

INTERNATIONAL HYDROGRAPHIC
ORGANIZATION



ORGANISATION HYDROGRAPHIQUE
INTERNATIONALE

CHART STANDARDIZATION & PAPER CHART WORKING GROUP (CSPCWG)

[A Working Group of the Hydrographic Services and Standards Committee (HSSC)]

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To CSPCWG Members

Date 12 March 2009

Dear Colleagues,

Subject: New Maintenance section of M-4 - Round 2

Following CSPCWG Letter 14/2008 and as indicated in CSPCWG Letter 2/2009, Andrew and I have been working through the many useful comments received regarding B-600 'Maintenance Section'. Thank you to each of the 15 respondents; it was evident from your feedback that you consider this new section to be important and have considered very carefully the smallest details.

As usual, we have included consolidated responses at Annex A. We have changed the text as appropriate to reflect the majority views. Annex B is the new draft (sent separately). We would be grateful for your comments on the draft, paying particular attention to all the track changes and marginal comments.

The revised text raises a few more questions, which we have included in a new response form at Annex C; however, please feel free to comment on any other points as well.

The more significant changes are:

- The introductory remarks at B-600 have been improved, to include a brief reference to acquisition and some examples to better explain why paper chart and ENC updating may diverge.
- The section (B-601) on 'terms' is not identical to the existing brief explanations in A-400; we believe they are improved. Please also see the marginal comment.
- At B-611, we have attempted to distinguish between the terms 'national' and 'primary' charting authorities, and then to use the terms more carefully.
- We have added a new paragraph on the world-wide web at B-611.12.
- At B-620.1 we have slimmed down the explanatory remarks, avoiding some duplication and also removed the misuse of the term 'Maritime Safety Information'.
- Several improvements have been made in B-620.3, including the concept of 'critical' and 'controlling' depths, changes to the criteria for light sectors and a new category 'Structures at sea'. The depth criteria derive from UK's existing criteria; France has also offered their criteria for

consideration, see the marginal comment.

- At B-631.5, the scale range for giving positions to 3 decimal places has been extended to 1:25 000, at the suggestion of France, and following recalculations.
- At B-632.5, we have retained the recommended maximum size as 130x185mm and added an explanation. We recognize this may not always be achievable (hence 'should', not 'must'), but believe strongly from users' comments that it is justified.
- We have removed the paragraphs referring to the application of (T) and (P) NMs to ENC, pending the outcome of the EUWG considerations (B-633.7 & B-634.8).
- The advice about notifying publications of NC or NE has been split into two stages, and a further paragraph added about how to deal with changed chart references.

Please respond, using Annex C, but also with a track change version of Annex B if necessary, by **16 April 2009**.

Yours sincerely,



Peter G.B. Jones,
Chairman

Annex A: Consolidated responses to CSPCWG Letter 14/2008

Annex B: Draft new Maintenance Section M-4 B-600 – Round 2 (separate document)

Annex C: Response form

**CONSOLIDATED RESPONSES
to CSPCWG Letter 14/2008**

Question	B-600 Paragraph	YES	NO
1	<p>B-600 (final paragraph of introduction): Do you agree with the statement that the criteria for updating paper charts and ENC may diverge?</p> <p>ES: In some cases to improve vertical consistency we update ENC at smaller scales than paper chart when needed. In these cases paper chart aren't update due to its generalization. FR: FR propose some words to explain why the criteria for updating paper charts and ENC may diverge (see track change version). SE: In many organisations, for example in Sweden, more integrated system is established for handling the geographical information used for both paper charts and ENC. In such systems the spatial information for real features, such as buoys and beacons and also non visible features such as limits and fairways will be updated once in a Chart Database and then different attributes and symbolisation will make the information diverge in the ENC:s and paper charts. In this case it is the products' content that differs and not differences in the updating systems. Suggests changing the wording to: "However, because of the differences in the products' contents, the criteria for selecting information for inclusion between new editions of charts (or ENC cells) may diverge." Chairman: Everyone agrees! We have clarified the wording slightly, by including some examples.</p>	AU, CA, DK, ES, FR, FI, GR, JP, NL, NO, NZ, SE, PK, UA, UK, ZA	
2	<p>B-601.8: Does your HO include a recapitulative list of RNW in force in your periodical NM booklet? (If yes, please explain why below).</p> <p>AU: AU does include a recapitulative list of RNW in force, but does so for historical reasons only (our NM Officer could say only that "we have always done it"), and has not discussed removing them at this stage. ES: The recapitulative list of RNW in force in our periodical NM booklet refers to NAVAREA 2 and 3. FR: SHOM is NAVAREA II coordinator. Only NAVAREA II are subject to a recapitulative list of RNW in force. JP: JHOD implements it in accordance with WNWNS 4.2.1.5. UK as NAVAREA I coordinator does issue recapitulative lists of RNW, including selected worldwide RNW; they are judged to be of use to the mariner to monitor warnings in force. Their inclusion in web-based NMs enhances their utility as they can be updated more readily than periodical paper NM booklets. ZA: We don't have a specific reason. It is normal practise that has been inherited from RNW officers over many years. I must admit that at date of publication of the NM booklet, the listing of RNW could already be outdated. (I would suggest further investigation from my side and feedback provided). Chairman: text amended slightly from comments.</p>	AU, ES, FR, GR, JP, UK, ZA	CA, DK, FI, NL, NO, NZ, PK, SE, UA
3	<p>B-610: Do you agree not to address the issue of data acquisition activities at this time?</p> <p>FR proposes few words in B-600 (see track change version) Chairman: FR has proposed a useful statement, included in B-600 (2nd paragraph)</p>	AU, CA, DK, ES, FI, GR, JP, NL, NO, NZ, SE, PK, UA, UK, ZA	FR
4	<p>B-611.6: If corroboration of information received is being sought from the responsible HO, but the nature of the information is such that it should be promulgated urgently, do you agree that a (P) NM or chart-updating NM may be issued to cover the intervening period if necessary for safety?</p> <p>AU: AU agrees with the issuing of a (P) NM but does not agree with issuing a Permanent NM until the primary charting authority has been consulted (in agreement with the TR). FI: We can agree with this, even though we are a little bit concerned about allowing permanent corrections. FR: Only a (P) NM may be issued to cover the intervening period if necessary, or not a chart-updating NM. ZA: A (P) NM, yes – but not as a permanent NM. Depending on the urgency and nature of the information we would even precede the promulgation with a RNW considering that SA promulgates only monthly NMs. Chairman: see clarified text and marginal comment</p>	CA, DK, ES, FI, GR, JP, NL, NO, NZ, PK, SE, UA, UK	AU,FR, ZA

