2.2 Checks relating to ENC Product Specification					
No	**Check description**	**Check message**	**Check solution**	**Conformity to:**	**Cat**
500	For each feature object where its geometry is not ~~within~~ WITHIN an M_COVR meta object ~~where~~ AND CATCOV~~=~~ is Equal to 1 (coverage available).	Objects fall outside the coverage object.~~;~~	Ensure objects are not outside of the limits of the cell.	2.2	C
501	~~-~~If the combined coverage of all M_COV-R meta objects limits are not rectangular	Cell is not rectangular.	~~Amend~~ Ensure cell limits ~~to make them~~are rectangular.	2.2	E
502	If the cell file size is greater than 5 M~~m~~egabytes.	The cell is larger than 5Mb in size.	Ensure that the cell is not larger than 5Mb.	2.2	E
503	For each feature object ~~If~~ where the FOID is not unique ~~this~~ WITHIN the dataset.	Duplicate FOIDs exist within the dataset.	Ensure that no duplicate FOIDs exist.	3.1	W
504	For each ~~object of type~~ CANBNK, LAKSHR, RIVBNK SQUARE, M_HDAT, M_PROD, M_UNIT, C_STAC, $AREAS, $LINES, $CSYMB,$COMPS, or $TEXTS feature object.	Prohibited objects exist within the dataset.	~~Delete~~ Remove prohibited objects.	3.2	C
505	If either ~~objects of type~~ M_COVR, M_NSYS or~~OR~~ M_QUAL meta objects do not exist within the data set.	Mandatory ~~meta~~ feature objects are missing.~~;~~	Include mandatory ~~meta~~ feature objects M_COVR, M_NSYS and M_QUAL.	3.4	C
~~506~~	~~If mandatory subfieldsubfields in EN and ER files are Null~~NULL	~~Mandatory sub fieldsubfields are not populateddo not contain a value.~~	~~Populate mandatory sub fieldsubfields.~~	~~3.5.1 and Part 3 (2.1)~~6.1.4	~~C~~
507	If any mandatory attributes are not populated.	Mandatory attributes are not populated	Populate mandatory attributes.	3.5.2 and SuppNo2 Ch.4 (3.5.2.1)	C
508a	For each feature object (excluding LIGHTS) where more than one value of COLOUR ~~are~~ is encoded ~~that~~ AND COLPAT is ~~'Null' does not contain a value~~ Not Present OR is Null~~ULL.~~	COLOUR has multiple values without a value for COLPAT.	Ensure COLPAT has a value where multiple COLOUR values are encoded.	3.5.2 Logical consistency	E
508b	For each feature object where COLPAT is ~~'~~notNull~~'~~ ~~that~~ AND COLOUR is ~~'~~Null~~'~~ OR only has one value.	COLPAT is populated without multiple COLOUR values.	Ensure multiple COLOUR ~~-~~values are populated or delete COLPAT value.	3.5.2 Logical consistency	E

509	For each~~all~~ feature object~~s~~ listed below where the attribute stated is ~~'~~Null~~'~~ ~~or 'not present';~~ ARCSLN: NATION ASLXIS: NATION CONZNE: NATION COSARE: NATION CTNARE: INFORM or TXTDSC CUSZNE: NATION DEPARE: DRVAL1 and DRVAL2 DEPCNT: VALDCO DRGARE: DRVAL1 DWRTPT: ORIENT DWRTCL: ORIENT EXEZNE: NATION FSHZNE: NATION LNDELV: ELEVAT M_COVR: CATCOV M_CSCL: CSCALE M_NSYS: MARSYS or ORIENT M_QUAL: CATZOC M_SDAT: VERDAT M_VDAT: VERDAT MAGVAR: VALMAG NEWOBJ: CLSDEF and CLSNAM RCTLPT: ORIENT RESARE: CATREA or RESTRN STSLNE: NATION SWPARE: DRVAL1 ~~DEPCNT: VALDCO~~ ~~LNDELV: ELEVAT~~ ~~MAGVAR: VALMAG~~ ~~CONZNE: NATION~~ ~~COSARE: NATION~~ ~~CUSZNE: NATION~~ ~~EXEZNE: NATION~~ ~~FSHZNE: NATION~~ ~~STSLNE: 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~~ ~~M_NSYS: MARSYS or ORIENT~~ ~~RCTLPT: ORIENT~~	Mandatory attribute has not been populated with a value.	Populate mandatory attributes; in these cases the object is meaningless without this value.	3.5.2 and Supplement No3~~2~~ Ch.4 (3.5.2.1)	E

~~510~~	*Check removed.*~~For all objects except M_HOPA where HORDAT is 'notNull' OR 'Null'~~	~~HORDAT is encoded on objects other than M_HOPA.~~	~~Delete value of HORDAT encoded on object other than M_HOPA.~~	~~3.5.3~~	~~E~~
511	For each feature object where any of the attributes DUNITS, HUNITS, RECDAT, RECIND, SCAMAX, PUNITS or ~~,~~ CATQUA ~~are~~ is ~~null or not~~Present~~Null~~.	Prohibited attributes have been encoded.	~~Delete~~ Remove prohibited attributes.	3.5.3	C
512	For each feature 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.	Values have been padded with non-significant zeroes. E.g. : For a signal period of 2.5 sec, the value of SIGPER must be 2.5 and not 02.500	Remove non-significant zeroes. ~~E.g. : For a signal period of 2.5 sec, the value of SIGPER must be 2.5 and not 02.500.~~	3.5.4	E
