

**6th CSPCWG MEETING
Monaco 1-3 December 2009**

**Chart Specifications of the IHO
Medium and Large-scale Charts**

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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; aids to navigation are changed and moved; safety and environmental concerns result in new routing measures and navigational restrictions; exploitation of natural resources is increasing; new navigational obstructions are discovered.

All this nautical information must be assessed and brought to the attention of the mariner as required, in order to support SOLAS and environmental protection. To achieve this goal, nautical information must be systematically and continually collected from many different sources, eg surveyors, maritime institutes, harbour masters, lighthouse authorities, so that charts can be maintained.

Some information is safety related and must be passed to the mariner urgently; other information, while navigationally significant, is less urgent; some is only 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 charts are not kept up-to-date, 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 S-4, this section has application in detail to paper charts but the general principles apply equally to paper and electronic charts.

Because of the differences in the updating systems (including the application of the update by the chart user) and the products' contents, the method for including new information in charts and ENC cells may diverge, eg:

- A paper chart update by Notice to Mariners (NM) Block may require a New Edition for an ENC cell
- A New Edition of a paper chart may be issued as an ENC update, without the requirement for an ENC New Edition
- A change for which a Preliminary (P) or Temporary (T) NM is issued for a paper chart may be included as an update to an ENC cell
- The ENC may contain information which needs updating, which is not included in the paper chart.

~~These examples of possible divergence are brief statements: the detailed application is currently (2009) being considered by the ENC Updating WG and guidelines will be issued in due course.~~

Commentaire [c1]: EUWG has produced draft guidelines for the application of these principles to ENC. It is not yet known where these will be published, but S-4 B-600 is an option (perhaps as an annex in a future revision?).

B-601 CHART MAINTENANCE TERMS AND METHODS

Commentaire [c2]: Paragraph deleted on advice from EUWG Chairman.

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 S-11 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 S-11 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 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
- provide significantly changed coverage to the existing chart, eg:
 - by covering new port development or a new routing measure
 - by changing the area charted (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 of an international (INT) or national chart, first published by another nation.

A NC 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 should be different from any chart that is cancelled consequent on its publication.

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 more recent information. It will usually include changes additional to those previously promulgated in Notices to Mariners (NM). However, it should be noted that parts of the chart may remain unchanged.

The previous edition must normally* be cancelled and no longer be maintained by NM (and thus not be SOLAS carriage-compliant); this should be made clear to all users in the announcement of the NE. (*Note: the sole exception is explained at B-621).

The national chart number must not be changed. However, if the chart becomes INT at a NE, an INT number must be added (see B-251.1(I) and B-251.2(I)).

Commentaire [c3]: As stated by AU, the descriptions of NC, NE, LNE & NM differ in some details from those in A-400. In drafting B-600, they were reviewed, updated and where thought necessary, expanded. Once adopted into the new section B-600, A-400 can be reviewed with a view to its removal, or considerable reduction. B-128 also refers.

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 up to approximately 25% of the chart area (eg 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.

In some circumstances, eg rapidly changing areas such as river estuaries, regular (eg annual) NEs may be appropriate, in order to enhance user confidence in the chart.

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.

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 NE 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;

Note: in the above cases, which are safety-related and therefore more urgent, 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;
- fully include a new survey (which may have been partially included by NM);
- updating magnetic variation lines (isogonals) for a new magnetic epoch.

Limited New Editions may be referred to as Urgent NE, Priority NE, NE in lieu of NM Block or other terms.

An HO may distinguish different types of LNE internally and for prioritization of work, but this is of no significance to the chart user as all NE (including LNE) cancel the previous edition (for further details, see B-601.4). Therefore, a LNE should be announced as a NE for the chart user; however 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). NM 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/or 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. Chart-updating (permanent) 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. Unless it is of very temporary application, the information will normally require a subsequent (T) or (P) NM or chart-updating NM, as appropriate, (Technical Resolution F4.4). [Any NM \(and ENC update\) must be published before the RNW is cancelled.](#)

A recapitulative list of RNW in force may be included in the periodical NM booklet or maintained on a website, see B-630.3.

