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Ref. T2-OSS/2.6

COMSAR/Circ.36
18 February 2005

BROADCAST OF WARNINGS FOR TSUNAMIS AND OTHER NATURAL DISASTERS

1 The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR), at its ninth session (7 to 11 February 2005) considered the promulgation of warnings for tsunamis and other natural disasters using the existing International SafetyNET and/or NAVTEX systems and agreed to the following, pending the review of resolution A.706(17) on World-Wide Navigational Warning Service.

2 Tsunami Warning Centres and those who may seek to broadcast warnings as a result of natural disasters (natural disaster warnings) may make use of the existing International SafetyNET system. As a first step each Tsunami Warning Centre and those who may seek to broadcast natural disaster warnings should register with the IMO International SafetyNET Co-ordinating Panel* to obtain a certificate of authorization. A detailed procedure of the steps to be taken following registration is set out in annex 1.

3 NAVAREA and National Co-ordinators in the affected areas, or areas likely to be affected, upon receipt of any tsunami warnings or of any other natural disaster warnings should immediately re-broadcast such warnings using the highest priority and all existing means as appropriate.

4 In the interim and until Tsunami Warning Centres are established and registered, those responsible for issuing tsunami or natural disaster warnings may use the World-Wide Navigational Warning Service (WWNWS) to broadcast such warnings both regionally and locally. This may be achieved by passing the warnings to be broadcasted to the NAVAREA or National Co-ordinators for the affected areas, or areas likely to be affected. The Geographic areas for co-ordinating and promulgating NAVAREA warnings and the contact details of the NAVAREA Co-ordinators under the WWNWS are set out in annexes 2 and 3.

5 NAVAREA and National Co-ordinators in the affected areas or areas likely to be affected should consider tsunami warnings and warnings for other natural disasters as exceptional circumstances and should immediately broadcast such warnings using the highest priority and all existing means as appropriate.

* The Chairman
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6 Ships, when within affected areas, should consider immediate re-broadcasting of any tsunami warnings and/or any other natural disaster warnings they might receive using all available means (e.g. VHF radio) as appropriate. In addition, ships should consider activating any emergency response procedures and arrangements they deem necessary and to prepare, depending on the circumstances, for the conduct of search and rescue operations. Ships should also consider, in the light of the prevailing circumstances, the need for changes to planned navigational routes.

7 Member Governments are invited to bring this circular and the annexed information to all parties concerned.

ANNEX 1

STEPS TO BE TAKEN FOR THE PROMULGATION OF TSUNAMI WARNING AND OTHER NATURAL DISASTER WARNINGS, USING THE INTERNATIONAL SafetyNET SERVICE

The steps given in this annex are in accordance with the IMO International SafetyNET Manual, 2003 edition.

It should be noted that this annex provides only general guidelines on access to the SafetyNET service and detailed procedure may vary among different Inmarsat-C Land Earth Station Operators (LESOs).

1 Registration with the IMO International SafetyNET Co-ordinating Panel

A Tsunami Warning Centre and those who may seek to broadcast disaster warnings must register with the IMO International SafetyNET Co-ordinating Panel to obtain a Certificate of Authorization to participate as an information provider in the International SafetyNET Service.

The International SafetyNET Co-ordinating Panel, in addition to the address indicated in the circular, can be contacted at the following address:

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2 Registration with Inmarsat-C LESO

LESOs offer SafetyNET service only to authorized information providers. In order to send EGC SafetyNET messages, a registered information provider must then send the Certificate of Authorization to a LESO and ask for registration. An information provider may select any LESO covering the area concerned and offering the required service. A list of all LESOs is provided in the attached appendix to this annex.

After registration, the LESO will send you a username, password and general information on how to access the required service. Access to the service is given via two-stage telex, via PSTN or PSDN or via the Internet.

3 Operational procedures

3.1 Message address

Depending on the individual LESO, a message address varies and each information provider will be given detailed information how to submit a message to the LES. In general, the address of a message sent via the Internet is in the form of an e-mail address as, for example, **EGC@xxx.xxx.net** or **EGC@xxx.xxx.com, etc**

3.2 Broadcast parameters

To broadcast a message an information provider should also submit C-codes with the message, usually five or six codes, which are known as broadcast parameters and are included in the message header. As common practice for messages sent via Internet, C-codes are included in the “Subject” field/line of the e-mail user interface. Each C-code controls an individual broadcast parameter and is assigned a numerical value in accordance with the IMO International SafetyNET Manual.

The EGC SafetyNET broadcast command syntax is as follows:

EGC C0,C1,C2,C3,C4,C5

(spaces, commas, colons or other delimiters between codes are required and may vary depending on the LES)

Where the word EGC is the start command, it is followed by a “space”

C0 – Ocean Region, an optional code to identify the Inmarsat ocean region if the addressed LES operates in more than one ocean region

C0=0 – Atlantic Ocean Region West (AOR-W)

C0=1 – Atlantic Ocean Region East (AOR-E)

C0=2 – Pacific Ocean Region (POR)

C0=3 – Indian Ocean Region (IOR)

C0=9 – All Ocean Regions covered by the LES (optional)

C1 – Priority code

C1=1 – Safety priority

C1=2 – Urgency priority

C1=3 – Distress priority

It is strongly recommended to use “Urgency” or “Distress” priority since it gives priority over other non-urgent messages in the Inmarsat-C system and also causes audible and visual alarms on the mobile terminal.

C2 – Service code

At the moment, there is no specific service code defined for tsunami or other disaster warnings, the following codes (after agreement with the SafetyNET Co-ordinating Panel) could be used:

C2 = 04 – Currently, navigational warnings to rectangular area

C2 = 13 – Currently, coastal warnings – option to address a message to restricted number of ships/shore based authorities who have programmed their mobile terminals with the required codes.

C3 – Address code

Rectangular address consists of 12 digits as follows:

D₁D₂LaD₃D₄D₅LoD₆D₇D₈D₉D₁₀

Where: **D₁D₂** - latitude of south-west corner of the rectangle in degrees

La – hemisphere N (North) or S (South)

D₃D₄D₅ – longitude of south-west corner of the rectangle in degrees with leading zero if required

Lo – longitude E (east) or W (West)

D₆D₇ – extent of rectangle in latitude to the North in degrees

D₈D₉D₁₀ – extent of rectangle in longitude to the East in degrees

A rectangle, whose S-W corner is 20°S and 61°E, extending 28° to the North and 74° to the East, is coded as **20S061E28074**

Note: The value of latitude is limited from 00° to 90° and longitude from 000° to 180°

Coastal warning address consists of 4 characters - 2 digits and 2 letters as follows:

X₁X₂B₁B₂

Where: **X₁X₂** – NAV/METAREA in range of 01 – 16 and

B₁B₂ – NAVTEX codes to allocate NAVTEX transmitter coverage area (B₁) and type of warning (B₂)

An example of coastal warning address may be as 08ZL where:

08 – message addressed to ships in NAV/METAREA VIII

Z – NAVTEX coverage area

L – type of warning (e.g. Tsunami)

C4 – Repetition code

A repetition code allows a message to be repeated a finite number of times or at specific intervals until cancelled by the information provider.

C4=01 – transmit once on receipt

C4=11 – transmit on receipt followed by repeat 6 minutes later

.....

C4=13 – repeat broadcast every 1 hour with an echo 6 minutes later after each broadcast

C4=22 - repeat broadcast every 2 hours with no echo
More repetition codes are defined in the International SafetyNET Manual, Annex 4.

C5 – Presentation code

C5=0 (or 00)

For the International SafetyNET service, the presentation code is always 0 (or 00, subject to the registered LES access procedure).

As an example, the whole address string for SafetyNET message is follows:

EGC 3,3,04,20S061E28074,11,0 where:

C0 = 3 - Indian Ocean Region

C1 = 3 – Distress Priority

C2 = 04 - Service code – Navigational warning to rectangular area

C3 = 20S061E28074 – Rectangular address

C4 = 11 – Repetition code

C5 = 0 – Presentation code

4 Message submission and delivery notification

A message, submitted for broadcast, using service code C2=04, will be “translated” by the Inmarsat-C mobile software as a navigation message with Urgency or Distress priority. To emphasize the fact that this is a tsunami or other disaster warning, it is recommended to start the first line of the message text as “TSUNAMI WARNING” or any other wording showing the nature of the disaster.

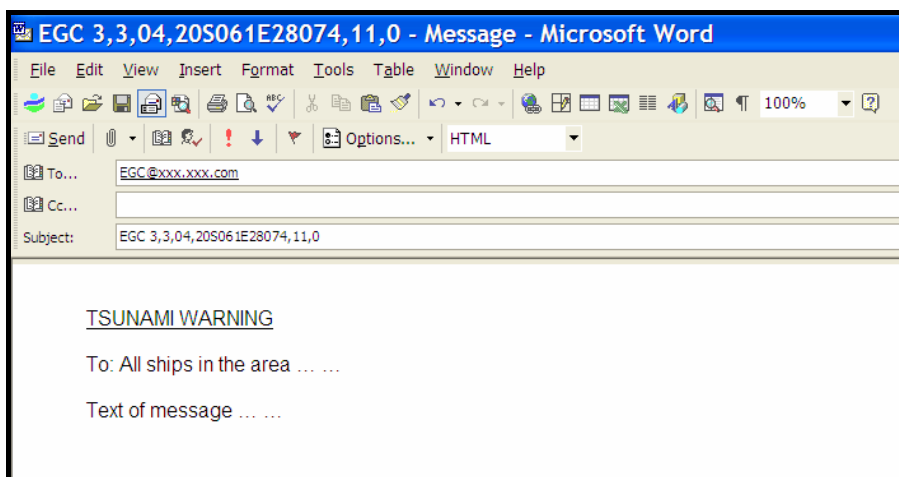


Figure 1. Example of using an Internet mail program for Broadcasting EGC SafetyNET messages.

If a message is addressed to an area outside the primary ocean region, the broadcast should be repeated, using another ocean region code via the same LES if it supports the service in the additional ocean region, or the message should be transmitted via another LES.

The information provider will always receive either positive or negative notification about the delivery status of the EGC message.

5 Who will receive EGC SafetyNET messages

For rectangular areas, all Inmarsat-C terminals whose positions are within the addressed area will receive the warnings, but not warnings addressed to coastal addresses (unless specifically selected).

For coastal areas only, Inmarsat-C terminals should be specifically programmed with appropriate codes (B₁, B₂) to receive the warnings.

Distress and Urgency priority of the message will also cause audible and visual alarms on the terminals. These alarms can only be re-set manually.

APPENDIX

LIST OF INMARSAT-C OPERATIONS CO-ORDINATORS

Station Name	Tp/Fx/Tx/E-mail
1. ARVI (IOR) - INDIA	
MR D.S. SHEWALE Operations Coordinator Videsh Sanchar Nigam Limited Vikram Satellite Earth Station Arvi (P.O.), Junnar (TQ) Pune (DT), Maharashtra State, 412 415 INDIA	Tel: +91 22 2262 24505/91 2132 242588 Fax: +91 22 2262 24806/91 2132 242830 Telex: (CC:81) 1182429 VSNH IN Email: shewale@vsnl.net x400:
Please send emails to arviles@vsnl.net with a copy to Mr J.P. Singh	
2. ATA (AOR-E & IOR) - TURKEY	
MR MEHMET C. TOROS Operations Coordinator Turk Telekom Satellite Communications Center Uydu Haberlesme Merkezi 06839 Golbasi, Ankara TURKEY	Tel: +90 312 555 6500 Fax: +90 312 499 5115 Telex: (CC:607) 44850 AKYI TR Email: toros@satcom.gov.tr x400:
3. AUCKLAND (POR) – NEW ZEALAND	
MR P. DYER Operations Coordinator STRATOS NZ Limited (see Goonhilly for details) * make sure he gets any mM Ops	Tel: Fax: Telex: Email: x400:
4. AUSSAGUEL (AOR-E & IOR & AOR-W) - FRANCE	
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5. BEIJING (IOR & POR) – PEOPLES REPUBLIC OF CHINA

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Operations Coordinator	Fax: +86 10 652 93850/624 72819
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CHINA	

6. BOUMEHEN (IOR) – ISLAMIC REPUBLIC OF IRAN

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Please note that all Emails for Mr A. Arabi should go via Mr Ahmad Zamani at the above Email address.

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14. KUMSAN (IOR & POR) - KOREA

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19. SANTA PAULA (POR) - USA

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	x400:

20. SENTOSA (IOR & POR) – REPUBLIC OF SINGAPORE

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REPUBLIC OF SINGAPORE	

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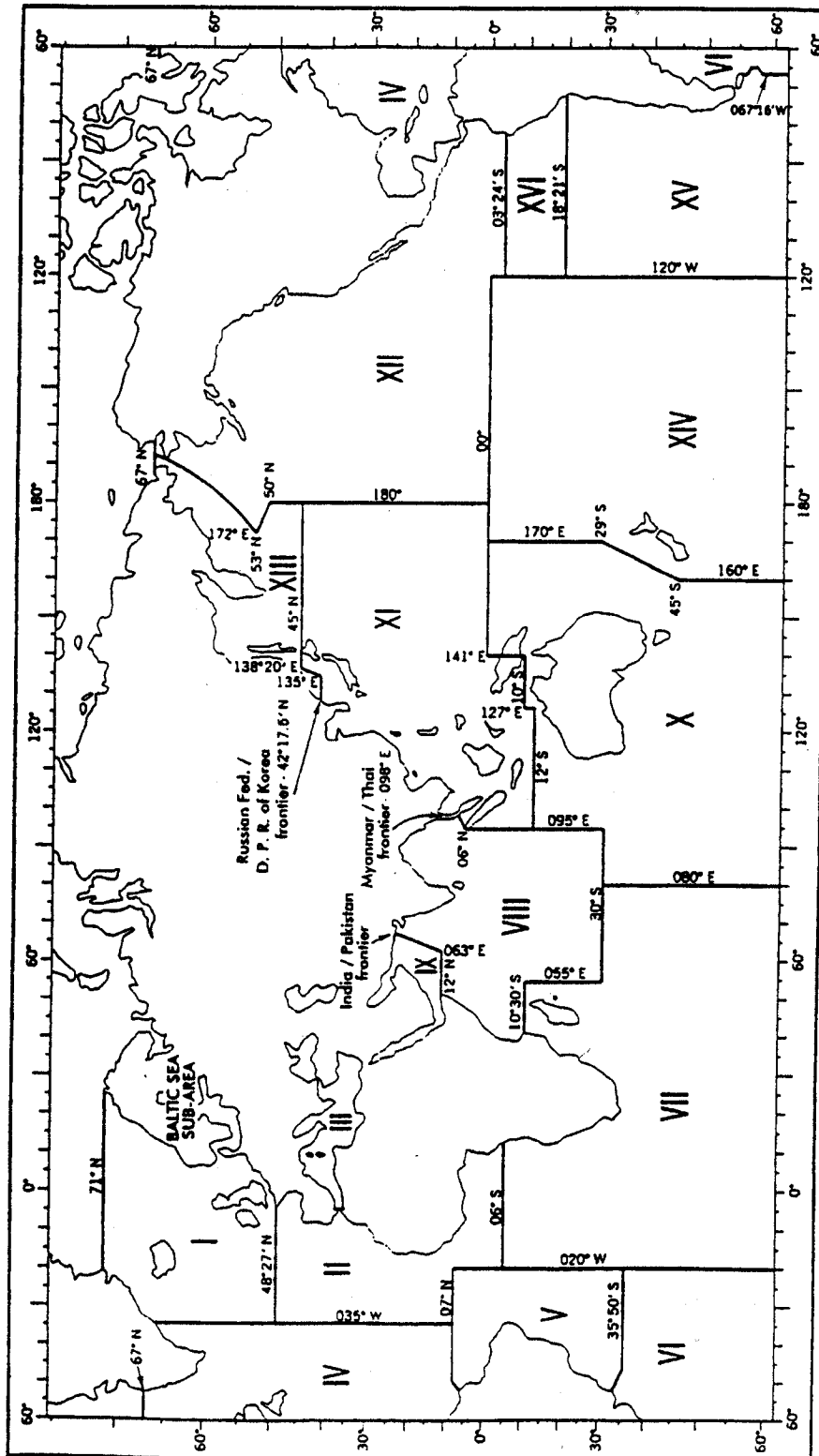
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ANNEX 2

GEOGRAPHICAL AREAS FOR CO-ORDINATING AND PROMULGATING
NAVAREA WARNINGS

THE DELIMITATION OF THESE NAVAREAS IS NOT RELATED AND SHALL NOT
PREJUDICE THE DELIMITATIONS OF ANY BOUNDARIES BETWEEN STATES

ANNEX 3

CONTACT DETAILS OF NAVAREA CO-ORDINATORS

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