

## Notes



## ECDIS Regulations in the Real World

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During SASMEX 2000 at Brighton on 11 May 2000, the ECDIS Implementation Committee (ECIC) presented at a mock trial on the use of electronic charts. This session took place on the last conference day, and therefore got only limited attention. Nevertheless some very interesting views were presented on the practical implications of the present ECDIS Regulations. It is worthwhile making them available to a broader public.

### Mock Trial

The trial case focussed on the question of whether or not an insurance company would dismiss an insurance claim if it became apparent that the use of electronic charts during an incident was not in accordance with the present regulations. The outcome of the discussion was that as long as the chart information presented was correct and displayed adequately for safe navigation, the violation of the regulations in itself would be no reason to deny an insurance claim. In other words; not sticking to the rules does not mean automatically incorrect or unsafe navigation!

The main objective of the trial case was to generate a discussion about the practical meaning of the existing regulations. At present it is not permitted to rely solely on electronic charts unless the intended voyage is completely covered by official vector charts (ENCs), used with a type approved ECDIS and an independent ECDIS is available as back-up system.

For areas not yet covered by official ENCs, official raster charts (RNCs) may be used, but in that case a reduced set of paper charts must be available as back up for the raster charts.

Not meeting any of these regulations means automatically that a complete set of paper charts, covering the intended voyage, is required for safe navigation under the SOLAS V chart carriage regulations.

For many a shipowner these regulations do not provide an economical basis for electronic chart navigation. Investing in expensive, type approved equipment and official electronic charts is very costly if one has to carry paper charts as well. This will remain the case until worldwide coverage by ENC is available.

### On Regulations

The requirement for paper chart back up of RNCs can not be explained otherwise than being a measure to protect the producers of ENCs. Raster charts are exact

copies of paper charts and both ENC's and RNC's suffer from the same problems if accuracy is in discussion. The paperchart back-up has no added value when compared to a digital back-up. Furthermore the regulations still leave some open questions which will not be answered in the near future. Firstly there is the question about the content of a reduced set of paper charts, used as back up for RNC's. IMO is apparently not willing to produce specific guidelines and national shipping Administrations are taking very different positions in this matter.

Then there is the question of the back-up system. How independent should it be? Do we need two separate sets of electronic charts? Is it permitted that the primary and back-up display systems rely on the same maincomputer? Which emergencies must be covered by the back-up system? Should it be portable?

The regulations are not specific on these matters and again there seems to be little interest in exploring these questions.

Also interesting is the fact that under the present regulations electronic chart navigation is about ten times more expensive than paper chart navigation. The price of approved systems and official charts seems extravagant. Today a certified ECDIS costs around £ 23,000. ENC's covering a paper chart folio of 500 charts will cost £ 28,500 initially and £ 18,500- /year for updating.

The same set of rastercharts, including update service, costs £ 6,300-/year. These charts have to be replaced by vector charts (ENC) when they become available.

The paper chart folio of 500 charts costs initially £ 7000,- and about £ 700-/year (10%) for replacements. For this price a wide range of unofficial electronic chart systems and electronic charts is available.

## Conclusions

Overlooking these many questions it must be concluded that the present regulations offer no economical solution for full electronic chart navigation. However, as long as the paper chart still is the primary system for navigation, one is free to aid the navigation with the use of widely available, much cheaper, unofficial electronic charts and display systems, referred to as ECS. In that case insurance companies only require that information used for actual navigation, is accurate, correct and adequately displayed. *This solution is cheaper than any IMO approved ECDIS or RCDS configuration.*

There is an urgent need for the IMO to review at least its regulations on the use of raster charts. Taking into account the views that developed from the trial case in Brighton, it is time to openly support raster chart navigation with only paper chart back up, without all sorts of restrictions, made for unexplained reasons. Minimum specifications for this approach will allow shipowners to choose from a wide range of acceptable solutions. It also makes it easier to decide which paper charts are really necessary to cover the intended voyage safely. This may lead to some reduction of the traditional paper chart set. Finally it meets the feeling of many a sailor that one has to have paper chart back up under any circumstance. Maintaining present electronic chart regulations may very well result in a tendency to circumvent these regulations as far as insurance permits.

The ECIC will continue to plead for a review to take away unnecessary restrictions for the widespread use of electronic charts.

## Biography

Vice-Admiral (Rtd.) Joost van Aalst is a former Netherlands Hydrographer. He served on and off in the Netherlands Hydrographic Service from 1964 until 1991 when he went to serve in the Naval Staff. As Hydrographer he was actively involved in the design of regulations and performance standards for ECDIS i.a. as chairman of an IHO Working Group on ECDIS. In 1999 he retired as Inspector General of the Netherlands Armed Forces. He is at present member of the Netherlands Maritime Court.