For further details of systems for broadcasting RNW, see IHO Publication S-53 (Edition 2009), which states that: 'Navigational warnings shall remain in force until cancelled by the originating coordinator. Navigational warnings should be broadcast for as long as the information is valid; however, if they are readily available to mariners by other official means, for example in Notices to Mariners, then after a period of six weeks they may no longer be broadcast'.

Commentaire [c4]: Inserted on advice from EUWG Chairman

B-610 ASSESSMENT OF INCOMING INFORMATION

Assessment is the process of examining incoming information against existing information in chart products and Geographic Information System (GIS) databases (see B-641.1) 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:
 - GIS databases;
 - chart products.

All newly-received information of possible use for charting must be examined against all the relevant charts (latest edition corrected for all NMs). Differences assessed as significant for safe navigation must be promulgated to chart users by the appropriate method detailed in section 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.

Where newly-received data is assessed to require NM action, but the details are insufficient to draft a chart-updating NM, it will be necessary to seek further information from the source provider without delay. In such cases, a (P) NM may be issued in the interim to provide the available information to the mariner (see B-634.1).

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 quality of all positional and depth data 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 and are not specifically designed for charting purposes. Such surveys are often supplied to hydrographic offices but should be treated with caution. Although they can be a source of soundings, **they must not be used for disproving critical soundings** because of the following limitations:

- Surveys are often provided to hydrographic offices with little or no supporting information, making it impossible to know how the survey was conducted, eg the

method of depth selection applied. However, if there is sufficient metadata, such surveys should be validated by a competent surveyor.

- Such surveys (including swathe surveys with apparently very dense datasets) 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 have been processed to select the mean depth in any given area rather than the shoal-biased 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.

Any caveats about a survey’s reliability must be communicated to the chart user, eg through appropriate ZOC categorization or the source diagram. It must also 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 Imagery derived from aerial photography and satellites is available from both official (eg land survey organizations) and commercial sources and can be a very valuable source of information. Its interpretation and application for charts requires particular expertise.

B-611.6 NM originated by the national 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-611.7 NM originated by authorities concerning waters which are not their national charting responsibility should not normally be acted upon without obtaining corroboration from the national charting authority, if there is one.

In certain circumstances, another hydrographic office may act as the ‘primary’ charting authority, eg where:

- there is no national hydrographic office; or
- where the responsible national agency, which does not itself produce charts, has agreed.

In such cases, NM issued by the primary charting hydrographic office in those waters may be regarded as authoritative.

B-611.8 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 national or primary charting authority, and INT charts published by the authorized producer nation, must be fully examined.
- In areas where there is no national or 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 or where there are special circumstances (eg: there is no defined boundary, nations alternate surveying responsibilities in a river estuary).

- Charts which are wholly derived from another nation's charts should not normally be examined, unless there is a requirement based on knowledge of the particular area and of the source charts.

B-611.9 Reports from ships should not normally be accepted solely as the basis for permanent chart updates without corroboration unless:

- 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 national or primary charting authority (see B-611.6) 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-611.10 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-611.11 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-611.12 Notifications of works. Confirmation of completion should normally be obtained before permanent action is taken on features such as cable-laying, planning consents and 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 (see B-329). 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 (eg anchorages; fairways; fish farm licence areas) designated by a competent regulatory authority.

B-611.13 The World Wide Web contains both official and unofficial data and is a very valuable source of information. A careful assessment of its reliability must be made if it is to be used in nautical charts.

B-620 SELECTION CRITERIA FOR PROMULGATING INFORMATION VIA THE NOTICE TO MARINERS (NM) SYSTEM

B-620.1 The volume of new hydrographic information 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. If all the available information were promulgated immediately as updates to paper charts, the quantity and complexity would overload most users and limit the usefulness of these products. Strict control must therefore be exercised in selecting that which is necessary for immediate (ie by RNW, see B-601.8) or relatively rapid promulgation. That which is merely desirable should usually be recorded for including in the next edition of the appropriate chart(s). These judgements should be based on consistent criteria; an example of such a set of criteria is provided at B-620.3. Note: Different criteria may be developed for ENC updating, which is not subject to the same limitations.

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.
- The mariner may not always 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 chart-updating 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 but not prioritized, 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:

- 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 if considered to be dangerous to some surface vessels capable of navigating in the vicinity. The following is a general guide for changes in depths from 0 to 31 metres:
- depths 0 to 10 metres – critical and controlling depths (see NOTE) shoaler than charted by at least 0,5 metres (0,3 metres at berths);
 - depths 10 to 31 metres – critical and controlling depths (see NOTE) 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: the Hydrographic Dictionary (IHO S-32) contains the following definitions:

‘**Controlling depth:** The least depth in the approach or channel to an area, such as a port or anchorage, governing the maximum draft of vessels that can enter.’

‘**Critical sounding:** The least depth in proximity to a known or potential navigational route’;

The key word in this application is ‘potential’. Controlling depths in a defined channel are easy to recognise; the real skill comes in recognizing the critical depths in a wider area. In an uneven area, where there is no clear channel, it may be necessary to select the least depths over several high points, ie the ‘critical depths’. Even where there is a clear ship channel, the cartographer needs to consider the needs of other vessels that may not be constrained by, and may even avoid, the ship channel.

- b. **Changes in general charted depths significant to submarines, fishing vessels** (eg snagging trawl nets) **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 critical depths shoaler than charted by approximately 5% or more;
 - 200 to 800metres - new dangers and any critical 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);
 - Obstructions, including wrecks, that might be the least depth in the general area;
 - Obstructions, including wrecks, in anchorage areas, regardless of depth;
 - 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 aids to navigation**, e.g. lights, buoys in critical positions. The following is a general guide for changes:

- Insertion of new aid to navigation;
- Movement or deletion of existing aid to navigation;
- 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 importance of the change, such as the proximity of a sector limit to a danger. The movement of the sector limit must be plottable by the chart user; this will depend on the scale of the chart and the range of light. This is unlikely to be less than 1° on long range lights and less than 3° on short range 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 routing measures** or changes to existing ones. Notification of the effective date needs to be considered, see B-621.
- e. **Changes in restricted and regulated areas**, anchorages, etc.
- f. **Works in progress** outside harbour areas where there is potential danger to navigation or it is adjacent to navigable channels.
- g. **Structures at sea**: insertions or deletions of above water and surface structures at sea (eg platforms, wind turbines, wave farms).
- 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); vulnerable (ie insufficiently buried, see B-443.8 and B-444.5) submarine cables and pipelines to a depth of 200 metres, although this should be flexible for some geographical areas where it is known that 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. **Landmarks**: insertions or deletions of conspicuous landmarks and landmarks assessed as being useful for navigation.
- l. **Pilotage** services and pilot boarding places.

- m. **Vertical clearances** (and in some cases horizontal clearances) of bridges and other overhead structures.
- n. **Chart references.** References to adjoining and other scale charts when a NC (or NE with changed limits) is published, see B-635.2.

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. 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 (and if necessary, obtain) the existing paper chart (maintained by NM) prior to the changes and at the same time have available a NE 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 As soon as the final details are known (~~which may be up to but not more than~~ 6 months in advance of implementation ~~for IMO-approved schemes~~), 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. 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 Editions of charts for whatever reason. The (P) NM should be cancelled shortly 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, eg:

Commentaire [c5]: Following comment by FR.

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.

- B-621.3** To allow adequate distribution time, a NE should be published 4 to 8 weeks before the implementation date of the changes (if possible) 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 NEs:

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 cancelled shortly after the implementation date.

- B-621.4** In the case of a NC 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 NCs:

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 cancelled shortly after the implementation date.

- B-621.5** A legend stating the implementation date and referring to the Caution should be included on the NE or NC adjacent to the area of change, eg:

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 cancelled 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 NC, 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 NE. When the changes have been implemented, the old version of the chart must be cancelled 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, as soon as the final details are known (but not more than 6 months in advance of implementation), a (P) NM, including a diagram, should be issued for the existing chart, giving full details of the changes, the date of implementation, and plans for chart updating. This 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 NE or NC should be published 4 to 8 weeks before implementation (if possible). A legend should be inserted alongside the new TSS giving the date and time of implementation if still in the future at the time of publication, eg:

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

The (P) NM should be cancelled shortly after the implementation of the scheme. The legend should be removed from the chart at the next opportunity (eg reprint) or may be deleted by NM (to remove clutter from the chart).