513	For each ~~geo~~ feature object with an attribute value identical to ~~a the corresponding~~ a corresponding attribute of a meta object it is WITHIN ~~which it is situated~~.	An attribute value of ~~given on~~ a meta object is duplicated on a geo object.	~~Delete~~ Remove duplicate value from geo object.	3.5.6	E
~~514~~	*Check removed.*~~For each $AREAS,$CLOLN,$COMPS,$CSYMB,$LINES,$SHABL,$TEXTS~~	~~Cartographic objects exist within the dataset.~~	~~Delete cartographic objects.~~	~~3.6~~	~~E~~
515	For each~~all~~ edge~~s~~ where the subfield USAG (Usage indicator) ~~=~~ is Equal to 3 ~~[~~(exterior boundary, truncated by the data limit~~]~~) AND the MASK subfield does not equal ~~255 [null]~~255 (masking is not relevant).	~~Exterior edges truncated by the data limit are not masked.~~Edge with USAG = 3 (exterior boundary truncated by the data limit) does not have MASK = 255 (masking is not relevant)	Set MASK to 255(~~Null~~masking is not relevant) for edges with USAG = 3.~~exterior edges truncated by the data limit.~~	3.8	W
516a	For each~~all~~ master feature object~~s~~ of geometric primitive ~~type~~ point which do~~es~~~~es~~ not ~~EQUAL~~ share the geometry of the related slave objects. ~~linked in the same master/slave relationship.~~	Master and slave point objects do not share the same node.	Ensure master and slave point objects share the same node.	3.9 and Appendix B1, Annex A (12.1.1 & 12.1.2)	E
516b	For ~~all~~ each master feature object~~s~~ of ~~type~~ geometric primitive line where the slave object does not OVERLAP the master object.	~~Master and slave line objects do not overlap.~~Slave object does not overlap the master line object	Ensure the m~~M~~aster and s~~S~~lave objects overlap.	3.9 and Appendix B1, Annex A (12.1.1 & 12.1.2)	E

516c	For eachall master feature objects of type geometric primitive area where the slave object is not WITHIN or OR TOUCHING the master object.	Slave object of type area does not touch or fall within the master area object.	Ensure the sSlave object touches or lies within the mMaster object.	3.9 and Appendix B1, Annex A (12.1.1 & 12.1.2)	E
517a	For eacha collection feature record object which does not reference at least 1 two feature objects.	Collection feature record object does not reference any at least two feature objects.	Delete collection feature object or eEnsure that ite collection feature record references at least 1 two feature objects.	3.9 and Appendix B1, Annex A (15), and Part 3 (6.2).	E
517b	For eacha collection feature record object which references itself.	Collection feature object references itself.	Remove circular reference.	3.9 and Appendix B1, Annex A (15), and Part 3 (6.2)	E
517c	For eacha collection feature recordobject has a value of where the subfield PRIM is Nnot equal to 255Null {255} [(no geometry]).	Invalid value of geometric primitive subfield.	Amend Set PRIM subfield to Null {255} [(no geometry]).	3.9 and Appendix B1, Annex A (15), and Part 3 (6.2)	E
~~517d~~	*Check removed.*For a collection feature record which references another master feature.	Collection feature references another master feature.	Remove reference to a master feature.	3.9 and Appendix B1, Annex A (15), and Part 3 (6.2)	E
517e	For eacha collection feature object where the RNID RIND subfield is not 3 [(peer]) or OR which references feature objectss where the subfield RNID RIND is Nnot equal to 3 [(peer]).	Collection feature object which is peer, references non-peer feature objectss.	Amend feature objectss to peer.	3.9 and Appendix B1, Annex A (15), and Part 3 (6.2).	E
517f	For each collection feature object that references the same feature more than once	Collection feature object contains multiple references to the same feature object	Remove duplicated reference.	3.9 and Appendix B1, Annex A (15), and Part 3 (6.2).	E
518a	For all each objects FLODOC, DRGARE, LNDARE, HULKES, PONTON, DEPARE or, UNSARE feature object of type geometric primitive area where the GROUP subfield [GRUP] of the FRID Feature Record Identifier [FRID] is Nnot equal to (1) [(Group 1]).	Skin of the earth objects are not encoded as Group 1.	Ensure that Skin of the earth objects are encoded with the Feature Record Identifier [FRID] subfield GRUP is set to 1 (1) [(Group 1]) for all skin of the earth feature objects.	3.10.1	C

