

INTERNATIONAL HYDROGRAPHIC
ORGANIZATION



ORGANISATION HYDROGRAPHIQUE
INTERNATIONALE

CHART STANDARDIZATION & PAPER CHART WORKING GROUP (CSPCWG)

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

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To CSPCWG Members

Date 4 February 2009

Dear Colleagues,

Subject: Draft revision of M-4 Section B-480 to B-499 – Round 1

Following guidance received at the CSPCWG5 meeting in Sydney, we are ready to submit a first draft of Section B-480 to B-499 (Annex A) for your consideration. In the meantime, Andrew and I will be working through the many useful comments received regarding B-600 'Maintenance Section'.

As usual, we would be grateful for your comments on the draft, paying particular attention to all the track changes and marginal comments. Marginal comments prefixed 'DID' are instructions to an internal UKHO section, who will be responsible for converting the draft to a pdf file and updating the graphics before submitting to Member States; you can ignore these comments. Blue text is used for minor changes which we believe to be uncontroversial.

For your convenience, we have included a response form at Annex B with particular questions on which we would welcome your views; however, please feel free to comment on any other points as well.

Particular points to note:

- The guidance for charting various radio position-fixing stations has been considerably reduced, as most of these are now obsolete or no longer useful to mariners. This was agreed at CSPCWG5.
- A brief mention is made of Loran, as this is still an extant navigation system, but without any charting requirements.
- A new specification for VTS has been included at B-488.3.
- Some rationalization of B-491.1 and B-491.2 (pilots) has been made, to avoid unnecessary duplication.
- The sections covering Signal Stations have been rearranged in a more logical way, as agreed at CSPCWG5. Some obsolete signals have been removed, which will have consequences for INT1.
- It was agreed at CSPCWG5 that in future signal stations should be highlighted by a light flare (unless the SS does not use lights). Also, that where SS lights also serve a navigational function then the position circle should be replaced by a light star. This is a significant change of current policy which reflects changes in the real world and has been included in the draft.

Please respond, using Annex B, but also with a track change version of Annex A if necessary, **by 1 April 2009.**

Yours sincerely,



Peter G.B. Jones,
Chairman

Annex A: Draft revision of M-4 Section B-480 to B-499 – Round 1 (sent separately)

Annex B: Response form

B-480 RADIO POSITION-FIXING STATIONS: GENERAL

Transmissions from radio stations may provide mariners with a line of position. Most radio position-fixing systems require Radio Direction Finding (RDF) equipment to determine the bearing of the transmitting device; such equipment is generally no longer fitted on vessels. The exception is 'emergency use only' VHF-based direction finding services (which do not use RDF equipment); for details see B-483. Consequently, the following radio position-fixing stations are now obsolete and there is no longer any value in charting them:

- a. Circular (non-directional) (RC), directional (RD) and rotating pattern (RW) marine radiobeacons;
- b. Consol beacons (Consol);
- c. Aeronautical radiobeacons (AeroRC);
- d. Radio direction-finding stations (except VHF-based emergency stations) (RG);
- e. Coast Radio Stations providing 'QTG' service (R).

If it is required to chart any radio station, the position **must** be shown by a **black** position circle, unless the position is already charted by another symbol, such as a light star or radio mast.

The location of a charted radio station **must** be emphasised by a **magenta** circle 3mm radius, centred on the position. This symbol is generally referred to as a radio circle; it is also used for coast radar stations providing range and bearing on request (see B-485.1), various radar beacons (see B-486) and AIS-equipped aids to navigation (see B-489). The **international** abbreviation indicating the type of transmission **must** be printed in magenta adjacent to the circle. More than one abbreviation may be shown against one radio circle if appropriate.

The name of the radio station **must** be charted **in black text** if it is not otherwise evident. **It must** be the name adopted by the operating authority.

For radio masts and towers which serve as landmarks, see B-375.

B-480.1 Aeromarine radiobeacons, if charted, must be denoted by the abbreviation 'RC', as there is no functional distinction from those exclusively for marine use.

**S10**

B-480.2 Radio calibration stations are radiobeacons which transmit over a short range, either routinely or on request, in order to enable ships' RDF equipment to be calibrated. They **must** not be charted; and marine radiobeacons which provide a calibration service in addition to their normal transmissions **must** not be distinguished on charts.

B-480.3 Loran (LORange Range Aid to Navigation) is a low frequency electronic position-fixing system. The signals are broadcast from widely spaced masts and are currently available in North West Europe, North America and parts of Asia. It provides a back-up for or alternative to satellite navigation systems and may be partly integrated with them. There is no requirement to include details on charts.

Commentaire [c1]: Suggest delete this paragraph as vessels generally no longer have RDF equipment. RDF is not a mandatory requirement on SOLAS vessels anymore

B-481 MARINE RADIOBEACONS AND GLOBAL NAVIGATION SATELLITE SYSTEMS

B-481.1 Circular (non-directional) marine radiobeacons (RC) were formerly charted as:



Rotating pattern radiobeacons (RW) were formerly charted as:



It is no longer useful to chart these radiobeacons, see B-480.

B-481.2 Directional radiobeacons (RD), of short range, were formerly charted as:



Where the bearing line coincided with a leading line defined by lights or other visual features, they were charted as:



It is no longer useful to chart these radiobeacons, see B-480.

