARE object it is WITHIN where DRVAL2 is not present.
1668	For each OBSTRN object where PRODCT is present AND CATOBS is not (2) [wellhead] or (3) [diffuser].
1675	For each SNDWAV object where VERACC is present.
1677	For each MORFAC object where BOYSHP is present AND CATMOR is not equal to (7) [mooring buoy].
1678	For each RECTRC object where VERDAT OR DRVAL2 are present.
1689	For each TSSCRS object which OVERLAPS a TSEZNE object.
1690	For each TSSRON object which OVERLAPS a TSEZNE object.
1691	For each DWRTPT object where VERDAT or DRVAL2 are present.
1695	For each DWRTCL object where VERDAT or DRVAL2 are present.
1697	For each RCRTCL where TRAFIC equals (1), (2) or (3) AND the direction of digitizing is not 5 degrees greater than or less than the value of ORIENT.

Dataset Name	AA500018	S-58 test No	T1655	Туре	E		
S-58 Description	For each SWPARE object which EQUALS an M_QUAL object where POSACC AND SOUACC is encoded.						
Message	POSACC and SOUACC encoded on M_QUAL objection	ct which covers S	SWPARE object.				
Solution	Remove POSACC. Conformity 5.6						
Test Case No. 1	SWPARE sharing geometry with M_QUAL that is attributed with POSACC and SOUACC.						
Location	32°30'36.02"S 60°45'57.44"E	S57 Encoding	SWPARE (A) M_QUAL (A)	DRVAL1= POSACC= SOUACC:	:1		
Screen Capture	swept to 18.2						
Expected Test Results	T1655: 2 errors "POSACC and SOUACC encoded of must be triggered.				-		
Secondary Errors	T1525: An additional error "M_QUAL object whe triggered.	re DRVAI1 and P	OSACC are popu	ılated" mu	st be		
Dataset Name	AA500018	S-58 test No	T1656	Туре	E		
S-58 Description	For each UWTROC object where VERDAT is prese	ent.					
Message	VERDAT present on UWTROC object.						
Solution	Remove VERDAT.		Conformity	6.1.2			
Test Case No. 1	UWTROC with attribute VERDAT.						
Location	32°30'53.69"S 60°44'40.05"E	S57 Encoding	UWTROC (P)	VERDAT=	·1		

Screen Capture	24			
Expected Test Results	T1656: An error "VERDAT present on UWTRO	=		
Secondary Errors	T1503: An additional error "Value of VERDAT be triggered. T0547: An additional error "Attribute not per	·		
_		T		T _ T _
Dataset Name	AA500018	S-58 test No	o. T1658	Type E
S-58 Description	For each WRECKS object where any of VERDA	AT, VERACC and VER	LEN are present	
Message	VERDAT, VERACC or VERLEN present on WRE	CKS object.		
Solution	Remove VERDAT, VERACC or VERLEN.		Conformity	6.2.1
Test Case No. 1	WRECKS (A, P) with attributes VERDAT, VERA	CC and VERLEN.		
Location	32°30'58.48"S 60°44'49.88"E	S57 Encoding	WRECKS (A, P)	VERDAT=1 VERACC=1 VERLEN=1
Screen Capture	*	86		
Expected Test Results	T1658: 6 errors "VERDAT, VERACC or VERLEN	present on WRFCK	S object" must h	e triggered.
Secondary Errors	T1546: 2 additional errors "Value for VERACC VERCCL" must be triggered. T0547: 2 additional errors "Attribute not perr	without value of VI	ERCLR, VERCOP,	VERCSA or

Dataset Name	AA500018	S-58 test No	. T1659	Type E				
S-58 Description	For each WRECKS object where VALSOU is not Null AND EXPSOU is equal to (1) or is not present AND VALSOU is less than or equal to the DRVAL1 OR greater than DRVAL2 of the DEPARE OR DRGARE object it is WITHIN AND DRVAL1 AND DRVAL2 are not Null AND not equal.							
Message	VALSOU on WRECKS object with EXPSOU = 1 or not present and is outside of the range of the underlying depth area.							
Solution	Populate an appropriate value of EXPSOU. Conformity 6.2.1							
Test Case No. 1	WRECKS (A, P) with attributes VALSOU and EXPSOU. VALSOU is less than the DRVAL1 and greater than the DRVAL2 of the overlapping DEPARE (A) and DRGARE.							
Location	32°30'57.39"S 60°45'05.14"E	S57 Encoding	WRECKS (A,P) DRGARE (A) DEPARE (A)	EXPSOU=1 VALSOU=15 & 55 DRVAL1=20 DRVAL2=40 DRVAL1=18.2 DRVAL2=54.8				
Screen Capture	15 (55) 15 (55) 10 (10) 10 (10	55						
Expected Test Results	T1659: 8 errors "VALSOU on WRECKS object with range of the underlying depth area" must be trig		ot present and	is outside of the				
Secondary Errors	T1662: 2 additional errors "Area WRECKS or OBS UNSARE type object" must be triggered.	TRN object not W	/ITHIN a DEPAR	E, LNDARE or				
Test Case No. 2	WRECKS (A, P) with attribute VALSOU. VALSOU is DRVAL2 of the overlapping DEPARE (A) and DRG.		VAL1 and great	er than the				
Location	32°31'01.09"S 60°45'05.65"E	S57 Encoding	WRECKS (A,P) DRGARE (A) DEPARE (A)	VALSOU=15 & 55 DRVAL1=20 DRVAL2=40 DRVAL1=18.2 DRVAL2=54.8				

Screen Capture	26 ₂	65 /		
Expected Test Results	T1659: 8 errors "VALSOU on WRECKS object wit range of the underlying depth area" must be tri	ggered.	•	
Secondary Errors	T1662: 2 additional errors "Area WRECKS or OB UNSARE type object" must be triggered.	STRN object not \	WITHIN a DEPAR	E, LNDARE or
Dataset Name	AA500018	S-58 test No		Type E
S-58 Description	For each WRECKS object where VALSOU is not N VALSOU is greater than the DRVAL1 of the DEPA not Null.			
Message	WRECKS object where EXPSOU equals (2) but w	ith a VALSOU gre	ater than the un	derlying DRVAL1.
Solution	Populate appropriate value of EXPSOU.		Conformity	6.2.1
Test Case No. 1	WRECKS (A, P) with attributes VALSOU and EXPS overlapping DEPARE (A) and DRGARE	SOU. VALSOU is §	greater than the	DRVAL1 of the
Location	32°30'52.31"S 60°45'07.62"E	S57 Encoding	DRGARE (A) WRECKS (A,P) DEPARE (A)	DRVAL1=20 EXPSOU=2 VALSOU=25 DRVAL1=18.2 DRVAL2=54.8
Screen Capture		28		
Expected Test Results	T1660: 4 errors "WRECKS object where EXPSOU underlying DRVAL1" must be triggered.		_	
Secondary Errors	T1662: 2 additional errors "Area WRECKS or OB UNSARE type object" must be triggered.	STRN object not \	WITHIN a DEPAR	E, LNDARE or

Dataset Name	AA500018	S-58 test No	T1661a	Type E			
S-58 Description	For each WRECKS object where VALSOU is not Null AND EXPSOU = (3) AND the VALSOU is less than or equal to DRVAL2 of the DEPARE it is WITHIN where DRVAL2 is not unknown.						
Message	WRECKS with EXPSOU = (3) and a VALSOU less the	han DRVAL2 of th	e underlying DE	PARE.			
Solution	Amend value of EXPSOU to a logical value. Conformity 6.2.1						
Test Case No. 1	WRECKS (A, P) with VALSOU less than the DRVAL2 of the overlapping DEPARE (A), where both DRVAL1 and DRVAL2 attributes are encoded.						
Location	32°30'39.30"S 60°45'13.60"E	S57 Encoding	WRECKS (A, P) DEPARE (A)	EXPSOU=3 VALSOU=25 DRVAL1=18 DRVAL2=54			
Screen Capture	(#)						
Expected Test Results	T1661a: 2 errors "WRECKS with EXPSOU = (3) an DEPARE" must be triggered.	d a VALSOU less	than DRVAL2 of	the underlyii			
		d a VALSOU less	than DRVAL2 of	the underlyii			
Secondary Errors	DEPARE" must be triggered. None	1					
	DEPARE" must be triggered.	S-58 test No	T1661b less than or equ	Туре [
Secondary Errors Dataset Name S-58 Description	DEPARE" must be triggered. None AA500018 For each WRECKS object where EXPSOU = (3) AN	S-58 test No ND the VALSOU is AL1 AND DRVAL2	T1661b less than or equare not Null.	Type E			
Secondary Errors Dataset Name	DEPARE" must be triggered. None AA500018 For each WRECKS object where EXPSOU = (3) ANDRVAL2 of the DRGARE it is WITHIN where DRVA	S-58 test No ND the VALSOU is AL1 AND DRVAL2	T1661b less than or equare not Null.	Type E			
Secondary Errors Dataset Name S-58 Description Message	DEPARE" must be triggered. None AA500018 For each WRECKS object where EXPSOU = (3) ANDRVAL2 of the DRGARE it is WITHIN where DRVALWRECKS with EXPSOU = (3) and a VALSOU less the DRGARE it is with EXPSOU = (3) and a VALSOU less the DRGARE it i	S-58 test No ND the VALSOU is AL1 AND DRVAL2 man DRVAL2 of th	T1661b less than or equare not Null. e underlying DR Conformity	Type E ual to the RGARE.			

Screen Capture	25.				
Expected Test Results	T1661b: 2 errors "WRECKS with EXPSOU = (3) an	d a VALSOU less	than DRVAL2 of	the underl	ying
Secondary Errors	DRGARE" must be triggered. T1662: An additional error "Area WRECKS or OB: UNSARE type object" must be triggered.	STRN object not	WITHIN a DEPAI	RE, LNDARE	or
Dataset Name	AA500018	S-58 test No	T 1661c	Туре	E
S-58 Description	For each WRECKS object where EXSPOU = (3) wh DRVAL1 of the DRGARE object it is WITHIN when			qual to the	
Message	WRECKS with EXPSOU= (3) but with a VALSOU le only DRVAL1 is populated.	ss than DRVAL1	of the underlyin	g DRGARE v	when
Solution	Amend value of EXPSOU to a logical value.		Conformity	6.1.2	
Test Case No. 1	WRECKS (A, P) with VALSOU less than the DRVAL DRVAL1 is encoded.	.1 of the overlap	ping DRGARE, w	here only	
Location	32°30'39.22"S 60°45'19.75"E	S57 Encoding	WRECKS (A, P) DRGARE (A)	EXPSOU= VALSOU= DRVAL1=	19
Screen Capture	T1661c: 2 orrors "MPECVS with EVPSOUL— (2) but	with a VALSOU			
Expected Test Results	T1661c: 2 errors "WRECKS with EXPSOU= (3) but underlying DRGARE when only DRVAL1 is popula T1662: An additional error "Area WRECKS or OB:	ited" must be tri	ggered.		

			T				
Dataset Name	AA500018	S-58 test No	T1664	Type E			
S-58 Description	For each OBSTRN object where VERACC or VERDAT is present.						
Message	VERACC or VERDAT present on OBSTRN object.						
Solution	Remove VERACC or VERDAT.		Conformity	6.2.2			
Test Case No. 1	OBSTRN (A, L, P) with attributes VERACC and VERDAT.						
Location	32°31'11.72"S 60°43'39.19"E	S57 Encoding	OBSTRN (A, L, P)	VERACC=1 VERDAT=1			
Screen Capture							
Expected Test Results	T1664: 6 errors "VERACC or VERDAT pres	ent on OBSTRN object"	must be triggere	ed.			
Secondary Errors	T1546: 3 additional errors "Value for VER VERCCL" must be triggered. T0547: 3 additional errors "Attribute not						
Dataset Name	AA500018	S-58 test No		Type E			
S-58 Description	For each OBSTRN object where VALSOU in AND VALSOU is less than or equal to DRV object it is WITHIN where DRVAL1 AND DRVAL	AL1 OR greater than DR' RVAL2 are not Null	VAL2 of the DEP	PARE or DRGARE			
Message	OBSTRN object with EXPSOU = (1) or not DRVAL2.	present which is outside	of the range of	DRVAL1 and			
Solution	Populate an appropriate value of EXPSOL		Conformity	6.2.2			
Test Case No. 1	OBSTRN (A, L, P) with attributes VALSOU greater than the DRVAL2 of the overlapp			RVAL1 and			
Location	32°31'11.05"S 60°44'52.32"E	S57 Encoding	OBSTRN (A, L, P) DRGARE (A)	EXPSOU=1 VALSOU=15 & 55 DRVAL1=20			
				DRVAL2=40			

Screen Capture	15 15 55 55 55 21	55 1		
Expected Test Results	T1665: 12 errors "OBSTRN object with EXPSOU = of DRVAL1 and DRVAL2" must be triggered	= (1) or not prese	nt which is outs	ide of the range
Secondary Errors	T1662: 2 additional errors "Area WRECKS or OBS UNSARE type object" must be triggered.	STRN object not V	VITHIN a DEPAR	E, LNDARE or
Test Case No. 2	OBSTRN (A, L, P) with VALSOU less than DRVAL1 DEPARE (A) and DRGARE.	and greater thar	DRVAL2 of the	overlapping
Location	32°31'14.75"S 60°44'50.31"E	S57 Encoding	OBSTRN (A, L, P) DRGARE (A) DEPARE (A)	VALSOU=15 & 55 DRVAL1=20 DRVAL2=40 DRVAL1=18.2 DRVAL2=54.8
Screen Capture	15 15 55 15 45	55 55		
Expected Test Results	T1665: 12 errors "OBSTRN object with EXPSOU = of DRVAL1 and DRVAL2" must be triggered			
Secondary Errors	T1662: 2 additional errors "Area WRECKS or OBS UNSARE type object" must be triggered.	STRN object not V	VITHIN a DEPAR	E, LNDARE or
Dataset Name	AA500018	S-58 test No	D. T1666	Type E
S-58 Description	For each OBSTRN object where VALSOU is not N VALSOU is greater than the DRVAL1 of the DEPA not Null.	ull AND EXPSOU	is equal to (2) A	ND the value of
Message	OBSTRN object where EXPSOU equals (2) but with	th a VALSOU grea	iter than the un	derlying DRVAL1.
Solution	Populate appropriate value of EXPSOU.		Conformity	6.2.2
Test Case No. 1	OBSTRN (A, L, P) with attributes VALSOU and EX	PSOU. VALSOU is	greater than DI	RVAL1 of the

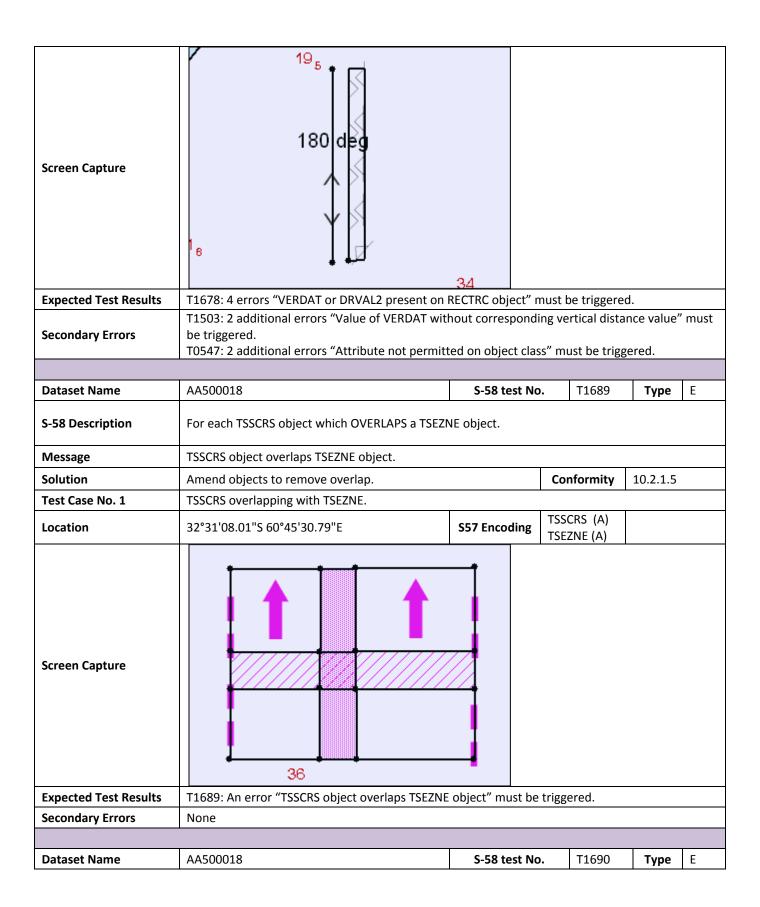
	overlapping DEPARE (A) and DRGARE				
Location	32°30'45.90"S 60°45'13.04"E	S57 Encoding	OBSTRN (A, L, P) DRGARE (A) DEPARE (A)	VALSOU=25 EXPSOU=2 DRVAL1=20 DRVAL1=18.2 DRVAL2=54.8	
Screen Capture	25 25				
Expected Test Results	T1666: 6 errors "OBSTRN object where EXPSOU underlying DRVAL1" must be triggered.	equals (2) but wi	th a VALSOU gre	eater than the	
Secondary Errors	T1662: An additional error "Area WRECKS or OB UNSARE type object" must be triggered.	STRN object not \	WITHIN a DEPAR	RE, LNDARE or	
Dataset Name	AA500018	S-58 test No	T 1667a	Type E	
S-58 Description	For each OBSTRN object where VALSOU is not N than or equal to DRVAL2 of the DEPARE it is WIT		` '		
Message	OBSTRN with EXPSOU = (3) and a VALSOU less th	nan DRVAL2 of th	e underlying DE	PARE.	
Solution	Amend value of EXPSOU to a logical value.		Conformity	6.2.2	
Test Case No. 1	OBSTRN (A, L, P) with VALSOU less than DRVAL2 DRVAL1 and DRVAL2 attributes are encoded.	of the overlappi	ng DEPARE (A), v	when both	
Location	32°30'31.69"S 60°45'20.37"E	S57 Encoding	OBSTRN (A, L, P) DEPARE (A)	VALSOU=25 EXPSOU=3 DRVAL1=18.2 DRVAL2=54.8	