518 b	For ~~all~~ each feature object~~s except~~ (excluding FLODOC, DRGARE, LNDARE, HULKES, PONTON, DEPARE and~~,~~ UNSARE) of ~~type~~ geometric primitive area, where the GR~~O~~UP subfield ~~[GRUP]~~ of the FRID ~~Feature Record Identifier [FRID]~~ is N~~n~~ot equal to ~~(~~2~~)~~ ~~[~~(Group 2~~]~~).	Group 2 objects are not encoded as G~~g~~roup 2.	Ensure that ~~Group 2 objects are encoded with Feature Record Identifier [FRID] set to (1) [Group 1~~the FRID subfield GRUP is set to 2 (Group 2) for all non skin of the earth feature objects.~~]~~.	3.10.2	C
519a	If the combined coverage of all DEPARE, DRGARE, FLODOC, HULKES, LNDARE and UNSARE feature objects i~~does~~ Not equal~~EQUAL~~ to the combined coverage of all M_COVR meta objects ~~with~~where CATCOV Equal to 1(coverage available). ~~For all objects FLODOC, DRGARE, LNDARE, HULKES, PONTON, DEPARE, UNSARE that their combined coverage EQUALS the data coverage M_COVR CATCOV=1~~	Skin of the earth (~~T~~Group1) objects do not cover the data coverage (M_COVR=1)	A~~m~~end~~just~~ ~~T~~Group1 object limits to match data coverage.	3.10.1	C
519b	For ~~all~~ each ~~objects~~ DEPARE, ~~FLODOC,~~ DRGARE, FLODOC, ~~LNDARE,~~ HULKES, LNDARE PONTON, ~~DEPARE~~ or~~OR,~~ UNSARE feature object of geometric primitive area ~~-~~that OVERLAP another DEPARE, DRGARE, FLODOC, HULKES, LNDARE, PONTON or UNSARE of geometric primitive area.	Skin of the earth (~~T~~Group1) objects overlap.	Ensure ~~T~~Group1 objects do not overlap.	3.10.1	C
520a	If the AALL subfield of the DSSI ~~-AALL~~ is N~~n~~ot equal to ~~n~~coded with ~~(~~0~~)~~ ~~or -~~ AND is Not equal to ~~OR (~~1~~)~~.	~~DSSI-AALL is not encoded correctly.~~Invalid value of AALL.	~~Amend AALL sub field~~Set value of AALL to 0 or 1.	3.11 and 3.5.5	E
520b	If the NALL subfield of the DSSI ~~DSSI-NALL~~ is N~~n~~ot equal to ~~n~~coded ~~with~~ ~~(~~0 ~~OR~~AND is Not equal to ~~)~~ ~~(~~1~~)~~ AND is Not equal to ~~OR~~or ~~(~~2~~)~~.	~~DSSI-NALL is not encoded correctly.~~Invalid value of NALL.	Set value of NALL to 0, 1 or 2.~~Amend NALL sub field.~~	3.11 and 3.5.5	E

~~520c~~	*Check removed.*~~For each attribute NINFOM, NTXTDS or NPLDST which are notNull where INFORM, TXTDSC or PILDST are Null or Not populated.~~	~~NINFOM, NTXTDS or NPLDST populated without corresponding value of INFORM, TXTDSC or PILDST.~~	~~Populate INFORM, TXTDSC or PILDST as required.~~	~~3.11 and 3.5.5~~	~~E~~
520d	If lexical level 2 ~~(2)~~ has been used anywhere other than the NATF field.	Lexical level ~~(~~2~~)~~ used outside of the NATF field. ~~[~~(Return character sets used and the sequence found.~~]~~)	~~Correct~~ Amend text to remove lexical level 2 characters.	3.11 and 3.5.5	E
520e	If any ATTF or NATF field contains characters of a lexical level greater than that in the DSSI - AALL/NALL subfields correspondingly.	Lexical level of characters in the attribute or encoding of DSSI-AALL/NALL is inconsistent.	~~Correct~~ Amend characters or the subfield encoding as required.	3.11 and 3.5.5	E
520f	If the UT or FT ~~are~~ is not encoded at the lexical level specified for that field.	The UT ~~and~~ or FT ~~are~~ is not of the correct lexical level.	~~Correct~~ Amend UT and FT to the correct lexical level.	~~3.11 and 3.5.5~~S-57 Part 3 Annex B (B.2)	E
~~520g~~	*Check removed.*~~For all national language attributes which are not encoded in the Feature Record National Attribute (NATF) field.~~	~~National language attributes not encoded in the Feature Record National Attribute (NATF) field.~~	~~Encoded national language attributes using the Feature Record National Attribute (NATF) field.~~	~~3.11 and 3.5.5~~	~~E~~
~~520h~~	*Check removed.*~~For all feature object attributes (non national) that are not encoded in the Feature Record Attribute (ATTF) field.~~	~~Feature object attributes not encoded in the Feature Record Attribute (ATTF) field.~~	~~Encode feature object attributes in the feature record attribute (ATTF) field.~~	~~3.11 and 3.5.5~~	~~E~~
521a	For each~~all~~ feature object~~s~~ where OBJNAM ~~AND~~ and NOBJNM are ~~'~~notNull~~'~~ AND ~~that they~~ are ~~EQUAL~~Equal.	Values for OBJNAM and NOBJNM are identical.	Ensure that national language attributes are populated with the correct values.	3.11.1	W
