General ESRI feedback:

General feedback which in some cases is repeated in out notes for each check.

1. Some inconsistencies on what should be returned and it appears in some cases that more errors are being returned then are being documented in the checks.
2. Should each dataset only return the expected set of critical errors in the test description?  There are times that addition critical errors are being returned due to the features in the test dataset.
3. Should the secondary results be based on the critical features that fail the primary check?  Or are the secondary results from other features in the test dataset?  IF they are not related to the primary check then they should be removed and put into their own test.
4. Too many checks per cell.  It would be easier to review the results if only one test per dataset was created.  In many cases there are extra features that trigger additional errors not documented in the results
5. Some differences between 7Cs, Esri, dKart are being observed.  In some cases we know we have a bug.  In other cases it is unclear where the inconsistency is and look for guidance.
6. All errors should include name for vectors and features as well as LNAM for features.  Number counts are not accurate and require additional research to know if they are the right features being returned.  This is due to extra features being in the test datasets or features with incorrect ids.
7. It was sometimes difficult to determine which FOID or VRID was to be returned for a given check. These should be specified in the expected results and secondary errors for each test case.

Esri has found value in these test datasets and will continue to support their development and use.  As additional test datasets are reviewed we will continue to provide our feedback.

Need to double check that the wording of the expected test results reflects the wording in S-58 !!!

Should all secondary errors reported be listed or only ‘critical’ ones?

Should secondary errors for the dataset be listed at the beginning of each section (after the list of ‘critcal’ errors covered) rather than as part of each specific check report?

**AA400001**

**Check 14 Exterior and interior boundaries share more than one node.**

Secondary errors

78: not returned. None of the edges cross each other - *Check 78 ‘Boundary of an area crosses itself’ In this example the line making up the outer boundary shares an edge with the line making up the inner boundary, therefore whilst none the individual edges cross, the boundary of the area does cross itself.*

82: not returned. No edge is used more than once. *Check 82 ‘Object references the same edge more than once’ edge VE-0000000105 is referenced both as an external edge and an internal edge.*

**Check 15 First and last edge of an area boundary do not meet at a common connected node.**

Not returned. This error does not exist. The first and last edge DO meet a common VC. The polygon is messed up, but its first and last VCs are the same: As can be seen from the following extract the first and last referenced edges are <130><77> and <130><79> which reference VC’s <120><66>, <120><67> and <120><68>, <120><69> respectively and therefore check 15 should be triggered

**Secondary errors 13c and 13d should also be triggered.**

0001: <198>

FRID: <100><55><3><2><122><1><1>

FOID: <1810><1513852500><1>

ATTF: <187>2!

FSPT: <<130><77>><1><1><2>

<<130><79>><2><1><2>

<<130><78>><2><1><2>

0001: <142>

VRID: <130><77><1><1>

VRPT: <<120><66>><255><255><1><255>

<<120><67>><255><255><2><255>

0001: <143>

VRID: <130><78><1><1>

VRPT: <<120><66>><255><255><1><255>

<<120><68>><255><255><2><255>

SG2D: <-323397927><609103233>

0001: <144>

VRID: <130><79><1><1>

VRPT: <<120><68>><255><255><1><255>

<<120><69>><255><255><2><255>

I think ESRI’s comment came from an earlier version of the test dataset please see latest version of dataset

**Check 42 Group 1 coverage is not correct, a hole or an overlap exists.**

Secondary errors

Also returned check 519b, “Skin of the earth (Group1) objects overlap.” Agree both 519a ‘ Skin of the earth (Group1) objects do not cover the data coverage (M\_COVR = 1)’ and 519b ‘ Skin of the earth (Group1) objects overlap’ should be reported.

General comment, would it be better to list all the secondary errors together at the beginning of each dataset section.

**AA400002**

* No comments

**AA400003**

* Would be helpful if there were fewer checks per sample cell.
* It was sometimes difficult to determine which FOID or VRID was to be returned for a given check. These should be specified in the expected results and secondary errors for each test case.

