

## Guidance on the Use of ADMIRALTY Digital Publications (ADP) and ADMIRALTY e-Nautical Publications (e-NPs)

### The UKHO produces two types of digitised nautical publications

- ADP includes ADMIRALTY TotalTide (ATT), ADMIRALTY Digital List of Lights (ADLL) and ADMIRALTY Digital List of Radio Signals (ADRS).
- ADMIRALTY e-NPs include electronic versions of Sailing Directions and other reference nautical publications.

### 1. The regulatory environment

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- 1.1. Regulation 2.2, Chapter V of the International Convention for the Safety of Life at Sea (SOLAS) defines a nautical chart or nautical publication as being:

“a special-purpose map or book, or a specially compiled database from which such a map or book is derived, that is issued officially by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution and is designed to meet the requirements of marine navigation.”

- 1.2. Regulation 27, Chapter V of SOLAS provides that such charts and publications must be kept up to date.
- 1.3. Regulation 19.2.1.4, Chapter V of SOLAS provides that: “All ships, irrespective of size, shall have nautical charts and nautical publications to plan and display the ship’s route for the intended voyage and to plot and monitor positions throughout the voyage”.
- 1.4. These regulations govern the activities of States party to SOLAS. Those States adopt their own measures to ensure that ships under their administration, wherever they may be in the world, meet the SOLAS carriage requirement set out at paragraph 1.3 above. In addition, every ship when in a port of another State is subject to Port State Control (PSC) by that other State.

### 2. Products issued by the United Kingdom Hydrographic Office (UKHO)

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- 2.1. The UKHO issues nautical charts and publications conforming to the definition set out at paragraph 1.1 above. These charts and publications are designed to meet the requirements of marine navigation and to satisfy the SOLAS carriage requirement. SOLAS recognises that such nautical charts and publications may be in the form of a ‘specially compiled database’. IMO Circular MSC-MEPC.2/Circ.2 also states that “publications may be carried in the form of electronic media such as CD-ROM instead of hard copies”.
- 2.2. The UKHO’s digital nautical publications are specially compiled databases with software that enables them to be displayed on a computer screen. The images produced are capable of being printed in hard copy. The UKHO’s digital nautical publications provide significant benefits to the mariner. The data content is the same as the equivalent paper publications. The digital format allows more flexible ways of viewing and searching for information and fast, efficient updating. This greatly reduces the time and effort spent in manual correction and minimising the risk of human error. The UKHO’s digital nautical publications have been designed to take account of relevant elements of IMO guidance in MSC Circulars 891, 982 and 1091.

### 3. Flag and Port State Acceptance

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- 3.1. Where the UKHO’s digital nautical publications are used to meet the SOLAS carriage requirement, the Record of Equipment attached to the ship’s Safety Equipment Certificate should be appropriately endorsed to show that digital publications are being used and that appropriate backup is fitted. This endorsement can be provided by a Flag State Administration’s (FSA’s) Recognised Organisations (ROs), where authorised, who will also ensure that any specific FSA requirements have been implemented. It is recommended that ships carry copies of any documentation issued by their FSAs along with a copy of these guidance notes. It is also recommended that a notice of intention to use digital nautical publications is provided to the FSA.

- 3.2. Where the UKHO is aware that a FSA has issued documentation on the acceptance of digital nautical publications, or provides guidance on their use, it lists this on its website. Please note, however, FSAs who accept the UKHO's digital nautical publications but have not issued any specific requirements may not be listed. If it is not clear whether a FSA accepts the UKHO's digital nautical publications as satisfying carriage requirements then shipping companies should contact their FSA or the appropriate RO. If the FSA or RO asks for more information on the UKHO's digital nautical publications then a copy of these guidance notes could be provided. If the FSA will not accept the UKHO's digital nautical publications please contact UKHO Customer Services (contact details provided in paragraph 9 below).
- 3.3. PSCs will normally check that the ship is compliant with its FSA requirements by inspection of certificates. Where appropriate documentation is carried, and correct use and updating of primary and backup systems can be demonstrated, PSC inspection may accept use of the UKHO's digital nautical publications by ships under another State's flag even though the PSC's own FSA may not do so. In the event of any difficulties please contact UKHO Customer Services.
- 3.4. The UK Maritime and Coastguard Agency (MCA) is the United Kingdom FSA and PSC authority. It has accepted both the UKHO's suite of ADMIRALTY Digital Publications (ADP) and the UKHO's suite of ADMIRALTY e-NPs as satisfying the SOLAS carriage requirements for the nautical publications contained within those suites.
- 3.5. Please note that Flag and Port State regulations and guidance are the authoritative sources of rules and associated information, and that UKHO guidance is intended only to assist mariners to understand the regulatory environment in which they operate.