Screen Capture	207 25			
Expected Test Results	T1667a: 3 errors "OBSTRN with EXPSOU = (3) an DEPARE" must be triggered.	d a VALSOU less	than DRVAL2 of	the underlying
Secondary Errors	None			
Dataset Name	AA500018	S-58 test No	T1667b	Type E
S-58 Description	For each OBSTRN object where EXPSOU = (3) AN of the DRGARE it is WITHIN where DRVAL1 AND			ual to the DRVAL2
Message	OBSTRN with EXPSOU = (3) and a VALSOU less th	nan DRVAL2 of th	e underlying DF	RGARE.
Solution	Amend value of EXPSOU to a logical value.		Conformity	6.2.2
Test Case No. 1	OBSTRN (A, L, P) with VALSOU less than DRVAL1 & DRVAL2 are encoded.	of the overlappi	ng DRGARE, wh	en only DRVAL1
Location	32°30'32.58"S 60°45'23.01"E	S57 Encoding	OBSTRN (A, L, P) DRGARE (A)	VALSOU=25 EXPSOU=3 DRVAL1=20
Screen Capture	T1667h: 3 errors "OBSTRN with EXPSOLL = (3) an	d a VAI SOUL locs	than DRVAL2 of	The underlying
Expected Test Results	T1667b: 3 errors "OBSTRN with EXPSOU = (3) an DRGARE" must be triggered.	d a VALSOU less	than DRVAL2 of	the underlying
Secondary Errors	T1662: An additional error "Area WRECKS or OB UNSARE type object" must be triggered.	STRN object not	WITHIN a DEPA	RE, LNDARE or

Dataset Name	AA500018	S-58 test No	T1667c	Type E				
S-58 Description	-	For each OBSTRN object where EXSPOU = (3) where the VALSOU is less than or equal to the DRVAL1 of the DRGARE object it is WITHIN where DRVAL2 is not present.						
Message	OBSTRN with EXPSOU= (3) but with a VALSOU le only DRVAL1 is populated.	ss than DRVAL1 o	of the underlying	g DRGARE when				
Solution	Amend value of EXPSOU to a logical value.		Conformity	6.2.2				
Test Case No. 1	OBSTRN (A, L, P) with VALSOU less than DRVAL1 encoded.	of the overlapping	ng DRGARE, who	en only DRVAL1 is				
Location	32°30'31.96"S 60°45'25.01"E	S57 Encoding	OBSTRN (A, L, P)	VALSOU=19 EXPSOU=3				
Screen Capture	19 19							
Expected Test Results Secondary Errors	T1667c: 3 errors "OBSTRN with EXPSOU= (3) but underlying DRGARE when only DRVAL1 is popula T1662: An additional error "Area WRECKS or OBSUNSARE type object" must be triggered.	ited" must be trig	ggered.					
Dataset Name	AA500018	S-58 test No	T1668	Type W				
S-58 Description	For each OBSTRN object where PRODCT is prese [diffuser].	nt AND CATOBS i	s not (2) [wellhe	ead] or (3)				
Message	OBSTRN object with a value for PRODCT without	a logical value o	f CATOBS.					
Solution	Remove value of PRODCT or populate logical val	ue of CATOBS.	Conformity	Logical consistency				
Test Case No. 1	OBSTRN (A, L, P) with attributes CATOBS and PRO	ODCT.						
Location	32°31'00.78"S 60°43'40.35"E	S57 Encoding	OBSTRN (A, L, P)	PRODCT=1 CATOBS=1,4,5, 6,7,8,9 or 10				

Screen Capture		* 17 ₃		Lucy of CAT	ODC!!
Expected Test Results	T1668: 24 warnings "OBSTRN object with a value must be triggered	e for PRODET Witho	ut a logical va	liue of CAT	OB2
Secondary Errors	None				
Dataset Name	AA500018	S-58 test No.	T1675	Туре	E
S-58 Description	For each SNDWAV object where VERACC is prese	ent.			
Message	VERACC present on SNDWAV object.				
Solution	Remove VERACC.		Conformity	7.2.1	
Test Case No. 1	SNDWAV (A, L, P) with attribute VERACC.	·			
Location	32°30'44.77"S 60°43'40.00"E	\$57 Encoding	SNDWAV A, L, P)	VERACC=	1
Screen Capture					
Expected Test Results	T1675: 3 errors "VERACC present on SNDWAV ob	oject" must be trigg	gered.		
Secondary Errors	T1546: 3 additional errors "Value for VERACC wit VERCCL" must be triggered. T0547: 3 additional errors "Attribute not permitt				
Dataset Name	AA500018	S-58 test No.	T1677	Type	E

S-58 Description	For each MORFAC object where BOYSHP is prese buoy].	ent AND CATMOR	R is not equal to	(7) [mooring		
Message	MORFAC with BOYSHP without CATMOR = (7) [mooring buoy].					
Solution	Populated CATMOR = (7) or remove BOYSHP.		Conformity	4.6.7.1		
Test Case No. 1	MORFAC (A, L, P) with attributes BOYSHP and CA	ATMOR.				
Location	32°30'51.57"S 60°43'45.69"E	32°30'51.57"S 60°43'45.69"E				
Screen Capture		• • • • • • • • • • • • • • • • • • •				
Expected Test Results	T1677: 18 errors "MORFAC with BOYSHP withou triggered.	t CATMOR = (7) [mooring buoy]"	must be		
Secondary Errors	None					
Dataset Name	AA500018	S-58 test No	T1678	Type E		
S-58 Description	For each RECTRC object where VERDAT OR DRVA	AL2 are present.	,			
Message	VERDAT or DRVAL2 present on RECTRC object.					
Solution	Remove VERDAT or DRVAL2.		Conformity	10.1.1		
Test Case No. 1	RECTRC (A, L) with attributes VERDAT and DRVA	L2.				
Location	32°31'09.22"S 60°44'58.87"E	S57 Encoding	RECTRC (A, L)	VERDAT=1 DRVAL2=25		



S-58 Description	For each TSSRON object which OVERLAPS a TSEZ	'NE object.			
Message	TSSRON object overlaps TSEZNE object.				
Solution	Amend objects to remove overlap.		Conformity	10.2.1.6	
Test Case No. 1	TSSRON (A) overlapping with TSEZNE (A).				
Location	32°30'45.03"S 60°45'55.25"E	S57 Encoding	TSSRON (A) TSEZNE (A)		
Screen Capture	31	4			
Expected Test Results	T1690: An error "TSSRON object overlaps TSEZN	E object" must be	e triggered.		
Secondary Errors	T1687: An additional error "TSEZNE does not sep triggered.	oarate appropriat	e TSS objects" r	must be	
Dataset Name	AA500018	S-58 test No	T1691	Туре	E
S-58 Description	For each DWRTPT object where VERDAT or DRV/		11091	Type	L
Message	DWRTPT object carries VERDAT or DRVAL2 attrib	oute.			
Solution	Remove inappropriate attribute value.		Conformity	10.2.2.1	
Test Case No. 1	DWRTPT (A) with attributes VERDAT and DRVAL	2.	I	1	
Location	32°30'23.94"S 60°46'20.78"E	S57 Encoding	DWRTPT (A)	VERDAT=	1

Screen Capture	DW DW	DW ₂			
Expected Test Results	T1691: 2 errors "DWRTPT object carries VERDAT				, .
Secondary Errors	T1503: An additional error "Value of VERDAT wit be triggered. T0547: An additional error "Attribute not permit				' must
Dataset Name	AA500018	S-58 test No.	T1695	Туре	Е
S-58 Description	For each DWRTCL object where VERDAT or DRVA	AL2 are present.			
Message	VERDAT or DRVAL2 present for DWRTCL object.				
Solution	Remove VERDAT or DRVAL2.		Conformity	10.2.2.2	
Test Case No. 1	DWRTCL with attributes VERDAT and DRVAL2.	1			
Location	32°30'45.86"S 60°45'25.18"E	S57 Encoding	OWRTCL (L)	VERDAT= DRVAL2=	
Screen Capture	058 deg - DW	7 DW			
Expected Test Results	T1695: 2 errors "VERDAT or DRVAL2 present for	DWRTCL object" m	ust be trigger	ed.	
Secondary Errors	T1503: An additional error "Value of VERDAT wit be triggered. T0547: An additional error "Attribute not permit	hout corresponding	g vertical dista	ance value'	' must
	T				
Dataset Name	AA500018	S-58 test No.	T1697	Type	E

S-58 Description	For each RCRTCL object where VERDAT or DR	/AL2 are present.		
Message	RCRTCL has VERDAT or DRVAL2.			
Solution	Remove VERDAT or DRVAL2.		Conformity	10.2.4
Test Case No. 1	RCRTCL with attributes VERDAT and DRVAL2.			
Location	32°31'07.52"S 60°45'48.69"E	S57 Encoding	RCRTCL (L)	VERDAT=1 DRVAL2=40
Screen Capture	₹ }			
Expected Test Results	T1697: 2 errors "RCRTCL has VERDAT or DRVA			
Secondary Errors	T1503: An additional error "Value of VERDAT be triggered. T0547: An additional error "Attribute not per			

2.19. Test Dataset: AA500019

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1699	For each FAIRWY object where VERDAT is present.
1700	For each TESARE object which OVERLAPS an EXEZNE object.
1701	For each CBLSUB object where VERDAT is present.
1702	For each object of type CBLSUB where STATUS equals (4) [not in use] AND CATCBL is not Null.
1703	For each object of type CBLSUB where CATCBL = (3) [transmission line].
1704	For each CBLOHD object where VERDAT is present and VERCLR and VERCSA are not present.
1706	For each CBLOHD, CBLSUB, PIPSOL or PIPOHD object where CONDTN is not Null AND is not (1) [under construction] or (5) [planned construction].
1707	For each object of type CBLARE where CATCBL = (3) [transmission line] or (6) [mooring cable/chain].
1708	For each PIPSOL object where VERDAT OR VERACC are present.
1709	For each PIPSOL object where STATUS equals (4) [not in use] AND CATPIP is present.
1712	For each PIPOHD object where STATUS equals (4) [not in use] AND CATPIP or PRODCT are present.
1713	For each PIPARE object where CONDTN is present.
1715	For each OFSPLF object where VERDAT OR VERACC are present.
1716	For each OSPARE object where VERACC is present.
1717	For each FSHFAC object where VERACC is present.
1718	For each MARCUL object where VERDAT is present.
1720	For each ICEARE object where VERDAT OR VERACC are present.
1723	For each point object forming the same navigational aid which do not point to the same spatial object.
1727	For each M_NSYS object where MARSYS is not Null which OVERLAPS an M_NSYS object where MARSYS is not Null.
1728	For each M_NSYS object where ORIENT is not Null which OVERLAPS an M_NSYS object where ORIENT is not Null.

Dataset Name	AA500019	S-58 test No.	T1699	Туре	Е
S-58 Description	For each FAIRWY object where VERDAT is preser	nt.			
Message	VERDAT present on FAIRWY object.				
Solution	Remove VERDAT.		Conformity	10.4	
Test Case No. 1	FAIRWY (A) with attribute VERDAT.				
Location	32°30'17.01"S 60°48'00.87"E	S57 Encoding	FAIRWY (A)	VERDAT=	1
Screen Capture	4 4 ₈	4,			
Expected Test Results	T1699: An error "VERDAT present on FAIRWY ob				
Secondary Errors	T0547: An additional error "Attribute not permit T1503: An additional error "Value of VERDAT wit be triggered.	•	_	•	" mus
Dataset Name	AA500019	S-58 test No.	T1700	Туре	Ε
S-58 Description	For each TESARE object which OVERLAPS an EXE.	ZNE object.			
Message	TESARE object overlaps EXEZNE object.				
Solution	Amend limits to remove overlap.		Conformity	11.2	
Test Case No. 1	TESARE (A) overlapping EXEZNE (A).				
Location	32°29'44.73"S 60°48'15.84"E	S57 Encoding	TESARE (A) EXEZNE (A)		

Screen Capture	8 10 6 ₇	6 ₄			
Expected Test Results	T1700: An error "TESARE object overlaps EXEZNE	object" must be	triggered.		
Secondary Errors	None				
_	T	T	T = . = .	T _ T	_
Dataset Name	AA500019	S-58 test No.	T1701	Туре	E
S-58 Description	For each CBLSUB object where VERDAT is preser	nt.			
Message	VERDAT present on CBLSUB.				
Solution	Remove VERDAT.		Conformity	11.5.1	
Test Case No. 1	CBLSUB (L) with attribute VERDAT.				
Location	32°29'25.75"S 60°48'14.88"E	S57 Encoding	CBLSUB (L)	VERDAT=	1
Screen Capture	-~ 5~				
Expected Test Results	T1701: An error "VERDAT present on CBLSUB" m	ust be triggered.			
Secondary Errors	T0547: An additional error "Attribute not permit T1503: An additional error "Value of VERDAT wit be triggered.				' must
Data and Nav	AAF00040	6.50	T4702		\A/
Dataset Name	AA500019	S-58 test No.	T1702	Туре	W
S-58 Description	For each object of type CBLSUB where STATUS e	quals (4) [not in u	se] AND CATCB	L is not Nu	II.

Message	CBLSUB has STATUS (4) [not in use] and a value	for CATCBL.		
Solution	Amend CATCBL or STATUS.		Conformity	11.5.1
Test Case No. 1	CBLSUB (L) with attributes CATCBL and STATUS.			
Location	32°29'35.60"S 60°48'12.99"E	S57 Encoding	CBLSUB (L)	CATCBL=1,3,4,5 ,6 STATUS=4
Screen Capture	\			
Expected Test Results	T1702: 5 warnings "CBLSUB has STATUS (4) [not	in use] and a valu	e for CATCBL"	must be triggered
Secondary Errors	T1700: 4 additional errors "TESARE object overla T1703: An additional warning "CBLSUB object w T2000: An additional error "Attribute value which triggered.	here CATCBL = (3)	" must be trigg	ered.
Dataset Name	AA500019	S-58 test No.	T1703	Type E
S-58 Description	For each object of type CBLSUB where CATCBL =	(3) [transmission	line].	·
Message	CBLSUB object where CATCBL = (3).			
Solution	Remove prohibited value of CATCBL.		Conformity	11.5.1
Test Case No. 1	CBLSUB (L) with attribute CATCBL.		•	•
Location	32°29'43.54"S 60°46'52.21"E	S57 Encoding	CBLSUB (L)	CATCBL=2,3

Screen Capture	295	ر - ا			
Expected Test Results	T1703: 2 errors "CBLSUB object where CATCBL =	(3)" must be triggere	d.		
Secondary Errors	T2000: 2 additional errors "Attribute value which triggered.	n is not allowed use o	n an object'	' must be	
Dataset Name	AA500019	S-58 test No.	T1704	Туре	E
S-58 Description	For each CBLOHD object where VERDAT is presen	nt and VERCLR and VE	ERCSA are n	ot present	
Message	VERDAT populated for CBLOHD object without va	alue of VERCLR or VER	RCSA.		
Solution	Populate VERCLR or VERCSA otherwise remove V	/ERDAT. Co	onformity	11.5.2	
Test Case No. 1	CBLOHD (L) with attribute VERDAT an no attribut	tion for VERCLR and V	ERCSA.		
Location	32°30'05.51"S 60°48'57.98"E	S57 Encoding CE	BLOHD (L)	VERDAT=	1
Screen Capture	0,				
Expected Test Results	T1704: An error "VERDAT populated for CBLOHD must be triggered.	object without value	of VERCLR	or VERCSA	"
Secondary Errors	T0507: 3 additional errors "Mandatory attributes T1503: 3 additional errors "Value of VERDAT with be triggered.				must
Dataset Name	AA500019	S-58 test No.	T1706	Туре	E

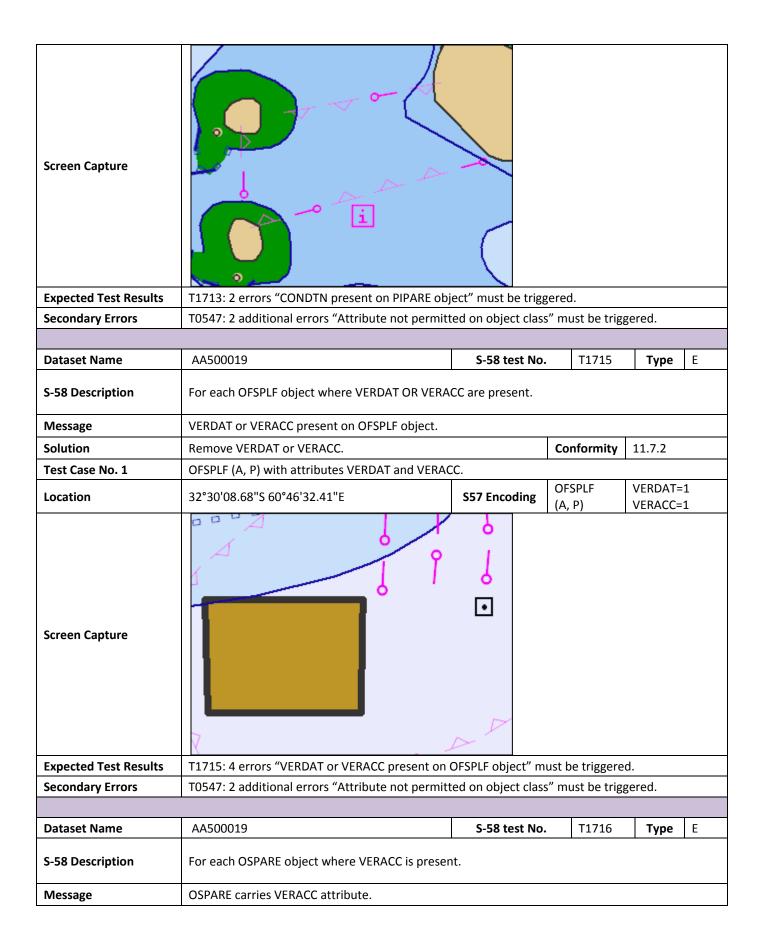
	T			
S-58 Description	For each CBLOHD, CBLSUB, PIPSOL or PIPOHD ob [under construction] or (5) [planned construction	-	TN is not Null	AND is not (1)
Message	CBLOHD, CBLSUB, PIPSOL or PIPOHD object when	re CONDTN is not	(1) or (5).	
Solution	Amend value of CONDTN accordingly.		Conformity	11.5.1, 11.5.2, 11.6.1 and 11.6.3
Test Case No. 1	CBLOHD (L) with attribute CONDTN.		•	
Location	32°29'59.32"S 60°46'39.64"E	S57 Encoding	CBLOHD (L)	CONDTN=2,3,4
Screen Capture	15			
Expected Test Results	T1706: 3 errors "CBLOHD, CBLSUB, PIPSOL or PIP must be triggered.			
Secondary Errors	T1785: An additional error "Object other than wi [wingless]" must be triggered. T2000: 3 additional errors "Attribute value which triggered.			
Test Case No. 2	CBLSUB (L) with attribute CONDTN.			
Location	32°29'40.62"S 60°46'30.09"E	S57 Encoding	CBLSUB (L)	CONDTN=2,3,4
Screen Capture	3		,	
Expected Test Results	T1706: 3 errors "CBLOHD, CBLSUB, PIPSOL or PIP must be triggered. T1785: An additional error "Object other than wi	-		
Secondary Errors	[wingless]" must be triggered.			

