WCARES Emergency Communications Operations Plan

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Record of Changes

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Introduction and Background

The Williamson County Amateur Radio Emergency Service (WCARES) is a public service organization established for the primary purpose of organizing and training licensed amateur radio operators in Williamson County, Tennessee, to serve as a source of reliable emergency communications support for public and private emergency response agencies in Williamson and surrounding counties in the aftermath of natural disasters or during other times of public need.

WCARES also serves to inform the general public about the amateur radio service; provide classroom training for prospective licensees; provide technical and operational assistance to other amateurs and provide various opportunities and activities for amateur radio operators to interact with each other in order to help maximize the utilization of their operating privileges.

The WCARES Organization

WCARES is affiliated with the Amateur Radio Emergency Service (ARES), a nationwide organization coordinated by the American Radio Relay League (ARRL). WCARES activities are under the overall direction of an Emergency Coordinator (EC) appointed by the ARRL's Tennessee Section Emergency Coordinator (SEC). The EC is supported by several Assistant Emergency Coordinators (AECs) appointed by the EC. The EC and AECs serve as members of the WCARES Planning Committee, which plans and conducts various activities with which WCARES is involved.

In addition to providing communications support during actual emergencies, WCARES also conducts training exercises and drills at various times during the year to develop and maintain its emergency communications readiness.

Purpose of the Emergency Communications Operations Plan

This Emergency Communications Operations Plan sets forth the framework within which WCARES would provide communications support for the public in the event of an emergency affecting Williamson County and its citizens. Although each emergency carries with it communications needs that are specific to the circumstances involved, this plan provides adequate guidance and flexibility to assure effective coordination of WCARES resources, regardless of the circumstances.

Primary Served Agency

WCARES has designated the Williamson County Emergency Management Agency (EMA) as its primary served agency. WCARES assumes that any emergency resulting in the need for WCARES support would necessarily first have involved this department, which has overall responsibility for coordinating interagency emergency communications with other public agencies such as the Tennessee Emergency Management Agency (TEMA), Williamson County law enforcement and Williamson County Department of Emergency Medical Services (EMS).

It is possible that WCARES could be asked to provide emergency communications assistance within Williamson County to several agencies simultaneously. To prevent this from creating confusion or a degradation of service to our primary served agency, all requests for assistance will be initiated through the Williamson County EMA. This prevents multiple requests from many agencies or organizations being separately directed to WCARES, which cannot be effectively managed or supported.

National Incident Management System (NIMS) and Incident Command System (ICS)

In order to participate effectively as a member of WCARES you need to understand the basic principles of NIMS and ICS. In the aftermath of 911 it was apparent that there was not a single, standardized program to respond to emergencies, either man made or natural disasters. The outcome of the after action report resulted in the formation of the National Incident Management System. NIMS is a comprehensive, national approach to incident management that is applicable at all jurisdictional levels and across functional disciplines. NIMS provides a consistent nationwide framework and approach to enable government at all levels (Federal, State and Local), the private sector and nongovernmental organizations (NGOs) to work together to prepare for, prevent, respond to, recover from and mitigate the effects of incidents regardless of the incident's cause, size, location or complexity.

The Incident Command System (ICS) is a management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures and communications operating within a common organizational structure.

As stated above NIMS provides a comprehensive approach to incident management down to, and including, local government agencies. Since WCARES has designated the Williamson County EMA as our primary served agency, it is imperative that we understand and operate under the principles outlined in NIMS and ICS to effectively support the EMA.

WCARES already uses these procedures in our training exercises. We use ICS procedures, terms, titles and forms during the planning and operational phases of our events. The EMA requests that in order to respond, support and operate effectively, WCARES members, as a minimum, should complete the following four ICS courses:

1. ICS-100, an Introduction to the Incident Command System
2. ICS-200, ICS for Single Resources and Initial Action Incidents
3. ICS-700, An Introduction to the National Incident Management System
4. ICS-800, National Response Framework, An Introduction to the National Response Framework

These courses can be taken on line at the FEMA website http://www.training.fema.gov.is/. On the left side of the page is a tab labeled "IS Course List". Click on this tab and then scroll down to the particular course you wish to take.

Although completion of these courses is highly recommended, no one will be excluded from WCARES or any of our activities if you decide not to take them. There is room for everyone in our organization regardless of your training.

