Section 1: The Framework: How You Fit In

Topic 4b

Working Directly with the Public

Objectives

Welcome to Topic 4b.

After reading this topic, you should be able to identify ways to provide direct assistance to your local communities and integrate your skills with existing preparedness efforts.

Student Preparation required:

None.

Introduction

Many radio amateurs want to be of assistance when the need arises, but are unable to commit the time or meet the schedule required for formal participation with a partner or emergency communications organization. These ham radio operators can still make valuable contributions to their communities by getting involved at the local level and making their skills available to their neighbors. Becoming a resource in your community can also enhance the public's understanding of and appreciation for Amateur Radio, and help reduce the potential for conflicts when a ham radio operator wants to erect an antenna on his or her property. The more we are recognized as neighborhood assets, the more likely it is that our antennas, which are essential for effective station performance, will be accepted.

How You Can Get Started

Neighbors may band together in a variety of ways to help one another. Some have formal associations with a defined leadership structure. Law enforcement agencies often sponsor Neighborhood Watch programs, designed to deter local crime in residential areas. Many areas have implemented Community Emergency Response Team (CERT) programs, which teach basic skills — such as fire suppression, triage, first aid, and light search and rescue — needed to survive when a disaster swamps the resources of official first responders.

Find out what preparedness activities are going on in your area and join one or more local

groups. Learn what plans are already in place and note the communication plan or absence thereof. Let the other participants know that you are a licensed Amateur Radio operator and want to help develop or improve the group's communication resources. Community groups are usually eager to learn from people with knowledge and experience in the areas of concern to them. It's also a good idea to take whatever local training is already offered in disaster preparedness so that your understanding will be at least equal to that of your neighbors and so that you can present your suggestions regarding communications in context with that understanding. Participation in local preparedness courses will also let you meet like-minded individuals with whom you can share ideas. If there is no preparedness group or program in your area, consider starting one using resources available from Federal Emergency Management Agency (FEMA) and other public sources.

Using FRS and GMRS Radios

The most popular and ubiquitous communication tools not dependent on the telephone system or the internet are Family Radio Service (FRS) and General Mobile Radio Service (GMRS) radios. These two services are described in detail in Topic 25. You should be familiar with their use and limitations.

FRS radios may be operated without a license. Transmitting with GMRS radios requires a license. The fee covers a five-year term, and one license covers all the members of a family and as many separate radios as they may need. If you are going to use a GMRS radio, get the license!

Channel numbering can be a source of confusion for FRS and GMRS users because different manufacturers may assign a different number to a given frequency. Sometimes channel numbering will vary even among different models from the same manufacturer. If you are advising a neighborhood group on the use of FRS or GMRS radios, you can suggest one of the following:

1. When equipping a group for the first time, have everyone buy one make and model of radio (or buy the same model in bulk for additional cost savings). Doing this will ensure consistent channel numbering.

2. If different makes and models are already employed by group members, prepare a chart to go with each radio showing the channel number that goes with each frequency.

Every radio owner should be able to power his or her transceiver from standard alkaline batteries. Rechargeable NiCad, NiMH, or Li-Ion batteries are great for everyday use when ac power is available to recharge them, but recharging batteries when the power is out or when heavy use drains the batteries quickly can be a problem. Alkaline cells are inexpensive, can be replaced quickly, have a relatively long shelf life, and are usually kept on hand already for use in flashlights and other devices. If an FRS or GMRS radio needs a separate shell to use these disposable batteries, get one. If the alkaline batteries fit directly into the radio, keep some packed near (not in) the radio, and refresh the supply when necessary.

Radio Coverage

The limited range of FRS and GMRS radios is both good and bad news. The good news: The distance from which users may receive interference from other users is relatively small. The bad news: There may be parts of a desired coverage area that cannot be reached from a given location. You can suggest or organize a coverage-mapping exercise in which your neighbors test their radios from different locations, indoors and out, to identify any hot spots and dead spots. Find the places you can transmit with the most complete coverage and prepare to use relays for hard-to-reach areas if necessary. Knowing this before a disaster strikes will be most helpful, and it will get people used to using their radios.

Radio Protocol

During a disaster, time and radio resources may both be in short supply. People will be occupied with caring for their own families or performing their assigned team tasks. It benefits everyone to keep transmissions short and to minimize confusion over who is calling whom. Amateur Radio operators are familiar with good radio protocol and can teach it to their neighbors to promote efficient use of whatever radios are in use. Here are some basic practices to consider:

- Fire, police, and military radio operators make use of tactical call signs, usually associated with a specific function or location, and civilian groups can do the same. First names may be fine for only a few users but can lead to confusion with many users on the same channel. Descriptive tactical call signs such as “Utility One,” “Farmington Command,” or “Elm St. Fire” can reduce confusion in case another team is using the same channel nearby. Your group’s communications plan should include any tactical call signs you decide to use.

- It is good practice to start each transmission by stating the party you’re trying to reach followed by your own call (“Supply, this is Triage”). Wait for an acknowledgement (“Triage, Supply, go ahead”) before sending your message. Keep messages short (“Supply, Triage, we need six blankets at Elm and 1st right away”), and sign off when the exchange is finished (“Triage clear” plus any required call sign) so the other party knows you’re finished and can get back to other responsibilities. Any identification requirement is easily met using this method.

- It is also good practice to use the proword “over” at the end of each transmission to another station. Since most FRS and GMRS is simplex, doubles could occur resulting in lost message content when it’s unclear whose turn it is to transmit.

- Speak — don’t yell — somewhat more slowly and distinctly than you would in face-to-face conversation. Yelling into an FM transceiver usually produces distortion rather than increasing volume — the very opposite of what the user is trying to achieve. Speaking across rather than into the microphone will help reduce the popping of “P”s and the hissing of “S”s, producing clearer speech on the receiving end. Have your group practice with their radios and encourage honest “signal reports” so each user can make the most

effective use of his or her radio.

- Avoid noisy locations when possible. Background noise makes it harder for you to hear and harder for you to be heard.

When people are accustomed to using radios to practice these techniques, they are more likely to find their radios to be useful communication tools rather than distractions from their other duties.

Linking to the Outside

In addition to helping with neighborhood communications plans, Amateurs Radio operators may be called upon or expected to provide a link to adjacent areas or to first responders. You should be aware of the other amateurs in your area who are active in the local emergency communications organizations and know the frequencies on which you can reach them. They will probably be your best access to first responders and aid organizations if there is any access to be had.

You should set realistic expectations as to what you can accomplish. Surrounding areas may be experiencing the same problems you have locally. Fire department and law-enforcement partner communications will be very busy and will give priority to those groups with which they are familiar. You can learn more by getting to know the formal emergency communications organizations in your area. Even if you don't have time to participate with the local emergency communications group regularly, you need to find out where they are likely to be stationed and how you can contact them. For example, if you know which hospitals will have ham radio coverage and the best way to reach them, you may be able to determine whether a given facility is functioning in a disaster so that a seriously injured person can be transported there.

Community Emergency Response Teams (CERT)

The Community Emergency Response Team (CERT) program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

IS-317: Introduction to CERTs and the CERT Basic Training Course can be found at https://training.fema.gov/is/courseoverview.aspx?code=is-317

"Introduction to Community Emergency Response Teams," IS-317, is an independent study course that serves as an introduction to CERT for those wanting to complete training or as a refresher for current team members. It has topics that include an Introduction to CERT, Fire Safety, Hazardous Material and Terrorist Incidents, Disaster Medical Operations, and Search and Rescue. It takes between six and eight hours to complete the course. Those who successfully finish it will receive a certificate of completion. IS-317 can be taken by anyone interested in CERT. However, to become a CERT volunteer, one *must complete the classroom training* offered by a local government partner such as the emergency management partner, or fire or police department. If your home area has the program, you can contact your local emergency manager to learn about the local education and training opportunities available to you. Let this person know about your interest in taking CERT training.

Reference Links

CERT
https://www.fema.gov/community-emergency-response-teams

REACT
http://www.reactintl.org/

Review

The Community Emergency Response Team (CERT) program is a volunteer program of trained people operating in teams under Incident Command System (ICS) protocols. In the role of gathering initial information, radio communication capabilities can be a major asset to CERT and

other community teams. Many local community organizations are using FRS and GMRS radios within neighborhoods and then Amateur Radio to relay information in to formal operations centers.