	T2000: 3 errors "Attribute value which is not allo	wed use on an ob	ject" must be	triggered.
Test Case No. 3	PIPSOL (L, P) with attribute CONDTN.			
Location	32°30'06.31"S 60°46'32.58"E	S57 Encoding	PIPSOL (L, P)	CONDTN=2,3,4
Screen Capture Expected Test Results	T1706: 6 errors "CBLOHD, CBLSUB, PIPSOL or PIP must be triggered. T1785: 2 additional errors "Object other than win	·		
Secondary Errors	[wingless]" must be triggered. T1797: 3 additional errors "Object, geometry and ECDIS present" must be triggered. T2000: 6 additional errors "Attribute value which triggered.	d attribute combir	nation which d	o not display in
Test Case No. 4	PIPOHD (L) with attribute CONDTN.			
Location	32°30'34.04"S 60°48'10.24"E	S57 Encoding	PIPOHD (L)	CONDTN=2,3,4
Screen Capture				
Expected Test Results	T1706: 3 errors "CBLOHD, CBLSUB, PIPSOL or PIP must be triggered.			
Secondary Errors	T2000: 3 additional errors "Attribute value which triggered.	is not allowed us	se on an object	must be
Dataset Name	AA500019	S-58 test No.	T1707	Type E

S-58 Description	For each object of type CBLARE where CATCBL = cable/chain].	(3) [transmission	line] or (6) [mo	poring
Message	CBLARE has an inappropriate value of CATCBL.			
Solution	Amend to appropriate value of CATCBL or remov	ve.	Conformity	11.5.3
Test Case No. 1	CBLARE (A) with attribute CATCBL.		1	•
Location	32°29'33.14"S 60°49'01.88"E	S57 Encoding	CBLARE (A)	CATCBL=2,3,6
Screen Capture		→		
Expected Test Results	T1707: 3 errors "CBLARE has an inappropriate va	alue of CATCBL" m	nust be triggere	ed.
Secondary Errors	T2000: 3 additional errors "Attribute value which triggered.	h is not allowed u	se on an object	" must be
Dataset Name	AA500019	S-58 test No	. T1708	Type E
S-58 Description	For each PIPSOL object where VERDAT OR VERA	CC are present.		
Message	VERDAT or VERACC present on PIPSOL object.			
Solution	Remove VERDAT or VERACC.		Conformity	11.6.1
Test Case No. 1	PIPSOL (L, P) with attributes VERDAT and VERAC	C.		
Location	32°29'45.06"S 60°48'21.85"E	S57 Encoding	PIPSOL (L, P)	VERDAT=1 VERACC=1
Screen Capture		-		

Expected Test Results	T1708: 4 errors "VERDAT or VERACC present on	PIPSOL object" mı	ust be triggered	d.	
Secondary Errors	T1797: An additional error "Object, geometry an ECDIS present" must be triggered. T0547: 2 additional errors "Attribute not permitt T1503: 2 additional warnings "Value of VERDAT was be triggered.	ed on object class	s" must be trigg	gered.	
Dataset Name	AA500019	S-58 test No.	T1709	Туре	W
S-58 Description	For each PIPSOL object where STATUS equals (4)	[not in use] AND	CATPIP is preso	ent.	
Message	PIPSOL has status (4) not in use and value for CA	TPIP.			
Solution	Remove value of CATPIP if STATUS equals (4) not	in use.	Conformity	11.6.1	
Test Case No. 1	PIPSOL (L, P) with attributes STATUS and CATPIP.	ı.	l .	I.	
Location	32°29′30.60″S 60°48′14.84″E	S57 Encoding	PIPSOL (L, P)	CATPIP=4 STATUS=4	
Screen Capture	•				
Expected Test Results	T1709: 2 warnings "PIPSOL has status (4) not in u	ise and value for (CATPIP" must b	e triggered	d.
Secondary Errors	T1797: An additional error "Object, geometry an ECDIS present" must be triggered.	d attribute combi	nation which d	lo not displ	ay in
					1
Dataset Name	AA500019	S-58 test No.	T1712	Type	W
S-58 Description	For each PIPOHD object where STATUS equals (4 present.) [not in use] AND	CATPIP or PRO	ODCT are	
Message	PIPOHD has status (4) not in use and values for C	ATPIP or PRODCT			
Solution	Remove values of CATPIP or PRODCT if STATUS e use.	equals (4) not in	Conformity	11.6.3	
Test Case No. 1	PIPOHD (L) with attributes CATPIP and STATUS.				
Location	32°30'38.34"S 60°48'14.79"E	S57 Encoding	PIPOHD (L)	CATPIP=4 STATUS=4	

Screen Capture				
Expected Test Results	T1712: A warning "PIPOHD has status (4) not in utriggered.	ise and values for	CATPIP or PRO	DDC1" must be
Secondary Errors	None			
Test Case No. 2	PIPOHD (L) with attributes PRODCT and STATUS.		T	
Location	32°30'29.72"S 60°48'06.96"E	S57 Encoding	PIPOHD (L)	PRODCT=3 STATUS=4
Screen Capture				
Expected Test Results	T1712: A warning "PIPOHD has status (4) not in utriggered.	use and values for	CATPIP or PRO	DDCT" must be
Secondary Errors	None			
Dataset Name	AA500019	S-58 test No.	T1713	Type E
S-58 Description	For each PIPARE object where CONDTN is preser	nt.		
Message	CONDTN present on PIPARE object.			
Solution	Remove CONDTN.		Conformity	11.6.4
Test Case No. 1	PIPARE (A, P) with attribute CONDTN.			
Location	32°29'50.26"S 60°46'44.51"E	S57 Encoding	PIPARE (A, P)	CONDTN=1



Solution	Remove VERACC		Conformity	11.7.4
Test Case No. 1	OSPARE (A) with attribute VERACC.		1	
Location	32°30'08.63"S 60°46'32.91"E	S57 Encoding	OSPARE (A)	VERACC=1
Screen Capture	134			
Expected Test Results	T1716: An error "OSPARE carries VERACC attribu	te" must be trigge	ered.	
Secondary Errors	T0547: An additional error "Attribute not permit	ted on object clas	s" must be trig	gered.
Dataset Name	AA500019	S-58 test No.	T1717	Type E
S-58 Description	For each FSHFAC object where VERACC is presen	t.		
Message	MARCUL carries VERACC attribute.			,
Solution	Remove VERACC		Conformity	11.9.1
Test Case No. 1	FSHFAC (A, L, P) with attribute VERACC.			
Location	32°30'03.93"S 60°48'46.21"E	S57 Encoding	FSHFAC (A, L, P)	VERACC=1
Screen Capture		<u> </u>		
Expected Test Results	T1717: 3 errors "MARCUL carries VERACC attribu	ite" must be trigge	ered.	
Secondary Errors	T0547: 3 additional errors "Attribute not permitt	ed on object class	" must be trigg	gered.
Dataset Name	AA500019	S-58 test No.	T1718	Type E

S-58 Description	For each MARCUL object where VERDAT is prese	nt.		
Message	MARCUL carries VERDAT attribute.			
Solution	Remove VERDAT.		Conformity	11.9.2
Test Case No. 1	MARCUL (A, L, P) with attribute VERDAT.			
Location	32°30'07.78"S 60°48'36.11"E	S57 Encoding	MARCUL (A, L, P)	VERDAT=1
Screen Capture				
Expected Test Results	T1718: 3 errors "MARCUL carries VERDAT attribu			
Secondary Errors	T0547: 3 additional errors "Attribute not permitt T1503: 3 additional warnings "Value of VERDAT must be triggered.	•		
Dataset Name	AA500019	S-58 test No.	T1720	Type E
S-58 Description	For each ICEARE object where VERDAT OR VERA	CC are present.		
Message	VERDAT or VERACC present on ICEARE object.			
Solution	Remove VERDAT or VERACC.		Conformity	11.13.1
Test Case No. 1	ICEARE (A) with attributes VERDAT and VERACC.		1	1
Location	32°29'30.41"S 60°49'14.14"E	S57 Encoding	ICEARE (A)	VERDAT=1 VERACC=1

Screen Capture					
Expected Test Results	T1720: 2 errors "VERDAT or VERACC present on I	CEARE object" mus	t be triggere	d.	
Secondary Errors	T0547: An additional error "Attribute not permit	ted on object class'	must be trig	gered.	
Dataset Name	AA500019	S-58 test No.	T1723	Туре	С
S-58 Description	For each point object forming the same navigation object.	onal aid which do n	ot point to th	e same spa	tial
Message	Object forming a navigational aid does not point	to the same spatia	object.		
Solution	Ensure all components point to the same spatial	object.	Conformity	12.1.2	
Test Case No. 1	LNDMRK (P) & LIGHTS (P) with master/slave related	tionship but pointir	ng to differen	t spatial ob	jects.
Location	32°30'48.69"S 60°47'54.53"E	S57 Encoding	LNDMRK (P) LIGHTS (P)		
Screen Capture					
Expected Test Results	T1723: An error "Object forming a navigational a must be triggered. T0516a: An additional warning "Master and slave				
Secondary Errors	must be triggered.		Stance tile	Jame Hode	
Detect News	AAF00010	C FO to at NI-	T1727	T	
Dataset Name	AA500019	S-58 test No.	T1727	Type	С

S-58 Description	For each M_NSYS object where MARSYS is not NMARSYS is not Null.	Iull which OVERLA	PS an M_NSYS	object whe	ere
Message	M_NSYS objects with MARSYS values overlap.				
Solution	Amend limits of M_NSYS objects to remove ove	rlap.	Conformity	12.2	
Test Case No. 1	M_NSYS (A) objects overlapping .		•	•	
Location	32°31'05.86"S 60°46'55.12"E	S57 Encoding	M_NSYS (A)	MARSYS=	:1,2
Screen Capture					
Expected Test Results	T1727: 2 errors "M_NSYS objects with MARSYS	values overlap" mı	ust be triggere	d.	
Secondary Errors	T1726: An additional error "Data coverage not ovalue for MARSYS" must be triggered.	ompletely covered	d by M_NSYS o	bjects with	а
Dataset Name	AA500019	S-58 test No.	T1728	Туре	E
S-58 Description	For each M_NSYS object where ORIENT is not N ORIENT is not Null.	ull which OVERLAF	PS an M_NSYS	object whe	re
Message	M_NSYS objects with ORIENT values overlap.				
Solution	Amend limits of M_NSYS objects to remove ove	rlap.	Conformity	12.2	
Test Case No. 1	M_NSYS (A) objects both with ORIENT attribution	on encoded are ove	erlapping.		
Location	32°31'05.86"S 60°46'55.12"E	S57 Encoding	M_NSYS (A)	MARSYS= ORIENT=6	•

Screen Capture	
Expected Test Results	T1728: 2 errors "M_NSYS objects with ORIENT values overlap" must be triggered.
Secondary Errors	None

2.20. Test Dataset: AA500020

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1730	For each BCNCAR object where VERDAT OR VERACC are present.
1731	For each BCNISD object where VERDAT OR VERACC are present.
1733	For each BCNSAW object where VERDAT OR VERACC are present.
1734	For each BCNSPP object where VERDAT OR VERACC are present.
1735	For each BCNXXX or BOYXXX object where MARSYS is present and equal to the value of MARSYS on the M_NSYS object it is WITHIN.
1736	For each DAYMAR object where VERDAT OR VERACC are present.
1737	For each BOYCAR object where VERACC is present.
1738	For each BOYINB object where VERACC is present.
1739	For each BOYISD object where VERACC is present.
1740	For each BOYLAT object where VERACC is present.
1741	For each BOYSPP object where VERACC is present.
1742	For each BOYSAW object where VERACC is present.
1744	For each LITVES object where HORACC OR VERACC are present.
1745	For each LITFLT object where HORACC OR VERACC are present.
1746	For each TOPMAR object where VERACC, VERDAT, VERLEN, HEIGHT OR MARSYS are present.
1747	For each RETRFL object where MARSYS, VERDAT OR VERACC are present.
1749	For each LIGHTS object where VERACC is present.
1750	For each LIGHTS object which is a slave to a BOYXXX object where HEIGHT is present.

Dataset Name	AA500020	S-58 test No.	T1730	1	Гуре	Ε
S-58 Description	For each BCNCAR object where VE	RDAT OR VERACC are p	oresent.			
Message	VERDAT or VERACC are present on	BCNCAR object.				
Solution	Remove VERDAT or VERACC.		Conformity	12.3.1		
Test Case No. 1	BCNCAR with attributes VERDAT a	nd VERACC.		•		
Location	32°30'31.87"S 60°51'11.79"E	S57 Encoding	BCNCAR (P)	VERDAT=: VERACC=: HEIGHT=1	3	
Screen Capture	1	12	2.8			
			`AR ohiect" must	he triggere	М	
Expected Test Results	T1730: 2 errors "VERDAT or VERAC	•				
	T1730: 2 errors "VERDAT or VERAC T0547: An additional error "Attribu T1546: An additional error "Value VERCCL" must be triggered.	ute not permitted on ol	bject class" must	be triggere	d.	
Secondary Errors	T0547: An additional error "Attribu T1546: An additional error "Value	ute not permitted on ol	bject class" must	be triggere ERCOP, VER	d. CSA or	E
Secondary Errors Dataset Name	T0547: An additional error "Attribu T1546: An additional error "Value VERCCL" must be triggered.	ute not permitted on ol for VERACC without val S-58 test No.	bject class" must lue of VERCLR, VI	be triggere ERCOP, VER	d.	Ī
Secondary Errors Dataset Name S-58 Description	T0547: An additional error "Attribut T1546: An additional error "Value VERCCL" must be triggered. AA500020	S-58 test No.	bject class" must lue of VERCLR, VI	be triggere ERCOP, VER	d. CSA or	Ī
Secondary Errors Dataset Name S-58 Description Message	T0547: An additional error "Attribut T1546: An additional error "Value VERCCL" must be triggered. AA500020 For each BCNISD object where VER	S-58 test No.	bject class" must lue of VERCLR, VI	be triggere ERCOP, VER	d. CSA or	Ī
Expected Test Results Secondary Errors Dataset Name S-58 Description Message Solution Test Case No. 1	T0547: An additional error "Attribut T1546: An additional error "Value VERCCL" must be triggered. AA500020 For each BCNISD object where VER VERDAT or VERACC are present on	S-58 test No. RDAT OR VERACC are pi	bject class" must lue of VERCLR, VI T1731 resent.	be triggere ERCOP, VER	d. CSA or	Ī

Screen Capture	1	14 ₉			
Expected Test Results	T1731: 2 errors "VERDAT or VERACC	are present on BCNI	SD object" must	be triggered.	
Secondary Errors	T0547: An additional error "Attribut T1546: An additional error "Value fo VERCCL" must be triggered.				or
		T	T = . = . =		Τ_
Dataset Name	AA500020	S-58 test No.	T1733	Туре	E
S-58 Description	For each BCNSAW object where VER	RDAT OR VERACC are	present.		
Message	VERDAT or VERACC are present on E	CNSAW object.			
Solution	Remove VERDAT or VERACC.		Conformity	12.3.1	
Test Case No. 1	BCNSAW with attributes VERDAT an	d VERACC.	1	1	
Location	32°30'38.89"S 60°51'21.50"E	S57 Encoding	BCNSAW (P)	VERDAT=3 VERACC=3 HEIGHT=1.0	
Screen Capture	43		4		
Expected Test Results	T1733: 2 errors "VERDAT or VERACC	are present on BCNS	SAW object" mus	t be triggered.	
Secondary Errors	T0547: An additional error "Attribut T1546: An additional error "Value fo VERCCL" must be triggered.	e not permitted on o	bject class" must	be triggered.	or

Dataset Name	AA500020	S-58 test No.	T1734	Туре	E		
S-58 Description	For each BCNSPP object where VERDA	T OR VERACC are p	resent.				
Message	VERDAT or VERACC are present on BCI	NSPP object.					
Solution	Remove VERDAT or VERACC.	Remove VERDAT or VERACC. Conformity 12.3.1					
Test Case No. 1	BCNSPP with attributes VERDAT and V	ERACC.	1	•			
Location	32°30'46.65"S 60°50'57.37"E	S57 Encoding	BCNSPP (P)	VERDAT=3 VERACC=3 HEIGHT=1.0			
Screen Capture	1						
Expected Test Results	T1734: 2 errors "VERDAT or VERACC at						
Secondary Errors	T0547: An additional error "Attribute r T1546: An error "Value for VERACC with be triggered.	•	•		" must		
D			T4725		1 -		
Dataset Name S-58 Description	AA500020 For each BCNXXX or BOYXXX object when the second	S-58 test No. nere MARSYS is pre	T1735 sent and equal to	the value of M			
	on the M_NSYS object it is WITHIN.						
	Value of MARSYS on Beacon object is the same as the value on M_NSYS object.						
Message	Value of MANSTS off Beacoff object is t	Remove duplicate value. Conformity 12.3.1					
			Conformity	12.3.1			
Message Solution Test Case No. 1			Conformity	12.3.1			

Screen Capture	T T	1		
Expected Test Results	T1735: 5 errors "Value of MARSYS on B must be triggered.	eacon object is the	e same as the val	ue on M_NSYS object"
Secondary Errors	T0513: 5 additional errors "An attribute object" must be triggered.	e value given on a r	meta object is du	plicated on a geo
Test Case No. 2	BOYXXX with attribute MARSYS.			
Location	32°30'48.95"S 60°50'36.98"E	S57 Encoding	BOYLAT (P) BOYCAR (P) BOYINB (P) BOYISD (P) BOYSAW (P) BOYSPP (P) M_NSYS (A)	MARSYS=2
Screen Capture		4		
Expected Test Results	T1735: 6 errors "Value of MARSYS on B must be triggered. T0513: 6 additional errors "An attribute			
Secondary Errors	object" must be triggered.	value given on a f	neta object is du	piicateu off a geo
Dataset Name	AA500020	S-58 test No.	T1736	Type E
S-58 Description	For each DAYMAR object where VERDA	T OR VERACC are p	oresent.	
Message	VERDAT or VERACC are present on DAY	MAR object.		

