INTERNATIONAL HYDROGRAPHIC ORGANIZATION

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

CHART STANDARDIZATION & PAPER CHART WORKING GROUP (CSPCWG)

[A Working Group of the Committee on Hydrographic Requirements for Information Systems – CHRIS]

Chairman: Peter JONES
Secretary: Andrew HEATH-COLEMAN

UK Hydrographic Office
Admiralty Way, Taunton, Somerset
TA1 2DN, United Kingdom

Telephone:
(Chairman) +44 (0) 1823 337900 x 3020
(Secretary) +44 (0) 1823 337900 x 3656
Facsimile: +44 (0) 1823 325823
E-mail: peter.jones@ukho.gov.uk
andrew.coleman@ukho.gov.uk

CSPCWG Letter: 11/2007

UKHO ref: HA317/010/031-04 & HA317/004/058-04

To CSPCWG Members Date 23 August 2007

Dear Colleagues,

Subject: Draft revision M-4 Section B-440 to B-449, round 3

We are grateful to 14 WG members who responded to CSPCWG Letter 09/2007, covering the second draft for revising M-4 section B-440. Annex A shows how the members responded to the specific questions which were included as a response form, and some additional comments, including a further set from Australia dealing with consistency issues, most of which have been incorporated into this third draft.

Peter and I have worked our way through all the responses, reviewing all the comments and amending the draft as appropriate. Our conclusions on the main issues were:

1. 440c: As requested by the majority, the whole of B-440 has been re-arranged to co-locate the definitions and explanations with the specific guidance for charting a feature. The 'general' introduction section is therefore much reduced. Despite the considerable movement of paragraphs, there have been no changes to the actual content (except where shown by track changes).
2. 441.8: BR's suggested use of a 'mine' symbol was welcomed by a majority. However, we have moved the paragraph to B-442.3, which seems a more appropriate place. Several different INT1 locations were suggested; we agree with AU and ZA that it is really a 'point' version of N23.1 and should therefore be included with it (to the right of the 'true to scale' area version, in accordance with convention agreed by INT1 subWG).
3. 445: There was no consensus to include PLEM, SWOPS, etc as international abbreviations, although they may nevertheless be used by national HOs. PLEM has been replaced by 'Manifold' in B-444.8.
4. 445: Although a number of WG members contend that this section is too detailed, we believe there is sufficient justification to retain the information:

- The information is not available in any other IHO document. (The Mariners' Handbook is a UKHO publication, the Internet cannot be regarded as authoritative).
- It is particularly useful for cartographers to understand the context of what they have to depict.
- It is useful for Capacity Building purposes.
- DK's suggested deletions would result in omitting much useful information.
- Avoids extra work.

5. 445.12. The proposed wording for 'ground tackle' was accepted by the majority. Some minor changes have been made at AU's suggestion. There were mixed views on the location in M-4 and INT1. We consider AU's suggestion of locating it in B-431 is most logical and can be done when the next edition of M-4 is produced. We suggest it is best done by expanding B-431.6, and have included proposed wording at the end of Annex B. This will have to be separately approved by IHO MS (but in the same CL). No position in INT1 is ideal, but the majority have accepted L18.
6. 446.4: The majority agreed that the symbol for Dredging/Extraction Areas should be magenta, and that 'extraction area' should be the preferred term.
7. 447.2: Although little used, there was no consensus to change the existing fish trap symbol.
8. 447.5: There was a small majority in favour of the option to use 'maximum authorized draught' in the context of depths over fish havens, and a clear majority were happy to allow the omission of tint to highlight the 'unsurveyed' nature of a fish haven area. It is for the cartographer to ensure that the danger is evident; the suggestion by ES and IT to include an 'unsurveyed' legend seems a good one, so we have included that in the M-4 text.

Peter has now gone on leave, but asked me write this covering letter for 'round 3' and continue progress.

As usual we have included in blue:

- earlier changes which did not receive adverse comments and
- suggested changes of a minor and non-controversial nature

Deletions without replacement have been retained for the moment, as these will be needed to help the translators. Marginal comments prefaced 'DID' are for UKHO to deal with when a PDF version is prepared.

I would be grateful if you would now examine Annex B (sent separately), paying particular attention to any remaining track changes. I will assume that any changes which are not commented on can be incorporated into the draft revision without further WG consultation. If you are content with this version, there is no need to respond. However, if you wish to suggest further amendments, please respond by **24 September 2007.**

Yours sincerely,

Andrew Heath-Coleman,
Secretary

Annex A: Summary of Responses to CSPCWG Letter 09/2007
Annex B: Draft Revision of M-4 Part B-440 to B449 (separate document).

Annex A to CSPCWG Letter 11/2007

SUMMARY OF RESPONSES TO CSPCWG LETTER 09/2007

DRAFT REVISION OF B-440 TO B-449 (ROUND 2)

Letter Para	Specification	Question	YES	NO
1	440c	Should the layout of 440-440.9 be reorganized to co-locate all the information on a specific feature? Comments received: **AU**: B-440c: AU's concern is that if a compiler looks up EEZ for example, B-440.9 advises you how to portray it, but there is no cross reference back to B-400d EEZ, which includes the definition (description), which is often relevant and important information to a compiler not familiar with this feature. We would prefer the definition to be removed from the general introduction and be added in B-440.9 so that all info relating to EEZs is together. This is also consistent with other sections of M-4. The general introduction should be that – general, not specific and continue to explain UNCLOS, etc. **ES**: Could be reorganized but depends of the amount of work. The existing layout can be considered adequate, taking in account that the most of the times the whole paragraph is read. **FR**: General comments followed by specific details is an usual layout used in M4 for complex topics. It's a good way to explain the things. Perhaps more reference to 440.i paragraphs could be inserted in 440.	AU*, BR, CA, DE, DK, ES*, FI, GR, IT, JP, NL, ZA	FR*, UK
4	441.8	Do you agree with Brazil's suggestion for the use of a 'mine' symbol? Comments received: **AU**: B-441.8: this is our opportunity to more closely align the S-57 ENC Product Specification (clause 3.3 and Table 3.1) with M-4. S-57 lists the allowable primitives (point, line and area) for all of the object classes (note that these will be further expanded for S-100 and S-101). When point, (line) and area primitives are permitted in S-57, it would be great if M-4 (as the specification) and INT1, portrayed both point and area (line) portrayals. This has already been done with many examples in INT1 eg. C31.2, E10.2, E26.2, F20, K1, K23 with K26, etc. So in this example, the point feature could be N23.1a and the line (and area) N23.1b (or vice versa). This is also an issue for the INT1 subWg to standardise point and area (line) portrayal in the whole document. AU believes that this approach would make it easier for the mariners to use INT1 and it would certainly be easier for ENC compilers. If there is a genuine requirement for the mine symbol, AU agrees with a new symbol for an individual mine, but we do NOT support the new choice in the wording at the end of B-441.8. If the CSPCWG agrees with the new symbol, the choice to use text 'Mine' or 'Explos' should not be provided ('Mine' is all that is required). You may like to add a separate sentence about explosives which are separate features. We need to tighten these Specs, not provide more choices of symbols (or abbreviations in this case). Also the chances of an unexploded fixed mine being around for any period of time is very unlikely. Wouldn't such a feature be destroyed as soon as possible or be indicated by a temporary NtM rather than be charted as a permanent feature??? **BR**: Single Mine: The symbol could be placed along with Minefield (N34), the terms being 'Minefield, single mine'. **DE:** There is the danger of confusion with the symbol for the mine-laying practise area. For us the current possibilities of depiction are sufficient. **ES**: It's difficult to understand the necessity now, for a new symbol for an isolated mine in a known position. Maybe the mine would l be exploited or removed.	AU*, BR*, CA, DK, FR, GR, NL, UK, ZA	DE, ES*, FI, IT, JP
		If yes, where should it be located in INT1? (please indicate in 'YES' column).		

		Comments received: **AU**: N23.1a. **BR**: N34. **CA**: N32.2. **DK**: K44. The reason for suggesting this INT1 number is that I have made a suggestion to move the current INT1 K 44.1 - K 48.2 to section L (see my comment below). **FR**: N27 **GR**: N27 **NL:** N32 **ZA**: N23.1		
5		Should the following, which are well-known within the oil/gas industry, be accepted as INT abbreviations? Comments received: **AU**: Oil-gas industry abbreviations: these abbreviations are not used within the AUHO, even though we have extensive oil and gas fields. Perhaps they are more common overseas? If the majority of members think they are widely used, AU is happy to adopt them, but would prefer a generic abbreviation. Often areas around oil platforms are quite congested and new abbreviations are adopted by CSPCWG, these should only be shown on the largest scale chart of the area (space permitting). For information, S-57 only includes the abbreviations ALP, SALM, FPSO and NCCP for Categories of offshore platform (CATOFP) and CALM and SPM for category of installation buoy (CATINB). However these categories may be expanded for S-100. For consistency, it is suggested that whenever possible we align M-4 with S-57/S-100/S-101. **BR**: PLEM, SWOPS, UMC and so on: After further consideration and taking into account the other views expressed, we agree that a more generic abbreviation to cover the oil installations would be sufficient. It is one thing to have abbreviations like GPS, which is widely known and used nowadays, and quite another to have abbreviations like UMC, FSO and such. We understand that they may be well-know among some of the users, but specifying that much is a dangerous path to follow. **DE:** These abbreviations are not used in German waters. If necessary to other nations, we follow the comments of AU. See also DE answer to CSPCWG Letter 3. **ES**: I think there are too many abbreviations and too specific. I couldn't find a generic term or abbreviation for all these types of installations.	CA, ZA	
	a. 444.8 & 445.1f	PLEM (note, the two entries at 444.8 and 445.1f are currently contradictory and will be resolved on the outcome of this vote, ie just use term 'Manifold' if PLEM is rejected).	CA, DK, GR, JP, NL, UK, ZA	AU, BR, ES, FR, IT
	b. 445.1d	SWOPS (although some expressed a view that a more generic abbreviation to cover underwater installations would be better- and for most underwater installations 'Well' is sufficient- in this case its particular configuration has above-water significance to the mariner).	CA, DK, FR, GR, JP, NL, UK	AU, BR, ES, IT, ZA
	c. 445.1f	UMC	CA, DK, GR, JP, NL, UK	AU, BR, ES, FR, IT, ZA
	d. 445.5c	FSO, FSU, FPSO	CA, DK, GR, JP, NL,	AU, BR, ES, FR, IT

			UK, ZA	
6	445	Is this sub-section too detailed? If 'Yes', please advise how it should be simplified. Comments received: **AU**: B-445: AU finds the additional information very useful for cartographers as general knowledge about such specialised installations is not well known (at least in our office). However the downside is keeping it up to date in an area subject to vast technological change and new terminology. **BR**: We strongly believe that the more information, the more confused our user might become. As it is the role of our hydrographic service, there are some features that must be depicted for their national significance, however, we're dealing with international charts. We are not sure of the need for the user to know the specifics about a feature, as long as he knows where it is, what kind of danger the vessel may encounter so that he can avoid it. **DK**: Done in the Danish reply to Letter 3. **DE**: M4 should be a tool for cartographers, not a handbook for offshore technique. We would welcome a simplified form with cross reference(s) to the specific technical publication(s). **ES**: Too specific indeed. But is already done. **FR**: The question for cartographers is what is useful to show on charts for mariners and how to be understandable. Note that mariners especially concerned by the offshore activities have others information than those shown on nautical charts. This comment applies to 5. a-d. But SHOM isn't very familiarized with this topic. **UK:** We believe the additional guidance is useful for cartographers (it is not intended for the chart user) and is not available in any other IHO document. **ZA**: Delete para 2. Perhaps for more detail, reference can be made to the Mariners' Handbook here. Surely the authorities will provide full detail regarding such projects to be able to make a charting representation decision.	BR*, CA, DK*, ES*, FR*, JP, NL, ZA*	AU*, GR, IT, UK
9	445.12	Do you agree with the proposed specification and symbol for ground tackle? Comments received: **AU**: The following additional wording is suggested (in blue): **B-445.12** **Ground tackle.** Underwater chains, cables and anchors, if required to be charted, should be charted by the magenta symbol:  **L18** The anchor size should be the same as used in anchorage limits (N12), the shaft with ring being not more than 3.0mm long. They may be used, eg for stabilising or fixing in position mooring buoys, fish farms, floating energy installations, for holding ~~vessels~~ floating structures away from quays. If the actual chains, cables and anchors cannot be charted, an area (**N1.2**) with magenta legend '*Chains (or cables) and anchors*' may be used. **Justification**: cables are often used to replace chains and cables are listed as part of ground tackle in S-57 (see below). The new breakwater at Monaco is floating and has these massive cables to seaward. 'Floating structures' is a more generic term. Background information: S-57 currently includes 'ground tackle' as a category of obstruction (value 9). Its definition includes anchors, concrete blocks, chains and **cables**. TSMAD has mentioned that all obstructions may be reviewed for S-100/S-101 and distinctions made between those representing a hazard to 'surface	AU*, CA, DE, DK, ES, FI, FR, GR, IT, JP, NL, UK, ZA	BR*