Question	B-600 Paragraph	YES	NO
5	<p>B-620.3: Are you content with the order in this section? If not, please explain how and why it should be changed.</p> <p>AU: AU is content with the order of this section. However, a couple of additional comments:</p> <ul style="list-style-type: none"> o (c) is “Changes to important aids to navigation”. There is no mention of insertion/deletion of an important aid, extinguished light, movement of a buoy, etc. <p>Staying with (c), should there also be a “Changes to less important aids to navigation”? Perhaps at (e)? These could still be significant.</p> <p>FR: Globally yes, but see comments in B-600 text file.</p> <p>JP: JHOD thinks that the Note at the end of 620.3a should be deleted because passing through shoaler areas is up to the vessel so it does not need to be described here.</p> <p>NO: Since this a – n list will be read like a priority list we find it difficult to give lights lower priority than depths over 31 metres. But if point a and b could be amalgamated to a i and a ii it would feel different.</p> <p>NZ: The order is not too important and is fine.</p> <p>Chairman: various useful comments have led to some additions and changes (see revised text). Also made clear in opening sentence that the list is not prioritized. See Annex C for new question.</p>	AU, CA, DK, ES, FI, FR, GR, NL, NZ, PK, SE, UA, UK, ZA	NO, JP
6	<p>B-620.3e: Do you issue NMs for extraction (dredging) areas?</p> <p>AU: AU issues a (T) NM if the period of dredging is likely to extend beyond the time frame for promulgating the Notice.</p> <p>JP: JHOD issues NM both for inside and outside harbour area if work progress is dangerous for ships.</p> <p>Chairman: no requirement to specifically mention Extraction Areas.</p>	AU, CA, DK, FI, FR, GR, JP, NL, NO, PK, SE, UA, ZA	ES, NZ, UK
7	<p>B-620.3i: Do we need a group for ‘exploitation’, eg platforms, windfarms?</p> <p>NZ: Perhaps combine ‘exploitation’ with ‘cables and pipelines’ in an ‘offshore works and structures’ group.</p> <p>Chairman: New ‘Structures at sea’ grouping added.</p>	AU, CA, DK, ES, FI, JP, GR, NL, NO, PK, SE, UK, ZA	FR, NZ, UA
8	<p>B-620.3m: Should magnetic variation be included by NM?</p> <p>AU: B-620.3m: AU updates compass rose magnetic variation information by Revised Print correction, and isogonals by NE. If magnetic variation information is incorrectly inserted on a chart, then this will be corrected by NM.</p> <p>NZ: We may issue a limited new edition to update isogonals when they are more than 10 years out of date. Otherwise we only update magnetic information at new edition. The mariner can purchase isogonal charts and other sources of magnetic information are available on the internet.</p> <p>Chairman: Unanimous not required!</p>		AU, CA, DK, ES, FI, FR, GR, JP, NL, NO, NZ, PK, SE, UA, UK, ZA