Solution F	Remove VERDAT or VERACC.		Conformity	12.3.3
Test Case No. 1	DAYMAR (P) with attributes VERDAT an	d VERACC.		
Location 3	32°30'54.71"S 60°51'42.41"E	S57 Encoding	DAYMAR (P)	VERDAT=3 VERACC=3 HEIGHT=1.0
Screen Capture	.			
Expected Test Results T	T1736: 2 errors "VERDAT or VERACC are	e present on DAYN	IAR object" must	be triggered.
Secondary Errors	TO547: An additional error "Attribute no T1546: An additional error "Value for Vi VERCCL" must be triggered.	•	-	
Dataset Name	AA500020	S-58 test No.	T1737	Type E
S-58 Description	For each BOYCAR object where VERACC	is present.		
i l				
Message \	VERACC is present on BOYCAR object.			
	VERACC is present on BOYCAR object. Remove VERACC.		Conformity	12.4.1
Solution F			Conformity	12.4.1
Solution F Test Case No. 1	Remove VERACC.	S57 Encoding	Conformity BOYCAR (P)	12.4.1 VERACC=1
Solution F Test Case No. 1	Remove VERACC. BOYCAR with attribute VERACC.	S57 Encoding	<u> </u>	1

Secondary Errors	T0547: An additional error "Attribute r T1546: An additional error "Value for V VERCCL" must be triggered.					r
Data and Name	AAF00020	C 50 to at No.	T4730		T	 -
Dataset Name	AA500020	S-58 test No.	T1738		Туре	Е
S-58 Description	For each BOYINB object where VERACO	C is present.				
Message	VERACC is present on BOYINB object.					
Solution	Remove VERACC. Conformity 12.4.1					
Test Case No. 1	BOYINB with attribute VERACC.					
Location	32°31'01.67"S 60°50'47.93"E	S57 Encoding	BOYINB (P)	VERACC	C=1	
Screen Capture	△					
Expected Test Results	T1738: An error "VERACC is present on	<u>-</u>				
Secondary Errors	T1546: An additional error "Value for VERCCL" must be triggered.	/ERACC without val	lue of VERCLR, VI	ERCOP, VE	RCSA or	r
Dataset Name	AA500020	S-58 test No.	T1739		Туре	Е
S-58 Description	For each BOYISD object where VERACC	is present.				
Message	VERACC is present on BOYISD object.					
Solution	Remove VERACC.		Conformity	12.4.1		
Test Case No. 1	BOYISD with attribute VERACC.					
	32°30'16.86"S 60°51'42.40"E	S57 Encoding	BOYISD (P)	VERACC		

Screen Capture	4					
Expected Test Results	T1739: An error "VERACC is present on	BOYISD object" m	ust be triggered.			
Secondary Errors	T0547: An additional error "Attribute n T1546: An additional error "Value for V VERCCL" must be triggered.	•	-			
		1	Ī			
Dataset Name	AA500020	S-58 test No.	T1740		Type	E
S-58 Description	For each BOYLAT object where VERACO	C is present.				
Message	VERACC is present on BOYLAT object.					
Solution	Remove VERACC.		Conformity	12.4.1		
Test Case No. 1	BOYLAT with attribute VERACC.		•			
Location	32°29'58.39"S 60°52'08.03"E	S57 Encoding	BOYLAT (P)	VERACC	C=1	
Screen Capture	4					
Expected Test Results	T1740: An error "VERACC is present on	BOYLAT object" m	ust be triggered.	·		
Secondary Errors	T0547: An additional error "Attribute n T1546: An additional error "Value for V VERCCL" must be triggered.	ot permitted on ob	ject class" must	be trigger		
Dataset Name	AA500020	S-58 test No.	T1741		Type	Е

S-58 Description	For each BOYSPP object where VERACC is present.				
Message	VERACC is present on BOYSPP object.				
Solution	Remove VERACC.		Conformity	12.4.1	
Test Case No. 1	BOYSPP with attribute VERACC.		•		
Location	32°30'41.74"S 60°50'38.45"E	S57 Encoding	BOYSPP (P)	VERACC=1	
Screen Capture	¹³ ₇				
Expected Test Results	T1741: An error "VERACC is present or	n BOYSPP object" m	nust be triggered		
Secondary Errors	T0547: An additional error "Attribute of T1546: An additional error "Value for VERCCL" must be triggered.				or
Dataset Name	AAF00020	C 50 4-44 N-	T1742	T	T
Dataset Name	AA500020	S-58 test No.	T1742	Туре	E
S-58 Description	For each BOYSAW object where VERAG	CC is present.			
Message	VERACC is present on BOYSAW object.				
Solution	Remove VERACC.		Conformity	12.4.1	
Test Case No. 1	BOYSAW with attribute VERACC.				
Location	32°30'03.46"S 60°50'40.99"E	S57 Encoding	BOYSAW (P)	VERACC=1	

Screen Capture					
Expected Test Results	T1742: An error "VERACC is present or				
Secondary Errors	T0547: An additional error "Attribute of T1546: An additional error "Value for VERCCL" must be triggered.		-		r
Dataset Name	AA500020	S-58 test No.	T1744	Туре	E
S-58 Description	For each LITVES object where HORACO	OR VERACC are pre	esent.		
Message	HORACC or VERACC are present on LIT	VES object.			
Solution	Remove HORACC or VERACC.		Conformity	12.4.2	
Test Case No. 1	LITVES (P) with attributes HORACC and	VERACC.			
Location	32°31'05.30"S 60°52'01.14"E	S57 Encoding	LITVES (P)	VERACC=1 HORACC=1	
Screen Capture	<u></u>				
Expected Test Results	T1744: 2 errors "HORACC or VERACC a	re present on LITVE	S object" must b	oe triggered.	
Secondary Errors	T0547: An additional error "Attribute of T1545: An additional error "Value for of T1546: An additional error "Value for over the VERCCL" must be triggered.	HORACC without a v	alue of HORCLR	" must be triggere	

Dataset Name	AA500020	S-58 test No.	T1745		Туре	Ε
S-58 Description	For each LITFLT object where HORAC	CC OR VERACC are pro	esent.			
Message	HORACC or VERACC are present on L	ITFLT object.				
Solution	Remove HORACC or VERACC.		Conformity	12.4.2		
Test Case No. 1	LITFLT (P) with attributes HORACC ar	nd VERACC.		•		
Location	32°30'53.67"S 60°51'57.88"E	S57 Encoding	LITFLT (P)	VERAC HORAC		
Screen Capture						
Expected Test Results	T1745: 2 errors "HORACC or VERACC	are present on LITFL	.T object" must b	e trigger	ed.	
Secondary Errors	T0547: An additional error "Attribute T1545: An additional error "Value for	r HORACC without a	value of HORCLR	" must be	e triggere	ed.
	T1546: An additional error "Value for VERCCL" must be triggered.	r veracc without va		LICOI, V	ERCSA o	r
		r VERACC WITHOUT VA		LIKCOI, V	ERCSA o	r
Dataset Name		S-58 test No.	T1746	LINCOI , V	Type	r E
	VERCCL" must be triggered.	S-58 test No.	T1746		Туре	E
S-58 Description	VERCCL" must be triggered. AA500020	S-58 test No. ACC, VERDAT, VERLE	T1746 N, HEIGHT OR M	ARSYS ar	Туре	E
S-58 Description Message	VERCCL" must be triggered. AA500020 For each TOPMAR object where VER.	S-58 test No. ACC, VERDAT, VERLE or MARSYS are preser	T1746 N, HEIGHT OR M	ARSYS ar	Туре	E
S-58 Description	VERCCL" must be triggered. AA500020 For each TOPMAR object where VER. VERACC, VERDAT, VERLEN, HEIGHT of	S-58 test No. ACC, VERDAT, VERLE or MARSYS are preser HEIGHT or MARSYS.	T1746 N, HEIGHT OR M ont on TOPMAR of Conformity	ARSYS are oject.	Type e presen	E

Screen Capture	·			
Expected Test Results	T1746: 5 errors "VERACC, VERDAT, VEF must be triggered.			_
Secondary Errors	T0547: An additional error "Attribute n T1546: An additional error "Value for V VERCCL" must be triggered.	•	-	
Dataset Name	AA500020	S-58 test No.	T1747	Type E
S-58 Description	For each RETRFL object where MARSYS	, VERDAT OR VERA	CC are present.	
Message	MARSYS, VERDAT or VERACC are prese	nt on RETRFL objec	t.	
Solution	Remove MARSYS, VERDAT or VERACC.		Conformity	12.7
Test Case No. 1	LNDMRK (P), RETRFL (P) with attribute	s VERACC and MAR	SYS.	
Location	32°30'40.20"S 60°49'59.13"E	S57 Encoding	LNDMRK (P) RETFLT (P)	VERACC=1 MARSYS=2
Screen Capture				
Expected Test Results	T1747: 2 errors "MARSYS, VERDAT or V	/ERACC are present	on RETRFL obje	ct" must be triggered.
Secondary Errors	T0547: An additional error "Attribute n T1546: An additional error "Value for V VERCCL" must be triggered.	ot permitted on ob	ject class" must	be triggered.

Test Case No. 2	LNDMRK (P), RETRFL (P) with attribut	te VERDAT.		
Location	32°30'35.97"S 60°50'02.88"E	S57 Encoding	LNDMRK (P) RETFLT (P)	VERDAT=3
Screen Capture	(e)			
Expected Test Results	T1747: An error "MARSYS, VERDAT o	· · · · · · · · · · · · · · · · · · ·		
Secondary Errors	T0547: An additional error "Object co for the object class" must be triggere		tside of the list o	f permissible attributes
Data and Name	AAF00020	C 50 to at No	T4740	T
Dataset Name	AA500020	S-58 test No.	T1749	Type E
S-58 Description	For each LIGHTS object where VERAC	CC is present.		
Message	VERACC present on LIGHTS object.			T.
Solution	Remove VERACC.		Conformity	12.8.1
Test Case No. 1	LNDMRK (P), LIGHTS with attribute V	ERACC.	LAIDAADK (D)	1
Location	32°30'30.77"S 60°50'04.41"E	S57 Encoding	LNDMRK (P) LIGHTS (P)	VERACC=1
Screen Capture	•	F.W		
Expected Test Results	T1749: An error "VERACC present on	LIGHTS object" mus	t be triggered.	
Secondary Errors	T0547: An additional error "Attribute T1546: An additional error "Value for VERCCL" must be triggered.		-	

Dataset Name	AA500020	S-58 test No.	T1750	Type E	
S-58 Description	For each LIGHTS object which is a slave to a BOYXXX object where HEIGHT is present.				
Message	HEIGHT present on LIGHTS object w	hich is slave to a BOY	XXX object.		
Solution	Remove HEIGHT.		Conformity	12.8.1	
Test Case No. 1	BOYLAT, LIGHTS with HEIGHT attribu	uted.	•	•	
Location	32°30'04.91"S 60°52'14.14"E	S57 Encoding	BOYLAT (P) BOYCAR (P) BOYINB (P) BOYISD (P) BOYSAW (P) BOYSPP (P) LIGHTS (P)	HEIGHT=1	
Screen Capture	F.W1m Q.W1s1m F.W1m FI(2)W	Д F.G1m /10s1m			
Expected Test Results	T1750: 6 errors "HEIGHT present on LIGHTS object which is slave to a BOYXXX object" must be triggered.				
Secondary Errors	None				

2.21. Test Dataset: AA500021

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1751	For each LIGHTS object where ORIENT is present AND CATLIT is not (1) [directional function] OR (16) [moiré effect].
1752	For each LIGHTS object where LITCHR is equal to (1) [fixed] AND SIGGRP, SIGPER or SIGSEQ are present.
1754	For each LIGHTS object where VERDAT is not Null AND equal to the value of VERDAT on the M_VDAT object it is WITHIN.
1755	For each LIGHTS object where VERDAT is not Null AND equal to the value of VERDAT in the Vertical Datum subfield (VDAT) of the Data Set Parameter field (DSPM).
1756	For each LIGHTS object where CATLIT equals (4) [leading light] AND without CATLIT equals (1) [directional function] AND ORIENT is present.
1757	For each LIGHTS object where CATLIT equals (19) [horizontally disposed] or (20) [vertically disposed] AND MLTYLT does not contain a value greater than 1.
1758	For each LIGHTS object where CATLIT equals (17) [emergency] AND it is not COINCIDENT with another LIGHTS object.
1759	For each RDOSTA object where ORIENT is not Null AND CATROS is not (2) [directional radiobeacon].
1760	For each RADSTA object where VERDAT OR VERACC are present.
1761	For each RADRFL object where VERDAT OR VERACC are present.
1762	For each RADRFL object which TOUCHES an object of type area or point having CONRAD as an allowable attribute.
1764	For each object where STATUS is equal to (1) [permanent] and PERSTA and/or PEREND are present.
1768	For each SOUNDG object where the depth value is less than or equal to the DRVAL1 of the DEPARE or DRGARE it lies WITHIN AND DRVAL1 of that object is not Null.
1769	For each SOUNDG object where EXPSOU is not (3) [deeper than the range of the depth of the surrounding depth area] AND the depth value is greater than the DRVAL2 of the overlapping DEPARE object AND DRVAL2 of this object is not Null.
1770a	For each SOUNDG object where EXPSOU = (3) AND the depth value is less than or equal to DRVAL2 of the DEPARE it is WITHIN where DRVAL2 is not unknown.
1770b	For each SOUNDG object where EXPSOU = (3) that the depth value is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null.
1770c	For each SOUNDG object where EXSPOU = (3) where the depth value is less than or equal to the DRVAL1 of the DRGARE object it is WITHIN where DRVAL2 is not present.
1772	For each UWTROC object where VALSOU is not Null AND EXPSOU is not present OR (1) [within the range of depth of the surrounding depth area] AND VALSOU is greater than the DRVAL2 OR less than or equal to DRVAL1 of the overlapping DEPARE OR DRGARE object AND DRVAL1 AND DRVAL2 of this object are not Null.
1773	For each UWTROC object where VALSOU is not Null AND EXPSOU = (2) AND VALSOU is greater than the value of DRVAL1 of the DEPARE or DRGARE object it is WITHIN AND DRVAL1 is not unknown.
1774a	For each UWTROC object where VALSOU is not Null AND EXPSOU = (3) AND the VALSOU is less than or equal to DRVAL2 of the DEPARE it is WITHIN where DRVAL2 is not unknown.
1774b	For each UWTROC object where EXPSOU = (3) that the depth value is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null.
1774c	For each UWTROC object where EXSPOU = (3) where VALSOU is less than or equal to the DRVAL1 of the DRGARE object it is WITHIN where DRVAL2 is not present.
1776	For each LIGHTS object where the value of LITCHR is as listed in the table below AND SIGGRP is not as listed in the table below. LITCHR SIGGRP 6 (1) 7 (1) 9 () 10 () 11 () 28 ()
1779	For each DEPARE object where DRVAL1 is equal to DRVAL2.
507	If any mandatory attributes are not populated.

Dataset Name	AA500021	S-58 test No.	T1751	Type E
S-58 Description	For each LIGHTS object where ORIENT [moiré effect].	is present AND CA	TLIT is not (1) [dire	ectional function] OR (16)
Message	ORIENT populated without CATLIT (1)	or (16).		
Solution	Populate appropriate value of CATLIT ORIENT.	or remove	Conformity	12.8.1 and Appendix B.1 (3.5.2)
Test Case No. 1	LIGHTS with attribute CATLIT and ORII	NT.		
Location	32°31'36.91"S 60°49'26.58"E	S57 Encoding	LIGHTS (P)	CATLIT=6 ORIENT=25
Screen Capture	A			
Expected Test Results	T1751: An error "ORIENT populated w	ithout CATLIT (1) o	r (16)" must be tri	ggered.
Secondary Errors	None			
Test Case No. 2	LIGHTS with attribute ORIENT and und	lefined CATLIT.		_
Location	32°31'36.91"S 60°49'26.85"E	S57 Encoding	LIGHTS (P)	ORIENT=25
Screen Capture	A			
Expected Test Results	T1751: An error "ORIENT populated w	ithout CATLIT (1) or	r (16)" must be trig	ggered.
Secondary Errors	None			
Dataset Name	AA500021	S-58 test No.	T1752	Type E

S-58 Description	For each LIGHTS where LITCHR is equa	al to (1) [fixed] AND	SIGGRP, SIGPER o	or SIGSEQ are present.
Message	SIGGRP, SIGPER or SIGSEQ present for			·
Solution	Remove SIGGRP, SIGPER or SEGSEQ, n fixed lights.	-	Conformity	12.8.1
Test Case No. 1	LIGHTS with attributes LITCHR, SIGGRI	P, SIGPER and SIGSE	Q.	
Location	32°31'37.19"S 60°49'27.75"E	S57 Encoding	LIGHTS (P)	LITCHR=1 SIGGRP=(1) SIGPER=4 SIGSEQ=00.4+(03.6)
Screen Capture	A			
Expected Test Results	T1752: An error "SIGGRP, SIGPER or SI must be triggered.	IGSEQ present for L	IGHTS object whe	re LITCHR = (1) [fixed]"
Secondary Errors	T0541a: An additional error "SIGGRP i	s encoded for a fixe	ed light" must be t	riggered.
Dataset Name	AA500021	S-58 test No.	T1754	Type E
S-58 Description	For each LIGHTS object where VERDATM_VDAT object it is WITHIN.	Γ is not Null AND eq	qual to the value o	f VERDAT on the
Message	LIGHTS object with VERDAT which is id	dentical to that on t	the underlying M_	VDAT object.
Solution	Remove unnecessary value of VERDAT object.	from the LIGHTS	Conformity	12.8.1
Test Case No. 1	LIGHTS with VERDAT equal to the over	rlapping M_VDAT V	ERDAT.	
			M_VDAT (A)	

Screen Capture				
Expected Test Results	T1754: An error "LIGHTS with VERDAT was be triggered.	vhich is identical to	o that on the unde	rlying M_VDAT object"
Secondary Errors	T0513: An additional error "An attribute must be triggered.	e value given on a	meta object is dup	licated on a geo object"
Dataset Name	AA500021	S-58 test No.	T1755	Type E
S-58 Description	For each LIGHTS object where VERDAT i Datum subfield (VDAT) of the Data Set F	-		VERDAT in the Vertical
Message	LIGHTS object with VERDAT which is ide	entical to that in th	e VDAT subfield of	the DPSM field.
Solution	Remove unnecessary value of VERDAT.		Conformity	12.8.1
Test Case No. 1	LIGHTS with VERDAT equal to the Vertic	cal Datum subfield	of the Data Set Pa	rameter field.
Location	32°31'37.23"S 60°49'28.91"E	S57 Encoding	LIGHTS (P)	VERDAT=16
Screen Capture				
Expected Test Results	T1755: An error "LIGHTS object with VEIDPSM field" must be triggered.	RDAT which is ide	ntical to that in the	· VDAT subfield of the
Secondary Errors	T0513: An additional error "An attribute must be triggered.	e value given on a	meta object is dup	licated on a geo object"
	muse be triggered.			