		navigation' and 'other navigation'. The details haven't been discussed yet, but features such as snag/stump, wellheads and diffusers, cribs and fish havens in deep water, may have an additional attributes such as 'not dangerous to surface navigation'. If this approach is adopted for S-100/S-101, many of these features (when in deep eater) may no longer be encoded as obstructions. S-57 also includes the attribute Category of cable (CATCBL) value 6: mooring chain/cable. Following the M-4 lead on encoding the depth over all obstructions (and wrecks), any of these deep features would still trigger 'underwater hazard' symbology based on safety depth and underkeel clearance set in ECDIS. The CSPCWG needs to at least consider ECDIS as most HOs are converting paper charts to ENCs. With the S-57 approach in the back of our minds (not necessarily the way for M-4), is section B-445 OFFSHORE PRODUCTION (as Andrew is asking), the best place for 'ground tackle'. Sure it's relevant, but AU's experience is that most ground tackle exists around ports and inshore areas. Other sections of M-4 that may be suitable include B-422 which includes OBSTRUCTIONS; B-431 which includes MOORINGS, and mooring trots which use these symbols, as well as other 'anchor' type symbols; or B-443 SUBMARINE CABLES. It is AU's view that section B-431 is the best location as it relates to moorings. We would prefer the new example L18 to be added above 'mooring trots' in B431.6, being more generic than Q42. If this isn't agreed to, we can always adopt **B-431.10** (new) with a cross reference at B-431.6. If this new location is approved, the location in INT1 could be Q45, but is an INT1 entry really required as it is covered by Q42. **BR**: Ground tackle: We agree with AU's suggestion.		
		Do you agree with the proposed position in M4 (445.12)? Comments received: **AU**: B-431.10 **CA**: and 447.6 as Norway requested **DK**: Agree with AU proposal (B-431.10) **UK**: On reflection, we agree with AU that it should be in B-431, but prefer to expand B-431.6 rather than place it after waiting areas, separated from other specifications about moorings.	CA*, DE, ES, FI, FR, GR, JP, NL, ZA	AU*, BR, DK, IT, UK
		Do you agree with the proposed INT1 number (L18)? Comments received: **AU**: Q45 **DE:** The symbol for the ground tackle without marine farm should be K49 as the more general obstruction to have the possibility to combine it with mooring buoys, marine farms, float barriers or something else. Q42 can be deleted in this connection. **DK**: Placing the symbol for a ground tackle under section L is not in line with the NO proposal for showing ground tackles used in conjunction with marine farms. Today the INT1 section L Offshore Installations only relates to offshore energy production installations. If the symbol for ground tackles nevertheless is to be placed under section L18 my suggestion would be to move the current sections K44.1 - K48.2 (as these installations are also offshore installations) to L40.1 - L44.2 under the sub-heading Aquaculture. In that case the symbol for ground tackles can be used in conjunction with both offshore energy production installations as well as offshore aquaculture installations etc. **IT**: We prefer a new indication in Q45 position.	CA, ES, FI, FR, GR, JP, NL, UK, ZA	AU*, BR, DE, DK*, IT*
10	446 & 446.4	Do you agree that 'dredging areas' should remain in magenta as existing symbol N63? Comments received: **CA**: Canada does not chart **DK**: said in my previous comments to Letter 3 regarding this issue it depends on what we are actually showing. Is it the dredging activities or is it a 'warning' against the result of the dredging/extracting activities. If it the dredging activities the information should be shown in magenta but if it is a	AU, BR, DE, DK*, ES, FI, FR, GR, IT, NL, UK,	DK*, JP

		'warning' about the resulting unreliable depth information in the area the information should be in black. DK shows the limit of the extraction area and the associated note in black as follows: EXTRACTION AREA Depths in the area are unreliable due to extraction of raw materials. Depth reduction must be expected.	ZA	
		Should the preferred term be changed to 'extraction area'? Comments received: **AU**: But AU agrees with Andrew's draft wording in Round 2 **BR**: The term 'extraction areas' could be perhaps added to 'dredging areas' instead of changed into. **DE:** see comments of AU ("extraction" only in M4) **DK**: Can accept the draft wording	ES, FI, FR, GR, IT, UK, ZA	AU*, BR*, DE, DK*, JP, NL
12	447.2	Do you use the existing 'fish trap' symbol? Comments received: BR: We have used this symbol perhaps one time only. We would suggest that it could be either dropped (and K48.1 could be used instead) or if the majority decided for its keeping, that it should stay as it is (for we do not have any other suggestion). **CA**: with legend Fish Weir. **IT**: This kind of fish trap are seasonal, so we prefer insert a note on a chart and an indication in sailing direction.	AU, BR*, CA, DE, ES*, FR, UK	DK, FI, GR, IT*, JP, NL, ZA
		Should we leave it unchanged? ES: Strongly opposed to its deletion. It is widely used and well-known by mariners. Its depiction is very adequate, as it is similar to a "view plan" of the layout of the nets. (Please find examples in attached graphic files). **FR**: if no proposal for a new symbol	CA, DE, DK, ES*, FI, FR*, GR, IT, JP, NL, UK	AU, ZA
		If to be changed, can you suggest a better symbol? Comments received: **AU**: AU would prefer a new smaller symbol for point features, comprising a solid magenta rectangle (with lid) incorporating the magenta fish symbol used in N45. The box would fit snugly around the symbol being rectangular in shape. AU would prefer to see 2 examples in K44.2, one for the area as explained in B-447.3, and the new point symbol.	AU*	DE, DK, ES, JP, NL
13	447.5	Do you agree to use the term 'maximum authorized draught' and the associated symbol in the context of fish haven areas? Comments received: **CA**: Canada does not chart **ES**: This could be inserted as a Note for those that require it.	DE, DK, FI, FR, GR, NL, UK, ZA	AU, BR, ES*, JP
14	447.5	Is the practice of omitting tint to highlight unsurveyed areas, including spoil grounds and fish haven areas, acceptable? (If not, we will need to change B418.1 and the depiction in INT 1). Comments received: **AU**: AU only uses white for large UNSURVEYED areas on our paper charts. In the drafted example where large areas of fish havens are surrounded by blue tint, it should be noted that the large area of fish havens (within) are bounded by a danger line, which should also be blue. We don't want vessels to try and navigate into such 'white' areas (if white areas are permitted as indicated in the draft), which by chart convention, indicate deeper water. The electronic chart should also be considered here. White background indicated GO areas.	CA, DE, ES*, FI, FR, GR, IT*, JP, NL, UK, ZA	AU*, BR*, IT

		Generally, blue tint indicates shoal water and most fish havens will reduce the depth, not deepen it. **BR**: We agree with AU and DK, omitting or inserting different tints may mislead the mariner. We do not follow that practice. However, as B418.1 states that "it may be reinforced" by that practice, we suggest it could remain as it is. **DE:** We would like to chart fish havens always filled with blue tint, even in unsurveyed areas. **DK**: In my opinion the compiler will have to carefully make a distinction between unsurveyed areas, spoil grounds and fish havens. Unsurveyed areas do not necessarily constitute a hazard to navigation. It only means that no systematic hydrographic survey has been conducted in the area and therefore no depth information is available. According to B-418.1 it is up to the cartographer to decide the most suitable way of depicting the unsurveyed areas. (quote: It may be reinforced by the omission or insertion of colour tints within the bold line) However spoil grounds and fish havens 'within a coloured area' must in my opinion be shallower than the surrounding depth area and therefore constitute a hazard to navigation. Therefore these should be treated the same way as other obstructions with no exceptions. **ES**: It should remain in white for "unsurveyed", as used up to date as a very positive form of warning. In the case of Fish Havens, we consider that the tint should be appropriate to the depth. If left blank due to the lack of sufficient data then "inadequately surveyed" (B417.6) or "unsurveyed" (b418) should be inserted. The Fish Haven symbol could be inserted inside that area. **IT**: We think that it should remain in white for "unsurveyed", as used up to date as a very positive form of warning. In the case of Fish Havens, we consider that the tint should be appropriate to the depth. If left blank due to the lack of sufficient data then "inadequately surveyed" (B417.6) or "unsurveyed" (B418) should be inserted. The Fish Haven symbol could be inserted inside the area.		

Other comments
(Chair/Sec conclusions added in green)

AU:

B-440.4 Add 'and straight archipelagic baselines' to INT1 N42 (**Action** INT subWg). Not necessary, existing term covers all types of straight baselines.

B-440.7 DID action, change 'black' fish symbol to 'magenta' (similar to B-443.4). Yes

B-440.8 AU suggests the addition of 'on the landward side of the line' at the end of the last sentence before the 'eg:' (consistent with B-440.9). Yes, included in Round 3

B-443.2 and 443.3 order reversed in Round 2 draft: this will change the reference in S-57 **CBLARE** but also provide new refs for **CBLOHD, CBLSUB** and CATCBL, all of which will be reported to TSMAD15 in December, 2007 for S-100 and maintenance of S-57 (if defrosted). Good. In addition, it is suggested that consideration be given to cross referencing B-382.1 overhead power transmission lines. Not required in submarine cable section

B-443.6 DID note, cable should be magenta, not black (B-142.2 (2) and B-443.1) No, this is the buoy designation, which should be black.

B-444.1 and B-444.2 now use the terms 'outfalls' and 'intakes' whereas INT uses 'discharge'. INT subWg should consider consistency issues in terminology, with M-4 being the authority. Already done, see report from subWG.

B-444.2 to 444.4 (similar to B-443.2 and 443.3 above) have had their order changed in Round 2 and there are changes, but also many additions to S-57 **PIPARE, PIPSOL,** CATPIP, PRODCT. These will be reported to TSMAD15 in December, 2007 for S-100 and maintenance of S-57 (if defrosted). Good

B-445.1c: It would appear that INT1 L20 is now obsolete (see comment embedded into Round 2) so future update to INT1 will be required (**Action** INT1 subWg). Yes – INT1 editors please note

B-445.2e: It would appear that INT1 L13-L15 are now obsolete (see comment embedded into Round 2) so future update to

INT1 will be required (**Action** INT1 subWg). Noted to discuss at CSPCWG4, AU please prepare EN.

B-445.4b: S-57 includes an object class called installation buoy (**BOYINB**) which is defined as:
A buoy used for loading tankers with gas or oil.
This S-57 defn was originally taken from M-4 but the term no longer exists in M-4. S-57 also references INT1 L16, which still includes the term 'installation buoy'. Perhaps this term can be used as a more generic feature in M-4 and it is suggested that the S-57 term be referenced somewhere in B-445 to provide interoperability between S-57 and M-4. (**Action** for INT1 subWg for L16 depending on what is approved?) We cannot find that this term was ever used in M-4. 'Installation buoy' is meaningless. In INT1, the word 'installation' qualifies Oil/Gas, not buoy. INT1 term could be clarified (or possibly removed?). S57 should be amended.

B-447.7 The abbreviation FAD should be italic. Yes

B-449.6 comments embedded into Round 2, infers that both INT1 N13 and N14 old symbols are now obsolete (**Action** INT1 subWg). Yes. INT1 editors will need to examine all consequences of M-4 revisions when approved by MS.

DE: According the document comments in the annex A to CSPCWG Letter 03/07 (round 1) you should change the state names in the symbols N40, N41 and the direction of the arrows in N42 as in current 5011. It is not done yet (I only want to remember not to forget this change). Yes – noted for UK's Digital Imaging Department (DID) action.

DK:

B-441.3 (firing danger areas)

The background is a discussion we had during the recent 12th BSHC Conference in Lithuania. The subject was introduced by Sweden and I attach their Explanatory Note for your information.

One of the recommendations in their EN was to 'show the limits and *designations* of firing areas on charts and ENCs'. DK is already doing so but would it be a good idea to include such a recommendation in B-441.3? Yes, included in Round 3

B-443.3 (cable areas)

The description in the current B-443.3 only takes account of a situation where there is a risk for clutter on the paper charts due to the existence of many individual cables within an area. Not a situation (as we have in DK) where the responsible authority has *designated* cable areas in order to better protect the many cables from damage.

Should such a situation also be described or is it just too obvious that the symbol for a cable area should be used also in this case. Yes, included in Round 3

The principle also regards B-444.3 Pipeline areas. Yes, included in Round 3

B-443.8 (new proposal regarding Buried cables)

In my opinion it is not obvious for the compiler to have to look into a paragraph about buried pipes of all types when he is really looking for a way to chart buried cables. Therefore I suggest a new section to be added as shown and to delete the sentence 'This principle may also be applied to submarine cables' in section B-444.5

B-443.8 Cables buried so deep that they are not vulnerable to damage from anchoring, should not be charted (so that mariners are not unnecessarily inhibited from anchoring or fishing). In marginal cases they may be charted in magenta with a note stating the nominal depth to which they are buried. Yes, included in Round 3

FI:

The sections 5, 6 and 12: not in use in the Finnish charts

FR:

440 "…In this section (B-440), the term '**boundary**' is used for any delimitation between adjacent states or those which face each other across channels or seas (known as 'opposite states'). The term '**limit**' is used for the line marking the seaward extent of any coastal zone where no other state is concerned.