#### **4. Further supporting information on the use of the UKHO's digital nautical publications**

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- 4.1. The mariner can derive many benefits from using the UKHO's digital nautical publications; however, safe and efficient use relies not only on a product but also on the system(s) on which it is installed and the procedures used. A quick start guide to installation is provided and comprehensive help files are available within each application. The following guidance is provided particularly for those wishing to use the UKHO's digital nautical publications instead of paper publications to meet the SOLAS carriage requirement. It provides an overview of issues that need to be considered and requirements that have to be met.

#### **5. Design and production parameters**

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- 5.1. The UK Hydrographic Office is certified by DNV GL to ISO 9001:2008 and TickIT Guide Issue 5 (Certificate No: DNV126064-2012-AQ-GBR-UKAS). Contractors used in the development and manufacture of the UKHO's digital nautical publications are also ISO 9001 and TickIT certified.
- 5.2. The UKHO's digital nautical publications have been designed to take into account the relevant elements of the following IMO Circulars:
- 5.2.1. MSC/Circ.891 – Guidelines for the on-board use and application of computers;
- 5.2.2. MSC/Circ.982 – Guidelines on ergonomic criteria for bridge equipment and layout; and
- 5.2.3. MSC/Circ.1091 – Issues to be considered when introducing new technology on board ship.

#### **6. System Installation and Hardware and Software Requirements**

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- 6.1. System requirements
- 6.1.1. Computer systems used for digital publications should meet the stated hardware and software requirements of the product, otherwise potentially unreliable and misleading operation may result. Computers used to run other software applications simultaneously may require enhanced memory and disc space to avoid slow software response times.
- 6.2. System location
- 6.2.1. Nautical publications are required for voyage planning and must also be easily accessible by ships' officers at all times during the passage. For this reason digital systems must be located on the bridge and should be conveniently situated close to either the planning or voyage monitoring stations. Care should be taken to ensure that the location of the system assists the bridge team in its tasks, and promotes safety in line with the requirements of Regulation 15, Chapter V of SOLAS 'Principles relating to bridge design, design and arrangement of navigational systems and equipment and bridge procedures'.
- 6.3. Backup
- 6.3.1. To ensure continuous availability of the digital publication in the event of computer system failure an appropriate backup must be provided. The UKHO's digital nautical publications are designed to allow the use of a second computer for backup purposes and this is a commonly used solution. However alternatives such as printing out those parts of the publication relevant to the voyage can be valid if the printouts are able to convey all necessary information (e.g. in colour if required).

#### 6.4. Power supply

- 6.4.1. The primary system must be available at all times during the voyage and therefore should have an emergency source of power.
- 6.4.2. An uninterruptible power supply (UPS) may be useful to eliminate fluctuations in the ship's main supply that would cause interruption to the primary system. However UPS can normally only operate a computer system for a short period and in the event of power failure it cannot normally be considered to be the emergency source of power for the system.

#### 6.5. Computer hardware

- 6.5.1. Computer hardware used for digital nautical publications must not interfere with the operation of other bridge systems. To achieve this and to ensure compliance with the requirements of Regulation 17, Chapter V of SOLAS 'Electromagnetic compatibility', it is best to use computer hardware designed to meet the environmental conditions defined in IEC60945.
- 6.5.2. Where the secondary (backup) system is not situated on the bridge, good quality office system hardware may be used as long as it is not subject to high levels of vibration, heat or humidity. It may be connected to the ship's normal power supply.

#### 6.6. Display size

- 6.6.1. Screen size and resolution should be chosen to ensure a clear display of navigational information (taking into account the complexity of the display, the distance the screen is to be viewed from, the ambient light conditions etc). A minimum screen size of 350mm (diagonal) is strongly recommended.