Conformity Conformity Conformity 12.8.64 and 12.8.6.5	Dataset Name	AA500021	S-58 test No.	T1756		Туре	E
Screen Capture Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS (P) CATLIT=1,4 ORIENT=10 Screen Capture Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS (P) CATLIT=1,4 ORIENT=10 Screen Capture Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must be triggered. T1756: An error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. None	S-58 Description	, ,,, , , , , , , , , , , , , , , , , ,					
Target Case No. 1 LIGHTS with attribute CATLIT and ORIENT. Screen Capture Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. Screen Capture Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. None	Message	ORIENT present for non-directional lea	ding light LIGHTS o	bject.			
Screen Capture Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. Test Case No. 2 LIGHTS with attribute CATLIT and ORIENT. Location 32*31*38.46*S 60*49*29.18*E S57 Encoding LIGHTS (P) CATLIT=4 ORIENT object" must be triggered. S57 Encoding LIGHTS (P) CATLIT=1,4 ORIENT=10 CATLIT=1,4 ORIENT=10 Screen Capture T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. None	Solution	Remove value of ORIENT.		Conformity	12.8.6.4	and 12.	8.6.5
Screen Capture T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must be triggered. Secondary Errors T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must be triggered. Test Case No. 2 LIGHTS with attribute CATLIT and ORIENT. S57 Encoding LIGHTS (P) ORIENT=10 CATLIT=1,4 ORIENT=10 Screen Capture Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. None	Test Case No. 1	LIGHTS with attribute CATLIT and ORIE	NT.	1	1		
Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must be triggered. T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. Test Case No. 2 LIGHTS with attribute CATLIT and ORIENT. Location 32°31'38.46"S 60°49'29.18"E S57 Encoding LIGHTS (P) CATLIT=1,4 ORIENT=10 Screen Capture T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. Secondary Errors None	Location	32°31'37.70"S 60°49'28.67"E	S57 Encoding	LIGHTS (P)			
Secondary Errors T1751: An additional error "ORIENT populated without CATLIT (1) or (16)" must be triggered. Test Case No. 2 LIGHTS with attribute CATLIT and ORIENT. Location 32°31'38.46"S 60°49'29.18"E S57 Encoding LIGHTS (P) CATLIT=1,4 ORIENT=10 Screen Capture T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. Secondary Errors None	Screen Capture	1					
Test Case No. 2 LIGHTS with attribute CATLIT and ORIENT. 32°31'38.46"S 60°49'29.18"E S57 Encoding LIGHTS (P) CATLIT=1,4 ORIENT=10 Screen Capture T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. Secondary Errors None	Expected Test Results	T1756: An error "ORIENT present for no	on-directional lead	ing light LIGHTS ob	oject" mus	t be trigg	gered.
Screen Capture T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. Secondary Errors None	Secondary Errors	T1751: An additional error "ORIENT po	pulated without CA	ATLIT (1) or (16)" m	nust be tri	ggered.	
Screen Capture T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. Secondary Errors None	Test Case No. 2	LIGHTS with attribute CATLIT and ORIE	NT.				
Expected Test Results T1756: An error "ORIENT present for non-directional leading light LIGHTS object" must not be triggered. Secondary Errors None	Location	32°31'38.46"S 60°49'29.18"E	S57 Encoding	LIGHTS (P)			
triggered. Secondary Errors None	Screen Capture						
	Expected Test Results	triggered.	on-directional lead	ING IIGH IS OD	oject mus	or not be	
Dataset Name AA500021 S-58 test No. T1757 Type E	Secondary Errors	None					
	Dataset Name	AA500021	S-58 test No.	T1757		Туре	E

S-58 Description	For each LIGHTS object where CATLIT AND MLTYLT does not contain a value		ntally disposed] or	(20) [vertically disposed]
Message	LIGHTS object where CATLIT = (19) or	_	e of MLTYLT.	
Solution	Populate the value of MLTYLT.	· ,	Conformity	12.8.7
Test Case No. 1	LIGHTS with attribute CATLIT.			<u> </u>
Location	32°31'53.15"S 60°49'57.80"E	S57 Encoding	LIGHTS (P)	CATLIT=19 MLTYLT=UNDEFINED
Screen Capture	19,			
Expected Test Results	T1757: An error "LIGHTS object where triggered.	e CATLIT = (19) or (2	0) without a value	of MLTYLT" must be
Secondary Errors	None			
Test Case No. 2	LIGHTS with attribute CATLIT.	1	I	T
Location	32°31'52.88"S 60°50'06.07"E	S57 Encoding	LIGHTS (P)	CATLIT=20 MLTYLT=UNDEFINED
Screen Capture		20 ₇		
Expected Test Results	T1757: An error "LIGHTS object where triggered.	e CATLIT = (19) or (2	0) without a value	of MLTYLT" must be
Secondary Errors	None			
Dataset Name	AA500021	S-58 test No.	T1758	Type E
S-58 Description	For each LIGHTS object where CATLIT another LIGHTS object.			· · ·

Message	LIGHTS object isolated and with CATLI	T (17) [emergency].		
Solution	Encode primary LIGHTS object.		Conformity	12.8.7
Test Case No. 1	LIGHTS with attribute CATLIT.		•	1
Location	32°32'01.85"S 60°50'05.28"E	S57 Encoding	LIGHTS (P)	CATLIT=17
Screen Capture	21	21 ₉		
Expected Test Results	T1758: An error "LIGHTS object isolate	ed and with CATLIT	(17) [emergency]"	must be triggered.
Secondary Errors	None			
Dataset Name	AA500021	S-58 test No.	T1759	Type E
S-58 Description	For each RDOSTA object where ORIEN	T is not Null AND C	ATROS is not (2) [d	irectional radiobeacon].
Message	RDOSTA with ORIENT but without CAT	ROS = (2).		
Solution	Populate CATROS = (2).		Conformity	12.9.1
Test Case No. 1	RDOSTA (P) with attribute ORIENT enc	oded where CATRC	S does not =2[dire	ectional radiobeacon].
Location	32°32'05.01"S 60°50'17.52"E	S57 Encoding	RDOSTA (P)	ORIENT=50 CATROS=7
Screen Capture	21 ₈ •			
Expected Test Results	T1759: An error "RDOSTA with ORIENT	Γ but without CATR	OS = (2)" must be	triggered.
Secondary Errors	None			
Dataset Name	AA500021	S-58 test No.	T1760	Type E

S-58 Description	For each RADSTA object where VERDAT OR VERACC are present.				
Message	VERDAT or VERACC present on RADSTA object.				
Solution	Remove VERDAT or VERACC.		Conformity	12.11.3	
Test Case No. 1	RADSTA (P) with attributes VERACC an	d VERDAT.	1		
Location	32°32'09.02"S 60°50'26.67"E	S57 Encoding	RDASTA (P)	VERACC=3 VERDAT=1	
Screen Capture	•				
Expected Test Results	T1760: 2 errors "VERDAT or VERACC p				
Secondary Errors	T0547: An additional error "Attribute of T1546: An additional error "Value for VERCCL" must be triggered.	•	-		
Dataset Name	AA500021	S-58 test No.	T1761	Type E	
S-58 Description	For each RADRFL object where VERDA			1700	
Message	VERDAT or VERACC present on RADRF				
Solution	Remove VERDAT or VERACC.	L Object.	Conformity	12.12	
Test Case No. 1	RADRFL (P) with attributes VERACC an	d VFRDAT.	comornine	12.12	
Location	32°32'12.14"S 60°50'33.68"E	S57 Encoding	RDARFL (P)	VERACC=3 VERDAT=1	
Screen Capture	*				

Expected Test Results	T1761: 2 errors "VERDAT or VERACC present on RADRFL object" must be triggered.			
Secondary Errors	T0547: An additional error "Attribute not permitted on object class" must be triggered. T1546: An additional error "Value for VERACC without value of VERCLR, VERCOP, VERCSA or VERCCL" must be triggered.			
Dataset Name	AA500021			
S-58 Description	For each RADRFL object which TOUCHES an object of type area or point having CONRAD as an allowable attribute.			
Message	Unnecessary RADRFL encoded.			
Solution	Remove unnecessary RADRFL and encode CONRAD = 3 on the associated object. Conformity 12.12			
Test Case No. 1	RADRFL (P) on a depth area and offshore platform.			
Location	32°32'13.81"S 60°50'44.28"E			
Screen Capture	☆			
Expected Test Results	T1762: 2 errors "Unnecessary RADRFL encoded" must be triggered.			
Secondary Errors	None			
Test Case No. 2	RADRFL (P) on a PILPNT.			
Location	32°32'16.59"S 60°50'46.35"E			
Screen Capture	*			
Expected Test Results	T1762: An error "Unnecessary RADRFL encoded" must not be triggered.			

Secondary Errors	None			
Test Case No. 3	RADRFL (P) on a DAYMAR (P).			
Location	32°31'33.58"S 60°49'30.58"E	S57 Encoding	RADRFL (P)	
Screen Capture	呆		DAYMAR (P)	
Expected Test Results	T1762: An error "Unnecessary RADF	RFL encoded" must no	ot be triggered.	
Secondary Errors	None			
Dataset Name	AA500021	S-58 test No.	T1764	Type E
S-58 Description	For each object where STATUS is eq	ual to (1) [permanent] and PERSTA and	or PEREND are present.
Message	PERSTA and/or PEREND are present	for an object with ST	ATUS=permanent	•
Solution	Remove PERSTA/PEREND if value of	STATUS is valid.	Conformity	2.1.5.1 and logical consistency
Test Case No. 1	BOYLAT with STATUS as well as PER	STA and/or PEREND e	ncoded.	
Location	32°31'55.41"S 60°50'14.36"E	S57 Encoding	BOYLAT (P)	STATUS=1 PERSTA=21.03.— PERSTA=21.03
Screen Capture	20 ₇	21 ₆		
Expected Test Results	T1764: An error "PERSTA and/or PE be triggered.	REND are present for	an object with STA	ATUS=permanent" must
Secondary Errors	T1516: An additional warning "PERS	TA or PEREND not po	pulated where STA	ATUS equals 5" must be

	triggered.				
					1
Dataset Name	AA500021	S-58 test No.	T1768	Туре	E
S-58 Description	For each SOUNDG object where the de or DRGARE it lies WITHIN AND DRVAL1	•	•	DRVAL1 of the DI	PARE
Message	SOUNDG object with depth less than o	r equal to the unde	erlying value of DR	VAL1.	
Solution	Amend DRVAL1 value of depth objects	accordingly.	Conformity	5.3	
Test Case No. 1	SOUNDG objects with depth value: a) Less than or equal to DRVAL1 of th b) Less than or equal to DRVAL1 of th			_	
Location	32°31'44.03"S 60°52'04.86"E	S57 Encoding	SOUNDG (P) DRGARE (A) DEPARE (A)	8,9,8 and 9.1m DRVAL1=9 DRVAL1=9.1 DRVAL2=18.2	
Screen Capture	8	9 ₁			
Expected Test Results	T1768: 4 errors "SOUNDG object with omust be triggered.	depth less than or o	equal to the under	rlying value of DR\	/AL1"
Secondary Errors	None				
Dataset Name	AA500021	S-58 test No.	T1769	Туре	E
S-58 Description	For each SOUNDG object where EXPSO surrounding depth area] AND the dept DEPARE object AND DRVAL2 of this obj	h value is greater t	_	•	:
Message	SOUNDG object deeper than DRVAL2 v	alue without EXPS	OU equal to (3).		
Solution	Populate appropriate value of EXPSOU		Conformity	5.3	
Test Case No. 1	SOUNDG depth value is greater than D	RVAL2 of the overl	apping DEPARE (A).	
Location	32°32'50.92"S 60°50'57.47"E	S57 Encoding	SOUNDG (P)	40m	

Screen Capture	40					
Expected Test Results	T1769: An error "SOUNDG object deep triggered.	er than DRVAL2 va	lue without EXPSC	OU equal to (3)." m	ust be	
Secondary Errors	None					
Dataset Name	AA500021	S-58 test No.	T1770a	Туре	W	
S-58 Description	For each SOUNDG object where EXPSO of the DEPARE it is WITHIN where DRV	, ,	•	nan or equal to DR'	VAL2	
Message	SOUNDG with EXPSOU = (3) and a dept	h value less than D	RVAL2 of the und	erlying DEPARE.		
Solution	Amend value of EXPSOU to a logical val	lue.	Conformity	Conformity 5.3		
Test Case No. 1	SOUNDG depth value is less than DRVA	L2 of the overlapp				
Location	32°32'52.89"S 60°51'30.07"E	S57 Encoding	SOUNDG (P) DEPARE (A)	EXPSOU=3 DRVAL1=18.2 DRVAL2=36.5		
Screen Capture	30					
Expected Test Results	T1770a: A warning "SOUNDG with EXP underlying DEPARE" must be triggered.		oth value less thar	n DRVAL2 of the		
Secondary Errors	None					
Dataset Nove	AA500031	C FO 44 *!	T1770b		14/	
Dataset Name	AA500021	S-58 test No.	T1770b	Type	W	
S-58 Description	For each SOUNDG object where EXPSO DRVAL2 of the DRGARE it is WITHIN wh			•		

Message	SOUNDG with EXPSOU = (3) and a dept	h value less than D	RVAL2 of the unde	erlying DRGARE.
Solution	Amend value of EXPSOU to a logical va	lue.	Conformity	5.3
Test Case No. 1	SOUNDG depth value is less than DRVA DRVAL2 are encoded.	L2 of the overlappi	ng DRGARE (A) wh	nere both DRVAL1 and
Location	32°32'52.76"S 60°51'50.00"E	S57 Encoding	SOUNDG (P) DRGARE (A)	EXPSOU=3 DRVAL1=31 DRVAL2=35
Screen Capture	30 30 30 30 30 30 30 30			
Expected Test Results	T1770b: A warning "SOUNDG with EXP underlying DRGARE" must be triggered		oth value less than	DRVAL2 of the
Secondary Errors	None			
Dataset Name	AA500021	S-58 test No.	T1770c	Type W
I .	E LOUINDO L' L EVODO	(2)		71
S-58 Description	For each SOUNDG object where EXSPO DRVAL1 of the DRGARE object it is WIT	HIN where DRVAL2	is not present.	than or equal to the
S-58 Description Message	=	HIN where DRVAL2	is not present.	than or equal to the
-	DRVAL1 of the DRGARE object it is WIT SOUNDG with EXPSOU= (3) but with a	HIN where DRVAL2 depth value less tha	is not present.	than or equal to the
Message	DRVAL1 of the DRGARE object it is WIT SOUNDG with EXPSOU= (3) but with a when only DRVAL1 is populated.	HIN where DRVAL2 depth value less tha	Conformity ng DRGARE (A).	than or equal to the underlying DRGARE
Message Solution	DRVAL1 of the DRGARE object it is WIT SOUNDG with EXPSOU= (3) but with a when only DRVAL1 is populated. Amend value of EXPSOU to a logical va	HIN where DRVAL2 depth value less tha	is not present. an DRVAL1 of the conformity	than or equal to the underlying DRGARE

Expected Test Results	T1770c: A warning "SOUNDG with EXPS underlying DRGARE when only DRVAL1		-	than DRVAL	1 of th	e
Secondary Errors	None					
Dataset Name	AA500021	S-58 test No.	T1772	1	Гуре	W
S-58 Description	For each UWTROC object where VALSC range of depth of the surrounding dept than or equal to DRVAL1 of the overlap of this object are not Null.	th area] AND VALSO pping DEPARE OR D	DU is greater than RGARE object ANI	the DRVAL2 D DRVAL1 AN	OR le	ss VAL2
Message	UWTROC with EXPSOU (1) or not prese the group 1 object.	nt has a VALSOU o	utside the range o	of DRVAL1 an	nd DRV	AL2
Solution	Populate appropriate value of EXPSOU.	•	Conformity	6.1.2		
Test Case No. 1	uwtroc with attributes EXPSOU and Na) VALSOU is less than DRVAL1 of the b) VALSOU is greater than DRVAL2 of c) VALSOU is less than DRVAL1 of the d) VALSOU is greater than DRVAL2 of e) EXPSOU=1 and VALSOU are less th f) EXPSOU=1 and VALSOU are less th h) EXPSOU=1 and VALSOU are greate	e overlapping DEPA the overlapping D c overlapping DRGA the overlapping D an DRVAL1 of the o r than DRVAL2 of t an DRVAL1 of the o	EPARE (A). RE (A). RGARE (A). DVERIAPPING DEPAR THE OVERLAPPING DE THE OVERLAPPIN	PARE (A). RE (A). RGARE (A).		
Location	32°33'01.57"S 60°50'03.67"E	S57 Encoding	DRGARE (A)	VALSOU=4 VALSOU=4 EXPSOU=1 DRVAL1=3 DRVAL2=3	40 L 80	
Screen Capture	16 16 40 16 16 40					
Expected Test Results	T1772: 8 warnings "UWTROC with EXPS DRVAL1 and DRVAL2 the group 1 object			outside the	range	of
Secondary Errors	None					
B	4450004	0.50	T4770		-	
Dataset Name	AA500021	S-58 test No.	T1773		Гуре	W
S-58 Description	For each UWTROC object where VALSC the value of DRVAL1 of the DEPARE or	DRGARE object it is	WITHIN AND DRV	/AL1 is not u	nknov	vn.
Message	UWTROC with EXPSOU = (2) WITHIN a lithe range of the surrounding depth are		where the VALSC	OU is not sho	aler th	nan

Solution	Amend EXPSOU to a logical value. Conformity 6.1.2			6.1.2
Test Case No. 1	uWTROC with attributes VALSOU and a) VALSOU is greater than DRVAL1 b) VALSOU is greater than DRVAL1	of the overlapping D	• •	
Location	32°33'02.66"S 60°50'39.06"E	S57 Encoding	UWTROC (P) DRGARE (A) DEPARE (A)	VALSOU=25 EXPSOU=2 DRVAL1=20 DRVAL1=18.2 DRVAL2=36.5
Screen Capture	(25)			
Expected Test Results	T1773: 2 warnings "UWTROC with EX not shoaler than the range of the sur	` '		
Secondary Errors	None			
Dataset Name	AA500021	S-58 test No.	T1774a	Type E
S-58 Description	For each UWTROC object where VAL or equal to DRVAL2 of the DEPARE it		` '	
Message	UWTROC with EXPSOU = (3) and a VA	ALSOU less than DRV	AL2 of the underly	ing DEPARE.
Solution	Amend value of EXPSOU to a logical v	value.	Conformity	6.1.2
Test Case No. 1	UWTROC with attributes VALSOU and overlapping DEPARE (A).	d EXPSOU where VA	LSOU is less than D	RVAL2 of the
Location	32°32'32.09"S 60°50'53.00"E	S57 Encoding	UWTROC (P) DEPARE (A)	VALSOU=30 EXPSOU=3 DRVAL1=18.2 DRVAL2=36.5

