

# LONG RANGE NAVIGATIONAL WARNINGS

## A SUGGESTED INTERNATIONAL WORLD-WIDE SCHEME

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Captain OUDET in his article "Towards a Progress in Nautical Information" published in the July 1968 issue of the *International Hydrographic Review* describes the difficulties of promulgating hydrographic information of importance rapidly to all those interested throughout the world. This is obviously best done by radio navigational warning but becomes exorbitantly expensive unless backed up by a system of dissemination by the printed word.

"Short range" navigational warnings from coast radio stations throughout the world adequately cover ephemeral or very local occurrences; they are usually broadcast in English as well as the national language. They also cover the initial dissemination of more important information of an emergency nature; for instance they may be used to inform shipping in the immediate area of a recent shipwreck which has become a danger to shipping.

Captain OUDET states that there are only three countries (Great Britain, U.S.A. and France) which operate a world-wide broadcast coverage of navigational warnings, although other countries have long range stations. In point of fact these three systems of "long range navigational warnings" are individually inadequate as none provides a comprehensive world-wide coverage, also duplication of effort inevitably occurs.

For instance the British long range NAVEAM covers the Eastern Atlantic north of the Equator, the Baltic, Mediterranean and Red Seas. In this large area the majority of NAVEAMs issued concern information in British waters or waters round countries where the UK Hydrographer has a good liaison with the local hydrographic authority, such as Nigeria where a good link with the Nigerian Ports Authorities exists. This, of course, does not mean that there is nothing of importance to promulgate in other areas such as the Red Sea, or off the North African Coast, but merely that the UK Hydrographer is unaware of them unless a passing ship reports something of interest.

As Captain OUDET points out, rigorous selection of information is also a necessary function. What information can be classed as important, and what is merely of general interest, or else just "nice to know"? A great volume of information will not only swamp the radio schedules but will

devalue the whole system and be needlessly expensive. On the other hand if warnings are very few and far between many ships may tend to miss the navigational warning broadcast periods as there is rarely anything broadcast. A happy medium must be struck.

The UK Hydrographic Office drew up, for internal use, in 1954 a pamphlet laying down rules for issuing navigational warnings. It gives guidance both on the type of information which should be broadcast and that which need not. It also gives guidance on the form of wording to be used when drafting navigational warnings. Both these points are important and must help in keeping expenses down as the emphasis on the drafting of messages is on clear, concise wording leaving out superfluous detail. Perhaps it may seem contradictory, but the use of words rather than figures is also recommended when giving positions. This naturally increases the length of a message passed by W/T but has the obvious advantage that the correct position can generally be deciphered even if some corrupt letters have been received; errors in drafting or transmission are also not so likely.

The instructions on information requiring navigational warning action given in this pamphlet may be summarised as follows :

- (a) *Unexpected or sudden changes to navigational aids.* These include lights extinguished, lightvessels or buoys off station, missing or irregular, interruption of radio beacons or electronic aids such as Decca Navigator, etc. These occurrences are normally only promulgated by the local coast radio "short range" navigational warnings but may be broadcast as a "long range warning" depending on the importance and expected duration of the occurrence.
- (b) *Establishment of new aids, or permanent or temporary deliberate alterations to characteristics or positions.* The same rule applies as at (a), but there is a greater likelihood of the incident being suitable for promulgation as a long range warning. If possible a warning should be issued 2 or more days before an intended change to ensure wide dissemination by the time it occurs.
- (c) *Floating dangers to navigation.* Information on these is normally issued for a short period only by "short range" warnings from Coast Stations. There is little point in such a warning lasting for more than a day as the danger's probable position after 24 hours becomes very hypothetical, but continued reports may enable a warning to be re-issued with up-to-date information. It may be necessary, however, to issue a long range warning for a large derelict adrift in the open ocean outside the range of coast radio stations. Another problem is to decide what floating derelict objects can be considered as dangerous to navigation. Generally speaking, anything which would produce more than a "bump and a scrape" to a coaster or larger vessel should be considered as dangerous to navigation. Tree trunks and timber do not normally fall into this category even though they may form a danger to small craft which do not normally listen to navigational warnings. Buoys adrift are borderline examples but normally would not cause any more than scratched paintwork or a dent if hit by a vessel.
- (d) *New or amended shoal depths.* Their importance depends on their position and depth. Validity is not important at this stage and a navigational

warning, probably a long range one, should be issued even if this is in doubt. It may be necessary to check accuracy or validity at a later date before issuing a Notice to Mariners.

