**Test Dataset: AA400009**

**S‐58 Recommended ENC Validation Checks covered in this section:**

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| **S‐58 Check** | **Description** |
| 25a | For each edge where the beginning and end are not encoded as connected nodes. |
| 25c | For each edge where the beginning or end node is not referenced using the vector record pointer. |
| 82 | For each feature object of geometric primitive line or area which references the same edge more than once. |
| 546 | For each attribute which does not have a valid attribute label/code as defined by the Object  Catalogue and S-57 Supplements No.3. |
| 1723 | For each feature object of geometric primitive point forming the same navigational aid which does not reference the same spatial object. |

**Secondary Errors**

Critical – 2, 14, 20b, 84a, 84b, 555

Error – 28, 516a, 516b, 516c

Warnings – 19

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| **Dataset Name** | AA400009 | | | | | | | **S‐58 Check** | 25a | | | | | **Type** | C |
| **S-58 Description** | For each edge where the beginning and end are not encoded as connected nodes. | | | | | | | | | | | | | | |
| **Message** | Beginning or end nodes of an edge are not encoded as connected nodes. | | | | | | | | | | | | | | |
| **Solution** | Amend beginning or end nodes to be connected nodes. | | | | | | | | **Conformity** | | | | Part 3 (5.1.4.4) | | |
| **Test Case No. 1** | SLCONS (L) feature has been captured with beginning or end nodes of an edge are not encoded as connected nodes. | | | | | | | | | | | | | | |
| **Location** | | **Feature** | | | | | **Attributes** | | **FRID** | **FOID** | | | | | **VRID** |
| 32°27'47.72"S 61°08'00.13"E | | SLCONS (L) | | | | | CATSLC = 4; WATLEV = 2 | | FE-66 | AA 1522055409 00001 | | | | | VE-51 |
| **Screen Capture** |  | | | | | | | | | | | | | | |
| **Expected Test Results** | 25a: An error “beginning or end nodes of an edge are not encoded as connected nodes” must be triggered. | | | | | | | | | | | | | | |
| **Secondary Critical Errors** | 28:  An additional error “DSSI field record count incorrect” must be triggered.  555: An additional error “Incorrect data order” must be triggered. | | | | | | | | | | | | | | |
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| **Dataset Name** | AA400009 | | | | | | | **S‐58 Check** | 25c | | | | | **Type** | C |
| **S-58 Description** | For each edge where the beginning or end node is not referenced using the vector record pointer. | | | | | | | | | | | | | | |
| **Message** | Beginning or end nodes not referenced by the vector record pointer. | | | | | | | | | | | | | | |
| **Solution** | Amend edge to ensure beginning and end nodes are referenced. | | | | | | | | **Conformity** | | | | Part 3 (5.1.4.4) | | |
| **Test Case No. 1** | RIVERS (L) feature has been captured with beginning or end nodes not referenced by the vector record pointer. | | | | | | | | | | | | | | |
| **Location** | | **Feature** | | | | **Attributes** | | | **FRID** | **FOID** | | | | | **VRID** |
| 32°28'30.44"S 61°07'19.13"E  32°28'07.29"S 61°08'08.21"E | | RIVERS (L) | | | | - | | | FE-60 | AA 1518249002 00001 | | | | | VC-28  VE-31  VC-29 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | | | | |
| **Expected Test Results** | 25c: An error “Beginning or end nodes of an edge are not encoded as connected nodes” must  be triggered. | | | | | | | | | | | | | | |
| **Secondary Critical Errors** | 28:  additional errors “DSSI field record count incorrect” must be triggered.  84a: additional errors “Isolated node marked as connected” must be triggered. | | | | | | | | | | | | | | |
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| **Dataset Name** | AA400009 | | | | | | | **S‐58 Check** | 82 | | | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive line or area which references the same edge more than once. | | | | | | | | | | | | | | |
| **Message** | Object references the same edge more than once. | | | | | | | | | | | | | | |
| **Solution** | Remove duplicate reference to the edge. | | | | | | | | **Conformity** | | | | Topology | | |
| **Test Case No. 1** | BUAARE (A) feature has been captured which references the same edge more than once. | | | | | | | | | | | | | | |
| **Location** | | **Feature** | | | | **Attributes** | | | **FRID** | | **FOID** | | | | **VRID** |
| 32°28'36.09"S 61°07'59.65"E | | BUAARE (A) | | | | **-** | | | FE-62 | | AA 1520219074 00001 | | | | VE-37 |
| **Screen Capture** |  | | | | | | | | | | | | | | |
| **Expected Test Results** | 82: An error “Object references the same edge more than once” must be triggered. | | | | | | | | | | | | | | |
| **Secondary Critical Errors** | 14: An additional error “Exterior and interior boundaries share more than one node” must be triggered. | | | | | | | | | | | | | | |
| **Test Case No. 2** | FNCLNE (L) feature has been captured which references the same edge more than once. | | | | | | | | | | | | | | |
| **Location** | | | **Feature** | | | **Attributes** | | | **FRID** | | **FOID** | | | | **VRID** |
| 32°28'53.76"S 61°07'48.75"E | | | FNCLNE (L) | | | - | | | FE-65 | | AA 1520845574 00001 | | | | VE-50 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | | | | |
| **Expected Test Results** | 82: An error “Object references the same edge more than once” must be triggered. | | | | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | | | | |
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| **Dataset Name** | AA400009 | | | | | | | **S‐58 Check** | 546 | | | | | **Type** | C |
| **S-58 Description** | For each attribute which does not have a valid attribute label/code as defined by the Object  Catalogue and S-57 Supplements No.3. | | | | | | | | | | | | | | |
| **Message** | Attribute has invalid attribute label/code. | | | | | | | | | | | | | | |
| **Solution** | Amend attribute label/code. | | | | | | | | **Conformity** | | | | 3.2 and  Supplement No.3  Ch.3 | | |
| **Test Case No. 1** | ACHBRT (P) feature has been captured with invalid attribute label/code. | | | | | | | | | | | | | | |
| **Location** | | | **Feature** | | | **Attributes** | | | **FRID** | | | **FOID** | | | **VRID** |
| 32°25'54.63"S 61°08'15.85"E | | | ACHBRT (P) | | | catach=1 | | | FE-63 | | | AA 1520226501 00001 | | | VI-38 |
| **ASCII** |  | | | | | | | | | | | | | | |
| **Expected Test Results** | 546: An error “Attribute has invalid attribute label/code” must be triggered. | | | | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | | | | |
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| **Dataset Name** | AA400009 | | | | | | | **S‐58 Check** | 1723 | | | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive point forming the same navigational aid which does  not reference the same spatial object. | | | | | | | | | | | | | | |
| **Message** | Object forming a navigational aid does not point to the same spatial object. | | | | | | | | | | | | | | |
| **Solution** | Ensure all components of the navigational aid point to the same spatial object. | | | | | | | | **Conformity** | | | | 12.1.2 | | |
| **Test Case No. 1** | BCNSPP and LIGHTS (P) features have been captured by forming a navigational aid does not point to the same spatial object. | | | | | | | | | | | | | | |
| **Location** | | | | **Feature** | **Attributes** | | | | **FRID** | | | **FOID** | | | **VRID** |
| 32°28'52.73"S 61°07'51.18"E | | | | BCNSPP (P) | [CATSPM](http://hpdsrv:210/frames/ATTRIBUTES/INFO_ATT_3.asp?)=27; [BCNSHP](http://hpdsrv:210/frames/ATTRIBUTES/INFO_ATT_1.asp?)=1; [COLOUR](http://hpdsrv:210/frames/ATTRIBUTES/INFO_ATT_2.asp?)=6 | | | | FE-57 | | | AA 0000004199 00001 | | | VI-05 |
| 32°28'53.26"S 61°07'52.72"E | | | | LIGHTS (P) | LITCHR=2; COLOUR=6; SIGGRP=(1); SIGPER=4 | | | | FE-45 | | | AA 0000004200 00001 | | | VI-04 |
| **Screen Capture** |  | | | | | | | | | | | | | | |
| **Expected Test Results** | 1723: An error “Ensure all components of the navigational aid point to the same spatial object” must be triggered. | | | | | | | | | | | | | | |
| **Secondary Critical Errors** | 516a: An additional error “Master and slave point objects do not share the same node” must be triggered. | | | | | | | | | | | | | | |