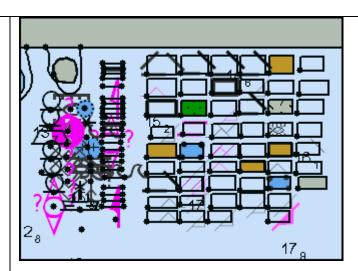
Expected Test Results DEPARE" must be triggered. None Ti774a: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered. None Type E S-58 test No. T1774b Type E S-58 Description For each UWTROC object where EXPSOU = (3) that the depth value is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null. Message UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE. Solution Amend value of EXPSOU to a logical value. Conformity G.1.2 Test Case No. 2 UWTROC VALSOU is less than DRVAL2 of the overlapping DRGARE (A) where both DRVAL1 and DRVAL2 are encoded. Location 32*32'32.19"S 60*51'03.60"E S57 Encoding DRGARE WALSOU = 30 EXPSOU=3 DRVAL2=35 DRVAL2=35 DRVAL2=35 DRVAL2=35 DRVAL2=35 Expected Test Results T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered. Secondary Errors None	Screen Capture	30	30-7		
Dataset Name AA500021 S-58 test No. T1774b Type E S-58 Description For each UWTROC object where EXPSOU = (3) that the depth value is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null. Message UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE. Solution Amend value of EXPSOU to a logical value. Conformity 6.1.2 1 UWTROC VALSOU is less than DRVAL2 of the overlapping DRGARE (A) where both DRVAL1 and DRVAL2 are encoded. STER Case No. 2 Location 32°32'32.19"S 60°51'03.60"E S57 Encoding S57 Encoding DRGARE WWTROC (P) DRGARE PALSOU=30 EXPSOU=3 DRVAL1=31 DRVAL2=35 Screen Capture T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered.	Expected Test Results		OU = (3) and a VAL	SOU less than DR\	/AL2 of the underlying
S-58 Description For each UWTROC object where EXPSOU = (3) that the depth value is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null. Message	Secondary Errors	None			
S-58 Description For each UWTROC object where EXPSOU = (3) that the depth value is less than or equal to the DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null. Message			1	ı	
DRVAL2 of the DRGARE it is WITHIN where DRVAL1 AND DRVAL2 are not Null. Message UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE. Solution Amend value of EXPSOU to a logical value. Conformity 6.1.2 Test Case No. 2 UWTROC VALSOU is less than DRVAL2 of the overlapping DRGARE (A) where both DRVAL1 and DRVAL2 are encoded. UWTROC (P) JVALSOU=30 EXPSOU=3 DRVAL1=31 DRVAL2=35 Screen Capture Screen Capture Expected Test Results T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered.	Dataset Name		1		/ '
Solution Amend value of EXPSOU to a logical value. Conformity 6.1.2 Test Case No. 2 UWTROC VALSOU is less than DRVAL2 of the overlapping DRGARE (A) where both DRVAL1 and DRVAL2 are encoded. UWTROC (P) EXPSOU=3 DRGARE S57 Encoding DRGARE Screen Capture T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered.	S-58 Description	1	• •	•	•
Test Case No. 2 UWTROC VALSOU is less than DRVAL2 of the overlapping DRGARE (A) where both DRVAL1 and DRVAL2 are encoded. UWTROC (P) VALSOU=30 EXPSOU=3 DRVAL1=31 DRVAL2=35 Screen Capture T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered.	Message	UWTROC with EXPSOU = (3) and a VAL	SOU less than DRV	AL2 of the underly	ring DRGARE.
DRVAL2 are encoded. Location 32°32'32.19"S 60°51'03.60"E S57 Encoding DRGARE DVALSOU=30 EXPSOU=3 DRVAL1=31 DRVAL2=35 Screen Capture 30 T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered.	Solution	Amend value of EXPSOU to a logical va	llue.	Conformity	6.1.2
Location 32°32'32.19"S 60°51'03.60"E S57 Encoding DRGARE VALSOU=30 EXPSOU=3 DRVAL1=31 DRVAL2=35 Expected Test Results T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered.	Test Case No. 2		of the overlapping	DRGARE (A) wher	e both DRVAL1 and
Expected Test Results T1774b: An error "UWTROC with EXPSOU = (3) and a VALSOU less than DRVAL2 of the underlying DRGARE" must be triggered.	Location		S57 Encoding		EXPSOU=3 DRVAL1=31
DRGARE" must be triggered.	Screen Capture	(30)	77.7 30.7 30.7 30.7 30.7 30.7 30.7 30.7		
Secondary Errors None		DRGARE" must be triggered.	OU = (3) and a VAL	SOU less than DRV	/AL2 of the underlying
	Secondary Errors	None			

Dataset Name	AA500021	S-58 test No.	T1774c		Туре	Е
S-58 Description	For each UWTROC object where EXSPC the DRGARE object it is WITHIN where	DRVAL2 is not pres	sent.	·		
Message	UWTROC with EXPSOU= (3) but with a only DRVAL1 is populated.	VALSOU less than I	DRVAL1 of the und	derlying D	RGARE w	hen
Solution	Amend value of EXPSOU to a logical va	lue.	Conformity	6.1.2		
Test Case No. 3	UWTROC VALSOU is less than DRVAL1	of the overlapping	DRGARE (A).			
Location	32°32'31.21"S 60°51'13.49"E	S57 Encoding	UWTROC (P) DRGARE (A)	VALSOU EXPSOU DRVAL	J=3	
Screen Capture	30	30				
Expected Test Results	T1774c: An error "UWTROC with EXPSO underlying DRGARE when only DRVAL1	• •		DRVAL1 o	f the	
Secondary Errors	None					
Dataset Name	AA500021	S-58 test No.	T1776		Туре	W
S-58 Description	For each LIGHTS object where the value as listed in the table below. LITCHR SIGGRP	e of LITCHR is as lis	ted in the table be	elow AND	SIGGRP i	s not
Message	Values of LITCHR and SIGGRP are not c	onsistent.				
Solution	Amend values to be consistent.		Conformity	12.8.3		
Test Case No. 1	LIGHTS with attribute LITCHR (6,7,9,10,	,11 and 28) and SIG	<u> </u>	1		
Location	32°31'17.24"S 60°49'28.28"E	S57 Encoding	LIGHTS (P)	SIGGRP	=6,7,9,10 =UNKNO =UNKNO	WN

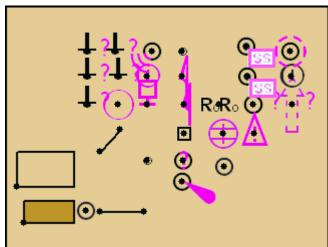
Screen Capture					
Expected Test Results	T1776: 6 warnings "Values of LITCHR a	nd SIGGRP are not	consistent" must b	oe triggered.	
Secondary Errors	None				
Dataset Name	AA500021	S-58 test No.	T1779	Туре	С
S-58 Description	For each DEPARE object where DRVAL	1	1	.,,,,	
Message	DRVAL1 is equal to DRVAL2 on a DEPA				
Solution	Amend DRVAL1 or DRVAL2 to logical va		Conformity	5.4 and logical consistency	
Test Case No. 1	DEPARE (A) where DRVAL1 and DRVAL	2 have the same va	alue.	,	
Location	32°31'58.45"S 60°49'56.93"E	S57 Encoding	DEPARE (A)	DRVAL1=18.2 DRVAL2=18.2	
Screen Capture					
Expected Test Results	T1779: An error "DRVAL1 is equal to D	RVAL2 on a DEPAR	E object" must be t	triggered.	
Secondary Errors	T1771: An additional error "VALDCO or must be triggered.	n DEPCNT betweer	n two DEPARE objec	cts has illogical va	lue"
_			1		1.
Dataset Name	AA500021	S-58 test No.	T0507	Туре	С
S-58 Description	If any mandatory attributes are not po				
Message	Mandatory attributes are not populate	ed.			

Solution	Populate mandatory attributes.		Conformity	3.5.2 and SuppNo2 Ch.4 (3.5.2.1)
Test Case No. 1	Objects without mandatory attribute	s have been created	as listed in the 4th	column below.
Location	32°31'24.04"S 60°50'09.53"E 32°31'22.18"S 60°49'35.56"E	S57 Encoding	ADMARE (A) BCNCAR (P) BCNISD (P) BCNLAT (P) BCNSAW (P) BCNSPP (P) BERTHS (A, L, P) BOYCAR (P) BOYINB (P) BOYISD (P) BOYLAT (P) BOYSAW (P) BOYSPP (P) BRIDGE (A, L, P) CBLOHD (L) CONVYR (A, L) CONZNE (A) CONZNE (A) CONZNE (A) CONZNE (A) DAYMAR (P) DEPARE (A, L) DEPCNT (L) DRGARE (A) DWRTCL (L) DWRTPT (A) EXEZNE (A) FERYRT (A, L) FOGSIG (P) FSHZNE (A) GATCON (A, L, P) HRBFAC (A, P) ICEARE (A) LITVES (P) LIGHTS (P) LIGHTS (P) LNDRGN (A, P) LOCMAG (A, L, P) MAGVAR (A, L, P) MARCUL (A, L, P) MARCUL (A, L, P)	

MORFAC (A, L, P) NAVINE (L) OBSTRN (A, L, P) PIPOHD (L) PPCARE (A) PPDARE (A, P) PPLONS (A, P) PADARE (A, P) PPLONS (A, P) RADINE (L) RCTTCL (L) RCTTCL (L) RCTTCL (L) RCTTCL (L) RCTTCL (L) RCTTCL (L) RESARE (A) RTPECN (P) SBDARE (A, L, P) SSTAME (A, P) SSTAME (A, P) SSTSINE (L) SWPARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WACCY (A) M_COVR (A) M_COVR (A) M_COVR (A) M_COVR (A) M_NSYS (A) M_OUAL (A) M_NSYS (A) M_OUAL (A) M_NSYS (A) M_OUAL (A) M_SDAT (A) T, IMS (A, P) T, NHMN (A, P) T, NHMN (A, P) T, NHMN (A, P) T, S, FBB (P) TS, FAD (P) TS, FRI (A, P) TS, FRI (
(A, L, P) NAVINE (L) OBSTRN (A, L, P) PIPOHD (L) PRCARE (A, A) PRDARE (A, P) PYLONS (A, P) RADINE (L) RCTITCL (L) RCTIPT (L, P) RDOCAL (L, P) RECTRC (A, L) RESARE (A) RTPBCN (P) SBDARE (A, L, P) SSTATE(P) SISTAT(P) S	MORFAC
NAVINE (L) OBSTRN (A, L, P) PPOHD (L) PPCARE (A) PPDARE (A, P) PPUDNS (A, P) RADINE (L) RCTICL (L) RCTICL (L) RCTICL (L) RCTICL (L) RCTRC (A, L) RESARE (A) RIPECN (P) SBDARE (A, L, P) SEAARE (A, P) SISTAW (P) SISTAW (P) SISTAW (P) SISTAW (A, L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPI (L) SWPARE (A) TOPMAR (P) TSSLPI (A) TUMTPT (A) UWTROC (P) VEGATN (A, L, P) WACTUR (A, L, P) WATUR (A, L, P) WACKY (A) M, COVR (A) M, COVR (A) M, COVR (A) M, M, SYS (A) M, QUAL (A) M, M, SYS (A) M, QUAL (A) M, SONT (A) T, TIMM (A, P) T, HMON (A, P) T, HMON (A, P) T, FRH (A, P) TS, PRH (A	(A, L, P)
OBSTRN (A, L, P) PIPOHD (L) PRCARE (A) PRCARE (A) PROBAKE (A, P) PYLONS (A, P) RADINE (L) RCTPT (L, P) REDOCAL (L, P) RECTRC (A, L) RESARE (A) REPECN (P) SUBDARE (A, L, P) SABARE (A, L, P) SABARE (A, L, P) SAMPARE (A) SAMPARE (A) TESARE (A) TESARE (A) TOPMARE (P) TSSITA (P) STSINE (L) SWPARE (A) TOPMARE (P) TSSLPT (A) TOPMARE (P) TSSLPT (A) TOPMARE (P) VECATN (A, L, P) WATTUR(A, L, P) WRECKS (A, P) M. ACCY (A) M. COVR (A) M. CSCL (A) M. M. DSDAT (A) M. M. SDAT (A) M.	
(A, L, P) PIPOHD (L) PIPOHD (L) PIPOHD (L) PROARE (A, P) PYLONS (A, P) RADLNE (L) RCRECL (L) RCRECL (L) RCRECL (L) RCRECK (A, L) RESARE (A) RTPBEN (P) SBDARE (A, L, P) SSTATA (P) SSTATA (P) SSTATA (P) SSTATA (P) SSTATA (P) STSLINE (L) SWPARE (A) TESARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TWRPTP (A) UWTROC (P) VEGATN (A, L, P) WATTUR (A, L, P) M ACCY (A) M M COVE (A) M M COVE (A) M M SDAT (A) M M SDAT (A) M M SDAT (A) T.TIMS (A, P) T. NHMN (A, P) T. NHMN (A, P) T. NHMN (A, P) T. NHMN (A, P) T. SPAD (P) TS. PAD (P	
PIPOHD (L) PRCARE (A) PRDARE (A, P) PYLONS (A, P) PADIANE (L) RADIANE (L) RATEUT (L, P) RADIANE (L) RATEUT (L, P) RECTAC (A, L) RESARE (A) RTPBCN (P) SADARE (A, L, P) SADARE (A, L, P) SISTAT (P) SISTAT (P) SISTAW (P) SISTAW (P) SISTAME (L) SWPARE (A) TESARE (A) TOPMARE (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, L, P) WATTUR(A, L, P) WATTUR(A, L, P) WATTUR(A, M) M_COVE (A) M_COVE (A) M_COVE (A) M_COVE (A) M_NSOSA (
PRCABE (A) PROBAGE (A, P) PROBAGE (A, P) PRADINE (L) RCTEUT (L, P) RADINE (L) RCTEUT (L, P) RDOCAL (L, P) RECTRC (A, L) RESARE (A) REPBECN (P) SBDARE (A, L, P) SSEAARE (A, P) SISTAT (P) SISTAT (L) SWPARE (A) TESARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, L, P) WATTUR(A, L, P) WATTUR(A, L, P) WATTUR(A, L, P) M_ACCY (A) M_LOVE (A) M_LOVE (A) M_LOVE (A) M_LOVE (A) M_SSS (A) M_DAT (A) M_SDAT (A) M_DAT (A) T.TIMS (A, P) T. NHMM (A, P) T. NHMM (A, P) T. HMON (A, P) T. PAD (P) TS. PAR (A, P) TS. PS (A, P) ARSIN (A) ASINS (L) NEWOOBJ	
PRDARE (A, P) PYLONS (A, P) RADLNE (L) RCRTCL (L) RCRTCL (L) RCTUPT (L, P) RDOCAL (L, P) RECTRC (A, L) RESARE (A) RTPBCN (P) SBDARE (A, L, P) SEAARE (A, P) SISTAT (P) SISTAW (P) SISTAW (P) SISTAW (P) STSLNE (L) SWPARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WACCY (A) M_COSCL (A) M_COSCL (A) M_HOPA (A) M_NSYS (A) M_QUAL (A) M_SDAT (A) M_VOAT (A) M_TIMMS (A, P) T_NHMN (A, P) T_NHMN (A, P) T_NHMN (A, P) T_SPAD (P) TS_PAN (R, P) TS_PRH (A, P) TS_PRH	
PYLONS (A, P) RADLNE (L) RCTLPT (L, P) ROCCAL (L, P) RECTRC (A, L) RESARE (A) RTPBCN (P) SBDARE (A, L, P) SEAARE (A, P) SISTAT (P) SISTAT (P) SISTAT (P) SISTAT (P) SISTAM (P) STSLNE (L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, P) WARCKS (A, P) M_COVR (A) M_SDAT (A) M_OUAL (A) M_NOSCL (A) M_NOSCL (A) M_NOSCL (A) M_NOTATION (A, P) T.NHMN (A, P) T.NHMN (A, P) T.NHMN (A, P) T.SEB (P) T.SPAD (P) T.SPAD (P) T.SPAN (A, P) T.SPAN (A,	
RADINE (L) RCTLCL (L) RCTLCL (L) RCTLCL (L) RCTLCL (L) RCTLCL (L, P) RDOCAL (L, P) RECTRC (A, L) RESARE (A) RTPBCN (P) SBDARE (A, L, P) SISTAT (P) SISTAT (P) SISTAT (P) SISTAW (P) SISTAM (P) STSLNE (L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UNVTROC (P) VEGATN (A, L, P) WALTUR(A, L, P) WRECKS (A, P) M_ACCY (A) M_COVR (A) M_COVR (A) M_COVR (A) M_COVR (A) M_NSYS (A) M_QUAL (A) M_NSPAT (A) M_NOAT (A) T_TIMS (A, P) T_NHMN (A, P) T_NHMN (A, P) T_NHMN (A, P) T_NHMN (A, P) T_S_PRH (A, P) TS_PRH (A, P) TS_PR	
RCRTCL (L) RCTLPT (L, P) RDOCAL (L, P) RECTRC (A, L) RESARE (A) RTPBCN (P) SSDARE (A, L, P) SSTAT (P) SISTAT (P) SISTAT (P) SISTAV (P) SMCFAC (A, P) STSLINE (L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(AL, P) WATCSC (A) M_COVE (A) M_COVE (A) M_CSCL (A) M_SACT	
RCTLPT (L, P) RDOCAL (L, P) RECTRC (A, L) RESARE (A) RTPBCN (P) SBDARE (A, L, P) SSTANE (A, P) SISTAT (P) SISTAW (P) SMMCFAC (A, P) STSILNE (L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, L, P) WATTUR(A, L, P) WATCOVER (A) M_COVE (A) M_COVE (A) M_COVE (A) M_SSYS (A) M_OUAL (A) M_SAST (A) M_DAT (A) T, TIMS (A, P) T, THMON (A, P) T, THMON (A, P) T, PHMON (A, P) TS_PAD (P) TS_PAD (P) TS_PAN (A, P) TS_PAR (A, P) ARCSUN (A) ASLISI (L) NEWOBJ	
RDOCAL (I, P) RECTRC (A, L) RESARE (A) RTPBCN (P) SBDARE (A, L, P) SEARRE (A, P) SISTAT (P) SISTAT (P) SISTAT (P) SISTAM (P) SMCFAC (A, P) STSLNE (L) SWPARE (A) TESARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TUWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, L, P) WATTUR(A, L, P) WATGSC (A) M_COVE (A) M_COVE (A) M_OVAT (A) M_NSYS (A) M_OVAT (A) M_NSYS (A) M_OUAL (A) M_SDAT (A) M_NDAT (A) T_TIMS (A, P) T_NHANN (A, P) T_NHANN (A, P) T_S_FEB (P) TS_PAD (P) TS_PAD (P) TS_PAD (A) ASLMS (L) NEWOBL	
RECTRC (A, L) RESARC (A) RESBCN (P) SBDARE (A, L, P) SEAARE (A, P) SISTAT (P) SISTAT (P) SISTAW (P) SMCFAC (A, P) STSIME (L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, P) WRECKS (A, P) M_ACCY (A) M_COVR (A) M_CYCR (A) M_NEYS (A) M_NEYS (A) M_OUAL (A) M_NEYS (A) M_OUAL (A) M_SDAT (A) M_VDAT (A) T_TIMS (A, P) T_SPAD (P) TS_PAD (P) TS_PAD (P) TS_PNH (A, P) TS_PNH (A, P) TS_PSH (A, P) TS_TIS (A, P) ARCSIN (A) ASINIS (L) NEWORL	
RESARE (A) RTPBCN (P) SBDARE (A, L, P) SEARE (A, P) SISTAT (P) SISTAT (P) SISTAW (P) SMCFAC (A, P) STSLINE (L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, L, P) WATCV (A) M_COVR (A) M_COVR (A) M_COVR (A) M_COVR (A) M_NSYS (A) M_OUAL (A) M_NSYS (A) M_UAL (A) M_VDAT (A) T_TIMS (A, P) T_HMON (A, P) T_SPAD (P) TS_PAD (P) TS_PAD (P) TS_PIS, (A, P) ARCSLN (A) ASLIS (L) NEWOBL	RDOCAL (L, P)
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SEAARE (A, P) SISTAT (P) SISTAW (P) SMCFAC (A, P) STSLINE (L) SWPARE (A) TESARE (A) TOPMAR (P) TSSLPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A,L,P) WRECKS (A, P) M_ACCY (A) M_COVR (A) M_COVR (A) M_HOPA (A) M_NSYS (A) M_UAL (A) M_SDAT (A) M_NSDAT (A) M_NOAT (A) T_TIMS (A, P) T_NHMN (A, P) T_HMON (A, P) TS_PAD (P) TS_PAD (P) TS_PAH (A, P) TS_PAH (A, P) TS_TSIS (A, P) ARCSLN (A) ASLXIS (L) NEWOOBJ	
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SISTAW (P) SMCFAC (A, P) STSLINE (L) SWPARE (A) TESARE (A) TOPMAR (P) TSLIPT (A) TWRTPT (A) UWTROC (P) VEGATN (A, L, P) WATTUR(A, L, P) WACCY (A) M_COVR (A) M_COVR (A) M_HOPA (A) M_HOPA (A) M_NSYS (A) M_QUAL (A) M_SDAT (A) M_VDAT (A) T_TIMS (A, P) T_HMMN (A, P) T_HMMN (A, P) T_HMON (A, P) TS_PRH (A, P) TS_PRH (A, P) TS_PRH (A, P) TS_TIS (A, P) ARCSLN (A) ASLXIS (L) NEWOOBJ	
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TS_PRH (A, P) TS_TIS (A, P) ARCSLN (A) ASLXIS (L) NEWOBJ	
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ARCSLN (A) ASLXIS (L) NEWOBJ	TS_TIS (A, P)
ASLXIS (L) NEWOBJ	
NEWOBJ	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(A, L, P)



