

CSMWG15-6A rev.1

**IHO Colours & Symbols Maintenance Working Group (C&SMWG)
15th Meeting, BSH, Rostock, Germany, 2-4 May 2005**

OEF DISCUSSION - SOUNDINGS OVER DANGERS

(edited by M. Eaton, 7 Sept. '04, comments by Roberts 5 Apr 05)

SUMMARY:

This OEF discussion started on 5 April '04 with the proposal by Olaf Gundersrud that where a wreck, rock or obstruction has a depth given by the VALSOU attribute this should be displayed in addition to all soundings whenever the mariner selects the viewing group "Soundings". Roberts, Herberg, Eaton (and also LeBihan, Astle and Munn) agreed with this, and two possible solutions for doing it have been proposed.

Abstract of e-mails:

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3. Gundersrud, 5 April '04. Pointed out that the sounding over a hazard of known depth 7.5m, symbolised by SY(DANGER01) on the Test Data Set display for Micklefirth Sound, is not displayed when the mariner selects "Soundings". But that it should indeed be displayed.
4. Jonas, 5 April. Asked for clarification on some details.
5. Gundersrud, 6 April. Gave more details, pointing out that the symbol SY(DANGER01) used for this particular object means "underwater hazard with a defined depth".
6. Eaton, 13 April. Agreed with Gundersrud and, taking advice from Le Bihan (SHOM) and Astle and Munn (CARIS), offered two possible solutions:
 - a.) Add to CSPs OBSTRN and WRECKS for rocks, obstructions and wrecks an instruction to show the symbol and the sounding over the hazard whenever the mariner has selected "Soundings". *(Alternately this instruction could be added to CSP SNDFRM which prepares the sounding symbol.)* (An ECDIS which symbolised all objects first and only then looked at the mariner's viewing group selection could have trouble with this.)
 - b.) In the look-up tables, assign a second viewing group 33010 = soundings to all rocks, wrecks and obstructions which include the attribute VALSOU. (So far no more than one viewing group has been assigned to each object, so some ECDIS could have problems with this.)
7. Herberg, 15 April. Agreed with Gundersrud. Considered Eatons proposal a), CSP change, as "manageable". Considered proposal b), addition of a second viewing group in the look-up table, as "a more future-oriented way". Herberg suggested a third alternative:
 - c.) add to each look-up table an entry: "#####", "VALSOU", "CS(OBSTRN)", "6", "O", "OTHER", "33010". (which is similar to the default for an unidentified object). *(editor: I asked Pol Le Bihan about this, and he pointed out that it would not work as the look-up tables are organised at present. Going through the procedure diagram in figure 5 "How to use the look-up tables" makes it clear that the wreck, rock or*

obstruction would either be symbolised directly from the look-up table or through the CSP. An object will only be symbolised by the ##### line(s) if its object class cannot be found in the look-up table.)

8. Roberts, 22 April. Agreed with the above. Pointed out that marine farm / culture (MARCUL) objects also provide a sounding through the attribute VALSOU, and that we should also consider the use of attribute DRVAL1 of a lock gate (GATCON) etc, to give the sill depth.

(Mike Eaton's suggestion: one way would be to give the manufacturer his choice of the two alternative solutions (see page 6) through an amendment. For the next edition of the PresLib both methods should be described, but only one implemented.

My personal choice would be method b) -allow two or more viewing groups - since it is the more general and flexible method, and would also cover the case of other objects like MARCUL, GATCON etc which do not go through a CSP.)

E - MAILS*Editor's notes in blue*

[CSWG] RE: * *cursor picking symbols* - priorities concerning display of information
**(the topic "cursor picking symbols" was combined on the OEF with "soundings over dangers")*
 Date:
 Mon, 5 Apr 2004 15:10:34 +0900
 From:
<Olaf.Gundersrud@dnv.com>
 Reply-To:
 "CSWG \ (Members only)" <cswg@openecdis.org>
 To:
 <cswg@openecdis.org>

Reference is made to TDS Ed.2.0. In the port of Micklefirth, position 32°30′.105S, 060°54′.839E (cell GB5X01SW), a SY(DANGER01) symbol with a defined depth of 7.5 metres is situated. *(On chart 1901 this is a swept depth of 7.5m, nature of seabed rock, lying between the 5 and 10m contours in Micklefirth Sound. Assuming this is digitised as a UWTRC, CSP OBSTRN would only display it if it was an isolated danger in water deeper than the safety contour (which is not the case), or if the mariner had selected viewing group 34000 = seabed information: rocks etc. in IMO category 'other'. Roberts comment: M-4 does not describe this feature in detail. The S-57 UOC (6.1.2 remark 2) doesn't insist that this feature has to be encoded as UWTRC. UOC 7.1 (f) states that if it is required to encode a rock pinnacle which is dangerous to navigation (which this may not be?) it must be done using the object class UWTRC while a rocky nature of seabed should be encoded using SBDARE object as a point. In this example, it could be encoded as a SOUNDG with QUASOU=6 (least depth known, or 7 (least depth unknown, safe clearance at value shown) and with a second feature SBDARE. Choices within S-57 make S-52 symbology more difficult to allow for.)*

When the "soundings" is ON (on the EUT), this depth of 7.5 metres is not shown although it is less than the surrounding depth soundings (of 8.5, 8.8 and 9.5 m).

Isn't there any guidance in S57/S52 saying that that the defined depth of SY(DANGER01) is to be considered a sounding and therefore to be displayed when the navigator chooses "soundings" ON?

I can see from Hannu's PLOT 5 that this is currently not the case, but I don't like it!

Moreover, when I set the Safety Contour to 10 m and Safety Depth to 8 m all depth soundings being less than 8 metres is to be highlighted.

On the EUT the 7.5 m SY(DANGER01) is not shown unless I tick off the attribute "Seabed features &. Obstructions".

Again I dislike very much having set a safety depth of X m and then learn that there may be known spot depths less than X m that is not shown even when "soundings" is ON.

Considering that SY(DANGER01) always has a defined depth that is less than the surrounding depth soundings why isn't its "defined depth" regarded as a depth sounding and to be displayed whenever "soundings" is ON?

My primary interest is in knowing how much water is available under my keel and only secondary may I be interested in whether this is a rock or wreck or simply the seabed. Accordingly it doesn't seem right that the lesser of all known depth surveys in an area is not

shown when "soundings" is ON just because it is not defined as a sounding.

Well gentlemen, please challenge my reasoning.

Olaf Gundersrud

Subject: [CSWG] Re: cursor picking
 Date: Mon, 05 Apr 2004 17:28:14 +0200
 From: "Dr. Mathias Jonas" <mathias.jonas@bsh.de>
 Reply-To: "CSWG \ (Members only)" <cswg@openecdis.org>
 Organization: Bundesamt für Seeschifffahrt und Hydrographie
 To: cswg@openecdis.org
 References: 1

Olaf,

>
 > first of all I put your text directly into the body of this message
 > (you probably sent as attachment):
 >
 > Actually I dont have the option to have a closer look into the data
 > you are describing , but I try to understand what you are saying:
 >
 > There is an obstruction laying within the seabed of a defined depth of
 > 7.5 m. It triggers the symbol for an "isolated danger" *[edotor: I think it is not an "isolated danger" so it triggers SY(DANGER01), not SY(ISODGR)]* but beyond this
 > the obstruction itself is not automatically shown as long as the
 > viewing group, e.g. "Seabed features &. Obstructions" is not switched
 > on. You understand this object as a "sounding" because it is known
 > that
 > - there is an object at a known depth
 > and you consequently expect that if the user selects "soundings" to be
 > displayed, this obstruction should be displayed as well?
 >
 > There is a huge variety of triggered obstructions of known and unknown
 > depths which trigger the "isolated danger" symbol but before I
 > investigate (and reply) in more detail I would like to know if I
 > understood your question right?
 >
 > Mathias Jonas
 > BSH - Head of Nautical Information Service

Subject:
RE: [CSWG] Re: cursor picking
Date:
Tue, 6 Apr 2004 10:27:16 +0900
From:
<Olaf.Gundersrud@dnv.com>
Reply-To:
"CSWG \ (Members only)" <cswg@openecdis.org>
To:
<cswg@openecdis.org>
CC:
Jens.Riksheim@dnv.com

Hello Mathias,

Actually I sent two different questions to the forum.

- > 1. One question is concerning the text to be displayed following cursor
> picking of symbols (this question was sent in a MS-WORD file attached
> to the email). (*See separate file "() OEF Cursor pick summary.doc"*)
>
- > 2. The second question is concerning the identified depth of "DANGER01"
> not being considered a "spot sounding" as discussed below.
>
- > In the TDS the symbol "SY(DANGER01)" appears something similar to the
> below symbol (I hope you can see it):
>
- > [Image] (*I could not copy the image, but it was SY(DANGER01), a dotted circle containing the
sounding 7.5. This shows on the TDS display of "Standard plus all Other")*)
>
- > As it appears in the TDS, I don't consider it to be an isolated danger
> because it is either located outside the safety contour (if 10 m
> contour is selected) or it will be deeper than the safety contour (if
> 5 m is selected).
>
- > I also don't consider the entire symbol to be a sounding, but merely
> the identified depth, - i.e. I would expect the figure "7.5" to appear
> whenever "soundings" is set to ON. The entire symbol I believe belongs
> to the group "details of isolated danger", but I'm puzzled that the
> depth linked to the symbol is not considered to be a "spot sounding".
>
- > From the symbol library description I understand that "SY(DANGER01)"
> always has a defined depth while "SY(DANGER02)" is used for
> obstructions that have an unknown depth greater than 20 m.
>
- > Conclusively; my puzzlement is only concerning "SY(DANGER01)" which
> has a precisely defined depth that is not considered to be a spot
> sounding although it is likely the shallowest depth sounding in the
> neighborhood.
>
- > I hope this elucidates my lack of understanding.
>
- > Best Regards
>
- > Olaf Gundersrud
>
- > Det Norske Veritas, Approval Center for East Asia