Question	B-600 Paragraph	YES	NO
9	<p>B-630.1: Is the final paragraph true? If no, please explain below what you think should be said.</p> <p>AU: This paragraph has a number of problems regarding ENC's:</p> <ul style="list-style-type: none"> o Not all chart-updating NMs are applied to ENC's. For instance, a NM inserting a new larger scale chart limit, or an adjoining chart number in the chart margin, is not applicable to ENC. o There is no such thing as a (T) or (P) Update for ENC. All ENC Updates are compiled in the same way, and a single ENC Update can, in fact, incorporate a number of chart-updating NMs as well as (T) and (P) NMs. o Investigations by the RENCs (IC-ENC and Primar) and TSMAD have indicated that some HOs publish all (T) and (P) NMs as ENC Updates, some only selected (T) and (P) Updates and some (such as AU) currently do not publish (T) and (P) NMs as ENC Updates at all. Consequently, a new Working Group has been established by the CHRIS/HSSC, called the ENC Updating Working Group (EUWG). This WG has been tasked with developing a consistent policy for the application of Updates that would be considered to be (T) and (P) NMs for paper charts. o AU suggests that this is an example of where the criteria for selecting information for inclusion between new editions of charts (or ENC cells) diverges because of the differences in updating systems, as stated in the final paragraph of B-600. Therefore this paragraph can be removed. <p>CA: Agree with the comment submitted by AU.</p> <p>FR: This text depends of EUWG works.</p> <p>GR: Although HNHS does not issue (T) or (P) NMs it is believed that the final paragraph could be implemented for certain cases. However it may be necessary to include some examples (in brackets) of such (T) and (P) NMs which may not be possible to be included as non-chart specific (T) and (P) NMs in updates for ENC's.</p> <p>NL: This item has not been defined yet. New ENC updating WG is dealing with this difficult subject.</p> <p>NO: S57 does not give distinct enough directions for T and P publication. The practice differs in different HOs. NHS will wait for the new working group on T and P to come with its conclusions. We do not have proposal for a new text.</p> <p>NZ: We do not issue ENC updates for (T) and (P) NMs nor for non-chart-specific NMs. The mariner has to refer the NM booklet for (T) and (P) NMs.</p> <p>ZA: Comments by AU is supported especially due to the fact that a new WG (EUWG) has been established by CHRIS/HSSC.</p> <p>Chairman: paragraph deleted.</p>	DK, ES, FI, SE	AU, CA, FR, GR, JP, NL, NO, NZ, PK, UA, ZA
10	<p>B-631.4: UKHO uses the term 'substitute', but it is possible that 'replace' may be more easily understood, especially for those for whom English is not first language. Do you prefer 'Replace'?</p> <p>AU: AU uses the word "substitute" in its NMs, and it is also the term used for this function in our database.</p> <p>FR: "Replace with"</p> <p>Chairman: 'Replace with' used, in accordance with majority view. Text expanded to clarify.</p>	CA, DK, FI, FR, GR, JP, NL, NO, PK, SE, UA, UK, ZA	AU, ES, NZ
11	<p>B-631.5: Do you agree that latitude and longitude should be the usual method of defining positions in NMs?</p> <p>Chairman: Unanimous!</p>	AU, CA, DK, ES, FI, FR, GR, JP, NL, NO, NZ, PK, SE, UA, UK, ZA	
12	<p>B-631.5a: Should a more precise position be quoted for ENC?</p> <p>FR: On all ENC, we use the precision of the larger scale chart concerned. "0" are added after last significant decimal number in respect to the resolution of positions in the ENC.</p> <p>Chairman: Unanimous</p>		AU, CA, DK, ES, FI, FR, GR, JP, NL, NO, NZ, PK, SE, UA, UK, ZA

Question	B-600 Paragraph	YES	NO
	<p>Has your HO developed any guidance on this?</p> <p>AU: This question implies that HOs will be creating Update cells for ENC's from the published Notices to Mariners. AU considers this to be bad practice – ENC Updates should be produced using the source documents from which the NMs are derived, and as such using the most accurate positions as can be derived from the source. This can be equated to updating a HOs database using the NM quoted positions and information, rather than loading the new source into the Database in its precise (according to source) position and then deriving the NMs from the changes to the database. This would result in features in the database being out of position. ECDIS users will not be updating their SENCs at sea using published NMs, but rather the ENC Updates (or new Editions) as issued by HOs. As AU considers that NMs are intended for paper chart users to update their charts (ECDIS users may use NMs for information purposes only), we cannot see the point in quoting positions to an accuracy beyond which a mariner can plot the changes. AHO guidance for the production of ENC Updates clearly states that all positions must be derived from the source documents, and not published NMs.</p> <p>Advice from our NM Officer is that AU uses 3 decimal places of a Minute to 1:37500 and 2 decimal places of a Minute to 1:300000, but AU is happy with what has been indicated in the document as a "minimum" standard.</p> <p>CA: Yes. ENC updates may use more complete and detailed source information to produce the update message than the information published in the NM for paper charts</p> <p>FI: In Finnish NMs coordinates are given with the precision of 2 to 4 decimal places depending on the precision of the source and regardless of scale. Normally 2 decimal places is considered sufficient, but if the source uses more decimals up to 4 decimals places may be given in the NM. ENC updates are created using the original source data and the precision of the source. The NMs are considered only as a reference (not as source) when creating the updates.</p> <p>GR: In HNHS ENC charts depths/ positions are portrayed with an accuracy of 2dp of the second.</p> <p>JP: Japanese eNM quote 1dp of seconds. JHOD thinks that it is precise enough.</p> <p>NO: The scale is the most important issue as to how precise a position should be.</p> <p>NZ: Adding more decimal places for ENC's will add unnecessary complexity for the mariner updating a paper chart. I don't think we can cover ENC updating in these specifications as it is not agreed worldwide.</p> <p>SE: We must regard NM as a source for updating paper charts. ENC should be updated via ER-messages or new EN where the users do not have to handle coordinates at all. However, if the mariner uses NMs for updating ENC the data cannot be considered official ENC anymore and he must be aware of all shortcomings in that method. It is not likely and not recommended that such a method should be used.</p> <p>Chairman: Agree, no need to be more precise for ENC. However, we have amended the cut-off to 1:25k, as 0.005' is just about plottable at that scale.</p>	<p>AU, CA, ES, FI, FR, GR</p>	<p>DK, JP, NL, NO, NZ, PK, SE, UA, ZA</p>
13	<p>B-631.7: Should charts be listed in numerical order (contrary to TR F3.3, which recommends scale order)?</p> <p>JP: JHOD lists chart numbers stating with the largest scale as recommended in TR F3.3.2.</p> <p>NO: Norwegian charts are listed neither in scale nor in numerical order. We have a geographically based system where the charts are listed according to both their main chart series number and their latitude. Due to the complex nature of the Norwegian coast and to the inconsistent numbering of our main chart series, the listing of NMs in a numerical chart order would cause NM for the same geographical area to be listed in different sections of the NM. Our main chart series is numbered from 1 through 143 where chart 1 is located at the Norway/Sweden boarder, and chart 116 is located at the Norway/Russia boarder. Charts with numbers from 117 – 143 (and also 251, 252, 253 are located all along the coast from Stavanger and north to Båtsfjord). This causes difficulties. For instance charts 117 and 118 are adjoining charts to chart no 22. Chart 132 is located further south, overlapping with chart 16.</p> <p>So, from the Norway/Sweden boarder to Stavanger, we list our NMs according to the chart numbers of our main chart series. From Stavanger to the Norway/Russia boarder we use the latitude of the feature altered, and the chart numbers to decide the order of our NMs.</p> <p>NZ: we use numerical order but think either this or scale order is okay.</p> <p>Chairman: this question was intended to cover the order of listing of charts within an NM, not the order of the NMs within a booklet. Most members prefer numerical order, but we have changed the wording to allow either numerical or scale order (in accordance with TR), provided it is applied consistently.</p>	<p>AU, CA, DK, ES, FI, FR, GR, NL, NZ, PK, SE, UK, ZA</p>	<p>JP, NO, UA</p>

