



NATIONAL EMERGENCY
COMMUNICATIONS RESPONSE
GUIDELINES 2020

Guidelines for individuals and emergency communications organizations utilizing the RRI International Messaging Layer (traffic system) in time of emergency.

INTRODUCTION AND TABLE OF CONTENTS

The *RRI National Communications Emergency Guidelines* are designed to offer maximum flexibility for organizational and individual emergency communications efforts. These guidelines are purposely limited to those actions required to ensure that effective infrastructure support at the national level in time of emergency.

Included along with operational requirements for the traffic system are basic guidelines for the RRI “National SOS Radio Network” and “Neighborhood HamWatch” programs. These programs can do much to enhance community service while providing a rich source of situational awareness data for local, state, and Federal emergency management agencies.

As with any organization active in disaster response, it is essential that personnel, equipment, and infrastructure be exercised regularly. For these reasons, RRI networks operate 365 days per year, 24-hours per day to facilitate the transfer of *routine* message traffic. While routine message traffic may seem unimportant, it is the process that retains value by ensuring operational readiness and by providing convenient training for operators. This plan assumes that the user is familiar with radiogram and radiogram-ICS213 formatting, net protocols, and general system architecture. RRI offers emergency communications training classes for those who are new to the traffic system. For more information, visit: www.radio-relay.org

IMPORTANT NOTICE: This plan is subject to periodic changes. Please check the RRI Web Page for the latest versions or contact the RRI Emergency Manager at:

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INTRODUCTION AND TABLE OF CONTENTS

I	Overview	Page: 1
II	Activation	3
III	Alert and Notification	5
IV	Welfare Message Traffic	7
V	Priority Message Traffic	9
VI	Emergency Message Traffic	12
VII	Resource Manager	13
VIII	Winlink Liaison (Traffic Exchange) Stations	14
IX	Digital Traffic Stations	15
X	State and Local Traffic Networks	16
XI	IATN (Inter-Area Traffic Network) Circuits	17
XII	Low Power and Portable/Mobile Stations	19
XIII	National Communications Emergency Response Teams	20
XIV	Neighborhood HamWatch and National SOS Radio Networks	23
XV	REACT International Liaison	26
XVI	Weather Data Reporting	27

Appendices:

A	Sample Messages	29
	Example 1: Emergency Plan Activation Request	29
	Example 2: Operational Readiness Report (OPRED)	30
	Example 3: Situation Report (SITREP)	31
	Example 3A: Instructions (back) Radiogram ICS213 Message Form	32
	Example 4: Simple Welfare Radiogram	33
	Example 5: Example of Booked Welfare Traffic (with prosigns)	34
	Example 6: Alert and Notification Broadcast Message (QNC)	35
	Example 7: WXOBS Message	36
B	Contact Information for NECC and RRI Area Chairpersons	41
C	Sample Portion of DTN Mode-Frequency Matrix	42
D	Typical RRI Area Showing Injection/Exchange Points	43
E	RRI NATCOMSTRAT Overview	44
F	Instructions for Refiling REACT Message Traffic	50
G	Amateur Message Form 1720-R1	55
H	Guidelines for Siting, Installing & Calibrating Weather Instruments	57
I	RRI Directory of Traffic Networks	62
J	RRI CW Net Traffic Training Broadcast Schedule Effective 1 September 2020	69

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

I OVERVIEW

GENERAL POLICY

The Radio Relay International messaging system normally operates in *routine* configuration. When configured for routine operation, it is anticipated that all message traffic is of a routine precedence and therefore not particularly time sensitive. While routine traffic should be handled promptly from point of injection to point of delivery, message propagation times through the system are not a serious concern.

In time of emergency, the national messaging layer is reconfigured to facilitate the rapid routing and delivery of message traffic. Special circuits are established to expedite the flow of message traffic. Specific networks can be activated on a continuous basis to facilitate unique emergency communications requirements. Digital Traffic Stations (DTS) and Winlink regional liaison stations are placed on emergency status and sysops (attendants) are assigned to monitor message throughput to ensure that message propagation and transfer times are minimized.

Multiple inject options may also be made available for priority and emergency message traffic via radiotelegraph, radiotelephone, and various digital systems. In other words, emergency configuration assumes that welfare, priority, or emergency precedence traffic will be originated and message propagation times through the system become critical.

ACCESIBILITY

RRI takes an infrastructure approach to emergency response. Traffic networks are open to any individual radio operator or EmComm organization active in emergency response. *Message precedence* will determine the priority of network access and relay/transfer/download functions. While special accommodations may be made for high-priority agencies, generally, RRI networks operate on an open infrastructure concept.

INTEROPERABILITY

RRI networks are designed to facilitate full interoperability. The radiogram format, which incorporates non-case-sensitive content, minimal punctuation, universal message formatting guidelines, and *complete* network management and accountability data, which defines network topology, ensures that communications traffic can pass seamlessly and

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

intact from digital to manual mode networks to achieve “last mile” connectivity. This ensures that messages not only meet, but *exceed*, the ICS213 minimum requirement defined in the NIMS standards. It also recognizes that not every radio amateur may have access to functional digital equipment when forward deployed in a disaster area.

TRAINING

Participation in routine RRI operations develops a cadre of operators fully proficient with message formatting rules, net procedures, and network topology. Regular participation in nets inculcates good operating practices, builds established connectivity, and promotes resiliency.

Individuals and organizations, which may have reason to utilize the national messaging layer should exercise it regularly by originating, relaying, receiving, and delivering routine radiogram traffic. Emergency communications operations cannot be learned amidst a disaster operation. Rather, one must practice basic message handling skills regularly. *Furthermore, these skills are inherently transferrable to all communications networks, whether they are tasked to transfer tactical communications or record message traffic.* RRI strongly recommends that users, or potential users, of the network carefully study the RRI Training Manual TR-001 and Field Manual FM-001 and participate in routine nets as part of the preparedness process.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

II Activation

1. Whenever welfare, priority or emergency traffic is to be originated, the originating station, or the emergency communications program manager approving the originations, shall notify the Radio Relay International Emergency Manager or an assigned alternate as soon as reasonably practical. These points of contact are identified in *Appendix B*.
2. Activation may be initiated by telephone, text message, Winlink e-mail or a radiogram message in the absence of functioning commercial telecommunications common carrier infrastructure. Regardless of the method used for initial activation, this should be followed by a formal request transmitted via radiogram (see example in Appendix A).
3. The notifying individual or official shall request a confirmation message or other acknowledgement of the activation request. The handling instruction “HXC” or “HXE” within the radiogram preamble (network management data) can facilitate this confirmation function.
4. Recommended information for activation request notification:
 - a. A basic description of the disaster situation and affected area.
 - b. A basic description of connectivity required including any specific functions.
For example:
 - i. Welfare traffic to random destinations.
 - ii. Welfare traffic within a state, region or limited geographic area.
 - iii. Connectivity to specific agencies or communities (e.g. State EOC; FEMA regional headquarters; National Response Coordinating Center, specific cities, etc.)
 - c. Note that targeted location information is more important than agency name.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

- d. Name, call sign and title (if applicable) of individual, RRI, ARRL, MARS or other EmComm official or the agency representative requesting emergency communications services.
 - e. Local, state or region network frequency through which requesting individual or agency can be reached.
5. Note: An example of a brief activation request message can be found in Appendix A
6. Self-Activation is encouraged when RRI registered radio operators have knowledge that a major disaster or national emergency is occurring. Under such circumstances, the monitoring (QSX) of IATN watch frequencies and more frequent DTS and Winlink liaison is encouraged. Some examples of incidents that may justify self-activation include:
 - a. Major earthquake.
 - b. Major hurricane landfall.
 - c. Widespread power outage.
 - d. Widespread ice storms
 - e. Major cyber or terrorist attack.
 - f. Act of war.
 - g. Other major disaster.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

III Alert and Notification

1. Upon determining that activation of the emergency plan is appropriate, the RRI Emergency Manager, or the RRI official acting in that capacity, shall alert all RRI networks and registered radio operators. This initial alert bulletin will be distributed as follows:
 - a. Via an e-mail bulletin to all RRI Registered Radio Operators.
 - b. Via a text message alert to all RRI Registered Radio Operators.
 - c. Targeted telephone calls to specific net managers.
 - d. Announcements on specific net frequencies as appropriate. *See Net Directory Appendix E for bulletin frequencies).*
 - e. QNC radiograms distributed as – *General format and defined in Appendix A, Example 6.*
 - f. QNC radiograms transmitted to DTN and to Winlink-RRI Liaison Stations.
2. A general bulletin to the broader Amateur Radio Service community may also be distributed via common methods such as e-mail reflectors, various news services and similar facilities. This may include ARRL SECs, emergency communications team leaders, RRI registered radio operators.
3. Should specific areas, regions or individual networks need to be activated to expedite the flow of emergency communications traffic, the Emergency Manager shall notify the appropriate net manager(s), digital traffic stations and Winlink Region Liaison stations as soon as practicable. **The general categories of QNC messages are:**
 - a. QNC (unspecified): Distribute to all US and Canada affiliated networks.
 - b. QNC-International: Distribute on all RRI affiliated networks Worldwide.
 - c. QNC-[Region(s)]: Distribute only to nets within the RRI region(s) identified.
 - d. QNC-[State(s)]: Distribute only to nets within the state(s) identified.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

4. A QNC radiogram message will be originated identifying activated networks, watch frequencies and other pertinent information. RRI registered radio operators are encouraged to distribute these QNC messages via e-mail, radio, SMS, and other methods to ensure the widest possible dissemination.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

IV Welfare Message Traffic

1. Welfare traffic shall be processed AFTER emergency or priority precedence messages but before routine traffic, or at times when idle circuit capacity is available.
2. Unless stated otherwise in an initial or follow-up alert bulletins, it will be assumed that welfare message traffic destinations (addressee location) will be randomly dispersed throughout the United States. Therefore, the origination of quantities of welfare traffic shall invoke the minimum activation of all RRI affiliated networks on a minimum standby basis.
3. Digital Traffic Stations, Winlink liaisons (operating at the region net level) and IATN circuits will activate for the duration of the emergency when staffing is available. These liaison stations may, at their discretion, request full activation of local or state traffic nets to facilitate the routing and delivery of incoming welfare traffic to its destination when traffic volumes warrant.
4. A watch frequency arrangement may be used to dynamically respond to incoming welfare traffic. That is; an active net may not be necessary. Instead, region reps and IATN staff will monitor the watch frequencies for incoming traffic. Additionally, DTS stations at the state level and region Winlink liaisons will increase the frequency at which they check the region DTN hub for incoming traffic, preferably once per hour for welfare traffic. Primary, secondary, and tertiary watch frequencies and associated procedures are defined in Appendix E.
5. The Emergency Manager, in conjunction with the RRI Area Chairmen, shall have the authority to make the final determination regarding the routing and disposition of welfare traffic. At all times, the efficient use of human resources shall be considered. That is, the minimal number of networks and operators required to conduct the task will be utilized.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

6. Welfare traffic should not use handling instructions or otherwise require a response to preserve circuit capacity.
7. At a minimum, and whenever practical, all welfare traffic originated should be booked using a standard ARL numbered radiogram message text or a similar standard text.
8. DTN is preferred for the origination of welfare traffic, with manual mode nets serving in a secondary role. However, in the absence of digital capabilities, welfare traffic may be injected into any operational traffic net provided higher priority traffic is not being exchanged.
9. *Recommended minimum download schedule for Digital Traffic Stations and Winlink Liaison Stations is once per hour when incoming welfare message traffic is anticipated.*

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

V Priority Message Traffic

1. Priority traffic will typically consist of operational messages transmitted on behalf of served agencies. Other examples include, but are not necessarily limited to:
 - a. SITREP reports from RRI registered radio operators or local EmComm organizations.
 - b. Weather data reports transmitted during major winter storms or hurricanes. *WXOBS formats are defined in Appendix A, Example 7.*
 - c. Announcements from FEMA or other emergency management agencies to subordinate agencies.
 - d. Announcements from FEMA or other emergency management agencies to be distributed to press, wire services or broadcast media outlets.
2. Priority message traffic shall be handled before welfare and routine traffic but after emergency precedence traffic.
3. Unlike welfare traffic, priority traffic requires reasonably brief message propagation times. The station of origin should carefully consider network topology and characteristics when selecting a network for the injection of priority traffic. Considerable discretion is granted to the message originator; however, some basic guidelines may prove helpful.
 - a. When activated, the IATN watch frequencies may prove most efficient for priority traffic leaving the immediate operational area. Examples include SITREPs and other data destined for agency facilities in adjacent states or regions.
 - b. The IATN watch frequencies may prove more effective during major hurricanes due to lower static levels on the higher frequencies utilized (e.g. 30 and 20-meters).

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

- c. Winlink liaison stations and DTS stations may experience slight delays as they perform their traffic exchange functions with manual mode traffic networks to achieve “last mile” connectivity.
 - d. In a few cases, it may be helpful to take priority traffic directly to the destination region or state/section network when RF propagation conditions permit, and maximum expediency is needed. When exercising this option, one should consider the nature of traffic already being exchanged on the destination net and potential conflicts between priority traffic being exchanged on behalf of the destination state’s served agencies and the external traffic destined for the network. *Circuit capacity is always a critical concern.*
4. The RRI Emergency Manager or his designee shall retain the right to direct stations to utilize specific networks to preserve efficient operation of the overall national system.
5. State and local net managers should consult with local and state emergency communications program leadership officials to assess their priorities and needs. Whenever practical, the requirements of local and state EmComm organizations should be considered when allocating local network assets. However, it is important to balance local requirements with the need to preserve the functioning of the national system as a unit.
6. State and local digital networks may want to operate a coordination net or “order wire” net in parallel to regular net operations to facilitate overall network management and expedite the flow of heavy traffic volumes. For example, a voice or CW order wire can facilitate coordinating access to a shared digital network, thereby facilitating message prioritization and preventing co-channel interference or other conflict amongst authorized users. This allows multiple EmComm groups to not only prioritize access to digital networks, but to improve throughput by eliminating collisions between competing stations.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

- 7. Minimum download schedule for Digital Traffic Stations and Winlink Liaison Stations is twice per hour when priority message traffic is anticipated. It is recommended that these duties be shared on a time sequenced schedule to ensure more prompt traffic exchange. For example, Liaison station A downloads at the top and bottom of the hour and station B downloads at 15 and 45 minutes past the hour.*

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

VI Emergency Message Traffic

1. Emergency traffic is any traffic that affects the immediate life or safety of an individual or population. It shall be originated using the most expedient communications circuit available.
2. Emergency traffic shall be transferred to the first available commercial telecommunications common carrier service or government network.
3. Stations holding emergency traffic may “break” any existing traffic exchange of lower precedence (priority, welfare, routine) to immediately clear the message(s).
4. Delivering stations shall ensure that the message is acknowledged by the addressee.

Important Notice: As stated above, the traffic system may be reconfigured to accommodate emergency response operations. When conducting an emergency management exercise in which the traffic system will be utilized and, when message propagation times are critical to the exercise design or metrics, it is essential that the RRI Emergency Manager be notified in advance and briefed on the exercise scope and requirements. This will ensure that the traffic system is activated on an emergency schedule for the duration of the exercise, thereby ensuring realistic, measurable results. Attendance at RRI Training Class TR-009, “Designing an Emergency Communications Exercise” is strongly recommended for all local EmComm personnel.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

VII Resource Manager

1. The RRI Emergency Manager or his designee shall appoint a “Resource Manager” to collect operational readiness data from RRI registered radio operators and supported EmComm organizations during an activation. This data will be used to populate an “Operational Readiness Database,” which is an enhanced ICS-205 form.
2. Data collected by the Resource Manager includes, but is not necessarily limited to:
 - a. Call signs and locations of active traffic stations categorize by region and state.
 - b. Nets frequencies on which each station is operational.
 - c. EmComm organization (if applicable) with which each station has connectivity.
 - d. Local agencies with which each station has established connectivity.
 - e. Anticipated duration of operation for each station.
 - f. Supplies needed and by what time (gasoline for generator, water, food, etc.).
3. The Resource Manager will update this database at least once every 24-hours during the duration of an activation.
4. The ICS-205 operational readiness spreadsheet shall be provided to the RRI Emergency Manager or his designee and the RRI Area Chairmen, who will share this data with served agencies, net managers, and other personnel at their discretion.
5. Individual operators or EmComm stations participating in the disaster response operations are asked to transmit updated the information as outlined in paragraph 2 to the Resource Manager once every 24 hours. If no change in status has occurred since a prior report, the status report update may simply state “no change.”
6. Example Resource Management Radiograms with format definitions are contained in Appendix A.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

VIII Winlink Liaison (Traffic Exchange) Stations:

1. Radio Relay International maintains liaison with the Winlink system to ensure the prompt and efficient transfer of radiogram formatted message to the RRI System. This system of traffic exchange functions during both routine and emergency configuration.
2. Traffic exchange occurs at the RRI region network level. Winlink liaison stations connect to Winlink using a special tactical account specific to their RRI Region. The operator then downloads the message traffic specific to that region and transfers it to the most expedient network to achieve routing and delivery.
3. If necessary and deemed appropriate, the liaison station may deliver priority traffic directly. However, in the case of routine and welfare traffic, discretion is advised to avoid needlessly undermining the system by starving lower echelon networks. For example; quantities of welfare traffic might be forwarded to a state network whereas a priority agency message might be delivered directly via WebEOC, commercial telecommunications common carrier network, or it may be transferred to a local EmComm, government or public safety network to ensure minimal message propagation times and achieve last-mile connectivity.
4. The Winlink-RRI traffic exchange system is primarily a one-way system. That is, most radiogram traffic will move from Winlink to RRI. Operators are allowed considerable leverage to determine the best routing for replies. If necessary, consult with the Resource Manager or RRI Emergency Manager to determine the options for service messages associated with radiograms of priority precedence. In some situations, a response routed to an RMS capable station may prove expedient.
5. *Recommended minimum download schedule for Winlink Liaison Stations is once per hour when incoming welfare message traffic is anticipated. When priority traffic is anticipated, download frequency should be increased. If possible, the duty should be time sequenced with another DTS or Winlink Liaison operator. For example, Station A downloads at the top and bottom of the hour and Station B downloads at 15 and 45 minutes past the hour.*

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

IX Digital Traffic Stations (DTN):

1. The Radio Relay International Digital Traffic Network (DTN) is a hybrid mesh network serving North America and selected locations overseas in the Europe, Asia, and Oceania. Traffic uploaded to the network is automatically forwarded to its destination region without delay.
2. Traffic exchange between state/local manual mode networks (voice, CW, digital) occurs via the *Digital Traffic Station* (DTS) function. The DTS connects to the DTN, downloads the message traffic specific to his service area, and transfer it to the most expedient state or local network to achieve routing and delivery.
3. If necessary and deemed appropriate, the DTS may deliver priority or emergency traffic directly. However, in the case of routine and welfare traffic, discretion is advised to avoid needlessly undermining the system by starving lower echelon networks of message traffic. For example, quantities of welfare traffic might be forwarded to a state or local network for distribution, whereas a priority agency message might be delivered directly via WebEOC, commercial telecommunications common carrier networks or the like.
4. DTN is the preferred digital resource for the origination of “batch files,” consisting of numerous welfare messages destined for dispersed locations.
5. *Recommended minimum download schedule Digital Traffic Stations is once per hour when incoming welfare message traffic is anticipated. When Priority traffic is anticipated, download frequency should be increased. If possible, the duty should be time sequenced with another DTS. For example, Station A downloads at the top and bottom of the hour and Station B downloads at 15 and 45 minutes past the hour.*

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

X State and Local Networks

1. State and local traffic networks serve as the primary interface with the public, local emergency communications organizations, and RRI community support programs such as “Neighborhood Hamwatch” and the “National SOS Radio Network.”
2. Activation of local or state nets may be made at the discretion of the net manager upon request from a civil authority or local EmComm organization. Upon activation, the standard National Emergency Communications Response Plan activation request message should be originated to the RRI Emergency Manager or an alternate. An example is available in Appendix A.
3. State and local nets are encouraged to function in a non-political manner with emphasis on providing infrastructure services. The requirements of all recognized local EmComm programs should be considered and balanced. Open access and the balanced allocation of resources based on message precedence is essential.
4. *It may be necessary to assign specific networks to specific emergency management functions.* This process is discussed in RRI Training Class TR-006, entitled “Emergency Communications Planning.” In all cases, emergency and priority precedence messages and served agency traffic will take precedence over welfare message traffic. However, if sufficient personnel are available, net managers may coordinate with other state/section traffic officials to establish routings and staffing structures, which can accommodate the welfare function in addition to agency traffic. In emergencies that extend beyond the local or state/section boundaries, the RRI Emergency Manager should be notified.
5. The DTS and manual mode region liaison functions will be critical to maintaining connectivity to both the broader RRI traffic system and the Winlink system. Ensure these functions are adequately staffed throughout the disaster operation. These functions should be staffed at least three-deep for routine operations to ensure operational readiness.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

XI IATN Circuits

1. Inter-Area Traffic Network circuits are the preferred manual mode injection point for long-haul priority precedence traffic *destined for a specific agency outside of the originator's RRI region*. The primary duties of these circuit include:
 - a. Expediting the flow of priority message traffic to its destination area, region, or state net in such a manner that message propagation times are minimized.
 - b. Serving as a primary entry point for priority precedence long-haul message traffic specific to a function (e.g. SITREP, WXOBS, etc.) or agency (e.g. FEMA NRCC, Relief Agency National Headquarters, etc.) as defined in operational bulletins.
 - c. Serving as a gateway point for field-expedient portable or mobile high frequency stations.
2. IATN will operate on a watch (QSX) schedule to be determined. Operators will be assigned to monitor the standard IATN frequencies throughout the disaster operation. These stations may make periodic announcements on the watch frequencies such as "RRI RRI QSX de [call sign]" to announce their presence and availability for priority message traffic.
3. Traffic originations should be concentrated at 15 and 45 minutes past the hour unless necessary to expedite the flow of message traffic. This process minimizes staff burden staff burden and facilitates QSY/QNY to alternate nets and frequencies to forward traffic.
4. **Primary IATN CW watch frequencies are as follows:**
 - a. **Day: 14115 and 10115 kHz**
 - b. **Night: 7115 and 3563 kHz**
 - c. **Note: 10115 kHz may be used day or night depending upon RF propagation conditions.**

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

5. Voice and digital watch frequencies will be indicated in operational bulletins issued and updated during the disaster operation.
6. Stations wishing to inject traffic at the IATN level should call "RRI," list traffic quantity, destination region or state and await a reply. For example: "RRI RRI de [call sign] QTC 3 P Ohio."
7. When IATN circuits are idle, they may be used to expedite the origination and transfer of welfare message traffic between RRI Areas.
8. RRI operators should be prepared to switch to SSB on an alternate frequency if requested to do so by an originating station.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

XII Low Power and Portable/Mobile Stations

1. Low power, portable and mobile high frequency stations are more susceptible to propagation anomalies than fixed stations. Therefore, a greater range of frequency options may prove beneficial.
2. If the circuit to a desired state or region net proves inadequate, IATN watch frequencies or an adjacent RRI region net may be considered as alternative circuits for traffic exchange.
3. Upon establishing a reliable traffic circuit, notify the Resource Manager *immediately* via radiogram. This will ensure that other networks are aware of alternate routings when transmitting service messages or replies to your station of origin. For example, if a station in Region 5 must use a Region 4 network to establish communications, it may be necessary to route traffic destined for that station from the Central to Eastern Areas to expedite message flow and retain efficiency.
4. Whenever practical, a station operating from within a disaster area should respect the Area/Region system structure and first attempt connectivity with networks within their assigned state, region, or area.
5. Considerable latitude is allowed to facilitate dynamic problem solving. However, all decisions should be made with the overall network structure in mind.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

XIII National Communications Emergency Response Teams (NCERT)

1. NCERTS are teams of communications specialists with extensive EmComm and traffic experience equipped to deploy multiple modes and capabilities in time of emergency. These capabilities include, but are not necessarily limited to:
 - a. RRI Digital Traffic Net
 - b. Winlink
 - c. SHARES
 - d. MARS
 - e. RRI Radiotelegraph Networks
 - f. RRI Radiotelephone Networks
 - g. Misc. digital protocols (FLDIGI, etc.)
 - h. VHF and UHF voice modes.

NCERTS are organized at the state level in cooperation with local or state EmComm organizations and radio clubs that are chartered by the RRI Board of Directors. Each NCERT is also an authorized Digital Traffic Station (DTS). The NCERT is designed to supplement local EmComm efforts by deploying advanced traffic handling skills and specialized communications capabilities.

2. Upon receiving notification that a major disaster is occurring, NCERT Team Managers will place their personnel on standby status. It is expected that team members will prepare for immediate deployment within 24 hours of mobilization.
3. The services of the NCERT may be requested by a served agency or state/local EmComm organization. NCERTS will be assigned on a first-come, first served basis based on the following priority:

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

- a. Federal Agencies
 - b. State Agencies
 - c. NGO Relief Agencies
 - d. EmComm organizations (ARES®, RACES, REACT, AUXCOMM, etc.)
4. It should be noted that many agencies already have a working relationship with local/state EmComm organizations. The RRI emergency manager and NCERT team manager should defer to these relationships whenever practical, provided there are no conflicts of interest, which might undermine the operational integrity of the RRI national system.
5. NCERTs may be asked to voluntarily deploy to major disaster operations in other states or regions when necessary to support a significant disaster response.
6. Individual NCERT members are asked to participate in a minimum of two EmComm exercises per year, one of which must be sponsored by RRI. The NCERT must deploy as a team in a field exercise at least once per year.
7. Upon activation of the NCERT, an operational readiness radiogram will be transmitted to the RRI Resource Manager containing the data outlined in SECTION VII-2.
8. The NCERT Team Manager may request mutual aid via the RRI Emergency Coordinator or his RRI Area Chairman. Reasons for mutual aid include requirements for:
 - a. Relief operators.
 - b. Additional technical personnel
 - c. Requests for supplies such as gasoline for generators, batteries, food, water, medications, etc.
9. Upon termination of operations, the NCERT Manager will notify the RRI Emergency Manager that the NCERT has demobilized. This should be

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

followed by an after-action report to be filed with the Area Coordinator within 30-days.

Note: At present, the NCERT program is under construction. Interested organizations should contact RRI at: info@radio-relay.org

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

XIV Neighborhood HamWatch and National SOS Radio Networks

A. Neighborhood Hamwatch:

Local radio clubs and EmComm organizations participating in the Neighborhood HamWatch program should assign a team to interface with supported community organizations such as CERTs, faith-based organizations and other VOADs utilizing GMRS and FRS radio assets. For the purposes of this plan, it is assumed that prior training and coordination with these groups has taken place.

Considerable flexibility is allowed for these operations. However, the following guidelines may be helpful.

1. Radio operators should be assigned to monitor the selected GMRS/FRS UHF channel to be used for traffic exchange between the GMRS/FRS layer and the Amateur Radio Service network layer. In some cases, a radio watch on the selected GMRS/FRS channel can be maintained while performing other duties.
2. A combination of mobile shadowing and home-station gateways may be necessary to support widely dispersed VOADs.
3. In some cases, FRS radios may prove adequate for small teams operating in a confined area (such as a door-to-door neighborhood search and rescue function), with a GMRS mobile or similar higher power unit utilized to link to the Amateur Radio Service gateway.
4. Some radio clubs or EmComm groups maintain a stock of GMRS radios for distribution to selected VOADs. If issuing radios, it will be necessary to keep an accurate sign-out sheet to facilitate the tracking and collection of radios, spare battery packs and other accessories at the conclusion of the disaster operation.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

5. A connection between the Amateur Radio Service gateway and the RRI national messaging layer must be maintained to facilitate the origination of health and welfare message traffic collected during an operation.
6. VOADs active at the community level can serve as a resource for accurate situational awareness data. This data may be transferred to a local EMA via an EmComm network. This data should also be transmitted via the RRI system (see sample SITREP in Appendix A).
7. Utilize Amateur Radio Service assets wisely. The use of GMRS/FRS assets at the neighborhood/community level serves as a force multiplier, allowing one radio amateur to provide connectivity for upwards of dozens of relief workers.

B. National SOS Radio Network:

1. If serious cellular data network disruptions are occurring, the local radio club or EmComm group should implement the *National SOS Radio Network* plan.
2. Per prior arrangement, a request to air the National SOS Radio Network *Public Service Announcements* (“PSAs”) should be made to local broadcast stations. “All news” and “full service” AM and FM stations should be the primary target. EAS primary and secondary stations are often a good choice. The audio files (downloaded in advance) are available at the RRI web page (www.radio-relay.org).
3. Assign radio amateurs dispersed throughout the area to monitor FRS Channel One for emergency calls. Frequency: 462.5625 MHz

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

4. Those stations monitoring FRS channel one should have either direct or indirect connectivity with local EmComm networks (ARES®, AUXCOMM, RACES, REACT, etc.) through which requests for emergency services may be conveyed.
5. Those stations monitoring FRS channel one should also have either direct or indirect access to the RRI national messaging layer to facilitate the origination of health and welfare traffic on behalf of affected communities.
6. Citizens requesting assistance can provide useful “ground-truth” situational awareness data for local emergency management agencies. Radio operators should avoid hearsay from such resources and place a higher emphasis on first-person reports.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

XV REACT – RRI Liaison Stations

Radio Relay International maintains a working relationship with REACT International. Whereas individual REACT units are responsible for establishing local emergency communications networks, RRI is responsible for providing long-haul connectivity via a traffic exchange function.

REACT uses the standard radiogram format for its record message traffic functions. Therefore, interoperability is easily achieved provided some basic guidelines are followed:

1. REACT Liaisons should establish contact with their associated REACT Unit Manager upon activation. The liaison method selected will depend on local requirements and may consist of numerous options ranging from a point-to-point VHF or UHF circuit to any number of alternative radio services.
2. REACT radiogram message traffic may contain a “station of origin” that is not an Amateur Radio Service call sign. This is typically a REACT “TFC-*nnn*,” designator such as: “Traffic 201.”
3. *Instructions for refiling REACT originated message traffic into the RRI national messaging layer is contained in Appendix G.*
4. In some cases, it may be beneficial to include an “op note” in association with a refiled REACT message, which indicates the preferred RRI point of contact for service and reply messages. For example, “OP NOTE REPLY VIA W6RRI, SAN LUIS OBISPO CA”
5. More than one RRI operator may be required to fully support a REACT unit activation due to the requirement to work in shifts.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

XVI Weather Data Reporting

Many disasters require accurate weather data to facilitate emergency response. The proper siting, installation, calibration, and maintenance of weather sensors is a prerequisite to weather data reporting. While automatic weather reporting networks are now common, the possibility remains that widespread internet outages may occur in time of emergency. Therefore, radio amateurs should be prepared to report weather data during major winter events, hurricanes, or the like.

See Appendix I for more information on weather station installation and calibration.

1. Weather data may be collected at the local, state, region, or national level. For example, a local ARRL emergency coordinator may request weather observations from a local traffic net, an ARRL section emergency coordinator may request weather observations on a state/section-wide basis. Likewise, the RRI Emergency Manager may request weather observation over a wide, multi-state area during a hurricane or other major event.
2. The weather observation process is not intended to compete with existing programs such as the *Hurricane Watch Net*, local Skywarn programs or the like. Rather, it is designed to expand the amount of data available by including traffic system volunteers in the data collection process while simultaneously developing and maintaining a manual collection process, which is more survivable than automated systems.
3. The radiogram format is ideal for weather data collection. For example:
 - A. The station of origin is responsible for reporting the data.
 - B. The place of origin is the location where the observation was made.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

- C. The date-time group is the time the weather observation was made.
 - D. The NWS CWA in which the observation was made is specified in the address.
 - E. The signature is the individual or third party that made the observation.
 - F. A standard format in which each observation is reported in identical sequence via the radiogram format allows for automatic or convenient manual stripping of data for insertion into spreadsheets or tabular format.
4. The data sequence shall consist of wind speed/maximum gust/direction in degrees true north/barometric pressure in either inches mercury or millibars corrected to sea level/precipitation.
 5. Winter weather observations shall specify precipitation in inches snowfall or ice accumulation and, if possible, liquid equivalent.
 6. Examples of basic “WXOBS” messages are provided in Appendix A Example 7.
 7. RRI will conduct periodic emergency drills in which traffic operators are encouraged to originate basic weather observations.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX A

Example 1 – Emergency Plan Activation Request

NR		PRECEDENCE	IX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME (UTC)	DATE (UTC)
1		P	C	W6RRI	22	SAN LUIS OBISPO CA	1201Z	JUL 14
ADDRESSEE				DELIVERED BY				
NAME CLYDE DARR W8ZZ STREET ADDRESS 137 HILL AVENUE CITY, STATE, ZIP HIGHLAND PARK MI 48208 TELEPHONE / EMAIL 313 878 7100 CDARR@YAHOO.COM OP NOTE:				DELIVERY TIME & METHOD OPERATOR NAME _____ TELEPHONE or EMAIL _____ STATION LOCATION or ADDRESS _____ <small>RADIO RELAY INTERNATIONAL is an IRS 501(c)(3) non-profit corporation dedicated to the relay and delivery of radiogram messages. Unpaid amateur radio operators volunteer their equipment, time and skill to operate and maintain the radio networks that make this service possible. Learn more at www.radio-relay.org.</small>				
BODY TEXT								
<small>NON-CASE SENSITIVE COMMUNICATIONS, TYPE USING ALL CAPS</small> NCERP ACTIVATION REQUESTED 1/EARTHQUAKE LOS ANGELES METRO AREA 2/WELFARE AND SITREP TRAFFIC ORIGINATIONS IN PROGRESS 3/NCN 7055 IATN 7115 14115 DTN WL2K								
SIGNATURE								
NAME			POSITION			ORGANIZATION		
FRED HANDY W1BCG			SCM CALIFORNIA			RADIO RELAY INTERNATIONAL		
REPLY VIA								
RADIO OPERATOR NAME			ADDRESS OR LOCATION			TELEPHONE / EMAIL		
TRACKING DATA								
RECEIVED FROM			NETWORK DESIGNATOR			TIME RECEIVED(UTC)		
K6HTN			IATN/7115			141221Z JUL 2018		

RRI FORM 1801 rev 1

1. Disaster/incident type and general area affected.
2. Primary type of traffic being originated.
3. Network(s) through which reporting party may be contacted.

Notes:

- Be concise. Rely on category numbers 1 through 3.
- Activation may be requested by organization, agency or individual.
- When possible, use an operator with working telephone service contact the NECC or an Area Chair and then follow with formal radiogram.

Emergency plan activation requests are to be originated when the national messaging layer is to be used for the origination of welfare, priority or emergency message traffic. Examples of individuals who may authorize the activation request (sign the message) include individual RRI radio operators, emergency coordinators, emergency managers or other civil authorities.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example 2 – Operational Readiness Report (OPRED)

Radiogram ICS-213 Message

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time of Origin	Date of Origin
2	P		W6RRI	30	SAN LUIS OBISPO CA	2113Z	JUN 12
To (Name): HONUS WAGNER W3ABC			Position (Title & Agency): RRI SYSTEM MANAGER				
13331 ALLENDALE DR			City, State, Zip:				
EMMAUS PA 33121							
Telephone and optional e-mail: 610-555-3232 HONUS.WAGNER@GMAIL.COM							
From (Name): CARL MAYS W6RRI			Position (Title & Agency):				
Subject:			Agency Local Time (conversion from UTC):				
<p>OPRED 1/IATN 7115 14115 KHZ DTN WL2K 2/NCN 7050 KHZ LAX 145R170 MHZ 3/LIAISON TO LACO REACT AND ARES 4/LA COUNTY EMA 5/OPERATIONAL THROUGH 130659Z 6/NO ASSISTANCE OR SUPPLIES REQUIRED</p>							
<p><i>Please be brief – Use only the period for punctuation – Assume message may be delivered in all capitals</i></p>							
Message Routing (Received from call sign / DTG):			Message Routing (Transmitted to call sign / DTG): K6YR 122125Z JUN 2018				

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RRI Form 1703 ICS
2017-5-1

1. Region, Area, IATN or wide coverage nets with which liaison is available.
2. Local/section nets with which liaison is established.
3. Local/state EmComm units with which liaison is available.
4. Local/state agencies with which connectivity is present.
5. Anticipated time at which operation terminates.
6. Any special assistance, support or supplies required.

Notes:

- Be concise. State primary connectivity and liaison
- Indicate limitations (anticipated remaining hours based on fuel, battery).
- Indicate if additional operators or other support is required.
- Acting NECC will be specified in an operational bulletin upon activation of plan.
- Report every 24-hours.

Operational Readiness Reports are to be originated by all stations active on the system in time of emergency. This includes individual traffic operators, EOC and served agency stations and NCERTs. The OPRED message should be updated once every 24-hours. Check operational bulletins to identify the target station for the Resource Manager.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example 3 –Situation Report (SITREP)

Radiogram ICS-213 Message

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time of Origin	Date of Origin
1	P		K8QMN	27	KALAMAZOO MI	2230Z	OCT 2
To (Name):			Position (Title & Agency):				
FEMA NRCC							
C/O W3JY			City, State, Zip:				
PAOLI PA 19301			Telephone and optional e-mail:				
610 555 2221			From (Name):				
WILLIAMS			EMERGENCY MANAGER				
Subject:			Agency Local Time (conversion from UTC):				
<p>SITREP 1/KALAMAZOO COUNTY MI 2/WIDESPREAD POWER OUTAGE 3/ENTIRE COUNTY WITHOUT POWER INTERNET AND CELLULAR OUTAGES IN PROGRESS 4/WESTERN MICHIGAN UNIVERSITY CLOSED 5/HOSPITALS ON EMEMRGENCY POWER 6/VERIFIED SOURCE</p>							
<i>Please be brief – Use only the period for punctuation – Assume message may be delivered in all capitals</i>							
Message Routing (Received from call sign / DTG):				Message Routing (Transmitted to call sign / DTG):			
				WB8WKQ 022240Z OCT 2018			

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RRI Form 1703 ICS
2017-5-1

1. County and State in which incident/situation observed.
2. Brief description of incident or disaster effect.
3. Extent of disaster effects (boundaries, communities, facilities affected).
4. Major facilities affected (highways closed, airports closed, hospitals evacuated, etc.)
5. Actions taken to respond/mitigate disaster impact.
6. Indicate verified or unverified source.

Notes:

- Be concise. Brief, accurate descriptions of significant events.
- FEMA NRCC is generic. SITREPS may also be delivered to local and/or state EMAs when practical.
- Verified source: Direct observation or known personnel.
- Unverified source: Social media, third party report, limited confirmation.

SITREPs transmitted via RRI networks may be shared with local, state and federal emergency management officials. The origination of SITREPs requires a high degree of responsibility to ensure accuracy and verification.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example 3A – Instructions for Processing Radiogram ICS213 Forms

Instructions for using RRI Form 1703-ICS ICS213 Compatible Radiogram Message Form

RRI Form 1703-ICS is designed to facilitate the transmission of ICS213 messages in standard radiogram format. The radiogram format is a standard message form used by commercial, government, military and amateur radio services worldwide. It not only includes all essential ICS213 accountability data, but also appends additional network management data designed to ensure that messages remain intact as they pass between various communications networks. *The addition of network management data ensures that reply messages, requests for clarification and similar administrative replies can be routed via the correct network(s) to the operator or station with access to the appropriate public safety official or other point-of-contact.*

Interoperability requires that one leverage all available communications assets to ensure maximum survivability and flexibility. By following these simple guidelines, one can promote interoperability in an elegant and simple manner.

Transmission Methods:

When practical, it is best to transmit the ICS213 in standard radiogram format. In order:

1. Message preamble at the top of the page from message number through date of origin.
2. Addressee's name, title (position), agency and agency address (point of contact).
3. Subject (optional)
4. [Break]
5. Message Text.
6. [Break]
7. Originator's name, title (position) and agency (e.g. "signature").

Receiving Methods:

The RRI Certified Radio Operator will quickly recognize that the order of transmission on the form closely matches the sequence of message components within the radiogram format; the exception being the fact that the signature (**From** section) appears before the message text on the ICS213 compatible form. It is therefore a simple matter to jump from the address section to the message text component and then return to the **From** section to transcribe the signature, title, and agency. This method should allow an ICS213 compatible radiogram to be easily transcribed on a radiotelephone or radiotelegraph circuit without additional delay or confusion.

Message Text:

Digital operators originating complex forms or other data should know that a message may need to be transferred to a voice network or public safety talk-group to achieve the "last mile" of connectivity. When possible, radio operators should work with served agencies to facilitate the use of alternate, simplified message standards, which are compatible with common-denominator, voice communications methods.

The preferred default for originating or transcribing all ICS213 radiogram messages is "all-caps." *The presentation of a message in all-capitals makes it clear to the recipient that the message was possibly transferred via a network that conveyed the data in a case-insensitive manner.* As a rule, scientific terms, specialized abbreviations, or other case-sensitive terminology should be spelled-out, particularly when case reflects a multiplier value. For example; "1008 millibars" is preferable to "1008 mb." This method also improves accuracy.

For further information on disaster communications, message formats, network management and emergency communications planning, please contact Radio Relay International:

info@radio-relay.org - www.radio-relay.org - Follow us on Twitter @RadioRelayIntl.

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RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example 4 – Simple Welfare Radiogram

RRI		RADIOGRAM				RRI	
via Amateur Radio							
NR	PRECEDENCE	IX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME (UTC)	DATE (UTC)
4	W		W4XYZ	ARL 2	MIAMI FL	0201Z	AUG 22
ADDRESSEE				DELIVERED BY			
NAME MARY JO HANSEN				DELIVERY TIME & METHOD			
STREET ADDRESS 34070 LYNCROFT				OPERATOR NAME			
CITY, STATE, ZIP FARMINGTON HILLS MI 48024				TELEPHONE or EMAIL			
TELEPHONE / EMAIL 313-477-5676				STATION LOCATION or ADDRESS			
OP NOTE: MJHANSEN@TELUS.COM				<small>RADIO RELAY INTERNATIONAL is an IRS 501(c)(3) non-profit corporation dedicated to the relay and delivery of radiogram messages. Unpaid amateur radio operators volunteer their equipment, time and skill to operate and maintain the radio networks that make this service possible. Learn more at www.radio-relay.org.</small>			
BODY TEXT							
<small>NON-CASE SENSITIVE COMMUNICATIONS; TYPE USING ALL CAPS</small>							
ARL ONE							
SIGNATURE							
NAME JULIE AND STEVE HANSEN		POSITION		ORGANIZATION			
REPLY VIA							
RADIO OPERATOR NAME		ADDRESS OR LOCATION		TELEPHONE / EMAIL			
TRACKING DATA							
RECEIVED FROM		NETWORK DESIGNATOR		TIME RECEIVED (UTC)			
SENT TO AF4NC		NETWORK DESIGNATOR IATN/7115		TIME SENT (UTC) 220221Z AUG 2018			

RRI FORM 1801 rev 1

Notes:

- Use standard ARL Numbered radiogram texts when practical.
- Minimum address includes name, city, state, zip code and phone number or email.
- Use a common text when practical to facilitate booking traffic (see example 5).

Useful Welfare ARL Radiogram Texts

ARL ONE: Everyone safe here. Please don't worry.

ARL TWO: Coming home as soon as possible.

ARL THREE: Am in *[Insert Name]* hospital. Receiving excellent care and recovering fine.

ARL FOUR: Only slight property damage here. Do not be concerned about disaster reports.


ARL FIVE: Am moving to new location. Send no further mail or communications. Will inform you of new address when relocated.

ARL SIX: Will contact you as soon as possible.


ARL SIXTY FOUR: Arrived safety at *[Insert Location]*

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example 5 – Book of Two Welfare Radiograms (Prosigns Shown for Clarity)



RADIOGRAM



Transmitted via radiotelegraph over the facilities of the Michigan Net, QMN

W W8JXN ARL2 JACKSON MI 2230Z SEP 12

BT

ARL ONE

BT

LORI AND DAVID GRWICZ

BT

221 ROBERT AND LOIS CLARK
225 HARDING BLVD
HOUSTON TX 77077
713-555-1879

BT

222 BILLY JOE SEARS
16789 ROUND OAK
HOUSTON TX 77078
713-555-9888

AR N

Received from _____ at (DTG): _____ Z Transmitted to _____ at (DTG): _____ Z

Delivered to: _____ at (DTG): _____ Z Method: _____

The Michigan Net, QMN—Providing quality public service communications since 1935
For more information, visit: www.michigannet.org

- Notes:
- When practical, use an ARL Radiogram text.
 - Example: “ARL ONE” translates to “Everyone safe here please don’t worry.”
 - Message serial number associated with address.
 - Multiple addresses and signatures may be appended to a common text.
 - Example shows traffic with prosigns to illustrate transmission procedures.
 - See RRI Training Manual TR-001 or Field Manual FM-001 for additional information regarding book traffic.

This example shows a book of two messages with prosigns inserted. However, books of dozens or even hundreds of messages may be originated with a common text.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example 6 – Sample Alert and Notification Message

NR		PRECEDENCE	HK	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME (UTC)	DATE (UTC)
31		P		W6RRI	47	SAN LUIS OBISPO CA	0321Z	FEB 29
ADDRESSEE				DELIVERED BY				
NAME RRI QNC				DELIVERY TIME & METHOD				
STREET ADDRESS				OPERATOR NAME TELEPHONE or EMAIL				
CITY, STATE, ZIP				STATION LOCATION or ADDRESS				
TELEPHONE / EMAIL				<small>RADIO RELAY INTERNATIONAL is an IRS 501(c)(3) non-profit corporation dedicated to the relay and delivery of radiogram messages. Unpaid amateur radio operators volunteer their equipment, time and skill to operate and maintain the radio networks that make this service possible. Learn more at www.radio-relay.org.</small>				
OP NOTE DISTRIBUTE SYSTEM WIDE								
BODY TEXT								
<small>NON-CASE SENSITIVE COMMUNICATIONS, TYPE USING ALL CAPS</small> EMERGENCY PLAN ACTIVATION X 1/WIDESPREAD ICE STORM NORTHEAST UNITED STATES 2/SITREPS COMMA WXOBS COMMA LIMITED AGENCY TRAFFIC 3/AT REQUEST OF LOCAL OR STATE AGENCIES 4/ONE TWO AND THREE 5/NA 6/YES 7/W3JY PAOLI PA 19301 8/KB1TCE OWLS HEAD ME 04854 9/REQUEST WXOBS INCLUDE RADIAL ICE ACCUMULATION AND SITREPS								
SIGNATURE								
NAME RUSS COLUMBO			POSITION W6XYZ			ORGANIZATION RRI ACTING NECC		
REPLY VIA								
RADIO OPERATOR NAME			ADDRESS OR LOCATION			TELEPHONE / EMAIL		
TRACKING DATA								
RECEIVED FROM			NETWORK DESIGNATOR			TIME RECEIVED(UTC)		
SENT TO			NETWORK DESIGNATOR			TIME SENT(UTC)		

RRI FORM 1801 rev 1

1. Disaster/incident type and general area affected.
2. Primary type of traffic being originated.
3. RRI Section Nets to be Activated (or NA)
4. RRI Region Nets to be Activated (or NA)
5. RRI Area Nets to be Activated (or NA)
6. IATN Watch to be Activated (Yes or No)
7. Target station, city, state and zip for SITREPS
8. Target station, city, state and zip for WXOBS
9. Additional notes/requests

Notes:

- Be concise. Rely on category numbers 1 through 6.
- "NA" = No Activation
- Request to activate a net should trigger a confirmation message from the appropriate net manager.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example 7 – WXOBS Message

NR		PRECEDENCE	IX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME (UTC)	DATE (UTC)
37	P		W8ABC	9		STONINGTON MI	1701Z	DEC 13
ADDRESSEE				DELIVERED BY				
NAME NWS MQT C/O KB1TCE				DELIVERY TIME & METHOD				
STREET ADDRESS OWLS HEAD ME 04854				OPERATOR NAME TELEPHONE or EMAIL				
CITY, STATE, ZIP				STATION LOCATION or ADDRESS				
TELEPHONE / EMAIL				<small>RADIO RELAY INTERNATIONAL is an IRS 501(c)(3) non-profit corporation dedicated to the relay and delivery of radiogram messages. Unpaid amateur radio operators volunteer their equipment, time and skill to operate and maintain the radio networks that make this service possible. Learn more at www.radio-relay.org.</small>				
OP NOTE:								
BODY TEXT								
<small>NON-CASE SENSITIVE COMMUNICATIONS; TYPE USING ALL CAPS</small> WXOBS 1/KESC 2/120/15/35 3/OVC 4/MINUSS 5/1003R73 6/SNOW 7/26R40/2R20								
SIGNATURE								
NAME BENTLEY			POSITION			ORGANIZATION		
REPLY VIA								
RADIO OPERATOR NAME			ADDRESS OR LOCATION			TELEPHONE / EMAIL		
TRACKING DATA								
RECEIVED FROM W8IHX			NETWORK DESIGNATOR IATN-20			TIME RECEIVED(UTC) 131707Z DEC 2020		
SENT TO			NETWORK DESIGNATOR			TIME SENT(UTC)		

RRI FORM 1801 rev 1

1. LOC: Nearest METAR site (usually an airport) For example: "KDTW"
2. WIND: direction in degrees (0-360)/ wind speed mph/ maximum observed gust in last hour
3. CLDLYR: Cloud layer (BKN, SKC, FEW, OVC, SCT, TCU, CB)
4. TEMP: Current temperature in degrees Fahrenheit-indicate F. Below zero temps preface with "MINUS"
5. BAR: Barometric pressure in millibars corrected to mean sea level. Indicate "MB"
6. PRECIP: type (rain, snow, mixed, ice).
7. Storm total precipitation/liquid equivalent if snow or ice.

See notes below.

Notes:

- Be concise. Rely on category numbers 1 through 7.
- If some data is missing, insert "MM." For example: 6/MM
- Observation schedule to be defined in operational bulletins for major tropical events or winter storms.
- Target station(s) for weather reports will be identified in operational bulletins.
- Weather observations may be independently shared with local Skywarn networks or local NWS offices.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Detailed Explanation of Example-7 WXOBS Message

- Time of Origin represents the time observation was made.
- Target Station for reports will be defined in Alert and Notification Bulletins.
- Four letter METAR Code is often associated with the nearest airport (including small civil airports).
- Wind Sequence: Direction in degrees true north/measured wind speed/maximum gust measured in last hour.
- Cloud Layer:
 - BKN: Broken
 - SKC: Sky clear
 - FEW: A few clouds (less than or equal to ¼ overage)
 - OVC: Overcast
 - SCT: Scattered
 - TCU: Towering Cumulus
 - CB: Cumulonimbus
- Temperature field is high/low temp for day on which report is filed from midnight to midnight local time. Values in Fahrenheit. "MINUS" inserted before below-zero temperatures.
- Barometric Pressure in millibars to nearest hundredth. Additional digits NOT required for ".00." For example: 1003.00 may be transmitted as "1003," whereas 1003.05 should be transmitted as "1003R05" The "R" may be translated to a decimal point when messages are formatted for delivery or when populating a database or spreadsheet.
- Measuring precipitation:
 - Rain should be measured to the nearest hundredth of an inch.
 - Snow measurements should show storm total/total snow on ground/liquid equivalent (if available).
 - Snow should be measured to the nearest tenth of an inch.
 - Liquid equivalent of snow (melted and measured in rain gauge) should be measured to the nearest hundredth of an inch.
- "R" in value represents a decimal point.
- If a reading or estimate is unavailable, substitute "MM"

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Inches of Mercury to Millibars Conversion Chart

In Hg	Mb	In Hg	Mb	In Hg	Mb	In Hg	Mb
29.00	982.06	29.50	998.99	30.00	1015.92	30.50	1032.85
29.01	982.39	29.51	999.33	30.01	1016.26	30.51	1033.19
29.02	982.73	29.52	999.67	30.02	1016.60	30.52	1033.53
29.03	983.07	29.53	1000.00	30.03	1016.94	30.53	1033.87
29.04	983.41	29.54	1000.34	30.04	1017.27	30.54	1034.21
29.05	983.75	29.55	1000.68	30.05	1017.61	30.55	1034.55
29.06	984.09	29.56	1001.02	30.06	1017.95	30.56	1034.88
29.07	984.43	29.57	1001.36	30.07	1018.29	30.57	1035.22
29.08	984.77	29.58	1001.70	30.08	1018.63	30.58	1035.56
29.09	985.10	29.59	1002.04	30.09	1018.97	30.59	1035.90
29.10	985.44	29.60	1002.37	30.10	1019.31	30.60	1036.24
29.11	985.78	29.61	1002.71	30.11	1019.65	30.61	1036.58
29.12	986.12	29.62	1003.05	30.12	1019.98	30.62	1036.92
29.13	986.46	29.63	1003.39	30.13	1020.32	30.63	1037.25
29.14	986.80	29.64	1003.73	30.14	1020.66	30.64	1037.59
29.15	987.14	29.65	1004.07	30.15	1021.00	30.65	1037.93
29.16	987.47	29.66	1004.41	30.16	1021.34	30.66	1038.27
29.17	987.81	29.67	1004.74	30.17	1021.68	30.67	1038.61
29.18	988.15	29.68	1005.08	30.18	1022.02	30.68	1038.95
29.19	988.49	29.69	1005.42	30.19	1022.35	30.69	1039.29
29.20	988.83	29.70	1005.76	30.20	1022.69	30.70	1039.62
29.21	989.17	29.71	1006.10	30.21	1023.03	30.71	1039.96
29.22	989.51	29.72	1006.44	30.22	1023.37	30.72	1040.30
29.23	989.84	29.73	1006.78	30.23	1023.71	30.73	1040.64
29.24	990.18	29.74	1007.12	30.24	1024.05	30.74	1040.98
29.25	990.52	29.75	1007.45	30.25	1024.39	30.75	1041.32
29.26	990.86	29.76	1007.79	30.26	1024.72	30.76	1041.66
29.27	991.20	29.77	1008.13	30.27	1025.06	30.77	1042.00
29.28	991.54	29.78	1008.47	30.28	1025.40	30.78	1042.33
29.29	991.88	29.79	1008.81	30.29	1025.74	30.79	1042.67
29.30	992.22	29.80	1009.15	30.30	1026.08	30.80	1043.01
29.31	992.55	29.81	1009.49	30.31	1026.42	30.81	1043.35
29.32	992.89	29.82	1009.82	30.32	1026.76	30.82	1043.69
29.33	993.23	29.83	1010.16	30.33	1027.10	30.83	1044.03
29.34	993.57	29.84	1010.50	30.34	1027.43	30.84	1044.37
29.35	993.91	29.85	1010.84	30.35	1027.77	30.85	1044.70
29.36	994.25	29.86	1011.18	30.36	1028.11	30.86	1045.04
29.37	994.59	29.87	1011.52	30.37	1028.45	30.87	1045.38
29.38	994.92	29.88	1011.86	30.38	1028.79	30.88	1045.72
29.39	995.26	29.89	1012.19	30.39	1029.13	30.89	1046.06
29.40	995.60	29.90	1012.53	30.40	1029.47	30.90	1046.40
29.41	995.94	29.91	1012.87	30.41	1029.80	30.91	1046.74

SEQUENCE CONTINUES NEXT PAGE

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

29.42	996.28	29.92	1013.21	30.42	1030.14	30.92	1047.07
29.43	996.62	29.93	1013.55	30.43	1030.48	30.93	1047.41
29.44	996.96	29.94	1013.89	30.44	1030.82	30.94	1047.75
29.45	997.29	29.95	1014.23	30.45	1031.16	30.95	1048.09
29.46	997.63	29.96	1014.57	30.46	1031.50	30.96	1048.43
29.47	997.97	29.97	1014.90	30.47	1031.84	30.97	1048.77
29.48	998.31	29.98	1015.24	30.48	1032.17	30.98	1049.11
29.49	998.65	29.99	1015.58	30.49	1032.51	30.99	1049.45

MPH to Knots to Meters Per Second Conversion Chart

MPH	Kts	m/sec	MPH	Kts	m/sec
1	0.9	0.4	51	44.3	22.8
2	1.7	0.9	52	45.2	23.2
3	2.6	1.3	53	46.1	23.7
4	3.5	1.8	54	46.9	24.1
5	4.3	2.2	55	47.8	24.6
6	5.2	2.7	56	48.7	25.0
7	6.1	3.1	57	49.5	25.5
8	7.0	3.6	58	50.4	25.9
9	7.8	4.0	59	51.3	26.4
10	8.7	4.5	60	52.1	26.8
11	9.6	4.9	61	53.0	27.3
12	10.4	5.4	62	53.9	27.7
13	11.3	5.8	63	54.7	28.2
14	12.2	6.3	64	55.6	28.6
15	13.0	6.7	65	56.5	29.1
16	13.9	7.2	66	57.4	29.5
17	14.8	7.6	67	58.2	30.0
18	15.6	8.0	68	59.1	30.4
19	16.5	8.5	69	60.0	30.8
20	17.4	8.9	70	60.8	31.3
21	18.2	9.4	71	61.7	31.7
22	19.1	9.8	72	62.6	32.2
23	20.0	10.3	73	63.4	32.6
24	20.9	10.7	74	64.3	33.1
25	21.7	11.2	75	65.2	33.5
26	22.6	11.6	76	66.0	34.0
27	23.5	12.1	77	66.9	34.4
28	24.3	12.5	78	67.8	34.9
29	25.2	13.0	79	68.6	35.3

SEQUENCE CONTINUES NEXT PAGE

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

30	26.1	13.4	80	69.5	35.8
31	26.9	13.9	81	70.4	36.2
32	27.8	14.3	82	71.3	36.7
33	28.7	14.8	83	72.1	37.1
34	29.5	15.2	84	73.0	37.6
35	30.4	15.6	85	73.9	38.0
36	31.3	16.1	86	74.7	38.4
37	32.2	16.5	87	75.6	38.9
38	33.0	17.0	88	76.5	39.3
39	33.9	17.4	89	77.3	39.8
40	34.8	17.9	90	78.2	40.2
41	35.6	18.3	91	79.1	40.7
42	36.5	18.8	92	79.9	41.1
43	37.4	19.2	93	80.8	41.6
44	38.2	19.7	94	81.7	42.0
45	39.1	20.1	95	82.6	42.5
46	40.0	20.6	96	83.4	42.9
47	40.8	21.0	97	84.3	43.4
48	41.7	21.5	98	85.2	43.8
49	42.6	21.9	99	86.0	44.3
50	43.4	22.4	100	86.9	44.7

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX B

Contact Information for Emergency Manager and RRI Area Chairpersons

RRI Emergency Manager
James Wades (WB8SIW)
810 Skyline Drive
Marion, IL. 62959
(269) 650-0215
james.wades@radio-relay.org

Eastern Area Chairman
Jeff Miller (WB8WKQ)
5763 Lake George Rd.
Dryden, MI. 48428
(248) 330-9335
jeff.miller@radio-relay.org

Central Area Chairman
Marty Ray (N9SE)
6787 N 700 W
Sharpsville, IN. 46068
marty.ray@radio-relay.org

Western Area Chairman
Leslie Varnicle (WA3QLW)
1217 Belgian Trail
Elizabeth, CO. 80107
leslie.varnicle@radio-relay.org

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX C

Sample Portion of DTN Mode-Frequency Matrix

**Digital Traffic Net Frequency/Mode Matrix
Target Stations to be identified in operational bulletins**

DTN SCAN/ALE FREQUENCIES						
RRIW DTN MBO						
Designator	QRG				Location	Notes
W5KAV	3587	3591	3597		Rochester, WA	9. Western Area Hub
	7100.4	7102.4	7104.4			
	10144	10145.9				
	14095.9	14097.9	14104.9	14113.9		
	18103	18108.4				
WS6P	3591.9	3593.9			West Point, CA	10. RN6 Digital Hub
	7102.4	7104.4				
	14112.4	14113.9				
K6HTN	7065.9	7102.4			Pasadena, CA	DTS
K7EAJ	3587				Hillsboro, OR	DTS
AC7AI	3587				Montesano, WA	DTS
VE7GN	3571.5	3587	3591.9	3593.9	3593	Babriolo, BC. Canada
	3597	3615				RN7 Hub
						Primary Entry Point
	7065.4	7061.9	7091	7104.4	7100.4	
	7102.4					
	14064	14113.9				
KA7HRC	3587				Mount Hood, OR	11. Hood River Co. ARES
W7ARC	3587				Lynnwood, WA	
AG6QO	3586.5	3591.9			Winters, CA	DTS
	7103					12. Note VHF access
	14107.9					13. AG6QO-1 RRI & BBS traffic
	144.37					AG6QO-2 for BPQ chat
						AG6QO-10 WinLink gateway
						14. Liaison Yolo Co. ARES
N7JJ	3587				Shoreline, WA	DTS
WB6OTS	3587	3590.5	3597		Sierra Vista, AZ	15. Alt. Western Area Hub
	7094.9	7100.4	7102.4	7104.4		
	10144					
	14098.9	14105	14108.4	14110.4		

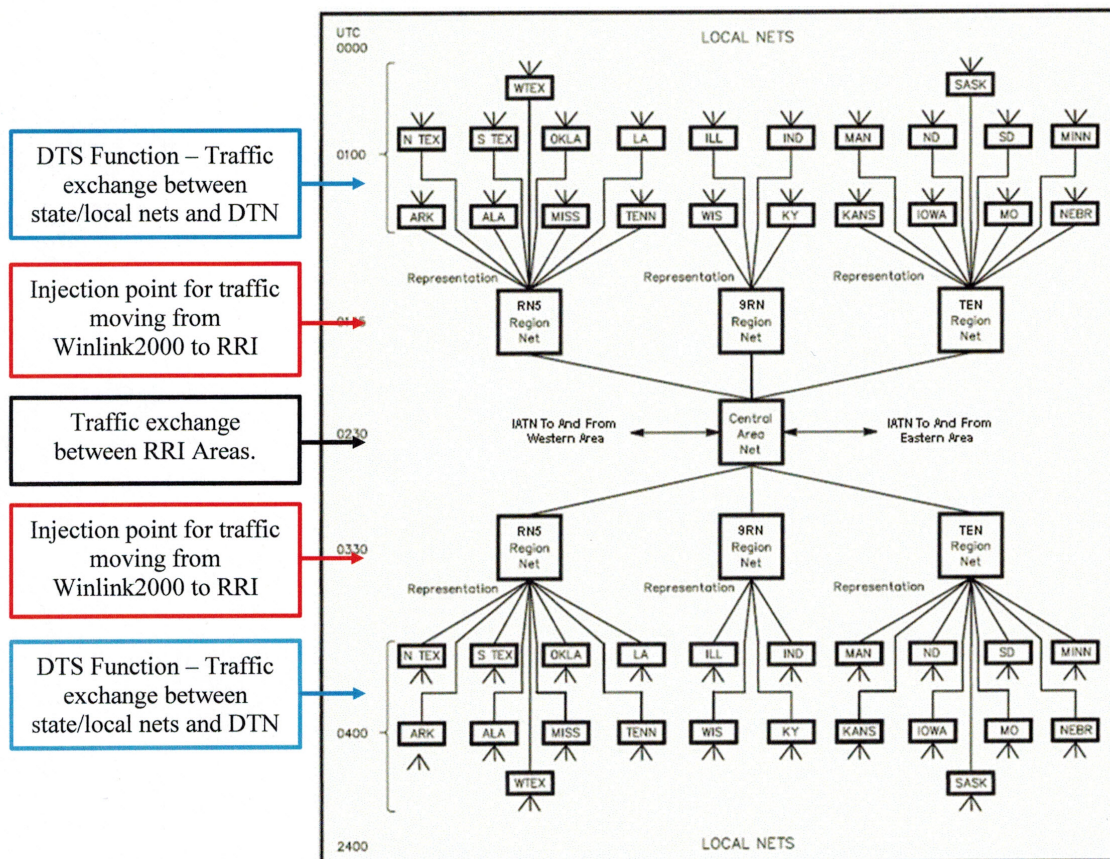
SAMPLE ONLY

**Exact mode/frequency matrix will be issued
when necessary with operational bulletins in
time of emergency**

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX D

Typical RRI Area Showing Injection/Exchange Points



Emergency Activation Guidance:

- **IATN:** Manual mode (CW/voice) alternate injection for PRIORITY AND EMERGENCY traffic. Welfare traffic to be handled only when circuits are idle.
- **Winlink2000:** Traffic transferred to RRI region nets via special DTS function for WELFARE, PRIORITY OR EMERGENCY traffic.
- **DTN:** Standard DTS function for traffic exchange at state/local level for WELFARE, PRIORITY and EMERGENCY traffic.

Unique guidance may be issued depending on circumstance. Diagram represents RRI Central Area only.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX E RRI NATCOMSTRAT Overview

Purpose:

Public service by training ordinary citizens in basic two-way radio techniques.

Goals:

Increase the purposeful use of two-way public radio service, introduce the benefits of formal traffic handling, and recruit the next generation of radio amateurs.

Measuring Success:

The success of this strategy can be determined quantitatively by direct measurement of activity. Measures and metrics should be incorporated into the program at all levels.

Funding:

Funding requirements will be minimal. Affiliated radio clubs and community organizations will be responsible for direct delivery costs. NSRN enjoyed a successful sponsorship with radio manufacturers and we anticipate future sponsorships.

Scope:

NATCOMSTRAT is a complex program with matrixed lines of responsibility and reporting, key components, target markets and supervisory oversight

	<u>Component Program Name</u>	<u>Target Market</u>	<u>Supervisory Oversight</u>
Level 1: Level 1A:	National SOS Radio Net National SOS Radio Net	Neighborhoods Civic Groups	Point-of-contact Point-of-contact or State Communications Mgr.
Level 2:	Neighborhood HamWatch	Amateur Radio Clubs Civic groups	State Communications Mgr.
Level 3:	NCERT	National NGOs, EMAs	Communications Chief

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Authority:

The National Communications Strategy is an initiative of the Board of Directors. Implementation and assessment responsibility is delegated to departments and committees as required, consistent with by-laws and Board instructions.

Level 1: National SOS Radio Network Component Overview

Target Market:	Neighborhoods <ul style="list-style-type: none">• Families• Day-hikers, campers• Outdoorsmen• Travelers
Supervisory Oversight:	Point-of-contact (Amateur Radio)
Success Factors:	Generate high degree of public awareness Effective monitoring Excellent social networking skills
HQ Involvement:	Area staffs Business Department Public Relations Department
Radio Service Emphasis:	FRS

Level 1A: National SOS Radio Network Component Overview

Target Market:	Civic Groups <ul style="list-style-type: none">• CERT• REACT• Scouts• ROTC• Faith-based relief groups• Neighborhood watch groups• Schools, colleges
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RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Supervisory Oversight:	Point-of-contact (Amateur Radio) or State Communications Manger
Success Factors:	Community organizing skills of POC. Active, skilled leadership of sponsoring local organization Systematic public relations and networking
HQ Involvement:	Area staffs Business Department Public Relations Department
Radio Service Emphasis:	FRS/GMRS

Level 2: Neighborhood HamWatch Component Overview

Target Market:	RRI Affiliated Radio Clubs Civic Organizations.
Supervisory Oversight:	Point-of-contact (Amateur Radio) or State Communications Manger
Success Factors:	Organizational competency Corporate oversight and vetting to standards Selection of extroverted “people”
HQ Involvement:	Area staffs Business Department Public Relations Department
Radio Service Emphasis:	GMRS

Level 3: National Communications Emergency Response Teams

Target Market:	Emergency Management Agencies National NGOs
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RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Supervisory Oversight:	Communications Chief
Success Factors:	Equipment and field assets High degree of professional commitment Personal competency in many disciplines Self-motivation/self-discipline Team spirit and proven performance Commitment to training and exercising
HQ Involvement:	Combined area staffs Business Department Communications Department Public Relations Department Board of Directors
Radio Service Emphasis:	Amateur Radio Service

Summary of NATCOMSTRAT components and radio services

The level 1 National SOS Radio Network component is fundamentally FRS based and the most spontaneous in nature. It is designed to allow average citizens and small groups to reach out to a nearby radio amateur with emergency traffic, requests for information about local services and conditions, and so on.

The level 1A National SOS Radio Network component is similar. Emphasis remains on FRS, but some GRMS assets may be integrated by organized groups (scouts, CERTS, etc.) to provide a more robust connectivity to specific Amateur Radio Service organizations (club, EmComm group, etc.). In this respect, level 1A overlaps somewhat with the level 2 Neighborhood HamWatch program.

The level 2 Neighborhood HamWatch component is more focused on GMRS assets. It is designed to support larger and more dispersed operations, such as CERTS, humane associations, and others. While FRS assets may be used within limited areas, GMRS mobile and hand-held radios will serve to provide primary connectivity to the Amateur Radio Service.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

The level 3 National Communications Emergency Response Team (NCERT) program is an advanced program utilizing Amateur Radio Service assets and personnel. NCERTs are specialized teams of RRI Registered Radio Operators capable of deploying a range of specialized skills and technologies including, but not limited to:

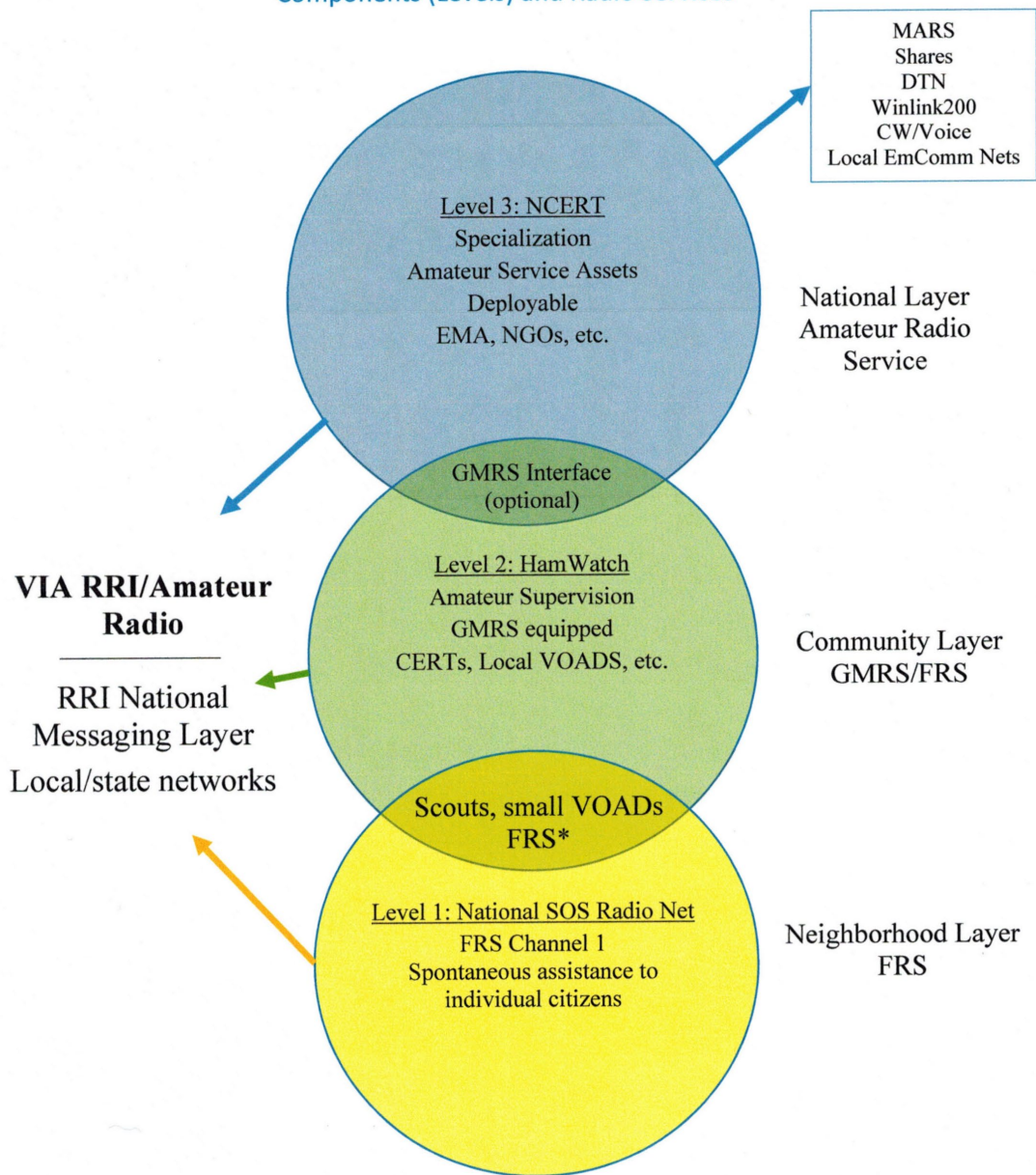
- Digital Traffic Net connectivity
- Winlink connectivity
- HF Radiotelegraph and Radiotelephone connectivity
- VHF and UHF voice connectivity
- VHF and UHF digital connectivity
- Interface with SHARES, MARS, and similar related networks

NCERTS serve a specialized function. They do not replace local EmComm organizations, but rather complement them by providing supplemental capabilities that may not be available, or which may be insufficient, at the local/field level.



RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Representation of Relationship and Overlap Between NATCOMSTRAT Components (Levels) and Radio Services



* Scouting groups and small VOADS may use GMRS or Amateur Radio gateways embedded within group

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX F Instructions for Refiling REACT Message Traffic



Instructions for Refiling REACT Radiograms To Radio Relay International Networks

Common Format:

REACT International networks utilize the same radiogram format as the Radio Relay International system. However, there are two small differences:

1. Because REACT utilizes several different radio services for its networks, the station of origin may utilize an assigned Traffic Station ID, such as "Traffic 241." This nomenclature identifies the individual station and its general geographic location.
2. Some REACT radiograms may utilize local time in the "time of origin" field, such as "1330 EDT."

With these exceptions, the REACT methods are identical to those used by RRI.

Refiling Messages:

When transferring messages from the REACT network to the RRI System, one may encounter one of two cases:

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

1. The REACT station of origin is that of a licensed radio amateur who utilizes his Amateur Radio Service call sign as the station of origin.
2. The REACT station of origin utilizes the "TRAFFIC *nnn*" Identifier.

Instructions for refiling a radiogram with an Amateur Radio Service callsign in the "Station of Origin" field:

- A. Retain the original message serial number and REACT member call sign.
- B. Add "via REACT" to the "Place of Origin" field. For example, "Glen Allen VA via REACT."
- C. Add an op-note identifying the RRI liaison station. For example, "Route Replies to W6RRI San Luis Obispo CA."

*Instructions for refiling traffic in which the station of origin field utilizes a REACT "Traffic *nnn*" call sign:*

- A. Assign your own message serial number.
- B. Change the call sign to that of the liaison station transferring the message from the REACT network to the RRI network.
- C. Add "via REACT" to the "Place of Origin" field. For example, "Glen Allen VA via REACT."

In either case, ensure one's records are correlated. That is, take a copy of the original REACT message and staple it, or otherwise append it to the refile copy. This will ensure that the two messages are retained together for subsequent reference or the convenient management of return service messages or replies.

(Continued Next Page)

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example One:

Original Message as received from REACT:

149 R TRAFFIC 241 14 GLEN ALLEN VA 1500EDT MAY 30
STEVE JONES TRAFFIC 242
1605 S MAIN ST.
HARTFORD CT 06212
519 555 2323

MESSAGE RUN SECOND WEDNESDAY JUNE
X TRAFFIC DRILL 2018 DASH 2 STARTS
SAME DATE

GREEN REACT TRAINING

Message as Refined into RRI Network:

32 R W6RRI 14 GLEN ALLEN VA VIA REACT 1900Z MAY 30
STEVE JONES TRAFFIC 242
1605 S MAIN ST
HARTFORD CT 06212
519 555 2323

MESSAGE RUN SECOND WEDNESDAY JUNE
X TRAFFIC DRILL 2018 DASH
2 STARTS SAME DATE

GREEN REACT TRAINING

1. Note the new message serial number associated with the file of W6RRI.
2. Note the addition of "VIA REACT" in the "Place of Origin."
3. Note the conversion of 1500EDT to 1900Z.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Example Two:

Original Message as received from REACT:

149 W8WCG 14 GLEN ALLEN VA 1500EDT MAY 30
STEVE JONES TRAFFIC 242
1605 W MAIN ST
HARTFORD CT 06212
519 555 3232

JOINT REACT RRI EMCOMM EXERCISE
SCHEDULED FOR AUGUST 18 FROM
1400 TO 1700 EDT

MEYERS REACT EXERCISE TEAM

Message as Refiled into RRI Network:

149 R W8WCG 14 GLEN ALLEN VA VIA REACT 1900Z MAY 30
STEVE JONES TRAFFIC 242
1605 W MAIN ST
HARTFORD CT 06212
519 555 3232

JOINT REACT RRI EMCOMM EXERCISE
SCHEDULED FOR AUGUST 12 FROM
1400 TO 1700 EDT

MEYERS REACT EXERCISE TEAM
OP NOTE REPLY VIA W6RRI FARMINGTON CT

1. Note that original message serial number and call sign are retained.
2. Note addition of "VIA REACT" in "Place of Origin" field.
3. Note addition of Op Note to ensure prompt routing of reply traffic and service messages back to the liaison station.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

Please review the latest REACT Traffic System FOG, posted under the “Publications” heading of the RRI Web Page for further details.

END

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX G: Message Form RRI 1720-R1

TRAFFIC OPERATIONS AID

1.	MESSAGE EXAMPLE									
2.	1	R	HXG	W1NJM	8	NEWINGTON CT	1830	JUL	1	
3.	a	b	c	d	e	f	g	h		
4.	DONALD SMITH 164 EAST SIXTH AVE NORTH RIVER CITY MD 21201 410 555 1234 OP NOTE DELIVER WEEKDAY BT HAPPY BIRTHDAY X SEE YOU SOON X LOVE BT									
5.	DIANA OP NOTE SERVICE TO STATION OF ORIGIN									

ITU PHONETIC ALPHABET			
A	ALFA	S	SIERRA
B	BRAVO	T	TANGO
C	CHARLIE	U	UNIFORM
D	DELTA	V	VICTOR
E	ECHO	W	WHISKEY
F	FOXTROT	X	X-RAY
G	GOLF	Y	YANKEE
H	HOTEL	Z	ZULU
I	INDIA	1	ONE
J	JULIETT	2	TWO
K	KILO	3	THREE (TREE)
L	LIMA	4	FOUR
M	MIKE	5	FIVE (FIFE)
N	NOVEMBER	6	SIX
O	OSCAR	7	SEVEN
P	PAPA (PA'PA)	8	EIGHT
Q	QUEBEC (KAY-BEK)	9	NINE (NINER)
R	ROMEO	0	ZERO

- CHARACTERS: Use **only** capital letters, figures, slant bars (/).
- PREAMBLE: (Tracking information stays with message to delivery)
 - Number (begin with 1 each month or year - no leading zeros) SVC may be entered ahead of the number for Service messages.
 - Precedence (R, W, P, EMERGENCY). TEST + space may be used before Prec. in exercise traffic, as in: TEST P.
 - Handling Instructions (optional - see table for formatting)
 - Station of Origin (first amateur handler's call sign)
 - Check (number of words/groups in text only. ARL + space precede figures if ARRL Numbered Radiograms in the text, as in: "ARL 8". Corrections are appended with "/").
 - Place of Origin (signer's location, not necessarily location of station of origin)
 - Time Filed (optional with originating station - if not UTC, add time zone letters and adjust Date as necessary.)
 - Date (MON, 3 letters, DT, no leading zeros - must agree with Time Filed) Time Filed, Date and Time are assumed UTC by default.

3. ADDRESS: (complete with zip code, telephone #, email address, etc., may include an OP NOTE).
 4. TEXT (typical limit, 25 groups, but may be expanded for emergencies) X as punctuation counts as a word - <BT> does not. A group is a series of characters with no spaces between them. (Text may be in email format*, as in ICS form content, in the Hybrid Radiogram.)

5. SIGNATURE (person for whom message originated - may include a full address and OP NOTE).

- #### RADIOGRAM HANDLING INSTRUCTIONS ("HX-CODES")
- HXA** (Followed by number.) Collect landline delivery authorized by addressee within ___ miles, (if no number in blank, authorization is unlimited). This means that the originating station has obtained authorization from the addressee, through the party originating the message, to call collect when delivering the message.
- HXB** (Followed by number.) Cancel message if not delivered within ___ hours of filing time; service message back to originating station. NOTE: filing time must be included in preamble.
- HXC** Report date and time of delivery of the message back to the originating station by service message.
- HXD** Report to originating station the identity of station from which received, plus date and time. Report identity of station to which relayed, plus date and time, or if delivered, report date and time and method of delivery (this information is sent by service message to the originating station).
- HXE** Delivering station get reply from addressee, originate message back. This reply is sent to the person from whom the original message was received, at the "place of origin", using a full address obtained from the addressee. If an address is not available, a reply can often be successfully routed back to the station of origin since a record is kept of originator's info.
- HXF** (Followed by a number.) Hold delivery until ___ (date). This blank contains the number of the day on which the message should be delivered (even if it is in the following month).
- HXG** Delivery by mail or landline toll call not required. If toll call or other expense involved, cancel message and send service message back to originating station.

Compliance with these instructions is mandatory. **MORE THAN ONE HX__ CODE MAY BE USED.** If more than one code is used, they may be combined provided no numbers are to be inserted; otherwise the HX should be repeated, thus: HXCE, HXAC, or HXABO HXC
 Ed. note: The numbers following eligible HX__ codes are expected. In this example the HXA in the first case has the range number intentionally omitted, thus the "C" may be appended. In the second case, where the optional 50 mile range is included, the figures force the separation of the full "HXC."

MESSAGE SENT ON VOICE
 "NUMBER ONE ROUTINE HOTEL X-RAY GOLF WHISKEY ONE NOVEMBER JULIETT MIKE EIGHT NEWINGTON CONNECTICUT ONE EIGHT TREE ZERO JULY ONE
 DONALD SMITH I spell SIERRA MIKE INDIA TANGO HOTEL
 figures ONE SIX FOUR EAST SIXTH I spell S I X T H initials ALFA VICTOR ECHO
 NORTH RIVER CITY MARYLAND figures TWO ONE TWO ZERO ONE
 figures FOUR ONE ZERO FIVE FIVE FIVE ONE TWO TREE FOUR
 OP NOTE DELIVER WEEKDAY
 BREAK // (mandatory listening pause)
 "HAPPY BIRTHDAY initial X-RAY SEE YOU SOON initial X-RAY LOVE
 BREAK
 DIANA I spell DELTA INDIA ALFA NOVEMBER ALFA
 OP NOTE SERVICE TO STATION OF ORIGIN
 END NO MORE"
 (NOTE: It is critically important to voice the message at a speed suitable for the receiving operator to copy accurately. Use no extraneous words. Do not voice the names of message parts.)

SENDING MESSAGES BOOKED
 Unique text groups are each marked by "BLANK" to affirm Check, and the actual groups are sent later with the unique parts after a "BREAK" or <BT> on CW. Copy begins with "BOOK OF [quantity] and ends with "END BOOK", or <AR> END BOOK <AR> on CW. Common parts are sent first. Book parts are separated by "BREAK" or <BT> on CW, each unique message part beginning with "NUMBER" or NR on CW. Booked messages may be sent to multiple stations, polled ready to copy, and checking with each for copy when their unique parts are finished; or bulletins sent to multiple stations, polled ready to copy and then polled for acknowledgment at the end.

RADIOGRAM PRECEDENCES
 These precedences are not meant to prohibit handling lower level traffic until all higher levels are passed. Handle higher precedence traffic before lower as outlets are available.

EMERGENCY (Spelled out on form):* Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief of stricken populace in emergency areas. During normal times, it will be very rare. On CW/RTTY, this designation will always be spelled out. If in doubt, do not use it.

PRIORITY (P): Use abbreviation P on CW/RTTY. This classification is for a) important messages having a specific time limit, b) official messages not covered in the emergency category, c) press dispatches and emergency related traffic not of the utmost urgency, d) notice of death or injury in a disaster area, personal or official.

WELFARE (W): This classification, abbreviated as W on CW/RTTY, refers to either an inquiry as to the health and welfare of an individual in the disaster area or an advisory from the disaster area that indicates all is well. Welfare traffic is handled only after all emergency and priority traffic is cleared. The Red Cross equivalent to an incoming Welfare message is DWI (Disaster Welfare Inquiry).

ROUTINE (R): Most traffic in normal times will bear this designation. In disaster situations, traffic labeled Routine (R on CW/RTTY) should be handled last, or not at all when circuits are busy with higher precedence traffic.

* **EMERGENCY:** Emergency is always spelled out in the preamble. Means other than Amateur Radio should be included in the delivery options. EMERGENCY messages have immediate urgency. They should take priority over any other activity and should be passed by the best means available with the cooperation of all stations.

FORMATTING
 DASH substitute for hyphen in text and zip codes
 DOT substitute for period in email addresses and URLs
 R substitute for decimal point in figure groups
 X substitute for period in text - except after last group
 All other punctuation is entered as a spelled-out word.

EMAIL ADDRESS, URL
 JOHN DOT SMITH ATSIGN DOMAIN DOT NET
 HTTP COLON SLASH SLASH WWW DOT WORK DOT COM

INTRODUCERS - VOICING, USE ONLY ONE PER GROUP
Initial(s): "Initial BRAVO", "Initials JULIETT ROMEO"
Figure(s): "figure FOUR", "figures ONE NINER"
Mixed Group: "mixed group BRAVO SLASH SIX"
Mixed Group Figure(s): "mixed group figures TWO TWO ZULU"
Amateur Call: "amateur call WHISKEY ONE NOVEMBER JULIETT MIKE"
Telephone Figures: to introduce telephone figures if no zip code
 NOTE: Introduced groups are voiced one character at a time, letters phonetically. Introducers are not voiced for Preamble groups.

MESSAGE SENT ON CW
 NR 1 R HXG W1NJM 8 NEWINGTON CT 1830 JUL 1
 DONALD SMITH <AA>
 164 EAST SIXTH AVE <AA>
 NORTH RIVER CITY MD 21201 <AA>
 410 555 1234 <AA>
 OP NOTE DELIVER WEEKDAY
 BT // (mandatory listening pause)
 HAPPY BIRTHDAY X SEE YOU
 SOON X LOVE
 BT
 DIANA <AA>
 OP NOTE SERVICE TO STATION OF ORIGIN
 <AR> N
 * See the ICS Guidance Document for methods used for voicing and sending email formatted text.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

TRAFFIC OPERATIONS AID

QN SIGNALS FOR CW NET USE

QNA*	Answer in prearranged order.
QNB*	Act as a relay Between ____ and ____.
QNC	All net stations Copy. I have a message to all net stations.
QND*	Net is Directed (controlled by a net control station).
QNE*	Entire net stand by.
QNF	Net is Free (not controlled).
QNG	Take over as net control station.
QNH	Your net frequency is High.
QNI	Net stations report In.* I am reporting into the net. (Follow with a list of traffic or QRU.)
QNJ	Can you copy me? Can you copy ____?
QNK*	Transmit messages for ____ to ____.
QNL	Your net frequency is Low.
QNM*	You are QR'ing the net. Stand by.
QNN	Net control station is ____. What station has net control?
QNO	Station is leaving the net.
QNP	Unable to copy you. Unable to copy ____.
QNQ*	Move frequency to ____ and wait for ____ to finish handling traffic. Then send him traffic for ____.
QNR*	Answer ____ and Receive traffic.
QNS	Following stations are in the net.* (Follow with list.) Request list of stations in the net.
QNT	I request permission to leave the net for ____ minutes.
QNU*	The net has traffic for you. Stand by.
QNV*	Establish contact with ____ on this frequency. If successful, move to ____ and send him traffic for ____.
QNW	How do I route messages for ____?
QNX	You are excused from the net.* Request to be excused from the net.
QNY*	Shift to another frequency (or to ____ kHz) to clear traffic with ____.
QNZ	Zero beat your signal with mine.

* For use only by the Net Control Station.

Notes on the Use of QN Signals

The QN signals listed above are special Q signals for use in amateur CW nets only. They are not for use in casual amateur conversation. Other meanings that may be used in other services do not apply. Do not use QN signals on phone nets. Say it with words. QN signals need not be followed by a question mark, even though the meaning may be interrogatory.

DTN BATCH FILE FORMAT - text files for importing Radiograms into a DTN Hub via Radio-email or direct.

ST 21201@NTSMD < WA1QAA
P BALTIMORE 410 555

78 P WA1QAA 15 ELLICOTT CITY MD 1800 SEP 20
BACI EOC
BALTIMORE MD 21201
410 555 1212

BT
TWELVE SUPPORT TEAMS IN ROUTE
TO YOUR EOC X DO
YOU HAVE EMERGENCY POWER QUERY
BT
MIKE WA1QAA MDC SEC

/EX
(blank line if last message, or ST line of next message - no blank line allowed)

RADIO-EMAIL TYPES

TYPE 1:	Radio-email carrying active Radiograms. Subject line begun RRI for plain text, DTN for Batch Files + service class, [destination], quantity and the request for confirmation of receipt: "pse QSL this email".
TYPE 2:	Regular Radio-email with multiple network and/or internet addressees, binary attachments, email body text.
TYPE 3:	Radio-email sent to a single network client for delivery to a Radiogram type address entered with a PBL as the first lines of the body text, with an email-formatted body text message (a modern form of Radiogram).
TYPE 4:	Radio-email sent to a single client directly, peer-to-peer, for refiling (or forwarding) onto the network or internet by a station with access.

INTERNATIONAL Q SIGNALS

A "Q" signal followed by a ? asks a question. A "Q" signal without the ? answers the question in the affirmative unless otherwise indicated.

QRA	What is the name of your station?
QRG	What is my exact frequency?
QRH	Does my frequency vary?
QRI	How is my tone? (1-3)
QRK	What is my signal intelligibility? (1-5)
QRL	Are you busy?
QRM	Is my transmission being interfered with?
QRN	Are you troubled by static?
QRO	Shall I increase transmitter power?
QRP	Shall I decrease transmitter power?
QRQ	Shall I send faster?
QRS	Shall I send slower?
QRT	Shall I stop sending?
QRU	Have you anything for me? (Answer in negative.)
QRV	Are you ready?
QRW	Shall I tell ____ you're calling him?
QRX	When will you call again?
QRZ	Who is calling me?
QSA	What is my signal strength? (1-5)
QSB	Are my signals fading?
QSD	Is my keying defective?
QSG	Shall I send ____ messages at a time?
QSK	Can you work break-in?
QSL	Can you acknowledge receipt?
QSM	Shall I repeat the last message sent?
QSO	Can you communicate with ____ direct?
QSP	Will you relay to ____?
QSV	Shall I send a series of V's?
QSW	Will you transmit on ____?
QSX	Will you listen for ____ on ____?
QSY	Shall I change frequency?
QSZ	Shall I send each word/group more than once? (Answer, send twice or ____.)
QTA	Shall I cancel number ____?
QTB	Do you agree with my word count? (Answer negative.)
QTC	How many messages have you to send?
QTH	What is your location?
QTR	What is your time?
QTV	Shall I stand guard for you?
QTX	Will you keep your station open for further communication with me?
QUA	Have you news of ____?

OPERATIONAL, PROWORDS, PROSIGNS

VOICE	CW
YES, AFFIRMATIVE	C
NO, NEGATIVE	N
ROGER	R
(ROGER/R means all received and understood. It does not mean yes/affirmative.)	
OVER	K
CLEAR	CL
CLEAR	<SK>
SEVENTY THREE	73
(Best regards - note meaning is plural.)	
ARL (in Check)	ARL (in CK)
ARL (in Text)	ARL (in TXT)
(ARL + space precede Check figures if ARRL Numbered Radiograms in text - voiced as letters "A R L", ARL on CW. ARL + space precede the Numbered Radiograms in the text as 1 group.)	
NUMBER	NR
(begins message record copy until END)	
BOOK OF #	BOOK OF #
(begins record copy of [# as spelled word] booked messages until END BOOK)	
(use a slight pause) <AA>	
(<AA> marks end of address lines like a CR/LF)	
OP NOTE	
(Introduces operator delivery or service note - generally not delivered to addressee.)	
BREAK <BT> or =	
(Marks start and end of text and separates parts of booked messages. A listening pause follows a break at the start of the text and before NR when sending books. No listening pause before SIG.)	
END +	<AR> +
[MORE, ONE MORE,	[B, B1 (or 1), N]
NO MORE	
(ends record copy of single messages + number of messages to follow)	
END BOOK	<AR> END BOOK <AR>
+ [MORE, ONE MORE,	+ [B, B1 (or 1), N]
NO MORE	
(ends record copy of messages sent booked + number of messages to follow)	
I SAY AGAIN	?
(FOR CLARITY)	(FOR CLARITY)
(Send "I SAY AGAIN, or "?" on CW, repeat previous group(s) for emphasis/clarity.)	
I SAY AGAIN	?
(FOR ERROR)	(FOR ERROR)
(Send "I SAY AGAIN, or "?" on CW, repeat last group sent correctly, and then continue.)	
I SPELL	(none)
(Voice only ONE group then "I spell", and then spell the group with phonetics or letter spelling, then continue. Last and other proper names should be spelled phonetically.)	

FILL REQUESTS - VOICE

"[IN (part)] **WORD AFTER** (group(s))"
"[IN (part)] **WORD BEFORE** (group(s))"
"[IN (part)] **ALL AFTER** (group(s))"
"[IN (part)] **ALL BEFORE** (group(s))"
"[IN (part)] **BETWEEN (group) AND (group)**"
"part name"
"confirm (group(s))"

FILL REQUESTS - CW

"[IN (part)] **WA** (group(s))"
"[IN (part)] **WB** (group(s))"
"[IN (part)] **AA** (group(s))"
"[IN (part)] **AB** (group(s))"
"[IN (part)] **BN (group) ES (group)**"
"part name"
"CFM (group(s))"
(Respond only with group(s) requested or CONFIRM on voice, CFM on CW, as warranted. The "[IN (part)]" is used optionally to avoid ambiguity in defining the fill location.)

GENERAL NOTES: The objective in handling formal written Radiogram traffic is to pass an exact copy of the original message to the addressee in an efficient and timely fashion. Radio-email, added to the tool kit, allows real-time messaging everywhere, error corrected, with no intermediate relaying manpower needed.

P. 2

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

APPENDIX H Guidelines for siting, installing and calibrating weather stations and instruments

Rain Gauge Siting and Accuracy Considerations:

Precipitation data is an important factor in hydrological models. The accuracy of hydrological models increases as more data is obtained throughout a given watershed. Therefore, proper instrument selection and siting is critical to obtaining accurate statistical models. Here are some guidelines for rain gauge selection and placement.

1. The diameter of the throat (collector) of the rain gauge has a significant impact on its accuracy. A larger throat increases the sample size and is therefore more accurate. A four-inch throat is usually sufficient whereas a standard 8-inch diameter government rain gauge is considered most accurate. Rain gauges with small throats tend to be less accurate under windy conditions.
2. A “tipping bucket” rain gauge should be calibrated against a manual gauge periodically (perhaps once per year) to ensure accuracy. Furthermore, grime and dirt tend to collect on the internal mechanism over time, therefore the gauge should be opened and cleaned/serviced once per year. These gauges also tend to under-report rainfall slightly under extreme conditions, such as during severe thunderstorms with torrential rain or during heavy periods of rainfall associated with significant tropical storms or hurricanes.
3. A rain gauge should offer resolution to 1/100 inch. In the case of a manual gauge, this is typically done by establishing a ratio between the diameter of the throat of the gauge and the diameter of an internal funnel of narrower diameter, thereby expanding resolution. The clear butyrate 4-inch gauges with a removable internal cylinder (during the winter) offer an excellent balance between cost and accuracy.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

4. Snowfall and ice accumulation can be melted to obtain a “liquid equivalent.” This is useful information for the hydrologist. One can add a known quantity of warm water or a water-soluble antifreeze to melt a snow sample and then subtract that known amount from the final sum to attain the liquid equivalent.
5. Remote rain gauges with a heated throat tend to under-report liquid equivalent because some of the snowfall will sublimate and not reach the tipping-bucket mechanism to be registered. It is best to verify the reading against a manual gauge.
6. The siting of a rain gauge is important. An open area with a clear view of the sky is required. Nearby tall trees may be problematic. However, low standing shrubs or other barriers, which alter the wind field through friction can improve accuracy. An “alter shield” can also be installed around a gauge to improve accuracy.

Temperature Sensors:

1. A temperature sensor must be protected from incoming solar radiation (“insolation”). This is typically done using a wooden thermometer shelter (aka “Stevenson Screen” or “Cotton Region Shelter”) or a “multiplate radiation shield.”
2. The sensor should be installed four to six feet above the ground, over short grass, and some distance away from paved surfaces and buildings, which tend to retain heat. Large cities, in general, tend to create a “heat island effect,” in which nocturnal temperatures remain higher as stored heat in paved surfaces and buildings is released at night into the lower levels of the atmosphere.
3. If it is necessary to install a temperature sensor near a building, such as at a condominium or a residence in a dense tract of homes, try to do so under the eaves on a north facing wall to minimize insolation and ambient heat.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

4. Remote reading temperature sensors may experience radio frequency interference (RFI) from nearby radio transmitters. Ferromagnetic beads on sensor cables and 0.01 mF bypass capacitors to ground at the evaluation unit may prove helpful.
5. Some temperature sensors are combined with humidity sensors. The accuracy of both functions can be checked against a psychrometer periodically to ensure accuracy. Sling psychrometers are inexpensive and easy to obtain.

Wind speed/direction indicators:

1. In the ideal environment, wind sensors would be installed at a height of 10-meters (approximately 32-feet) at an open location, at which the distance from the nearest object (tree, building, etc.) is at least ten times its height. While all sensors are in the frictional boundary layer, nearby tall objects can have a significant impact on accuracy. Most amateur weather stations will never meet the standard criteria, therefore, install the sensors in as open a location as possible and as far from nearby trees or obstructions as practical.
2. If wind sensors are installed atop a roof or tower, be sure to ground the support structure and, if possible, provide an appropriate surge protector on wind sensor cables.

Measuring Snowfall:

1. Using a yardstick or similar ruler, take a minimum of three, preferably five samples at different locations throughout a yard and average the reading. Avoid areas near roofs or other objects that may create drifts that artificially increase one's readings.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

2. Measurements taken in areas that are protected from wind and drifting by fences, lines of shrubs or the like are preferable.
3. A “snowboard” consisting of a white composite cutting board or a similar object can be laid atop existing snow to provide an accurate measure of new snowfall. Be sure to place a flag or driveway reflector next to it so you can locate it beneath the snow!
4. Avoid measuring on concrete or blacktop surfaces.

Barometers:

1. Most modern weather stations use quartz sensors to measure barometric pressure and offer digital displays for easy reading. However, older aneroid barometers of good quality can provide excellent service. The older military ML-102E through G aneroid barometers are readily available as surplus and offer good accuracy and reasonable temperature compensation. Barographs and microbarographs are also less expensive today, yet the older units manufactured by Belfort Instruments, Weather Measures, Nova Lynx and the like offer a nice visual chart recording of barometric trends. Inexpensive barometers manufactured for the consumer are ubiquitous but vary greatly in quality. Look for instruments in this class that move smoothly with changes in barometric pressure and which seem to track closely with nearby weather stations.
2. All barometers must be calibrated to mean sea level. If you live within a few miles of an airport or official weather station, you can simply obtain the latest reading and calibrate your barometer to that reliable standard. If you do not live near an airport or weather station, obtain readings from several nearby weather stations, and interpolate the difference. For example, if an airport to six miles to your west indicates 29.92 inches HG and an airport four miles to your east indicates 29.94 in HG, it is probably reasonable to calibrate your barometer to 29.93 inches HG.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

3. It is best to calibrate your barometer on a calm day with stable weather conditions. This indicates a shallow pressure gradient and minimal pressure change with time.
4. Barometers may be calibrated in inches of mercury, millibars or another standard. Reports submitted by radiogram should reference millibars. See the conversion table included with sample WXOBS radiogram on page 38.

Additional information about weather instruments is available from various on-line sources. The US National Weather Service and similar meteorological agencies publish useful manuals designed for cooperative observers. If in doubt, contact a local meteorologist or your local NWS office for advice.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

[APPENDIX I](#) [Net Directory](#)

The RRI Net Directory is updated periodically. Please check
the RRI Web Page for the latest version at:
www.radio-relay.org

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

RADIO-RELAY INTERNATIONAL

AFFILIATED & NON-AFFILIATED TRAFFIC NETS

REVISED JUNE 25, 2020

AREA/REG	STATE	TIME	TZ	DAYS	FREQ	NET	COVERAGE	NOTES	REG	REG EMAIL
EU		19:30	Z	DAILY	3.592	EU DIGI TRAFFIC NET	EUROPE	ALT 7.048 (FACTOR 1 & 2)	D14FN	D14FN@I-ONLINE.DE
EU		19:30	Z	M	3.592	EU CW TRAFFIC NET	EUROPE		D14FN	D14FN@I-ONLINE.DE
OC		06:00	Z	M-F	14.349	AUSTRALIA CW NET	AUSTRALIA		V6GRR	RADIOROY_99@YAHOO.COM
OC		21:00	Z	M-F	3.635	NEW ZEALAND NET	NEW ZEALAND	RADIOINZ.COM / NZNET	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	10:00	ET	SU	3.995	CT PHONE NET - SNOWDESK		ALT 7.233	ZL1NZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	18:00	ET	M-S	3.978	CT PHONE NET		ALT 7.233	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	19:00	ET	DAILY	3.533	CT NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	20:30	ET	DAILY	146.410/41.3	WESTERN CT TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	20:30	ET	DAILY	147.120/141.3	WESTERN CT TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	20:30	ET	DAILY	147.180/141.3	WESTERN CT TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	21:00	ET	DAILY	146.730/156.7	EASTERN CT TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	21:30	ET	R-1	146.885/77.0	NUTMEG VHF TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	CT	21:30	ET	W	147.090/110.9	NUTMEG VHF TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	16:30	ET	DAILY	146.910/162.2	WESTERN MASSACHUSETTS NET CYCLE 1			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	16:30	ET	DAILY	146.910/162.2	WESTERN MASSACHUSETTS NET CYCLE 2			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	17:00	ET	TRIS	3.978	MASSACHUSETTS/RHODE ISLAND PHONE NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	19:00	ET	DAILY	3.565	MASSACHUSETTS/RHODE ISLAND CW NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	19:30	ET	M/FR/S	147.375/110.9	CAPE & ISLANDS TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	20:00	ET	DAILY	145.230/88.5	EASTERN MASSACHUSETTS 2 METER NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	21:00	ET	DAILY	146.970/14.8	CENTRAL MASSACHUSETTS 2 METER NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	22:00	ET	M/W/PH/SU	VARS VHF/DHF	HEAVY HITTERS TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	MA	09:00	ET	SU	3.940	MAINE PUBLIC SERVICE NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	ME	18:00	ET	M-S	3.585	SEA GULL NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	ME	18:00	ET	M-F	3.585	MAINE SLOW SPEED NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	ME	19:00	ET	DAILY	3.596	MAINE EMERGENCY COMMUNICATIONS NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	ME	19:30	ET	SU	3.940	MAINE EMERGENCY COMMUNICATIONS NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	ME	19:30	ET	SU	147.060/91.5	PRE-CHIMES TRAFFIC NET		BPSK125, 1500 HZ WATERFALL	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NH	07:30	ET	S	3.582	NEW HAMPSHIRE DIGITAL NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NH	08:30	ET	S	3.976	NEW HAMPSHIRE ARES NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NH	19:15	ET	W	3.539	NEW HAMPSHIRE SLOW NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NH	21:00	ET	DAILY	146.940/14.8	GRANITE STATE TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NH	08:00	ET	SU	3.976	VERMONT PHONE EMERGENCY NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	09:00	ET	SU	3.934	VERMONT PHONE NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	17:00	ET	M-S	3.933	VERMONT GREEN MOUNTAIN NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	18:30	ET	DAILY	3.975	VERMONT GREEN MOUNTAIN NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	19:30	ET	DAILY	3.587	VERMONT PHONE TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	19:30	ET	DAILY	3.539	VERMONT/NEW HAMPSHIRE TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT/NH	08:45	ET	SU	3.945	NEW ENGLAND PHONE NET		ALT 7.233	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	14:45	ET	DAILY	3.948	FIRST REGION NET		ALT 7.233	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	19:45	ET	DAILY	3.598	FIRST REGION NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	VT	21:30	ET	DAILY	3.598	FIRST REGION NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	09:00	ET	SU	3.990	NJ PHONE			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	18:00	ET	DAILY	3.544	NJ PHONE			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	19:30	ET	DAILY	146.895/151.4	NORTH JERSEY VHF NET		NJL ALT 145.370/151.4	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	19:30	ET	DAILY	146.910/127.3	JERSEY SHORE TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	20:00	ET	DAILY	146.760/156.7	CENTRAL JERSEY TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	22:00	ET	DAILY	147.150/127.3	SOUTH JERSEY TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	22:00	ET	DAILY	VARS VHF/DHF	UNION COUNTY TRAFFIC NET		LINKED TO 146.470/127.3 - ALT 147.345/127.3	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NJ	22:30	ET	DAILY	146.700/41.3	NEW JERSEY VHF LATE			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	07:30	ET	DAILY	7.112	HIT & BOUNCE			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	08:30	ET	DAILY	7.112	HIT & BOUNCE			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	09:00	ET	M-S	3.993	CARRIER NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	09:30	ET	SU	3.977	NYS COUNTY			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	11:00	ET	M-S	3.925	CLIPPING HOUSE NET		SU ON 3.928	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	17:00	ET	DAILY	3.925	NY PUBLIC OPERATIONS NET		ALT 7.112 & 1.815	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	18:00	ET	DAILY	3.566	EMPIRE SLOW SPEED NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	18:00	ET	DAILY	3.925	NY PHONE TRAFFIC & EMERGENCY NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	18:30	ET	M-F	147.150/127.3	CAPITOL DISTRICT TRAFFIC NET		ALT 447.075 & 146.640/100.0	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	18:30	ET	S/SU	145.170/127.3	CAPITOL DISTRICT TRAFFIC NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	19:00	ET	DAILY	3.569	COS		ALT 1.807	W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	19:00	ET	T	147.210/	COLUMBIANA-GREEN EMERGENCY SERVICES NET			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	19:30	ET	DAILY	146.805/136.5	NASSAU CO VHF (NJ SECTION)			W6RZZ	W6RZZ@YAHOO.COM
EU/N/EN	NY	19:30	ET	DAILY	146.805/136.5	NASSAU CO VHF (NJ SECTION)			W6RZZ	W6RZZ@YAHOO.COM

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

RADIO-RELAY INTERNATIONAL

AFFILIATED & NON-AFFILIATED TRAFFIC NETS

REVISED JUNE 25, 2020

AREA/REG	STATE	TIME	DAYS	FREQ	NET	COVERAGE	NOTES	MRG	MRG EMAIL
EA/REG	MI	21:30	ET M-S	147.300	THUMB MID-MICHIGAN TRAFFIC NET			MRG	MRG EMAIL
EA/REG	MI	22:00	ET DAILY	3.583	MICHIGAN NET		ALT 7.093 & 1.812	K8BRM	THAMCOND @ CHARTELMAIL.NET
EA/REG	MI	22:15	ET DAILY	146.760	SOUTHEASTERN MICHIGAN TRAFFIC NET			K0BQPF	K0BQPF @ GMAIL.COM
EA/REG	MI	10:30	ET DAILY	3.9725	OHIO SINGLE SIDEBAND NET		ALT 1.840, 3.988	WB8SIQ	WB8SIQ @ TYVC.COM
EA/REG	OH	16:15	ET DAILY	3.9725	OHIO SINGLE SIDEBAND NET		ALT 1.840, 3.988	WB8SIQ	WB8SIQ @ TYVC.COM
EA/REG	OH	18:00	ET DAILY	3.5355	OHIO SLOW NET			N8TUV	N8TUV @ ARRLL.NET
EA/REG	OH	18:40	ET DAILY	146.610/103.5	NORTHWEST OHIO TRAFFIC NET				
EA/REG	OH	18:45	ET DAILY	3.590	BUCKEYE NET				
EA/REG	OH	18:45	ET DAILY	3.5725	OHIO SINGLE SIDEBAND NET		ALT 1.840, 3.988	WB8SIQ	WB8SIQ @ TYVC.COM
EA/REG	OH	19:00	ET M	146.640/123.0	MIAMI VALLEY TRAFFIC NET				
EA/REG	OH	19:15	ET DAILY	146.970/123.0	CENTRAL OHIO TRAFFIC NET		ALT 146.780/123.0, 147.240/179.9, 147.510	K08TTE	K08TTE @ PALME
EA/REG	OH	22:00	ET DAILY	3.590	BUCKEYE NET				
EA/REG	WV	16:30	ET DAILY	3.811	WEST VIRGINIA NET				
EA/REG	WV	12:30	ET DAILY	3.866	EIGHTH REGION NET		ALT 7.235		
EA/REG	WV	13:45	ET DAILY	7.235	EIGHTH REGION NET				
EA/REG	WV	15:30	ET DAILY	7.235	EIGHTH REGION NET				
EA/REG	WV	16:30	ET DAILY	3.866	EIGHTH REGION NET		ALT 7.235		
EA/REG	WV	19:45	ET DAILY	3.533	EIGHTH REGION NET				
EA/REG	WV	21:30	ET DAILY	3.533	EIGHTH REGION NET				
EA/REG	WV	13:15	ET M/W/F	1.222	EASTERN AREA NET	CYCLE 4			
EA/REG	WV	13:30	ET M/W/F	1.222	EASTERN AREA NET				
EA/REG	WV	20:00	ET DAILY	3.552	RIPE				
EA/REG	WV	20:30	ET DAILY	3.570	EASTERN AREA NET		ALT 3.592	WB4FDT	PHILWB4FDT @ HOTMAIL.COM
EA/REG	WV	08:00	CT SU	3.965	ALABAMA TRAFFIC NET MIKE			K4ZZD	C.OSWALT @ GMAIL.COM
EA/REG	WV	10:00	CT DAILY	3.965	ALABAMA DAY NET		ALT 7.100		
EA/REG	WV	15:30	CT SU	3.570	ALABAMA DIGITAL EMERGENCY NET				
EA/REG	WV	16:00	CT SU	3.965	ALABAMA EMERGENCY NET		ALT 7.243	K4ZZD	C.OSWALT @ GMAIL.COM
EA/REG	WV	18:30	CT DAILY	3.965	ALABAMA TRAFFIC NET MIKE				
EA/REG	WV	06:00	CT M-S	3.9875	ARKANSAS PHONE NET				
EA/REG	WV	16:30	CT M-F	3.927	MOCKINGBIRD NET				
EA/REG	WV	18:00	CT DAILY	3.975	ARKANSAS RAZORBACK NET		MEETS AT 18:30 IN SUMMER		
EA/REG	WV	18:00	CT SUM/W/F	3.970	LOUISIANA SSB TRAFFIC NET				
EA/REG	WV	21:30	CT DAILY	3.935	SOUTHWEST TRAFFIC NET				
EA/REG	WV	01:00	Z W	3.925	MAGNOLIA SECTION NET				
EA/REG	WV	06:00	CT M-F	3.925	MAGNOLIA SECTION NET				
EA/REG	WV	07:00	CT S/SU/HOL	3.8625	MAGNOLIA SECTION NET		ALT 7.238	K4SDON	DON.RAND @ GMAIL.COM
EA/REG	WV	18:00	CT DAILY	3.862	MISSISSIPPI BAPTIST NET			K4SDON	DON.RAND @ GMAIL.COM
EA/REG	WV	18:00	Z SU	7.290	MISSISSIPPI BAPTIST NET			K4SDON	DON.RAND @ GMAIL.COM
EA/REG	WV	17:20	CT DAILY	7.290	OKLAHOMA TRAINING NET				
EA/REG	WV	17:30	CT M-S	3.845	OKLAHOMA SOONER TRAFFIC NET				
EA/REG	WV	05:45	CT DAILY	3.980	TENNESSEE PHONE NET			NV4O	NV4O.HAM @ GMAIL.COM
EA/REG	WV	08:00	CT DAILY	3.980	TENNESSEE PHONE NET			NV4O	NV4O.HAM @ GMAIL.COM
EA/REG	WV	18:30	CT M-S	3.980	TENNESSEE PHONE NET				
EA/REG	WV	08:30	CT M-S	1.285	TEXAS TRAFFIC NET			W5RVP	W5RVP @ OUTLOOK.COM
EA/REG	WV	10:00	CT M-S	1.290	TEXAS TRAFFIC NET				
EA/REG	WV	13:00	CT M-F	1.290	TEXAS TRAFFIC NET				
EA/REG	WV	18:30	CT DAILY	3.873	TEXAS TRAFFIC NET			WESTYS	WESTYS @ SUDDENLINK.NET
EA/REG	WV	18:30	CT DAILY	146.880/110.9	DALLAS FT. WORTH TRAFFIC NET			K5FZ	K5FZ @ ARRLL.NET
EA/REG	WV	19:00	CT DAILY	3.541	TEXAS STATE CW NET		ALT 3.593	W5DY	W5DY739 @ GMAIL.COM
EA/REG	WV	19:00	CT SU	147.360	TEXAS STATE CW NET			K5GM	K5GM @ AMSAT.ORG
EA/REG	WV	19:45	CT T/R/F	3.570	TEXAS SLOW NET			K05ROB	
EA/REG	WV	20:00	CT DAILY	3.552	TEXAS SLOW NET				
EA/REG	WV	22:00	CT DAILY	3.541	TEXAS STATE CW NET		ALT 3.593	W5DY	W5DY739 @ GMAIL.COM
EA/REG	WV	22:30	CT DAILY	146.120/110.9	DALLAS FT. WORTH TRAFFIC NET			K05FAZ	K05FAZ @ ARRLL.NET
EA/REG	WV	10:25	CT M/W/F	7.280	FLTH REGION NET		ALT 3.595 & 7.108	W4AVGZ	W4AVGZ @ GMAIL.COM
EA/REG	WV	19:30	CT DAILY	3.567	FLTH REGION NET				
EA/REG	WV	21:30	CT DAILY	3.567	FLTH REGION NET				
EA/REG	WV	07:00	CT M-F	3.912	NORTH CENTRAL PHONE NET				
EA/REG	WV	08:00	CT SU	3.940	NORTH CENTRAL PHONE NET				
EA/REG	WV	16:45	CT M-F	3.957	ILLINOIS EMERGENCY NET				
EA/REG	WV	18:00	CT DAILY	3.905	ILLINOIS PHONE NET			WB9QPM	WB9QPM @ ARRLL.NET
EA/REG	WV	18:30	CT SU	146.790/127.3	MADISON COUNTY TRAFFIC NET			AA9FR	BEVANS305 @ OUTLOOK.COM
EA/REG	WV	19:15	CT DAILY	3.538	ILLINOIS NET	MADISON CO. IL	ALT 7.048 & 1.838	WB8SIW	JAMES.WADES @ RADIO-RELAY.ORG
EA/REG	WV	08:00	ET DAILY	3.535	INDIANA CW TRAFFIC NET			K0TQ	K0TQ @ ARRLL.NET

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

RADIO-RELAY INTERNATIONAL

AFFILIATED & NON-AFFILIATED TRAFFIC NETS

REVISED JUNE 25, 2020

AREA/RGN	STATE	TIME	TZ	DAYS	FREQ	NET	COVERAGE	NOTES	MGR	MGR EMAIL
CAN/RGN	IN	08:30	ET	DAILY	3.910	INDIANA RADIO TELETYPE NET			WBSOU	WAS1OU@ARRL.NET
CAN/RGN	IN	09:00	ET	DAILY	3.985	INDIANA RADIO TELETYPE NET	45 BAUD RTTY		WBSOU	WAS1OU@ARRL.NET
CAN/RGN	IN	18:00	ET	DAILY	3.940	INDIANA TRAFFIC NET			WABLOU	WAS1OU@ARRL.NET
CAN/RGN	IN	19:00	ET	DAILY	3.535	INDIANA SLOW CW NET			WABVBG	WABVBG@AOL.COM
CAN/RGN	IN	20:00	ET	DAILY	3.535	INDIANA CIVIL TRAFFIC NET			KOTQ	KOTQ@ARRL.NET
CAN/RGN	IN	20:30	ET	DAILY	3.543	INDIANA ARES DIGITAL NET	OLIVA 8/650, 1500 HZ WATERFALL		WBRHP	WBRHP@GMAIL.COM
CAN/RGN	KY	09:00	ET	SU	3.535	KENTUCKY NET			WANHO	WANHO@ARRL.NET
CAN/RGN	KY	19:00	ET	M	146.856/192.8	HARDSON COUNTY ARES				
CAN/RGN	KY	19:30	ET	M	3.973	KENTUCKY EMERGENCY NET			KC4BOK	KC4BOK@ARRL.NET
CAN/RGN	KY	19:30	ET	T	146.880/100.0	JEFFERSON COUNTY ARES			K4TJX	K4TJX@ARRL.NET
CAN/RGN	KY	20:00	ET	M	147.390/151.4	TRIMBLE CO./LDHAM CO.				
CAN/RGN	KY	20:00	ET	R	145.330	WOODFORD COUNTY ARES				
CAN/RGN	KY	20:00	ET	R	147.375/123.0	KENTUCKY DISTRICT 7 ARES			AC4BC	
CAN/RGN	KY	20:30	ET	M	146.810/	PO BOY NET	WALTON KY CORBIN, KY		K4TLY	EGHOLLAND@ADELPHIAN.NET
CAN/RGN	KY	20:30	ET	R	146.855/107.2	ANDERSON COUNTY ARES				
CAN/RGN	KY	20:30	ET	SU	147.105/103.5	HARLAN COUNTY ARES & SKYWARN				
CAN/RGN	KY	20:30	ET	T	146.880/77.0	SCHEMSET ARES				
CAN/RGN	KY	20:30	ET	W	146.715/100.0	WILDERNESS TRAIL EMERGENCY NET				
CAN/RGN	KY	20:45	ET	R	146.430/293.5	PARC CLARK COUNTY				
CAN/RGN	KY	20:45	ET	SU	146.970/103.5	PERRY COUNTY ARES & SKYWARN			K4AAU	
CAN/RGN	KY	21:00	ET	M	145.353	KENTUCKY NET			WANHO	WANHO@ARRL.NET
CAN/RGN	KY	21:00	ET	M	145.350/86.2	LEITCHER COUNTY ARES & SKYWARN				
CAN/RGN	KY	21:00	ET	R	444.050/100.0	KENTUCKY WIDE AREA NET (I-75 CORRIDOR)			W4W4U	
CAN/RGN	KY	21:00	ET	R	E. KY PIKE	PIKE COUNTY ARES				
CAN/RGN	KY	21:00	ET	T	146.925/78.7	REGION 11 SKYWARN			W4W4U	
CAN/RGN	KY	21:00	ET	T	E. KY FLOYD	EAST KENTUCKY ARES			W4CJLW	
CAN/RGN	KY	21:00	ET	W	147.000/173.8	STUBBLEFIELD REPEATER CLUB NET				
CAN/RGN	KY	21:00	ET	W	147.120/141.3	FAYETTE COUNTY ARES				
CAN/RGN	KY	21:30	ET	M	3.585	KENTUCKY DIGITAL EMERGENCY NET			KC4BOK	KC4BOK@ARRL.NET
CAN/RGN	KY	23:00	ET	DAILY	3.816	KY		PSK31		
CAN/RGN	WI	06:00	CT	DAILY	3.994	FRANKFORT EMERGENCY NET	ALT 1, 147.240/100.0		W9JXG	W9JXG@ARRL.NET
CAN/RGN	WI	08:00	CT	SU	3.967	BADGER WEATHER NET			W9BWO	W9BWO@ARRL.NET
CAN/RGN	WI	12:00	CT	DAILY	3.985	WISCONSIN ARES/RACES NET	ALT 7, 288		N9VC	W9YKO@ARRL.NET
CAN/RGN	WI	17:00	CT	DAILY	3.985	BADGER EMERGENCY NET	ALT 7, 288		K9XP	W9YKO@ARRL.NET
CAN/RGN	WI	18:00	CT	DAILY	3.555	WISCONSIN SIDEBAND NET	ALT 7, 3982.5		K99ROB	W9YKO@ARRL.NET
CAN/RGN	WI	18:30	CT	TRF/SU	3.555	WISCONSIN SLOW SPEED NET			W9BICH	W9YKO@ARRL.NET
CAN/RGN	WI	19:00	CT	DAILY	3.555	WISCONSIN INTRASTATE NET			W9RTP	W9YKO@ARRL.NET
CAN/RGN	WI	22:00	CT	DAILY	3.555	WISCONSIN INTRASTATE NET			N9TU	W9YKO@ARRL.NET
CAN/RGN	WI	11:00	CT	MW/F	7.280	NINTH REGION NET			N9CK	W9YKO@ARRL.NET
CAN/RGN	WI	19:45	CT	MW/F	3.555	NINTH REGION NET			N9CK	W9YKO@ARRL.NET
CAN/RGN	WI	21:30	CT	DAILY	3.555	NINTH REGION NET			K9DPL	W9YKO@ARRL.NET
CAN/RGN	IA	12:30	CT	MAS	3.970	IOWA 15 METER NET			K9ELY	W9YKO@ARRL.NET
CAN/RGN	IA	18:00	CT	MAS	3.970	IOWA 15 METER NET			K9ELY	W9YKO@ARRL.NET
CAN/RGN	IA	18:00	CT	SU	3.970	IOWA TRAFFIC AND EMERGENCY NET			W4WDJG	W4WDJG@GMAIL.COM
CAN/RGN	IA	18:30	CT	DAILY	3.560	IOWA TALL CORN NET			W9BR	W9BR@ARRL.NET
CAN/RGN	IA	19:00	CT	T	3.555	IOWA ARES DIGITAL NET	OLIVA 8/650, 1500 HZ WATERFALL		A9EBI	A9EBI@OUTLOOK.COM
CAN/RGN	IA	22:00	CT	DAILY	3.560	IOWA TALL CORN NET			W9BOB	W9BOB@ARRL.NET
CAN/RGN	KS	06:45	CT	MW/F	3.920	KANSAS PHONE NET			N9KFS	N9KFS@ARRL.NET
CAN/RGN	KS	08:00	CT	SISU	3.920	KANSAS PHONE NET			N9KFS	N9KFS@ARRL.NET
CAN/RGN	KS	18:30	CT	DAILY	3.920	KANSAS SIDEBAND NET			N9BZ	N9BZ@ARRL.NET
CAN/RGN	KS	19:00	CT	DAILY	3.547	KANSAS CIVIL NET			N9BZ	N9BZ@ARRL.NET
CAN/RGN	KS	22:00	CT	DAILY	3.743	KANSAS CIVIL NET				
CAN/RGN	MB	08:30	CT	DAILY	3.743	MANITOBA WEATHER NET				
CAN/RGN	MB	19:00	CT	DAILY	3.747	MANITOBA WEATHER NET				
CAN/RGN	MB	09:00	CT	MAS	3.925	PICO NET				
CAN/RGN	MB	12:00	CT	DAILY	3.860	MINNESOTA NOON PHONE NET			N9YR	N9YR@ARRL.NET
CAN/RGN	MB	16:00	CT	M/F	3.925	PICO NET (WINTERS ONLY)			W9DA	W9DA@ARRL.NET
CAN/RGN	MB	17:30	CT	DAILY	3.860	MINNESOTA SECTION PHONE NET			K9VFK	K9VFK@ARRL.NET
CAN/RGN	MB	18:45	CT	DAILY	3.568	MINNESOTA SECTION CIVIL NET			B9CJ02	B9CJ02@YAHOO.COM
CAN/RGN	MO	17:45	CT	DAILY	3.963	MISSOURI TRAFFIC NET			K9ZTV	K9ZTV@SOCKET.NET
CAN/RGN	MO	18:30	CT	DAILY	3.585	MISSOURI SECTION NET			K9ZTV	K9ZTV@SOCKET.NET
CAN/RGN	MO	21:45	CT	DAILY	3.585	MISSOURI SECTION NET			N9DCW	N9DCW@SRT.COM
CAN/RGN	ND	08:30	CT	MAS	3.935	NORTH DAKOTA ROAD & WEATHER NET				

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

RADIO-RELAY INTERNATIONAL

AFFILIATED & NON-AFFILIATED TRAFFIC NETS

REVISED JUNE 25, 2020

AREA/STN	STATE	TIME	TZ	DAYS	FREQ	NET	COVERAGE	NOTES	MGR	MGR EMAIL
CAN/EN	ND	18:30	CT	DAILY	3.937	DAKOTA AMATEUR TRAFFIC ASSOCIATION				
CAN/EN	NE	07:00	CT	M-S	3.950	WEST NEBRASKA NET		17:30 IN WINTER		
CAN/EN	NE	07:30	CT	DAILY	3.982	NEBRASKA MORNING PHONE NET				
CAN/EN	NE	12:30	CT	DAILY	3.982	NEBRASKA CORNHUSKER NET				
CAN/EN	NE	13:00	CT	DAILY	3.982	NEBRASKA 40 METER NET				
CAN/EN	NE	18:30	CT	DAILY	3.982	NEBRASKA STORNI NET				
CAN/EN	NE	19:00	CT	M-F	3.940	NEBRASKA CW TRAFFIC NET				
CAN/EN	SD	12:15	CT	M-S	3.970	SOUTH DAKOTA NOON NET				
CAN/EN	SD	18:30	CT	DAILY	3.860	SOUTH DAKOTA NOON NET				
CAN/EN	SK	09:00	CT	DAILY	3.753	SASKATCHEWAN WEATHER NET				
CAN/EN	SK	19:00	CT	DAILY	3.735	SASKATCHEWAN WEATHER NET				
CAN/EN	CT	19:00	CT	MW/F	7.280	TENNY REGION NET				
CAN/EN	CT	19:45	CT	DAILY	3.562	TENNY REGION NET				
CAN/EN	CT	21:30	CT	DAILY	3.562	TENNY REGION NET				
CAN		14:30	CT	MW/F	7.255	CENTRAL STATES TRAFFIC NET				
CAN		14:30	CT	MW/F	14.945	CENTRAL AREA NET		ALT 14.340, 14.325 & 7.243		
CAN		20:30	CT	DAILY	3.562	CENTRAL AREA NET		ALT 7.052, 3.585 & 7.108		
CAN		20:30	CT	DAILY	3.575	GOLDEN BEAR TRAFFIC NET		WINTER AT 03:00 Z		
WA/VRN	CA	02:00	Z	DAILY	3.533	NORTHERN CALIFORNIA NET				
WA/VRN	CA	19:00	PT	DAILY	3.533	NORTHERN CALIFORNIA NET				
WA/VRN	CA	19:00	PT	M-F	3.542	NORTHERN CALIFORNIA NET				
WA/VRN	CA	20:00	PT	TFRS	146.730/107.2	SAN DIEGO COUNTY TRAFFIC NET	SAN DIEGO, CA			
WA/VRN	CA	20:30	PT	TFR	VAR. UHF	LOS ANGELES NET	LA SECTION	EMAIL NET MGR FOR FRECS		
WA/VRN	CA	21:00	PT	DAILY	3.533	NORTHERN CALIFORNIA NET				
WA/VRN	CA	21:00	PT	MW/F	146.385/146.2	SOUTHERN CALIFORNIA NET				
WA/VRN	CA	15:30	PT	TFR	7.275	SIXTH REGION NET				
WA/VRN	CA	19:45	PT	DAILY	3.575	SIXTH REGION NET				
WA/VRN	CA	21:30	PT	DAILY	3.575	SIXTH REGION NET				
WA/VRN	AK	03:00	Z	DAILY	3.920	SNIPERS NET				
WA/VRN	AK	04:00	Z	R	146.890/103.5	THE INTERIOR NET	FAIRBANKS, AK	ALT 146.940/103.5		
WA/VRN	AK	03:00	Z	DAILY	7.993	ALASKA BUSH NET				
WA/VRN	AK	17:30	Z	M-F	14.292	ALASKA-PACIFIC EMERGENCY PREPAREDNESS NET		16:30 IN SUMMER		
WA/VRN	AK	18:00	Z	DAILY	14.115	ALASKA-PACIFIC CW TRAFFIC WATCH				
WA/VRN	AK	18:00	Z	DAILY	3.552	BRITISH COLUMBIA EMERGENCY NET				
WA/VRN	BC	02:30	Z	DAILY	3.716	BRITISH COLUMBIA YUKON SECTION TRAFFIC NET	SURREY, BC			
WA/VRN	BC	19:30	PT	T	147.560/110.9	SURREY EMERGENCY PROGRAM AMATEUR RADIO				
WA/VRN	IDMT	02:00	Z	DAILY	3.937	IDAHO-FARM NET				
WA/VRN	IDMT	02:45	Z	DAILY	3.572	IDAHO-MONTANA NET (SLOW)				
WA/VRN	IDMT	03:00	Z	DAILY	3.572	IDAHO MONTANA NET				
WA/VRN	MT	00:30	Z	DAILY	3.910	MONTANA TRAFFIC NET				
WA/VRN	OR	10:15	PT	DAILY	3.920	DAYTIME OREGON SECTION NET				
WA/VRN	OR	17:30	PT	DAILY	3.920	BEAVER STATE NET				
WA/VRN	OR	18:00	PT	DAILY	3.980	OREGON EMERGENCY NET				
WA/VRN	OR	18:05	PT	DAILY	146.430V	NORTHWEST OREGON TRAFFIC AND TRAINING NET				
WA/VRN	OR	18:30	PT	DAILY	3.569	OREGON SECTION NET				
WA/VRN	OR	19:00	PT	DAILY	3.980	OREGON EMERGENCY NET				
WA/VRN	OR	22:00	PT	DAILY	3.569	WASHINGTON STATE NET				
WA/VRN	WA	07:30	PT	DAILY	3.563	WASHINGTON STATE NET				
WA/VRN	WA	17:30	PT	DAILY	146.820/103.4	WASHINGTON STATE NET				
WA/VRN	WA	18:00	PT	DAILY	3.975	WASHINGTON STATE ARTS				
WA/VRN	WA	18:45	PT	DAILY	3.563	WASHINGTON STATE NET				
WA/VRN	WA	19:00	PT	DAILY	3.960	COLUMBIA BASIN NET				
WA/VRN	WA	21:45	PT	DAILY	3.563	WASHINGTON STATE NET				
WA/VRN	WAOR	18:30	PT	DAILY	3.946	NW SINGLE SIDERAND NET				
WA/VRN	WAOR	09:45	PT	DAILY	7.225	SEVENTH REGION NET				
WA/VRN	WAOR	15:15	PT	DAILY	7.225	SEVENTH REGION NET				
WA/VRN	WAOR	18:30	PT	DAILY	3.569	SEVENTH REGION NET				
WA/VRN	WAOR	21:20	PT	DAILY	3.565	SEVENTH REGION NET				
WA/VRN	AZ	22:00	PT	DAILY	3.569	SEVENTH REGION NET				
WA/VRN	AZNM	19:00	MT	DAILY	3.986	ARIZONA TRAFFIC & EMERGENCY NET				
WA/VRN	AZNM	01:30	Z	DAILY	147.160/141.3	SAGUARO MTS NET				
WA/VRN	AZNM	18:30	MT	SU	VAR. VHF/UHF	SAGUARO MTS NET				
WA/VRN	AZNM	08:00	MT	DAILY	3.910	COLORADO AREAS HF NET				
WA/VRN	CO	19:00	MT	DAILY	VAR. VHF/UHF	COLORADO TRAFFIC NET				
WA/VRN	CO	19:30	MT	DAILY	3.989	COLORADO COLUMBINE NET				
WA/VRN	CO	19:30	MT	DAILY	3.989	COLORADO COLUMBINE NET				

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

[Appendix J](#)

[RRI CW Traffic Training Broadcast Schedule](#)

[Effective September 1, 2020](#)

Schedule may vary. Please check the RRI Web Page for the current version.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

RRI Training Broadcast Schedule **Effective September 1, 2020**

Purpose of Training Broadcasts:

During the 2016 “Cascadia Rising” Federal disaster exercise, radiotelegraph (CW) traffic nets successfully demonstrated superior efficiency by conveying simulated five letter cipher group messages from Alaska, Idaho, Northern California, Oregon and Washington State to the *National Response Coordination Center* in Washington, D.C. Scoring a 99.998 percent accuracy rate against 10,220 data points with message propagation times measured through the network in a superior range of 10 to 13 minutes, this test of CW traffic nets successfully ended any debate about the efficacy of CW for disaster communications.

While Radio Relay International fully supports technical innovation in all phases of the Amateur Radio Service, we remain committed to CW traffic nets due to their superior survivability and their elegant simplicity, which again and again proves beneficial. In keeping with this policy, RRI now sponsors training broadcasts designed to prepare CW operators for participation in traffic nets.

What do the broadcasts consist of?

The Training broadcasts consist of simulated radiograms of *test routine, welfare, and priority* precedence. Some are simple and straightforward routine messages, whereas others are somewhat more complex, such as “situational awareness reports” (SITREP), “operational readiness reports” (OPRED) and weather observations (WXOBS). All are designed to develop sufficient operator confidence so that participation in CW nets is not intimidating.

What CW speeds are broadcast?

The training broadcasts are conducted at two speeds, 15 and 20 words per minute. Occasional “qualification broadcasts” will be transmitted several times per year at 25 and 30 words per minute for those who would like a greater challenge. All broadcasts consist of professional grade material. That is; if one can copy the training broadcasts with a 95-percent accuracy rate or better, he can consider himself a professional grade operator.

RRI NATIONAL EMERGENCY COMMUNICATIONS RESPONSE GUIDELINES

A certification certificate is available:

Operators who submit manual copy (with stick, word process or mill) will earn a high-quality certificate attesting to their abilities. Obviously, manual copy is required. The use of code readers or software to copy the traffic is prohibited for certification purposes.

Rules for certification:

This broadcast will be transmitted on 80, 40 and 20 meters each Thursday (UTC). *For operators in North America, this will be on Wednesday evening.* This is a great opportunity to demonstrate professional-level CW proficiency. The rules for the qualification run are as follows:

1. The messages must be received and transcribed manually. Code readers and other software-based programs shall not be used to decode or correct message content. Obviously, the "honor system" applies.
2. One can transcribe the message traffic by "stick" (pen or pencil), on a mill (typewriter), or on a word processor program. However, the transcript must be neat and readable with no discrepancy in message content.
3. The messages must be transcribed in standard radiogram format, an example of which is provided below.

Example of a properly transcribed message:

22 R W6RRI 15 CHICAGO IL MAY 28
THEODORE HAMM
2321 HENNIPEN AVE
MINNEAPOLIS MN 55111
612 555 1212
BT
YOU WILL WANT TO PROVE YOUR ABILITY TO USE CW
LIKE A PROFESSIONAL OPERATOR 73
BT
RADIO RELAY INTERNATIONAL

Those desiring certification must submit a transcript, **along with your call sign, date of broadcast and mailing address** to Radio Relay International no later than five days after the broadcast cycle concludes. The address is:

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Radio Relay International
 C/O Emergency Preparedness Services, LLC
 PO Box 43
 Niles, MI. 49120-0043
info@radio-relay.org

Broadcast Schedule Effective September 1, 2020

This schedule will remain in effect until further notice. One will have three chances to copy each identical broadcast of message traffic. Broadcasts will take place each Thursday on the following schedule (all times are UTC/Standard Time):

Thursday One	Thursday Two	Thursday Three	Thursday Four
RRIC/RRIR Transmit	RRIW Transmit	RRIE/RRIC Transmit	RRIW Transmit
20 wpm	20 wpm	15 wpm	15 wpm

Eastern Area (RRIE/RRIC) broadcasts occur on *first and third Thursday at the following times:*

Thursday 0001Z: 14060 KHz
 Thursday 0100Z: 7060 KHz
 Thursday 0200Z: 3560 KHz

Western Area (RRIW) broadcasts occur on *second and fourth Thursdays at the following times:*

Thursday 0300Z: 14060 KHz
 Thursday 0400Z: 7060 KHz
 Thursday 0500Z: 3560 KHz

Important Notes:

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1. Please note that the broadcast frequency may vary +/- 5 kHz to accommodate existing users or to avoid interference. Listen for the preliminary marker ("V V V de W6RRI") from W6RRI, which will precede the training broadcast.
2. **IMPORTANT!!! Both day and time are in UTC. Remember that new radio day starts at 0001Z. For volunteers in North America, the broadcasts will occur on Wednesdays, local time! UTC times do not shift with daylight savings time in the United States.**



Sample radiotelegraph proficiency certificate.