

**5th CSPCWG MEETING
Sydney, 18-21 November 2008**

Chart Specifications of the IHO
Medium and Large-scale Charts

B – 600
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PART B
SECTION 600

CHART MAINTENANCE

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M4 Part B
Section 400 – Hydrography and Navigational Aids

Section 600 CHART MAINTENANCE

B-600 CHART MAINTENANCE

The maritime world, as portrayed in the nautical chart, is not static. For example, increasingly sophisticated surveying methods provide more accurate details of the bathymetry, which in some areas is constantly changing: shipping patterns and ships' draughts change, ports are developed, navigational aids are changed and moved, safety and environmental concerns result in new routing measures and navigational restrictions, exploitation of natural resources is increasing, new rocks are discovered.

All this information, and more, must be brought to the attention of the mariner in order to support SOLAS and environmental protection, so charts must be continually updated. Some information is safety related and must be passed to the mariner urgently; other information, while navigationally significant, is less urgent; some is useful for making up the overall picture of the maritime environment and is not urgent. The importance of keeping charts up-to-date cannot be over-emphasized. If this is not done, their value is seriously diminished and they may become misleading, potentially contributing to maritime casualties.

This section provides an explanation of the current methods of promulgating information and some guidance on assessing new information to decide which method of promulgation may be appropriate. IHO Technical Resolution A1.20 also provides a short list of the actions necessary for the 'Reporting and Publication of Dangers to Navigation'.

In common with the rest of M-4, this section has application in detail to paper charts but the general principles apply equally to paper and electronic charts. However, because of the differences in the updating systems and the products' contents, the criteria for selecting information for inclusion between new editions of charts (or ENC cells) may diverge.

Commentaire [c1] : If the WG agrees with this statement, we will need to consider how to present this to MS, when B-600 is forwarded for review and endorsement.

B-601 CHART MAINTENANCE TERMS AND METHODS

B-601.1 Chart series. A chart series is a term referring to a group of charts covering a wide geographic area, such as:

- a national series (ie all the charts published by a hydrographic office);
- a world series (charts covering the entire world, published by a few hydrographic offices);
- The International Chart Series (see M11 for further details);
- Special purpose series, eg Leisure, Bathymetric, Routing.

Chart series need to be maintained and kept under review, eg, for changing shipping patterns, new port developments, offshore industries.

B-601.2 Chart scheme. A chart scheme is a term referring to a group of charts covering a specific geographic area. It may be a small area (such as two or three charts covering the approaches to, and berthing arrangements for, a particular port), a much larger area (such as a continuous coastal series for a nation), an International Chart Scheme (such as all the International Charts covering the geographical extent of a Regional Hydrographic Commission) or the scheme of small-scale ocean charts. For guidance on preparing chart schemes, see M11 Part A.

B-601.3 **New Chart.** A new chart (NC) is the first publication of a nation's chart which may be additional to existing cover and will not usually supersede existing charts on a one for one/ scale for scale basis. A NC will either:

- portray an area not previously charted by that nation at the scale shown. (Note: minor changes to scale or limits of inset plan(s) or of plan(s) on a sheet of plans would not constitute a NC); or
- portray an area different from any existing chart of that nation (including changed limits, such that the area covered has changed by more than approximately 25%); or
- be a significantly modernized version (eg modernized symbology, changed depth units) of an existing chart; or
- be an adoption by that nation of an international (INT) or national chart, first published by another nation.

A New Chart does not necessarily contain new information and all information contained may have been previously published in other charts.

The allocated chart number and usually its title will be different from any chart it supersedes, in order to avoid confusion with a previously published chart of a different area.

B-601.4 **New Edition.** A new edition (NE) is a new publication of an existing chart, containing changes significant to navigation which will normally have been derived from newly received information. It will include changes additional to those previously promulgated in Notices to Mariners, and will render the existing edition obsolete. However, it should be noted that parts of the chart may remain unchanged.

The following changes to limits and/or content are permissible within the terms of a NE:

- change to horizontal or vertical datum;
- change to limits affecting less than approximately 25% of the chart area (eg DE size to A0 size, adjustment to include significant feature(s) just off existing chart limits);
- change to limits and/or scale of an inset plan or of plan(s) on a sheet of plans;
- insertion/deletion of inset plan(s) on either a main sheet or a sheet of plans.

A NE should include all outstanding updating information that has accumulated since the previous edition was published. However, for various reasons, this may not be possible or desirable. In such cases, a Limited NE may be appropriate; see B-601.5.

A NE is also an opportunity to update the chart for changes in policies and practices since the last edition, to enhance standardization. This might include, eg:

- removing or replacing obsolescent chart symbols;
- reviewing K29 wreck symbols to confirm from records that they are still not considered dangerous to any surface vessels capable of navigating in the vicinity (see B-422.6-7);
- updating notes;
- adding English language text (see B-510.4);
- use of colour.

The national chart number must not be changed. However, if the chart becomes INT at a NE, an INT number must be added.

B-601.5 Limited New Edition. A limited new edition (LNE) may be prepared if there is information which needs to be included on a chart quickly, but which cannot be promulgated by Notice to Mariners (NM) or NM Block, because of the geographical extent or complexity of the information, or where there are other reasons to produce a new edition to short time scales. Examples are:

- safety-related information too complex or of too large a geographical extent to be promulgated by NM or NM Block, such as:
 - new and revised routeing measures;
 - insertion of a new pipeline/cable following a complex route;
 - insertion of significantly changed depth information;

In such cases, it may be appropriate to issue a Preliminary NM as early as possible, see B-634.1, to cover the interval before the LNE can be published.

- change to horizontal datum for a series of charts, requiring them to be published close together;
- updating an overlapping or smaller scale chart to maintain consistency with another NE;
- updating magnetic variation lines (isogonals) for a new magnetic epoch.

Limited new editions may be referred to as Urgent NE, NE in lieu of NM Block, Large Correction or other terms.

The announcement of the publication of the LNE should indicate its limited nature, see B-635.1.

B-601.6 Reprint. A reprint (also called Revised Reprint or Corrected Reprint) is a new print of the current edition of a chart incorporating no amendments of navigational significance other than those previously promulgated in Notices to Mariners (if any). It may, however, contain amendments from other sources provided they are not significant to navigation. Previous printings of the current edition of the chart always remain in force.

Because previous printed copies always remain in force, great care is required when incorporating any new information to ensure that the new information would never need updating by Notice to Mariners. In such cases, a NM would then only apply to some copies of the chart, which could cause confusion to the user.

Reprints must include the number of at least the latest NM included in the reprint, in the bottom left hand corner of the chart outside the border. A list of all NMs included since the previous reprint, or the latest edition date, may be given.

For special regulations concerning reprints, see A-404.

B-601.7 Notice to Mariners (NM). Notices to Mariners are used for the prompt dissemination of information which is safety-related or which otherwise needs to be advised to the mariner urgently. They are regularly published (usually weekly, fortnightly or monthly) by most hydrographic offices in paper booklets and are also often made available on websites. Electronic chart updates may be promulgated on digital media, or by utilizing remote updating systems. More details of the following types of NM are given in B-630 to B-635:

- a. Permanent (chart updating) textual NM.
- b. NM block (also called a Chartlet or Patch).