#### 6.7. Display brightness

- 6.7.1. The display should be able to be varied in brightness and contrast to enable viewing in all ambient light conditions. When used at night, care should be taken to ensure that screen glow and keyboard lighting do not affect the night vision of bridge watch staff. The UKHO's digital nautical publications provide standard daylight, twilight and night colour palettes to ensure that the mariner's night vision is not affected.

## 7. Operational Procedures

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### 7.1. General

- 7.1.1. It is recommended that instructions on the safe use of the digital nautical publications are included within existing operational procedures. Appropriate records, for example of when updates are received and applied, should be kept.

### 7.2. Software compatibility

- 7.2.1. Where the primary computer system is to be used to run other authorised software applications to support ship operations a check should be made to ensure that there is no conflict between these and the digital publication product .

### 7.3. System changes

- 7.3.1. If the hardware configuration of either the primary or secondary computer systems is changed, or additional or updated software is installed, then a check should be made to ensure that the digital nautical publications continue to operate satisfactorily.

### 7.4. Virus checking

- 7.4.1. Consideration must be given to protecting the primary and secondary computers against computer viruses.

### 7.5. Backup system availability

- 7.5.1. The backup facility should be checked both before leaving port and routinely during the voyage in order to ensure its availability.

### 7.6. System malfunction

- 7.6.1. In the event of a failure, a system should normally be repaired at the next port of call. If this is not possible, action should be taken to ensure that navigational significant information remains available (e.g. by printing out relevant parts of a publication) for the next leg of the voyage.

### 7.7. Training

- 7.7.1. To meet the requirements within STCW and ISM, mariners should have the opportunity to familiarise themselves with the systems and with any relevant bridge procedures to ensure that they are able to use and maintain the digital nautical publications safely and effectively.

### 7.8. Updating of Publications

- 7.8.1. To meet the requirements of Regulation 27, Chapter V of SOLAS, digital publications should provide a facility for incorporating update information at least at the same frequency as that provided in any paper equivalent. The base and update information provided within the product database should be protected from manual editing to ensure the integrity of the data used. The UKHO's digital nautical publications meet these requirements. The databases used by the UKHO's digital nautical publications are protected from editing by users and are checked for integrity when updates are applied. If an update fails, or if the database has been corrupted, a warning is provided to the user.
- 7.8.2. Updates for ADLL and ADRS are provided weekly on disc and may also be obtained by email or downloaded using the internet. Updates should be applied to both primary and backup systems as soon as is practical. Updates available to the ship in port should be applied prior to passage planning / commencement of the voyage. If updates are received via email or the internet at sea, any changes relevant to the voyage should be noted on the passage plan. Once obtained, all updates can be applied automatically by the software application. The automated updating available with these products lessens the workload of ships' crews and also minimises the opportunity for human error associated with manual processes. The weekly date to which the product has been updated is displayed on the toolbar of the application. The application's Update Wizard can also be used to print a certificate showing detailed information about the update status of each ADP and their licensed areas.
- 7.8.3. ADMIRALTY TotalTide is not routinely updated between yearly editions.
- 7.8.4. Updates for e-NPs are provided weekly via an on-line updating service allowing both updates and new editions to be downloaded. Updates are applied automatically and the sections updated will be clearly marked. The user can print a certificate to demonstrate that their products are up to date. The base book files will be available to download from the UKHO website as well as issued on a quarterly disc.
- 7.9. Licence Validity Check
- 7.9.1. While in port a check should be made to ensure that licences permitting use of ADP and/or e-NPs and associated updates will remain valid for a period comfortably in excess of the duration of the voyage to the next port.
- ## 8. ENC's and ECDIS
- 8.1. It should be noted that use of ENC's with ECDIS does not satisfy the SOLAS requirement for carriage of nautical publications. ENC's are nautical charts and at present contain only a very small proportion of the information contained in paper nautical publications. Thus nautical publications in either paper or digital form will need to be carried for the foreseeable future.
- ## 9. UKHO Customer Services contact details
- The United Kingdom Hydrographic Office,  
Admiralty Way, Taunton, Somerset,  
TA1 2DN, United Kingdom  
Telephone +44 (0)1823 723366  
customerservices@ukho.gov.uk  
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