1. **Test Dataset: AA400016**

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

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| --- | --- |
| **S‐58 Check** | **Description** |
| 74 | For each DEPCNT feature object which does not share an edge with a Group 1 feature object AND is WITHIN a DEPARE feature object of geometric primitive area where DRVAL1 and DRVAL2 are not Null AND VALDCO is Less than DRVAL1 OR Greater than DRVAL2. |
| 75 | For each DEPCNT feature object which does not share an edge with a Group 1 feature object AND is WITHIN a DRGARE feature object of geometric primitive area where  DRVAL1 is not Null AND VALDCO is Less than DRVAL1. |
| 77 | For each DEPCNT feature object which CROSSES another DEPCNT feature object. |
| 78 | For each feature object of geometric primitive area where its boundary crosses itself. |
| 500 | For each feature object where its geometry is not COVERED\_BY a M\_COVR meta object with CATCOV Equal to 1 (coverage available). |
| 544 | For each feature object that OVERLAPS, CROSSES OR is WITHIN an area of M\_COVR where CATCOV is Equal to 2 (no coverage available). |

**Secondary Errors**

Critical – 16, 1016

Error – 76,

Warnings – 19, 40, 43, 44, 1771

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| **Dataset Name** | AA400016 | | | **S‐58 Check** | | 74 | | | **Type** | | C |
| **S-58 Description** | For each DEPCNT feature object which does not share an edge with a Group 1 feature object AND is WITHIN a DEPARE feature object of geometric primitive area where DRVAL1 and DRVAL2 are  Not Null AND VALDCO is Less than DRVAL1 OR Greater than DRVAL2. | | | | | | | | | | |
| **Message** | Floating DEPCNT within a DEPARE with VALDCO less than DRVAL1 or greater than DRVAL2. | | | | | | | | | | |
| **Solution** | Amend floating contour VALDCO between DRVAL1 and  DRVAL2 of the underlying DEPARE. | | | | | **Conformity** | | Logical consistency. | | | |
| **Test Case No. 1** | Floating DEPCNT features created where the values are not within the limits of the surrounding DEPARE. | | | | | | | | | | |
| **Location** | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** | |
| 32°20'21.45"S 61°16'30.18"E | | DEPCNT(L) | VALDCO=0 | | FE-08 | | AA 3902032078 00012 | | | VE-42 | |
| 32°21'19.11"S 61°17'10.87"E | | DEPCNT(L) | VALDCO=50 | | FE-46 | | AA 0296453920 00048 | | | VE-65 | |
| **Screen Capture** |  | | | | | | | | | | |
| **Expected Test Results** | 74: 2 errors “Floating DEPCNT within a DEPARE with VALDCO less than DRVAL1 or greater than DRVAL2” must be triggered. | | | | | | | | | | |
| **Secondary Critical Errors** | None | | | | | | | | | | |
| **Secondary Warning** | 43: DEPCNT does not coincide with two Group 1 objects. | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Dataset Name** | AA400016 | | | **S‐58 Check** | | 75 | | | **Type** | | C |
| **S-58 Description** | For each DEPCNT feature object which does not share an edge with a Group 1 feature object AND is WITHIN a DRGARE feature object of geometric primitive area where DRVAL1 is not Null AND  VALDCO is Less than DRVAL1. | | | | | | | | | | |
| **Message** | Floating DEPCNT within a DRGARE with VALDCO less than 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 consistency. | | | |
| **Test Case No. 1** | Floating DEPCNT feature has been created where the value is not within the limits of the surrounding DRGARE. | | | | | | | | | | |
| **Location** | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** | |
| 32°22'13.45"S 61°19'09.12"E | | DEPCNT(L) | VALDCO=2 | | FE-68 | | AA 2550181471 00067 | | | VE-78 | |
| **Screen Capture** |  | | | | | | | | | | |
| **Expected Test Results** | 75: An error “Floating DEPCNT WITHIN a DRGARE with VALDCO less than DRVAL1 of the DRGARE” must be triggered. | | | | | | | | | | |
| **Secondary Critical Errors** | None. | | | | | | | | | | |
| **Secondary Warning** | 40: Linear objects with the same class and attribute values which are connected and are not chained together | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Dataset Name** | AA400016 | | | **S‐58 Check** | | 77 | | | **Type** | | C |
| **S-58 Description** | For each DEPCNT feature object which CROSSES another DEPCNT feature object. | | | | | | | | | | |
| **Message** | DEPCNT objects cross. | | | | | | | | | | |
| **Solution** | Amend DEPCNT objects so they do not cross. | | | | | **Conformity** | | Logical consistency | | | |
| **Test Case No. 1** | DEPCNT (L) feature created which is crossing another depth contour line. | | | | | | | | | | |
| **Location** | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** | |
| 32°23'33.89"S 61°20'25.78"E | | DEPCNT (L) | VALDCO=0 | | FE-60 | | AA 4268822036 00059 | | | VE-75; VE,76;VE-77 | |
| 32°23'13.79"S 61°19'56.12"E | | DEPCNT (L) | VALDCO=2 | | FE-61 | | AA 0377235996 00060 | | | VE-80;  VE-81;  VE-82 | |
| **Screen Capture** |  | | | | | | | | | | |
| **Expected Test Results** | 77: errors “DEPCNT objects cross” must be triggered. | | | | | | | | | | |
| **Secondary Critical Errors** | None. | | | | | | | | | | |
| **Secondary Warning** | 43: DEPCNT does not coincide with two Group 1 objects.  1771: Illogical value of VALDCO of a DEPCNT object between two DEPARE objects. | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Dataset Name** | AA400016 | | | **S‐58 Check** | | 78 | | | **Type** | | C |
| **S-58 Description** | For each feature object of geometric primitive area where its boundary crosses itself. | | | | | | | | | | |
| **Message** | Boundary of an area object crosses itself. | | | | | | | | | | |
| **Solution** | Amend boundary to remove part which crosses itself. | | | | | **Conformity** | | Logical consistency | | | |
| **Test Case No. 1** | AIRARE (A) feature has been created which outer boundary crosses itself. | | | | | | | | | | |
| **Location** | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** | |
| 32°21'51.97"S 61°20'48.76"E | | AIRARE (A) | - | | FE-66 | | AA 2730892386 00065 | | | VE-85 | |
| **Screen Capture** |  | | | | | | | | | | |
| **Expected Test Results** | 78: An error “Boundary of an area object crosses itself” must be triggered. | | | | | | | | | | |
| **Secondary Critical Errors** | 16: Area exterior boundary not encoded clockwise.  0001: <193>  FRID: <100><66><3><2><2><1><1>  FOID: <1810><2730892386><65>  FSPT: <<130><85>><2><1><2> | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Dataset Name** | AA400016 | | | **S‐58 Check** | | 500 | | | **Type** | | C |
| **S-58 Description** | For each feature object where its geometry is not COVERED\_BY a M\_COVR meta object with CATCOV Equal to 1 (coverage available). | | | | | | | | | | |
| **Message** | Objects fall outside the coverage object. | | | | | | | | | | |
| **Solution** | Ensure objects are not outside of the limits of the coverage area for the cell. | | | | | **Conformity** | | 2.2 | | | |
| **Test Case No. 1** | PILBOP (P) feature has been created inside a no coverage area. | | | | | | | | | | |
| **Location** | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** | |
| 32°24'10.68"S 61°21'04.79"E | | PILBOP (P) | CATPIL=1;  PILDST=’Lowesmouth’ | | FE-41 | | AA 11150265776 00043 | | | VI-01 | |
| 32°24'20.63"S 61°20'45.93"E | | DEPCNT(L) | VALDCO=10 | | FE-54 | | AA 1791496955 00055 | | | VE-74 | |
| **Screen Capture** |  | | | | | | | | | | |
| **Expected Test Results** | 500: errorS “Objects fall outside the coverage object” must be triggered. | | | | | | | | | | |
| **Secondary Critical Errors** | 544: An additional error “Object within an area of no coverage” must be triggered. | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Dataset Name** | AA400016 | | | **S‐58 Check** | | 544 | | | **Type** | | C |
| **S-58 Description** | For each feature object that OVERLAPS, CROSSES OR is WITHIN an area of M\_COVR where CATCOV is Equal to 2 (no coverage available). | | | | | | | | | | |
| **Message** | Object within an area of no coverage. | | | | | | | | | | |
| **Solution** | Remove object or amend coverage. | | | | | **Conformity** | | 2.2 | | | |
| **Test Case No. 1** | DEPCNT (L) created inside no coverage area. | | | | | | | | | | |
| **Location** | | **Feature** | **Attributes** | | **FRID** | | **FOID** | | | **VRID** | |
| 32°24'20.63"S 61°20'45.93"E | | DEPCNT(L) | VALDCO=10 | | FE-54 | | AA 1791496955 00055 | | | VE-74 | |
| **Screen Capture** |  | | | | | | | | | | |
| **Expected Test Results** | 544: An error “Object within an area of no coverage” must be triggered. | | | | | | | | | | |
| **Secondary Critical Errors** | 500: An additional error “Objects fall outside the coverage object” must be triggered. | | | | | | | | | | |