Commentaire [c6]: Following comment by FR.

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 (NE) or New Chart (NC).

Instructions for the permanent updating of another nation’s nautical documents must not be issued by any country without the agreement of the originating State.

When a hydrographic office receives nautical information, assessed as being navigationally significant, regarding an area which it does not itself cover and for which its nationals use the charts and/or publications of another country, it must pass on such information as quickly as possible to the authority issuing the publications concerned. It may also issue a Preliminary NM ((P) NM) giving details of this information, including a reference to the foreign nautical documents affected, but without issuing instructions for their permanent updating.

B-630.2 Reference to NM on charts. Charts must state clearly on them (in the bottom left hand corner, outside the chart border – see B-252.3) 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. NM should be published as soon as possible, eg on the web. If printed paper NM booklets are issued, they should be issued regularly, eg weekly, fortnightly or monthly (Technical Resolution F1.7). Contents may include:

- a) General explanatory notes about the NM system and contents of the booklet;
- b) Announcements of the publication of NCs, NEs, other publications, cancellations 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 (although not all the following items may always be applicable), 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) Lights List numbers (if applicable – see B-631.7).
 - g) Authority (ie original source upon which the NM is based – see B-631.6).
 - h) Amplifying remarks, including cancellations of (P) & (T) NMs (if required – see B-631.8).
 - i) Chart(s) affected (see B-631.7). (Publications affected, if applicable).
 - j) To enable the chart updater to ensure no NM has been missed, a reference to the preceding NM number may be required (see B-631.7).
 - k) Horizontal datum (if considered necessary - see B-631.7).
 - l) Date of establishment, alteration, etc. (eg the implementation date of a routing measure).
 - m) Detailed description (using INT1 as a guide – see B631.4).
 - n) Position (see B-631.5).
- (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). (T) or (P) should must be added, if appropriate for temporary or preliminary NMs, eg NM1234(P)/09. Additional elements may be added to the NM number, eg the national chart number, a sequential number of the update for each chart, the periodical number of the NM booklet. For example, the NM number may comprise the NM periodical number and chart number which, together with the year of publication, forms a unique, sequential number, eg 36/413/2009 [periodical/chart/year]. If this system is used, it would be normal to group all updates for one chart under the same unique NM number.

Commentaire [c7]: Proposed by AU

Commentaire [c8]: No consensus reached. Consider sentence should remain, as B-600 is no more likely to persuade MS to change their current numbering systems than the TR did. However, the guidance may be of use to emerging chart producing HOs. We consider the TR should be cancelled.

Commentaire [c9]: Added in response to requests from GR, NO and ZA.

B-630.6 **Recapitulative lists.** Every three to six months, Hydrographic Offices should publish (in paper form and/or on the web) 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 NEs have been issued, temporary NMs 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 Resolution F2.3)

B-630.7 **Early exchange of NMs.** 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 NOTICES TO MARINERS: TEXTUAL**

B-631.1 A **textual chart-updating NM** is the quickest means of permanently updating a chart for navigationally significant information (see B-620 to B-623). It must include clear, concise and unambiguous instructions to enable the user to update his charts and may include printed [chart](#) 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 should be assessed on its merits (see B-632.5). Alternative methods, eg a graphical NM (see B-632.1) or LNE may be more appropriate if:

- there is a large amount of navigationally 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 accepted international language for navigational purposes (see B-510.4), text should be given in English in addition to the national language. A glossary may be used. Instructions must be free from ambiguity and for ease of understanding a standard set of terms must be used to instruct the user. The following are the English language terms which should be used, other language equivalents may be used as appropriate:

- **'Insert [feature] [position]'**. Used for the addition of new information: either a new feature or a new characteristic at an existing feature (eg adding an AIS to an existing buoy).
- **'Delete [feature] [position]'**. Used for the removal of existing charted details. (Note: the alternative term 'remove' may be confused with 'move', see below)
- **'Amend [characteristic of feature] to [new characteristic] [position]'**. Used to change a characteristic of an existing charted feature when its position has not changed.
- **'Replace [feature] with [new feature] [position]'**. Used when a feature replaces a different feature in the same position. (Note: the former use by some HO's of the term 'substitute' has the potential to be ambiguous in its application).
- **'Move [feature] from [position] to [position]'**. Used 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 [c10]: Other valid terms were suggested, but the majority of respondents preferred these terms

If possible, it is better to portray the actual [chart](#) 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.

Commentaire [c11]: INT1 not added here, as it may sometimes be appropriate to include a national symbol.

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 NM 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 1:25 000 and larger | 3 decimal places (dp) of minutes (eg 0,001') |
| Scales between 1:25 000 and 250 000 (see notes) | 2 dp of minutes (eg 0,01') |
| Scales of 1:250 000 and smaller (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 dp of a minute is required. It is difficult to give definitive guidance for the limiting scale between 2 dp and 1dp as the length of a graduation division depends on scale and the properties of 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)

See B-131 for format for expressing geographical positions.

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 nautical miles or metres, depending on the scale of the chart or plan and the 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.

Within the individual NM, the chart numbers must be listed in either numerical order or descending scale order. Whichever order is chosen, it must be applied consistently.

It is important that the chart updater can ensure that the previous NM has not been missed. If the numbering system does not use sequential numbers for each chart, a reference to the preceding NM number (or chart edition date if this is the first NM) should be added in brackets after the chart number.

The horizontal datum to which each chart is referred may 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).

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 NC or NE, 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. [A tracing is produced for guidance only; the textual NM is the published authority.](#)

Commentaire [c12]: Added at suggestion of NZ.

B-632 CHART-UPDATING NOTICES TO MARINERS: 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 **must** be announced by a textual NM. [This should include](#) the approximate position and indicate 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 also provides [the](#) number, title, etc; see B-630.4.

B-632.3 **Mentions.** The ~~accompanying~~ textual NM announcing the block may include further chart-updating details, sometimes called ‘mentions’, which update the same chart as the block but fall outside the limits of the block. [The use of mentions is a matter of judgement; for example:](#)

- ~~For example,~~ the block size may be reduced by providing details of [simple](#) linear features (such as light sectors or leading lines) to be [plotted by the user manually updated](#), which would otherwise necessitate a much larger block.;
- [an increase in block size may be appropriate to avoid the user plotting more complex updates.](#)

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:

Commentaire [c13]: In this case, it is the block which is chart-updating, not the NM (unless it includes ‘mentions’).

- 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

The following guidance should be considered when constructing NM blocks:

- a. Large size or folded blocks can cause considerable problems in fitting accurately to the chart, because of eg: paper stretch, wrinkling, misalignment; they are therefore unpopular with chart users. 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).
- b. The dimensions of a block should ideally be up to about 185mm x 130mm, which conveniently allows two blocks per A4 page and also ensures the digital file size is small enough to be easily downloaded from a website.
- 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 updater.
- 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 NOTICES TO MARINERS

- 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. ~~In order for this information to be included in ENC, some form of geo-referencing must be included (as precisely as the data allows and must include at least one position and the datum).~~

B-633.2 The NM number for a (T) NM ~~should~~ must be followed by '(T)', before the year date. The specifications at B-631.3 (Title), [B-631.5 \(Positions\)](#), [B-631.6 \(Authority\)](#) & [B-631.7 \(Charts affected\)](#) also apply to (T) NM.

B-633.3 A (T) NM must not be initiated if the information will no longer be valid by the time the NM is likely to be received by the mariner; this will depend upon the distribution time span for NMs. Shorter time periods may be covered by Radio Navigational Warnings (see B-601.8). The maximum duration for a (T) NM to be in force should usually be 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) NMs in force should be reviewed regularly to consider whether further information can be acquired and 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 should issue such a list each month.
- Offices which publish a fortnightly edition of NM should issue such a list four times a year or more frequently, if desired.
- 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 issued if it is unlikely that the hydrographic office will be informed when the temporary situation has reverted to the charted state. Without such information, the (T) NM cannot be cancelled at the appropriate 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-634 **PRELIMINARY NOTICES TO MARINERS**

Commentaire [c14]: Deleted on advice from EUWG Chairman

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. ~~In order for this information to be included in ENC, some form of geo-referencing must be included (as precisely as the data allows and must include at least one position and the datum).~~

Commentaire [c15]: Deleted on advice from EUWG Chairman

B-634.2 The NM number for a (P) NM ~~should~~ must be followed by '(P)', before the year date. The specifications at B-631.3 (Title), [B-631.5 \(Positions\)](#), [B-631.6 \(Authority\)](#) & [B-631.7 \(Charts affected\)](#) also apply to (P) NM.

B-634.3 A (P) NM should give an indication of 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 chart-updating 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** 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.

Diagrams should be a different scale from the chart, to prevent the mariner from using them as blocks to directly amend the chart. If a diagram is at the same scale as the chart, it must contain a 'Not to be pasted on the chart', or equivalent legend.

It may be best to produce such diagrams in monochrome, using black stipple in lieu of tints if necessary, because:

- digital file sizes may be an issue for receipt by some users;
- the recipient may not be able to reproduce colours.

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. It is very important to ensure that mariners (and other hydrographic offices who chart the area) are aware when (P) NMs are cancelled. If a (P) NM is replaced by a chart-updating NM, that NM should state that the (P) 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 should issue such a list each month.
- Offices which publish a fortnightly edition of NM should issue such a list four times a year or more frequently, if desired.
- 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-635 MISCELLANEOUS NOTICES TO MARINERS

B-635.1 Miscellaneous NMs are issued to promulgate important new information of significance to the mariner which is not otherwise presented on charts, eg:

- publication or cancellation of new nautical products or new editions of nautical products (see B-635.2);
- changes to information incorporated in General/Annual NMs (see B-636);
- general national or international maritime information, eg notification of incidents of piracy;
- changes to navigation services, eg changed contact details for VTS or pilot services.

B-635.2 **Notification of chart publications.** Chart users, distributors and others must be advised when a hydrographic office decides to publish a New Chart (NC), a New Edition (NE) of an existing chart, or to cancel an existing chart. (Technical Resolutions A3.1 & F3.15). This should be announced in a publications list in Notices to Mariners, in two stages:

- An advance notification**, which should indicate the approximate date of publication and availability (or cancellation as appropriate).

The following information may be included in this notification, as appropriate:

Commentaire [c16]: Introduction suggested by AU.

Commentaire [c17]: Paragraph 2 to be deleted (see CL93/2008). However, both TRs refer to 'other nautical documents' so possibly cannot be cancelled.

- chart number;
- chart title;
- a brief statement of:
 - the main changes (for a NE, including whether only certain details have been updated, ie it is a LNE, see B-601.5),
 - its purpose (for a NC),
 - the reason (for a cancellation without replacement);
- whether the chart includes any changes which come into force on a particular date (eg revised routing 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 cancelled);
- whether the chart is in the International Chart Series;
- an acknowledgment of the producer for an adopted chart;

b. **A final notification** must be made when the NC or NE is published and available (or finally cancelled, as appropriate). The fullest details from the above list should be included, as appropriate. Additionally, this notification should include whether there are any (T) or (P) NM which remain in force or should be cancelled on publication.

B-635.3 **Changes to chart references and limits.** As a consequence of publishing a NC (or NE with changed limits), changes to the references to this chart on adjoining charts and limits on smaller scale charts should be considered for updating by NM when the NC (or NE with changed limits) is published. This is to ensure that the mariner is kept up-to-date for the latest available chart coverage (which may not be in the chart catalogue).

B-635.4 Forms (and user instructions) should be provided by hydrographic offices in their regular NM editions and/or a reference should be made to the availability of a web-based form. This is to encourage mariners to report any observed changes needed to any charts and publications which they have used, by the quickest possible method. (Technical Resolution A1.15).

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 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, 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 RECORDING OUTSTANDING INFORMATION

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.

- 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 NE when it is decided the amount of change justifies it. The disadvantage is that some detail may have to be reworked to make way for newer information before it is published, thus 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 to carefully 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 useful. 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 position/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.