521b	For each~~all~~ feature object~~s~~ where INFORM ~~and~~ and NINFOM are ~~'~~notNull~~'~~ AND ~~that they~~ are ~~EQUAL~~Equal.	Values for INFORM and NINFOM are identical.	Ensure that national language attributes are populated with the correct values.	3.11.1	W
521c	For each~~all~~ feature object~~s~~ where PILDST ~~and~~ and NPLDST are ~~'~~notNull~~'~~ AND ~~that they~~ are ~~EQUAL~~Equal.	Values for PILDST and NPLDST are identical.	Ensure that national language attributes are populated with the correct values.	3.11.1	W
521d	For each~~all~~ feature object~~s~~ where TXTDSC ~~and~~ and NTXTDS are ~~'~~notNull~~'~~ AND ~~that they~~ are ~~EQUAL~~Equal.	Values for TXTDSC and NTXTDS are identical.	Ensure that national language attributes are populated with the correct values.	3.11.1	W

522	For eachall feature objects where NOBJNM is 'notNull' AND OBJNAM is 'Null' OR not presentPresent	Object name in national languageNOBJNM is populated without Object namOBJNAMe.	Populate Object nameOBJNAM.	3.11.1	E
523	IfWhere the HDAT subfield of the DSPM field does not equalis Not equal to 2 [(WGS 84]).	HDAT does not equal 2 (WGS 84).	Ensure Set the HDAT subfield equals to 2 (WGS 84).	4.1	C
524	Where If the DUNI subfield of the DSPM field does not equalis Not equal to 1 [(metres]).	DUNI does not equal 1 [(metres]).	Ensure Set the DUNI subfield to equals 1 [(metres]).	4.4	C
525	Where If the PUNI subfield of the DSPM does not equalis Not equal to 1 [(metres]).	PUNI does not equal 1 [(metres]).	Ensure Set the PUNI subfield toequals 1 [(metres]).	4.4	C
526	Where If the COUN subfield of the DSPM field does not equalis Not equal to 1 [(latitude/longitude]).	COUN does not equal 1 (latitude/longitude).	Ensure Set the COUN subfield to equals 1 (latitude/longitude).	4.4	C
527	For all attributes TXTDSC,NTXTDS,PICREP which are 'notNull' and referenced files do not exist or their names do not conform to the ENC Product Specification. *Moved to section 2.3 as Check renumbered 10105*	Referenced files are missing or their names are non-conformant.	Ensure referenced files exist and are named correctly.	5.4.1 and 5.6.4	C
528	If a catalogue file does not exist. *Moved to section 2.3 as Check renumbered 10106*	No catalogue file exists.	Create a catalogue file.	5.4.1	C
529	If volume name is not in accordance with the ENC Product Specification. *Moved to section 2.3 as Check renumbered 10107*	Volume name is not in accordance with the ENC Product Specification.	Correct the volume name.	5.4.2	C
530	If the directory structure for physical media is not in accordance with the ENC Product Specification. - An ENC_ROOT directory must exist in the first volume. *Moved to section 2.3 as Check renumbered 10108*	The directory structure for physical media is not in accordance with the ENC Product Specification.	Correct the directory structure of the physical media.	5.4.3	C

531	If the file names are not in accordance with the ENC Product Specification.	File names are not in accordance with the ENC Product Specification.	~~Correct~~ Amend file names.	5.6.1, 5.6.2 and 5.6.3	C
~~532~~	~~If the text and graphic file names are NOT unique, OR NOT with extension (e.g. .TXT and .TIF). for new editions and re-issues.~~ ~~*Moved to section 2.3 as Cc*~~*heck renumbered 1015~~~~*09*~~	~~Text and graphic file names incorrect incorrect format/name.~~	~~Use correctly formatted and named text and graphic files.~~	~~5.6.4~~	~~C~~
533	If the ~~DSID~~ UADT subfield of the DSID field is used in an ER file.	DSID-UADT subfield populated in an ER file.	Remove value of DSID-UADT subfield.	5.7	C
534	If a delete cell message contains anything other than the DSID field ~~with~~ AND EDTN is ~~=~~ Equal to 0	Incorrect delete cell message.	Remove additional information from delete cell message.	5.7	C
~~535~~	~~If the CRC value in the catalogue file does not equal that in the dataset.~~ ~~*Moved to section 2.3 as Cc*~~*heck renumbered 10160*	~~CRC values do not match.~~	~~Correct CRC value.~~	~~5.9.1~~	~~C~~
536	If a field without a repetition factor repeats.	Field without a repetition factor repeats.	Remove repeating value.	6.1.3	C