B-481.3 Consol beacons were a long-range form of rotating pattern radiobeacon for aeromarine use. They were formerly charted as:



Commentaire [c2]: Suggest delete this paragraph.

B-481.4 Older forms of electronic positioning have been largely superseded by **Global Navigation Satellite Systems (GNSS)**, such as the Global Positioning System (GPS). Satellite systems are normally referred to World Geodetic System 1984 Datum (WGS84). It is therefore helpful to draw the mariner's attention to the horizontal datum by indicating boldly in the chart margin whether a chart's datum is compatible with WGS84; see B-202 and B-255.3.

B-481.5 Differential Global Positioning System (DGPS) is an enhancement to the Global Positioning System that uses a network of fixed ground-based reference stations to broadcast the difference between the positions indicated by the satellite systems and the known fixed positions.

DGPS stations that provide DGPS corrections to the mariner may be charted. However, as the corrections are normally automatically fed into onboard systems, charting the site of the DGPS station does not assist the mariner. If required, **they** must be charted as:



Commentaire [c3]: The site of the DGPS station does not itself provide a fix.

B-482 AERONAUTICAL RADIOBEACONS

Aeronautical radiobeacons were formerly charted as:



It is no longer useful to chart these radiobeacons, see B-480.

B-483 RADIO DIRECTION-FINDING STATIONS

Radio direction-finding stations were established on shore to provide a radio-location service. This was formerly an automated service for vessels equipped with Radio Direction Finding (RDF) equipment, but as this is now not generally carried by vessels, that form of the service is now obsolete.

Direction-finding is now only provided as an emergency service by VHF. If required, such stations must be charted as:



S14

The position circle may be replaced by a symbol such as a radio mast, if appropriate. Generally, they should be shown on charts which allow navigation within about 50 miles of the transmitter (or a little more for very high transmitters). It is important to show the actual position of the transmitter, so that any bearing plotted from it is accurate. Whenever possible, the name of the station should be added, in black, to facilitate using in conjunction with an associated publication containing the service details.

B-484 COAST RADIO STATIONS PROVIDING 'QTG' SERVICE

Coast Radio Stations providing QTG service were formerly charted as:



S15

It is no longer useful to chart these stations, see B-480.

Commentaire [p4]: The service/function is effectively provided by GPS.

B-485 RADAR STATIONS AND RADAR-CONSPICUOUS OBJECTS: GENERAL

Radar services provided for the mariner to ascertain his position may be classified as follows:

- a. Coast radar stations (Ra);
- b. Radar beacons (see B-486).

If the station or beacon is not located at a charted aid to navigation or landmark, its position, if required, must be denoted by a black position circle.

The location of the charted station or beacon must be emphasised by a magenta radio circle, centred on the position, see B-480.

The international abbreviation indicating the type of station must be shown in magenta, adjacent to the circle.

B-485.1 Coast radar stations (Ra) are shore-based stations which the mariner can contact by radio to obtain a position. The stations must be charted if the ship's position is given in terms of bearing and distance from them. See also B-487.3.

Commentaire [p5]: Do these still exist?



S1

B-485.2 Radar-conspicuous objects. Natural and manmade features which are known to give an unexpectedly strong radar response may be distinguished by the magenta symbol



S5

(preferably oriented so that the short strokes point seawards). Features such as coastal cliffs would be expected to give a strong response and do not need the symbol.

For use of the **black** symbol , meaning a **radar reflector**, see B-455.8 and B-459.2 (on beacons) and B-465 (on buoys).

B-486 RADAR BEACONS

Radar beacons are transmitters operating in the marine radar frequency band. The signals produce a characteristic line on a vessel's radar display enabling the mariner to determine his position with greater certainty than would be possible by means of a normal radar display alone. If charted, they must be shown by a black position circle (if not located at a charted aid to navigation or landmark), emphasised by a magenta radio circle and adjacent abbreviation, see B-480.

B-486.1 **Ramarks** are radar beacons, operating at present in the 3cm (X) marine radar frequency band, which transmit continuously. The signals produce a line on the ship's radar display from the position of the ship to the circumference and indicate the bearing. Ramarks should be charted, on appropriate scales, **in magenta**, using the **radio** circle and **adjacent** abbreviation 'Ramark'; see B-480.



S2

The sweep period and range of the ramark should not be shown on charts. If required, the sector coverage should be shown in the same way as for racons (see B-486.4).

B-486.2 **Racons** are radar transponder beacons which emit a characteristic signal when activated by the emissions of a vessel's radar. The signal produces a bearing line on a radar display running approximately from the position of the racon towards the circumference. The signal may be coded to provide a Morse or other identification symbol on the radar display. Racons in regular service only **must** be charted. (It is usual for racons to be established initially on an experimental basis, in some cases for long periods, while they are being evaluated; **they should not be charted** until they have been accepted for permanent use). They **must** be shown on appropriate scales, **in magenta**, using a **radio** circle and **adjacent international abbreviation** 'Racon'; see B-480. The sweep period and range of the racon should not be shown on charts.

