1. **Test Dataset: AA400016**

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

|  |  |
| --- | --- |
| **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,

Error –

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 | | | | | | | | | | |
|  | | | | | | | | | | | |
| **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. | | | | | | | | | | |
|  | | | | | | | | | | | |
| **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** | Figure A Figure B | | | | | | | | | | |
| **Expected Test Results** | Figure A above check 77: “DEPCNT objects cross” must be triggered  Figure B above is an instance where the point of intersection is an intermediate vertex or node, and where one DEPCNT does not cross to the other side of the other DEPCNT which should NOT trigger an error. | | | | | | | | | | |
| **Secondary Critical Errors** | None. | | | | | | | | | | |
|  | | | | | | | | | | | |
| **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. | | | | | | | | | | |
|  | | | | | | | | | | | |
| **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: error “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. | | | | | | | | | | |
| **Test Case No. 2** | PILBOP(P) created inside 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 1150265776 00043 | | | VI-01 | |
| **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. | | | | | | | | | | |