- c. Temporary (T) NM.
- d. Preliminary (P) NM.
- e. Miscellaneous notices.

B-601.8 **Radio Navigational Warning.** Radio Navigational Warnings (RNW) are used to promulgate the most urgent information. They are not intended for updating charts directly, but the information must subsequently be included in Temporary or Permanent chart updating NM, as appropriate, unless the information is of very temporary application (Technical Resolution F4.4). A recapitulative list of RNW in force may be included in the periodical NM booklet, see B-630.3.

For further details of systems for broadcasting RNW, see IHO Publication S53.

Commentaire [c2] : How many HOs do this, and for what purpose?

DRAFT

B-610 ASSESSMENT OF INCOMING INFORMATION

Commentaire [c3] : This draft does not address the issue of data acquisition activities. This would be a substantial section, which we propose should not be progressed at this time. Do you agree?

Assessment is the process of examining incoming information against existing chart products and databases to:

- establish the credibility of the source, including the authority of the source provider;
- identify the differences;
- consider the significance to the chart user of the differences;
- identify the most appropriate actions to incorporate that data into:
 - chart products;
 - databases.

All newly-received information of possible use for charting must be examined against all the relevant charts (latest edition corrected for all NMs). Differences significant for safe navigation must be promulgated to chart users by the appropriate method detailed in B-600. Differences which are not safety-related should be recorded, so they can be retrieved for inclusion in the next appropriate revision of the chart.

Chart updating NM for shoal depths, new drying heights and other dangers should not normally be delayed in order to confirm precise details.

B-611 CREDIBILITY OF SOURCES

Establishing the credibility of sources is a matter for professional judgement and experience. All incoming data must be checked for possible errors and inconsistencies. It is essential that the accuracy of all positional data (horizontal datum) and depth data (vertical datum) is established before use.

Where there are conflicting or inconsistent sources of information, or there are doubts about the accuracy or validity of the information, clarification should be sought from the appropriate authority. If no answer is forthcoming, a judgement must be made. In such instances, it is important to record the reasons for the decisions, for use when considering later information or for future research.

The following source data types are commonly received by hydrographic offices. The following guidelines may provide assistance. They apply to source material for primary charting areas and for areas largely derived from the publications of other hydrographic offices.

B-611.1 Official (and officially sponsored) surveys prepared specifically for nautical charting should be validated by competent surveyors. It must be ensured, as far as possible, that any errors and uncertainties arising from the method of surveying are understood and that the survey remains acceptable for use; see IHO publication S-44.

B-611.2 Unofficial surveys are undertaken for oil companies, cable laying companies or other contractors. These surveys are often supplied to hydrographic offices for use in charting but should be treated with caution, because of the following limitations:

- Multibeam surveys often provide a very dense dataset and as such appear to be of a very good quality. This can easily lead the cartographer to place greater emphasis on this data than on other available sources. Such emphasis may be unwarranted and potentially give rise to false depth information.

- Cartographers need to be aware that such surveys are designed to meet the specification of the survey sponsor, which is unlikely to be in direct support of nautical charting. For example, a survey may well have been processed to select the mean depth in any given area rather than the shoal depth which would be selected in a hydrographic survey. Mean depth may give a much better 'image' of the sea floor, but filter out pinnacles.
- Often, these surveys are provided to hydrographic offices with little or no supporting information, so it is impossible to know how the survey was conducted, for example, the method of depth selection applied.

Therefore, unless a survey has been provided by a hydrographic office or the competent authority for the area and is stated to be suitable for charting or navigational purposes, it must be used with due caution and should not be used to disprove critical depths. Such caveats about a survey's reliability must be preserved in records for future use in generating charts, eg from a database.

- B-611.3 Information from other official authorities** not directly concerned with charting should normally be accepted for their particular responsibilities, eg lights data from national lighthouse authorities..
- B-611.4 Surveys and NM originated by local port authorities** should normally be accepted, if experience has demonstrated reliability.
- B-611.5 NM originated by the primary charting authority** for an area should normally be accepted (unless some anomaly is apparent, which should be resolved by correspondence with the relevant hydrographic office).
- B-611.6 NM originated by authorities concerning waters which are not their primary charting responsibility** should not normally be acted upon without obtaining corroboration from the primary charting authority. If corroboration is being sought, but the nature of the information is such that it should be promulgated urgently, a (P) NM or chart-updating NM may be issued to cover the intervening period. Where there is no national hydrographic office or the primary charting authority is not the national hydrographic office, the source of any original material should be assessed for its reliability and further information may be sought from the issuing authority.
- B-611.7 Information obtained from NC or NE** produced by another national hydrographic office for its own waters should be accepted (unless some anomaly is apparent, which must be resolved by correspondence with the relevant hydrographic office). Such charts should normally be examined for differences from existing charts as follows:
- Charts published by the primary charting authority, and INT charts published by the authorized producer nation, must be fully examined.
 - In areas where there is no primary charting authority, all source charts should be examined.
 - Charts which are derived, in part, from another nation's charts, should be examined only within the area for which the producer has primary responsibility, plus any international waters.
 - Charts which are wholly derived should not normally be examined, unless there is a requirement based on knowledge of the particular area and of the source charts.
- B-611.8 Reports from ships** should not normally be accepted solely as the basis for permanent chart updates without corroboration unless:

Commentaire [c4] : This is contrary to TR F1.5 (dated 1957, reviewed 1964) which states:
 F1.5: Notices to Mariners correcting foreign documents: shall not be issued by any country without the agreement of the originating State.
 2.- It is recommended that when a Hydrographic Office receives nautical information regarding an area which it does not itself cover, and for which its nationals use the publications of another country, it shall:
 a) Provisionally issue a Notice to Mariners giving full details of this information, including a reference to the foreign nautical documents affected, **but without issuing instructions for their permanent correction.**
 b) Pass on such information as quickly as possible to the authority issuing the publications concerned.

- they originate from recognised survey vessels, research ships or other vessels/masters known to be reliable;
- they are reports of shoal depths, preferably accompanied by supporting evidence, eg an unambiguous echo-sounder trace, for areas where it is unlikely that corroboration can be obtained. The primary charting authority for the area should be consulted before NM action is taken;
- they are the sole source of information in a remote area;
- they are of particular significance to navigation;
- the location is in an area where the level of information flow and lines of communication are poor.

B-611.9 Reports from private individuals must be treated on their merits. For example, where the individual is a local resident of the area of the report, the information is likely to be useful, but should be forwarded to the primary charting authority for comment and/or confirmation.

B-611.10 Publications, such as port guides, that are not produced by hydrographic offices, may contain useful, and occasionally significant, information. Experience will inform decisions on whether such material should be examined, and may depend on the level of information available from official sources.

B-611.11 Notifications of works. Confirmation of completion should normally be obtained before permanent action is taken on features such as cable-laying, planning consents, harbour works, as the finished works may not be exactly as planned. Such features may be covered in the interim by (P) NM action, and/or the use of legends such as 'Under construction', 'Being reclaimed' or 'Works in progress', with an associated date. Confirmation is not normally required for lights and buoys administered by a national lights authority (unless announced some months in advance) or for superimposed limits (e.g. anchorages; fairways; fish farm licence areas) designated by a competent regulatory authority.

B-620 SELECTION CRITERIA FOR URGENT PROMULGATION OF INFORMATION

Maritime Safety Information (MSI) is the collective term for all temporary and permanent information likely to affect the safety of navigation. The volume of MSI worldwide is considerable. Ideally, all permanent changes to charted information would be promulgated immediately, but in practice restraint must be exercised in the interests of producing a manageable updating system and, more importantly, to avoid overloading the paper chart user. This section provides some guidelines for selecting information for urgent promulgation, normally via the Notice to Mariners (NM) system. Where this is not practicable, it may be via an urgent Limited New Edition (LNE); see B-601.5.

B-620.1 **Strict control** must be exercised in selecting that which is necessary for immediate or relatively rapid promulgation. If all the available information were promulgated immediately as updates to charts, the quantity and complexity would overload most paper chart users and limit the usefulness of these products. Consequently, that which is merely desirable should usually be recorded for including in the next edition of the appropriate chart(s). Each item of new information received in a hydrographic office must be assessed for potential danger to life, vessels, property and the environment (ie how navigationally significant), bearing in mind the wide variety of users of charts in the area affected and the different emphases which those users place on the information contained in the products. For example, the master of a large merchant vessel may be far more concerned with information regarding traffic routes and deep water channels than the recreational user, who may in turn have a greater interest in shoaler areas where the merchantman would never intentionally venture. The fisherman and submariner may have a greater interest in hazards on the sea floor.

The aim is to keep charts up-to-date whilst keeping the foregoing firmly in mind. As far as possible, charts, both paper and electronic, should be safe, fit for purpose and consistent with associated publications which should be carried and consulted in accordance with carriage regulations and good practice.

B-620.2 **Priorities.** The following principles apply in deciding priorities for inserting information:

- Where differences exist between charts, the largest scale national and, where appropriate, INT chart is accepted as the authoritative document and must therefore be given priority for updating. Differences between charts and related publications may also need to be considered.
- There is no obligation for the mariner to either use or carry the largest scale chart available; however, he should always use the largest scale chart appropriate for his purpose and should also bear in mind that:
 - larger scale charts are generally updated first
 - detail in areas which are covered by larger scale charts may be generalized.
- Consideration must be given to the likely type of shipping using an area. For example, small changes in depths may be very significant in areas where deep-draught vessels operate with minimal under-keel clearance.
- Navigationally significant changes that occur when a New Edition (or New Chart) is within a few weeks of publication may be promulgated by a Preliminary (P) NM instead of NM. The (P) NM should state that the changes will be included in the New Edition (or New Chart).

B-620.3 Information considered to be navigationally significant, listed below, should normally receive NM, NM block or LNE action, at least on the larger scale charts affected, including the largest scale INT chart for information relevant to international shipping:

Commentaire [c5] : Are you content with the order below?

a. **Reports of new dangers significant to surface navigation**, eg shoal depths and obstructions, including wrecks, with less than 31 metres of water over them. The following is a general guide for changes in depths from 0 to 31 metres:

Commentaire [c6] : UKHO to investigate internal consistency, ie why wks criteria is 28, obstns 31. (ANM 9 and CPS2.0106)

- depths 0 to 10 metres - depth shoaler than charted by at least 0.5 metres (0.3 metres at berths);
- depths 10 to 31 metres - depth shoaler than charted by at least 1 metre;
- changes to critical or controlling depths in high risk areas where vessels operate regularly with minimum under-keel clearance (eg Dover Strait TSS, Southern North Sea DW Routes, Malacca Strait) and within and adjacent to main channels in port areas and their approaches. In such areas, dangers which have been removed (eg wrecks) or conclusively disproved (eg controlling depths) should be deleted (navigators may otherwise try to avoid the non-existent danger, thereby putting themselves or others at risk);
- if the existence of a danger, which is charted as doubtful, is confirmed.

Note: depth changes and new hazards in channels which fit the above criteria may be omitted from NMs if a vessel has to pass through charted shoaler areas before or after the depth under consideration.

b. **Changes in general charted depths significant to submarines, fishing vessels and other sub-surface operations** (depths to about 800 metres) including reports of new dangers and changes to least depths over underwater structures, eg wellheads, pipeline manifolds. The following is a general guide for changes in depths greater than 31 metres:

- 31 to 200 metres - new dangers and any depths shoaler than charted by approximately 5% or more;
- 200 to 800metres - new dangers and any depths shoaler than charted by approximately 10% or more;
- Insertions, deletions and amendments of reported and confirmed dangers and anomalous depths of less than 800 metres in ocean areas (see B-429);
- Wrecks that might be the least or controlling depth in the general area;
- Wrecks in anchorage areas;
- All underwater production structures, regardless of depth, unless they are known to have been abandoned and cleared to the sea floor. (Some trawlers can operate at depths greater than 800m, and damage to oil and gas structures could have serious environmental consequences).

c. **Changes to important aids to navigation**, e.g. major lights, buoys in critical positions. The following is a general guide for changes:

- Significant change to light characteristic (ie character/rhythm, period, colour) of light/light-buoy;
- Addition of light sector or change to existing sector. The degree of change that warrants NM is dependent on the type of light, importance, range and local circumstances and each case must be judged on its own merits. However, in

general, NM action should be considered on light sectors where the sector changes by more than 1° on major lights and by more than 3° on other lights;

- Change to light range, depending on the amount of change and the significance and location of light. Generally issue by NM if range change is more than 5 miles;
- Change to height/elevation only if the change is significant;
- Changes in radio aids to navigation, eg new or moved radio reporting points and lines, new or changed AIS transmitters and radar beacons, and Vessel Traffic Services, including changes to names and limits.

For major changes to buoyage systems see B-621.

- d. New routeing measures** or changes to existing ones. Notification of the effective date needs to be considered, see B-621.
- e. Works in progress** outside harbour areas.
- f. Changes in restricted and regulated areas**, anchorages, etc.
- g.** Insertions or deletions of **conspicuous landmarks** and landmarks assessed as being useful for navigation.
- h. In harbour areas:** changes to wharves, reclaimed areas, depth, date and limits of dredged areas, works in progress and new ports/port developments (see also B-620.4).
- i. Cables and pipelines:** all overhead cables and pipelines (with vertical clearances); submarine cables and pipelines to a depth of 200 metres, although this should be flexible for some geographical areas where there is seabed activity at greater depths.
- j. Marine Farms** and other aquaculture structures which might be a danger to navigation. (Note: In areas where marine farms are constantly moving or being established, a general chart note may be more appropriate than constantly updating by NM).
- k. Pilotage** services and pilot boarding places.
- l. Vertical clearances** of bridges and in some cases horizontal clearances.
- m. Magnetic variation** should be considered for updating if the variation, corrected by the annual change shown on the chart, differs by more than 1° from the value used for the current epoch.
- n. Chart references.** References to adjoining and other scale charts when a NC (or NE with changed limits) is published.

Commentaire [c7] : Do WG members issue NM for extraction areas?

Commentaire [c8] : Do we need a group for 'exploitation, eg platforms, windfarms, etc?'

Commentaire [c9] : Should magnetic variation be included by NM?

B-620.4 **In ports undergoing development**, the legend 'Port Development (see Note)', or equivalent, with an appropriately worded note, may be used to reduce the amount and frequency of NMs. The legend and note should be removed on completion of the development programme and replaced by the final details. Alternatively, a (P) NM and graphic may be issued (see B-634).

B-620.5 **Deletions.** When a feature is deleted, care must be taken to ensure that the deletion does not affect another item. In particular, whenever objects (eg beacons or lights on rocks or islets, wrecks on shoals) are deleted, the original surveys or other sources must be consulted to determine whether any rock, islet or shoal sounding should be re-instated, light structure retained or new obstruction inserted. (Technical Resolutions F3.4, F3.10)

B-621 PROMULGATING MAJOR CHANGES IN ADVANCE OF IMPLEMENTATION, eg: NEW AND AMENDED ROUTEING MEASURES; MAJOR BUOYAGE SYSTEMS

The issue of a New Edition (NE) automatically cancels the existing chart, which is then normally no longer available for purchase. However, on occasions, it may be necessary to publish a NE of a paper chart, but still retain the old version for use or reference until a given date. These occasions may include changes to routeing measures or buoyage systems that are being promulgated in advance of the implementation date. In order not to have two charts with the same number, it is important to provide a means of distinguishing them (eg adding a prefix, such as 'X', to the number of the old edition). This process ensures that the mariner can continue to use the existing paper chart (maintained by NM) prior to the changes and at the same time have available a new edition of the chart for planning purposes and for use from the date of implementation.

To ensure that the user is given adequate notice of the changes due to come into force, the following procedures are recommended for paper charts, where NE/NC is necessary due to the extent of the changes. Because of the different systems available in ENC/ECDIS (eg Start and End dates, ability to roll the display back or forward in time) these procedures are designed specifically for paper charts. However, some of the actions do assist the ENC user and this is stated in the procedure.

B-621.1 Well in advance of the implementation date (at least 8 weeks), a Preliminary (P) NM (see B-634) should be issued for all charts affected, giving full details of the changes, the date of implementation, and plans for chart updating. A graphic showing the changes should normally be included, as this is especially helpful to both paper and ENC users. The requirement to include full details (including a comprehensive list of geographic positions) in the (P) NM is to ensure a back-up is provided in the event that the user fails to receive the new products (eg new editions of charts, whether paper or ENC) for whatever reason. The (P) NM should remain in force for about 4 weeks after the implementation date.

B-621.2 A chart-updating NM should also be issued, inserting a magenta legend on the existing chart adjacent to the area of change, indicating the change and implementation date and number of the (P) NM, e.g.

CHANGES TO TSS TO BE
IMPLEMENTED ON 1 JULY 2008
(SEE NM 1586(P)/08)

This is important in order to draw the attention of users to major forthcoming changes. It provides the paper chart user with a reference to a (P) NM, and the ENC user with a reference to a caution that may not be in view on the ECDIS navigational display.

B-621.3 To allow adequate distribution time, a NE should be published 4 to 8 weeks before the implementation date of the changes and should carry an appropriate caution in magenta within a prominent box (preferably located outside the top border of the chart so that, when removed, it does not leave a gap in chart detail). The boxed caution may be customised to suit individual circumstances, eg:

Boxed caution for New Editions:

CAUTION – CHANGES TO THE [name] TRAFFIC SEPARATION SCHEME[ROUTEING MEASURES] -
NEED TO RETAIN PREVIOUS EDITION OF THIS CHART
The routing information and associated buoyage shown on this chart incorporates the changes scheduled for implementation at [time] UTC [date and year]. The previous edition of this chart should continue to be used until these changes are implemented. The chart number of the previous edition (dated [day/month/year]) is to be changed to X---; it will be updated independently and withdrawn shortly after the implementation date.

- B-621.4** In the case of a New Chart which is published in advance of changes, there is no requirement to change the number of the existing chart (as the NC will have a different number), but the announcement should state 'Existing chart(s).... should continue to be used until these changes are implemented', eg:

Boxed caution for New Charts:

CAUTION – CHANGES TO THE [name] TRAFFIC SEPARATION SCHEME[ROUTEING MEASURES] -
NEED TO RETAIN CHARTS [1234, 2345 and 2346]
The routing information and associated buoyage shown on this chart incorporates the changes scheduled for implementation at [time] UTC [date and year]. Existing charts [1234, 2345 and 2346] should continue to be used until these changes are implemented; they will be updated independently and withdrawn shortly after the implementation date.

- B-621.5** A legend stating the implementation date and referring to the Caution should be included on the New Edition or New Chart adjacent to the area of change, e.g.

REVISED TRAFFIC SEPARATION SCHEME
TO BE IMPLEMENTED ON 1 JULY 2008
(SEE CAUTION)

- B-621.6** It is necessary to explain to the mariner why two copies of the same paper chart are extant. An announcement should be included in the regular NM publication as a miscellaneous NM, see B-635.1. A copy of the caution should be inserted in the announcement of the NE with the advice that users wishing to order a copy of the old or new edition should quote the distinguishing chart numbers. The following example uses a practice that assigns an 'X' prefix to the existing edition:

CAUTION – NEW ROUTEING MEASURES -
NEED TO RETAIN PREVIOUS EDITION OF THIS CHART
The routing information [and associated buoyage] shown on this chart incorporates the changes scheduled for implementation at 0000 UTC 1 July 2008. The previous edition of this chart should continue to be used until these changes are implemented.

Notes:

1. The chart number of the previous edition (dated [day/month/year]) is to be changed to X1234. It will be updated independently and withdrawn shortly after the implementation date.
2. Chart X1234 should be added to the list of charts affected by Notice 1586(P)/08.
3. Copies of the existing chart can be obtained, until 1 July 2008, by ordering X1234.

Additional information may be added as appropriate for individual chart requirements. For a New Chart, the appropriate caution should be inserted in the NM announcement of the chart, but there will be no reference to any previous edition.

- B-621.7** Until the implementation date, navigational significant information must be promulgated for both the published NE and the previous version of the chart. Navigational significant information may affect the charts in different ways, as the new routing measures or buoyage system may not be the only changes included in the new edition. When the changes have been implemented, the old version of the chart must be withdrawn and any (T) or (P) NM which apply solely to the old version must also be cancelled. The boxed caution and '(SEE CAUTION)' legends on the NC or NE should also be removed by NM.
- B-621.8** When a NE or NC promulgates a completely new TSS (or other routing measure or buoyage system) that has not yet been implemented at the time of publication and there are no amendments to any existing TSS (or other routing measure or buoyage system), the above procedure does not apply. Instead, a (P) NM, including a diagram, should be issued, giving full details of the changes, the date of implementation, and plans for chart updating. A legend should be inserted alongside the new TSS giving the date and time of implementation, e.g.

TRAFFIC SEPARATION SCHEME
(OFF CAPE PALOS)
TO BE IMPLEMENTED AT
0000 UTC, 1 JULY 2008

This legend should be deleted by NM and the (P) NM cancelled 4 weeks after the implementation of the scheme.

DRAFT

B-630 THE NOTICE TO MARINERS SYSTEM

B-630.1 SOLAS Chapter V regulation 9 requires contracting governments to:

‘promulgate notices to mariners in order that nautical charts and publications are kept, as far as possible, up to date’

SOLAS Chapter V regulation 27 states that:

‘Nautical charts and nautical publications, such as sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage, shall be adequate and up to date’.

The Notice to Mariners (NM) system exists for this purpose. NMs are valid only until they are superseded by a New Edition or New Chart.

These specifications cover those aspects of the NM system which deal with charts (including electronic charts). ENC updates are issued for all chart-updating NMs and all chart-specific (T) and (P) NMs, although in some cases, (T) and (P) NMs may be issued as chart-updating NMs for ENC. It may not be possible to include non-chart-specific (T) and (P) NMs in updates for ENC.

Commentaire [c10] : Is this true?
Should we be trying to cover this aspect?

B-630.2 Reference to NM on charts. Charts must state clearly on them (in the bottom left hand corner, outside the chart border) to which NM they have been updated. If a hydrographic office produces a separate series of charts for the users of small craft, there is no requirement for it to incorporate NM updates between printings of these charts, but a warning should be inserted on them clearly stating that they have not been updated from Notices to Mariners (Technical Resolution B1.10).

B-630.3 Periodicity and content of NM booklets. NM booklets should be issued regularly, eg weekly, fortnightly or monthly (Technical Resolution F1.7) for printed copies, but as soon as possible on websites. Contents may include:

- a) General explanatory notes about the NM system and contents of the booklet;
- b) Announcements of the publication of New Charts, New Editions, other publications, withdrawals of charts and consequential effects on remaining charts;
- c) Chart-updating NM (with indexes arranged in NM and charts-affected order and regular recapitulative lists);
- d) (T) and (P) NM (with lists of (T) and (P) NM in force or cancelled at regular intervals, see B-633.5 and B-634.7);
- e) Updates to other publications (eg Sailing Directions, Lists of Lights & Fog Signals);
- f) Radio Navigational Warnings in force.

B-630.4 Arrangement of chart-updating NM. The limits of oceans and seas described in IHO publication S-23 should be used as a basis for the geographical arrangement of NM editions. A geographical index and a numerical index of the charts affected should be given in each edition. The sequence in which the information is given should always be the same, eg:

- a) Number of NM (see B-630.5).
- b) General region (normally one of the following categories): Ocean/Sea or Country name (see B-631.3).
- c) Sub-region: eg, Coast, gulf, island, river.

- d) Specific location (eg port name, terminal).
- e) Subject (eg lights, depths).
- f) Chart(s) affected (see B-631.7). (Publications affected, if applicable.)
- g) Reference to preceding NM (to enable chart updater to ensure no NM has been missed).
- h) Date of establishment, alteration, etc. (eg the implementation date of a routing measure).
- i) Detailed description (using INT1 as a guide – see B631.4).
- j) Position (see B-631.5).
- k) Amplifying remark (if required – see B-631.8).
- l) Authority (ie original source upon which the NM is based – see B-631.6).

(Technical Resolutions F2.1, 2.2, 2.3, 2.4)

B-630.5 Numbering. A standard method of numbering notices should be adopted, the arrangement being a unique and sequential number of NM/Year of publication, eg NM1234/09 (Technical Resolution F2.5). In addition, the NM number may also include the national chart number and/or the week/fortnight or month number of the NM booklet, eg NM1234/21/09. (T) or (P), should be added, if appropriate, eg NM1234(P)/09.

B-630.6 Recapitulative lists. Every three to six months, Hydrographic Offices should publish recapitulative (cumulative) lists of NMs issued in that particular period, listed for each chart in numerical order. NMs which are no longer effective (ie, those replaced by other NMs, those referring to charts of which new editions have been issued, temporary Notices no longer in force, etc.) should not be included.

These recapitulative lists should be combined at the end of each year in an annual list drawn up in the numerical order of the charts. (Technical Resolutions F2.3)

B-630.7 Early exchange of Notices to Mariners. A hydrographic office should, immediately upon publication of its NMs, send or make available a copy to those hydrographic offices requiring copies by the quickest possible method, eg email. (from Technical Resolution F4.5)

B-631 CHART UPDATING NM - TEXTUAL

B-631.1 A textual chart updating NM is the quickest means of permanently updating a chart for navigational significant information (see B-620 to B-623). It will include clear and unambiguous instructions to enable the user to update his charts and may include printed symbols or other small graphics to assist manual updating. NMs must always be drafted to update the fully-maintained chart (ie with all previous NMs applied).

B-631.2 Limitations. It is important to avoid overburdening the chart corrector and to assist him in accurately applying the update. The number of positions to be plotted should therefore be limited. Generally not more than 10 points should require to be plotted, but each case will be assessed on its merits (see B-632.4). Alternative methods, eg a graphical NM or LNE may be more appropriate if:

- there is a large amount of navigational significant information;
- the area concerned has already been subject to considerable updating and may therefore become unreadable on users' charts when manually updated;

- the complexity of the change, particularly in a small area of the chart, makes clear manual plotting difficult.

B-631.3 Title. The NM should be given a title which will assist the mariner in identifying the geographical location and then where on the chart the update is located. It is therefore normal to start the title with the country name (except in international waters, where the ocean or sea name should be used), followed by any sub-region, local names and a general indication of the nature of the update, eg:

NEW ZEALAND – North Island – West coast – North Taranaki Bight – Marine reserve. Buoyage.

Names should be in agreement with the largest scale chart. There will often be a choice of region between the relevant country and its adjacent sea or ocean; whenever possible use the country name, particularly in coastal waters.

B-631.4 Text. As English is the language of navigators (see B-122), all text should be given in English in addition to the national language. Instructions must be free from ambiguity and for ease of understanding a standard set of terms must be used to instruct the user, ie:

- ‘Insert’ (for the addition of new information);
- ‘Delete’ (for the removal of existing charted details);
- ‘Amend’ (to change a characteristic of an existing charted feature when its position has not changed);
- ‘Replace’ (when a feature replaces a different feature in the same position);
- ‘Move’ (when a point feature has moved a short distance, but the associated details are unchanged). If the distance of the move is greater than about 30mm, it may be better to use ‘insert’ and ‘delete’.

Commentaire [c11] : It is believed that ‘replace’ is a less ambiguous term than ‘substitute’.

If possible, it is better to portray the actual symbol in the NM. Alternatively, symbols may be described, ideally by the term used in INT1, together with the INT1 number to assist the user in identifying the correct symbol to be inserted or deleted, etc.

B-631.5 Positions. In general, for deletions, amendments or replacements, quoted positions do not need to be quite so precise as for insertions and moves, provided the mariner is left in no doubt as to which feature the notice refers. Positions can be quoted by one of three methods:

a. **Latitude/Longitude.**

Precision of positions for inserting or moving detail should be as follows:

Scales of 1:15 000 and larger	3 decimal places (dp) of minutes (eg 0.001’)
Scales between 1:15 000 and 250 000 (see notes)	2 dp of minutes (eg 0.01’)
Scales smaller than 1:250 000 (see notes)	1 dp of minutes (eg 0.1’)

Notes:

Exceptionally, on charts for which the graduation does not support positions given in decimals of minutes, positions should be quoted to the nearest second (or dp of a second if necessary).

The NM author should bear in mind the user’s maximum hand-plotting precision on paper charts of 0.3mm (see B-202.2) and judge whether 1 or 2 decimal places is required. It is difficult to give definitive guidance for the limiting scale between 2dp and 1dp as the length of a graduation division depends on scale and the properties of

Commentaire [c12] : TRF1.6 allows bearing and distance to be used (with an approximate position of the reference point quoted). We suggest this method is no longer appropriate, except on ungraduated charts where latitude and longitude positions are meaningless. TRF1.6 may be cancelled on approval.

Commentaire [c13] : This simply addresses updating paper charts. If NMs are used as source for updating ENC, different levels of precision may be required. Should this be addressed in these specifications? Has anybody developed guidance for this?

the projection. In general, it would be unusual to quote the position to only 1 decimal place for insertion of new features on charts of a larger scale than 1:250 000.

When deleting point features, unless there may be ambiguity with adjacent features, it is usually adequate to quote to just one or two dp depending upon the scale of the chart.

Where a geographical position coincides with existing chart detail or the chart border, then reference to this should be given to provide confirmation to the user, eg:

- 44°29,584'N 12°17,090'E (shore)
- 34°38,400'N 135°08,675'E (seaward end of breakwater)
- 51°23,065'N 0°31,230'E (E border)

b. Bearing and distance from a reference point

This should only be used where the chart or plan to be updated carries no graduation. The reference point must be identified clearly and unambiguously, eg: 'Chimney, centre of E border'; 'Light, centre left of plan'.

List insertions in the sequence of their bearing from the reference point.

Quote the bearing to a precision that will define the position of the insertion within the plottable error (0.3mm), ie degrees and decimals (depending on the length of the line of bearing).

Distances should be given in sea miles or metres, depending on the scale of the chart or plan and availability of linear scales (see B-220).

c. Reference to a feature previously quoted in the NM

A position can be described in relation to a feature already quoted in the NM. Generally, positions should have a letter identifier when that position is referenced by another part of the NM relating to that chart, eg:

- Insert legend, *Gas (see Note)*, along pipeline at (a)-(b) above
- Delete depth 75, close W of (c) above

B-631.6 Authority. The NM should include an acknowledgment of the source of the information, eg:

- a 'Government survey';
- a Foreign Government Chart (the number and edition should be quoted);
- a Foreign Government NM (the number and year should be quoted);
- the name of an authority, vessel or person who sent a report.

Every NM which is from an original source (ie not previously published by another national hydrographic office) should be marked with an asterisk so that they may be readily distinguished from those which are reproduced from foreign NMs. (Technical Resolutions F3.1, 3.2, 3.12).

B-631.7 Chart(s) affected. One numbered NM should be issued for a particular subject, so that the chart user has all aspects of the change provided in one place. There are two principal conventional methods of arranging a NM. The first one reduces the possibility of confusion and is therefore preferred:

- a separate entry for each chart affected, with the national (and INT) chart number preceding the entry.

- a single entry covering all charts affected, with the national (and INT) number of the charts listed at the end of the NM. If this method is used, it must be made clear which parts of the NM affect each chart, eg where the different scales need updating differently, the positions differ because of different datums used.

The chart numbers should be listed in numerical order. The number of the previous update to that chart (ie earlier NM or chart edition date) should follow each chart number in brackets, so the mariner can ensure he has not missed an earlier update. The horizontal datum to which each chart is referred should also be given; this is useful if there is any need to plot the information onto other maps or charts. If the update affects a light, the international number (or national number if there is no international number) should be quoted. (Technical Resolution F3.3).

Commentaire [c14] : This differs from TR F3.3(2) (dated 1957), which recommends starting with the largest scale

Commentaire [c15] : Is this still necessary? Check with Barry?

B-631.8 **Amplifying notes.** These are notes to the mariner to be included in the NM which are used to provide additional information. They may be used to indicate that the contents of the NM will be included in a forthcoming New Chart or New Edition, that the NM cancels a former Preliminary or Temporary NM, or it is intended to issue a further NM if additional information is expected, or it is known that there will be more developments. (Technical Resolution F3.8) eg:

- Note: This update will be included in a New Edition of Chart 591 to be published 24 January 2010.
- Note: Former NM 2457(T)/09 is cancelled.
- Note: This change is effective from 22 February 2009.
- Note: Chart 591 is to be deleted from the list of charts affected by NM 2547(T)/09.
- Note: A further NM will be issued when full details are received.

An amplifying note should also be used to indicate when a NM is relevant for 'Certain copies only'. This is used when there has been an error in the text of the original NM but not on printed copies subsequently distributed, or vice versa.

B-631.9 A tracing showing the chart update may be produced and distributed to chart users as an aid to plotting the NM.

B-632 CHART UPDATING NM - GRAPHICAL

B-632.1 A **graphical chart-updating NM** (subsequently referred to as a **block**; also sometimes called **chartlet** or **patch**) is an updated portion of a chart containing new or revised information in a particular area. The user can stick it on the chart, to cover obsolete details. The purpose of a block is to promulgate a significant amount of new safety-related data in a relatively small area. It must be used where the complexity or volume of changes would clutter the chart unacceptably if amended by hand or would overburden the chart corrector, thereby compromising its safe application.

B-632.2 A NM block should be announced by a textual NM, which states the approximate position and indicates what features the block is updating, eg:

Insert the accompanying block, showing amendments to depths and contours,
centred on: 11°57.0'N 16°09.5'W

The textual NM will also provide a number, title, etc; see B-630.4.

B-632.3 **Mentions.** The accompanying text may include further details, sometimes called 'mentions', which update the same chart, but fall outside the limits of the block. For example, the block size may be reduced by providing details of linear features (such as

Commentaire [c16] : This is the term used in UKHO: is there a different/better term?

light sectors or leading lines) to be manually updated, which would otherwise necessitate a much larger block.

B-632.4 Due to the possible extended timescale involved in preparing a block, consideration should be given to issuing a Radio Navigational Warning (see B601.8) or a chart updating NM (see B-631) ahead of the block for the most significant safety-related items. Alternatively, a Preliminary NM may be issued to describe the changes in general terms, see B-634.

B-632.5 A general guide is that a textual NM may be issued where there are fewer than 10 points to be plotted. If there are more than 10 points, then a block (or possibly LNE, see B-601.5) should be considered. However, if the items to be updated are point symbols (eg depths or lights) spread throughout the chart, then a textual NM may still be appropriate even if there are more than 10 points to be plotted. Conversely a block may be appropriate when there are fewer than 10 points to be plotted where:

- the points are in a very small area, ie the update would need to be applied very neatly to be clear;
- there are complex line features that cannot be described clearly by text, eg irregularly shaped depth contours or area limits, navigationally significant changes to coastline;
- there are insertions and deletions of line features in close proximity, eg where there are small changes to light sectors or a leading line, such that the detail may not be entirely clear when the update has been carried out;
- new limits of significant areas are being inserted and the old limits deleted, with a result that there could be confusion over what remains in force;
- there are changes to points that have been previously updated, ie there would be manual updates to previous manual updates, which could be confusing for the chart user;
- a new or revised chart note is required;
- a detailed table needs updating, eg channel or dredged area depth tables.

B-632.6 Size and fitting of NM Blocks

- a. The maximum image size for a block should be approximately 130mm x 185mm. This allows two blocks per A4 page and also ensures the digital file size is small enough to be easily downloaded from a web site. Larger size or folded blocks are possible, but can cause considerable problems in fitting accurately to the chart. They should only be used where there are clear grounds for rejecting the alternative of a LNE. A large block can sometimes be avoided by using 'mentions' (see B-632.3).
- c. For convenience and ease of use a block should not be smaller than 45mm x 35mm.
- d. A minimum margin of 5mm is needed within the block around all new and deleted work. This allows for inaccuracies in cutting out.
- e. A block must extend beyond the limits of a previous block in the same area on at least one side to facilitate accurate fitting.
- f. Sufficient detail must occur at the edges of a block to facilitate accurate fitting to the chart. A meridian, parallel or legend running across the edge of a block helps the chart corrector.
- g. Block limits should be designed if possible to avoid:

- cutting through or close to important point information such as wrecks, rocks, navigational aids;
- compass roses and scales. A block may be made five-sided to achieve this.
- folds in charts.

B-633 TEMPORARY NM

B-633.1 A Temporary (T) NM is used to promulgate navigationally significant information that will remain valid only for a limited period, eg:

- temporary oceanographic buoys;
- temporary changes in aids to navigation;
- temporary changes to authorized draughts;
- hazards of a temporary nature such as naval operations, exploratory drilling or salvage operations;
- withdrawal or re-instatement of buoys at the close or beginning of the navigation season).

The convention is for the mariner to insert the update on his paper chart in pencil, and erase it when the (T) NM is cancelled.

B-633.2 The NM number for a (T) NM should be followed by '(T)', before the year date. The specifications at B-631.3 (Title), 6 (Authority) & 7 (Charts affected) also apply to (T) NM.

B-633.3 A (T) NM should not normally be initiated where the information will be valid for less than 2 months, due to distribution time span for paper NMs; this period will be adequately covered by Radio Navigational Warnings (see B-601.8). The maximum duration for a (T) NM to be in force is usually no more than 12 months; if likely to be longer, a chart updating NM should be issued. If possible, the (T) NM should include an indication of how long it is to remain in force.

B-633.4 (T)NM in force should be reviewed regularly to consider whether they should be cancelled, updated or reissued, or replaced by permanent chart-updating NM. It is very important to ensure that mariners (and other hydrographic offices who chart the area) are aware when (T) NMs are cancelled. If a (T) NM is replaced by a chart-updating NM, that NM should state that the (T) NM is cancelled.

B-633.5 The publishing hydrographic office must issue regular lists of (T) NM which are still in force.

- Offices which publish a weekly edition of NM must issue such a list each month.
- Offices which publish a monthly edition of NM must issue such a list at the beginning of every year or more frequently, if desired.

(Technical Resolution F3.7(1))

B-633.6 A (T) NM should not be used if there is little likelihood of notification when the charted state is restored, as without such notification the (T) NM cannot be cancelled at the correct time. If possible, an alternative method of promulgation should be used, such as a general chart note, eg ‘

Aids to Navigation

The aids to navigation on this chart are reported to be unreliable....

B-633.7 Although ENC updates are generally designed to replicate the paper chart NM system, because of the different nature and maintenance regime of ENC, many (T) NM will be issued as chart updating NM for ENC. For example, oceanographic buoys which are frequently moved.

Commentaire [c17] : This is a brief acknowledgment of ENC updating issues, currently being debated in other CHRIS WG.

B-634 PRELIMINARY NM

B-634.1 A Preliminary (P) NM is issued to promulgate navigationally significant data early to the mariner when:

- Action/work will shortly be taking place (eg harbour developments; installation of, or alterations to, important navigational aids). If possible, at least 8 weeks notice should be given, with the date of entry into force indicated (Technical resolution F3.5)
- Information has been received, but is too complex or extensive to be promulgated by chart-updating NM. A précis of the overall changes, together with detailed navigationally significant information, should be provided in the (P) NM, with a statement that full details will be included in a New Chart or New Edition to be published shortly (a date or timescale for the NC/NE should be given, if possible).
- Further confirmation of details is needed. A chart-updating NM should be promulgated, or NE issued, when the details have been confirmed. Where extended drying areas affect territorial or fishing limits, (P) NM action may be required until they have been confirmed by an appropriate legal authority.
- For ongoing and changeable situations such as a bridge construction across a major waterway. The (P)NM can be revised and reissued for updates (including diagrams if useful) as work progresses. A chart-updating NM should be promulgated, or NE issued, when the work is complete.

The convention is for the mariner to insert the update on his paper chart in pencil, and erase it when the (P) NM is cancelled.

B-634.2 The NM number for a (P) NM should be followed by '(P)', before the year date. The specifications at B-631.3 (Title), 6 (Authority) & 7 (Charts affected) also apply to (P) NM.

B-634.3 A (P) NM should give an indication when the information will be included on the appropriate chart. If this is known it should be stated, eg:

- 'These changes will be included in a New Edition of Chart 1234 to be published in March 2010'.

Or, if the date for inclusion in the chart is unknown:

- 'These changes will be included in the next New Edition of Chart 1234'.

Where a particular date is specified, the (P) NM should be monitored and if it appears that the publication date mentioned is going to be missed, then consideration should be given to reissuing the (P) NM with a revised date.

Instead of issuing a (P) NM, consideration should be given to issuing a chart-updating NM inserting a 'Works in progress' legend on the face of the chart, e.g. 'Bridge under construction (2009)'.

B-634.4 In addition to a (P) NM, it may also be appropriate, where there are major changes, to issue a permanent NM inserting a legend, in magenta, on the face of the chart, referring to the (P) NM, eg:

- See NM1234(P)/09;
- Shoal Depths (see NM2345(P)/09).

B-634.5 Diagrams. Diagrams to support (P) NMs are very useful to the mariner, eg:

- where a new, amended or complex series of routeing measures is being announced;
- a new bridge is being constructed and shipping routes need to be diverted.

In order to restrict the digital file size, it is best to produce such diagrams in monochrome, using black stipple in lieu of tints if necessary. They should also be a different scale from the chart, to prevent the mariner from using them as blocks to directly amend the chart.

Commentaire [c18] : Check with P Corrick whether this is valid.

B-634.6 (P)NM in force should be reviewed regularly to consider whether they should be cancelled, updated or reissued, or replaced by permanent chart-updating NM. is replaced by a chart-updating NM, that NM should state that the (T) NM is cancelled. If a (P) NM is cancelled on publication of a NC or NE, the announcement of the NC or NE should state that the (P) NM is cancelled (or that the chart should be removed from the list of charts affected by the (P) NM if it remains in force for other charts).

B-634.7 The publishing hydrographic office must issue regular lists of (P) NM which are still in force.

- Offices which publish a weekly edition of NM must issue such a list each month.
- Offices which publish a monthly edition of NM must issue such a list at the beginning of every year or more frequently, if desired.

(Technical Resolution F3.7(1))

B-634.8 Although ENC updates are generally designed to replicate the paper chart NM system, because of the different nature and maintenance regime of ENC, many (P) NM will be issued as chart-updating NM for ENC. For example, because of the length of pipelines or cables, a 'cautionary area' may cover a whole ENC cell, whereas it is relatively simple to insert the pipeline in the planned position with an 'under construction' attribute. In some cases, such as new or amended routeing measures, a start and end date will be included in the attributes to ensure the correct depiction is visible on the ENC when appropriate.

Commentaire [c19] : Is this correct? Is a standard wording available?

B-635 MISCELLANEOUS NOTICES TO MARINERS

B-635.1 When a hydrographic office decides on the issue of a new chart (NC) or a new edition (NE) of an existing chart, or withdrawal of an existing chart, it must publish advance notification in its Notices to Mariners. It should indicate the approximate date of publication and availability (or withdrawal as appropriate), title and any information which can be of interest to users (Technical Resolution A3.1 & F3.15).

Commentaire [c20] : This is a brief acknowledgment of ENC updating issues, currently being debated in other CHRIS WG.

In addition to the number and title of the chart, this might include:

- a brief statement of:
 - the main changes (for a NE),
 - its purpose (for a NC),
 - the reason (for a withdrawal without replacement);
- whether the chart includes any changes which come into force on a particular date (eg revised routeing measures, new buoyage system);
- the horizontal and/or vertical datum (if changed from the previous edition);

- the scale and limits (for a NC, or NE with changed scale or limits);
- titles, scales and limits of new plans (or of plans withdrawn);
- whether the chart is in the International Chart Series;
- an acknowledgment of the producer for an adopted chart;
- whether there are any (T) or (P) NM which remain in force or should be cancelled on publication.

B-635.2 Forms (and instructions on how to use them) should be provided by hydrographic offices in their regular NM editions, so that mariners may be encouraged to report any observed changes needed to any charts and publications which they have used, by the quickest possible method. Additionally, a reference to the availability of a web-based form may be given.

Instructions for the user (Technical Resolution F4.1) should include:

- for a sounding which appears abnormal and may indicate the possible presence of a danger to surface navigation, every effort should be made to confirm its position by as accurate a means as possible (eg a GPS position);
- a check of the depth should be made by means of a lead line if possible;
- when reporting such abnormal depths to the hydrographic office concerned, the following should be provided:
 - i) Depth measured; date and time of day.
 - ii) Position (with statement of how it was determined).
 - iii) Make and type of echo sounder used and details of the speed of sound for which the machine was calibrated.
 - iv) Result of checking by lead line, if any.
 - v) The actual echo sounder recording (fully annotated) and a cutting from the chart with navigation fixes, etc marked on it, should be attached.

Hydrographic offices which as a result receive information relating to waters for which another hydrographic office has the primary responsibility, should forward a copy to that office by the quickest possible method. In cases of immediate action being required, a RNW should be issued by the original hydrographic office (Technical Resolution A1.15). See also B-611.6.

B-636 GENERAL NOTICES TO MARINERS

The term ‘General Notices’ applies to all information and instructions that hydrographic offices may wish to bring to the attention of mariners but the nature of which is such that they may not refer to any specific nautical document. Such NMs might cover, for instance, various types of nautical information, distribution and upkeep of nautical documents, safety of navigation and protection of human life at sea, provision for assistance to vessels in distress, communications, dates of application of daylight saving time, etc.

Notices of this type are usefully repeated periodically, often unchanged. A practice of many hydrographic offices is to include them in the first periodical issue of NM of each year (and are therefore sometimes referred to as Annual Notices to Mariners). New, altered, or deleted material in such General Notices should be indicated by means of sidelines in the margin of the page, to assist the reader in identifying changes. English translations of General Notices of interest to foreign mariners should be issued by

hydrographic offices simultaneously with those in their national language (Technical Resolution F1.1, F3.14).

B-640 CHART RECORDS

As stated at B-621, not all newly received information can be, or justifies being immediately included in charts. It is therefore necessary to record information which may be included on charts at a later date (usually at the next full NE). Hydrographic offices must develop and maintain appropriate mechanisms for recording and archiving such source data. In this specification:

- Recording is the method by which the information is recorded to ensure it is readily identified and not overlooked when a NE of a chart is prepared.
- Archiving refers to the method of storing source documents in a system which protects the documents and makes them accessible for retrieval.

Hydrographic offices need to consider carefully how long source documents should be retained for, as they may form part of an audit trail in the event of an incident. Archiving is not considered further in this specification.

B-641 The method used for **recording outstanding information** may be one of the following.

B-641.1 **A Geographic Information Systems (GIS) Database** is an electronic method of storing all validated and relevant geospatial information and associated metadata. Such a database can be maintained up to date, so that a NE of a chart can be generated relatively quickly without recourse to the original documents. Carefully managed, such databases can reflect the 'real world' for all relevant hydrographic information required to produce charts and other products in different formats (eg paper, ENC) and at different scales with reduced final manual intervention in the production process. In practice, the technology is still being developed for nautical chart applications.

B-641.2 **'Running compilations'**. These are compilations which run for the whole time between editions, so that at any time, it is comparatively easy to produce the new edition when it is decided the amount of change justifies it. The disadvantage is that, over time, some detail may have to be reworked to make way for newer information, resulting in nugatory effort. They may be in analogue or digital form, depending on the compilation system being used in the hydrographic office.

B-641.3 **'Standard' or 'Pattern' copies**. These are printed copies of current charts, marked up to show the outstanding information in some detail. This enables work done during assessment of data to be transferred to the standard in a way which will provide some impression of the amount and significance of data outstanding. However, it is more time consuming and on 'busy' charts it may get confusing as some outstanding data is replaced by newer data. An alternative is to hold assessment work as a series of overlays to the standard.

B-641.4 **Manuscript lists**. These may be used to record both the data (with some unique identifier to facilitate retrieval from the archive) and a summary of the differences identified in the area of a chart. This is simple to administer, but has the disadvantage of giving little impression of how out-of-date a chart's depiction may have become.

B-642 **Recording decisions**. In a period of increasing litigation, hydrographic offices may consider it sensible carefully to record decisions they make about the use of received information, in particular when any information is rejected for chart use or for immediate action. The following is intended as guidance for hydrographic offices that do consider such recording to be sensible. However, it is not intended by the IHO that this guidance

should be relied on by hydrographic offices as being a way of avoiding possible litigation against them.

Evidence of decisions to use information will be obvious – the information will be on the chart(s) or in the publication(s) that are published. In many cases decisions not to use received information are straightforward and may be recorded simply: eg ‘scale too small’, ‘off chart limits’, ‘time-expired’, ‘does not meet NM criteria’ (see B-620). In other cases, where decisions are more difficult and professional judgment is called for, it could be important to state clearly why the decision was reached and note the name and rank of the decision maker(s).

It is obviously necessary that a system, whether manuscript or electronic, must exist to record such decisions. In establishing such a system it is sensible to ensure that it, or a related system, is capable of easy retrieval of recorded decisions. Supporting documents (eg the original source, correspondence with the source authority, copies of NMs issued) can be held with the record of decisions or be cross referenced to them, to provide an easy method of assembling all material evidence.

Commentaire [c21] : Our original draft has been amended after review by UKHO's legal adviser.

DRAFT