Any statement to the effect that international boundaries shown are only approximate should be confined to **land** boundaries. Such a statement should be in an associated publication, rather than on individual charts. **Maritime** boundaries must only be charted if precise positions have been agreed by the states concerned…"

B-440.3 **International maritime boundaries** should be charted, where navigationally significant and agreed by the states concerned, by alternating crosses and dashes, in magenta. State names should be shown at appropriate intervals in sloping magenta text, the form in accordance with B-552.4. Disputed boundaries must not be charted.

N41

Comment: In some cases, it could be useful to show limits even if they are not officially agreed between states. Perhaps here we can't use the term "boundary" but we need to use the term "limit" even if other state is concerned. So, I propose "…In this section (B-440), the term '**boundary**' is used for any delimitation between adjacent states or those which face each other across channels or seas (known as 'opposite states'). The term '**limit**' is used for the line marking the seaward extent of a maritime zone in any other case." Yes, included in Round 3, slightly simplified

In these cases a dashed magenta line seems with a note to be a good solution.

So, B-440.3 could be amended to express that N41 is used only for boundaries agreed by the states concerned. So, I propose:

"International maritime boundaries should be charted, where navigationally significant and agreed by the states concerned, by alternating crosses and dashes, in magenta. State names should be shown at appropriate intervals in sloping magenta text, the form in accordance with B-552.4.

N41

N41 must not be used for disputed boundaries which are normally not charted". Yes, included in Round 3

Note that another solution is to remove the last sentence because B440 already states "**Maritime** boundaries must only be charted if precise positions have been agreed by the states concerned".

B-440.4 **Straight baselines** (including bay and river closing lines and straight archipelagic baselines) may be charted, if required, by an unbroken line backed at intervals of 50mm (or closer) by open arrowheads pointing towards the coast, in magenta. The base points used in the determination of these baselines may be shown, indicated by circles with a diameter of 2mm.

N42

If agreed internationally that, in a highly unstable area, the furthest extent of the low water line may determine the baseline, notwithstanding subsequent regression, the same symbol may be used to depict the line where it differs from the charted low water line; see B-440c(ii).

Comment: the last sentence "If agreed…B-440c(ii)" could be removed because it repeats B-440c(ii). Yes, included in Round 3 as part of the re-arrangement of B-440.

B441.5: The cartographers guidance aspect of new B-441.5 could be improved. I propose :
Submarine exercise areas and transit lanes may be charted if required, eg where they occur in or near major shipping lanes or port approaches, the symbol for the limits must be dashed magenta lines with a submarine shape or appropriate legend within the area.

N33

The submarine symbol may be repeated to clarify large areas. A cautionary note may be added if considered necessary, for example:
SUBMARINE EXERCISE AREA
Submarines exercise frequently, both surfaced and dived, in this area. A good lookout is to be kept for them when passing through these waters.

Submarine exercise areas and transit lanes are generally not charted because submarines exercise over wide areas which it would not be practicable to chart, and over which cautions (to keep a good look out for them) are unlikely to be effective]. Included in Round 3. However, this is an obsolescent UKHO note, no longer included on charts, for the reasons in the paragraph beneath the note. UKHO considers a warning legend on the face of the chart is sufficient.

GR:

B440.4: The arrowheads in Symbol N42 of Paragraph B440.4 should be corrected so as to point towards the coast and match the symbol's text description.
In INT1 symbol's N42 representation, the arrowheads are also pointing towards the coast, and the sea area does not have a blue tint. Yes – already noted for UK's Digital Imaging Department (DID) action.

ZA:

Shark Nets B-449.2. If I may explain further. In South Africa, unlike Australia, shark nets are not seasonal, they are permanently deployed all year round and are regularly maintained. The close offshore Continental Shelf, the warm Mozambique/Agulhas current with an annual average of ± 20°C, that flows south along the Southern African east coast and the murky water of many rivers that enter the ocean, are main contributing factors which attract sharks (Great Whites) close

inshore. They pose a threat of attack to many bathers at popular beaches (38) and ski boats which launch directly into the surf from the beaches along a 180nm stretch of coastline, get their props snagged in the nets and overturn resulting in drownings. Although nets are of various lengths of approx 100 to 300 meters (single, double or triple net configurations) and secured in approximately 15 meters of water to the seabed by anchors, offshore they span vertically, close to the surface by a system of floats and sinkers and marked by orange surface marker buoys.

We realize that this is a line obstruction. The chart scale does not allow it to be depicted as such. It was intended to depict a point symbol rather than an area symbol.

This issue has resulted in further internal discussions. The Hydrographer's decision is and consensus reached that we will discontinue the national 'Shark Net' symbol. To bring this inline with international charting practise the danger of shark nets will be depicted by legend with reference to a cautionary note on national and international charts in future.

South Africa appreciates the positive approach and comments from MS to enable us to resolve this issue now. Thank you

Additional comments, mainly on consistency, from Australia:

AHO ADDITIONAL COMMENTS ON CSCPWG M-4 REVIEW
B-440-449 ROUND 2

B-440(c) Paragraph 2 begins by defining what the normal baseline is, but paragraph 4 also begins by defining the normal baseline, with the beginning of the paragraph in bold. Suggest that paragraph 4 be combined into paragraph 2 and paragraph 2 to begin with "**'Normal' baselines**". Rearranged

Paragraph 5: Special cases of what? Suggest this paragraph should begin: "Special cases of a symbolised normal baseline are:". Also, part (i) needs to be block justified. 'Special cases' sub-title deleted in rearranged version of B-440.

Paragraph 9: In this paragraph, beginning with "**The Territorial Sea**" there is no mention of UNCLOS, while there is for the following paragraph addressing the contiguous zone. Is this an inconsistency? Added to round 3

B-440(d) In paragraph 2 of "**Limits of the Continental Shelf.**" Remove blank line before UNCLOS quote to be consistent with previous paragraphs. There is also an extra blank line at the end of B-440(d) that needs to be removed. Done

B-440(e) I don't think that "**Symbols: General points**" should be (e) as this is not related to the introductory paragraph before (a). Suggest remove the "(e)" and have as a stand alone paragraph. Done in rearrangement of B-440.

B-440.1 If this is going to be changed to "**International land boundaries**" then B-440(a) should be similarly changed. Done

B-440.2 Customs limits being depicted in magenta on land and sea conflicts with the statement made in B-440(e), which is a "must" for boundaries on land. The statement in B-440 refers to boundaries, not limits, so there is no conflict.

B-440.8 This is a conditional "must", as the "if required" has been inserted. Therefore, this should read "…., the limits must be charted, if required, by a continuous magenta line…..", unless we wish to imply that compilers can use alternative symbology if they wish. Yes

B-440.9 This is a conditional "must", as the "if required" has been inserted. Therefore, this should read "EEZ outer limits must be charted, if required, by a continuous magenta line…..", unless we wish to imply that compilers can use alternative symbology if they wish. Yes

Suggest the term "inside the area defined" instead of "landward" be used to be consistent with B-440(e). Yes.

B-441.5 Suggest add "in magenta" in 2nd paragraph to be consistent with B-441.3. Yes

B-441.8 Should this read "**Minefields** laid and maintained for defence purposes must be charted, where required, by the general….."? Yes. Also, for consistency there should be a bunch of "in magenta" 's before references to inserting chart notes. Not necessary, covered by conventions.

B-444(a) The second sentence reads a bit disjointed. Suggest this be amended to "The pipes are generally encased in concrete for protection and to give them negative buoyancy, which can significantly increase their external diameter.". Yes

B-444.1 Suggest remove brackets from "(on paper charts)." No, this is a minor clarification, as the detailed specifications are always for paper charts.

B-445.1(c) Suggest amend "lightbuoys" in line 5 to 2 words. Amended to light-buoys, which is consistent with other references.

The term "Production Wells" is defined for the second time in this section (is also in B-445.1(b) 1st paragraph). Is this required here? Suggest if it is remove the last sentence from B-445.1(b) 1st paragraph. Yes

B-445.1(f) The term "seabed" is used a number of times in this paragraph. This should be changed to "sea floor" to be consistent with changes made in earlier paragraphs. Yes

In the 2nd paragraph, first 2 sentences, there are 2 conditional "must" 's, as the "if required" has been inserted. Therefore, this should read "These installations must be charted, if required, as obstructions (see B-422.9) with the legends *'Template', 'Manifold'*, or equivalent, instead of *'Obstn'*. If it is required to chart a PLEM, it must be charted as a manifold.", unless we wish to imply that compilers can use alternative symbology if they wish. Yes

B-445.2 Suggest amend "seabed" to "sea floor" (x 2 in first paragraph) to be consistent with changes made in earlier paragraphs. Yes

B-445.2(a) Suggest amend 2nd sentence to read "Where they lie close together, they may have to be generalised on the paper chart so that a single symbol represents more than one platform." to be consistent with earlier changes. Yes

B-445.2(d) Suggest amend 2nd sentence to read "Where required, they must be charted the same way as other platforms (L10)." Yes

B-445.4 Amend "seabed" to "sea floor" (2nd sentence) to be consistent with changes made in earlier paragraphs. Yes

B-445.4(a) Amend "seabed" to "sea floor" (one in each paragraph) to be consistent with changes made in earlier paragraphs. Yes

B-445.5(c) Amend "seabed" to "sea floor" (1st paragraph, last sentence) to be consistent with changes made in earlier paragraphs. Yes

B-445.9 For consistency, the space needs to be removed from between the letter and number for quoted INT references in the text for this clause. Yes

Suggest remove "normally" from paragraph 4. Yes

B-445.10 For consistency, amend "e.g." to "eg" in paragraph 3. Yes

B-445.11 For consistency, the space needs to be removed from between the letter and number for quoted INT references in the text for this clause. Yes

Suggest remove "normally" from paragraph 1 last sentence. No, because there is an exception immediately below.

B-445.12 Suggest amend 2nd sentence to read "Underwater chains and anchors, if required, must be charted by the magenta symbol:" Yes

Suggest begin paragraph 3 with "Ground tackle may be used, …." for clarity. Yes

B-446.1 Suggest change "can" to "may" in paragraph 2. No, can is correct here. It is not an option, it is what is possible.

B-447 For consistency, change "**a.**", "**b.**", "**c.**", "**d.**" to "a.", "b.", "c.", "d." i.e. not bold text. Yes

B-447(e) Amend "Fish aggregation devices (FAD)" to "**Fish aggregation devices (FAD)**". Yes

B-447.5 Suggest remove "usually" from paragraph 1. No, exception below, but changed to 'normally' for consistency.

The guideline for charting a single haven is a "should" while the charting of a group of havens is a "must". Suggest this needs to be amended for consistency, i.e. "A single haven, where required, must be charted by the symbol:" and "A group of havens (or a single haven large enough to be shown true to scale), where required, must be charted by an enclosing danger line with one or more fish symbols:". Yes

Suggest re-wording paragraph 6 to read "If considered necessary, explanatory notes may be inserted under the chart title." for consistency. No – there is no rule that explanatory notes must be under the title, although that is preferred if space allows. Normal conventions for explanatory and cautionary notes always apply when we include the option for a note in a specification. It does not need to be stated each time.

B-447.6 Suggest amend paragraph 2, last sentence to read "The nature of the obstructions may be explained in a cautionary note under the chart title." for consistency. See above

Similarly, paragraph 4 should end "..... or may be described in an explanatory note under the chart title." See above

B-447.7 Suggest amend 1st sentence to read "..... with the depth, if known, and no legend." No, because that only applies to underwater fads, as stated in the 2nd sentence.

Thank you all for your suggestions, which help to improve the specifications.

B-440 INTERNATIONAL BOUNDARIES AND NATIONAL LIMITS

The United Nations Convention on the Law of the Sea, 1982 (UNCLOS) came into force on 16 November 1994. UNCLOS contains navigational provisions as well as provisions for determining the limits of various maritime zones. These provisions are binding to all states that have ratified the Convention. For technical aspects of UNCLOS, see IHO publication S-51.

IHO Member States should show, on selected series of their charts, their own baseline and maritime limits in accordance with UNCLOS. (Former IHO Technical Resolution B2.35)

Commentaire [c1] : This resolution can be withdrawn on publication.

In this section (B-440), the term '**boundary**' is used for any delimitation between adjacent states or those which face each other across channels or seas (known as 'opposite states'). The term '**limit**' is used for the line marking the seaward extent of any other maritime zone.

Commentaire [c2] : Suggested by FR.

Supprimé : any coastal zone where no other state is concerned.

The mariner may be interested in the exact location of international maritime boundaries for two principal reasons:

- When crossing a boundary he could be subject to different laws and regulations which may effect his navigation, eg buoyage systems, pilotage regulations, fishing rights, reporting procedures, pollution regulations.
- Where a boundary passes through groups of offshore islands he may wish to know upon which side of the boundary a particular island falls.