~~537~~	~~If the format of the catalogue file is not correct.~~ ~~*Moved to section 2.3 as Cc*~~*heck renumbered 10171*	~~Catalogue file format not correct.~~	~~Correct format of the catalogue file.~~	~~6.2~~	~~C~~
~~538~~	~~If CADT-IMPL DOES NOT EQUAL "BIN"~~ ~~*Moved to section 2.3 as Cc*~~*heck renumbered 10182*	~~CADT-IMPL is not set to "BIN"~~	~~Correct CADT-IMPL.~~	~~6.2.2~~	~~E~~
539	If DSID-PROF is Not equal to~~OT either~~ 1 ~~[~~(EN~~]) or OR~~AND is Not Equal to 2 ~~[~~(ER~~])~~.	Invalid value of DSID-PROF. ~~is not set to either 1 [EN] or 2 [ER].~~	~~Correct~~ Set DSID-PROF to either 1 (EN) or 2 (ER).	6.3 and 6.4, Part 3 (7.3.1.1)	C
540a	If mandatory records, fields and subfields are not ~~included~~Present ~~or~~ OR are N~~n~~ull.	Mandatory records, fields or subfields are not used.	Add mandatory records/values.	6.1.4, 6.3 and 6.4	C
540b	If data set file contains prohibited records, fields or subfields ~~are used~~.	Prohibited records, fields or subfields used.	Remove prohibited records/values.	6.3 and 6.4	C
~~541a~~	*Check removed.*~~For all objects of type LIGHTS If CATLIT is EQUAL TO 1 [Fixed] AND SIGGRP is encoded.~~	~~SIGGRP is encoded for a fixed light.~~	~~Delete SIGGRP from fixed light.~~	~~Appendix A Ch.2 (code 141)~~	~~E~~

~~541b~~	*Check removed.*~~For all objects of type LIGHTS If CATLIT is NOT EQUAL TO 1 [Fixed] where SIGGRP does not start and finish with a bracket.~~	~~SIGGRP is incorrectly formatted.~~	~~Ensure SIGGRP is correctly formatted with appropriate brackets.~~	~~Appendix A Ch.2 (code 141)~~	~~E~~
542	For each~~all~~ LIGHTS feature object where~~s of type LIGHTS If CATLIT~~ LITCHR is ~~NOT~~ Not equal ~~EQUAL TO~~to 1 ~~[~~(~~f~~Fixed~~]~~) AND where SIGGRP does not start and finish with a bracket.	SIGGRP is not formatted correctly.	~~Correct~~ Amend the formatting of SIGGRP.	Appendix A Ch.2 (code 141)	E
543	~~If any~~For each TS_TSP attribute value that does not conform to the correct structure, (i.e. values not separated by commas).	TS_TSP value not formatted correctly.	~~Correct~~ Amend the formatting of TS_TSP value.	Appendix A Ch.2 (code 159)	E
544	~~If an~~For each feature object that OVERLAPS~~ or~~ OR is WITHIN an area of M_COVR ~~where~~ where CATCOV is Equal to~~=~~ 2 (no coverage available).	Object within an area of no coverage.	Remove object or amend coverage.	2.2	C
545	For each feature object which does not have a valid feature object class label/code as defined by the Object Catalogue and S-57 Supplement~~s~~ No 2.	Object has invalid object class code.	~~Correct~~ Amend object class code.	3.2 and Supplement No2 Ch.2	C
546	For each attribute which does not have a valid attribute ~~class~~ label/code as defined by the Object Catalogue and S-57 Supplements No 2.	Attribute has invalid attribute ~~class~~ label/code.	~~Correct~~ Amend attribute label/~~class~~code ~~code~~.	3.2 and Supplement No2 Ch.3	C
547	For each feature object which contains attributes outside the list of permissible attributes for the feature object~~'s class~~ (as defined in the Object Catalogue and S-57 Supplement No 2 for the specified feature object).	Attribute not permitted on feature object class.	Remove attribute.	3.2 and Supplement No2 Ch.2	C
548	If the combined coverage of M_COVR meta objects ~~are~~ is N~~n~~ot equal to the cell ~~limits~~extents.	Cell not entirely covered by M_COVR objects.	~~Correct~~ Edit M_COVR coverage to match cell ~~limits~~extents.	3.4	C
549	For each DEPARE or DRGARE feature object~~s~~ which ~~are~~ is not WITHIN the combined coverage of M_QUAL meta objects.	DEPARE or DRGARE objects not covered by an M_QUAL object.	Ensure full coverage of M_QUAL objects over DEPARE or DRGARE objects.	3.4 and Appendix B.1 (2.2.3)	E

550	For each UNSARE feature object which CONTAINS ~~or~~ OR OVERLAPS the following objects DEPCNT, OBSTRN, SOUNDG, UWTROC or WRECKS ~~and~~ AND ~~which~~ is not WITHIN the combined coverage of M_QUAL meta objects.	UNSARE containing bathymetric features not completely covered by M_QUAL.	Ensure M_QUAL objects completely cover UNSARE objects	3.4 and Appendix B.1 (2.2.3)	E
