



Moving RRI Forward

A NEW PATH FORWARD FOR REGISTERED RADIO OPERATORS

Some Ground Rules Before We Start:

- ▶ Exercise courtesy at all times.
- ▶ Constructive criticism is welcome but avoid negativism.
- ▶ You opinion is valued. Try to offer solutions to go with any concerns you express.
- ▶ Understand the nature of cognitive dissonance. Sometimes, ideas are uncomfortable. Sometimes, ideas challenges our comfort zone. but an open mind is essential to problem solving.
- ▶ There are a number of “moving pieces” in this proposal, so please wait until the end to ask questions, seek clarification, or offer comments.
- ▶ “Seek first to understand, then be understood” Stephen Covey.

RRI Program Deficiencies

- ▶ Board work product was mostly diverted to building an organization.
 - ▶ Documents
 - ▶ Training Programs
 - ▶ Managing external relationships.
- ▶ COVID and the loss of several key leadership officials created work-flow problems.
- ▶ Roles and responsibilities for the Registered Radio Operator were never clearly defined.
- ▶ Lingering schisms within NTS made change difficult.
- ▶ NTS2.0 process is increasing divergence within the system.



RRI Program Successes

- ▶ Up-to-date training materials and documents.
- ▶ Improved relationships and interoperability with local and national emergency communications organizations.
- ▶ First up-to-date, curated net directory issued in over thirty years.
- ▶ First National Response Plan tested through multiple emergency internal and external communications exercises.
- ▶ New radiogram and radiogram-ICS213 forms developed based on survey of best practices.
- ▶ New interface methods and process and developed in cooperation with the Winlink Development Team.
- ▶and more....

Despite successes, the reality we must face
is this:

Cooperation and therefore growth and change are impossible in the current fractured environment. Therefore, RRI must accept reality and adapt.

The Long-Standing Problems

The Long-Standing Problems

- ▶ **Disappearing traffic**: Both agencies and Amateur Radio Service EmComm groups have been quietly testing the traffic system with *routine* traffic. **In some cases, upwards of 100-percent of messages originated are not delivered once they reach the section level.**
- ▶ **Bulk Traffic**: The dichotomy within the established traffic system has made it impossible to solve the bulk traffic problem. RRI coordination attempts were ignored by most bulk originators and were not supported by many NTS loyalists. ***Incorrect/obsolete address information continues to haunt the system, degrading morale and diminishing the status of the system.***
- ▶ **Slow throughput**: Long message propagation times through the network due to liaison issues creates a negative perception of the traffic system.

The Long-Standing Problems (continued)

- ▶ **The Last Mile Disconnect**: Message traffic often propagates through the *infrastructure* system in a timely fashion, only to sit for days or disappearing at the last mile.
- ▶ **Inability to meet EmComm Commitments**: RRI has been at the forefront of integrating the traffic system into various EmComm initiatives, often in partnership with local, state and even International organizations but to support emergency communications initiatives, we must solve the above problems.

We cannot solve these problems within the current, fractured traffic system.

Summary: What has not worked.....

- ▶ The RRI attempt to develop standards and a coordination method to better manage BULK traffic has failed. Anti-RRI operators simply ignored the process.....**NO CHANGE.**
- ▶ Poorly managed BULK traffic, particularly messages originated with defective addresses, is harmful to morale and corrosive to the culture of the traffic system. It discourages new volunteers who come to see the traffic handling as “a waste of time.”.....**NO CHANGE.**
- ▶ The RRI Board has considered creating a new “BULK” precedence, but the reality is that most bulk originators will continue to originate such traffic using the routine precedence.....**NO CHANGE.**
- ▶ Therefore.....



How should RRI evolve....

A PROPOSED SOLUTION

First: Prerequisites to RRI Evolution:

Do no harm and continue to support NTS

- ▶ RRI recognizes that the most traffic operators eschew politics.
- ▶ RRI recognizes that the majority of NTS volunteers and ARRL sections are doing good work in the field.
- ▶ **Therefore: RRI does not want to disrupt existing NTS nets or operations.** Therefore, RRI will continue to provide infrastructure for NTS.
- ▶ **However: If RRI is to make headway solving long-standing problems, it will be necessary to implement a form of limited isolation from NTS and Newington politics.**

Moving forward.....

- ▶ How can RRI create a system in which:
 - ▶ **RRI can implement effective change and create a program that attracts new volunteers?**
 - ▶ **Higher priority radiograms (Welfare, Priority or EMERGENCY) are routed to their destination reliably and delivered rapidly?**
 - ▶ **The last mile reliability problem for routine traffic is resolved (98 percent of all radiograms are delivered or serviced back)?**
 - ▶ **RRI can fulfill its duty to serve its emerging EmComm customers?**

Have you noticed ?