Symbols: General points. The provision of symbols does not imply that any particular boundary or limit should be charted (other than a land boundary). Boundaries and limits of no significance to navigators or other chart users should be omitted from navigational charts.

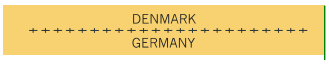
Any statement to the effect that international boundaries shown are only approximate should be confined to **land** boundaries. Such a statement should be in an associated publication, rather than on individual charts. **Maritime** boundaries must only be charted if precise positions have been agreed by the states concerned.

Land boundary symbols must be in black. Maritime boundaries and limits should be in magenta, but may be in a different colour if required for clarity. Wherever the cross symbol, (eg N40. N41) is used, the 'horizontal' line (ie the one in line with the limit) should be twice as long as the 'vertical' line. Legends on limits must be placed on the inside of the area they define, if space allows.

Generally, because they are measured from common baselines, the various limits do not coincide. However, they may merge towards an international boundary between two or more 'opposite' states. In such cases, the Territorial Sea limit takes precedence, as it includes all the regulations applicable to the other areas. Other symbols (such as fish or EEZ legend or abbreviation) may be included at suitable intervals on the same limit, if required.

B-440.1 **International land boundaries** should be charted, at least in the vicinity of coasts. They should be shown by a line of black crosses. State names may be shown at appropriate intervals in black upright text, the form in accordance with B-552.4.

Commentaire [c3] : Subheading changed to be consistent with B-440.3.



N40

Commentaire [c4] : DID amend state names to original form (as current 5011 N40)

B-440.2 **Customs limits,** where details are provided by a regulatory authority, must be charted, if required, in magenta, on land and sea, by the symbol

Supprimé : at particular ports may

Supprimé : preferably

N48

Commentaire [c5] : DID: please add a vertical section, with circle rotated (as N2.2)

B-440.3 **International maritime boundaries** are those which have been established by agreement between adjacent or opposite states. Boundaries are sometimes negotiated on the basis of the equidistance or 'median' line principle. For various reasons, however, agreed boundaries even when negotiated on this principle are seldom

Supprimé : ¶
. or by a simple dashed line with suitable legend.¶

true median lines. The term ‘median line’ should not therefore be used on charts or in navigational publications.

Navigationally, international boundaries may vary in their significance over different parts of their lengths. Inshore, they may represent the delimitation of territorial seas of two states or ‘internal waters’, (eg within bay closing lines or straight baseline systems). Offshore, they may represent exclusive economic zone and/or continental shelf boundaries.

International maritime boundaries should be charted, where navigationally significant and agreed by the states concerned, by alternating crosses and dashes, in magenta. State names should be shown at appropriate intervals in sloping magenta text, the form in accordance with B-552.4.

N41

N41 must not be used for disputed boundaries, which are normally not charted.

Supprimé : Disputed boundaries must not be charted.

Commentaire [c6] : DID amend state names to original form (as current 5011 N41)

Commentaire [c7] : Suggested by FR, to allow use of a different symbol, eg N1.2, with legend for disputed boundaries

B-440.4 **Baselines.** The term ‘Baseline’ refers to the line from which the breadth of the Territorial Sea, the outer limits of the Contiguous Zone, the Exclusive Economic Zone and, in some cases, the Continental Shelf are measured. It is also the dividing line between **internal waters** and territorial seas. Internal waters comprise all areas of the sea on the landward side of the territorial sea baselines, as well as inland waters including rivers, lakes, etc. Internal waters form an integral part of the land territory of a state.

The **normal baseline** is the low water line (which is not defined any more precisely by UNCLOS) of the mainland, islands, or low tide elevations, as depicted on large scale charts officially recognised by the coastal state; they therefore do not require any special symbol.

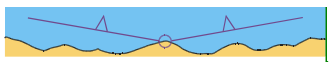
Features which dry at low water (eg rocks, reefs, banks) may be used to determine the baseline provided they lie wholly or partly within a distance not exceeding the breadth of the territorial sea. Artificial structures carry no territorial rights (but may have 500m safety zones, see B-445.6).

Baselines around **coral reefs.** Usually, areas of reef plateau are charted as a single area of drying coral since it is impossible to chart all the individual lumps and heads, and the area is for practical purposes not navigable. The symbol for drying coral is used to illustrate the extent of this feature on a chart, and it is the edge of this symbol that is taken as the "... seaward low-water line of the reef, as shown by the appropriate symbol ...".

Baselines around **unstable coasts**. Where, because of the presence of a **delta, glacier** or other natural conditions, the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line to define straight baselines and, notwithstanding subsequent regression of the low-water line, these straight baselines remain effective until changed by the coastal state in accordance with UNCLOS.

Closing lines, up to a maximum of 24 nautical miles, are used to enclose bays and estuaries, provided they satisfy the provisions of UNCLOS. **River closing lines** are used to enclose rivers that flow directly into the sea. In certain circumstances, straight baselines may be used to connect seaward points on a deeply indented coastline or a coastline that is fringed with islands. **Straight archipelagic baselines** may be drawn around archipelagic states.

Straight baselines (including bay and river closing lines, straight archipelagic baselines and baselines around unstable coasts) or the limits derived from them, should be shown on official charts of a scale or scales adequate for determining them. Many coastal states interpret this statement as permitting depiction on special charts, not on the standard navigational series. However, straight baselines may be charted, if required, by an unbroken line backed at intervals of 50mm (or closer) by open arrowheads pointing towards the coast, in magenta. The base points used in the determination of these baselines may be shown, indicated by circles with a diameter of 2mm.



N42

Commentaire [c8] : DID Amend symbol (arrows point wrong way), as current 5011 N42.

B-440.5 **The Territorial Sea** is a belt of water of a defined breadth, under UNCLOS not exceeding 12 nautical miles measured seaward from the territorial sea baseline. Within the territorial sea, a coastal state has full sovereignty limited only by a right of innocent passage for foreign ships.

Seaward limits of territorial seas may be charted, in magenta, by groups of two crosses, at intervals of approximately 50mm.

N43

B-440.6 **The Contiguous Zone** is a zone adjacent to the territorial sea where the coastal state may exercise the control necessary to prevent or punish infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea. Under UNCLOS, the outer limits of this zone may not extend beyond 24 nautical miles measured from the territorial sea baselines.

Seaward limits of contiguous zones may be charted, in magenta, by single crosses at intervals of approximately 50mm.

N44

B-440.7 **Exclusive fisheries zones.** Areas beyond the territorial seas where coastal states proclaim that they alone may regulate fishing. Within any such zone other countries which have traditionally fished the area are often allowed to do so under bilateral agreements. Where states have permitted others to fish in **parts** of the area, it may be desirable to chart the outer limits of both the full area and the area of special concessionary rights.

In some instances, claims are described as 'conservation zones'; for practical purposes these may be classed with exclusive fishery zones since their intended function is to institute fishery conservation measures.

Most of the fishery zone claims are limited by fixed distance (200 nautical miles in some cases) from the territorial sea baselines.

Limits of fishery zones commonly coincide with other charted limits, such as continental shelf and exclusive economic zone limits. This may be indicated by adding a magenta fish symbol at appropriate intervals to the other limit symbol.

Limits of fishery zones which do not coincide with other charted limits may be charted, in magenta, by a line broken at intervals of approximately 50mm by a fish symbol.

N45

If it is necessary to chart more than one limit, the line between the fish symbols may be dashed for the inner limit.

N45

B-440.8 **The Continental Shelf**. Under UNCLOS,

> 'The continental shelf of a coastal state comprises the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance'.

The delineation of the continental shelf beyond 200 nautical miles from the territorial sea baselines is complex. Details are given in UNCLOS Article 76 (see S-51). However:

> 'the fixed points comprising the line of the outer limits of the continental shelf on the sea-bed … either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath'.

Supprimé : If agreed internationally that, in a highly unstable area, the furthest extent of the low water line may determine the baseline, notwithstanding subsequent regression, the same symbol may be used to depict the line where it differs from the charted low water line¶

Supprimé : (but closer if necessary)

Supprimé : (in the sense used in the description in B-440c)

Supprimé : cm (but closer,if necessary)

Commentaire [c9] : DID: please amend fish to magenta.

Supprimé : (but closer if necessary)

The coastal state exercises sovereign rights over the continental shelf for the purpose of exploring it and exploiting its natural resources.

Limits of the continental shelf. Complex procedures exist within UNCLOS for the establishment of the limits of the continental shelf. Where these procedures have been followed and the limits have received the approval of the 'UN Commission on the Limits of the Continental Shelf', the limits must be charted, if required, by a continuous magenta line with the state name and legend '*Continental Shelf*' or equivalent, along the line, inside the area, eg:

UK Continental Shelf N46

B-440.9 **Exclusive Economic Zone (EEZ)**. In the exclusive economic zone, the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds. Under UNCLOS,

> 'the EEZ shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured'.

Limits of exclusive economic zones (EEZs). EEZ outer limits must be charted, if required, by a continuous magenta line with the state name and a legend or abbreviation, eg EEZ or national equivalent, at intervals of approximately 50mm along the line, inside the area, eg:

EEZ **N47**

B-441 **MILITARY PRACTICE AREAS; MINEFIELDS**

Military practice (or exercise) areas at sea are of various types and may be classified as follows with regard to their significance for the mariner:

a. Firing danger areas, sometimes called firing practice areas, ie permanent or temporary ranges, including bombing, torpedo and missile ranges.
b. Minelaying practice (and counter-measures) areas.
c. Submarine exercise areas.
d. Other exercise areas.

Permanent minefields may be wartime relics or modern defensive fields.

B-441.1 **Some degree of restriction** on navigation and other rights may be implied by the charting of military practice areas. There may be varying interpretations of the validity of the restrictions and possible infringement of the rights of innocent passage through territorial waters and elsewhere. Where it is thought desirable to chart such areas, even though clear range procedure may be observed, or the areas appear to be a derogation of the freedom of the seas, mariners should be informed (not necessarily on charts) that publication of the details of a law or regulation is solely for the safety and convenience of shipping and implies no recognition of the international validity of the law or regulation. By this means infringements are not condoned but the mariner receives a warning which may be necessary for his safety.

As an alternative to including military practice areas on standard navigational charts, unless of definite navigational significance, such areas may be charted on special small-scale non-navigational practice area charts, to avoid clutter.

B-441.2 **Firing danger areas at sea** are frequently marked by IALA special buoys sometimes laid around the perimeter of the area and/or by specially erected lights, beacons and targets. All such features which could assist the navigator in identifying his position, or could be a hazard, must be charted in the normal way, eg:

DZ **Q50**

Supprimé : on the landward side of the line,

Commentaire [c10] : DID: please create new symbol, legend sitting on a continuous fine magenta line, similar to N47.

Commentaire [c11] : Suggested new symbol and INT 1 reference

Supprimé : s of a defined width of 200 miles from territorial sea baselines are established by international agreement, it is recommended that their

Supprimé : should

Supprimé : suitable

Supprimé : appropriate

Supprimé : on the landward side of the line,

Commentaire [c12] : DID: add *FRANCE before EEZ*

Supprimé : as found in Swedish territorial waters

Supprimé : it is recommended that

Supprimé : (yellow Special Marks in the IALA System) and

B-441.3 **The limits of firing danger areas.** If it is required to chart such areas, the symbol must be:

N30

The flame must point into the area, at approximately 50mm intervals (or closer). The designation, eg '*D1234*', may be inserted within the area. A note may be added to the chart in magenta where considered necessary, which could include information about signals, firing times and contact details. Firing danger areas established for a unique exercise should not be inserted on paper charts: such areas should be promulgated by Temporary Notices to Mariners.

B-441.4 **Mine laying (and counter-measures/clearance) practice areas.** The existence of these areas implies the possibility of unexploded mines or depth charges on the bottom, and also the presence of harmless practice mines. If it is required to chart such areas, the symbol must be:

N32

The horns of the mine must point into the area, at approximately 50mm intervals (or closer).

B-441.5 **Submarine exercise areas and transit lanes** may be charted, if required, eg where they occur in or near major shipping lanes or port approaches. The symbol for the limits must be dashed magenta lines with a magenta submarine shape or appropriate legend within the area.

N33

The submarine symbol may be repeated to clarify large areas. A cautionary note may be added if considered necessary, eg:

SUBMARINE EXERCISE AREA
Submarines exercise frequently, both surfaced and dived, in this area. A good lookout is to be kept for them when passing through these waters.

Submarine exercise areas and transit lanes should not generally be charted because submarines exercise over wide areas which it would not be practicable to chart, and over which cautions (to keep a good look out for them) are unlikely to be effective

B-441.6 **Other naval exercise areas** outside territorial waters should not be charted unless necessary for the safety of shipping, in which case a dashed magenta line with a cautionary note must be shown.

Within territorial waters, areas in which navigation is permanently prohibited except for military purposes must be delineated by the symbol:

N31

B-441.7 **Areas established for a unique exercise** should not be inserted on paper charts: such areas should be promulgated by Temporary Notices to Mariners.

B-441.8 **Minefields** laid and maintained for defence purposes must be charted, if required, by the general symbol for the limits of restricted areas (N2.1) in magenta, with a cautionary note giving the precautions to be taken by mariners. A magenta tint band may be added inside the limit, for emphasis, see B-439.6d.

Supprimé : should delineate these areas by a

Supprimé : a magenta dashed magenta line broken at approximately 50mm intervals by sketches of a small magenta symbol for a bomb from which a flare is shown, preferably spurting into the area.

Commentaire [c13] : Suggested by DK

Supprimé : cautionary

Supprimé : should be added on the chart

Supprimé : the

Supprimé : Temporary

Supprimé : normally

Supprimé : to chart these areas must be depicted show the limits by means of a dashed magenta line, broken at intervals by a mine symbol, horns pointing into the area.

Commentaire [c14] : DID, please put short vertical side on the 2nd graphic.

Commentaire [c15] : Additional advice suggested by FR

Supprimé : for restricted areas, with appropriate legend, eg

Commentaire [c16] : DID, insert latest N31 graphic.

Supprimé :

N34

Mine danger areas and former mined areas. The method of charting old wartime minefields will depend on the assessment of the degree of danger remaining and must be symbolized according to the particular circumstances of each case. If danger to surface navigation still exists, they must be charted as minefields (N34); the legend '*Mine Danger Area*' may be used instead of '*Minefield*'. If danger to surface navigation is now no greater than the normal hazards of marine navigation, but there is a possible residual danger for submarine or seabed activities, the legend should be '*Former Mined Area (see Note)*', or equivalent and an associated explanatory note should be added.

For mine-laying practice areas, see B-441.4.
For dumped individual mines or explosives, see B-442.3.

B-442 DUMPING GROUPS: GENERAL; HARMFUL MATERIALS

Materials deliberately dumped at sea in specified areas (other than those associated with reclamation works) may be classified, according to their significance to the mariner, as follows:

a. Materials which are generally dispersed before reaching the seabed, eg sewage sludge, are of little navigational significance and no charting action is usually required.

b. Spoil from dredging operations or other works which might reduce charted depths significantly in the designated spoil ground. See B-446.

c. Concrete blocks, cars, or other objects dumped as havens for the breeding of fish. See B-447.

d. Harmful materials, including explosives and chemicals, which are likely to remain concentrated on the seabed. See B-442.1-4.

B-442.1 **The dumping of harmful materials** from land based sources has been the subject of several conventions.

For the purpose of these specifications, dumping grounds for any harmful materials (eg radio-active waste) should generally be treated as below for explosives (or munitions) or chemicals.

B-442.2 **Dumping grounds for harmful materials** must be shown by the magenta general maritime limit for restricted areas (N2.1). The limits must be shown on all charts of scale 1:500 000 and larger, and on smaller scales in the case of deep water areas where no larger scale charts exist or where it appears desirable to draw attention to the areas. Legends such as 'Explosives Dumping Ground', 'Dumping Ground for Chemicals', or equivalent, must be inserted in magenta sloping lettering within or adjacent to the charted limits, eg:

N23.1

N24

Magenta is used because to the chart user the significance of these areas is similar to that for other hazards (eg cables) to such seabed operations as trawling, cable laying, anchoring or mineral exploitation (see B-142.2).

B-442.3 **Dumped individual mines or explosives.** Drifting mines cannot be inserted on paper charts. All mines or explosives could still constitute a hazard for vessels anchoring, fishing or engaged in submarine or seabed operations. If it is required, exceptionally, to chart them, this should be by a small circle of magenta T-shaped dashes (N2.1 – see B439.2) with the appropriate legend, eg *Mine*, *Explos*, or equivalent, alongside, and/or a 'mine' symbol inside:

N23.1

For minefields, see B-441.8

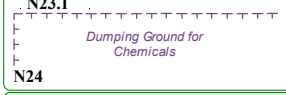
Supprimé : e. Areas where vessels burn off dangerous chemicals. See B-449.3.¶

Supprimé : it is recommended that

Supprimé : The limits of d

Supprimé : Legends such as 'Explosives Dumping Ground', 'Dumping Ground for Chemicals', or equivalent, must be inserted in magenta sloping lettering on the magenta plate within or adjacent to the charted limits, eg:¶
¶

N23.1



N24

Commentaire [c17] : DID: please insert 'mine' symbol, in small N2.1 circle.

B-442.4 **Disused dumping grounds for harmful materials** are considered dangerous for an indefinite period and must therefore remain charted. Magenta text '*(disused)*' or equivalent should be inserted under the legend. The date when the area ceased to be used should also be given on the chart, or in an associated publication, if known.

N23.2

B-443 **SUBMARINE CABLES**

Submarine cables are used to carry power or telecommunications. All power cables and most telecommunication cables carry dangerous voltages. Submarine cables are potential hazards to both vessels and life, particularly to fishing vessels engaged in trawling the seabed. Where possible, submarine cables are now buried beneath the sea floor to a depth of 40-90 cms in water depths of less than 1000 metres; however there remains a large percentage unburied. Submarine cables are vulnerable to damage from anchoring, trawling or other seabed operations; even small craft anchors can penetrate a soft seabed sufficiently to foul a cable. Damage to telecommunication cables can lead to extensive disruption of national and international communications, whilst damage to power cables can disrupt electricity supply.

Submarine cables, including disused cables, should be charted to indicate their presence to vessels engaged in anchoring, trawling or seabed activities in order to:

- Warn mariners of the potential hazard to their vessel, including electric shock to any vessel fouling or breaking the cable, possible capsize of a small vessel if its fishing gear or anchor is trapped under the cable, or loss of gear (trawls or anchor cables).
- Prevent damage to the cable and avoid disrupting the service the cable may be providing.

Active cables should be charted to a depth of 2000 metres (which is the deepest depth of water to which vessels may be endangered by fouling the cable).

For disused cables, see B-443.7. For buried cables, see B-443.8. For cables related to degaussing areas see B-448.

B-443.1 **The exact route of individual cables** must be charted where possible to give the chart user full information, using the symbol of a wavy magenta line (see B-142.2).

L30.1

Where several cables land at the same point, the symbols may be terminated before they reach the coast or inshore water on smaller scale paper charts, to avoid obscuring more important detail. In oil and gasfields, where pipelines and cables are often laid on the same route, the cable may be omitted.

B-443.2 **Power transmission cables** should be distinguished from telephone and telegraph cables, for the protection of the mariner. The magenta power 'flash' should break the cable symbol at intervals of about 50mm.

L31.1

In the case of power cables across narrow channels, where it is considered that notice boards give adequate warning of the danger, the chart symbol may be omitted.

In certain circumstances, high voltage power cables may cause a deviation in a ship's magnetic compass; in these cases, where reports have been received, they should be treated as local magnetic anomalies (see B-274) and the legend 'Magnetic Anomaly (see Note)' should be added in black at appropriate points along the cable.

B-443.3 **Cable areas** should be charted where:

- cables (including disused cables) are so numerous in an area that it would be impossible to chart them individually without impairing the legibility of the chart, or
- a regulatory authority designates an area for the protection of a cable, or cables.

Supprimé : the

Commentaire [c18] : DID, add date in the brackets, ie *(disused – 2007)*

Supprimé : Where several cables land at the same point the symbols may be terminated before they reach the coast, or inshore water, on smaller scale charts in order not to obscure other important detail.

Supprimé : carrying high voltage electric currents

Commentaire [c19] : Order changed (INT 1 refs will need to be changed)

Supprimé : cables (including disused cables) are

Commentaire [c20] : Addition suggested by DK

The area must be delimited by the general symbol for the limits of restricted areas (N2.1), interspersed at intervals of about 30mm with short sections of the cable symbol. The cable symbol must be repeated sufficiently to characterize the line (see B-439.3). Individual cables within a cable area should not be shown.

Supprimé : intermittently with

L30.2

L31.2

The outer limits of a cable area must enclose the area in which anchoring and certain forms of fishing are prohibited or inadvisable, ie, the limits must lie a safe distance beyond the actual lines of the outermost cables. See B-443.4 referring to regulations prohibiting anchoring and certain forms of fishing.

B-443.4 **Regulations prohibiting anchoring** or certain forms of fishing near submarine cables within territorial waters differ in detail from country to country. Where such regulations exist, it may be indicated by use of the symbol and/or in magenta (N20, 21) within a cable area (see B-439.4), or by reference to a note.

Supprimé : probably

B-443.5 **Cable beacons, notice boards, or lights,** marking cable landings must be shown in black on the largest scale charts, eg:

Q123

B-443.6 **Buoys marking cables.** Cables are sometimes marked by buoys, which should be charted,eg:

Q55

Commentaire [c21] : DID: please add *Cable* next to the buoy (in black).

A legend, eg '*Cable*', may be added if their purpose is not clearly apparent.

B-443.7 **Disused submarine cables.** Where disused cables traverse possible anchorages or where there is known seabed activity, eg trawling grounds, they should be charted on the largest scale charts (including the largest scale INT chart – see B-402.3e), provided they do not obscure more important information. Disused cables must be shown by the same wavy line as active cables, but broken by omitting every fourth complete sinusoid.

Supprimé : preferably,

L32

Few disused cables are recovered and so to chart them all would lead to clutter on some charts. Also, accurate records of their positions are likely to be incomplete (some cables having been cut or dragged out of position), so there is a case for charting them very selectively.

B-443.8 **Cables, buried** so deep that they are not vulnerable to damage from anchoring, should not be charted (so that mariners are not unnecessarily inhibited from anchoring or fishing). In marginal cases they may be charted in magenta with a note stating the nominal depth to which they are buried, as L42, but with a cable symbol.

Commentaire [c22] : New specification suggested by DK. As it is an existing symbol + legend, it is not thought necessary to introduce a new INT1 number.

B-444 SUBMARINE PIPELINES

Submarine pipelines can be divided into two main categories:

a. Oil, chemical, gas and water supply pipelines are an important feature of many areas. The pipes are generally encased in concrete for protection and to give them negative buoyancy, which can significantly increase their external diameter. Pipelines are generally laid directly on the seabed, with sections over local dips or hollows being supported physically from beneath. In some cases (eg in shallow water or near the shore), where the external diameter of the pipeline would represent a significant reduction in the water depth above it, the pipelines may be laid in trenches and possibly buried.

Supprimé : now

Supprimé : this coating

In all cases it must be assumed that the pipes are vulnerable to damage from anchoring or trawling, although in a few cases concrete domes are used to protect particularly vulnerable junctions. Gas pipes present a severe hazard to ships damaging them (from fire, explosion, or possibly loss of buoyancy). Oil and chemical pipes are a danger to the environment if fractured. Damage to water pipes supplying residential areas, mainly islands, results in disruption of water supply. In the above cases, submarine

Supprimé : large

pipelines must be charted on all appropriate chart scales, using the symbol L40.1 in magenta.

b. Outfalls and intakes such as sewers, and cooling water intakes, are mainly a feature of inshore waters. For small craft, in particular, such pipes are a potential danger to navigation. The pipes are also vulnerable to damage. They should be charted on at least the largest scales, using the symbol L41.1 in black.

The position of the dot in relation to the dash has no significance but, for consistency, the dot should be placed at the forward end of the direction of flow in a pipeline, if known.

For pipelines on land, see B-377 and for overhead pipes, see B-383.

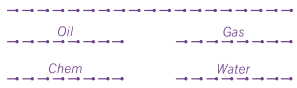
B-444.1 **Oil, chemical, gas and water supply pipelines.** The exact route of individual pipelines must be charted where possible to give the chart user full information, using the pipeline symbol L40.1 in magenta. Where pipelines are very close together, only one need be charted (on paper charts).

Oil Pipelines should be labelled 'Oil', or equivalent in magenta.

Chemical pipelines should be labelled 'Chem', or equivalent in magenta.

Gas pipelines should be labelled 'Gas', or equivalent in magenta.

Water pipelines should be labelled 'Water', or equivalent in magenta.



L40.1

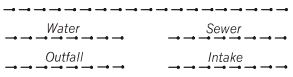
The origin and destination names and/or name of a major pipeline may be inserted adjacent to the pipeline, in sloping magenta text, where these are not obvious, eg: *Ekofisk to Emden (Norpipe).*

Oil, chemical and gas pipelines present a greater danger to ships damaging them and a cautionary note may be charted, eg:

GAS PIPELINES
Mariners risk prosecution if they anchor or trawl near a pipeline and so damage it. Gas from a damaged pipeline could cause fire or loss of a vessel's buoyancy.

Where several pipelines converge to land at the same point the symbols may be terminated before they reach the coast or inshore waters, on small scale paper charts, to avoid obscuring more important detail.

B-444.2 **Outfalls and intakes.** Pipes used for discharging sewage, water or chemicals into the sea (outfalls) and extracting seawater (intakes) must have their exact course across the seabed represented by the pipeline symbol in black. They may be labelled '*Sewer*' etc, or equivalent.



L41.1

Buoys marking outfalls and intakes should be charted on appropriate scales. Various types of buoys are used for marking outfalls, eg:

Q57

A pipe which does not constitute a danger to navigation but could be damaged by anchoring may be marked by a (yellow) Special mark (in the IALA System). Where there is a possible danger to navigation, a Lateral (or possibly Cardinal) mark will usually be used.

B-444.3 **Pipeline areas** should be charted where:

Supprimé : Discharge pipes

Supprimé : Oil, chemical, gas and water supply pipe should be labelled 'Oil', 'Chem', 'Gas', 'Water', or equivalent. Water intakes and pipes discharging water, sewage should generally not be labelled (to minimise the need for translation).

Supprimé : The position of the dot in relation to the dash has no significance but, for consistentreatment of adjacent pipes, it is suggested that the dot be placed at the seaward end of the dashes.

Supprimé : it is recommended that

Supprimé : similar to the following (modified as necessary depending on the types of pipelines charted):

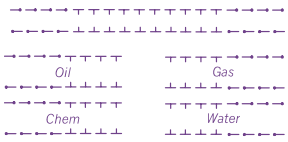
Supprimé : , exceptionally

Supprimé : Some buoyage authorities may use different buoys to indicate the nature of the danger to navigation, as in the following example.

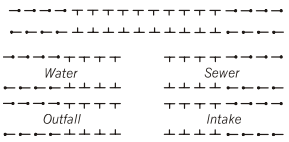
Supprimé : This implies that craft may safely pass inshore of the mark.

- pipelines are so numerous in an area that it would be impossible to chart them individually without impairing the legibility of the chart, or
- a regulatory authority designates an area for the protection of a pipeline, or pipelines.

The area must be delimited by the general symbol for the limits of restricted areas (N2.1), interspersed at intervals of about 30mm with sections of the pipelines symbol (see B-439.3). The symbol must be in magenta for supply pipelines, and in black for discharge and intake pipes. The outer limits of the pipeline area thus delineated must correspond to the area in which anchoring, trawling and dredging are prohibited or inadvisable, ie, the limits must lie at a safe distance beyond the actual lines of the outermost pipes.



L40.2



L41.2

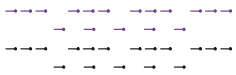
B-444.4 **Regulations prohibiting anchoring** or certain forms of fishing near submarine pipelines within territorial waters differ in detail from country to country. Where such regulations exist, it may be indicated by use of the symbol and/or in magenta (N20, 21) within a pipeline area (see B-439.4), or by reference to a note.

B-444.5 **Pipes of all types, buried** so deep that they are not vulnerable to damage from anchoring, should not be charted (so that mariners are not unnecessarily inhibited from anchoring or fishing). In marginal cases they may be charted in magenta with a note stating the nominal depth to which they are buried.

L42

B-444.6 **Beacons, notice boards or lights** marking pipeline landings must be shown in black on the largest scales.

B-444.7 **Disused (abandoned) pipelines** of all types (unless known to be buried) should be shown on the largest scale charts by the pipeline symbol with every fourth element omitted. In the case of very short lengths every second element may be omitted.


L44

B-444.8 **Pipeline installations.** Diffusers and cribs at the end of pipes, and templates, manifolds (see B-445.1) and other underwater installations associated with pipelines should be charted in the same way as other obstructions, either with the abbreviation *'obstn'* or an appropriate legend, eg *'Diffuser'*, *'Manifold'*. All specifications relating to obstructions apply; see B-411.6 and B-422.9.

B-445 OFFSHORE PRODUCTION

Oil and gas fields are exploited in many parts of the world. Although the basic methods for extracting oil and gas are well established, details of the systems and structures may vary with the characteristics of the different fields and are continually being developed.

Fixed production facilities. In a typical field, oil or gas is obtained from wells drilled from fixed production platforms, usually standing on the seabed. From each production platform, the oil or gas is carried in pipes to a facilities platform where primary processing, compression and pumping are carried out. The oil or gas is then transported through pipelines to a nearby storage tank, tanker loading buoy or floating terminal, or direct to a tank farm on shore. One facilities platform may collect the oil or gas from several production platforms, and may supply a number of tanker loading buoys or storage units. Such facilities platforms are sometimes termed Field Terminal Platforms. Converted tankers or purpose-built vessels are often permanently moored and used as facilities platforms, floating terminals, and for storage.

Drilling rigs. It is important for charting purposes to distinguish between temporary structures used in the exploratory stages and permanent structures used in the production stage. Drilling rigs (also called 'oil rigs' and including semi-submersible rigs, 'jack-up rigs' and drillships) are mobile structures used for drilling wells to

Commentaire [c23] : Addition suggested by DK

Supprimé : Where pipelines are so close together in an area that it would be impossible to chart them individually without impairing the legibility of the chart, the

Supprimé : T-shaped dashed lines

Supprimé : **Regulations prohibiting anchoring,** etc, near pipelines may differ in detail from country to country. Where thought necessary the existence of a prohibition may be indicated by a legend, or by the symbol of an anchor crossed out with an "x", all in magenta. See B-439.¶

Supprimé : *PLEM'*

Supprimé : ENERGY

Supprimé : FACILITIES

explore and develop a field. Drilling rigs are of temporary significance and should not be charted; their positions are usually promulgated in Radio Navigation Warnings and by Temporary Notices to Mariners, especially when the rigs are located in traffic lanes.

Other offshore energy production facilities include wind turbines (see B-445.8-9) and underwater current turbines (see B-445.10-11). Other methods of harnessing tidal and wave energy are also in use.

B-445.1 **Wells, Wellheads, Templates and Manifolds**.

a. **Abandoned wells.** In the course of developing an oil or gas field, numerous **wells** may be drilled. Some, which will not be required again, may be sealed at or below the sea floor and abandoned; such wells must not be charted, as they have no relevance to navigation.

b. '**Wellhead**' is a term used to describe a submarine structure projecting some distance above the sea floor and capping a temporarily abandoned (or 'suspended') oil or gas well. Their associated pipes and other equipment usually project some 2 - 6 metres, but in some cases as much as 15 metres, above the sea floor. Some may be covered by steel cages to avoid snagging trawling gear. In certain instances, a wellhead may project above the sea surface.

Wellheads must be charted on at least the largest scale charts, together with associated buoys, as a hazard to fishing and, dependant on depth, as a hazard to deep-draught vessels and towed structures.

The symbol must be a danger circle with the legend '*Well*'. Where the depth of water over the top of the wellhead is known, it may be inserted within the danger circle (as for any other obstruction, see B-422.9).

L21.1

L21.2

Swept (K2) or safe clearance (K3) symbols should be added if appropriate. Blue tint appropriate to the depth should be added. If no depth can be inserted, solid blue tint should be added if the surrounding depths are less than 100m (see B-411.6).

Some countries have national laws prescribing 500 metres radius 'safety zones' around suspended wells (see B-445.6).

c. Submerged production systems. In relatively deep water a production wellhead may be a seabed installation only, eliminating the need for a permanent production platform. Due to the depth of water, such an installation is normally of no concern to surface navigation. Wells which are in use for producing oil or gas are termed 'Production Wells' (sometimes known in the oil industry as 'subsea completions'). Production wells are often marked by light-buoys to assist recovery and to indicate a hazard to navigation or fishing. They generally have surrounding safety zones to protect the installation (see B-445.6). They should be charted in the same way as suspended wellheads; they will normally be distinguishable from the latter by the charted pipelines connected to them.

d. Single Well Oil Production Systems (SWOPS) are production wells from which oil is recovered by a tanker dynamically positioned over the well, lighted as an offshore installation. However, at times the tanker may be off-station leaving the well unattended, at which time it is similar to a suspended well. These should be charted as wellheads; the abbreviation '*SWOPS*' may be used in lieu of '*Well*'.

e. **An Injection well** is drilled to inject fluids or gas into a geological trap to encourage the flow of oil from a production well. These should be charted as wellheads.

f. **Templates and Manifolds.** A number of wells may be drilled from one rig by using a structure, termed a 'template', placed on the sea floor below the rig to guide the drill. A 'template' may stand as much as 15 metres above the sea floor. The output from a number of wells may sometimes be collected in an **Underwater Manifold Centre (UMC)**, a large steel structure up to

Supprimé : Wells which are in use for producing oil or gas are termed 'Production Wells'.

Supprimé : a.

Supprimé : bottom

Supprimé : (or equivalent if any nation cannot accept Well as an international term) against it

Supprimé : at chart datum,

Supprimé : Whatever the legality and nature of such safety zones, it is considered impracticable to show their limits on charts. (For safety zones around platforms,

Supprimé : Their wellheads are often surmounted by a complex of valves and pipes, similar to those on suspended wells, known as a 'Christmas Tree'.

Commentaire [c24] : L20 no longer required. Symbol and abbreviation should now be obsolescent in INT1.

Supprimé : ,

Supprimé : with

20 metres in height above the sea floor, for delivery to a production platform. A **Pipeline End Manifold (PLEM)** is, typically, a steel frame secured to the sea floor with piles to anchor the end of a submarine pipeline. They are normally associated with those pipelines which terminate at offshore tanker berths, eg Single Buoy Mooring (see B-445.4). Flexible hoses, provided with buoyancy aids, rise vertically upwards from the PLEM and connect with the underside of the SBM, or directly to the tanker.

These installations must be charted, if required, as obstructions (see B-422.9) with the legends *'Template'*, *'Manifold'*, or equivalent, instead of *'Obstn'*. If it is required to chart a PLEM, it must be charted as a manifold. Swept (K2) or safe clearance (K3) symbols should be added if appropriate. Blue tint appropriate to the depth should be added. If no depth can be inserted, solid blue tint should be added if the surrounding depths are less than 100m (see B-411.6).

g. Above-water wellheads. In shallow water, wells may sometimes project above the sea surface at some or all states of the tide. The structure of valves and pipes (known as a 'Christmas Tree') may then be visible as a 'dry tree'. When unlit, this feature must be charted by a small position circle and the legend 'Pipe' and, when lit, by a light star, light flare and light description. If it covers at some states of the tide, it should be enclosed in a danger line. A height, or drying height, should be added to the legend, in brackets, if known.

L23

Commentaire [c25] : DID: Please add example with danger circle and drying height, sloping legend.

B-445.2 Platforms (including production platforms).

Several different types of platforms are in use. They are normally piled steel or concrete structures, the latter held in position on the sea floor by gravity. **Tension Leg Platforms** (TLP) consist of semi-submersible platforms secured to flooded caissons on the sea floor vertically below them by wires kept in tension by the buoyancy of the platform.

Platforms may serve a number of purposes. They may carry any of the following equipment: drilling and production equipment, oil and gas separation and treatment plants, pump-line stations and electricity generators. They may be fitted with cranes, a helicopter landing deck, and accommodation for up to 350 people. Platforms may stand singly or in groups connected by pipelines. Some stand close together in a complex, with bridges and underwater cables connecting them. Unwanted gas or oil is sometimes burnt from a flaring boom extending from the platform or from a nearby flare stack.

a. Platforms must be charted on all large and medium scale charts covering oil- and gas-fields. Where they lie close together, they may have to be generalised (on paper charts) so that a single symbol represents more than one platform.

The symbol for a platform must be: **L10** and **P2.**

b. **Lights and fog signals.** As all platforms must carry lights, the small symbol is emphasized by the associated light flare. The lights and fog signals commonly used for platforms and associated structures consist of the following:

- A 360° white light (or lights operated in unison) flashing Morse code (U) (meaning 'You are standing into danger') every 15 seconds, visible 15 miles and exhibited at an elevation of between 12 and 30 metres.

- A secondary (emergency) light or lights with the same characteristics, but visible only 10

miles, automatically brought into operation on failure of the main light(s).

- Synchronized red lights, flashing Morse code (U) every 15 seconds, visible 2 miles, and exhibited from the horizontal extremities of the structure which are not already marked by the main light(s).

- A fog signal sounding Morse code (U) every 30 seconds, audible at a range of at least 2 miles.

On charts which include, or are likely to include, many platforms, a note should be inserted on the chart describing the lights and fog signals, instead of individual legends at each platform, eg:

OIL [and/or GAS] FIELDS
Platforms and associated structures exhibit white and red Mo(U) lights, red obstruction lights, and Mo(U) audible fog signals. Unauthorized navigation within 500 metres of all such structures is prohibited.

This note may be varied to take account of local circumstances, but where different (distinctive) lights are used, the light descriptions must be inserted individually against the platform symbols.

c. **Flares.** As with refineries on land (see B-374.1), offshore terminals may burn off gas from production platforms or from 'flare stacks' set up as separate structures a short distance from the production platforms. In the latter case the stacks must be charted by:

L11

with the international abbreviation 'Fla', but without a coloured light flare (or patch).

d. **Floating Production Facilities**. Semi-submersible drilling rigs and tankers are sometimes converted to act as production platforms, and are then known as `Floating Production Facilities` or `Floating Production Platforms`. If required, they must be charted in the same way as other platforms (L10). Floating Production Facilities are normally kept on station by a number of chains and anchors, usually extending well outside the designated safety-zone. Where scale permits, the positions of these chains and anchors should be charted by magenta lines and anchor symbols (L18). On smaller scale charts, a dashed magenta circle encompassing the anchors and other ground tackle with the legend *'Anchors and Chains (see Note)'*, or equivalent, may be charted together with a suitable explanatory note.

e. **Platform designations** are often displayed prominently on the structures (see B-445.3). Platforms are usually protected by designated **safety zones** (see B-445.6).