Screen Capture



Expected Test Results

T0507: 223 errors "Mandatory attributes are not populated" must be triggered.

T0509: 23 additional errors "Mandatory attribute has not been populated with a value" must be triggered.

T0566: 3 additional errors "Invalid use of New Object" must be triggered.

T0562: 3 additional errors "CLSNAM not included in INFORM or TXTDSC for a NEWOBJ object" must be triggered.

T0508b: An additional error "COLPAT is populated without multiple COLOUR values" must be triggered.

T1558: 2 additional errors "T_NHNM object where the value of T_MTOD is not (3)" must be triggered.

Secondary Errors

T1560: 2 additional errors "TS_PRH object has a value other than (1) or (2) for T_MTOD" must be triggered.

T1561: 2 additional errors "For TS_PNH T_MTOD is not (3) (time and height difference non-harmonic method)" must be triggered.

T1797: 5 additional errors "Object, geometry and attribute combination which do not display in ECDIS present" must be triggered.

T1671: An additional warning "Line object touching object with the same attribute values except SORIND, SORDAT and SCAMIN" must be triggered.

T1726: An additional error "Data coverage not completely covered by M_NSYS objects with a value for MARSYS" must be triggered.

T1765b: 3 additional warnings "M_QUAL and M_ACCY objects overlap" must be triggered.

T0554: An additional error "Edge of M_COVR coverage available referenced by more than one Group 1 object" must be triggered.

T0519a: An additional error "Skin of the earth (TG1) objects do not cover the data coverage (M_COVR=1)" must be triggered.

T1557: An additional error "T_HMON object where the value of T_MTOD is not (1) or (2)" must be triggered.

T1729: 4 additional errors "Component of an aid to navigation does not conform to the IALA system defined on the object or in M_NSYS" must be triggered.

T1512b: An additional error "Object with depth information overlaps multiple M_SDAT objects" must be triggered.

T1657: An additional warning "Illogical attribute values for UWTROC object" must be triggered.

T1669: An additional error "OBSTRN object with illogical attribute value combinations" must be triggered.

T1719: An additional warning "Illogical attribute combination for MARCUL" must be triggered.

T1663: An additional warning "WRECKS object with illogical attribute combination" must be triggered.

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2.22. Test Dataset: AA500022

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
504	For each object of type CANBNK, LAKSHR, RIVBNK, SQUARE, M_HDAT, M_PROD, M_UNIT, C_STAC, \$AREAS, \$LINES, \$CSYMB, \$COMPS, \$TEXTS.
73a	For each attribute value which contains a leading or trailing space.
73b	For each attribute value of type list which contains spaces.
523	Where HDAT does not equal 2 [WGS 84].

Dataset Name	AA500022	S-58 test No.	T0504		TYPE	С
S-58 Description	For each object of type CANBNK, LAKS C_STAC, \$AREAS, \$LINES, \$CSYMB, \$C		RE, M_HDAT, M_	PROD, N	1_UNIT,	
Message	Prohibited objects exist within the dat	aset.				
Solution	Delete prohibited objects.		Conformity	3.2		
Test Case No. 1	Prohibited object classes for ENC.		1			
Location	32°31'29.49"S 60°47'18.91"E	S57 Encoding	\$AREAS (A) \$LINES (L) \$TEXTS (P) \$CSYMB (P) \$COMPS (P) C_STAC SQUARE (A) RIVBNK (L) CANBNK (L) LAKSHR (L) M_HDAT (A) M_PROD (A) M_UNIT (A)			
Screen Capture		27				
Expected Test Results	T0504: 13 errors "Prohibited objects e	xist within the data	set" must be trig	gered.		
Secondary Errors	T0545: An additional error "Object WI				red.	
Dataset Name	AA500022	S-58 test No.	T0073a		TYPE	
S-58 Description	For each attribute value which contain	ns a leading or traili	ng space.			W
	Attribute value contains leading or trailing spaces				W	
Message	Attribute value contains leading or tra	iling spaces.				l w
	Attribute value contains leading or trailing spaces.	iling spaces.	Conformity	Logica	l consiste	
Message Solution Test Case No. 1				Logica	l consiste	

Screen Capture	33	73		
Expected Test Results	T0073a: 2 warnings "Attribute value co	ntains leading or ti	railing spaces" m	ust be triggered.
Secondary Errors	None			
B	A4500023	6.501	T0072'	
Dataset Name	AA500022	S-58 test No.	T0073b	TYPE W
S-58 Description	For each attribute value of type list whi	ich contains spaces	5.	
Message	List attribute value contains spaces.			
Solution	Remove spaces.		Conformity	Logical consistency
Test Case No. 2	ACHARE (P) with space in CATACH.			
Location	32°31'47.19"S 60°47'53.78"E	S57 Encoding	ACHARE (P)	CATACH=1 1
Screen Capture	r /	13,		
Expected Test Results	T0073b: A warning "List attribute value	contains spaces" i	must be triggere	d.
Secondary Errors	None			
Dataset Name	AA500022	S-58 test No.	T0523	TYPE C
S-58 Description	Where HDAT does not equal 2 [WGS 84].			
Message	HDAT does not equal 2 WGS 84.			
Solution	Ensure HDAT equals 2 WGS 84.		Conformity	4.1
Solution Test Case No. 1	Ensure HDAT equals 2 WGS 84. HDAT changed to 4 (Potsdam Datum).		Conformity	4.1

	SID Field DSPM Field DSSI Field	Geodetic Param
	Title	Value
	Horizontal geodetic datum [HDAT]	Potsdam Datum
	Vertical datum [VDAT]	Mean high wate
Screen Capture	Sounding datum [SDAT]	Mean lower low
ociccii captaic	Compilation scale of data [CSCL]	20000
	Units of depth measurement [DUNI]	metres
	Units of height measurement [HUNI]	
	Units of positional accuracy [PUNI]	
	Coordinate units [COUN]	LL - Latitude / Lo
	Coordinate multiplication factor [C	
	3-D (sounding) multiplication factor	10
Expected Test Results	T0523: An error "HDAT does not	equal 2 WGS 84
Secondary Errors	None	

2.23. Test Dataset: AA500023

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description		
505	If objects of type M_NSYS, M_COVR do not exist within the dataset.		
512	For each object with an attribute of type Float or Integer where the value contains zeroes before the first numerical digit or after the last numerical digit.		
1010	If the CRC value in the catalogue file does not equal that in the dataset.		
545	For each object which does not have a valid object class code as defined by the Object Catalogue and S-57 Supplements No 2.		

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Dataset Name	AA500023	S-58 test No.	T0505	Туре	С		
S-58 Description	If objects of type M_NSYS, M_COVR do not exist within the dataset.						
Message	Mandatory meta objects are missing						
Solution	Include mandatory meta objects M_QUAL and N	M_NSYS	Conformity	3.4			
Test Case No. 1	Dataset without Meta objects M_COVR, M_QUA	AL & M_NYS.		•			
Location	32°32'08.26"S 60°44'51.13"E	S57 Encoding					
Screen Capture							
Expected Test Results	T0505: 3 errors "Mandatory meta objects are missing" must be triggered.						
Secondary Errors	T1726: An additional error "Data coverage not completely covered by M_NSYS objects with a value for MARSYS" must be triggered. T1565: 3 additional errors "LNDARE not enclosed by appropriate linear or area object" must be triggered. T0011: 47 additional errors "Edge with USAG = 3 [exterior boundary truncated by the data limit] does not reference an M_COVR object" must be triggered. T0549: 39 additional errors "DEPARE or DRGARE objects not covered by an M_QUAL object" must be triggered. T0548: 6 additional errors "Cell not entirely covered by M_COVR objects" must be triggered. T0042: An additional error "GROUP 1 is not correct, a hole or an overlap exists" must be triggered.						
D	AA500022	6.50	T0542	T -	T _		
Dataset Name	AA500023	S-58 test No.	<u> </u>	Туре	E		
S-58 Description	For each object with an attribute of type Float or Integer where the value contains zeroes before the first numerical digit or after the last numerical digit.						
Message	Values have been padded with non-significant z of SIGPER must be 2.5 and not 02.500.		ignal period of	2.5 sec, the	e value		
Solution	Remove non-significant zeroes. E.g.: For a signal sec, the value of SIGPER must be 2.5 and not 02		Conformity	3.5.4			
Test Case No. 1	Attributed SOUNDG.	,					
Location	32°32'19.96"S 60°44'32.98"E	S57 Encoding	SOUNDG (P)	AGENCY= 00000000			

Screen Capture	24 ₈ 24 ₈ 25					
Expected Test Results	T0512: An error "Values have been padded with 2.5 sec, the value of SIGPER must be 2.5 and no	_		_	a signal pe	riod of
Secondary Errors	T0547: An additional error "Attribute not permi				gered.	
				_		
Dataset Name	AA500023	S-58 test No).	T1010	Туре	С
S-58 Description	If the CRC value in the catalogue file does not equal that in the dataset.					
Message	CRC values do not match.					
Solution	Correct CRC value. Conformity 5.9.1					
Test Case No. 1	N/A					
Location	N/A	S57 Encoding	CATALOG.0			
Screen Capture	N/A					
Expected Test Results	T1010: An error "CRC values do not match" mus	st be triggered.				
Secondary Errors	None					
Dataset Name	AA500023 S-58 test N			T0545	Type	С
S-58 Description	For each object which does not have a valid objand S-57 Supplements No 2.	ect class code as o	defined	by the C	bject Cata	logue
Message	Object has invalid object class code.					
Solution	Correct object class code.			ormity	3.2 and Supplement No2 Ch.2.	
Test Case No. 1	Security Classification Information area.					
Location	32°32'41.36"S 60°44'56.31"E	S57 Encoding	m_cla	ass (A)		

Screen Capture	21 ₂ 21 ₃ 21 ₃ 21 ₄ 118, 19 ₂ 21 ₉ 21 ₉ 21 ₉ 21 ₉ 22 ₉ 22 ₉	
Expected Test Results	T0545: An error "Object has invalid object class code" must be triggered.	
Secondary Errors	T0021: An additional error "Vector record pointer field (VRPT) not referenced by an edge vector record" must be triggered. T0028: An additional error "DSSI field record count incorrect" must be triggered. T0090b: 4 additional warnings "Invalid DDR (Data Descriptive Record) in EN file" must be triggered. T0504: An additional error "Prohibited objects exist within the dataset" must be triggered.	

2.24. Test Dataset: AA500024

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description					
1001	For each object which references a text/graphic file and the text/graphic file is not present in the exchange set.					
509	For all objects listed below where the attribute stated is 'Null' or 'not present'; ARCSLN: NATION ASLXIS: NATION CTNARE: INFORM or TXTDSC DEPARE: DRVAL1 and DRVAL2 DRGARE: DRVAL1 NEWOBJ: CLSDEF and CLSNAM SWPARE: DRVAL1 DEPCNT: VALDCO LNDELV: ELEVAT MAGVAR: VALMAG CONZNE: NATION COSARE: NATION CUSZNE: NATION EXEZNE: NATION STSLNE: NATION TSLNE: NATION TSLNE: NATION TESARE: NATION M_COVR: CATCOV M_CSCL: CSCALE M_QUAL: CATZOC M_SDAT: VERDAT M_VDAT: VERDAT TS_PAD: TS_TSP DWRTPT: ORIENT DWRTCL: ORIENT					
	TS_PAD: TS_TSP DWRTPT: ORIENT					

Dataset Name	AA500024	S-58 test No.	T1001		Туре	С	
S-58 Description	For each object which references a text/graphic file and the text/graphic file is not present in the exchange set.						
Message	Text or graphic file referenced by update is not present.						
Solution	Add text or graphic files to exchange	set.	Conformity				
Test Case No. 1	BUISGL (P) with TXTDSC and PICREP.		,				
Location	32°32'13.38"S 60°41'26.40"E	S57 Encoding	BUISGL (P)		C=US6543 =US6543		
Screen Capture				ricker	330343	221111	
Expected Test Results	T0068: 2 warnings "Text or graphic fil	e referenced by t	update is not present	t" must	be trigge	red.	
Secondary error	None						
•							
Dataset Name	AA500024	S-58 test No.	T0509		Туре	E	
S-58 Description	For all objects listed below where the ARCSLN: NATION ASLXIS: NATION CTNARE: INFORM or TXTDSC DEPARE: DRVAL1 and DRVAL2 DRGARE: DRVAL1 NEWOBJ: CLSDEF and CLSNAM SWPARE: DRVAL1 DEPCNT: VALDCO LNDELV: ELEVAT MAGVAR: VALMAG CONZNE: NATION COSARE: NATION CUSZNE: NATION EXEZNE: NATION STSLNE: NATION STSLNE: NATION TESARE: NATION M_COVR: CATCOV M_CSCL: CSCALE M_QUAL: CATZOC M_SDAT: VERDAT M_VDAT: VERDAT TS_PAD: TS_TSP	attribute stated	is 'Null' or 'not presc	ent';			

Message Solution Test Case No. 1	DWRTPT: ORIENT DWRTCL: ORIENT M_NSYS: MARSYS or ORIENT RCTLPT: ORIENT. Mandatory attribute has not been Populate mandatory attributes; in object is meaningless without this Dataset containing all of the object	these cases the value.	alue. Conformity	3.5.2 and Supplement No2 Ch.4 (3.5.2.1).
Location	32°31'30.67"S 60°43'09.38"E	S57 Encoding	ARCSLN (A) ASLXIS (L) CTNARE (A, P) DEPARE (A, L) DRGARE (A) NEWOBJ (A, L, P) SWPARE (A) DEPCNT (L) LNDELV (L, P) MAGVAR (A, L, P) CONZNE (A) COSARE (A) CUSZNE (A) EXEZNE (A) FSHZNE (A) STSLNE (L) TESARE (A) M_COVR (A) M_COVR (A) M_CSCL (A) M_COVA (A) M_SDAT (A) M_VDAT (A) TS_PAD (A, P) DWRTPT (A) DWRTCL (L) M_NSYS (A) RCTLPT (A, P)	NATION=UNKNOWN NATION=UNKNOWN INFORM=UNKNOWN INFORM=UNKNOWN DRVAL1=UNKNOWN DRVAL1=UNKNOWN DRVAL1=UNKNOWN CLSDEF=UNKNOWN CLSDEF=UNKNOWN VALDCO=UNKNOWN VALDCO=UNKNOWN VALMAG=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN VALMAG=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN NATION=UNKNOWN VATION=UNKNOWN VATION=UNKNOWN CATCOV=UNKNOWN CATZOC=UNKNOWN VERDAT=UNKNOWN VERDAT=UNKNOWN ORIENT=UNKNOWN ORIENT=UNKNOWN ORIENT=UNKNOWN ORIENT=UNKNOWN

T0509: 42 errors "Mandatory attribute has not been populated with a value" must be triggered.
T0043: An additional warning "DEPCNT does not coincide with two group 1 objects" must be triggered. T0074: An additional error "Floating DEPCNT WITHIN a DEPARE with VALDCO less than DRVAL1 or greater than DRVAL2" must be triggered. T0548: An additional error "Cell not entirely covered by M_COVR objects" must be triggered. T1726: An additional error "Data coverage not completely covered by M_NSYS objects with a value for MARSYS" must be triggered. T0554: An additional error "Edge of M_COVR coverage available referenced by more than one Group 1 object" must be triggered. T0519a: An additional error "Skin of the earth (TG1) objects do not cover the data coverage (M_COVR=1)" must be triggered. T1771: An additional error "VALDCO on DEPCNT between two DEPARE objects has illogical value" must be triggered. T0566: 3 additional errors "Invalid use of New Object" must be triggered. T0562: 3 additional errors "CLSNAM not included in INFORM or TXTDSC for a NEWOBJ object" must be triggered. T1005: 2 additional errors "Referenced files are missing or their names are non-conformant" must be triggered. T1779: An additional error "DRVAL1 is equal to DRVAL2 on a DEPARE object" must be triggered.
"xxxxxx" indicates respective attribute acronym.