**Check 519b Skin of the earth (Group1) objects overlap**

There is one additional FLODOC (FE0000000094) and DEPARE (FE0000000096) object that should be returned in addition to the above listed objects. Agree add FLODOC AA 3345335726 00095 & DEPARE AA 2628503926 00096

**AA400004**

* It would be helpful to include the RCID along with the FOID
* The results should include the feature ID(s) along with the check returned
* The objects listed in the test sections do not exist in this cell or have the wrong ID

I think ESRI’s comments below came from an earlier version of the test dataset and documentation please see latest versions.

**Check 1515a Date attribute not formatted according to ISO 8601:1988**

Inspected the cell and did not find these objects or the incorrectly formatted attributes. agree

**Check 1554a SCAMIN present for a Group 1 object.**

Returned 7 errors, however the FOIDs listed here are wrong. agree

**Check 1554a SCAMIN present for a Group 1 object.**

Returned 3 errors, however the FOIDs listed here are wrong. agree

**Check 1617 DAMCON not covered by LNDARE**

Returned error, however the FOID listed here is wrong. agree

**Check 1651 SWPARE object not covered by DRGARE or DEPARE objects.**

Returned error, however the FOID listed here is wrong. agree

**Check 1681 RECTRC where ORIENT does not correspond to the bearing of the line.**

Returned 3 errors, however the FOIDs listed here are wrong. Agree

**Check 1683 RECTRC and NAVLNE objects as part of a C\_AGGR do not have consistent values of ORIENT.**

Check returned, however the FOIDs listed here are wrong. Agree

Secondary errors 1681 Not returned. Agree

**AA400005**

**Check 1726 Data coverage not completely covered by M\_NSYS objects with a value for MARSYS.**

Esri returns the M\_COVR, not the M\_NSYS. This is because of our interpretation of the S-58 rule description: This check is intended to identify the situation where the entire area of coverage available for an ENC is not covered by **M\_NSYS** objects, with the attribute MARSYS indicating the buoyage system in operation, therefore it is logical to report the M\_COVR as not being entirely covered by M\_NSYS (MARSYS = notNull)

**Check 1795a Temporal attributes on a slave object extend beyond those on the master object.**

Esri only returns the slave, as the S-58 Check Description states:

For each feature object ***which is a slave*** in a Master to Slave relationship Agree

**Check 1795b Temporal attributes on a slave object extend beyond those on the master object.**

Esri only returns the slave, as the S-58 Check Description states:

For each feature object ***which is a slave*** in a Master to Slave relationship Agree

**AA400007**

**Esri General Feedback:**

For Check 1792, too many secondary errors which are not critical and/or are not related to the test case are listed. If these secondary errors are important, they should ideally be listed in their own test cases.

**Check 89b**

The data within this cell will correctly trigger check 89b, however the difficulty in viewing the cell (due to it touching the 180 meridian) leaves me to think that it would be better within another of the test datasets

**Check 1792**

Not returned. Analyzer does not return this either. We believe this is an ambiguous/bad example.

I tend to agree with the ESRI comment as the dataset only touches the 180⁰ meridian, the actual wording of check 1792 is :- If a polygon boundary touching a line can be considered as ‘crossing’ then we can leave the dataset as is otherwise we may have to rethink, it should be noted that experience to date indicates that when a data set ‘touches the 180⁰ meridian display issues ensue.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1792 | If the cell crosses the 180° meridian. | Cell crosses the 180° meridian. | Split the cell at the 180° meridian. | 2.1.8.2 | C |

Documentation needs to be amended using ‘crosses’ instead of overlaps.

**AA400008**

**Check 566**

Secondary errors

Message should say “The text in INFORM does not commence with the CLSNAM object or contain the CLSDEF of the NEWOBJ feature object” Agree amend to read Check 562 ‘The text in INFORM does not commence with the CLSNAM object or contain the CLSDEF of the NEWOBJ feature object.’

