

## Test of applying accuracy information for alerts and indications

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Additional test case to be included into the S-164, see below:

New IMO MSC.530(106) include a new IMO requirement as below (red highlight):

### 11.3 Route planning

11.3.4 A graphical indication is required if the mariner plans a route closer than a user-specified distance from own ship's safety contour.

11.3.5 A graphical indication should be given if the mariner plans a route closer than a user-specified distance from the boundary of a user-selectable category of prohibited area or geographic area for which special conditions exist (see appendix 4). A graphical indication should also be given if the mariner plans a route closer than a user-specified distance from a user-selectable category of point objects, such as a fixed or floating aid to navigation or isolated danger. The user-selectable categories should be the same as the user selections for the display of objects and be based on IHO standards. There should be a permanent indication when any user-selectable categories are deselected. Details of the deselection should be available on demand.

11.3.6 It should be possible for the mariner to select that the indications of 11.3.4 and 11.3.5 take into account accuracy information of relevant hydrographic information, as defined by IHO standards

### 11.4 Route monitoring

11.4.3 It should be possible to select that ECDIS gives an alarm and related graphical indication if, within a specified time or distance set by the mariner, own ship will pass closer than a user-selected distance from the safety contour. There should be a permanent indication when the safety contour alarm is deselected.

11.4.4 ECDIS should give a warning or caution, or indication, as selected by the mariner, and related graphical indication if, within a specified time or distance set by the mariner, own ship will pass closer than a user-selected distance from the boundary of a user-selectable category of prohibited area or of a geographical area for which special conditions exist (see appendix 4). The user-selectable categories should be the same as user selections for the display of objects and be based on IHO standards. There should be a permanent indication when any user-selectable categories are deselected. Details of the deselection should be available on demand.

11.4.6 ECDIS should give a warning or caution or indication as selected by the mariner and related graphical indication if, continuing on its present course and speed, over a specified time or distance set by the mariner, own ship will pass closer than a user-specified distance from a user-selectable category of danger (e.g. obstruction, wreck, rock) that is shallower than the mariner's safety contour or a user-selectable category of aid to navigation. The user-selectable categories should be the same as user

selections for the display of objects and be based on IHO standards. There should be a permanent indication when any of the user-selectable categories are deselected. Details of the deselection should be available on demand.

11.4.7 A graphical indication should be given if the current or the next leg of the selected route passes closer than a user-specified distance from the safety contour.

11.4.8 A graphical indication should be given if the current or the next leg of the selected route goes closer than a user-specified distance from the boundary of a user-selectable category of prohibited area or a geographic area for which special conditions exist (see appendix 4). A graphical indication should also be given if the selected route goes closer than a user-specified distance from a user-selectable category of point objects, such as a fixed or floating aid to navigation or isolated danger. The user-selectable categories should be the same as user selections for the display of objects and be based on IHO standards.

11.4.9 **It should be possible for the mariner to select that the indications of 11.4.3, 11.4.4, 11.4.6, 11.4.7 and 11.4.8 take into account accuracy information of relevant hydrographic information**, as defined by IHO standards.

The new thing is that mariner can select to enlarge points to be circles, lines to be areas and areas to be bigger. The base in accuracy information available in the ENC chart. The S-101PT meeting agreed that the source of accuracy information is the related attribute in the object itself (if available) or “catzog”-information from an InformationFeature for which there is a reference. The accuracy information does not amend the visual information (i.e. no change in symbol shape, in line style or- area style). The accuracy information enlarges the check area for alerts and indications. Result is for example yellow or red highlight available outside of the visible symbol. At S-101PT meeting we saw a screenshot example of this provided by NIWC.

Obviously, S-164 shall support testing of the implementation of this IMO feature. My proposal is:

- Create a suitable new ENC cells to test this
  - Need a stack of at least two display scale levels so that the use of the largest scale available is possible
  - Include cases for which the enlargement goes beyond cell boundary
  - Include cases when accuracy is available from an attribute of the object itself
  - Include cases when accuracy is available via a reference to InformationFeature from the object
  - The coverage of the ENC cells shall be big enough to support all test cases
  
- Test cases
  - Planned Route is planned over the test area
  - Monitored route is over the test area
  - Own ship including its check area is over the test area
  - Above cases repeated both for largest scale visible on screen and smallest scale visible on the screen

My guidance:

Use existing tests in sections 5, 6 and 7 of the S-64 as examples of what to do. Consider adding accuracy information into ENC cells used in these tests or create new ENC cells.