Other Served Agencies

WCARES may receive requests from other private agencies for communications support during non-emergency situations. Such requests will be directed to the WCARES Emergency Coordinator. However, to the extent possible and to permit adequate planning, requests for such support should be made well in advance of the events or activities involved.

Private welfare agencies, such as the American Red Cross, may also request communications assistance from WCARES to support their related activities when public emergency resources are not involved. To ensure mutual understanding of the capability of WCARES to provide communications support, separate operating agreements or plans will be developed between WCARES and the agencies involved. Such agreements or plans will be reviewed and approved by the WCARES Emergency Coordinator on behalf of WCARES and by an authorized representative of the agency.

Activation of the Plan

Any decision to activate this plan and deploy WCARES resources to provide emergency communications assistance will be made jointly by the WCARES Emergency Coordinator, or his designated representative, and the Director of the Williamson County EMA. The nature of the emergency will determine the extent of WCARES assistance, including the number of WCARES members required and where they will be deployed.

In the event our services are required, individuals will be contacted by their respective Team Leaders. Additionally, regular announcements will be made on the repeater system that an emergency situation exists and that assistance is required. Formal "directed net" procedures will apply when using the repeaters during an emergency event, including the designation of a Net Control Station (NCS).

Deployment of Resources

In addition to the system of county-owned, linked WC4EOC VHF/UHF FM repeaters and VHF/UHF Winlink nodes, WCARES has access to several other communications resources that have been acquired by Williamson County for the purpose of supporting amateur radio communications. Among these are:

      1. A fully equipped Auxcom station containing HF/VHF/UHF comm and Winlink radios located in the county's Emergency Operations Center (EOC). This Auxcom room also has computers capable of monitoring Automatic Packet Reporting System (APRS) beacons transmitted by WCARES members who have APRS equipment in their vehicles or at a fixed location.
      2. VHF/UHF voice and Winlink capable Drop Kits
      3. HF/VHF/UHF voice and Winlink capable Drop Kits

4. A mobile tower trailer which includes an FM repeater, a diesel generator, and other associated equipment.

Depending on the nature of the emergency requiring WCARES support, some or all of these resources may be available for deployment by WCARES members. The Emergency Coordinator will advise which of these other resources will be deployed and will insure that WCARES members involved in the deployment of this equipment have been properly trained in their use.

In addition to the county-owned resources, WCARES members have their own mobile and portable radios, antennas, and necessary support equipment that are available. The Net Control Station (NCS) will monitor and coordinate deployment and use of these resources as necessary after the initial communications requirements have been identified.

WCARES members should not self deploy during an emergency situation. Only deploy when dispatched by appropriate authority.

Limitation of Support

If you have been deployed to a location in support of one of our served agencies it is because your communications skills are needed, however all of us possess additional skills that could be used at a deployed location. If a situation presents itself, and you are able help, then with the concurrence of the on-scene supervisor you may assist in another area as long as it does not interfere with your communications duties. This could be as simple as helping unload a vehicle, putting up cots or helping getting a generator running and on line. You should be very careful about getting involved in duties outside of your area of responsibility as a communicator particularly when it comes to management decisions or highly skilled tasks that you are not trained in.

Security Policies and Requirements

When WCARES assistance is requested following an emergency, basic security policies and requirements should be followed. In many cases, WCARES operators may be deployed to areas or locations where security requirements must be met to gain access, and/or where direct interaction with employees of Williamson County emergency response agencies is involved. If any specific identification requirements are needed you will be briefed on the proper procedures to follow.

Operational Control

Following notification to WCARES members, an emergency net will be activated on the WC4EOC linked repeater system. The Emergency Coordinator, or other WCARES members designated by the Emergency Coordinator, will act as Net Control Station (NCS), and will serve as the point of control for all emergency communications until the net closes.

Primary Communications Modes and Frequencies

The primary resource for tactical communications during an emergency will be the county-owned WC4EOC linked FM repeater system. Under normal conditions these repeaters are linked and each site is supported by emergency power sources if normal commercial power should be disrupted. If the integrity of the linked system is broken, and one or more repeaters become inoperable, WCARES members should follow the "Repeater Out Procedures" which are described below.

Repeater Out Procedures

Williamson County operates and maintains the following five WC4EOC repeaters that are "linked" together.