**AA400009**

**Check 25a**

Since this is an edge check, would be helpful to specify the VRID. Agree

**Check 25c**

Again, should specify VRID here. Agree

Secondary errors

12: not returned. FSPT is present on this feature record Agree

21: not returned. All VRPTs in the cell are referenced by an edge record. Agree

**Check 1723**

Again, should specify VRID here. Agree

Secondary errors

516a Message should say “Master and slave point objects do not share the same node.” Agree

**AA400010**

* No comments

**AA400011**

* No comments

**AA400012**

**Check 504**

Returned 12 errors. AA 0000003405 00001 doesn’t exist in this dataset Agree that 3405 M\_HDAT does not exist however there is another object which is unknown and therefore prohibited FE-0000000500 OBJL 17001

**Check 545**

Message should say “Object has invalid object class code.”

Secondary errors

Check 21 Not returned. Investigation of the cell did not uncover any VRPTs not reference by a Vector Edge Record. Also, the error message should be “VRPT field not referenced by an edge vector record.”

Agree and dis agree. Check 21 should not be triggered however there is an edge VRID:<130><24><1><1> which is orphaned so check 20b ‘Orphaned geometry’ should be triggered

**Check 553**

Secondary errors

Message for check 547 should be “Attribute not permitted on feature object class.” Agree

check 2000 is not a critical check Agree. Should only the critical secondary errors be listed ?

**Check 1011**

Error message should be “Text or picture file referenced by a feature object is not present in the exchange set or its name is non-conformant.” Agree

**Check 1015**

Error message should be “Text and picture file names have incorrect format/name.” Agree

**Check 1023**

Error message should be “Picture file not in TIF format.” Agree

**Check 1679**

Test Case 1

Error message should be ‘More than one value present for attributes of the following types; enumerated ('E'), float ('F'), integer ('I') or code string ('A').’ Agree

Test Case 2

Error message should be ‘More than one value present for attributes of the following types; enumerated ('E'), float ('F'), integer ('I') or code string ('A').’ Agree

Secondary errors

Not returned. There isn’t a duplicate attribute code on this feature. Agree

Test Case 3

Error should say “More than one value present for attributes of the following types; enumerated ('E'), float ('F'), integer ('I') or code string ('A').” Agree

Secondary errors

Not returned. There isn’t a duplicate attribute code on this feature. Agree

Test Case 4

Not returned. We are returning this under check 541b. Not sure if this check should flag attributes of type A with more than one value. There are some type A attributes, i.e. RADWAL, which are allowed to have a comma. Agree, maybe formatted strings should not be included in this check. Propose that we remove this test case

**AA400016**

**Check 74**

Secondary errors

43: message should say “DEPCNT does not coincide with two Group 1 objects.” Agree, does this need to be listed?

Check 1771 is returned twice for this cell (consistent with results from ENC Analyzer and dKart). Features in question are:

AA191371310200005 with related objects FE0000000004, FE0000000037.

AA037723599600060 with related objects FE0000000062, FE0000000065

Not required to list ids for secondary errors,

Also message should say “Illogical value of VALDCO of a DEPCNT object between two DEPARE objects.” Agree

**Check 75**

Secondary errors

40: message should be “Linear objects with the same class and attribute values which are connected and are not chained together.” Agree

Check 1771 is returned twice for this cell (consistent with results from ENC Analyzer and dKart). Features in question are:

AA191371310200005 with related objects FE0000000004, FE0000000037.

AA037723599600060 with related objects FE0000000062, FE0000000065

Not required to list ids for secondary errors,

**Check 77**

Message should say “DEPCNT objects cross.” Agree

Secondary errors

43: message should say “DEPCNT does not coincide with two Group 1 objects.” Agree, does this need to be listed?

Check 1771 is returned twice for this cell (consistent with results from ENC Analyzer and dKart). Features in question are:

AA191371310200005 with related objects FE0000000004, FE0000000037.

AA037723599600060 with related objects FE0000000062, FE0000000065

Not required to list ids for secondary errors,

**AA500003**

In addition to the listed errors, Esri is also returning the following critical errors for this cell:

Check 4: Invalid RCNM for DSID (266)

Check 26a: Invalid EXPP for DSID (5)

Check 540b: Prohibited record Data Set Geographic Reference used