

NORWEGIAN AUTHORITIES REQUIREMENTS TO NAUTICAL CHART DATA USED FOR NAVIGATION IN NORWEGIAN WATERS

1. Background

Norwegian coastal waters are among the worlds most demanding to navigate, both with regards to the distinctive topography and to the very variable climatic conditions. This reality places great demands on the technical standards of vessels, nautical geographical information, the level of competence and ship equipment.

Maritime transportation always involves a certain amount of risk. There is a requirement for strict rules to ensure safety for personnel and environment.

Information and feedback from navigators, pilots, harbour authorities, distributors and decision-makers in shipping companies, show that there is confusion about what nautical chart data is approved for navigation in Norwegian waters. This relates in particular to electronic navigation.

Through this letter the Norwegian Maritime Directorate (NMD) and the Norwegian Hydrographic Service (NHS) will clarify the position of the Norwegian Authorities requirement on this topic in order to dispel this confusion and misunderstanding. In addition, enclosed is a description of national requirements for navigation equipment for some European countries.

2. SOLAS

In accordance with the International Convention for Safety of Lives at Sea (SOLAS), all ships are required to use APPROVED and up-to-date navigational charts. The convention, which is ratified by Norway, is administrated by the International Maritime Organisation (IMO). SOLAS provides regulations on the use of nautical paper charts as well as electronic charts for use in electronic systems. The Norwegian Maritime Directorate exercises authority ensuring that Norwegian ships are in compliance with these regulations.

3. Approved printed nautical charts

According to SOLAS, the charting of national waters is a pure national responsibility. In Norway this responsibility rests with the NHS. Nautical charts used in navigation in Norwegian waters, must be produced and approved by or on the authority of NHS.

Coastal navigation from Halden in the south to Kirkenes in the north is currently covered by a total of 136 charts on a scale of 1:50.000 in the main paper chart series. Charts in greater scales and with more detailed information are provided for congested and demanding passages, approaches and harbours.

NHS clear goal is to cover the entire coast with charts based on modern surveys. In North-Norway some charts are based on 100 years old surveys. NHS prioritizes the production of new charts in these areas and is currently carrying out a massive resurveying. Old charts are

continuously being replaced by new editions or new charts. The entire Norwegian coast will be covered by modern surveys by 2007 / 08.

In order to secure optimal use of available resources, NHS has undertaken a comprehensive external marketing research programme with the aim to understand the end-users assessment of how to prioritize the re-surveying of the remaining areas of the coast still covered by old charts.

These recommendations have been incorporated into the NHS production plans. This implies that resurveying of certain areas of the coast could be delayed and implies that users may have to work with a mixture of old and new surveys within a particular analogue or electronic chart.

This currently comprises of charts in Hordaland (North and South of Bergen) and areas north of Vega in North-Norway. Uncharted rocks can be found in parts of the chart that has not been resurveyed. **Navigate with care in these areas.** Areas off the recommended navigational channel or lead should not be challenged. Please consult the “source diagram” on the chart in order to be aware if old surveys have been used in parts of the new edition of the chart. Reference is also made to several articles in the NMDs periodical “Navigare”.

3.1 New editions

A new chart or a new edition of a chart is issued as a replacement for old charts based on old surveys when an area is resurveyed. When a new chart or a new edition is published, the old version of the chart becomes obsolete and not valid for navigation. NHS continuously communicates this message through its Notices to Mariners (NtMs) service.

Please find enclosed a list of new charts or new editions published by the NHS in recent years. Twice a month chart corrections are published in our NtMs, which must be used by mariners to keep their charts updated. All ships must subscribe to NtMs and the responsibility rests with the captain to see to that charts onboard are updated in accordance with messages in NtMs. Most charts are reprinted with a two years interval. The reprint frequency is dependant on the number of corrections that need to be applied to the respective chart number. A reprint does not make the old version of the chart obsolete, as long as the rules for chart corrections by NtMs are adhered to.