Franklin – UHF	444.025 MHz (PL-110.9)
Franklin (FOW) – VHF	145.150 MHz (PL-123.0)
Fairview – VHF	145.130 MHz (PL-156.7)
Brentwood – VHF	145.210 MHz (PL-173.8)
Kirkland – UHF	443.875 MHz (PL-107.2)

This means that when you communicate through any one of the repeaters, you are communicating through all of them. The Franklin UHF repeater (444.025, PL-110.9) acts as the "hub" repeater that maintains the system-wide linkage. Under normal conditions, when this repeater receives a transmission from any of the other four repeaters, it re-transmits the signal on its own output frequency and simultaneously re-transmits it to all the other repeaters, which then re-transmit the signal on their own respective output frequencies. This linkage provides our access to county-wide VHF/UHF coverage – and beyond.

Each of the repeater sites is also supported by a source of emergency electrical power, reducing the likelihood that a loss of commercial power at the site would render the repeater inoperable.

Any of the five repeaters could become inoperable due to an equipment malfunction or physical damage, rendering it unable to receive on its input frequency, unable to transmit on its output frequency, or losing its linkage with the others. In such "repeater out" situations, be prepared to follow the contingency procedures outlined in this document. Doing so may restore your ability to use the other repeaters in the linked system that are still operable or to maintain communications through other resources.

When one or more repeater is inoperable

You may encounter a situation when you attempt to communicate through the repeater site closest to your location that the repeater does not respond. If that happens, switch to the next closest repeater site in the system and see if you can successfully communicate through it. If you can, it is likely that the repeater closest to you is not working. The rest of the system may be unaffected.

If the Franklin UHF (444.025 MHz) repeater is inoperable, it will disrupt the linkage among all the system repeaters. In this case, county-wide coverage will likely not be possible, making it necessary to communicate between locations through the repeater that represents the best mutually accessible site.

When all WC4EOC repeaters are inoperable

In the unlikely event of a total failure of the entire WC4EOC repeater system it will be necessary to rely on other resources. There are two options available.

First, try to access the 146.790 MHz, PL-114.8 repeater that is located on Bobcat Ridge in the Cool Springs area. This is a privately owned repeater and has good coverage throughout Williamson County. It may provide reliable communications on a temporary basis, or the means to divert selected tactical communications from other frequencies.

If you are unable to access the 146.790 repeater, attempt to communicate on one of the following WCARES simplex frequencies.

VHF	146.505 MHz
UHF	446.000 MHz

NOTE

Point-to-point simplex communications have potentially serious limitations due to terrain characteristics or other obstructions between the two points. This may require multiple stations to operate a multiple station simplex link between the two points.

Prepare in advance

To be as prepared as possible for a disruption of our "normal" communications resources, it is important to have all five WC4EOC repeater frequencies and PL tones, the 146.790 repeater frequency and PL tone and the simplex frequencies listed above pre-programmed in hand-held radios, base station radios and mobile radios. The aftermath of an emergency-related event is not the time to figure out how to get your radio operating on the proper frequency.

Secondary Communications Modes and Frequencies

In addition to the linked FM repeater system, WCARES may utilize additional modes and frequencies to handle emergency communications traffic. These include HF SSB and CW, and HF/VHF/UHF Winlink (e-mail via amateur radio). WCARES has identified two HF frequencies that we can use to communicate on during an emergency. They are:

3.815 MHz
7.190 MHz

There are also two Tennessee state wide ARES HF emergency frequencies that may be used in case of a wide area emergency. They are:

> 3.980 MHz
> 7.238 MHz

These modes and frequencies supplement local area tactical communications, and can be used where messages are addressed to destinations beyond the local Williamson County area. Winlink is particularly suited to passing messages involving detailed data, such as lists of medical or personal information or other cases where there is a high priority placed on the accuracy of message content. However, it may not be appropriate for other situations where voice radio communications are more effective.

If the volume of voice radio traffic becomes excessive, and if conditions permit, stations may be requested to communicate from point to point using FM simplex frequencies designated for such use by applicable agencies or communications managers. Depending on the volume of traffic, individual WC4EOC repeaters may be delinked from the system and used as standalone repeaters.

