1. **Test Dataset: AA400010**

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

|  |  |
| --- | --- |
| **S‐58 Check** | **Description** |
| 4 | For each RCNM where the value is not in table 2.2 of S-57 Part 3. |
| 9a | For each feature object of geometric primitive line where ORNT is Not equal to 1 (forward) OR 2 (reverse). |
| 9b | For each feature object of geometric primitive line where USAG is Not equal to Null. |
| 9c | For each feature object of geometric primitive line where MASK is Not equal to 1 (mask) AND is Not equal to 2 (show). |
| 10c | For each feature object of geometric primitive point where MASK is Not equal to 255 (masking is not relevant). |
| 35 | For each feature object where RVER is out of sequence. |
| 88a | For each feature object of geometric primitive area where ORNT is Not equal to 1 (forward) AND is Not equal to 2 (reverse). |
| 88b | For each feature object of geometric primitive area where USAG is Not equal to 1 (exterior) AND is Not equal to 2 (interior) AND is Not equal to 3 (exterior boundary truncated by the data limit). |
| 88c | For each feature object of geometric primitive area where MASK is Not equal to 1 (mask) AND is Not equal to 2 (show) AND is  Not equal to 255 (masking is not relevant). |

**Secondary Errors**

Critical – 12, 20b, 26a, 27, 32, 540a

Error –

Warnings –

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 4 | | | **Type** | C |
| **S-58 Description** | For each RCNM where the value is not in table 2.2 of S-57 Part 3. | | | | | | | | | | | |
| **Message** | Invalid value of RCNM. | | | | | | | | | | | |
| **Solution** | Amend RCNM value. | | | | | | | **Conformity** | | Part 3 (2.2.1) | | |
|  |  | | | | | | |  | |  | | |
| **Test Case No. 1** | RCNM value has been set to ‘101’ | | | | | | | | | | | |
| **Location** | | **Feature** | | | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°29'34.77"S 61°11'50.91"E | | SOUNDG | | | **-** | | -35 | | AA 000000120 00001 | | | VI-20 |
| **Screen Capture** |  | | | | | | | | | | | |
| **Expected Test Results** | 4: An error “Invalid value of RCNM” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | 20b: Additional error “Orphaned geometry” must be triggered | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 9a | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive line where ORNT is Not equal to 1 (forward) OR 2  (reverse). | | | | | | | | | | | |
| **Message** | Invalid value of ORNT. | | | | | | | | | | | |
| **Solution** | Set value of ORNT to 1 (forward) or 2 (reverse). | | | | | | | **Conformity** | | Part 3 (4.7.2) | | |
| **Test Case No. 1** | Invalid value of ORNT has been given for COALNE (L) feature. | | | | | | | | | | | |
| **Location** | | **Feature** | | | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°29'33.12"S 61°14'46.86"E | | COALNE (L) | | | - | | FE-34 | | AA 0000000140 00001 | | | VE-15 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | |
| **Expected Test Results** | 9a:  Error “Invalid value of ORNT” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 9b | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive line where USAG is Not equal to Null. | | | | | | | | | | | |
| **Message** | Invalid value of USAG. | | | | | | | | | | | |
| **Solution** | Set value of USAG to 255 (null). | | | | | | | **Conformity** | | Part 3 (4.7.2) and  Appendix B.1 (3.8) | | |
| **Test Case No. 1** | Invalid value of USAG has been given for SLCONS (L) feature. | | | | | | | | | | | |
| **Location** | | | **Feature** | | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°29'16.23"S 61°14'45.76"E | | | SLCONS (L) | | CATSLC=2; WATLEV=2 | | FE-17 | | AA 0000000141 00001 | | | VE-13 |
| **Screen Capture** |  | | | | | | | | | | | |
| **Expected Test Results** | 9b: Additional error “Invalid value of USAG” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 9c | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive line where MASK is Not equal to 1 (mask) AND is Not  equal to 2 (show). | | | | | | | | | | | |
| **Message** | Invalid value of MASK. | | | | | | | | | | | |
| **Solution** | Set MASK to 1 (mask), 2 (show). | | | | | | | **Conformity** | | Part 3 (4.7.2) and  Appendix B.1 (3.8) | | |
| **Test Case No. 1** | Invalid value of MASK has been given for RIVERS (L) feature. | | | | | | | | | | | |
| **Location** | | | **Feature** | | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°29'44.03"S 61°14'42.22"E | | | RIVERS (L) | | - | | FE-10 | | AA 0000000142 00001 | | | VE-12 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | |
| **Expected Test Results** | 9c: An error “Invalid value of MASK” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 10c | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive point where MASK is Not equal to 255 (masking is not relevant). | | | | | | | | | | | |
| **Message** | Invalid value of MASK. | | | | | | | | | | | |
| **Solution** | Set MASK to 255 (masking is not relevant). | | | | | | | **Conformity** | | Part 3 (4.7.1) | | |
| **Test Case No. 1** | Invalid value of MASK has been given for OBSTRN (P) feature. | | | | | | | | | | | |
| **Location** | | | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°29'23.38"S 61°14'50.63"E | | | | OBSTRN (P) | QUASOU=6; VALSOU=32; WATLEV=3 | | FE-04 | | AA 0000000143 00001 | | | VI-01 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | |
| **Expected Test Results** | 10c: An error “Invalid value of MASK” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010.000 & AA400010.001 | | | | | **S‐58 Check** | | 35 | | | **Type** | C |
| **S-58 Description** | For each feature object where RVER is out of sequence. | | | | | | | | | | | |
| **Message** | RVER is out of sequence. | | | | | | | | | | | |
| **Solution** | Ensure RVER is sequential. | | | | | | | **Conformity** | | Part 3 (8.4.2.1)  and (8.4.3.1) | | |
| **Test Case No. 1** | Revised RVER field 2 to 0 for RIVERS (L) feature in update file (AA400010.001). | | | | | | | | | | | |
| **Location** | | | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°29'44.02"S 61°14'42.02"E | | | | RIVERS (L) | - | | FE-10 | | AA 0000000142 00001 | | | VE-12 |
| **ASCII** | AA400010.000 AA400010.001 | | | | | | | | | | | |
| **Expected Test Results** | 35: An error “RVER is out of sequence” must be triggered. | | | | | | | | | | | |
| **Secondary Errors** | None | | | | | | | | | | | |
| **Test Case No. 2** | Revised RVER field 2 to 0 for vector edge of DEPCNT (L) feature in update file (AA400010.001). | | | | | | | | | | | |
| **Location** | | | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°29'23.65"S 61°14'20.25"E | | | | DEPCNT(L) | VALDCO=50.0 | | FE-13 | | AA 0000000678 00001 | | | VE-08 |
| **ASCII** | AA400010.000 AA400010.001 | | | | | | | | | | | |
| **Expected Test Results** | 35: An error “RVER is out of sequence” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 88a | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive area where ORNT is Not equal to 1 (forward) AND is Not equal to 2 (reverse). | | | | | | | | | | | |
| **Message** | Invalid value of ORNT. | | | | | | | | | | | |
| **Solution** | Set value of ORNT to 1 (forward) or 2 (reverse). | | | | | | | **Conformity** | | Part 3 (4.7.3) | | |
| **Test Case No. 1** | Invalid value of ORNT has been given for OBSTRN feature. | | | | | | | | | | | |
| **Location** | | | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°28'45.21"S 61°14'46.81"E | | | | OBSTRN (A) | QUASOU=6; VALSOU=34; WATLEV=3 | | FE-02 | | AA 0000000144 00001 | | | VE-02 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | |
| **Expected Test Results** | 88a: An error “Invalid value of ORNT” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 88b | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive area where USAG is Not equal to 1 (exterior) AND is Not equal to 2 (interior) AND is Not equal to 3 (exterior boundary truncated by the data limit). | | | | | | | | | | | |
| **Message** | Invalid value of USAG. | | | | | | | | | | | |
| **Solution** | Set USAG to 1(exterior), 2(interior) or 3 (exterior  boundary, truncated by the data limit). | | | | | | | **Conformity** | | Part 3 (4.7.3) | | |
| **Test Case No. 1** | Invalid value of USAG has been given for ACHARE (A) feature. | | | | | | | | | | | |
| **Location** | | | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°28'26.20"S 61°14'20.02"E | | | | ACHARE (A) | - | | FE-54 | | AA 0000000145 00001 | | | VE-17 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | |
| **Expected Test Results** | 88b: An error “Invalid value of USAG” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | 12: Additional error “Feature without geometry” must be triggered.  20b: Additional error “Orphaned geometry” must be triggered. | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **Dataset Name** | AA400010 | | | | | **S‐58 Check** | | 88c | | | **Type** | C |
| **S-58 Description** | For each feature object of geometric primitive area where MASK is Not equal to 1 (mask) AND is Not equal to 2 (show) AND is Not equal to 255 (masking is not relevant). | | | | | | | | | | | |
| **Message** | Invalid value of MASK. | | | | | | | | | | | |
| **Solution** | Set MASK to 1 (mask), 2 (show) or 255 (masking is not  relevant). | | | | | | | **Conformity** | | Part 3 (4.7.3) | | |
| **Test Case No. 1** | Invalid value of MASK has been given for RESARE (A) feature. | | | | | | | | | | | |
| **Location** | | | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** |
| 32°28'56.13"S 61°14'19.14"E | | | | RESARE (A) | RESTRN=2 | | FE-55 | | AA 0000000146 00001 | | | VE-18 |
| **Screen Capture/ASCII** |  | | | | | | | | | | | |
| **Expected Test Results** | 88c: An error “Invalid value of MASK” must be triggered. | | | | | | | | | | | |
| **Secondary Critical Errors** | None. | | | | | | | | | | | |