551a	If text attribute values use (C0) characters (C0 as defined in S-57 Part 3, Annex B).	C0 characters used in text attribute values.	Correct text attribute values.	3.5.5 & Part 3 Annex B	E
551b	If the delete character is used outside of the update mechanism, (i.e. in records ~~with~~ where RUIN is Equal to~~=~~ 3 ~~[~~(modify~~]~~)).	Delete character used outside of the update mechanism.	Only use delete within the update mechanism.	3.5.5	E
~~552~~	*Check removed.*~~For each object where an attribute value added in S-57 Edition 3.1 has been encoded that INFORM has not been populated containing a description of the enumerate value.~~	~~Attribute value added in S-57 Edition 3.1 does not have a description in INFORM.~~	~~Ensure that for new attribute values INFORM contains a description of the enumerate value.~~	~~3.5.7~~	~~E~~
553	For each Group 1 feature object where any of DATSTA, DATEND, PERSTA or, PERIOD ~~are~~is ~~present~~Present ~~and~~ AND notNull.	Attributes DATSTA, DATEND, PERSTA or PEREND are encoded on Group 1 objects.	~~Delete~~ Remove these attributes from Group 1 objects.	3.10.1 and logical consistency	C
554	For each edge referenced by only one M_COVR meta object ~~with~~ where CATCOV ~~=~~ is Equal to 1 ~~[~~(coverage available~~]~~), ~~that~~ AND is also shared by more than one Group 1 feature object.	Edge of M_COVR (coverage available) referenced by more than one Group 1 object.	Ensure edges on the edge of data coverage only reference one Group 1 object.	3.10.1	C
555	If the order of the data in a base or update file is not correct.	Incorrect data order.	~~Correct~~ Amend data order.	6.1.1	C

~~556a~~	~~For a base cell file if the limits contained in the Catalogue Directory field (CATD) of the catalogue file (subfields SLAT, WLON, NLAT, ELON): are not equal to the furthest coordinates of the M_COVR object in the corresponding base cell file.~~ ~~*Moved to section 2.3 as C~~*heck* renumbered *10~~24~~18~~a*	~~Limits in catalogue do not correspond to M_COVR limits for a base cell file.~~	~~Amend limits in catalogue or base cell file M_COVR object to agree.~~	~~5.6.3, 6.2.2 and logical consistency~~	~~C~~
~~556b~~	~~For an update cell file if the limits are not identical to the limits of the base cell to which they apply.~~ ~~*Moved to section 2.3 as C~~*heck* renumbered *10~~24~~18~~b*	~~Update with limits different to that of the target base cell.~~	~~Correct limits of update file.~~	~~5.6.3, 6.2.2 and logical consistency~~	~~C~~
557	For each SIGSEQ attribute value which does not conform to the correct structure (i.e. string content is not in accordance with format specification).	SIGSEQ attribute not formatted correctly.	~~Correct~~ Amend formatting of SIGSEQ attribute value.	Appendix A Ch.2 (code 143)	E
558	For each feature object where SIGSEQ is ~~'~~notN~~n~~ull~~'~~ AND~~and~~ SIGPER is ~~'~~N~~n~~ot equal to~~'~~ the sum of the intervals of lit and eclipse given in SIGSEQ.	SIGPER does not correspond to SIGSEQ.	Ensure SIGPER corresponds to the sum of the intervals of lit and eclipse given in ~~value of~~ SIGSEQ.	Appendix A Ch.2 (code 143) and logical consistency	E
559a	For ~~all~~ each feature object~~s~~ where STATUS ~~=~~includes the value 1 ~~[~~(permanent~~]~~) ~~with~~ in combination with at least one of, 2 ~~[~~(occasional~~]~~), 5 ~~[~~(periodic/intermittent~~]~~) or~~,~~ 7 ~~[~~(temporary~~]~~).~~;~~	Illogical combination of STATUS values.	Amend values for STATUS.	Appendix A Ch.2 (code 149) and logical consistency	E
559b	For each~~all~~ feature object~~s~~ where STATUS includes the value =3 ~~[~~(recommended~~]~~) in combination with at least one of 4 ~~[~~(not in use~~]~~) or~~,~~ 11 ~~[~~(extinguished~~]~~).~~;~~	Illogical combination of STATUS values.	Amend values for STATUS.	Appendix A Ch.2 (code 149) and logical consistency	E
559c	For each~~all~~ feature object~~s~~ where STATUS ~~=~~includes the value 4 ~~[~~(not in use~~]~~) in combination with at least one of 5 ~~[~~(periodic/intermittent~~]~~), 9 ~~[~~(mandatory~~]~~).~~;~~	Illogical combination of STATUS values.	Amend values for STATUS.	Appendix A Ch.2 (code 149) and logical consistency	E

559d	For ~~all~~ each feature object~~s~~ where STATUS ~~=~~includes the value 5 ~~[~~(periodic/intermittent~~]~~) in combination with 11 ~~[~~(extinguished~~]~~).~~;~~	Illogical combination of STATUS values.	Amend values for STATUS.	Appendix A Ch.2 (code 149) and logical consistency	E
