2nd NCWG MEETING
Monaco 26-29 April 2016

Paper for Consideration by the Nautical Cartography Working Group (NCWG)

Radio Activated Aids to Navigation

Submitted by:	Canada (CHS) and the United States (NOAA)
Executive Summary:	This completes action NCWG1-16 for "CA/US to prepare [a] joint proposal for [the] specification and abbreviation for radio activated AtoN." Each of the two country's current charting practices for radio activated AtoNs are described and a recommendation for language to be included in S-4 for the symbolization, labelling and accompanying notes for these features is provided.
Related Documents:	Action NCWG1-16 from NCWG1 Meeting Minutes *IHO S-4, Regulations for International (INT) Charts and Chart Specifications of the IHO*
Related Projects:	None

Introduction / Background

At NCWG1 (April 2015) the U.S. and Canada presented each of their practices for charting radio-activated aids to navigation (AtoN). NCWG members agreed that such systems are likely to proliferate and that it would be advantageous to have a common method of charting them, including an agreed upon international abbreviation, which would be suitable for data-modelling and for use in digital publications. The resulting action, NCWG1-16, requested Canada and the U.S. to prepare a joint proposal for specification and abbreviation for radio activated aids to navigation.

It has taken longer than expected for NOAA and CHS to coordinate with their respective country's coast guard and for the two coast guards to coordinate with each other, but we have finally received confirmation of a solution that is acceptable to all four organizations. We believe this also provides the best approach for a radio activated aid to navigation chart specification to be added to IHO S-4.

Analysis / Discussion

NOAA and CHS have adopted similar methods to chart radio activated AtoNs. Each appends a label to the signal type label and also adds a note to the chart. The note describes the signal type, how the signal is activated, and the duration of signal's activation.

Canada (CHS)

CHS charts radio activated AtoNs in the same manner as ordinary sound signals, with the addition of "Man" in parentheses, such as "FogSig (Man)," as shown in figure 1. "Man" is a truncation of "Manual" in English and Spanish and "Manuel" in French.

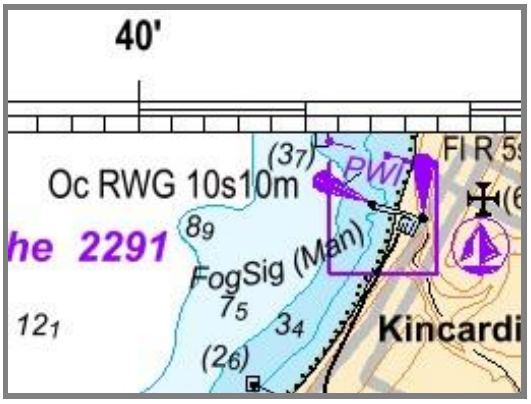

Figure 1

Figure 2 shows an example of the accompanying note, which provides the information listed in Table 1.

MANUAL FOG SIGNAL: Fog signal is activated by keying radio mike, channel 19 VHF (156.950 MHz), 5 times within 5 seconds. Horn will remain active for 30 minutes.

SIGNAL DE BRUME MANUEL : Le signal de brume est déclenché en actionnant l'émetteur de la radio VHF, voie 19 (156.950 MHz), à reprises en moins de 5 secondes. Le cornet fonctionnera pendant 30 minutes.

Figure 2

Item	Example
Type of signal	Manual Fog Signal
Activation method	keying radio mike 5 times within 5 seconds
Channel / Frequency	channel 19 VHF (156.950 MHz)
Duration of signal activation	Horn will remain active for 30 minutes.

Table 1

United States (NOAA)

The U.S. uses two types of radio activated AtoNs, Mariner Radio Activated Sound Signals (MRASS), which operate in the same manner as the Canadian aid described above, and Remote Radio Activated Sound Signals (RRASS). RRASS systems require the mariner to contact a USCG unit or local harbormaster on VHF-FM Channel 16 and request the sound signal be activated. There are only a few RRASS systems in use, but the possibility still exists that each of the two types could be on the same chart. Therefore, the U.S. directs mariners to a specific lettered note, because the type and directions for activation may be different for the various radio activated signals on a chart.

An example of a charted MRASS and the accompanying note is shown in Figures 3 and 4. RRASS systems are charted similarly (with different activation instructions).

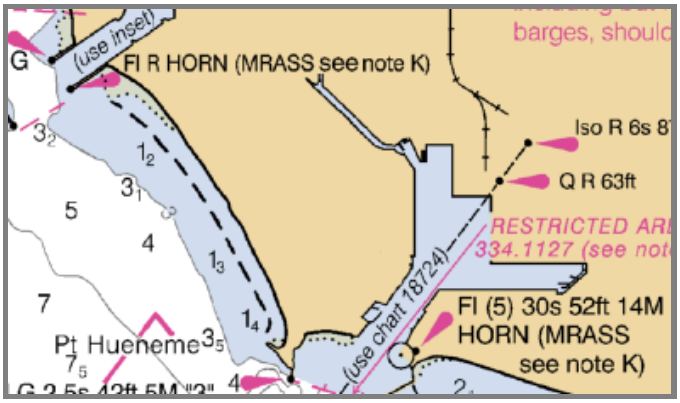

Figure 3

NOTE K

MARINER ACTIVATED SOUND SIGNAL (MRASS)

Horn is activated by keying the mic 5 times on VHF-FM Ch 81-horn will operate for thirty minutes.

Figure 4

After consulting with the appropriate U.S. and Canadian coast guard authorities, we agree that the approach described in the Annex A and Annex B provides a charting solution that is unambiguous, easy to implement and straightforward for mariners to interpret.

Conclusions

There is currently no guidance in S-4 for representing manually activated aids to navigation on nautical charts and there are already at least two different ways in which these features are being portrayed now. It would be prudent to specify a standard portrayal before even more divergent approaches are implemented.

Recommendations

NCWG should specify a standard approach for charting manually activated sound signals. Suggested new language for Section B-400 of S-4 is presented in Annex A. Annex B provides some ideas for future consideration regarding manually activated lights, and Annex C shows recommendations for changes to INT1.

Justification and Impacts

Independent development and use of various symbols, labels, and notes for charting manually activated aids to navigation could lead to confusion by mariners.

Action required of NCWG

NCWG is invited to:

a. consider the recommendations presented in Annex A to modify S-4 for the specification of a standard approach to charting manually activated sound signals, and the corresponding changes to INT1, as recommended in Annex C.

b. make any necessary adjustments to the recommended S-4 text, and INT1 changes

c. take the required steps to implement the changes,

d. consider the possibility of other changes needed to accommodate manually activated lights and other types of aids to navigation, as suggested in Annex B.