4. Official Electronic charts

4.1 ENC

In connection with the resurveying programme on the Norwegian coast, NHS prioritises the production of official electronic charts, authorized for navigation by the NHS.

Internationally these are called Electronic Navigation Charts (ENCs). ENCs are produced in accordance with an international standard and format (S57), and are being used by Hydrographic Offices (HOs) worldwide. Up-to-date ENCs are now available for all of South Norway and parts of North Norway. Remaining waters will be covered within 2007/08. For current real-time coverage, visit www.primar.org and/or refer to the enclosed material.

4.2 ECDIS - Electronic Chart Display and Information System

There are two types of systems used for display of electronic charts onboard ships:

ECDIS is an electronic navigation system that has undergone extensive testing and has gained “type approval”, which under certain criteria conforms to SOLAS requirements for navigational equipment onboard.

If an official ENC (i.e. an Electronic Navigation Chart approved and issued by or on behalf of the NHS) is used within an ECDIS, this system can legally be used for navigation in the same way as an updated paper chart. If other types of digital data are used, e.g. data produced by the private industry or raster charts, navigation must be based on an up-to-date paper chart regardless of the type of ECDIS system installed onboard. In reality, an ECDIS system loses its “type approval” status if private data is used.

For back-up purposes following arrangements are accepted:

- a) an appropriate folio of up-to-date paper nautical charts, or
- b) a second type approved ECDIS connected to the main- and emergency source of power, or
- c) when available an electronic back-up arrangement for ECDIS mode of operation (using ENC), type approved in accordance with relevant international standards may take the place of a second ECDIS. (Ref. Annex 5 of Resolution MSC 64(67))

for alternatives b) and c) a sufficient folio of up-to-date paper charts shall be carried enabling the ship to safely reach a port within or adjacent to its trading area if not covered by ENC.

Norway is planning to introduce mandatory use of ECDIS onboard passenger express boats on regular routes where official ENCs are available. It is at present unclear when this requirement will be completed.

4.3 ECS - Electronic Chart System

These systems vary from hand operated GPS receivers with a chart screen to rather simple permanent systems onboard for presentation of electronic charts.

Many ECS systems are technically advanced, but they are not type approved as ECDIS.

If ECS systems are being used onboard, they cannot replace the use of up-to-date paper charts for navigation. From a safety point of view, it is strongly recommended that only official ENCs should be used to assist in navigation also if an ECS system is being used.

4.4 Raster charts

Raster charts, e.g. ARCS produced by UKHO (United Kingdom Hydrographic Office), for stand alone navigation in Norway are illegal and have no official approved status for navigation.

4.5 Unofficial data/Private Data

Unofficial and unauthorized data, produced by private firms, is frequently being offered and marketed.

NHS takes no responsibility for this type of data. It is not approved for navigation. Again, up-to-date paper charts must be used for navigation.

5. Access to paper charts and official electronic charts (ENCs)

Paper charts are available through national / international authorized chart distributors. See <http://www.statkart.no/efs/> or contact the NHS sales department, telephone +47 51 85 87 12.

ENCs are available through authorized distributors of official ENCs. See www.primar-stavanger.org or contact Primar Stavanger ENC sales department, telephone + 47 51 93 95 00 or e-mail: sales@primar.org
See also enclosed information.

6. It is cost effective to use official data (ENC) for navigation

An ENC with similar coverage as a paper chart costs less than the corresponding paper chart.

Included in the price for the ENCs are weekly updates for one year. These updates can be downloaded directly onto a computer onboard when issued. Manually chart corrections based on NtMs on paper charts are therefore no longer required. This is cost effective.

7. Conclusion and recommendation

- Subscribe to NtMs
- Do not use old charts that have been replaced by new charts or new editions
- When navigating by electronic means, use only official electronic charts (ENCs)

SAFE VOYAGE

Best regards

signed by: Director General NMD and Director NHS