<u>Severe Weather Procedures</u>

Severe weather in Middle Tennessee can come in many forms to include severe thunderstorms, tornados, snow, sleet and ice. The local commercial broadcast radio and TV stations do an excellent job in warning residents about possible severe weather conditions. For WCARES members the important thing to remember is that whenever a severe weather watch or warning is issued for Williamson County you should monitor the repeater system. The WCARES EC and members of the Planning Committee are routinely included in severe weather webinars with the National Weather Service (NWS) office in Old Hickory. The EC and Planning Committee have procedures in place to deal with severe weather events that might affect not only our county but the entire Middle Tennessee area. The normal day to day status for everyone is "Normal". When severe weather is approaching we may shift to the "Stand-By" mode which means we are at a higher level of awareness. You may still use the repeater system but keep your transmissions short and leave some extra time between your transmissions so the Net Control operator can break in if necessary. Net Control operators will make regular announcements on the repeater concerning the weather threat and the anticipated time that Williamson County might be affected. A liaison link between the county and the NWS office will already be established and a plan is in place to address the specific weather threat. If the weather threat is serious enough to warrant, the Net Control operator will announce that our weather net is now "Active". When this happens, formal net procedures apply and you should not use the repeater to make any calls without getting permission from the Net Control operator. The Net Control will normally not take check-ins but will take reports of the specific conditions that need to be reported to the NWS. The conditions are listed below and you should become familiar with them. It is very important not to tie up the repeater giving weather observations other than the items below.

Tornadoes, funnel clouds, or wall
clouds Flooding
Hail equal to or greater than ½" (use a readily identifiable object such as mothball, penny, nickel, etc. to identify the size of the hail)
Measured winds in excess of 50 mph
Any structural damage, downed trees or power lines

Message / Traffic Handling

Communications to and from deployed WCARES resources may include two different types; informal and formal. Each type has its own requirements.

Informal (tactical) messages may be exchanged between stations when short, time-sensitive information is involved. Such messages may be in different formats or no format at all, although the person/source of origination and the person/destination should be clearly identified and if possible, written and approved by the originating person before transmitted.

Formal messages will be handled by using the ICS-213 message form. A copy of the ICS-213 General Message Form is included as Attachment A.

Security of Messages

Information contained in messages transmitted by amateur radio can never be considered totally secure and FCC rules prohibit use of any codes that would obscure the actual meaning of the message. Regardless of the above, all amateur radio traffic should be treated as confidential and privileged information and revealed only to those persons directly involved with transmitting, handling or receiving the information.

Communications Log

An important part of any exercise or actual emergency is to maintain a log of significant events. The ICS-309 Comm Log, Attachment B, is the document we use in WCARES. This log serves many purposes. It provides a history of the entire event, even if multiple operators work at the same location. A single log, regardless of the number of pages, will be maintained for the duration of the event. The log should be started at the beginning of an event and used for the duration of the event. The log needs to be kept at the operating location even though multiple operators rotate through the position. Each member should become familiar with this log and during any of our training events you should use this form to log significant events at your location, unless you are mobile. Please don't try to drive and fill out a log. If you have a rider/radio operator in your vehicle then that person can maintain the log. A comment I heard at a State training event addressed the subject very well with the statement "If it's not documented, it didn't happen".

Activity Log

The Activity Log, ICS-214, Attachment C, is used to record details of notable activities at any ICS level. This log is used to provide basic incident activity documentation and can be used as

a reference for any after action items. The Activity Log should be initiated and maintained by personnel in various ICS positions as it is needed or appropriate. The team leader should delegate the requirement to keep an accurate account of the team's activities to one of their team members.

Go Kits and Drop Kits

Go Kits and Drop Kits are assemblies of specially selected items, packed in advance, and kept ready to "grab and go" for support of a WCARES member during an emergency response.

Such kits generally consist of radio equipment, radio peripheral gear, supplies, tools and critical personal effects such as water, food, medicines and clothing needed to sustain the member that might be needed during a response.

Background

As members of WCARES we (usually) do not know when our services will be needed, so it is important to always be prepared to respond. Think through potential situations in advance and have kits and their contents ready to leave on a moment's notice.

Full readiness is more certain when written checklists of equipment and supplies are prepared to guide kit development and maintenance. While establishing such lists, consider the conditions under which responses can differ, such as inside versus outdoors, mobile stations vs. fixed, seasonal weather variations and the possibility for extended mission times.

There are as many different versions of Go Kits and Drop Kits as there are hams, therefore your kit will depend on the equipment you have and acquire over time. The contents of your kit need to be reviewed on a regular basis with special emphasis placed on changing out of date items.