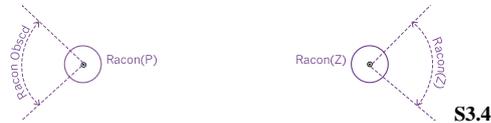
B-486.3 **Identification and response frequencies of racons.** The Morse identification letter should be added in parentheses, eg. 'Racon (Z)'.

Racons emit a signal in the 3cm (X), the 10cm (S), or both marine radar bands. This information was formerly charted, but to avoid clutter, and the possibility of confusion between Racons transmitting in both bands and where the information is unavailable, it should not be charted. Such details are best given in associated publications, which may also provide other information such as sweep time, range and length of flash on a radar display.

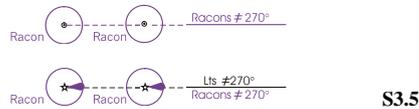


S3.3

B-486.4 **Racon with sector of obscured reception.** Where a chart shows a racon without any sector limits, the mariner will assume that the signal can be received at any position within the range of the racon. If, for some reason, the racon signal is obscured between certain bearings, this information should be shown on appropriate scale charts in magenta by sector limits and arcs. 'Sector limit' is used to denote the line or bearing of a Racon where the signal disappears. There may be a small angle of uncertainty at the limit of the arc of reception of the signal; it is impracticable to show this angle. 'Sector arc' is used to denote the curved line against which the legend 'Racon Obscd' is inserted. If necessary, the sector of reception may be shown. Limits of sectors and arcs **should** be charted as **magenta** fine dashed lines (about 10 dashes to **10mm**) with small arrowheads at the ends of the sector arcs.



B-486.5 **Leading racons** are established such that, when their bearing lines are coincident on a vessel's radar display, the bearing serves to indicate the track to be followed. The leading line should be represented, in magenta, by a bold continuous line for the part of the track which may be followed, and a fine dashed line (approximately 6 dashes per 10mm) for the remainder of the line up to the rear mark. A legend such as 'Racons ≠ 270°' should be shown in magenta near the seaward end of the line. Where the leading line coincides with a leading line based on lights or visual objects (usually because the positions of the Racons coincide with visual features or lights also used to mark the leading line), the line should be shown in the usual style (see B-433.3) in black only, but with two legends eg. 'Lts ≠ 270°' in black above the line, and 'Racons ≠ 270°' in magenta below the line:



Note however, in accordance with B-433, that if the marks are clearly identifiable on the chart, no legend or symbol is necessary; only the bearings should be shown in black and magenta, above and below the line respectively. See also B-433.2.

Commentaire [c6]: DID: please reinsert ≠ symbols in this section in magenta

B-487 **RADAR SURVEILLANCE SYSTEMS**

Many large ports have a radar surveillance system covering their approaches to provide guidance for vessels, particularly in poor visibility. There are also radar surveillance systems covering larger regions, such as the Channel Navigation Information Services, covering the Dover Strait (Pas de Calais) and approaches.

Systems vary but generally have in common the following features, which should be shown on charts as appropriate to the scale:

- a. One or more large radar scanners, frequently mounted on high towers. These are visually conspicuous and are charted in accordance with the specifications for landmarks (see B-340).
- b. The maximum range of the system forms an arc or series of overlapping arcs. The outermost arc showing where vessels first come under radar surveillance should be charted. See B-487.1.
- c. To assist the passing of positional information to ships, some port authorities wish to have their radar reference lines shown on charts. See B-487.2

B-487.1 **Radar range** arcs may be shown where considered useful, in magenta with the international abbreviation 'Ra', and possibly the name of the station, eg:



B-487.2 **Radar reference lines** are mid-channel lines corresponding to lines incorporated in vessel traffic services (VTS, see B-488.3) radar displays. A line is used as a positional reference so that the VTS authorities may easily give a vessel her position, relative to the line, when visibility is poor. These must be charted on appropriate scale charts.

Where the lines fall exactly on charted recommended routes or tracks, the reference lines should be shown by

Commentaire [c7]: DID: please insert simplified portrayal, ie the lower graphic without the legends on the line (just retain the bearings).

the **international abbreviation 'Ra'**, in magenta, against the track symbols, at regular intervals. Where the reference lines do not fall on charted tracks they should be shown by a magenta dashed line (approximately 4 dashes per 10mm), with the **international abbreviation 'Ra'**. A local radar guidance system may require a reference line of particular design, eg it may be divided into sections with reference names or numbers; these should be charted. These lines are primarily reference lines and do not necessarily represent the exact tracks to be followed by all vessels guided by radar. An explanatory note may be included on the chart, if required.

----- Ra ----- **M32.1**

----- Ra ----- 270°- 090° **M32.2**

Commentaire [c8]: DID; please reverse the bearings, ie 090°-270°

B-487.3 A **radar station** established for traffic surveillance **must** be charted, **if required**, by a **black** position circle and the **black** legend 'Radar Surveillance Station', or equivalent. As such stations do not require a knowledge by a **vessel** (wanting a position check) of the radar station's location, they **must** not be charted as Coast Radar Stations, ie, they **must** not have magenta **radio** circles or the abbreviation 'Ra'. (It is considered advisable to reserve the abbreviation 'Ra' for those stations which can be used directly by the mariner).

○ Radar Surveillance Station **M30**

Commentaire [c9]: May need to be removed if we delete B-485.1.

The radar tower or scanner may form a landmark; if so, it **must** be charted by a **black** position circle with a descriptive legend, in which the term 'radar' **must** not be abbreviated.

Commentaire [c10]: Why not?

○ Radar Mast **E30.1**

○ Radar Tr **E30.2**

○ Radar Sc **E30.3**

○ Radome **E30.4**

Commentaire [c11]: Why should the appropriate symbols for scanner, radio mast or tower, not be used rather than a position circle?

Alternatively, the appropriate landmark symbol, eg mast (E28), tower (E29), may be used with the legend 'Radar' adjacent.

B-488 RADIO REPORTING (CALLING-IN) POINTS AND LINES; VESSEL TRAFFIC SERVICES

B-488.1 Radio reporting points have been established in certain busy waterways and port approaches to assist traffic control. On passing these points, vessels are required to report on VHF to a Traffic Control Centre, which may be part of a Vessel Traffic Service, see B-488.3.

They **must** be shown on charts by a magenta circle with an arrowhead or arrowheads thus:



The symbol **must** be shown in the centre of the fairway if a position is not otherwise specified, and oriented to denote the direction(s) of vessel movement. A single arrowhead indicates that a report is required only when a vessel is bound in that direction. At route junctions, reporting points may have more than two arrowheads, each pointing in the general direction of vessel movement.

If the radio reporting point has an alphanumeric designator, it **must** be shown in magenta within the circle, eg:



If the designator is too large to fit in the circle, it may be shown adjacent to it. It should not be necessary to show VHF channels on the chart, as the mariner will normally refer to an associated publication for reporting details. If required, however, references to VHF may be given adjacent to the circle, not inside it. It must be prefixed 'VHF' to distinguish it from an alphanumeric designator shown outside the circle, eg:



Alternatively, VHF channel areas may be shown on a diagram, which may be combined with other information, see B-298.

The name of the station to which reports should be made may be inserted, in sloping magenta text, adjacent to the symbol, see B-488.3. If the requirement to report by radio relates to certain classes of vessels only, this should be indicated by a magenta legend adjacent to the symbol, (eg 'Tankers') or a note on the chart, which may refer to an associated publication for further details.

B-488.2 **Radio reporting line.** Where vessels are required to report on crossing a defined line, the line must be charted, normally by a dashed magenta line (general maritime limit of non-restricted area - N1.2), with small reporting point symbols superimposed across the line:



Circle diameter 1.85mm, triangle base 1.15mm, triangle height 1.50mm. Symbols should be inserted at approximately 40mm intervals.

A single arrowhead must be used if a report is required only when a vessel is bound in that direction. If the reporting line coincides with another limit, the symbols should be superimposed on that limit. See also B-439.6k.

B-488.3 **A Vessel Traffic Service (VTS)** is a service implemented by a competent authority to improve the safety and efficiency of vessel traffic operations and to protect the environment. A VTS provides, from one or more traffic control centres, a number of services which may include:

- Traffic management for the safe and efficient movement of vessels within the area, usually including mandatory reporting;
- Navigational assistance to support onboard decision making, usually on request (see also B-487.2 for radar reference lines);

Commentaire [c12]: A way point is a passage planning term, not necessarily the same as a reporting point, and this symbol would not be used.

- Information for vessels operating in the area, eg: on arrival, berthing, anchoring and departure from ports; about movements of other vessels; on navigational hazards; regarding weather. These may be regularly broadcast or be available on request.

A VTS may cover an individual port, or a much larger regional VTS (possibly containing local VTS), may provide services to vessels in the outer approaches to ports, or transiting through the region. Consequently, there may be VTS within VTS and also overlapping VTS, making it difficult for the mariner to always be aware which VTS area is applicable. Therefore, wherever the information is available, limits of VTS areas should be charted, at least on the largest scale chart and on appropriate smaller scales where navigation is practicable and/or to assist passage planning.

VTS limits should be charted by a magenta dashed line (**N1.2**) with a legend in sloping magenta text along the inside of the line, eg *Severn VTS (see Note)*. If the VTS limit coincides with another limit, that limit should be retained, but the legend added. The limit of a VTS area may coincide with a radar surveillance arc (see B-487.1) or a radio reporting line (see B-488.2).

A note should be added to the chart, listing all the VTS areas which have vessel reporting requirements if they fall wholly or partially within the chart, whether the limits can be charted or not or the reporting points cannot be charted (for example because they are time rather than position related). For example, for one VTS:

VESSEL REPORTING
For details of the [Name] VTS, see [associated publication].

or for several VTS, eg:

VESSEL REPORTING
For details of the following [vessel traffic services and vessel reporting systems], see [associated publication].:

- London VTS
- Ramsgate Port Information Service
- Medway Navigation Service
- Dover Strait Reporting System (CALDOVREP).

If there is no available publication, essential details may be given in the note. To assist cross referencing, it is important to use exactly the form of name used in any associated publication, noting that not all vessel traffic services or reporting systems have 'VTS' as part of the name. The abbreviation VTS should be used when applicable (as this is an **international abbreviation**).

Within VTS areas there are usually designated positions or lines at which vessels are required to report to a traffic centre, see B-488.1. Where vessels are required to report by radio on entering or leaving a VTS area, the limit of the VTS area should be charted as a radio reporting line, see B-488.2.

If there is more than one VTS (or other reporting authority) in the area of the chart, the appropriate name(s) should be charted in sloping magenta text against the reporting point. The name should be as succinct as possible to avoid clutter, eg London, Ramsgate, Medway or CALDOVREP in the examples above, but the full name should be included in the note.

Where a radio reporting point requires reports to more than one authority, all the names should be inserted, as close as possible to the arrow head which applies to that authority. The name must be that of the authority to which the report should be made, not of the port which is being approached, if different. Names must be included on the largest scale chart and, if room, on all other scales on which the reporting point is shown, including charts that may be used for route planning. The same principles should be applied at selected points along a radio reporting line.

B-489 **AUTOMATIC IDENTIFICATION SYSTEM (AIS)**

The Automatic Identification System (AIS) is an autonomous and continuous broadcast system, operating in the VHF maritime mobile band. It exchanges information such as vessel identification, position, course, speed, etc and can also be applied to Aids to Navigation. It is in this latter application that it may be useful to chart the

transmitter.

B-489.1 An AIS-equipped Aid to Navigation (AtoN) may provide a positive identification of the aid. It may also transmit an accurate position, and provide additional information such as actual tidal height or local weather; details of these functions, which cannot be charted, should be provided in associated publications as appropriate. AIS transmitters on AtoN must be charted using the magenta radio circle and international abbreviation 'AIS', see B-480:



S17.1



S17.2

S17.1 (with the letters in upright text) must be used with fixed aids. S17.2 (with the letters in sloping text) must be used with floating aids. In most cases, the magenta centre position circle should be replaced by the symbol for the actual AtoN, eg a light star or buoy symbol. If it is necessary to chart a 'virtual' AIS AtoN, where no physical aid exists, then the centre position circle (a magenta version of B22) must be used in lieu of the AtoN symbol.

Commentaire [c13]: DID: please change centre dot & small circle to magenta

Commentaire [c14]: This paragraph only has minor changes, as it was recently approved by MS. The change to a magenta position circle was agreed by CSPCWG5 (as there is no physical aid at the position). INT1 will need to be amended

B-490 MARINE SERVICES AND SIGNAL STATIONS

The type and location of marine services must be shown on large scale charts and, for pilotage services, also on appropriate smaller scale charts..Actual details of the service should be given in associated publications.

B-490.1 Types of station fall into the following groups:

- a. Pilot stations. The most important feature is the position of the boarding place. The shore station should be charted with a legend. See B-491.
- b. Coastguard stations. These may sometimes be combined with a signal station or a Harbour Master office. See B-492.
- c. Rescue stations and refuges. These are not generally associated with signal stations. See B-493.
- d. Signal stations
 - i. See B-494 for general information about signal stations
 - ii. Traffic signals, regulating ship movements. See B-495.
 - iii. Tidal and water level indicator signals. See B-496.
 - iv. Other signal stations with several different functions, or established for reporting ship movements (but not including radio reporting points). See B-497.

B-491 PILOT STATIONS

For charting purposes the term 'Pilot Station' is applied to any of the following:

- a. **At sea**, the boarding place; the pilot vessel may either cruise in the area or come out on request. Off some large ports pilots on outgoing ships may be disembarked at a different location. Pilots may board from a helicopter; it is then less important for a ship to reach the exact position of the boarding place but an approximate position should still be charted. Some pilot stations are used solely for long-distance (deep-sea) pilots.
- b. **Ashore**, it may be a lookout station, keeping visual watch, or an office from which pilots may be requested.

Pilots may be in constant attendance, in regular attendance at certain limited times, or available by previous arrangement only. The primary purpose of charted pilotage information is to show the **position** of the facility. Because of the many variations in the service provided, the main source of information on pilotage must be **in an associated** publication.

B-491.1 The position of a pilot boarding place or pilot cruising vessel must be shown by the magenta symbol:



T1.1

The symbol should be shown on all appropriate charts larger than 1:350 000 scale, with the additional details below shown on port approach and harbour charts.

Where an area is specified, rather than an exact position, the symbol may be shown, as appropriate:

- centred within a magenta maritime limit in general (N1.2),
- for a large area, the symbol may be placed, north up, between dashes at approximately 40mm intervals along the limit,
- within a waiting (holding) or an anchorage area, see B-431.3 and B-431.9

Commentaire [c15]: The former sections B-490.2-4 have been transferred to B-494. This reorganization was agreed at CSPCWG5.

Commentaire [c16]: Boarding place in INT1, no reference to meeting place.

Commentaire [c17]: 491.1 and 491.2 combined as the symbol is the same. There is no obvious reason why 'disembark' is given at 491.1 and not at 491.2. 491.2 becomes just the helicopter pick-up, as this is a different symbol.

Commentaire [c18]: Propose the coastal navigation scale, see B-126, to be appropriate.

If there is a special name for the pilotage district, or if the pilots are used for a distant port, the name of the district or port may be added, in magenta sloping text, adjacent to the symbol, eg:



T1.2

Where the position of a station varies with sea conditions, add a legend, eg ‘*Bad weather*’ or equivalent in magenta sloping text, adjacent to the symbol at the alternative inshore, sheltered location. Similarly where a station is used solely for long-distance pilots, add ‘*Deep Sea*’ or equivalent. Where a station is used solely for disembarkation, there is usually no need to chart it (as it is not a meeting place). However, if it is required to chart it, add ‘*Disembark*’ or equivalent.



T1.3

B-491.2 **Pilots transferred by helicopter.** Where a station is used solely for pilots to board from a helicopter, the international abbreviation ‘*H*’ shall be added, in magenta sloping text, adjacent to the symbol:



T1.4

Where an area is specified, rather than an exact position, the symbol may be shown:

- centred within a magenta maritime limit in general (N1.2),
- for a large area, the  symbol may be placed, north up, between dashes at approximately 40mm intervals along the limit, as well as inserting T1.4 in the centre of the area.

B-491.3 A pilot lookout station at a shore position may be shown on large scale charts by the symbol for a building with the legend ‘Pilot lookout’, or equivalent, adjacent to it:



Commentaire [c19]: DID, please delete hyphen: Pilot lookout (as INT1)

B-491.4 A pilot office may be shown on large scale harbour plans by the symbol for a building with the legend ‘Pilots’, or equivalent, adjacent to it.



Commentaire [c20]: Propose delete T2/491.3? Do pilots ever ‘maintain a lookout today?’

B-491.5 A port which is known to have a pilotage service, but where the location of the boarding place is not known or is off chart limits, may have the magenta legend ‘(Pilots)’, or equivalent, added under the name of the port on the harbour and approach scale charts.



T4

On smaller scale coastal charts on which inshore detail is mostly omitted, the magenta symbol:



T1.1

should be inserted in the approaches to a port which is known to have a regular pilotage service.

Commentaire [c21]: Upgraded to ‘should’ because of usefulness to chart user.

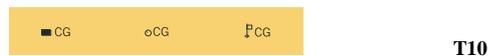
B-492 COASTGUARD STATIONS

The organisation of coast-watching and rescue services differs from country to country. For charting purposes it is assumed that two distinct functions can be recognised, even though they may be parts of the same organisation co-ordinating and effecting life saving and performing other services. The two functions are:

- a. Watch-keeping - stations at which a watch is kept either continuously, or at certain times only, are sited so as to have a commanding view, are often associated with signal stations, and are visually prominent. They are referred to below as Coastguard stations.
- b. Rescue - the places at which life saving equipment is held, especially lifeboats (usually in relatively sheltered positions, near sea level) are not necessarily visually prominent and their precise position is not important; they are referred to below as Rescue stations (see B-493).

B-492.1 Coastguard stations are located along the coasts of most maritime nations. Their primary purpose in former days was to enforce customs regulations, observe the movements of ships and to watch for signs of distress at sea. These functions are largely superseded by modern telecommunications and Search & Rescue (SAR) arrangements, coordinated by regional Maritime Rescue and Coordination Centres (MRCC).

B-492.2 Many modern Coastguard services no longer maintain visual watch from fixed stations, however, because stations were usually situated so as to have a commanding view and may therefore be visually prominent and make good fixing marks, the buildings may still be charted as landmarks. If charted, the position of a coastguard station must be shown either by a building symbol or the symbol for a signal station or flagstaff, as appropriate. The **international abbreviation 'CG'** should be inserted in black text adjacent to the symbol, if the building is still in use as a coastguard lookout. Where appropriate, the abbreviations for Signal Station should also be shown.



Maritime Rescue and Coordination Centres are part of a constantly manned communications watch system. They should be charted, if required, by a suitable building symbol with the **international abbreviation 'MRCC'** adjacent. The name of the station may be included, eg 'MRCC Swansea'.

Commentaire [c22]: See CSPCWG5 Action 26

B-493 RESCUE STATIONS AND REFUGES

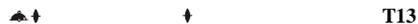
The range of equipment used in rescue is wide, eg, search & rescue helicopters; fast, long-distance lifeboats; inflatable inshore lifeboats.. It is not possible to make such distinctions on charts. Lifeboat stations of all types should be shown on the largest scale charts.

B-493.1 The symbol for a rescue station is:



without any accompanying abbreviation. It should normally be shown in lieu of any building housing the lifeboat but on large scale charts may be shown alongside such a building or slipway.

B-493.2 A lifeboat lying at a mooring may be shown by



The symbol should normally be shown adjacent to the mooring buoy, but may be shown in lieu of the buoy on charts on which mooring buoys are not shown.

B-493.3 A combined coastguard and rescue station may be shown by charting the coastguard station in its correct position with the rescue station symbol alongside it.

■ CG † ○ CG † P CG †

T11

B-493.4 A refuge for shipwrecked mariners should be charted by the abbreviation

Ref T14

The abbreviation should be inserted adjacent to an appropriate symbol, such as a building (D5) or a refuge beacon (Q124).

Commentaire [c23]: This replaces the special Antarctic symbol for a refuge, as agreed at CSPCWG2

B-494 SIGNAL STATIONS: GENERAL

Signal stations communicating visually have declined in importance. They are charted not only for their main role of signalling information and instructions but also as a form of landmark. The signals generally exhibit lights by day and night but may display shapes or flags by day. If required to be charted, the position of the station should be represented by a position circle (B22 - see B-305.1) with a light flare, unless it is known that the signals are not lights. If it is known that the lights also serve a navigational purpose in addition to the signal (eg as part of a leading line), then a light star should also be inserted instead of the position circle (see B-490.4).

Commentaire [c24]: CSPCWG5 agreed to use this section to include the general information about SS (previously at B-490.2 to B-490.4), where it was isolated from other information about SS in the following specifications). Storm and Danger and any other remaining signals moved to B-497.

B-494.1 Signal stations: the international abbreviation for a signal station with no specified function is 'SS':

○SS

T20

Where the function of the signal is specified, the international abbreviation 'SS' must precede the function given in brackets eg 'SS(Lock)', or equivalent.

Commentaire [c25]: If there are navigation lights, why no flare? (This discussion was noted during the revision of B-470.5). It was agreed at CSPCWG 5 that it would be more consistent to have a flare.

B-494.2 Descriptions of lights used for signalling purposes must not normally be inserted on charts. However, exceptions to this rule would include lights which in normal mode are used as aids to navigation, such as leading lights used also as port entry signals. See also B-495.

B-495 TRAFFIC SIGNAL STATIONS

For charting purposes traffic signals can be considered to include:

- Port entry and departure signals;
- Lock, docking and berthing signals;
- Bridge signals;
- International traffic signals.

The nature of traffic signals varies from country to country and even from port to port. Signals generally exhibit lights by day and night but may display shapes or flags by day. Where it is known that the signals are lights, a light flare should be added to the symbol marking the position of the signal station. A light star should not normally be used, but for exceptions see B-494, B-495.1 and B-495.3.

Commentaire [c26]: As agreed at CSPCWG5

Where signals at charted signal stations conform to the IALA 'Recommendations for Port Traffic Signals', see B-495.4, the international abbreviation '(INT)' should follow the abbreviation 'SS' and should replace or precede other legends in parenthesis in B-495.1 to B-495.4. A light flare should be added to the symbol.

B-495.1 Port entry and departure signals are important and should be charted by a position circle or building symbol with the legend 'SS(Traffic)' or equivalent.

p SS(Traffic)

T22

Commentaire [c27]: DID: please add flare

Such signals may also form part of a leading line, or the lights may be permanently displayed to assist an approaching vessel identify the port. In such cases, a light star should replace the position circle.

Commentaire [c28]: Is this true? If so, should the characteristic of the lights be charted and how, given that the characteristic may change?

Large ports may combine control functions in a centralised signal station, usually prominent, which may be charted as 'SS(Port Control)', or equivalent.

p SS(Port Control)

T23

Commentaire [c29]: DID: please add flare

B-495.2 Lock, docking and berthing signals may be displayed within, or in the approaches to, a port. These should be shown on harbour charts where space permits, using the appropriate legend, eg, 'SS(Lock)' or equivalent.

p SS(Lock)

T24

Commentaire [c30]: DID: please add flare

B-495.3 Bridge signals. Signals at opening bridges may be charted if required, using the legend 'SS(Bridge)' or equivalent.

p SS(Bridge)

T25.1

Commentaire [c31]: DID: please add flare

Bridge lights marking the centres of navigable spans (and sometimes non-navigable spans) are not primarily traffic signals and should be charted by light stars, where space permits, with light descriptions. Where such lights change character to regulate traffic movements they should be charted as light stars, where space permits, but should carry the legend 'SS(Traffic)', or equivalent.



Commentaire [c32]: DID: please improve graphic

B-495.4 International traffic signals. In 1982, the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) published new international rules for signals under the title 'Recommendations on Port Traffic Signals'. An updated version was issued in 1998. It is expected that existing signals will gradually be replaced, so that eventually all ports throughout the world will have uniform basic signals. In addition to controlling port traffic, these signals may also be used to control movement at locks and bridges.

The principal characteristics of the international rules are:

- Only lights are used;
- The main movement message given by a Port Traffic Signal shall always comprise 3 lights vertically disposed. No additional light shall be added to the column carrying the main messages;
- Main messages are:
 1. 3 flashing red lights indicate a serious emergency: all vessels to stop or divert according to instructions.
 2. 3 fixed or slow occulting red lights indicate 'Vessels shall not proceed'.
 3. 3 fixed or slow occulting green lights indicate 'Vessels may proceed. One way traffic'.
 4. 2 (upper and middle) fixed or slow occulting green lights indicate 'Vessels may proceed. Two way traffic'.
 5. 2 (upper and lower) fixed or slow occulting green lights indicate 'A vessel may proceed only when it has received specific orders to do so'.
- A single yellow light to the left of the column carrying main messages 2 or 5 above, at the level of the upper light, may be used to indicate that 'Vessels which can safely navigate outside the main channel need not comply with the main message'.
- Signals auxiliary (additional) to the main signal may be devised by the appropriate local authority. Such auxiliary signals should employ only yellow and/or white lights and should be displayed to the right of the column carrying the main message.

Where a traffic signal is known to conform with the above rules, the abbreviation 'SS(INT)' must be used. In such cases, the legend '(Traffic)' is not required. Where considered necessary, other legends may follow 'INT' eg 'SS(INT:lock)'. A light flare must be added to the position circle.

SS(INT)

T21

Commentaire [c33]: Auxiliary is the word used by IALA in E-111 - is it generally understood?

Commentaire [c34]: DID: please add flare

B-496 TIDAL AND WATER LEVEL INDICATOR SIGNALS

The following features, all connected with showing or recording the height of the tide or strength of tidal stream, may be found on some large scale charts:

- a. A visual scale which directly shows the height of the water above a datum. They are often found at lock entrances indicating the depth of water over the sill. A variation is found near some bridges, indicating the headroom as the water level rises and falls.
- b. Signals, visible from some distance, which indicate the height of tide or strength of tidal stream.
- c. Automatically recording tide gauges which do not normally have a facility for direct reading by the mariner.
- d. Tidal 'stations', ie, places for which predicted heights are available in published tide tables.

Any of the above may be found together at the same location.

B-496.1 Tide scales and recording tide gauges are minor features which may be charted on the largest scale charts if space permits.

The location of visual scales should be shown by the symbol.

⚓

T32.1

The location of a recording tide gauge may be indicated by a legend, if thought useful.

◦ Tide gauge **T32.2**

B-496.2 **Tide signals** are prominently displayed at some ports and range from a simple system which merely shows whether there is enough water to enter a drying harbour (or whether the level is rising or falling) to an elaborate coded system of shapes and lights which, when totalled, give a fairly accurate guide to the depth of water. They should be charted on the larger scale charts by means of a position circle with the legend 'SS(Tide)' or equivalent. Traffic signals, see B-495, should take precedence over **tide** signals if there is insufficient space to chart both.

◦ SS(Tide) **T33**

B-496.3 **Tidal stream signals** giving both speed and direction of the tidal flow, are displayed in a similar manner to other tidal information. They are usually sited in the approaches to narrow channels where the rate of the tidal stream is strong, and can be read from some distance off, thus enabling the mariner to plan, or time, his approach. They should be charted similarly to tide signals, using the legend 'SS(Stream)' or equivalent. In some areas maritime traffic control is dependent on tidal streams; in such cases the regulations may be explained in a note.

◦ SS(Stream) **T34**

B-497 OTHER SIGNAL STATIONS

B-497.1 **Storm, weather and ice signal stations**, if considered of sufficient importance to the mariner either as a source of warning signals or as a landmark, should be shown on the largest scale charts by a position circle and legend, eg 'SS(Storm)' or equivalent. Traffic signals should take precedence over storm signals if there is insufficient space to chart both.

◦ SS(Storm) **T28**

◦ SS(Weather) **T29**

B-497.2 **Danger signals**, eg, for firing areas. The position circle may be replaced by a flagstaff (E27) or small light star and flare (P1) depending on the nature of the signal.

◦ SS(Ice) **T30**

◦ SS(Danger) **T35**

◦ SS(Firing) **T36**

Commentaire [c35]: B-496.4 does not belong under Signals and duplicates information at B-406.1.

Commentaire [c36]: Do these exist separately from storm and ice signals?

DRAFT REVISION OF M-4 SECTION B-480 TO B-499 – ROUND 1

Response Form

(please return to CSPCWG Secretary by xx March 2009)

andrew.coleman@ukho.gov.uk

Specification	Question	Yes	No
B-480.2	Do you agree to delete the specification for Radio Calibration Stations, which we believe to be obsolete?		
B-481.3	Do you agree to delete the specification for Consol beacons, which we believe to be obsolete?		
B-485.1	a. Do coast radar stations (Ra) still exist?		
	b. If yes, should they still be charted?		
	c. If yes, how does the mariner make contact, if the radio contact details are not available? (Please provide answers below)		
B-487.3	Should the abbreviation Ra (for Radar) be used in black, as it is in magenta?		
B-491.1	Do you agree to standardize on use of the term 'Boarding place' for pilot stations, and remove 'Meeting place' as an alternative? (INT1 has just 'boarding place')		
B-491.3	Do you agree to delete specification B-491.3 and make symbol T2 obsolescent? (We think it is unlikely that pilot station still maintain visual lookouts).		
B-491.1	CSC records show that the scale 1:1 000 000 was considered by US and CA to be too small. Do you agree that the coastal navigation scale 1:350 000 (see B-126) is more appropriate? (We have moved the former guidance from B-491.6 to the beginning of the section at B-491.1, where it seems more useful).		
B-495.1	If a signal station's lights also serve as navigational lights (eg a leading light), should the position circle be replaced by a light star (as it always has been for bridge lights, see B-495.3)? (If yes, how should the characteristic of the light be charted, given that it may vary between eg 3F.R(vert) and 2F.G(vert). Please include suggestions below).		
B-495.3	Do you agree that the legend 'Traffic Sig' at bridge lights which also serve as traffic signals is an unnecessary complication and using 'SS(Traffic)' under the light description is clear? (If yes, T25 would become obsolescent).		
B-497.1	Do you agree to delete the specification for SS(Weather)? (We believe they are obsolete).		

Further comments:

M-4 Part B

Name:

Member State:

