

In mid October I was invited to respond to the following:

To: NTS Area Staff  
From: ARRL Volunteer Resources Committee  
Subject: Whither Goest NTS?

At the January 2002 ARRL Board meeting, Minute 35 directed the Volunteer Resources Committee to ...perform an in-depth study of the League's programs related to emergency communications and non-emergency public service communications, and to report recommendations for modernizing, streamlining, and increasing the effectiveness of these programs to the Board at the Annual Meeting in January, 2003." As this study has progressed issues related to the National Traffic System have arisen. The VRC would like to have the help of NTS Area Staff in resolving some of these issues.

(A questionnaire was provided.)

I sent to following to Steve Ewald at ARRL HQ.

### **RESPONSE TO "Whither Goest NTS?"**

L.E. 'bud' Thompson N0IA

#### **Subtitle: It's all about bandwidth**

1. The ARRL Public Service Communications defines the objectives of NTS as follows: "The National Traffic System plan is a means for systematizing amateur traffic-handling facilities by making a structure available for an integrated traffic facility designed to achieve the utmost in two *principal objectives: rapid movement of traffic from origin to destination, and training amateur operators to handle written traffic and participate in directed nets.*

- a. Do you believe that these two objectives are still valid?

Yes - except for the part referencing directed nets.

- b. Does the NTS, as it exists today, satisfy these two objectives?

No - . There is nothing rapid about handling record traffic via voice, especially on HF. Training operators to handle record traffic using voice and voice nets is not appropriate for the available human resources and responsibilities the Amateur Radio Service has in the 21<sup>st</sup> Century. There is little that is "systematic", or "integrated" with the way record traffic is processed on voice nets. While we have control, procedure, and format, none of these has changed in the past three decades. "Utmost" is not in the lexicon. It's all about bandwidth.

Like it or not, CW is not an acceptable mode to support these objectives in the 21<sup>st</sup> Century. To continue to propose otherwise is a disservice to the tasks. Though this brings a tear to my eye,

there are not near enough interested and qualified CW operators to make a dent in the need. It's all about bandwidth.

What is satisfied is a meeting place for hams who want to participate but only understand voice applications. Directed nets provide a meeting place during scheduled net times, but when the stuff hits the fan we often find makeshift nets (regional level) springing up on 75M and 40M. Many times such nets do not resemble the structure we have used for training, and seldom are messages handled in full NTS format. It's all about bandwidth.

2. Do you believe that the objectives for NTS stated above are still appropriate now and for the next decade? If not, what should they be?

Asked and answered. The objectives are still appropriate, but the methods presently being employed are not and have not been for at least a decade. "Traffic" as previously considered (short 20-to 40-word H&W or information messages between tactical locations and incident command/EOC) is no longer appropriate as a means of supporting served agencies during emergencies.

In the 21<sup>st</sup> Century the daily routine "business" of served agencies is mostly handled by e-mail and transfer of message and data files digitally. Except while on the move, the telephone (voice communications) is used less and less for these routine matters. Telephone conversations require a live person on each end concurrently, which is a waste of resources. Much, if not most, of interoffice communication is done on Intranets (i.e. EOC LAN) or between departments and agencies over the Internet. It's all about bandwidth.

The "business" of emergency communications must move to addressing the need to supply extra bandwidth for conventional messaging and data files during emergencies within and to bridge the Last Mile. It's all about bandwidth.

3. What role should newer Amateur digital modes and commercial Internet systems play in the operation of NTS?

The role will be paramount.

The role of ham radio messaging to support emergency communications will be primarily to transfer e-mail-style messages and data files containing 10K bytes or more between tactical sites, incident command, and EOC. From there it will be necessary to bridge across the Last Mile boundary via wireless means (ham radio!) to where the "traffic" is placed on the Internet for distribution. It's all about bandwidth.

Here in Florida we have a plan in the making that would utilize e-mail-style messages throughout the entire "Last Mile" scenario for all record traffic. This includes tactical "portable" packet stations in the field, at incident command, at shelters, EOCs, etc. (This does not eliminate the need to support non-record tactical voice operations, or command and administrative voice nets). To bridge the last mile (from where there are no "wires" to where there are wires), HF PacTOR or vhf packet stations would connect to the nearest internet-connected point and dump the traffic as

conventional e-mail. It is our intention to use the Winlink 2K (WL2K) system for this. We plan on using the AirMail e-mail client (terminal program) for HF PacTOR and vhf packet and the WL2K Small Message System (SMS) now under test here on the Florida Layered Packet Network.

4. If you were given a clean sheet of paper, what would NTS look like? In your answer to this question, please be sure to discuss its relationship to ARES.

I will provide a schematic of the Florida Layered Packet Network that helps explain some of these concepts. The NTS, per se, would no longer exist as an identified entity. There would be no need for convoluted organizational structure just to keep "NTS" in the picture. Only the ARES need be identified.

The objectives from above would be met using modern digital network messaging concepts rather than a continuous string of point-to-point voice or CW transfers requiring a live operator on each end of every transfer. H&W messages in NTS format would be a thing of the past as well. (A typical NTS H&W message with a check of 11 has a 140% overhead.) Where before we have counseled citizens headed for shelters to bring with them the address and phone number of the family member(s) they want notified of their welfare, we now only need an e-mail address. It only takes one person inside the Last Mile (a typist at the shelter), and that person does not have to hold an Amateur License! This relieves tens of operators for other duties where a license is required. It's all about bandwidth.

Bottom line: In the 21<sup>st</sup> Century emergency preparation should include most hams mustering out for a tactical assignment bringing not only a vhf/uhf voice station, but a laptop and packet station as well. The packet station should simply be part of the kit bag, nothing more, nothing less.

It's all about bandwidth.

73,  
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