Containers and Inventory

1. Easily-handled containers in which to place, store and transport your items will make transport and storing of your kit much easier.
    a. The type and number of containers are best determined after all items have been gathered, in order to make good container selections.
    b. Small items should be placed in zip lock bags or plastic kitchen containers for organization and protection from the elements.
    c. <u>Very important</u> - Attach to each container a permanent "Items Removed" checklist of bits that are otherwise used between responses so those multipurpose items will not be forgotten in the haste before departure.
2. Make a "master count" of containers so none of them will be left behind; if the master count is five (5) containers for a response; verify you have actually loaded five before departure.

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3. Try to keep all containers together in one area of your home for quick and effective departure, and to help prevent items from becoming misplaced.
4. Immediately upon return from a response, reorganize the kits and replace those items consumed or damaged.

Radios and Peripherals

1. Handheld radio (HT), plus:
    d. Spare HT battery pack
    e. Spare HT rechargeable battery(ies)
    f. Alkaline battery pack for HT
    g. Alkaline batteries
    h. Battery chargers, AC and DC, for HT
    i. Speaker mike and earphones for HT
    j. Headphones for noisy locations and privacy with proper connector/adapters
2. Copies of radio instruction manuals

Optional Radio Sub Kit

1. Mobile VHF/UHF/HF radios with a power supply.
    a. It is highly recommended that all personal radio equipment be fitted with Anderson Power Poles to allow interoperability with equipment brought by other WCARES members.
2. VHF/UHF gain antennas.
3. Coax feed lines, jumpers and other connecting cables.
4. All related power, data, audio, RF cables as well as any needed adapters.
5. Laptop computer with a spare battery or power supply.
6. Electrical power source such as a deep cycle battery or generator.

Tools and Material

1. Small repair kit with commonly used tools such as screwdrivers, pliers and any other items that you might need while deployed.
2. Spare parts unique to your equipment
3. Materials for improvising
    a. Insulated connecting wire
    b. Coax
    c. Connector assortment, ring terminals, butt connectors, PL-259s with reducers
    d. Power-Pole contacts and housings
4. Electrical tape, Scotch Super 88
5. Duct (or Goose) tape
6. Selection of screws, washers, nuts, bolts, etc.

7. An assortment of various sizes of zip ties
8. Antenna support rope, 3/16" para cord

Personal gear – 72 Hours

You should assemble sufficient personal equipment to last 72 hours. This includes medicines, water, energy bars and other food items that do not need refrigeration, cooking or heating. Include changes of clothing and foul weather gear appropriate for the time of year or environment.

Information Group

1. ID card(s) and other authorizations
2. Copy of Amateur Radio license
3. Frequency lists and net schedules
5. Photocopies of manuals for all equipment
6. Key phone numbers, email and internet addresses
7. Contact information for other members in your group
8. Copy of the WCARES Emergency Operations Plan
9. Pencils and pens
10. Steno notebook
11. ICS-309 Communications logs (10 forms)
12. ICS-213 Message forms (with instructions), paper clips, stapler with spare staples (15 forms)
13. ICS-214 Activity logs (five forms)

Dealing with Media Personnel

During any emergency event, members of the media will usually be present in order to gather information about the event so they can report about it. You may be approached by a member of the media and asked to comment about what you are doing or what is happening. If this occurs refer the media personnel to the Public Information Officer (PIO). Remember, your role is as a communication operator and any release of information about the event should be handled by the PIO representatives.

GENERAL MESSAGE		
TO:	POSITION:	
FROM:	POSITION:	
SUBJECT:	DATE:	TIME/Msg Number:
MESSAGE:		
SIGNATURE:	POSITION:	
REPLY:		

DATE:	TIME:	SIGNATURE/POSITION:

| | INCIDENT # | DATE PREPARED: |
| **COMMUNICATIONS LOG** | | TIME PREPARED: |

| FOR OPERATIONAL PERIOD # | **TASK NAME:** | |
| OPERATOR NAME AND CALL: | TACTICAL I.D. | |

MESSAGE AND ACTION LOG				
	STATION I.D.			
TIME	FROM	TO	SUBJECT OR TASK:	ASSIGNED TO:
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1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:

3. Name:	4. ICS Position:	5. Home Agency (and Unit):

6. Resources Assigned:

Name	ICS Position	Home Agency (and Unit)

7. Activity Log:

Date/Time	Notable Activities

Page 1	8. Prepared by: Name: Date/Time: