



Networking of radios with DSC¹ is essential on completing maritime SAR procedure

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Abstract:

Radios have been used for help request on distress situations from the end of 19th century by using Morse code, then transfer of voice to request help on distress situations for ships was available by analog radios that is being used until today. With the invention of digital radios and the need for transmission of text messages between ship in distress and other ships or ship in distress and shore stations, DSC was invented and come into use. It is used for help request by ships in distress so the eventual goal is reached when the receiving party, especially in coast stations, can provide some kind of help. Help provision requires: trained people and adequate equipment. With respect to the radio coverage of DSC system and number of coast stations equipped with this kind of radio, provision of these requirements is not available at all stations. Establishment of SAR centers requires that the centers can have direct, fast and accurate access to distress calls. The only way is to coincide the SAR centers with the DSC network centers. PMO has wisely considered this and has already started to network DSC radios. To convey the messages to network centers, while covering all coastal waters and beyond that by radios, and the next step is to complete the maritime SAR procedure by making that centers for SAR operations as well.

Introduction:

Radios have been used to convey messages in the form of Mors codes from 1884. Mariners used radios to send messages in the form of Mors codes in the case of distress. Then, radios were used to send voice messages that are still being used for this purpose. With the invention of digital radios and when the need for communication by text messages was evident in the case of distress, between ships and/or between ships and coast stations, the DSC was introduced and came into use. These systems are used by ships in distress and are used in different frequency bands to cover different ranges.

Kinds of Analog radios:

One of the bases to categorize the radios, is the frequency band that is used by the radio which is as follows:

VHF² radios to cover sea area A1³, Area which is about 50 Km from the coast. The propagation of waves at this band is so that it travels in direct line, and hence increasing power of transmitter and sensitivity of receiver does not increase its range, because of the curvature of the earth. Networking of this kind of radios has been discussed at ICOPMAS2008 [1].

¹ DSC: Digital Selective Calling

² VHF : Very High Frequency (30~300 MHz)

³ A1 is about 50 Km from coast.