559e	For ~~all~~ each feature object~~s~~ where STATUS ~~=~~includes the value 9 ~~[~~(mandatory~~]~~) in combination with 11 ~~[~~(extinguished~~]~~).~~;~~	Illogical combination of STATUS values.	Amend values for STATUS.	Appendix A Ch.2 (code 149) and logical consistency	E
559f	For each~~all~~ feature object~~s~~ where STATUS ~~=~~includes the value16 ~~[~~(watched~~]~~) in combination with 17 ~~[~~(un-watched~~]~~).~~;~~	Illogical combination of STATUS values.	Amend values for STATUS.	Appendix A Ch.2 (code 149) and logical consistency	E
559g	For each~~all~~ feature object~~s~~ where STATUS ~~=~~includes the value 8 ~~[~~(private~~]~~) in combination with 14 ~~[~~(public~~]~~).~~;~~	Illogical combination of STATUS values.	Amend values for STATUS.	Appendix A Ch.2 (code 149) and logical consistency	E
560a	For all feature objects with the same FOID where the object class and attribute values are not identical.	Objects with the same FOID ~~are not identical.~~do not have the same feature encoding	Ensure objects with the same FOID have the same object class and attribute values.	3.1	C
560b	~~-~~For all feature objects with the same FOID where the geometric primitives are ~~of type~~ Point OR are not of the same geometric primitive.	Objects with the same FOID are of ~~type~~ geometric primitive point or have different geometric primitives~~. of a different type.~~	Ensure point objects do not have the same FOID and that line and area objects which share FOIDs ~~have~~ have the same geometric primitive ~~type~~.	3.1	C
~~561~~	~~*Check removed.*For all objects with identical FOIDs which are part of a collection object or master/slave relationship.~~	~~Objects with the same FOID part of a collection or master/slave relationship.~~	~~Ensure that objects with the same FOID are not part of collections or master slave relationships.~~	~~3.1~~	~~E~~
562	For each~~all~~ NEWOBJ feature object~~s of type NEWOBJ~~ where INFORM ~~or TXTDSC~~ does not ~~contain~~ commence with the CLSNAM AND contain the CLSDEF of the feature object~~feature~~.	~~CLSNAM not included in INFORM or TXTDSC for a NEWOBJ object.~~The text in INFORM or TXTDSC does not commence with the CLSNAM ~~of the NEWOBJ feature~~ object or contain the CLSDEF of the NEWOBJ feature object.	~~Populate~~ Ensure that the text in INFORM or TXTDSC commences with the CLSNAM followed by the CLSDEF of the NEWOBJ feature object.~~New Object.~~	Supplement No~~3~~2 Ch.4 (3.3.1) and Appendix B1, Annex A (16)	~~C~~W

563	*Check removed.*For all objects of type RESARE where CATREA = 27 or 28 AND INFORM or TXTDSC do not contain the meaning of the value.	Attribute values of RESARE used without their meaning in INFORM or TXTDSC.	Populate TXTDSC or INFORM with value meaning.	Supplement No1 Ch.4 (3.5.7.1)	E
564	*Check removed.*For all objects of type ARCSLN, ASLXIS, NEWOBJ or RESARE with CATREA = 27 [Environmentally Sensitive Sea Area (ESSA)] or 28 [Particularly Sensitive Sea Area (PSSA)], If the DSID subfield STED does not equal (03.1) OR PRED does not equal (2.0) OR COMT does	DSID subfields not correctly populated for a dataset containing new attribute values.	Correct DSID subfields STED (03.1) and PRED (2.0) and ensure COMT contains "STED:3.1.1;".	Supplement No1 Ch.4 (6.3.2.1 and 6.4.2.1)	E
565	*Check removed.*For all update (ER) files being applied to a base (EN) file where the COMT subfield of the DSID field contains "STED:3.1.1;" If STED is not equal to (03.1) AND PRED is not equal to (2.0).	Values of STED or PRED are not correct.	Ensure that where the COMT field contains "STED:3.1.1;" STED equals (03.1) and PRED equals (2.0).	Supplement No1 Ch.4 (6.4.2.1)	E

<table>
<tr><td>566</td><td>~~Check that any~~For each NEWOBJ feature object ~~has~~ with the attributes CLSDEF, CLSNAM and SYMINS not populated with exactly one of the following combinations:</td><td>Invalid use of ~~New Object.~~NEWOBJ</td><td>Amend to reflect TSMAD guidance.</td><td>EB 54</td><td>~~E~~C</td></tr>
<tr><td></td><td colspan="4"><table>
<tr><th>CLSDEF</th><th>CLSNAM</th><th>SYMINS</th></tr>