- ▶ The prior slide indicates a classic customer service problem!
- ▶ Customer service reality 1: Those who originate radiograms expect them to be delivered in a timely manner.
- ▶ Customer service reality 2: Those who originate radiograms expect an accurate and complete delivery.
- ▶ Customer service reality 3: Served agencies and EmComm organizations have a *reasonable expectation* that any messages transmitted via an infrastructure will propagate through the network to the addressee in a timely manner.
- ▶ **Customer service reality 4: Those who try the traffic system will measure its value based on the quality of customer service provided the first time they originate a radiogram. This has a major impact on volunteer involvement.**

The Proposed Solution

The Answer: A Limited Virtual Private Network (RRI VPN)

- ▶ **RRI and NTS will remain interoperable for ROUTINE traffic.** In this case, we retain the status quo.
- ▶ RRI Registered Radio Operators treat all ROUTINE traffic as “bulk traffic.” Bulk traffic will stay on the usual NTS routings.
- ▶ RRI Operators can continue to participate in NTS nets as often as they desire.
- ▶ **However: RRI will create a “Virtual Private Network” consisting only of RRI Registered Radio Operators. The VPN will be used exclusively for conveying *higher priority traffic*.**

The Fast Telegram (Precedence “F”)

- ▶ RRI will create a new precedence for unique, personal (routine) radiograms, the character of which will be carefully defined.
- ▶ The new precedence will apply ONLY to RRI Networks. It will indicate the message is sufficiently unique and time-sensitive that it should be routed only via the RRI VPN.
- ▶ Taking a page from commercial telegram services, the new precedence might be called “F” for “Fast Telegram.”
- ▶ **New order of message precedence: Emergency, Priority, Welfare, Fast Telegram, Routine.** *The latter routine traffic would be considered exclusively “NTS” traffic and treated as “bulk” traffic.*

Proposed definition of “Fast Telegram”

A FAST TELEGRAM (FT) is any message other than Emergency, Priority, or Welfare, which meets the following criteria:

- ▶ The originator *shall* have a reasonable expectation that the address, phone number and other contact information contained in the address is *timely and correct*.
- ▶ The message transmitted must be unique in character.
- ▶ The message must be transmitted as the result of a prior relationship or transaction between the originator (signatory) and addressee. Examples include, but are not necessarily limited to:
 - ▶ A birthday or holiday greeting between family members or friends.
 - ▶ Acknowledgment of a membership, award, or other action by a club or organization, in which the message is originated in response to an action by the addressee and in which case the address information is complete and known to be timely and correct.
 - ▶ Personal communications between family and friends regarding events, planned activities, or other notifications.
- ▶ What is prohibited: The FAST TELEGRAM precedence shall not be used for Bulk Traffic, which is defined as follows:

Bulk Traffic

BULK TRAFFIC is carried under the “ROUTINE” precedence and is defined as any message in which one or more of the following conditions are present:

- ▶ The originator has no prior or direct relationship with the addressee.
- ▶ The message is originated in response to the *inaction* of the addressee.
- ▶ The message is designed to promote a particular organization or activity in which the addressee has had no prior involvement, expressed no prior interest, or in which the originator has no prior information of the potential interest of the addressee.
- ▶ The message consists of a common text routinely sent to multiple parties.

All BULK TRAFFIC shall be classified as ROUTINE and shall be transmitted via alternative methods outside of the RRI VPN.

Clarification – In order of Precedence

Traffic exclusive to RRI VPN

- ▶ EMERGENCY
- ▶ Priority
- ▶ Welfare
- ▶ Fast Telegram

Traffic interoperable with NTS

- ▶ Routine

Note: Routine includes bulk traffic or messages originated outside of the RRI system.

Juxtaposition – current vs. proposed structure

NTS Method

- ▶ Routine and Bulk traffic treated the same.
- ▶ Bulk traffic with incorrect address information is corrosive and harmful to participation and system culture.
- ▶ Diffusion of responsibility within system allows traffic to disappear without tracing or accountability.
- ▶ **PROBLEMS IMPOSSIBLE TO CORRECT UNDER CURRENT DIVIDED ARRANGEMENT.**

Proposed RRI Method

- ▶ Unique, personal radiograms have new precedence “Fast Telegram.”
- ▶ Messages with F, W, P, or EMERGENCY precedence routed directly to Registered Radio Operators (RRO) whenever possible.
- ▶ RROs responsible for rapid routing or delivery to last mile. RRI system restructured to support this process.
- ▶ **RROs encouraged to recruit/develop a reliable network in their state or municipality. May consist of trusted NTS or unaffiliated operators.**

Benefits of an RRI VPN

- ▶ Volunteers can still support NTS and handle all the bulk traffic/NTS traffic they desire.
- ▶ RROs will not be “burned out” by bulk traffic originations.
- ▶ Fast telegrams, welfare, priority or emergency traffic are handled and delivered promptly and professionally by trained and vetted operators. All RRI procedures respected, required RRI delivery forms utilized, RRI operating standards respected.
- ▶ Accountability: Traffic routed to defined RRI state target stations - easier to trace. Less diffusion of responsibility, thereby eliminating disappearing message traffic.
- ▶ No politics! By isolating RRI from NTS in this simple but important way, RRI can begin to create a new, effective traffic system that is relevant and in which we can take pride.
- ▶ **NO HARM TO NTS, but RRI is protected from purposeful interference/disruption.**

Supporting the VPN: The *Certified* Radio Operator

- ▶ The RRI Certified Radio Operator is an RRO who has.....
 - ▶ Attended required RRI on-line training classes and/or has a proven resume in traffic work.
 - ▶ If new, he/she has passed on-air or simulated traffic exchanges or is known to be capable of handling traffic accurately and reliably.
 - ▶ Agrees to abide by RRI rules and follow RRI procedures.
 - ▶ Agrees to give priority to messages originated via the RRI VPN or affiliated organizations.
- ▶ **DTN target stations for their state or local area shall be Certified Radio Operators (no change for NTS DTS if they wish).**

A non-restrictive program

- ▶ An RRO is at liberty to participate in NTS activities. There are no restrictions preventing his/her participation in any other public service programs.
- ▶ NTS retains training value. Participation in the ARRL NTS program is NOT discouraged but RRI participation is prioritized.
- ▶ Considerations:
 1. RRI has a responsibility to provide a high quality of service to our users.
 2. RRI has a duty to its volunteers to use their time and investment judiciously and respectfully. Policies must support this.

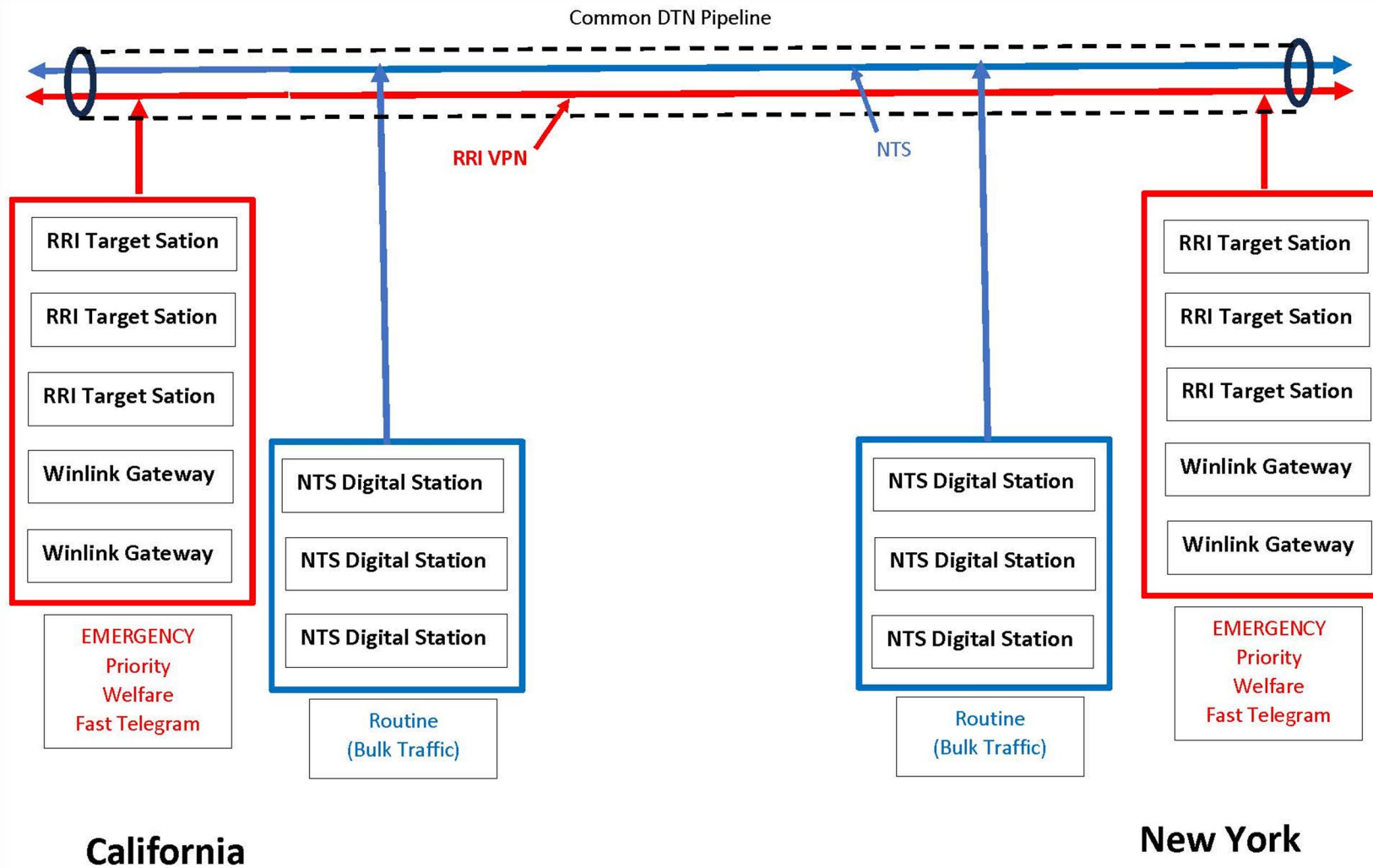
Essentially two networks in the same “pipeline,” RRI and NTS.

The Mechanics of the Program

- ▶ The RRI **Digital Traffic Network** will serve as the initial backbone of this new initiative.
- ▶ Within the RRI VPN, Certified Radio Operators will act as Digital Target Stations for their state.
- ▶ Redundancy is encouraged, that is; **Multiple target stations in each state are encouraged to share responsibility to ensure redundancy and facilitate round-the-clock operation in the event of a major disaster.**
- ▶ Each state within the VPN will have a *unique address* that is separate from the NTS routings, keeping the RRI traffic in its own virtual pipeline.
- ▶ A unique identifier will be used only to indicating routing for F, W, P, or EMERGENCY radiograms on manual mode nets (exact method yet to be determined).

Winlink-RRI Gateways

- ▶ The Winlink-RRI Gateways will migrate to be an exclusive function of the RRI program.
- ▶ NTS-only participants will be phased out over time to be replaced with RRI Certified Radio Operators.
- ▶ Because most Winlink users are new to traffic handling (often first-time message originators), the quality of service provided via this process must be first-rate.
- ▶ Because the Winlink-RRI gateway process is also used by EmComm organizations, the quality of service provided via this process must be first rate.
- ▶ Traffic volumes from Winlink are relatively small....but provide meaningful first-impressions of the system.



Example of Connectivity Along DTN Pipeline

The Role of Manual Modes

- ▶ **State Target Stations will be responsible for building a cadre of reliable digital, SSB, and CW operators within their state to serve as RRI operators for last-mile connectivity – The “SCM Function.”**
- ▶ **A special identifier associated with the message number may be required (e.g. 223V, the “V” indicating RRI VPN).**
- ▶ If participation warrants; RRI will add supplemental CW and SSB wide coverage networks for manual mode message origination and as a supplemental EmComm resource.
- ▶ RRI “Priority Entry Point” process already described in *National Response Plan*.
- ▶ Expansion of common denominator voice modes (HF-SSB, etc.) for both recruitment and EmComm access.
- ▶ Other ideas will undoubtedly arise.....

Our Responsibility to EmComm Organizations

- ▶ All messages **MUST** be originated and delivered according to RRI standards using the correct message forms and RRI accountability methods.
- ▶ Specialized message formats and requests for information must arrive unaltered.
- ▶ RRI must provide a professional level of EmComm service.
- ▶ RRI must be differentiated from the inefficient wide coverage nets or occasional problematic NTS circuits/ARRL sections of years past.
- ▶ RRI must be able to handle message traffic in other languages spoken in the Western Hemisphere (digital and CW methods).

Summary of Plan

- ▶ Five classes of radiograms:
 - ▶ EMERGENCY
 - ▶ Priority
 - ▶ Welfare
 - ▶ Fast Telegram
 - ▶ Routine (NTS)
- ▶ All classes of radiogram except ROUTINE will be carried exclusively within the RRI VPN and ultimately to the last mile point of delivery.
- ▶ Unique routing code for each state will direct higher priority traffic to RRI target stations. --- NTS only DTS will be unaffected.
- ▶ CROs and RROs responsible for timely delivery of traffic and conformation with all handling instructions.
- ▶ RROs recruit reliable operators into RRI program to build virtual network at state/local level.
- ▶ As program grows, wide-coverage manual mode nets may also be developed.

Possible Time-line and Mileposts

1. Hold RRI Registered Radio Operator Meetings February/March 2024.
2. Open certified radio operator (CRO) applications April 2024.
3. Start Certified Radio Operator Training Sessions May 2024.
4. Implement VPN routing process June 2024.
5. Commence new program July 1, 2024.



Radio Relay International

Program copyright 2024, Radio Relay International. All Rights Reserved.