Subject:
 Re: [CSWG] Re: cursor picking
 Date:
 Tue, 13 Apr 2004 09:59:18 -0300
 From:
Mike Eaton <mike.eaton@ns.sympatico.ca>
 To:
 "CSWG (Members only)" <cswg@openecdis.org>,
 Olaf Gundersrud <Olaf.Gundersrud@dnv.com>
 CC:
 Mathias Jonas <mathias.jonas@bsh.de>, Pol Le Bihan <Pol.le-bihan@wanadoo.fr>,
 Sherry Munn <munns@caris.com>
 References:
 1

Personally, I think Olaf is right. The way I see it, to the mariner the depths over 'hazards' (rocks, wrecks and obstructions) are among the most important soundings on the chart and therefore these depths should always be shown when 'Soundings' are selected, without at the same time cluttering the display by showing all other non-dangerous hazards which have no soundings over them.

Pol Le Bihan of SHOM, Sherry Munn of CARIS and I have discussed how this could be done, and we came up with two possible methods:

a.) Add a section to the conditional symbology procedures (CSPs) which symbolise rocks/obstructions and wrecks to ask whether the mariner has selected soundings, and, if the answer is 'Yes', then switch on the soundings on the dangers which have a VALSOU attribute as well, from the CSP. (This could also be done from the CSP which symbolises the sounding itself, but it may be better to work through the obstructions and wrecks CSPs.)

A possible problem with this arises if the ECDIS first symbolises everything in the ENC and only then looks at the viewing groups to see what the mariner has selected; in that case the instruction in the CSP would have no effect.

b.) Give rocks, wreck and obstructions which have a VALSOU attribute carrying the sounding a second viewing group (vu gp) in the LU table. This would require adding to the look-up tables lines of the general form: "UWTROC, VALSOU,CS(OBSTRN), 4,O, OTHER,n1, n2" where n1 is the vu gp for rocks, wrecks and obstructions and n2 is the vu gp for soundings. The possible problem here is that some ECDIS might not be designed so as to handle a second viewing group.

Comments on these suggestions would be welcome.

Mike Eaton

Subject:
Re: [CSWG] Re: cursor picking
Date:
Thu, 15 Apr 2004 08:25:37 +0200
From:
Sven Herberg <s.herberg@sf.hs-wismar.de>
Reply-To:
"CSWG \ (Members only)" <cswg@openecdis.org>
To:
"CSWG (Members only)" <cswg@openecdis.org>
References:
1 , 2

I agree with Mike and Olaf, the values should be displayed, if Soundings are selected.
How to do this, I think the ways making sense which Mike suggested.

In my opinion a) is a "fast" way with manageable changes in software (CSP).

Point b) causes profound changes in software and provides new functionalities of the LU tables. I am not sure, but I believe up to now we do not have any entry in the LU table with more than one viewing group. *(That is correct - editor)*
I think this is the more future-oriented way.

A possible third point c) can be another change in LU table without a second viewing group.

We could insert a new line in form:

"#####", "VALSOU", "CS(OBSTRN)", "6", "O", "OTHER", "33010"

But I am not sure whether this will run. *(Unfortunately this will not work - see remark on page 1 - editor)*

Regards,
Sven Herberg

Subject:
[CSWG] SEC: UNCLASSIFIED:- Re: Display of VALSOU as a sounding on ECDIS
Date:
Thu, 22 Apr 2004 10:32:38 +1000
From:
Chris.Roberts@defence.gov.au
Reply-To:
"CSWG \ (Members only)" <cswg@openecdis.org>
To:
cswg-bounces@openecdis.org, "CSWG (Members only)" <cswg@openecdis.org>

Regarding the display of VALSOU as a sounding on ECDIS, I think this is a good idea when it is not CSP'd to an isolated danger magenta symbol. Please note that VALSOU also applies to MARCUL as well as OBSTRN, UWTRC and WRECKS. Do we also need to consider the use of DRVAL1 as a sounding as it is used in some cases to advise the minimum depth over certain objects such as GATCON (this is the minimum depth over the lock gate sill (S-57 UOC 4.6.6.4)).

Chris ROBERTS
Australian HO