<tr><td>A Virtual object which indicates navigable water lies northwards</td><td>Virtual AtoN, North Cardinal</td><td>SY(BRTHNO01);SY(BCNCAR01); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object which indicates navigable water lies eastwards</td><td>Virtual AtoN, East Cardinal</td><td>SY(BRTHNO01);SY(BCNCAR02); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object which indicates navigable water lies southwards</td><td>Virtual AtoN, South Cardinal</td><td>SY(BRTHNO01);SY(BCNCAR03); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object which indicates navigable water lies westwards</td><td>Virtual AtoN, West Cardinal</td><td>SY(BRTHNO01);SY(BCNCAR04); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object marking the port side of a channel</td><td>Virtual AtoN, Port Lateral</td><td>SY(BRTHNO01);SY(BOYLAT24); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object marking the starboard side of a channel</td><td>Virtual AtoN, Starboard Lateral</td><td>SY(BRTHNO01);SY(BOYLAT13); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object marking the port side of a channel</td><td>Virtual AtoN, Port Lateral</td><td>SY(BRTHNO01);SY(BOYLAT23); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object marking the starboard side of a channel</td><td>Virtual AtoN, Starboard Lateral</td><td>SY(BRTHNO01);SY(BOYLAT14); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object marking an isolated danger</td><td>Virtual AtoN, Isolated Danger</td><td>SY(BRTHNO01);SY(BCNISD21); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object marking safe water</td><td>Virtual AtoN, Safe Water</td><td>SY(BRTHNO01);SY(BOYSAW12); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object used to mark an area or feature referred to in nautical documents</td><td>Virtual AtoN, Special Purpose</td><td>SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
<tr><td>A Virtual object marking a wreck</td><td>Virtual AtoN, Wreck Marking</td><td>SY(BRTHNO01);SY(BOYSPP11); TX('V-AIS',3,2,2,'15110',2,0,CHMGD,11)</td></tr>
</table></td></tr>
<tr><td>567</td><td>For each attribute of type ‘list’ (excluding COLOUR, NATQUA and NATSUR) ~~of type 'list' where~~ with more than one instance of the same value. ~~is present AND the attribute is not COLOUR, NATQUA and NATSUR.~~</td><td>List attribute contains ~~more than one of~~ the same value more than once.</td><td>Remove unnecessary attribute value.</td><td>Logical consistency</td><td>E</td></tr>
<tr><td>568</td><td>For each feature object where PERSTA AND PEREND are notNull AND their values are identical.</td><td>Object has identical values of PERSTA and PEREND.</td><td>Ensure values of PERSTA and PEREND are logical.</td><td>Logical consistency</td><td>E</td></tr>
<tr><td>569</td><td>For each feature object where PERSTA is notNull ~~and~~ AND PEREND is N~~n~~ull ~~or~~ OR not ~~present~~Present.</td><td>Object has PERSTA without a value of PEREND.</td><td>Populate PEREND or remove PERSTA.</td><td>Logical consistency</td><td>E</td></tr>
</table>

570	For each feature object where PEREND is notNull ~~and~~ AND PERSTA is ~~null~~ Null~~or~~ OR not ~~present~~Present.	Object has PEREND without a value of PERSTA.	Populate PERSTA or remove PEREND.	Logical consistency	E
571	For each edge which contains vertices at a density G~~g~~reater than 0.3mm at compilation scale.	Vertex density ~~too great~~exceeds the allowable tolerance.	Generalise edge(s).	3.8	W
572	For ~~all~~ each feature object~~s~~ where NINFOM is ~~'~~notNull~~'~~ AND INFORM is ~~'~~Null~~'~~ OR not ~~present~~Present.	~~Information in national language~~NINFOM is populated without ~~Information~~INFORM.	Populate ~~Information~~INFORM.	3.11.1	E
573	For ~~all~~ each feature object~~s~~ where NPLDST is ~~'~~notNull~~'~~ AND PILDST is ~~'~~Null~~'~~ OR not ~~present~~Present.	~~Pilot district in national language~~NPLDST is populated without P~~ilot district~~ILDST.	Populate PILDST~~ilot district~~.	3.11.1	E
574	For ~~all~~ each feature object~~s~~ where NTXTDS is ~~'~~notNull~~'~~ AND TXTDSC is ~~'~~Null~~'~~ OR not ~~present~~Present.	NTXTDS ~~Textual description in national language~~ is populated without TXTDSC~~extual Description~~.	Populate TXTDSC and include relevant t~~T~~ext file	3.11.1	E