

**8th CSPCWG Meeting  
Turku, Finland, 29 November – 2 December 2011**

**Paper for Consideration by CSPCWG  
Generalization of Depths on Norway Charts**

<b>Submitted by:</b>	NO
<b>Executive Summary:</b>	Generalization and Rounding Rules in Norwegian Charts
<b>Related Documents:</b>	IHO Specs S-4 B402, B412
<b>Related Projects:</b>	None

### Introduction / Background.

In Norwegian charts rounding rules and depiction of depths may be somewhat different compared to other HO's charts. Questions to NHS from UKHO have been answered to try to clear misunderstanding on differences in depths in scales.

### Analysis / Discussion.

The practice of showing depths without any decimals in certain chart scales in certain depth areas are done because of marginal room to show decimals.

Since mariners are strongly advised to use charts of best (largest) scale when navigating in an area, Norway has created a policy that gives the mariner better and more accurate information on larger scale charts.

Norwegian rounding rules are listed below. The reason why Norway has these rounding rules are the lack of space in charts.

Depths may be differently rounded down in different scales of charts. Depths without decimals in the Main chart series may be shown with decimals in the Harbour chart series because the scale allows it.

Differences in rounding rules in UK and NO charts:

#### General rounding rules in Norway are as follows:

Norway: Depths of 10 m and deeper: No decimal. Depth rounded downwards; 100,9 m becomes 100 m.

[UKHO no decimal = >31m] [UKHO 21 to 31m = 0.0 to 0.4 down to 0; 0.5 to 0.9 down to 0.5]

Norway: Depths between 10 and 0 m: Rounded down to closest 0.1 m: 6,78 m becomes 6,7 m]

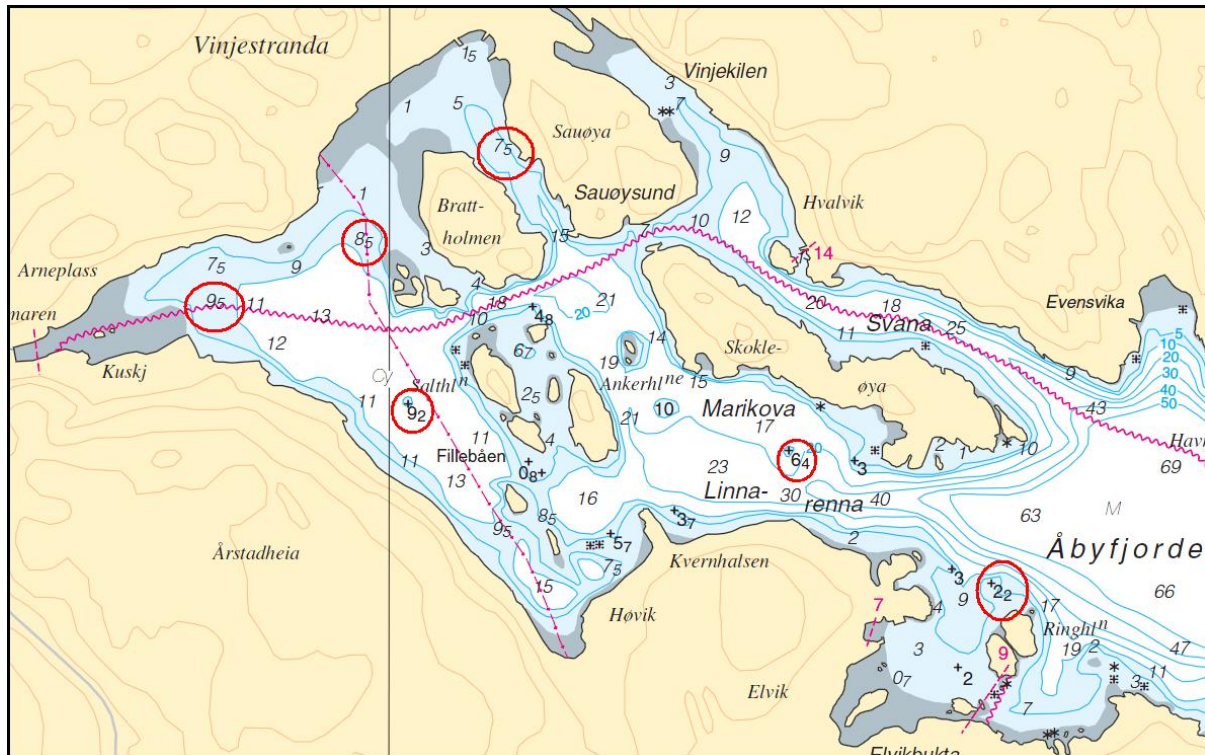
[UKHO = same policy]

Norway: If the decimal is 1 or 2 they are usually removed: 5,1 becomes 5.

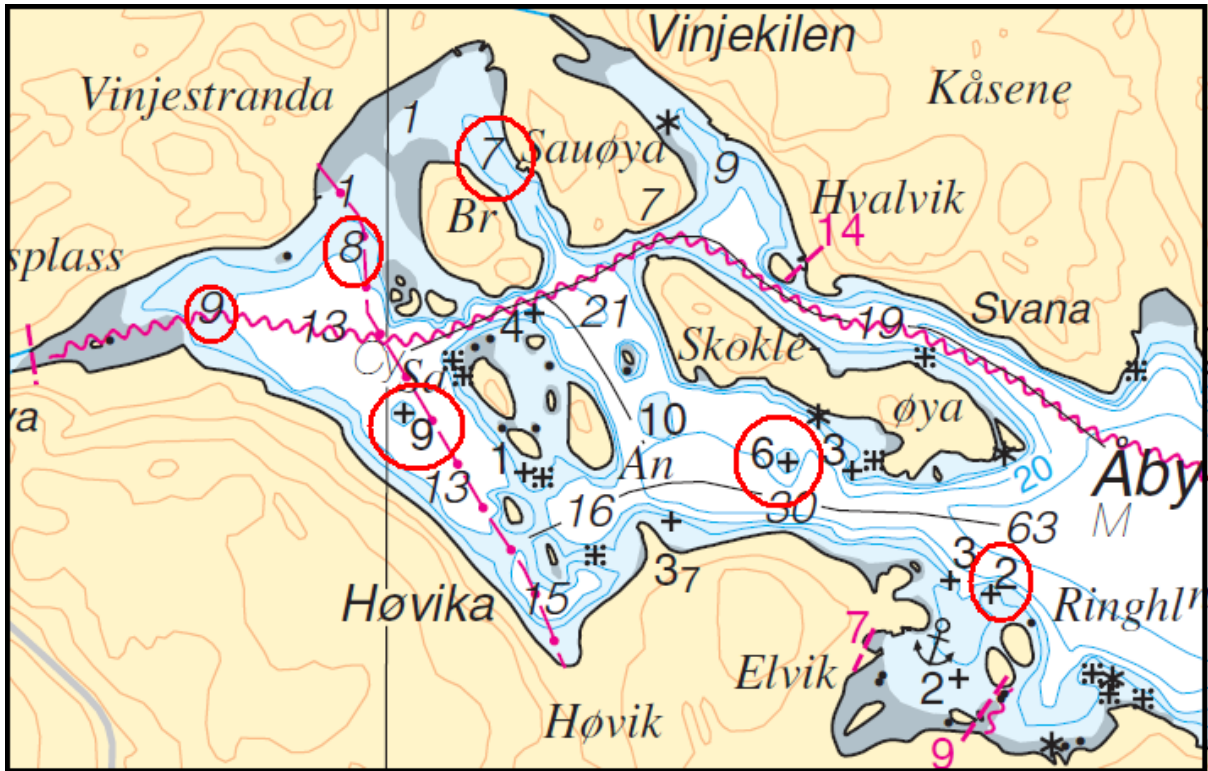
[UKHO = <21 retain full decimeter sounding]

Norway: The depths between 10,1 and 10,5 are not always rounded. This is because if it is a 10 m we have to put a depth contour around the area.  
[UKHO = <21 retain full decimeter sounding]

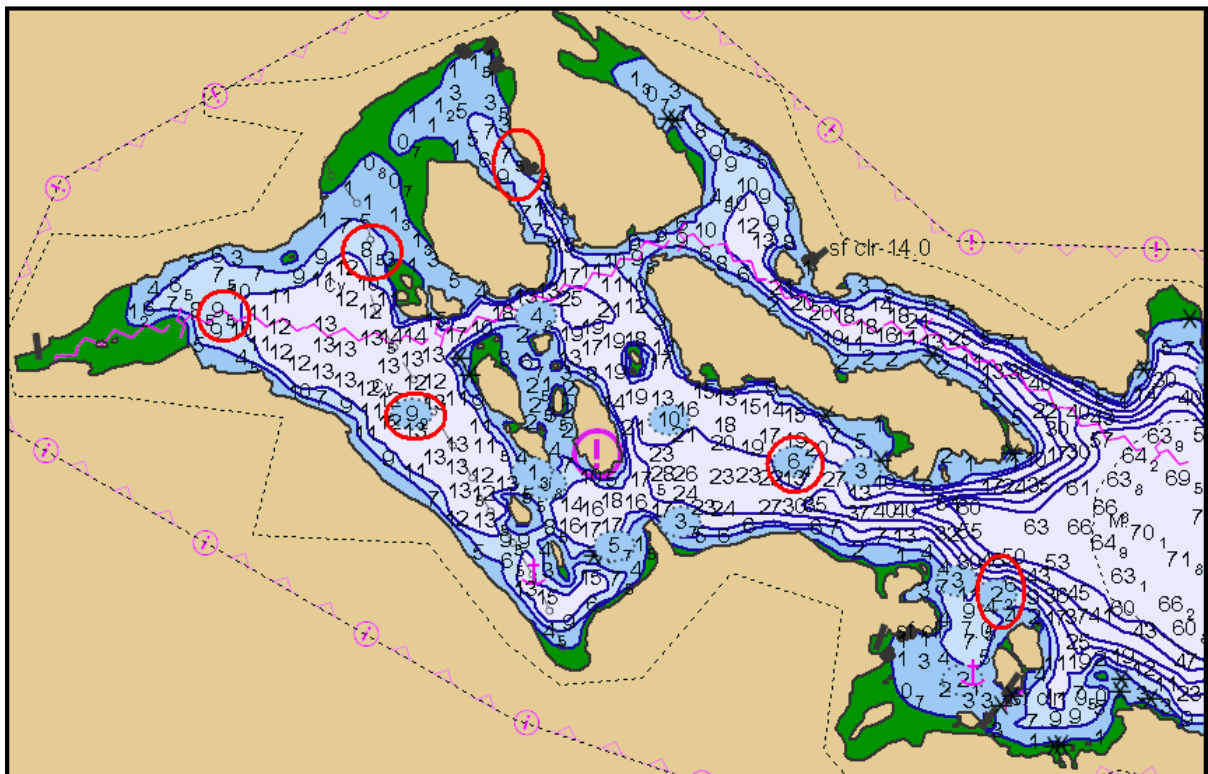
Norway always round down.  
[UKHO = same policy]



Norwegian Harbour Chart 473 (Chart scale 1: 20 000)



Norwegian Main Chart 5 (Chart scale 1: 50 000)



Primary Database

Norway would be very interested to hear if other HO's have generalization/rounding rules that are not the same as UKHO.

**Conclusions.**

None

**Recommendations.**

None

**Justification and Impacts.**

Norway have never received any complaints from chart users for the way we are generalizing in charts of different scales. A good reason for generalizing the way we do can be to show the importance and value of using charts in larger scale when these are available. We always generalize in safe direction. We are **never** rounding upwards (one of the questions from UKHO).

**Action required of CSPCWG.**

The CSPCWG is invited to:

Discuss practices and experiences, as well as advise on the above matter.