- (e) *Sunken wrecks, obstructions etc.* The same remarks apply to these as to (d). Also there is no need to broadcast the non-existence of a charted danger which has been removed or disproved.
- (f) *Marine or Submarine disasters, searches for air or sea survivors.* These are normally adequately covered by lifesaving radio services, but details may require to be broadcast by navigational warning to achieve the widest possible promulgation. Reports of overdue vessels are normally adequately covered by operational signals on distress traffic.
- (g) *Large scale emergencies.* This includes the blocking of a port, an explosive ship or tanker on fire in harbour, areas affected by earthquake, etc. If necessary use should be made of the facilities of local or national broadcasting stations and distress schedules.
- (h) *Naval exercises.* These are normally only " nice to know about " and do not normally constitute navigational dangers. Firing exercises are very frequent and " clear range procedure " is normally operated because the onus on safety to other shipping rests with the firing ships. Normally information concerning such exercises is not broadcast except in the case of extensive night exercises involving darkened ships, submarines and flares or exercises involving the laying or sweeping of dummy mine-fields. Such warnings are purely cautionary and are never prohibitive or restrictive on the high seas.
- (i) *Unexploded torpedoes, depth charges, etc.* Information on these should be broadcast only when they constitute a definite danger to shipping in water under about 200 fathoms, especially in main shipping routes. Floating mines come under the category of (c) above and information on these need only be broadcast for a short period.
- (j) *Salvage, diving, cable laying and seismic operations and the laying of salvage, cable, oceanographic or surveying buoys and floating beacons.* This information generally comes under the category of " nice to know " but there may be an element of danger, and the interference in these important operations might cause great inconvenience and loss of valuable time and equipment, so this information is normally broadcast. If the operations are likely to be of long duration, then a " long range " broadcast is obviously warranted.
- (k) *Fishing vessel concentrations. Towing operations involving large, unwieldy or long tows. Dredging operations.* The same remarks as in (j) apply here.
- (l) *The establishment of drilling rigs, oil wells etc. in the open sea.* Broadcasts need not be made about these dangers if they only exist in very shallow water or very close inshore and out of the way of possible shipping. They are a relatively new source of danger to shipping and in many areas are so numerous that the situation has got out of hand.
- (m) *The establishment of new separation routes or routes in mined danger areas.* These are normally promulgated well beforehand by a comprehensive series (i.e preliminary and permanent) of Notices to Mariners, but may merit a navigational warning to achieve wider dissemination.

There may of course be other items which fall outside the above categories. Each should be judged on its merits using the general principles described above.

In the last two paragraphs of his article, Captain OUDET suggests that world-wide international co-operation is necessary and should be possible in the matter of long range navigational warnings. This is an idea to which I, too, have been putting a little thought and Captain OUDET's article has spurred me on to putting some ideas down on paper. An international organisation would, I should say, be comparatively easy to arrange, and I would like to suggest a possible system which generally coincides with Captain OUDET's broad principles. However, probably the greatest difficulty is the financial one. Who pays ? A lot of expense is involved by those telegraphing information and those issuing and broadcasting the warnings. As an example, the broadcasting costs for NAVEAMS are about £ 2000 a year for about 300 messages. In some cases these expenses may devolve on small, relatively poor organisations and countries. Unless some form of re-imburement is possible from a central fund, many smaller authorities may be unwilling to take part.

Leaving the financial aspect aside, I would recommend that the world be divided into about half a dozen " long range navigational broadcast areas ". These should be chosen with the following points in mind :

- (i) The main shipping routes.
- (ii) The disposition of long range radio stations capable of broadcasting navigational warnings.
- (iii) The availability of major Hydrographic Offices to issue area warnings. For example, the world division could be made up as follows :
  - (a) The whole of the eastern Atlantic including the Baltic and Mediterranean. Warnings could be originated by the UK Hydrographic Office and broadcast by all the long range radio stations in the area (Europe, West Africa and the Mediterranean).
  - (b) The whole of the Indian Ocean including the East coast of Africa, the west coast of Australia, the Red Sea, Persian Gulf and the Indian sub-continent westward of the meridian of about 95° E (i.e. west of Sumatra). Warnings could be originated by possibly the Indian, Pakistan, South African or Australian Hydrographic Offices.
  - (c) The Far East, which would include Malaysia, Indonesia, Philippines, China and Japan and possibly New Guinea and northern and eastern Australia. Warnings could be originated by the Japanese or Australian Hydrographic Offices.
  - (d) The Southern Pacific, which would include New Zealand, the West coast of South America and all islands, say, south of the Equator and east of 160° E. The New Zealand or Chilean Hydrographic Offices could be responsible for originating navigational warnings in this area.
  - (e) The Northern Pacific which would be the area north of the Equator and east of the Date Line. The US Naval Oceanographic Office would probably be the most suitable authority to originate warnings within this area.
  - (f) The Western Atlantic including the Caribbean and east coast of

South America. Here once again the US NAVOCEANO would probably be the most suitable originating authority.

The system would then be simple. Any national hydrographic or port authority or ship should report any items considered as possibly suitable for a long range navigational warning, by radio or cable to the originating authority for the area. The authority should then assess its importance; it must have the absolute right to decide, but may be open to question later if the choice is bad. If important enough, the originating authority may then issue the information as a long range warning for that area. The warnings for each area must be in a numbered series with messages in force issued monthly. The messages would be in English and drafted in a standardised form to ensure clarity and conciseness and to ease the burden of translation for non-English speaking users possibly equipped only with a dictionary.

After being drafted by the originating authority, the message may then be transmitted to the long range radio station or stations covering the area concerned. Each station would then start a series of broadcasts, similar to the series used in promulgating a NAVEAM. Broadcast schedules should be arranged at least once a day and a broadcast of each message should be made on the day of receipt at the station (on the next day if received after the last schedule) and once daily on the 2nd, 5th, 8th and 12th days after the first broadcast. Broadcasts normally cease thereafter, but may cease earlier if the message is subsequently cancelled before the 12th day after issue.

Generally speaking a single long range radio station could cover the whole of one of the areas described above. This should be adequate; but careful consideration as to which stations are most suitable to give good coverage must be given. However, to give wider promulgation and a wider choice of schedules, more than one country may like to participate in the broadcasting of long range warnings although, of course, only one authority in each area would be responsible for initiating the messages. Thus, for instance, long range navigational warnings for the Indian Ocean area may be broadcast from South Africa, India and Australia. Some countries may wish to translate them into their national language before broadcasting.

Meanwhile national hydrographic offices which wish to reprint long range navigational warnings may have all the messages of any or all the series cabled directly to them by the originating authorities. These can then be printed in their national issue of Notices to Mariners, weekly or fortnightly; the numbers of national charts affected may be added at this stage, if desired. This is done in Section III of British Admiralty Notices to Mariners. Thus by the 12th day after issue, all long range navigational warnings will be printed by many hydrographic offices and should be available to many ships. It may be considered necessary to extend the period of broadcast longer to permit a more satisfactory overlap between the broadcast and the receipt of the printed versions, but this will increase the expense accordingly. A cheaper method would be to institute a special weekly schedule which broadcasts the more important area warnings which are between 12 days and say 28 days old.

For permanent or very long standing items of hydrographic information, national hydrographic offices may then institute proceedings to issue

a Notice to Mariners as and when full details are available. This then leaves one last problem, that of cancellation after promulgation by a Notice to Mariners. NAVEAMs are cancelled six weeks after the issue of the relevant Admiralty Notice to Mariners by the words " NAVEAM... cancelled on receipt of ANM.../68 ", when the navigator can delete it from his list of messages in force, provided he has inserted the appropriate correction on his chart. Ships reading NAVEAM broadcasts, but not using Admiralty Charts, may perhaps insert a bracket or other symbol against the listed NAVEAM, indicating that an ANM had been issued; this would enable the operator to look out for his own national Notice on the matter, and on receipt he should cancel the message. The same method could be used in an international system: hydrographic offices reprinting the message may add their own relevant Notice if issued at that stage.

Administratively it may be cheaper and more convenient to arrange for one authority — one of the larger Hydrographic Offices — to originate long range navigational warnings for all the areas of the series. This would be quite possible but would increase telegraph and cable costs between the suppliers of information, the issuing authority and the radio stations broadcasting the series. Time delays in telegraphing great distances may also come into it, but should not make a lot of difference with modern communication systems.