2.25. Test Dataset: AA500025

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
36a	For each update record of type feature or vector which is DELETE and contains further fields.
36b	For each update record of type feature or vector which is MODIFY/INSERT and contains no further fields.

	T	1	1		ı		
Dataset Name	AA500025; AA500025.001	S-58 test No.	T036a		Type	С	
S-58 Description	For each update record of type featur	e or vector which i	s DELETE and cor	ntains fu	rther field	ds.	
Message	DELETE update contains additional field	ds.					
Solution	Remove additional fields from update	Remove additional fields from update record. Conformity Part 3 (8.4.2.2) are (8.4.3.1)					
Test Case No. 1	SOUNDG deleted through update but r	etained FSPT.	_				
Location	32°29'23.63"S 60°51'59.61"E	S57 Encoding	SOUNDG (P)	DEPTH	l = -0.6		
Screen Capture	<u>0</u> ₆	3					
Expected Test Results	T0036: An error "DELETE update conta	ins additional field	s" must be trigge	red.			
Secondary Errors	None						
Dataset Name	AA500025; AA500025.002	S-58 test No.	T0036b		Туре	С	
S-58 Description	For each update record of type feature fields.	or vector which is	MODIFY/INSERT	and con	tains no	further	
Message	INSERT update does not contain addition	onal fields.					
Solution	Add additional fields to update record.		Conformity	Part 3 (8.4.3.	(8.4.2.2) 1).	and	
Test Case No. 1	Inserted BUISGL, AIRARE (P), LNDMRK	(P). The LNDMRK				•	
Location	VI-0000000018 (no feature object created)	S57 Encoding	LNDMRK (P)	CATLM CONVI			
Screen Capture	Nil						
Expected Test Results	T0036b: An error "INSERT update does						
Secondary Errors	T0054b: An additional error "CRANES, on a suitable supporting object" must l		NDMRK, DAYMAI	R or SILT	NK not si	tuated	
					T	1	
Dataset Name	AA500025; AA500025.003	S-58 test No.	T0036b		Туре	С	
S-58 Description	For each update record of type feature fields.	or vector which is	MODIFY/INSERT	and con	tains no	further	
Message	MODIFY update does not contain addit	ional fields.					
Solution	Add additional fields to update record.		Conformity	Part 3 (8.4.3.	(8.4.2.2) 1).	and	
Test Case No. 1	Update created with FOID which does	not match the hase	datacet it does	1 1		1 BCID	

Location	32°29'21.92"S 60°52'12.05"E	S57 Encoding	AIRARE	CATAIR=1
Screen Capture				
Expected Test Results	T0036b: An error "MODIFY update doe	es not contain addit	tional fields" mus	st be triggered.
Secondary Errors	T0007: 3 additional errors "Illegal value T1004: An additional error "Invalid value "			

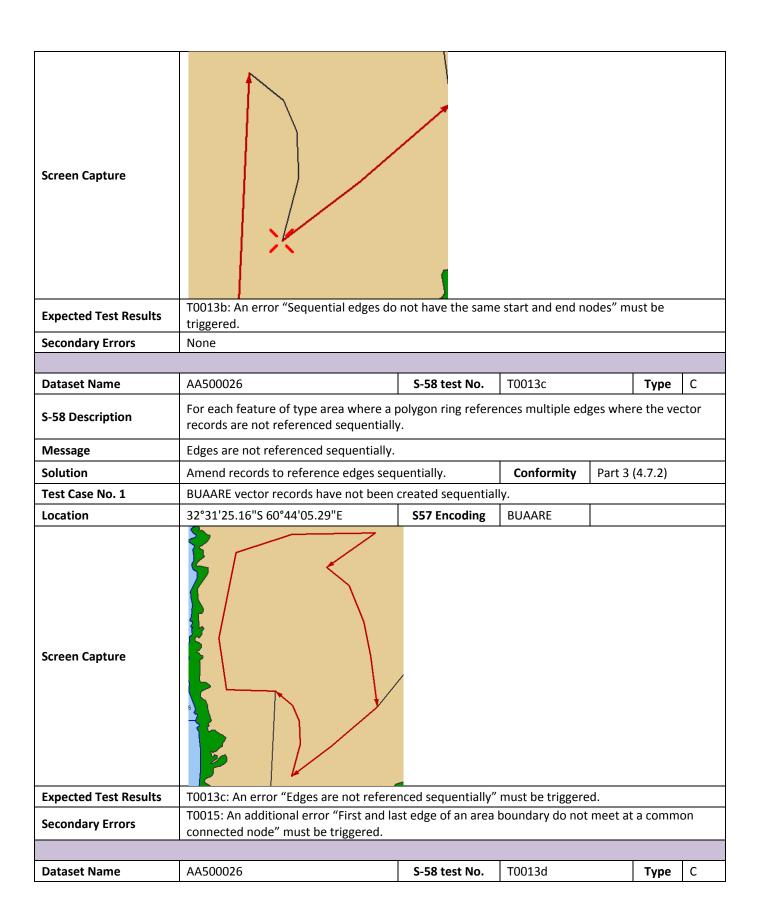
2.26. Test Dataset: AA500026

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
13a	For each feature of Type line which references multiple edges where the vector records are not referenced sequentially.
13b	For each feature of type line which references multiple edges where the end node of a vector record is not identical to the start node of the following vector record.
13c	For each feature of type area where a polygon ring references multiple edges where the vector records are not referenced sequentially.
13d	For each feature of type area which references multiple edges where the end node of a vector record is not identical to the start node of the following vector record.
25a	For each edge where the beginning and end are not encoded as connected nodes.
25b	For each connected node where the geometry is not part of an edge.
1523a	For each update record of type feature or vector which is MODIFY/INSERT and contains no further fields.

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Dataset Name	AA500026	S-58 test No.	T0013a		Туре	С	
S-58 Description	For each feature of type line which referenced sequentially.	erences multiple e	dges where the v	ector rec	ords are	not	
Message	Edges are not referenced sequentially.						
Solution	mend records to reference edges sequentially. Conformity Part 3 (4.7.2)						
Test Case No. 1	COALNE edges have not been created i	n sequence.	•				
Location	32°31'18.40"S 60°44'33.07"E	S57 Encoding	COALNE				
Screen Capture	O _e						
Expected Test Results	T0013a: An error "Edges are not refere	nced sequentially"	must be triggere	ed.			
Secondary Errors	None						
		ı	T				
Dataset Name	AA500026	S-58 test No.	T0013b		Туре	С	
S-58 Description	For each feature of type line which referenced is not identical to the start node	•	_	nd node	of a vect	or	
Message	Sequential edges do not have the same	e start and end noo	les.				
Solution	Ensure start and end nodes of sequent	ial edges match.	Conformity	Part 3 ((4.7.2)		
Test Case No. 1	ROADWY end node is not identical to the	he start node of th	e following vector	or.			
Location	32°31'29.83"S 60°44'02.66"E	S57 Encoding	ROADWY				



S-58 Description	For each feature of type area which references multiple record is not identical to the start node of the following	=	end node of a vector				
•							
Message	Sequential edges do not have the same start and end no	odes.					
Solution	Ensure start and end nodes of sequential edges match.	Conformity	Part 3 (4.7.2)				
Test Case No. 1	BUAARE without sequential nodes.	1					
Location	32°31'25.21"S 60°44'23.30"E						
Screen Capture							
Expected Test Results	T0013d: An error "Sequential edges do not have the sar triggered.	ne start and end n	odes" must be				
Secondary Errors	T0015: An additional error "First and last edge of an are connected node" must be triggered.	a boundary do no	t meet at a common				
Dataset Name	AA500026 S-58 test No.	T0025a	Type C				
S-58 Description	For each edge where the beginning and end are not end	oded as connecte	d nodes.				
Message	Beginning or end nodes of an edge are not encoded as of	onnected nodes.					
Solution	Amend beginning or end nodes to be connected nodes.	Conformity	Part 3 (5.1.4.4)				
Test Case No. 1	RIVERS (L) without beginning and ending nodes.						
Location	32°31.58'S 60°44.15'E \$57 Encoding	RIVERS					
Screen Capture							
	15						

Secondary Errors	T0012: An additional error "Missing FS be triggered. T0028: An additional error "DSSI field		•		r field]" r	nust
Dataset Name	AA500026	S-58 test No.	T0025b		Туре	С
S-58 Description	For each connected node where the g	eometry is not part	of an edge.			•
Message	Connected node which is not part of a	n edge.				
Solution	Complete edge or make node isolated		Conformity	Part 3	(5.1.4.4)	
Test Case No. 1	RAILWY (L) with beginning and ending	nodes not part of t	the edge.	•		
Location	32°31'36.58"S 60°44'11.42"E	S57 Encoding	RAILWY			
Screen Capture	1 ₅ 7 ₈	13,4				
Expected Test Results	T0025b: An error "Connected node wh	nich is not part of a	n edge" must be	triggered	d.	
Secondary Errors	T0012: An additional error "Missing FS be triggered. T0021: An additional error "Vector record" must be triggered. T0084a: An additional error "Isolated	ord pointer field (V	(RPT) not referen	ced by a	n edge ve	
Dataset Name	AA500026	S-58 test No.	T1523a		Туре	С
S-58 Description	If the value of the ISDT (Issue date) su	bfield of the DSID (I	Data Set Identific	ation) fie	eld is inco	rrect.
Message	Issue date is incorrect.					
Solution	Remove additional fields from update	record.	Conformity	2.2.2		
	Amend Issue date.		1			
Test Case No. 1	Amena issue date.					

Screen Capture	Data set description i [DS-0000000001] DSID i Exchange Purpose [EXPP]: N - New i Intended usage [INTU]: 5 i Data set name [DSNM]: AA500026.000 i Edition number [EDTN]: 1 i Update number [UPDN]: 0 i Update application date [UADT]: 04-03-2014 lssue date [ISDT]: 44-44-2014 i Edition number of S-57 [STED]: 03.1 i Product specification [PRSP]: ENC i Product specification description [PSDN]: i Product specification edition number [PRED]: 2.0 Application profile identification [PROF]: EN - ENC New i Producing agency [AGEN]: AA i Comment [COMT]:
Expected Test Results	T1523a: An error "Issue date is incorrect" must be triggered.
Secondary Errors	T0027: An additional error "Subfield not formatted in accordance with S-57" must be triggered.

2.27. Test Dataset: AA400001

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test			Description	
		OC object where the values of able below (additional values n		ATLEV, TECSOU AND SOUACC are not as
	VALSOU	QUASOU	WATLEV	TECSOU SOUACC
	Unknown	2 or not present	3, 4 or 5	Not present
	UNKNOWN	2 or not present	Unknown	Not present
	< 0	1, 3, 4, 6, 8, 9 or not present	4	Not Null
1657		7	4	Not present
	0	1, 3, 4, 6, 8, 9 or not present	5	Not Null
		7	5	Not present
502	> 0	1, 3, 4, 6, 8 or 9 or not present	3	Not Null
		7	3	Not present
	If the cell file siz	e is greater than 5 megabytes.		

Dataset Name	AA400001		S-58 test No		T1657	Туре	W
		VTROC object where the values not as defined in the table below (AND
	VALSOU	QUASOU	WATLEV			SOU JACC	
	Unknown	2 or not present	3, 4 or 5		Not p	resent	
S-58 Description	OTIKITOWIT	2 or not present Un			-	resent	
	< 0	< 0 1, 3, 4, 6, 8, 9 or not present 4				t Null	
		1 2 4 6 9 0 or not procent	<u>4</u> 5		•	resent	1
	0	0 1, 3, 4, 6, 8, 9 or not present				t Null resent	1
		1, 3, 4, 6, 8 or 9 or not present	5 3		•	t Null	1
	> 0	7	3			resent	
Message	Illogical attrib	ute values for UWTROC object.					
Solution		cal combination.		Confe	ormity	6.1.2	
Test Case No. 1		.24) objects where the combinatio	n of attribute val		•		he
Location	32°34'06.17"S	60°50'55.55"E	S57 Encoding	UWTF	ROC (P)		
Screen Capture		A defendance of the second					
	D. CANDON						
Expected Test Results			s for UWTROC ob	ject" m	ust be tri	ggered.	
Expected Test Results Secondary Errors	T1657: 35129 T2000: 24526 triggered.	warnings "Illogical attribute value additional errors "Attribute value dditional errors "Mandatory attrib	which is not allow	wed use	on an ol	oject" mus	
·	T1657: 35129 T2000: 24526 triggered.	warnings "Illogical attribute value additional errors "Attribute value	which is not allow	wed use	on an ol	oject" mus	
·	T1657: 35129 T2000: 24526 triggered.	warnings "Illogical attribute value additional errors "Attribute value	which is not allow	ved use	on an ol	oject" mus	
Secondary Errors	T1657: 35129 T2000: 24526 triggered. T0507: 8712 a	warnings "Illogical attribute value additional errors "Attribute value	which is not allow	ved use	on an ol	oject" mus triggered.	
Secondary Errors Dataset Name	T1657: 35129 T2000: 24526 triggered. T0507: 8712 a AA400001 If the cell file s	warnings "Illogical attribute value additional errors "Attribute value dditional errors "Mandatory attrib	which is not allow	ved use	on an ol	oject" mus triggered.	
Secondary Errors Dataset Name S-58 Description	T1657: 35129 T2000: 24526 triggered. T0507: 8712 a AA400001 If the cell file s The cell is larg	warnings "Illogical attribute value additional errors "Attribute value dditional errors "Mandatory attrib size is greater than 5 megabytes.	which is not allow	ulated"	on an ol	oject" mus triggered.	
Dataset Name S-58 Description Message	T1657: 35129 T2000: 24526 triggered. T0507: 8712 a AA400001 If the cell file s The cell is larg Ensure that th	warnings "Illogical attribute value additional errors "Attribute value dditional errors "Mandatory attribute size is greater than 5 megabytes.	which is not allow	ulated"	on an old must be	triggered.	
Dataset Name S-58 Description Message Solution	T1657: 35129 T2000: 24526 triggered. T0507: 8712 a AA400001 If the cell file s The cell is larg Ensure that th	warnings "Illogical attribute value additional errors "Attribute value dditional errors "Mandatory attribute size is greater than 5 megabytes. er than 5Mb in size. e cell is not larger than 5Mb.	which is not allow	ulated"	on an old must be	triggered.	
Secondary Errors Dataset Name S-58 Description Message Solution Test Case No. 1	T1657: 35129 T2000: 24526 triggered. T0507: 8712 a AA400001 If the cell file s The cell is larg Ensure that th Cell file size is	warnings "Illogical attribute value additional errors "Attribute value dditional errors "Mandatory attribute size is greater than 5 megabytes. er than 5Mb in size. e cell is not larger than 5Mb.	which is not allow outes are not pop S-58 test No	ulated"	on an old must be	triggered.	
Secondary Errors Dataset Name S-58 Description Message Solution Test Case No. 1 Location	T1657: 35129 T2000: 24526 triggered. T0507: 8712 a AA400001 If the cell file s The cell is larg Ensure that th Cell file size is N/A N/A	warnings "Illogical attribute value additional errors "Attribute value dditional errors "Mandatory attribute size is greater than 5 megabytes. er than 5Mb in size. e cell is not larger than 5Mb.	which is not allow putes are not pop S-58 test No S57 Encoding	ulated" Confe	on an old must be	triggered.	

2.28. Test Dataset: AA400025

List of S-58 Recommended ENC Validation Checks covered in this section:

S-58 Test	Description
1792	If the cell OVERLAPS the 180° meridian.

Dataset Name	AA400025	S-58 test No.	T1792		Туре	С		
S-58 Description	If the cell OVERLAPS the 180° meridian	ı.						
Message	Cell overlaps 180° meridian.							
Solution	Amend cell limits accordingly.		Conformity	2.1.8.2				
Test Case No. 1	Cell created at 180E.							
Location	32°40'36.12"S 180°00'00.00"E							
Screen Capture	30 34 24 ₃ 25 ₆ 43	16,						
Expected Test Results	T1792: An error "Cell overlaps 180° me	eridian" must be tri	ggered.					
Secondary Errors	T0501: An additional error "Cell is not T0078: An additional error "Boundary T0001: 228 additional errors "Partially T0077: An additional errors "SOUNDG of DRVAL1" must be triggered. T0519b: 8 additional errors "Skin of the T0011: 18 additional errors "Edge with does not reference an M_COVR object T0554: 6 additional errors "Edge of M_Group 1 object" must be triggered. T0549: 4 additional errors "DEPARE or be triggered. T0548: An additional error "Cell not en T0042: An additional error "GROUP 1 itriggered. T1726: An additional error "Data cover value for MARSYS" must be triggered. T0016: An additional error "Area outer T0017: An additional error "Area inner triggered. T0080a: An additional error "Internal be T0019: An additional error "Edge coince (Exterior boundary truncated by the data T0042: An additional error "GROUP 1 itriggered.	of an area object or duplicated edges" objects cross" must I bject with depth lete e earth (TG1) object USAG = 3 [exterior must be triggered COVR coverage avoid tirely covered by Now and correct, a hole to boundary not encoundary with the edge eta limit]" must be	rosses itself" must must be triggere be triggered. ss than or equal sts overlap" must reboundary trunced. ailable reference of covered by an M_COVR objects" e or an overlap e overed by M_I oded clockwise" oded counter-clo in internal bound of data and USA triggered.	d. to the ur be trigge ated by t d by mor M_QUAR must be xists" mu NSYS obj must be ckwise" ary" mus G does n	ered. The data I The than or The object" This pered Thi	imit] ne must d. a		