Question	B-600 Paragraph	YES	NO
14	<p>B-631.7: Does your HO list Lights numbers in chart-updating NMs? If yes, please explain the benefit.</p> <p>ES: The benefit is to make easier its identification by the mariner</p> <p>FI: National numbers are included for all navigational aids, even those without light. The numbers act as unique identifier for different uses and can be used as reference to the List of Lights. It is true that normal chart user has little use of the numbers, but we believe that there exists NM readers that can make use of the id number. International numbers are not given in NMs.</p> <p>FR: link between corrections (charts and List of Lights) for consistency purpose.</p> <p>JP: This lets mariners easily check details of lights on the List of Lights.</p> <p>NO: We quote Light list numbers according to the Norwegian List of lights when there are amendments to lights. We do it to make the users who have a Light list capable of keeping it updated.</p> <p>NZ: We quote the K number for any light affected after the authority in a NM. This is a useful reference for us internally and for Harbourmasters and Port Authorities.</p> <p>SE: The international number is quoted in Swedish NM. Sweden does not have any national List of Lights so the international number is quoted so the mariner can update the information in other countries List of Lights which covers Swedish waters.</p> <p>Chairman: retained as 'should', in accordance with TR.</p>	ES, FI, FR, JP, NO, NZ, PK, SE, UK	AU, CA, DK, GR, NL, UA, ZA
15	<p>B-632.3: Is there a better term than 'mentions' in this context?</p> <p>ES: may it be 'Extensions'?</p> <p>FR: It is clearer to use chart-updating NMs than mentions.</p> <p>No: We would easier understand the word 'details', because we think that is what they really are.</p> <p>NZ: We don't know of a better name. Perhaps remove the name and just describe it.</p> <p>Chairman: The majority did not consider there is a better term. I believe it is necessary to have a term, so retained 'mentions' as having some precedent.</p>	ES, NO, NZ, PK	AU, CA, FI, FR, GR, JP, NL, SE, UA, UK, ZA
16	<p>B-634.8: Are you aware of some standard wording (perhaps produced in another WG) to cover this issue?</p> <p>AU: AU suggests that the first sentence be re-worded similar to that suggested for B-633.7 above. AU also considers that the example given in this paragraph is too specific, and actually offers two methods for encoding the same thing. AU suggests that the example should be a general case as done in B-633.7. Regarding question 16 in the above table, AU is not aware of any standard wording to describe the promulgation of changes to routing measures for ENC, but there is a draft ENC Encoding Bulletin (hopefully in the final stages) that describes to encoders how to incorporate changes in an ENC Update. The wording used in this clause is fine as a summary of what can be done, with a minor amendment. AU suggests the wording of this clause should be as follows:</p> <p>Although ENC updates are generally designed to replicate the paper chart NM system, because of the different nature and maintenance regime of ENC, any update considered to be a (P) NM for paper charts will be issued as a chart updating NM for ENC as required. For example, construction of a new pipeline or laying of new cables. In some cases, such as new or amended routing measures, start and end date attributes will be included to ensure the correct depiction is visible on the ENC when appropriate.</p> <p>SE: The start and end date attributes in S57 are not handled in a standard way in different ECDIS. Some systems have special functionalities to hide objects where the date has not yet started or if the date has ended. Early generation of type approved ECDIS might not handle this since it was not included in the IEC61174 Standard originally.</p> <p>A (T) or (P) NM could result in different ways of encoding the ENC data and this is unfortunately made different in different countries. A more standardised method will hopefully be the result of the IHO - ENC Updating WG.</p> <p>Suggest rewording the whole paragraph B-634.8 as well as B-633.7 to read:</p> <p>ENC updates are generally produced from the same source data used for the paper chart NM system. However the promulgation of ENC updates are handled totally different than for paper charts.</p> <p>Chairman: paragraph removed, also paragraph B-633.7, pending outcome of EUWG work.</p>		AU, CA, DK, ES, FI, FR, GR, JP, NL, NO, NZ, PK, SE, UA, UK, ZA

Further comments (Responses to questions above inserted in table). **Comments in red by Chairman.**

AU: Please also see separate document for additional minor comments/amendments made by Track Changes. **Used as appropriate, thank you.**

B-601: There are major differences between the terms and descriptions of the terms in this section and B-128 (and A-401.2). See marginal comment in Annex B. These include but are not restricted to:

- o Description of a New Chart; one such difference is the inclusion of a 25% tolerance in changing limits.
- o Description of a New Edition.
- o Use of the term Limited NE (B-128 and A-401.2 uses Large Correction).

B-601.7: AU will be ceasing publication of printed NMs from January 2009, in favour of a web-based service only. AU would prefer the 2nd sentence of B-601.7 to read: They are regularly published (usually weekly, fortnightly or monthly) by most hydrographic offices, in paper booklets and/or on websites. **Amended.**

B-601.7: In (a), Permanent NM is alternatively known as “chart updating” NM. Elsewhere in the document this term is used as is but also as “chart-updating”. I have amended all instances to “chart updating” to be consistent with this paragraph (CSPCWG may prefer the alternative?). ‘Chart-updating’ used throughout.

B-611.11: Is B-329 a good reference to put in this clause (at end of second last sentence)? **Added.**

B-632.3: AU follows this practice, but has not used a term to describe it. “Mentions” is as good a term as any other that we could think of. **OK**

B-632.6a: AU maximum size of blocks is 270mm x 185mm (1 block per A4 page). See marginal comment in Annex B.

B-632.6f: For AU blocks, wherever possible, we include the intersection of a meridian and parallel within the extent of the block to make it easier for the corrector to position the block.

B-633.7: As stated in AU comments on B-630.1 above, there is no difference in the process of producing the equivalent of a “chart updating” NM and a (T) NM for ENC. AU therefore suggests a slight re-wording of this paragraph as follows: Although ENC updates are generally designed to replicate the paper chart NM system, because of the different nature and maintenance regime of ENC, any update considered to be a (T) NM for paper charts will be issued as a chart updating NM for ENC as required. For example, oceanographic buoys which are frequently moved. Paragraph removed.

B-634.6: There appears to be some text missing and an amendment is required for the second sentence of this clause. AU suggests this sentence should read: If a (P) NM is replaced by a chart updating NM, that NM should state that the (P) NM is cancelled. **Amended.**

FR: Please also see separate document for additional comments/amendments made by Track Changes. **Used as appropriate, thank you. Some significant changes included, see Annex B and marginal comments.**

JP:

B-621.1 A graphic showing the changes should normally be included, as this is especially helpful to both paper and ENC users.

(Does this imply external graphic file for ENC ?) **refer to EUWG**

The (P) NM should remain in force for about 4 weeks after the implementation date.

(Does this imply that additional eNM to delete (P)NM for ENC about 4 weeks after the implementation date?) **refer to EUWG**

B-621.2 ... and the ENC user with a reference to a caution that may not be in view on the ECDIS navigational display.

(Is it meaningless to provide a caution not to be displayed on the ECDIS?) **Text clarified.**

NO:

B-611.10 Publications, such as ...

Useful information and confirmation can also be found on websites showing air photos taken from planes or satellites (Google earth, Norge i bilder etc.). Should the web be mentioned when speaking of credibility of sources? **B-611.12 added.**

B-630.6 The recapitulative list is now only published on the web pages. **OK**

B-631.5 Positions, b. Bearing and distance from a reference point: Delete sea miles. Insert nautical miles. **Amended**

B-631.8 The Norwegian NM (Efs) uses stressed action words: See example: **Delete** former Efs (P) 14/886/08. **OK – national preference.**

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 fortnightly edition of NM must issue such a list 4 times a year.

Offices which publish a monthly edition of NM must issue such a list at the beginning of every year or more

frequently, if desired.

Since fortnightly is mentioned in B-601.7 we think it should be mentioned here as well. **Added**

NZ:

1. Missing subjects – We think all subjects are covered in the draft.
2. Layout - B-633.4 and B 633.5 virtually duplicate B-634.6 and B-634.7 but the first refers to (T) NMs and the second to (P) NMs. Could they be combined into a section that applies to both (T) NMs and (P) NMs? **Reviewed, but consider best kept separate.**
Otherwise the layout is logical.
3. B-601.3 last paragraph – Could add a note about avoiding similar chart numbers e.g. we have charts NZ 5124 and 5214, which frequently get mixed up. **True, but not practicable.**
4. B-601.4 – We call a ‘Limited NE’ a ‘Priority NE’, as it usually contains updates we want to get out quickly. Perhaps add the term ‘Priority NE’. **Added**
5. B-620 and B-620.1 – There is some duplication in these paragraphs. Perhaps combine into one paragraph and shorten. **Duplication removed.**
6. B-620.2 – Where navigationally significant changes cannot be promulgated by NTM we will issue a (P) NM as per this paragraph. However the timeframe for release of a NE incorporating these changes may be up to 6 months, not necessarily ‘within a few weeks’. **This is referring only to when a NE/NC is already close to publication.**
7. B-620.3 paragraph c. – This reads as if only changes to major lights should be promulgated by NMs. We also issue NMs for changes to minor lights. **Amended**
8. B-620.5 – a useful paragraph.
9. B-630.4 – When a permanent NM cancels a (T) or (P) NM we include this information in the permanent NM. It falls between your e) and f). **Order amended.**
10. B-631.6 last paragraph – We don’t show an asterisk and may choose not to add them in future. This paragraph could be reworded to say ‘may be marked with an asterisk’ rather than ‘should’. **This is a very useful indicator, and was a ‘shall’ in the TR. I do not think it should be downgraded to ‘may’. Perhaps NZ could reconsider?**
11. B-631.7 last paragraph – We don’t state horizontal datum in NMs and I don’t think it is required for our NMs. Perhaps change to ‘The horizontal datum to which the chart is referred may ...’ rather than ‘should’. **Again, very useful for other users, especially in areas where maps and charts are referred to different datums. I am reluctant to downgrade the ‘should’ (should implies recommended or preferred, but not essential, see B-120.4).**
12. B-632.6 – Our only constraint is that it must fit on A4. We have no requirement for 2 blocks on an A4 page. **See marginal comment in Annex B.**
13. B-633.3 – We don’t use the timeframe of 2 months to 12 months. We may issue a (T) or (P) NM for only 2 weeks (the frequency of our NM booklets is fortnightly), and at times a (T) or (P) NM may last for some years. We find the timeframe is often unknown. **Amended.**
14. B-633.5 and B 634.7 – We publish out NM booklet fortnightly and issue a list of (T) or (P) NMs in force in every booklet (i.e. fortnightly). Perhaps make the timing a little more open by changing the first bullet point to: ‘Offices which publish a weekly or fortnightly edition of NM must issue such a list each month, or more frequently, if desired.’ **Amended.**
15. B-633.7 and B-634.8 – We don’t think these paragraphs are worth including. They add no value for paper chart updating and are not necessarily true for ENC’s. Leave this subject until ENC updating has been better agreed worldwide. **Paragraphs deleted.**
16. B635.1 – I found this paragraph confusing. Does it all refer to advance notification of a NC or NE? The latter part seems to refer to the release of a NC or NE. **Text clarified.**
We give advance notification and release of ENC’s in NMs. Could be worth including as a ‘may publish...’.
17. B635.2 – If these are commonly called ‘H Note’ it would be worth adding this name.
We don’t include this in NMs. We make our H note available in our Almanac and online. The cover page of our NMs gives contact details for supplying information. Perhaps change the wording to ‘Forms (and instructions on how to use them) may...’. **See question at Annex C**
18. B-642 paragraph 2 – The last sentence refers to the ‘rank of the decision maker’. We are a civilian organisation so have no rank. This could be changed to ‘position or rank of the decision maker’. **Amended. Rank is not necessarily military in UK.**

SE:

B-610 In the first sentence of this chapter it is mentioned that “...examining incoming information against existing chart products and databases...”.

What type of databases are we talking about here? Is it source databases containing depth data or are we talking about chart databases with compiled data for paper chart and/or ENC production? The wording databases are quite unpecific. Suggest using the word “Chart Database” instead of just “Databases”. **Amended, but see question in Annex C.**

B-620 A comment to the first sentence: “**Maritime Safety Information (MSI)** is the collective term for all temporary and permanent information likely to affect the safety of navigation”.

This is not fully in accordance with the definition given in SOLAS and S-53, 2.2.1.9 : “Maritime safety information (MSI) means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages

broadcast to ships.” **Thank you for pointing this out – text amended to remove MSI.**

B-620.2 A comment to the second bullet point: “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:”. **Text amended, but to include the important warning to the data assessor that the mariner may not always be using the largest scale chart.**

The beginning of this sentence is not necessary. Suggest redrafting to: “The mariner should always use the largest scale chart appropriate for her/his purpose and should also bear in mind that:

B-620.3c In the second bullet point it is said that “...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;”

To use “major” and “other lights” as criteria is not appropriate. The assessment should be based on the presence of dangers in vicinity of the affected sector. **Text amended**

B-621 A comment to the sentence “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).”

Refer to the Edition/Reprint number rather than adding a prefix to the chart number. **See marginal comment in Annex B.**

B-633.3 A comment to the sentence “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).”

This is not true. The event which is described in a (T) NM could last for only one day or even shorter time. The NM must however be issued well in advance. In addition the information could be promulgated as a RNW some days prior to the event. (For example a short closure of a canal due to a planned replacement of a lock-gate.) **Text amended.**

B-634.5 Different colours could be of help to describe the change. New compressed file formats and faster connections make it possible to use colours.

Suggest rewording the sentence; “They should also be a different scale from the chart, to prevent the mariner from using them as blocks to directly amend the chart.” To; To prevent the mariner from using the diagrams as “blocks” they could be in a different scale from the chart or they may include a text which declares “Not to be pasted on the chart”. **Text amended.**

Chairman TSMAD:

In response to your final comment, the following is the advice given in S-57. **For information, no impact on text of B-600**

2.6 Updating

2.6.1 Issuing updates in advance

Under certain conditions, it may be necessary for a data producer to issue update information in advance. For example, a change in a traffic routing system must be made public before the new situation is implemented. Within an ER data set there is no means of indicating the date at which an update must be applied. Therefore, when an ER data set is received by an end user, it must be applied immediately. To avoid situations where update information would cause target data to reflect a situation that does not yet exist, the following coding rules must be followed:

a) If the advance update information contained in the update message involves the addition of objects to the existing data (e.g. a new lighthouse), the attribute DATSTA on the new objects must contain the date at which the update becomes active.

b) If the advance update information contained in the update message involves the modification of existing objects (e.g. a change in a traffic routing system), it must be treated as a deletion of the existing objects and replacement with new objects. See a) above and c) below.

c) If the advance update information contained in the update message involves the deletion of existing objects (e.g. the removal of a buoy), the update message must set the DATEND attribute of all objects to be deleted to the date at which the update becomes active. NB. This update message does not actually delete the objects from the data set, it simply indicates that on the date held in DATEND they become obsolete. A further update to actually delete the obsolete objects from the data set should be sent at the time that the change in the real world occurs.

d) To highlight to the mariner that the advance update information contained in an update message will take place in the future, it is recommended that a caution area object (CTNARE) be created covering the location at which the future

changes will take place. A warning note specifying, in plain language, the nature of the future change should be encoded, either in the attribute INFORM or in a file referenced by the TXTDSC attribute of the CTNARE. The attribute DATEND on the CTNARE must be set to the date at which the change described in the update becomes active.

Changes to DATSTA and DATEND cannot be applied to spatial objects. Therefore, a change to the geometry of a real world object (e.g. the relocation of a buoy) to be applied in the future can only be achieved by updating all of the feature and spatial objects involved.

As a consequence of issuing advance information updates, more than one instance of a particular real world object could exist in the data set.

Chart Specifications of the IHO
Medium and Large-scale Charts

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PART B
SECTION 600

CHART MAINTENANCE

Title page, Contents list, Record of Updates, Headers and Footers, page numbers, intentionally blank pages, etc. all to be formatted and inserted in accordance with general format and layout of M4.

Current layout:

B-600 CHART MAINTENANCE

B-601 CHART MAINTENANCE TERMS AND METHODS

B-610 ASSESSMENT OF INCOMING INFORMATION

B-611 CREDIBILITY OF SOURCES

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

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

B-630 THE NOTICE TO MARINERS SYSTEM

B-631 CHART-UPDATING NM: TEXTUAL

B-632 CHART-UPDATING NM: GRAPHICAL

B-633 TEMPORARY NM

B-634 PRELIMINARY NM

B-635 MISCELLANEOUS NOTICES

B-636 GENERAL NOTICES

B-640 CHART RECORDS

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 routeing measures and navigational restrictions, exploitation of natural resources is increasing; new navigational obstructions are discovered.

All this nautical information must be brought to the attention of the mariner 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 M-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 change for which a Preliminary (P) 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.

Commentaire [c1]: Additional words derived from suggestion by France, to briefly cover data acquisition.

Commentaire [c2]: Following comments by ES and FR.

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, Routeing.

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:

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.

- 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 routeing measure
 - by changing the limits 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 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 should be different from any chart that is withdrawn 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 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 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;

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;

Commentaire [c4]: Amended following comments from AU and FR. The 25% is UK's internal guidance and was offered for consideration by the WG, to provide guidance on what 'significantly changed' means in this context.

Commentaire [c5]: Revised following comment from FR

- 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, 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). 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:

- Chart-updating (permanent) textual NM.
- NM block (also called a Chartlet or Patch).
- Temporary (T) NM.
- Preliminary (P) NM.
- 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) NM or chart-updating NM, as appropriate, (Technical Resolution F4.4). 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 S53.

Commentaire [c6]: An HO may distinguish different types of LNE internally and for prioritization of work, but this is of no significance to the chart user; they are all NEs which cancel the previous edition. Therefore, we recommend removing the term 'Large Correction' here, and elsewhere in M-4. (It is also no longer practice to use the term 'correction' to refer to chart-updates).

Commentaire [c7]: Amended from comments by AU and FR

B-610 ASSESSMENT OF INCOMING INFORMATION

Assessment is the process of examining incoming information against existing chart products and chart 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:
 - 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 the NM, it will be necessary to seek further information without delay. In such cases, it may still be possible to issue a (P) NM immediately to provide as much information as is available to the mariner in the interim (see B-634.1).

Commentaire [c8]: (Chart, as opposed to a source database). Suggested clarification from SE- do you agree?

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:

- Such surveys (including multibeam surveys with an 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.
- If there is sufficient metadata, a competent surveyor or bathymetric specialist could assist in the assessment of a survey. However, often surveys may be 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

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.

Commentaire [c9]: Revised following comment by FR.

Commentaire [c10]: Revised following comment by FR.

B-611.3 Information from other official authorities not directly concerned with charting should normally be

Commentaire [c11]: Guidance on use of unofficial surveys revised and moved to beginning of 611.2, following comments from FR.

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 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-611.6 **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. However, where there is no national hydrographic office or the national hydrographic office does not produce charts, another hydrographic office may act as the 'primary' charting authority. In this case, NM issued by that hydrographic office in such waters may be regarded as authoritative.

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 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.
- 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-611.8 **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-611.9 **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 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 (e.g. anchorages; fairways; fish farm licence areas) designated by a competent regulatory authority.

B-611.12 **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.

Commentaire [c12]: We have reworked this section, recognising that some terminology was imprecise and the concerns expressed by some members. We suggest that TR F1.5 was drafted in a different era and is no longer applicable to modern practice; we will recommend its cancellation.

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 charts, the quantity and complexity would overload most paper chart users and limit the usefulness of these products. Strict control must therefore be exercised in selecting that which is necessary for immediate 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.

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 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.

Commentaire [c13]: This is the important part of this guidance to the NM assessor.

Commentaire [c14]: The depth criteria in the following paragraphs were proposed in round 1, and are derived from those used by UK. They were offered for use where no criteria currently exists. FR has also supplied their criteria, which are a little different (generally less demanding), as follows:

a) < 5% in depths of 0 to 5m,
namely of the order of 0.3m
eg NM if 4 is charted in 5m depths or 2.2 in 3m depths.

b) 5% < sounding < 10% in depths of 5 to 10m, namely of the order of 0.3m to 1m
e.g. NM if 7.9 is charted in 10m depths.

c) 10% in depths of 10 to 1000m, namely of the order of 1 to 100m
e.g. NM if 42 is charted in 50m depths.
NM if 700 is charted in 900m depths.

d) No NM action will be used for depths of more than 1000m, apart from in special cases

e) 0.5 in harbours, access channels.
1 m in TSS with depths less than 40m.

No other comments received on the depth criteria offered in Round 1.

Commentaire [c15]: Without this qualification, the guidance would imply any depths in a resurveyed area that are 0.5m shoaler than the existing charted depth should be selected for NM. This could result in very long lists of soundings to be changed by NM. This was discussed briefly at CSPCWG5.

Commentaire [c16]: Criteria more demanding than those established in guidance to SHOM cartographers : in general, 10% from 5 to 31 metres and below 0.3 metre.
But 0.5 in harbours, access channels. 1 m in TSS with depths less than 40m.

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 important 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 routeing 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).

Commentaire [c17]: The judgement is related to importance of the aid within the context of the chart, not how powerful the light is. A ‘minor’ light may be important in some contexts.

Commentaire [c18]: Totally revised from comments by SE; please review.

- 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** of bridges and in some cases horizontal clearances.
- 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, 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 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, e.g.

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

Commentaire [c19]: In answer to questions by FR and SE, they cannot be distinguished by using the old and new edition dates, as a new edition invariably cancels the previous edition; if the previous edition is to be retained for a while, it must have some distinguishing mark added.

Commentaire [c20]: Will there need to be a graphic file for ENC? (JP question). The application of this principle in the ENC environment needs consideration by the EUWG, which may result in a change to this guidance.

Commentaire [c21]: By UK: In attempting to apply the previous 4 week guidance, difficulties were encountered in retaining a (P)NM for a chart edition which had been superseded. EUWG need to consider how the timings of any (P)NM for ENC should be applied.

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, the details of which 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, navigationally significant information must be promulgated for both the published NE and the previous version of the chart. Navigationally significant information may affect the

charts in different ways, as the new routeing 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 routeing 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 routeing 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

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).

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.

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 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) 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 remark (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 (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)

Commentaire [c22]: Order of example layout amended following suggestion from NZ

Commentaire [c23]: This includes cancellations of (P) & (T) NMs

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 be added, if appropriate, 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.

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-632.5). 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. 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.
- 'Delete [feature] [position]'. Used for the removal of existing charted details.
- '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.
- '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'.

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 1:25 000 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 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 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 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).

Commentaire [c24]: This was 'shall' in TR 3.2. It is a useful indicator

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 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).

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 are part of the NM update for 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 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.

Commentaire [c25]: This allows for an additional method to the one in TR F3.3(2), as preferred by 13 out of 16 respondents. There does not seem to be any reason for preferring the scale order.

Commentaire [c26]: A term is required. No adequate alternatives were proposed and 'mentions' has precedent, so will be retained.

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. Large size or folded blocks can cause considerable problems in fitting accurately to the chart, because of eg: paper stretch, wrinkling, misalignment. They are 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). The maximum image size for a block should therefore be **approximately 130mm x 185mm**. This size 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.

Commentaire [c27]: Long standing and consistent feedback to UK from the user community.

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 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 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....

Commentaire [c28]: Additional to TR, at suggestion of NO & NZ, to be consistent with B-601.7.

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 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

Commentaire [c29]: We have removed B-633.7 pending the outcome of the EUWG considerations. It has proven very difficult to explain this adequately.

‘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 routing measures is being announced;
- a new bridge is being constructed and shipping routes need to be diverted.

They 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).

Commentaire [c30]: To achieve consistency with B-633.4.

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))

Commentaire [c31]: Additional to TR, at suggestion of NO & NZ, to be consistent with B-601.7.

B-635 MISCELLANEOUS NOTICES TO MARINERS

B-635.1 **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 withdraw an existing chart. (Technical Resolutions A3.1 & F3.15). This should be announced in a publications list in Notices to Mariners, in two stages:

Commentaire [c32]: We have removed B-634.8 pending the outcome of the EUWG considerations. It has proven very difficult to explain this adequately.

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

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

- 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 withdrawal without replacement);

Commentaire [c33]: Paragraph 2 to be deleted (see CL93/2008). However, both TRs refer to ‘other nautical documents’ so possibly cannot be cancelled.

Commentaire [c34]: As suggested by NZ.

- 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 withdrawn);
- 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 withdrawn, 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-635.2 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 larger 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 catalogue).

B-635.3 Forms (and user instructions) should be provided by hydrographic offices in their regular NM editions and/or a reference 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 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 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 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 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.

QUESTIONS ARISING FROM THE RESPONSES TO CSPCWG LETTER 14/2008

Response form

(please return to CSPCWG Secretary by 16 April 2009)

andrew.coleman@ukho.gov.uk

No	Specification	Question	YES	NO
1	B-601	Do you agree with the modified definitions for NC, NE etc?		
2	B-601.5	Do you agree to remove the term 'Large Correction', to be consistent with the policy to avoid the term 'correction' in regard to updates to charts?		
3	B-611.6	Do you agree with the usage of the terms 'national' and 'primary' charting authorities?		
4	B-611.6	Do you agree that TR F1.5 can be cancelled?		
5	B-620.3a	Are you content to retain the depth criteria offered in 'Round 1' (with minor clarifications)?		
6	B-620.3c	Do you agree with the revised wording related to light sectors?		
7	B-632.6	Do you agree that the maximum size for blocks <i>should</i> be about 185x130mm? (Small enough to fit 2 on an A4 page).		

Comments:

Name:

Member State: