

Paper for Consideration by NCWG

Marine Radiobeacons - Clarifications

Submitted by:	IHO Secretariat
Executive Summary:	Some inconsistencies have been found between the specifications included in S-4 and the corresponding ENC encoding specifications regarding the inclusion of marine radiobeacons on charts.
Related Documents:	S-4 – clauses B-480; B-480.1 and B-482 S57 Appendix B-1, Annex A – <i>Use of the Object Catalogue for ENC</i> – clause 12.9.1 S-32 – <i>IHO Hydrographic Dictionary</i> (online version)
Related Projects:	S-101; S-57

Introduction/Background

1. It has been identified that the information contained in S-4 clause B-480.1 and the corresponding ENC encoding guidance S57 Appendix B-1, Annex A – *Use of the Object Catalogue for ENC* – clause 12.9.1 is not consistent. Clarification is sought from the NCWG as to the correct specification to apply, which may have implications for S-4. While researching this paper, an additional minor syntax inconsistency between the two specifications was also identified that will need to be resolved for consistency.

Analysis/Discussion

2. S-4 clause B-480.1 states the following:

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.



The corresponding specification for the encoding of aeromarine radiobeacons as included in S57 Appendix B-1, Annex A – *Use of the Object Catalogue for ENC* (UOC) – clause 12.9.1 is as follows:

12.9.1 Marine and aero-marine radiobeacons (see S-4 – B-481)

It is no longer useful to encode marine and aero-marine radiobeacons for ENCs.

3. There is a clear discrepancy between the two Publications, especially given that the introductory clause at S-4 – B-480, while listing the various types of radio position-fixing stations that are now obsolete and therefore not useful to show on charts, aeromarine radiobeacon is not included on this list (NOTE: The specification included in the UOC has been taken through to S-101 with the removal of the attribute **category of radio station** values 1 to 4 as allowable values):

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 (Aero RC);
 - d. Radio direction-finding stations (except VHF-based emergency stations) (RG);
 - e. Coast Radio Stations providing 'QTG' service (R).
4. In order to resolve this discrepancy, one of 2 options must be agreed:
- a. The information shown in S-4 is correct. In this case, the ENCWG and S-101PT must be informed that the guidance included in the UOC and the S-101 DCEG must be amended.
 - b. That the guidance included in the UOC is correct. In this case the specification at B-480 must be amended. Suggested changes are shown below in red:

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- a. Circular (non-directional) (RC), directional (RD) and rotating pattern (RW) marine radiobeacons;
- b. Aeromarine radiobeacons (RC);
- c. Consol beacons (Consol);
- d. Aeronautical radiobeacons (Aero RC);
- e. Radio direction-finding stations (except VHF-based emergency stations) (RG);
- f. 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 shown 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, if known, 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 (RC) were formerly, if charted, must be denoted by the abbreviation 'RC', as: ~~there is no functional distinction from those exclusively for marine use.~~

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

5. Given that the current clause B-480.1 includes the statement that aeromarine radiobeacons have “no functional distinction from those exclusively for marine use”, option (b) is considered to be the preferred option.
6. In addition to the above, it was noted that the syntax used in S-4 is “aeromarine” while the syntax used in the UOC is “aero-marine”. Research indicates that the syntax for the term where used in the IHO Hydrographic Dictionary is “aeromarine”, therefore there is no change proposed for S-4. However the ENCWG should be notified that all instances of “aero-marine” in the UOC should be amended.

Recommendations

7. The following recommendations result from the issues raised in this paper.
 - A. It is recommended that the NCWG discuss the requirement to chart aeromarine radiobeacons. It is suggested that, in order to be consistent with the specifications for other marine radiobeacons, S-4 is amended to remove this requirement. If this is agreed, consideration should be given to amended S-4 clauses B-480 and B-480.1 in line with the draft changes included at paragraph 4.
 - B. It is recommended that the NCWG confirm the syntax of the term “aeromarine” and inform the ENCWG accordingly for amendments to be made to the UOC.

Justification and Impacts

8. The recommendations in this paper will improve the consistency between the specifications provided in S-4 and the UOC.

Action Required of NCWG

- i. NCWG is invited to **discuss** the inconsistency between the specifications for the charting of aeromarine radiobeacons as described in paragraphs 2-5.
- ii. NCWG is invited to **agree** on a way forward based on the recommendations in paragraph 7, taking into consideration the revised draft text for S-4 clauses B-480 and B-480.1 as included in paragraph 4.
- iii. NCWG is invited to **inform** the ENCWG that the term “aero-marine” must be amended to “aeromarine” for all instances in the UOC.