Paper for consideration by IHO DIPWG4 meeting, Monaco May 2012

ECDIS anomalies
Clarifications, changes and test material needed

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Executive Summary:	Background of this paper is work done by a subgroup established by IHO stakeholders workshop for ECDIS anomalies in Jan 2012. This paper explains why a workgroup was established and why the workgroup has proposed in a separate document submitted by Tom Mellor/UKHO (chairman of the subgroup) proposals for DIPWG4.
Related Documents:	S-52, ECDIS presentation library ed. 3.4, dated Jan 2008 (printed document) S-52, ECDIS presentation library ed. 3.4, dated Jan 2008 (CDROM containing digital files)
Related Projects:	Request for clarification of the rules

1 Introduction

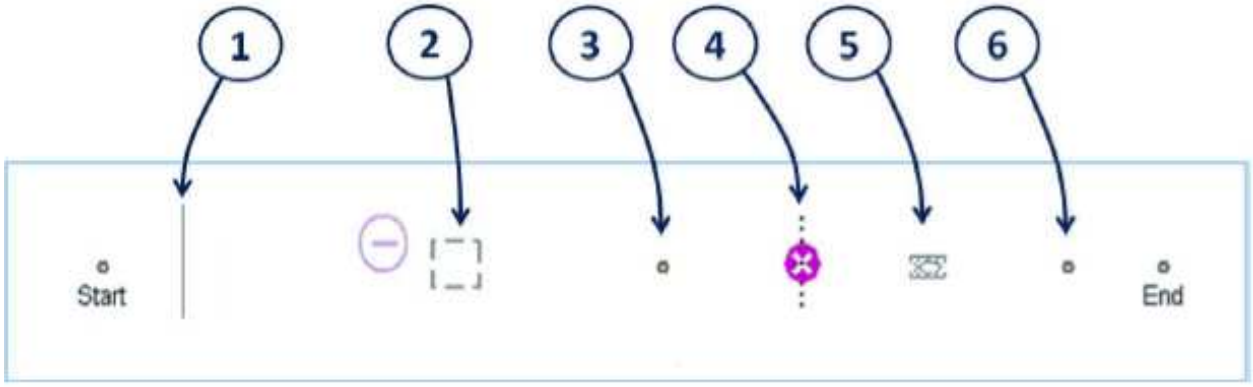
IHO has been leading the process to understand and to solve ECDIS anomalies. This process has had several stakeholders' workshops. Furuno submitted for Sep 2011 ECDIS anomalies workshop a paper which analysed unclear parts of the IHO standard and possible solutions.

In IHO anomalies meeting in Jan 2012 a workgroup was set to draft changes and clarification. Mellor/UKHO was selected as chairman and as a person to draft rules to be included in S-52. Mong/Jeppesen promised to provide test data cells for S-64 to check every agreed case. Peiponen/Furuno promised to provide plots to support test instructions for S-64. Ivanov/Transas promised to review the work of others.

Mellor provided the draft of the subgroup as input paper to DISPWG4 meeting. Unfortunately that draft goes directly into the subject without any introduction. I have made this document to provide a introduction for the issue.

1.1 IMO areas for which a special condition exist

IHO published CDS in autumn 2012. It contained examples for alarms and indications.



Alarms and indication from IHO CDS

I select as example number 2, which is TESARE with RESTRN set as 14. This example in the IHO CDS told everybody that information available in the Use of Object Catalogue cannot be used to select correct object attribute combination for alarms and indications, because USOC specified that area to be avoided is coded as RESARE with RESTRN set as 14. The IHO CDS extended the "area to be avoided" to include every object which is allowed to have attribute RESTRN.

1.2 Detection of Safety contour

For this I do not repeat what I already wrote for the Sep 2011 ECDIS anomalies meeting. I have given my Sep 2011 paper now for DIPWG4 meeting and it is referenced as document 09.6B.

2 Progress already done by the workgroup

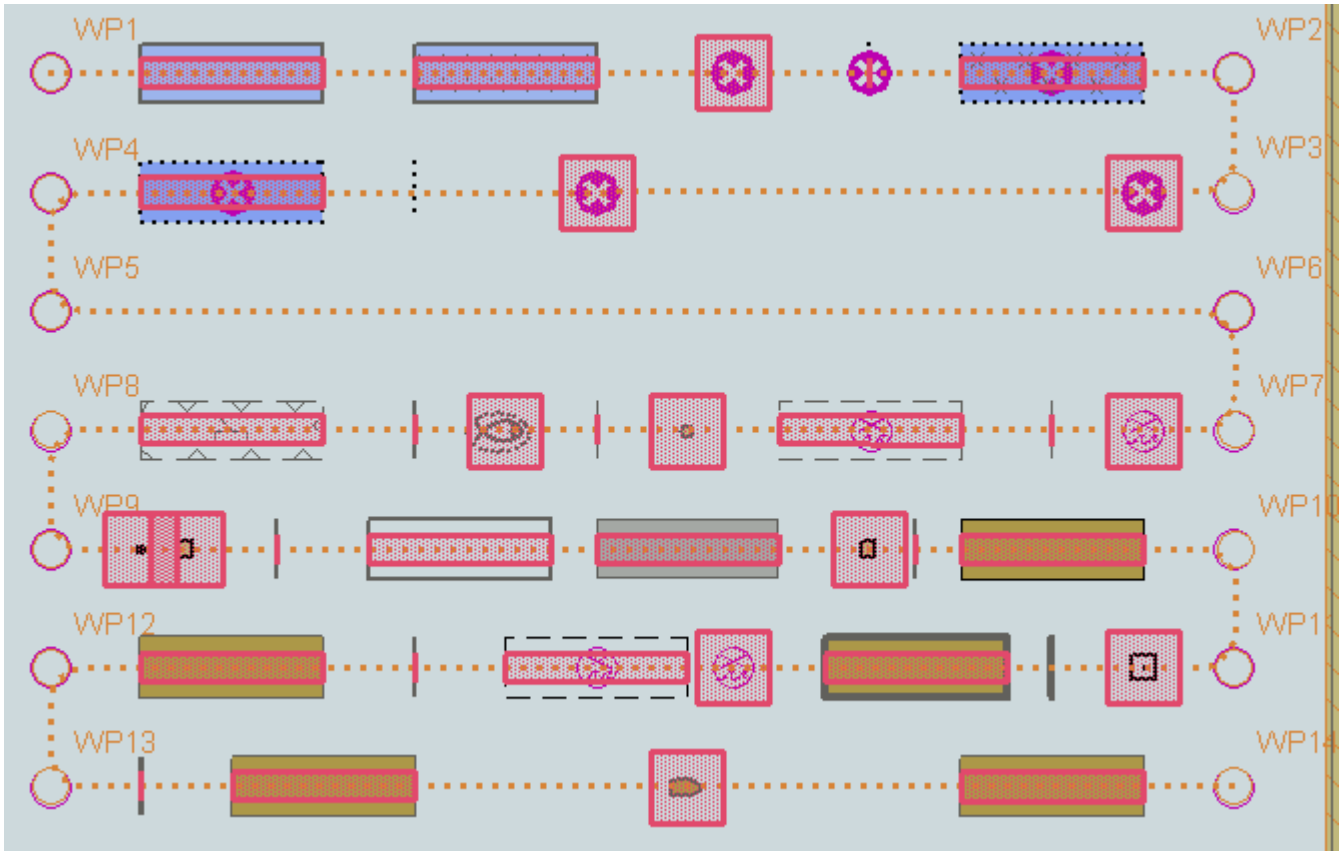
The workgroup has already drafted detailed text to be included into the Preslib ed 3.5.

- Missing is DIPWG agreement that the drafted text is accepted as it is or as modified by the DIPWG4 meeting or as modified by an action agreed in the DIPWG4 meeting

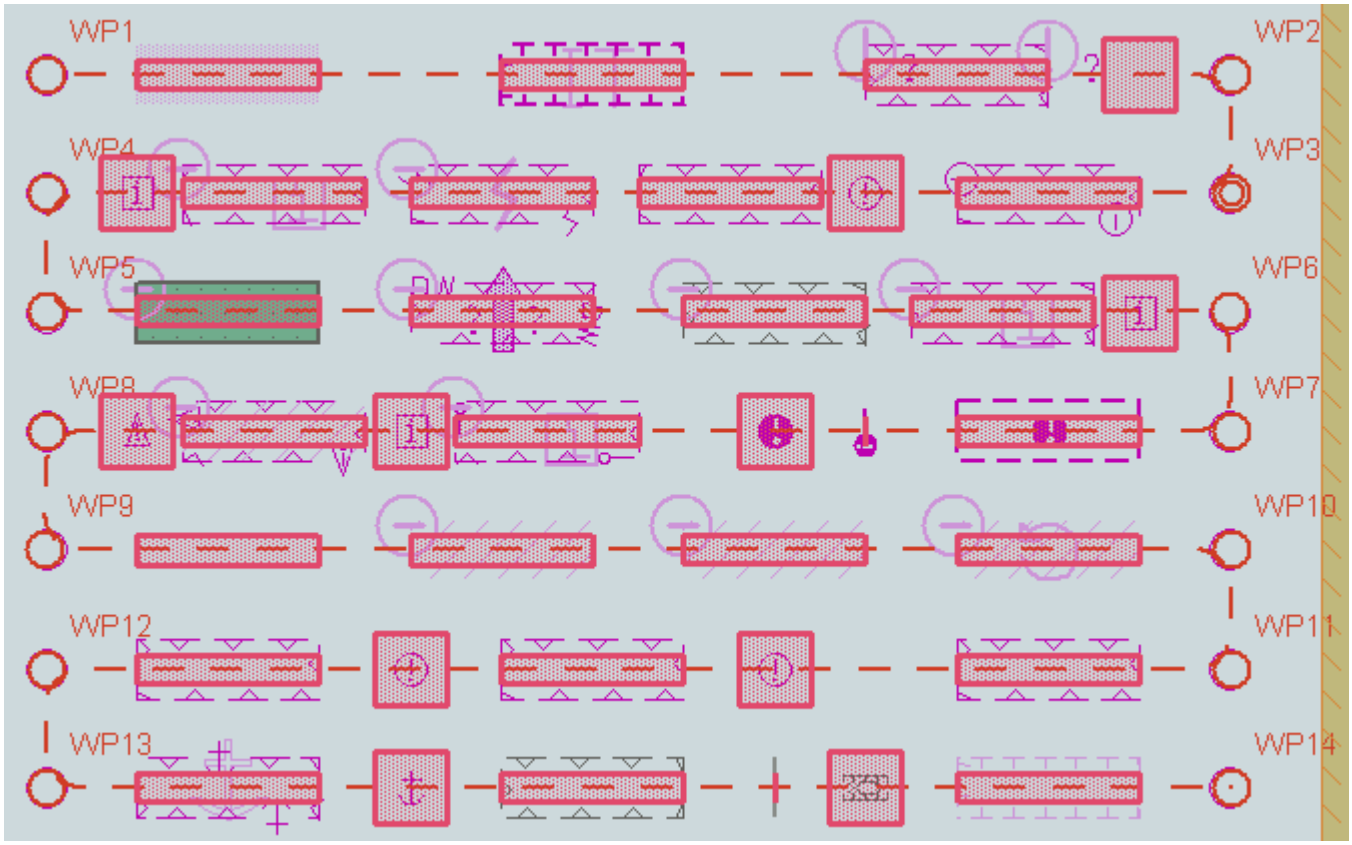
The workgroup has already drafted two test cells to be included into the S-64

- There test cells can be completed as soon as there is an agreement of the rules (see above)

As evidence of the work already done by the group below is example of the style of the 2 new test cells



AA3TEST1



AA3TEST2

3 Subgroup got disagreement about alarm and indication conditions – Need answer for two questions

The paper from Mellor/UKHO explains in red text that there is some disagreement within the subgroup. I have listed them as simple questions with pros and cons below:

3.1 Question 1

Which object combination shall trigger IMO special condition “areas to be avoided” ?

Alternative 1

- Based on IHO CDS the condition is that attribute RESTRN is equal to 14 (=area to be avoided). In this case there are 13 or 14 object which can trigger this
- PRO: this is in use by IHO CDS and the whole world is acting based on this
- CON: maybe unintended area objects will trigger this alarm or indication

Alternative 2

- Based on USOC the condition is object RESARE together with attribute RESTRN = 14
- PRO: many people see this as correct
- CON: a lot of owners has already based on IHO CDS upgraded their ECDIS to pass IHO CDS test.

3.2 Question 2

Should the sounding be included as part of safety contour alarm ?

Background is the fact that there exist many ENC charts in which a sounding is the only available object to know a possible hazard for navigation. Based on a study made by this subgroup there exist in available ENC charts about 3000 examples of soundings with EXPSOU as shallower than surrounding depth area.

Alternative 1

- Add soundings as part of detection of the safety contour
- In practise this requires a change in existing conditional procedure SOUNDGnn and a new conditional procedure SNDHAZ01
- PRO: Hydrographic offices do not need to do any changes for their ENC cells
- CON: ECDIS manufacturers need to implement this. But if this is implemented as part of other mandatory changes it is not seen as impossible to do.

Alternative 2

- Do not add soundings as part of detection of the safety contour
- PRO: ECDIS manufacturer do not need to do anything for this detail
- CON: Hydrographic offices shall/must code all soundings with depth value less than surrounding depth area as OBSTRN.

4 Decisions needed

DIPWG4 is invited to give answer for question 1 and 2.

Based on the answers the subgroup can complete the work, which is then included both into S-52 Preslib ed 3.5 and into new edition of S-64.