

**Agenda Item 7.4**

**USE OF EMAIL AS HOT REDUNDANT MODE FOR DATA COMMUNICATION**

**1. ACTION REQUIRED**

The Joint Committee is invited to consider email as secondary mode of data communication (as hot redundancy) and formally accept this in the Cospas-Sarsat network.

**2. BACKGROUND**

This paper has reference to various discussion held earlier in Task Group (TG2/2000: on Communications) and highlights the benefits of email mode of data communication in the Cospas-Sarsat network.

The detailed analysis of email system was presented jointly by India and Australia in JC-13 meeting (JC-13/6/21, 22). It was recommended to use email as backup system and for non-critical SAR requirements. Except minor delays (14% cases) and marginal loss of messages loss (2%), email was found to be most simple and effective mode of SIT message transmission in CS network. It is a cost effective and most simple mode of data communication and has been recommended as support communication system in CS network.

Again the email statistics was presented in paper (JC-14/6/16 by Australia and India): Over the three month period with 4340 messages transmitted, no messages were lost. The average delivery time was about 9 minutes. Although a maximum delay of almost 8 hours was noted in one case, only 2% of messages were delivered after 60 minutes. This performance was in the year 2000.

The statistics presented above are 6-7 years old, and now it is expected to be much better performance as we have improved services available. Also, from our experience, there is no email message that we missed with regard to various operational and technical issues that we handle on day-to-day basis in Cospas-Sarsat System. In future too, all the modes of communications are going to be Internet based. Hence, it does not matter which mode you use for data communication. Email is preferred here as it is very convenient and most economical.

**3. COMMENTS**

INMCC is configured to transmit SIT messages to RCCs, MRCCs and SPOCs using AFTN as Prime mode. At the same time using echo option (which transmits the same message to another destination using different mode of communication), the same distress message is

transmitted to a public Email-id ([inmccops@gmail.com](mailto:inmccops@gmail.com)). The access to this email account is provided to RCCs and MRCCs.

With this arrangement RCCs/MRCCs/SPOCs receives distress alerts by AFTN configured as prime mode of communication. The same messages are also available through a public email account which is accessible to all SAR authorities in the country and around.

This has two benefits, redundancy to AFTN communication and online availability of the distress alerts globally to all those SAR authorities in the region engaged in SAR operations.

It is also possible to transmit the same distress message to any number of email destinations by configuring e-group at the server.

As presented in TG-2/2000 (TG-2/2000/3/5), Email is suggested to be used as 2<sup>nd</sup> level communication using email broadcast facility to all Cospas-Sarsat MCCs. Email is the most economic and efficient mode of data communication when it works well, and from the statistics it works well most of the time. This would support hot redundancy as well as reduce load on prime communication system. Occasional delay and network outage are however taken care of by the prime communication system.

Recently while writing this paper, INMCC came across a situation when AFTN link was not available and there was a real distress incident on 5<sup>th</sup> May 2006 involving Indian vessel (MMSI:419151000). The email communication was available, which provided the alert data. As this incident was in the late night when INMCC was unmanned, the secondary source of communication (email) working as hot redundant with AFTN (prime mode) communicated the distress alert to MRCC Chennai.

#### **4. EFFECTIVENESS OF EMAIL SYSTEM**

Distress alerts in INMCC Service area are available on public email ([inmccops@gmail.com](mailto:inmccops@gmail.com)). This system is working well in India with email supporting as secondary hot redundant system. This is found to be very useful whenever there is a sudden AFTN link failure or system outage. More importantly with AFTN as prime mode, there are bound to be couple of messages lost undelivered in the system due to data corruption as there is no provision for automatic repeat request. Hence, having email as parallel system, it is quite useful to track missing AFTN messages.

#### **5. CONCLUSION**

Email is sometimes better than “FTP” communication, as “FTP” communication may fail due to non availability of point to point connectivity because of network problem, whereas email can be still transmitted, which could be delayed due to network problem but surely will reach the destination.

Email is useful to track missing AFTN messages.

Email will also be helpful in disseminating all operational messages by email to MCCs and RCCs, which will bring down the communication load on prime mode of data

communication. For this, it is suggested to host (and maintain updated) e-groups of MCCs and national points of contact at Cospas-Sarsat server for easy and reliable communication of information to all concerned, as Secretariat maintains the latest contacts and emails of all member countries.

## **6. RECOMMENDATIONS**

India recommends that:

- a) Joint Committee consider use of email communication as one of the mode for providing hot redundancy in Cospas-Sarsat network as well as global outreach of the distress alerts;
- b) to reduce the load on prime communication mode, all the operational information may be transmitted using email; and
- c) the Secretariat to host and maintain e-groups of all MCCs and National Point of Contact for easy and reliable communication.

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