B-445.3 **Names of oil- and gas-fields and associated features.** Offshore production generates a large number of shipping movements concerned with supplies, construction, inspection, repair and maintenance, safety, and sometimes including tankers. Not all this traffic will be familiar with platform and field locations. The **field names** should be inserted on the chart, in black, as soon as a cluster of wells indicates that a field is being developed and the name is notified, eg:.

EKOFISK
OILFIELD **L1**

On smaller scale charts, this may be shortened to Ekofisk, ie omitting 'Oilfield'. Where the limits of the fields have been designated, the symbol N1.1 (black maritime limit implying permanent physical obstructions) should be used.

Identification panels usually display the registered name or other designation of platforms and associated structures in black lettering on a yellow background. They are so arranged that at least one panel is visible from any direction, the panels being illuminated or the background being retro-reflective. These **platform designations** may be charted on the larger-scale charts where space permits, eg:

Supprimé : T

Supprimé : are

Supprimé : Q42)

Commentaire [c26] : Noting there are no INT symbols, it is not considered necessary to develop specifications for L13, L14 & L15. The entries in INT 1 are candidates for removal in due course.

Supprimé : ¶
¶
In the North Sea, the lighting of platforms is governed by schedules specifying white and red lights of certain minimum ranges which flash the Morse letter "U" ("You are standing into danger") and fog signals of the same character. On charts which include, or are likely to include, many platforms it is recommended that a cautionary note be given on the chart describing the lights and fog signal instead of individual legends at each platform. Where different (distinctive) lights are used, the light descriptions must be inserted individually against the platform symbols.¶
¶
By international law, platforms may be surrounded by safety zones, extending 500 metres from the outermost points of the installations, in which navigation is restricted to certain classes of vessels, or vessels in particular circumstances. On the largest scales 'if space permits), these safety zones shall be shown delimited by T-shaped dashed lines in magenta. On al scales on which the platforms are charted a cautionary note shall be given explaining the meaning of the safety zone.¶
¶

IL3¶
¶
Buoyant structures, such as articulated towers pivoted on the sea bed, and buoyant oil terminals, eg Brent SPAR, too large to be classed as buoys, shall be charted by the platform symbol because they carry lights and fog signals similar to platforms and, to the mariner, are virtually as "fixed" as true fixed platforms. See also B-445.4.¶
¶


IL12¶
¶
It is recommended that a single cautionary note relating to production platforms is used in a form similar to the following:¶
¶
"PRODUCTION PLATFORMS¶
¶
Platforms exhibit white lights Mo(U) (range), red lights Mo(U) and red obstruction lights, and sound for horns Mo(U). Unauthorised navigation with 500 metres of any platform is prohibited".¶

L2

B-445.4 **Mooring systems.** Although the oil and gas from some fields are sent ashore by submarine pipeline (see B-444), a variety of mooring systems have been developed for use in deep water and in the vicinity of certain ports, to allow the loading of large vessels and the permanent mooring of floating storage vessels or units (see B-445.5). These offshore systems include large mooring buoys, designed for mooring vessels up to 500,000 tonnes, and platforms on structures fixed at their lower ends to the sea floor. They allow a vessel to moor forward or aft to them, and to swing to the wind or stream. Those which are fixed are termed **Single Point Moorings** (SPM). Those which are a form of mooring buoy are termed **Single Buoy Moorings** (SBM). Like production platforms, SPM and SBM normally have lights and fog signals.

a. Fixed moorings (SPM).

A **Mooring Tower** is secured to the sea floor and summounted by a turntable to which ships moor. At some mooring towers, a floating hose connects a fluid swivel-assembly in the turntable to the vessel; at others an underwater loading arm carries a pipe from the turntable to the vessel's midship manifold.

A **Single Anchor Leg Mooring** (SALM) consists of a rigid frame or tube with a buoyancy device at its upper end, secured at its lower end to a universal joint on a large steel or concrete base resting on the sea floor, and at its upper end to a mooring buoy by a chain or wire span. Oil flows into the frame through the universal joint at its lower end and out of the frame through a cargo hose connected to a fluid swivel-assembly at its upper end. When the pull of a vessel is taken by the mooring buoy, the frame inclines towards the vessel and the buoy may dip. When the vessel swings, to wind or stream, the frame swings with her on the articulated joint at its foot. This type of mooring is particularly suited to loading from deep water subsea wellheads.

An **Articulated Loading Column** (ALC) is a development of a SALM, with the anchor span and buoyant frame or tube replaced by a metal tower, buoyant at one end and attached at the other by a universal joint to a concrete-filled base on the seabed. Some are surmounted by a platform which may carry a helicopter deck, a turntable with reels for lifting hawsers and hoses clear of the water, and emergency accommodation. These may be termed **Articulated Loading Platforms** (ALP).

Mooring towers and all buoyant structures, such as SALMs or ALCs, which are connected to the seabed by rigid, pivoted or articulated structures, carry lights and fog signals similar to platforms. Their positions are fixed, as true platforms, so must be charted by the platform symbol with legend 'SPM' (L12)

L12

b. Floating moorings (SBM).

A floating mooring, such as a SBM or a **Catenary Anchor Leg Mooring (CALM)**, generally incorporates a large buoy which remains on the surface at all times. In the case of a CALM, the buoy is moored by four or more anchors which may lie up to 400 metres from the buoy. A Pipeline End Manifold (PLEM) (see B-445.1f) is often found under the buoy, and mooring hawsers and cargo hoses lead from a turntable on the top of the buoy, so that the buoy does not turn as the ship swings to wind or stream.

An **Exposed Location Single Buoy Mooring (ELSBM)** is a development of CALM, designed for use in deep water where bad weather is common. The buoy is replaced by a large floating structure, summounted by a helicopter platform and emergency accommodation. Its anchors may lie up to half a mile from the structure. A **Spar** mooring is similar to an ELSBM but even larger and incorporates storage facilities and is permanently manned.

All these moorings must be charted by the symbol for a tanker mooring of superbuoy size.

L16

For ground tackle associated with any of these moorings, see B-431.6

B-445.5 Moored Vessels.

a. Floating Storage Unit (FSU). A simple hulk providing storage for fully-processed oil awaiting export, usually through a SBM or similar. They will normally be un-manned.

b. **Floating Storage and Offtake (FSO).** A vessel which stores fully-processed oil and provides facilities for loading export tankers. It will normally be moored in such a way as to allow it to swing to wind or stream. It is always manned.

c. **Floating Production, Storage and Offtake (FPSO).** FPSO are used to produce oil and gas from fields which are located in water that is too deep for fixed production platforms. These are highly specialized vessels which are part ship, part oil and gas processing plant, and part storage unit. The finished product is exported to shore by pipeline or tanker. Older versions of FPSO (usually converted tankers) may be moored to SPM or SBM. Modern versions incorporate a turret, through which pipelines connect to the sub surface facilities. The turret is anchored to the sea floor and incorporates a swivel which allows the vessels to rotate through 360° under the influence of wind and tidal stream.

FSU, FSO and FPSO should be charted by the symbol for a moored storage tanker, L17:

L17

Commentaire [c27] : DID: insert L17 symbol, with legend *FPSO* alongside

An appropriate legend or abbreviation, eg '*Storage Tanker*', '*FSU*', '*FSO*','*FPSO*' (or equivalent) may be added adjacent to the symbol.

If the vessel is moored to a SPM or SBM, and the paper chart scale does not permit charting the mooring and the vessel, the legend should be placed adjacent to the symbol L12 or L16, as appropriate, and the symbol L17 omitted.

For Single Well Oil Production Systems (SWOPS), at which tankers are intermittently moored, see B-445.1.

B-445.6 Safety Zones.

Under UNCLOS, a coastal state may establish safety zones around artificial islands, installations and structures in their EEZ and on their continental shelf. These installations include drilling rigs, production platforms, wellheads, moorings and other associated structures. Safety zones normally extend 500m from the outermost points of the installations. Within these zones, appropriate measures can be taken to ensure the safety of navigation and of the installations.

On the largest scales charts (if space permits), these safety zones must be shown by magenta general maritime limit for restricted areas (N2.1).

L3

Commentaire [c28] : DID: please change symbol to smaller size Ts (N2.1)

A cautionary note explaining the meaning of the safety zone should be inserted, if installations which have safety zones are charted. If the safety zones are not charted, eg because of scale, the note should explain which installations have safety zones. See example at B-445.2b.

B-445.7 Development Areas.

The development of an oil or gas field involves the frequent movement of large structures and buoys and the laying of many miles of pipeline, both of which are dependent on the weather. Where such operations occur it is often impossible to give adequate notice of movements and to keep charts and publications completely up-to-date. Certain fields which are developing are designated Development Areas. Within these areas construction, maintenance and supply vessels (including submersibles), divers, obstructions (possibly marked by buoys), and manoeuvring tankers may be encountered. Mariners are strongly advised to keep outside Development Areas.

The limits of Development Areas should be charted. If shown, the limits must be charted by dashed magenta lines (N1.2, N2.1 or N2.2 as appropriate, depending on the degree of restriction). The magenta legend

'*DEVELOPMENT AREA (see Note)*' must be inserted within or adjacent to the area and, if possible, under the field name. A note, in magenta, should be inserted under the chart title, eg:

DEVELOPMENT AREA
Within oil/gas field Development Areas, surface vessels, submersibles and divers may be engaged in constructing and servicing installations. Other vessels are strongly advised to keep outside the charted limits.

Where Development Areas are not designated, it may be appropriate to insert a note drawing attention to drilling activity.

B-445.8 **Wind turbines** are generally tall, multi-bladed structures, usually with two or three blades, often visible over long distances. Their purpose is to generate electricity for large communities, or to feed a national grid. They are often in groups (known as wind farms) and may be sited on-shore (see B-374.6). Individual wind turbines must be shown by the symbol:

L5.1

If a navigational light is attached to the wind turbine, a flare should be added to the base, and the light description placed alongside. Where vessels may navigate close to the structure, it is appropriate to show the minimum clearance height under the blade, using symbol D20.

B-445.9 **Wind farms** may be shown by groups of wind turbines in their actual positions (if scale and available information permits), or by a maritime limit with the centred symbol: 

The symbol N1.1 (black maritime limit implying permanent physical obstructions) should normally be used for the limit of a wind farm:

L5.2

However, this should be replaced by N2.1 or N2.2 as appropriate, where restrictions on navigation apply, eg:

L5.2

Note: Individual wind turbines which have navigational lights attached should be charted, even within a wind farm, if scale permits.

Supprimé : normally

B-445.10 **Underwater turbines,** for generating electricity from tidal currents, must be represented:

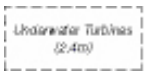
L24

Where the depth of water over the turbine is known, it may be inserted within the danger circle. The rules for blue tint, swept and safe clearance depths must be applied as for wrecks and other obstructions (see B-411.6, B-415, B-422.5 and B-422.9), eg:

Where part of the structure is above water, and marked (eg. with a beacon or light), the appropriate symbols must be used. On small-scale charts, where it may not be practicable to show the danger circle, the legend '*Underwater Turbine*' should be used, eg:

B-445.11 **Current Farm (or Turbine Field).** Where groups of underwater turbines exist they should preferably be charted individually. Where scale or available information does not permit this, then the symbol N1.1 (black maritime limit implying permanent physical obstructions) should normally be used for the limit of a

current farm:



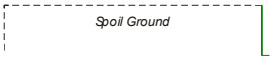
However, this should be replaced by N2.1 or N2.2 as appropriate, where restrictions on navigation apply. A legend should be inserted within the boundary, eg:

B-446 SPOIL GROUNDS; EXTRACTION (or DREDGING) AREAS

a. Spoil grounds are areas set aside, clear of shipping channels and in deep water where possible, for the disposal of material (spoil) generally obtained by dredging. Their significance to the mariner is that very large quantities of material may be dumped, decreasing the depth of water available. In contrast, dumping of harmful materials (see B-442.1-5) is unlikely to affect depths substantially and such dumping grounds are charted primarily as a warning against anchoring, trawling or other submarine operations.

b. Extraction (or dredging) areas are those areas where a concentration of dredging vessels may be encountered, taking up sand or shingle to be brought ashore (eg for construction purposes). Their significance is primarily as a collision hazard, although they also indicate the likelihood of finding a greater depth of water than charted. Channels dredged to provide an adequate depth of water for navigation are 'dredged areas' (see B-414), not to be confused with 'dredging areas'.

B-446.1 **Spoil grounds.** The limits of spoil grounds must be charted by a black dashed line, normally on the largest scale charts of an area only. If the depths within the area are liable to be very much less than charted after the discharge of spoil, they may be treated as unsurveyed areas (see B-418.1); soundings and depth contours may be omitted from the area, provided adequate warning is given by the use of blue tint, and/or a cautionary note accompanying the legend.

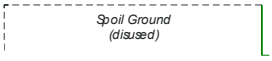


N62.1

Commentaire [c29] : DID Please improve text

The legend '*Spoil ground*', or equivalent, must be charted within, or adjacent to, the limits. In some cases, where no precise limits have been designated, the grounds can be represented only by a legend.

B-446.2 **Disused spoil grounds** should be labelled '*(disused)*', or equivalent, until the area has been re-surveyed, after which the limit and legend should be removed from the chart.



N62.2

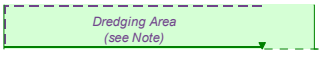
Commentaire [c30] : DID Please improve text

B-446.3 **Buoys marking spoil grounds** should be charted on all appropriate scales. (These will normally be Special Marks in the IALA System).

Q56

B-446.4 **Extraction (or dredging) areas.** The limits of dredging areas, where in regular use over long periods, must be charted by a magenta dashed line, normally on the largest scale charts of the area only.

Commentaire [c31] : DID: please replace 'Dredging' by 'Extraction' in the graphic.



N63

Supprimé : *Dredging Area*

Supprimé : B-446.5

Supprimé : Dredging

Supprimé : near the title

The legend 'Extraction area', or equivalent, must be charted within, or adjacent to, the limits, in magenta. If considered necessary, a cautionary note may be inserted in magenta warning mariners that vessels engaged in

dredging are frequently at work in the area shown.

B-447 **AQUACULTURE: FISH TRAPS, SHELLFISH BEDS, FISH HAVENS, MARINE FARMS**

Aquaculture is the term used to describe the cultivation of fish and marine vegetation. Differing methods are used; those of particular significance to the mariner are outlined below:

a. **Fish traps,** stakes and nets are usually sited in shallow water. They can be very large and extend up to several miles offshore and form an obstruction to navigation.

b. **Shellfish beds** are found in shallow water. Dependant on vessel draught and tidal range, it is usually possible to navigate over them, at high water, but they can be damaged by vessels anchoring or grounding on them.

c. **Fish havens** are formed by dumping rocks, concrete blocks, old cars, etc in varying depths of water. Vessels may navigate over seabed fish havens, if draught permits, but they are hazards to anchoring or seabed operations.

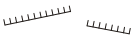
d. **Marine farms** are collections of cages, nets, rafts and floats, or posts, where fish, including shellfish, are reared. They obstruct navigation, and are likely to be marked by buoys and possibly lights. They are not always confined to inshore locations.

e. **Fish aggregation devices (FAD)** are man-made objects designed to attract fish. They may be:
- placed on the sea floor
- anchored or drifting and with the attracting structure on or near the sea surface
- anchored and with the attracting structure in the water column.

The structures vary in size, shape and water depth.

Some aquaculture structures are in place only for limited periods of the year. This may be charted by the use of a chart legend, eg: *(Apr-Nov),* or be explained in an accompanying note or associated publication.

B-447.1 **Fishing stakes** should, where their position is known, be charted thus:



K44.1

B-447.2 **Fish traps (or weirs) and tunny nets** should, where their position is known, be charted thus:

K44.2

B-447.3 **Extensive areas** of fish traps or tunny nets may be charted by legends and dashed limits (or lines) in lieu of symbols. Legends are also preferable if the positions of the traps are liable to considerable change.

K45

Details may be given in a chart note, or in an associated publication, eg:

TUNNY NETS
Tunny nets exist off the coast of [*name*] extending as much as seven miles from the shore. Mariners are warned to keep a good lookout for these nets which may be marked by day and night.

B-447.4 **Shellfish beds that do not contain physical obstructions** should be charted by a legend in magenta, '*Shellfish Beds (see Note)*', or equivalent, with limits (if known) charted by dashed magenta lines (N1.2). A note may be

Supprimé : ¶
Dredging Area (see Note) ¶
IN63¶

Supprimé : AND

Supprimé : fairly

Commentaire [c32] : DID: please improve text

Supprimé : cautionary note

inserted warning against anchoring or grounding in the area, or giving details of any local regulations.

Supprimé : For shellfish farms, see B-447.6.

Commentaire [c33] : DID: add *(see Note)* to graphic

K47

If shellfish beds contain obstructions to surface navigation, eg trestles, the symbol for a marine farm must be used (see B-447.6).

B-447.5 **Fish havens (or fishery reefs)** are artificial shelters of stones, concrete, scrap vehicles, etc, intended to attract fish and crustaceans. A single haven must normally be charted by the symbol:

Supprimé : small

Supprimé : must

Supprimé : , in black,

Supprimé : an enclosing danger line with a fish symbol

Supprimé : within it

K46.1

A group of havens (or a single haven large enough to be shown true to scale) must be shown by an enclosing danger line with one or more fish symbols:

K46.1

The minimum depth or maximum authorized draught (see B-432.4), over any haven or group of havens, must be charted, if known:

K46.2

Maximum authorized draught must be indicated between arrowheads, eg:

<7,3m>

Blue shallow water tint must be applied to fish havens as appropriate to the depth and, where the minimum depth is not known, in accordance with the practice for obstructions (see B-411.6). However, exceptionally, for large areas of fish havens where no depth data is available, if the surrounding water area is coloured the tint may be omitted to draw attention to the areas (as for unsurveyed areas, see B-418.1).

If considered necessary, an explanatory legend, eg '*unsurveyed*', or a note may be inserted on the chart.

Supprimé : s

Vessels deliberately sunk to form fish havens should be shown by the appropriate wreck symbol.

B-447.6 **Marine farms,** including shellfish farms**,** must be shown by either of the symbols:

K48.2

The symbol used is not intended to represent a plan outline of the actual farm limits. The larger symbol (size 4 x 4mm) should normally be used, but in congested locations where it is too large, the smaller symbol (size 2 x 2mm) may be used**.** The nature of the obstructions may be explained in a cautionary note.

Supprimé : in black (size 4 X 4 mm) horizontally.

Supprimé : to be used

On large-scale charts, the actual limits within which obstructions may be found should be shown by dashed lines (N1.1). The larger symbol must be inserted in the area and may be repeated if required.

Supprimé : (black)

Supprimé : The nature of the obstructions may be explained in a cautionary note.

K48.1

Buoys or beacons marking a farm may be charted where chart scale permits. Lights on cages, rafts, etc, should be shown by a description against the symbol, in sloping lettering, eg *(Q.Y Lts)* or may be described in a note.

Supprimé : only

For ground tackle associated with fish farms, see B-431.6.

B-447.7 **Fish aggregating devices (FAD)** should be charted by the most appropriate symbol. Underwater FADs (whether on the sea floor or in the water column) should be charted as fish havens (see B-447.5), with the depth if known and no legend. Moored surface FADs should be charted by an appropriate buoy symbol or (for larger rafts, etc) by a small marine farm symbol (K48.2) with the abbreviation '*FAD*', or equivalent, to distinguish it from a farm where fish are artificially cultivated. Free floating (unmoored) FADs cannot be charted.

B-448 DEGAUSSING RANGES

A degaussing (or demagnetising) range is an area, usually of about 0.2M diameter, within which ships' magnetic fields may be measured. Sensing instruments and cables are installed on the sea bed in the range and there are cables leading from the range to a control position ashore. The range is usually marked by distinctive buoys.

The significance of a degaussing range to mariners is that anchoring and trawling are prohibited and that the range may have to be avoided when vessels are using it.

Supprimé : charted

Supprimé : in general

Supprimé : , first,

Supprimé : , second,

Supprimé : seen to be

B-448.1 **The limits of degaussing ranges** and any associated submarine cable areas should be represented by the symbol used for the limits of cable areas (L30.2, see B-443.2). If the size of the area does not permit use of this symbol, the T-shaped dashes alone should be used. The legend '*Degaussing range*', '*DG range*' or equivalent, should be inserted within the area in magenta.

N25

B-448.2 **Buoys marking** degaussing ranges should be charted on all appropriate scales. (These will be Special Marks in the IALA System and may be marked *'DG'*).

Q54

Commentaire [c34] : DID: please add *DG* to buoy

B-449 VARIOUS MARITIME AREAS AND LIMITS

B-449.1 **Ice limits.** If required, the limits of sea ice (seasonal pack ice, drift ice) must be shown by the magenta symbol

N60.2

Supprimé : in magenta

Ice limits at the junction of land and sea, including fast ice and the edges of glaciers intruding into the sea (see B-353.8), must be shown by the symbol, in black and with no colour tint behind it:

Supprimé : same

N60.1

Commentaire [c35] : DID: please insert black version of symbol.

As ice fronts move, a date when the limit was surveyed should be included if possible, in parentheses and in the same colour as the ice limit, eg:

Commentaire [c36] : DID: insert symbol N60.1, with a date (2007), on the inside of the limit.

B-449.2 **Floating barriers.** The limits of log ponds (timber pounds, log booms), oil barriers, security barriers, ice booms, shark nets and any other floating barriers must be charted as a black dashed line (N1.1) with small black (solid) circles (F22) where there are posts, piles or other supports. A legend, eg '*Log pond*', '*Floating Barrier*', or equivalent, should be inserted in the area or along the inside of the limit as appropriate.

Supprimé : fine

N61

F29.1

Commentaire [c37] : DID:please insert symbol as in 5011

B-449.3 **Incineration areas**. Certain offshore areas were formerly designated as suitable for the burning of chemical waste by specially-equipped ships. Incineration of wastes at sea was permitted under the 1972 IMO Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, but was later prohibited under amendments adopted in 1993. It is specifically prohibited by Article 5 of the 1996 Protocol.

B-449.4 **Cargo transhipment area.** Areas generally outside port limits may be specifically designated as suitable for the transhipment of oil or other materials from large ships to small vessels. The areas selected are relatively sheltered locations and lie off main shipping routes. As the purpose of transhipment is usually to reduce the draught of the larger vessel to allow her to proceed to port, the operation is often known as 'lightening' and the areas may be known as 'lightening areas' or 'cargo transfer areas'.

The limits of officially designated transhipment areas must be charted by dashed magenta lines (N1.2) with the accompanying legend '*Cargo Transhipment Area*', or equivalent, and any known identifying letter or number.

N64

The depiction of the areas on charts should be adequate to warn other vessels of the likelihood of encountering ships restricted in their ability to manoeuvre, without the need for cautionary notes on charts. Regulations governing the use of such areas should be included in associated publications rather than on charts.

Cargo transhipment areas should not be confused with waiting (holding) areas (see B431.9).

B-449.5 **Historic wrecks.** Many nations have designated areas around certain wrecks of historical or cultural (eg sea graves) importance to protect the wrecks from unauthorised interference (eg: by diving, salvage or anchoring). The limits of such areas may be shown on the largest scale charts by the symbol for a restricted area (N1.2) with a magenta legend '*Historic Wk*', or equivalent. Any wreck detail and associated buoyage must be shown in black.

N26

B-449.6 **Seaplane operating area:** limits must be represented, in magenta, by the symbol:

N13

Seaplane operations may include landing, take-off, anchoring (or mooring) and drawing water for fire-fighting operations. On smaller scales where the limits cannot be charted, or where there are no specified limits, the point symbol may be used.

N13

If required, it may be placed alongside an anchorage symbol, to denote a seaplane anchorage (or mooring).

N14

Revised specification B-431.6, to be approved at the same time as revised section B-440-449:

B-431.6 **Mooring ground tackle.** Underwater chains, cables and anchors, if required, must be charted by the magenta symbol:

L18

Supprimé : officially

Supprimé : ¶
. The limits of incineration areas mustare to be charted by dashed magenta lines, with the accompanying legend '*Incineration Area*', or equivalent. xplanatory or cautionary notes relating to the areas should normally appear in Sailing Directions but not on charts.¶
¶

N65¶

Supprimé : Sailing Directions

Supprimé : deposition (including

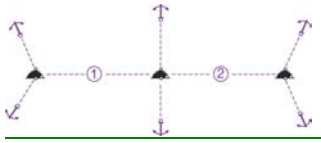
Commentaire [c38] : Revised symbol and point version. See CSPCWG 3 record (paragraph 8.10). Draw to attention CSMWG

Commentaire [c39] : The existing N14 would be obsolescent

The anchor size should be the same as used in anchorage limits (N12), the shaft with ring being not more than 3.0mm long.

Ground tackle may be used, eg, for stabilising or fixing in position mooring buoys; fish farms; floating energy installations; for holding floating structures, eg vessels, pontoons, away from quays. If the actual chains, cables and anchors cannot be charted, an area (**N1.2**) with magenta legend, eg: '*Chains and anchors*' may be used.

Mooring trots: Exceptionally, and on very large scales only, mooring berths between buoys may be shown with their numbers or letters inserted in circles, in magenta.



Q 42