The Los Angeles Fire Department

Auxiliary Communications Service
Community Emergency Response Team

CERT Communications Plan Manual

Revised May 10, 2013

This revision updates names, updates Hyperlinks, and adds additional information to the Learning Suggestions Section.

To use this manual, you need a copy of:

Los Angeles Fire Department CERT Comm Plan,
The ACS-CERT Comm Plan Organization Chart by WD6AIS,
The Motorola Channel Numbering Convention, and the
LAFD Battalion Map,
All available from the http://www.cert-la.com/radio web site

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INTRODUCTION

ACS and CERT Amateur Radio Operators developed the CERT Communications Plan with the assistance of City Radio Officer LAFD and Battalion Chief Kevin Nida WD6AIS, using LAFD communication protocols, to enable CERT volunteers with portable radio equipment to communicate directly with the LAFD and the City of Los Angeles. It may seem a bit complicated at first, but like all LAFD communication plans, it must be robust and capable of handling multiple incidents in multiple Battalions simultaneously.

We designed this plan to work in worst-case scenarios when normal commercial communications have failed and emergency services such as LAFD, LAPD and other City agencies are stretched thin and may not be locally available. This Comm Plan will enable you and your CERT group to communicate with the LAFD at the local Originating Fire Station, Battalion, Division, and Department Levels, and if necessary, pass messages to and from other City of Los Angeles Departments at the Emergency Operations Center. You will be the eyes and ears and communicators for your incidents, and your participation could be invaluable.

Amateur Radio is becoming more and more common among volunteer emergency service workers. The LAFD CERT Comm Plan is a good start towards helping all of us who volunteer for the LAFD to communicate efficiently, effectively, and professionally.

This is an Emergency Communications Plan. It is designed to be used when normal communications are unavailable or inconvenient. If the cellular phone system is working and it is appropriate to do so, use your mobile phones. If the 911 system is working and you see an incident that requires emergency services, call 911 to report your incident. When normal communications fail, the CERT Communications Plan provides an alternative communications path – whether you use portable FRS and Amateur Radios or kids on bicycles carrying notes.

Portable radios work well and we should all learn how to use them, but remember – it's the message that is important, not the method. Use whatever method is available to get your message to the recipient. Be resourceful and flexible.

In order to use this manual, you will also need the latest copy of the Los Angeles Fire Department CERT Comm Plan and a copy of the ACS-CERT Comm Plan Organization Chart by WD6AIS, both available from the http://www.cert-la.com/radio web site.

INTENT

This information is intended to be an overview of the LAFD CERT Communications Plan. We want you to understand how the CERT Comm Plan works and how to use it.

DISCLAIMER

This is introductory material and it contains information that we believe to be accurate and represent the current best practice suggestions for volunteer emergency communications. This material is not intended to be comprehensive, mandatory, or complete. This information was written and compiled by ACS and CERT Amateur Radio Volunteers and is not an official publication of the Los Angeles Fire Department.

FURTHER EDUCATION

This is not an Emergency Communications course. To learn more about Emergency Communications and Emergency Response we recommend you take:

Level 1/ Basic -- **Introduction to Amateur Radio Emergency Communications (EC-001)** Developed by the American Radio Relay League (ARRL)

This is an excellent basic course to raise awareness and provide additional knowledge and tools for any emergency communications volunteer. This course has 29 lesson units, is expected to take approximately 35 hours to complete over an 9-week period. ARRL Member Cost is $50.00. Non member cost is $85.00

More information: http://www.arrl.org/online-course-catalog

We also recommend two FEMA Emergency Management Institute Courses:

IS-100.b Introduction to Incident Command System, ICS-100

ICS 100, Introduction to the Incident Command System, introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS). This is an interactive, on line course requiring about two hours to complete. Upon successful completion of the course you will receive a FEMA Certificate of Completion.

More information: http://training.fema.gov/EMIWeb/IS/is100b.asp

IS-700.a NIMS An Introduction.

This course introduces and overviews the National Incident Management System (NIMS). NIMS provides a consistent nationwide template to enable all government, private-sector, and nongovernmental organizations to work together during domestic incidents.

More information: http://training.fema.gov/EMIWeb/IS/is700a.asp

Currently, LAFD Auxiliary Communication Service volunteers are required to take all three of these courses.

OBJECTIVES

1) Understand the importance of situation size up and the importance of communicating accurate and timely size up information to those who have the resources and experience to help solve the problem.

2) Understand the importance of a formal, written, dated Communications Plan.

3) Understand the Comm Plan Organization chart and how the CERT Comm Plan manages the flow of emergency information from a tactical incident level to the LAFD Command System.

4) Learn how to use the CERT Comm Plan – Standard Operating Procedures.

5) Understand the importance of using FRS (GMRS) Radios at the local tactical level.

6) Understand that efficient use of FRS radios at the tactical level will take training, good radio etiquette, practice, and drills.

Objective 1

Understand the importance of situation size up and the importance of communicating accurate and timely size up information to those who have the resources and experience to help solve the problem.

Situation Size-up

The first thing a communicator needs to do at any emergency incident is to size up the situation – to find out what the problem is and what needs to be done immediately. You may receive a briefing by people already on scene, or you may need to find out yourself.

A What is wrong?
B What needs to be done?
C Who needs to do it?
D What resources are needed?

And once you have sized up and communicated the situation to the Incident Commander,

E What has changed since the last transmission?
F And finally, what was the resolution?

Until we understand the basics of a situation we are not in a position to communicate anything with accuracy. And until your Incident Command (IC) knows what's really happening, there's nothing they can do about it. If you are communicating from an incident you are the eyes and ears for the IC and it's your responsibility to size up the situation and communicate the information concisely and accurately. Don't guess – find out what the problem really is. If you are CERT Comms Operator at an Incident Command Post receiving size up information, you need to accurately receive the message and report it to the IC. Don't repeat what you ***think*** you heard, ask for confirmation. And don't guess -- be sure. Note the time and source of your messages and write everything down. You will need your notes for your reports later, so make them.

Upon arriving at an incident, take a quick look around and accurately communicate only what you see.

What's wrong?

> *"Colfax IC this is Colfax Search One. Intersection of Colfax and Collins, single family residence, light structural damage, smoke showing."*
>
> This lets everyone listening to your transmission know something is happening and allows them to start thinking and preparing ahead.
>
> Once on the scene, find out more about the situation and do it safely. Don't just look at it -- investigate it, do a quick 360 walk around if possible. Is there a guest house? Multiple exposures (nearby buildings) threatened? A light plane crashed in the back yard? Report what you find and be specific.

What needs to be done?

> *"Colfax IC, this is Colfax Search One. Single family residence, Colfax and Collins, fire showing from the first floor rear, persons trapped on the second floor.*
>
> Now we know more about the situation. The IC and others know that fire suppression and rescue are involved.

Who needs to do it?

> Request additional resources. What do you think you need? The IC may suggest other resources.
>
> **"***We need fire suppression and rescue".*

What has changed since the last transmission?

> Continue investigating the incident. Talk to the neighbors. Do infants or elderly or disabled live in the structure? Are people normally there during the day? Update the IC with important information as it becomes available.
>
> *"Colfax IC, this is Colfax Search One. Colfax Rescue One on scene. Neighbor reports a disabled resident at this location".*
>
> *"Colfax IC, this Colfax Search One, Colfax Rescue One reports three persons removed, building clear. Request Medical and Transport Teams."*

And the resolution?

> *"Colfax IC, this is Colfax Search One. The Colfax/Collins fire continues to burn. Rescue is complete -- No further exposure at this time. Request permission to continue searching East on Collins."*

Here's an example of how NOT to make an emergency size up communication

> *"Colfax IC this is Colfax Search. I'm heading North on Colfax and I smell smoke, Yes, I see smoke and it seems to be coming from the East. Yes, definitely from the East. I'm going to try to see if I can find it, OK? No, it's not from the East, the wind*

is coming from the North now – I think it's the North (to someone else – Is that North?), yes North so I'm going to continue North on Collins. It smells like plastic is burning, it doesn't smell like wood smoke."

(pause – creaking and rustling sounds are heard)

"OK, I'm here and, Oh HELP, there's people trapped and screaming. Send help right away. Oh my. Oh this is terrible – please help"

(Screaming can be heard on the radio)

"Ok, someone jumped out of the window and she's hurt. Oh my, she's bleeding. There's a big fire and there's more people screaming. Oh Send HELP. This is TERRIBLE".

(the creaking and screaming thumping sounds continue for 17 seconds and then the transmission ends)

No further contact.

What's wrong with this communication?

This is an example of an emergency communicator who became involved in the drama and immediacy of a situation and forget what to do. It's very easy to become personally involved and affected. This volunteer didn't size up the situation and forgot to use basic emergency communication skills, thereby becoming part of the problem, not part of the solution. Emergency events can be very intense and emotional situations, so stay calm and think clearly. The information you gather and transmit is an important part of an emergency response.

"Colfax IC this is Colfax Search. I'm heading North on Colfax and I see smoke, Yes, I see smoke and it seems to be coming from the East…"

This volunteer is using radio for personal chatter, not as an emergency communications device. Make your observations, think about what you need to say, then make your brief, concise transmission.

"I see smoke and it seems to be coming from the East. Yes, definitely from the East. I'm going to try to see if I can find it, OK?..."

Transmitting information that may be of interest is useless if not given in the proper context. Reports of smoke? Where on Colfax?

Transmitting unnecessary information. Of course they're going to try to find the source of the smoke – that's their task.

"Continuing North on Collins"

This could be useful information IF Collins Street ran North and South – it doesn't, it runs East and West. It's easy to get directions mixed up in an emergency and this is a common error and happens all the time. Stop, think, breathe, then transmit brief, concise, accurate information.

creaking and rustling sounds are heard

The creaking sounds indicate that the person is still pressing their Transmit, or Push To Talk (PTT) button after they finish talking. Everyone does this from time to time – especially new communicators. Their radio is still transmitting, they're preventing anyone else from using the frequency, and using they are using up their battery. Think, push, talk, release.

"OK, I'm here" Where?

"Send help right away" What kind of help?

'screaming sounds are heard' The Transmit (PTT) button is still pushed down. No one else can talk and the IC can't ask important questions.

'No further contact'

The communicator has gotten involved with the drama of the situation and forgotten their primary role is to communicate concise information back to the IC. They've probably put their radio down as they try to help, or perhaps the constant transmitting has killed the battery. Now there is no way for the IC to ask questions or find out what is really going on, or to respond to the incident in an appropriate, efficient way. Another communicator will need to be sent to the scene to find out important information, using up additional personnel resources and causing unnecessary delays.

This is NOT to say that an emergency communicator can not or should not become involved in an incident. Life safety and circumstances may require your immediate participation. Remember, we're working for the greater good of everyone involved and that may mean delaying your active participation until later, or, if you're a communicator, until you have informed the IC. If you believe the most important action you can take at a given moment is, for example, putting pressure on a massive bleed, that's OK – you decide. But do keep your IC informed.

"Colfax IC, this is Colfax Search. I've got a bleeder here and need a medical team at Colfax and Collins. I am putting the radio down for a few moments."

As soon as the medical team arrives, or a passerby is able to help

"Colfax IC, this is Colfax Search. Colfax Medical has arrived and I am back on frequency."

Remember: Observe, think, organize a concise message, and then transmit your message to the IC. Don't guess – find out. Report only what you can see and what you understand is happening at your incident. Continue to keep your IC informed as you find out more and the situation changes.

Objective 2

Understand the importance of a formal, written, dated Comm Plan

Every CERT communicator should have a physical, written, and dated copy of the plan they can, and should, carry with their emergency radios. I enclose my Comm Plans in clear plastic covers and carry them in a notebook in my Emergency radio 'go' bag.

Every CERT communicator starts with the same initial plan and standard operating procedures so we all know where to start and what to do -- at least at first. We program the same frequencies into our radios and know which frequencies to use at an incident in any area. If the initial frequencies prove unworkable, we have alternate frequencies to use. If an incident evolves and requires more complex communications we use the Comm Plan as starting place and develop further incident specific operational plans on the spot.

The Incident CERT Comm leader has the authority and should have the knowledge to make appropriate frequency selections and make sure all involved are aware of them.

As we train with and use this Comm Plan, problems will arise, changes will be made, and the plan will evolve accordingly. Each new version of the Comm Plans must have a Version Number and Effective Date so we all know which plan is which. Make sure you always have the most recent version of the CERT Comm Plan with your emergency gear. The latest versions of the CERT Comm Plan will be posted on the www.cert-la.com/radio web site.

It is your responsibility as an emergency communicator to make sure you have the most recent copy of the Comm Plan.

I also suggest you keep a copy of this manual with your 'go' bag, along with:

Los Angeles Fire Department CERT Comm Plan
The ACS-CERT Comm Plan Organization Chart by WD6AIS
The Motorola Channel Numbering Convention
The LAFD Battalion Map, all available from www.cert-la.com/radio

Objective 3

Understand the Comm Plan Organization Chart.

The CERT Comm Plan has an Organization Chart that has been specifically developed for this plan. A copy of the ACS-CERT Comm Plan Organization Chart by WD6AIS is available from the www.cert-la.com/radio web site .Use the chart to trace the flow of information from the bottom level – the Incident Location Level, up through the volunteer communications chain as follows:

A From Incident Location CERT Comm Unit, to the
B Originating Fire Station CERT Comm Unit, to the
C Battalion Station Comm Unit, to the
D Division Station Comm Unit, to the
E Auxiliary Communications Service (ACS) Operations Officer, to the
F City Radio Officer, to the
G ACS Program Coordinator

And from there, the information would flow to the appropriate City Department and/or the City Emergency Operations Center. Remember, this plan is a volunteer plan designed to work when there are multiple incidents occurring in multiple battalions simultaneously. Communications for every incident have a very clear path to follow.

How does it work?

The current plan calls for a CERT Amateur Operator at the Incident Command Location to gather information from CERT communicators in the field via FRS radio and other means, inform the Incident Commander, and transmit information from the IC to an ACS or CERT Amateur Operator at the Originating Fire Station. This keeps the local station informed and, in many situations, this may be as far as the information needs to go. Should the incident require a more extensive network, the Originating Fire Station Comm operator would transmit information to an ACS member at the Battalion Station, who would transmit information to an ACS member at the Division Station, and on up (and down) the chain of command as far as necessary.

Why so many levels?

LAFD response to emergency events starts at the local level with the initial ‘First In” or Originating Fire Station. As the event is sized up and the nature and scope of the incident become clear, additional personnel and resources may be deployed, starting with the initial Station and other nearby stations. Additional stations and/or Battalions will be called as necessary. It’s important to keep each step of the Organization Chart informed and in the communications loop to make sure the closest and most available resources are deployed in an efficient manner. As the information rises higher in the system, each message will be handled by communications specialists with more experience and more training and a greater ability to direct your message exactly where it need to go.

The LAFD has a rigorous and sophisticated dispatching system. It’s not our job as communicators to tell them what to do, or how to do it. Our job is to act as eyes and ears for the LAFD and communicate what we know and what we need.

This is a scalable plan. In a long term event, all levels of the ACS-CERT Communication Plan Organization Chart will be filled. In smaller, shorter term events, only those levels necessary and appropriate will be filled. In a short term local event, perhaps only the Incident and Fire Station levels will be occupied.

Objective 4

Understand how to use the CERT Comm Plan and Standard Operating Procedures

INTRODUCTION

The CERT Comm Plan was designed using the Los Angeles Fire Department Radio Communication protocols and with the guidance of Battalion Chief. Kevin Nida WD6AIS, City of Los Angeles Radio Officer. Per LAFD protocols, the CERT Comm Plan is designed to accommodate multiple emergency incidents happening simultaneously in the same and/or adjacent Battalions.

The Amateur Radio frequencies specified in the Comm Plan are frequencies available to all Amateur Radio operators and are not exclusive to any emergency service. FCC rules and good amateur radio operating practices always apply -- especially in an emergency. Be prepared to accommodate other Amateur Radio operators and/or switch to other frequencies as necessary.

Regardless of its origin, Emergency Traffic always has priority. If you have an emergency, let the other operators on the frequency know by stating *"This is (call sign) and I have emergency traffic"*. Good operating procedures require other Amateurs to give you the use of the frequency until your emergency need for it has ended and you have cleared the frequency.

The CERT Comm Plan has two major components, the ACS Comm Plan and the CERT Comm Plan, which work together. The ACS Comm Plan is not included in this manual. The CERT Comm Plan includes frequencies for all CERT and ACS communicators to use at the Battalion, and Division level. If you are interested in learning more about the ACS Comm Plan, additional information is available at www.lafdacs.org.

The CERT Comm Plan is a simplex plan and is designed to work without the use of repeaters. Each Battalion has its own primary simplex frequency and recommended alternate frequency. The CERT frequencies are named by LAFD Battalion – Battalion 1 uses CERT 1 as primary, Battalion 2 uses CERT 2 as primary, Battalion 14 uses CERT 14 as primary, and so on for all 14 Battalions. There are no Battalions 3, 7, 8 or 16 so CERT Channel 8 is used for the primary CERT repeater, CERT 16 is the LA Basin and South repeater, and CERT 24 is the San Fernando Valley repeater. CERT 3, 7, and 24 are spares, CERT 19 and 20 are additional alternate frequencies, and CERT 21 and 23 are reserved for Division level communications for North and South Divisions, respectively.

The CERT Comm Plan repeaters are private machines and we use them with permission. Please don't abuse the owner's generosity. If you need to use a CERT repeater for initial contacts or other brief purposes and the repeater is available, do so and then move immediately to the appropriate simplex channel. Listen first and do NOT use a CERT repeater frequency if it is busy or in use by another organization. Remember that the CERT Comm plan is a simplex plan and does not require the use or monitoring of the repeater frequencies. If you transmit on a CERT repeater frequency, CERT members may, or may not, be listening and the repeaters may, or may not be operating.

The Amateur airwaves in Southern California are crowded and there are very few Amateur frequencies open and available to us. Standard practice is to always pick frequencies that are at least 15K apart and I have been unable to do that in this plan. In order to have enough frequencies I have had to designate some frequencies only 10K apart, so I have

separated them geographically as much as possible. For example, CERT 1 for Battalion 1 is 144.310 and CERT 6 for Battalion 6 is 144.320, only 10K apart, so I have assigned them to Battalions 1 and 6 that are separated geographically. Be sure to follow good Amateur Radio practices and always use the minimum useable power level feasible so you don't interfere with adjoining Battalions.

In a regional disaster the Amateur airwaves will be saturated with traffic. None of the Amateur Bands are private and we all share them, so use good radio etiquette and always use the lowest power setting feasible. Just because you don't hear someone on frequency doesn't mean there's no one there. You may be interfering with someone else's emergency traffic and not even know it.

Because the airwaves will be crowded, misinformation can be reduced by the use of descriptive tactical call signs. Don't just say "CERT Comms", be descriptive. Use the name of your IC -- "Colfax Comms" if your IC is in the Colfax area of North Hollywood. If you're the first Search team for Colfax IC, you're "Colfax Search 1", not simply Search 1. Should there be another IC or search team in your area, and there very well may be, the use of descriptive call signs will help to eliminate confusion. If you hear "Vineland IC calling Vineland Search", and you're "Colfax Search", you know they're not calling you. If your tactical call sign is vague – Search 1, for instance, and Vineland IC is calling themselves CERT IC and trying to reach *their* 'Search 1", you could be receiving and responding to messages to their search team, not yours. "CERT IC to Search 1, return to IC." Is that message for you? Unless your tactical call sign is unique and identifiable only to you, there's no way to know. The only way to find out is to take additional time and make additional transmissions just to figure out who is calling whom. Even with descriptive call signs and good communications skills we know there will still be miscommunications and misunderstandings. Our goal is to prevent them as much as possible.

The Comm Plan specifies the use of FRS (Family Radio Service) radios for CERT incident tactical communications. In a major emergency, there are simply not enough amateur radio frequencies available for every incident to operate on a reasonably clear and usable frequency. The proper use of FRS radios also allows non-licensed CERT members to use radio communications. With proper radio setup and a little training, FRS radios can provide CERT members with very effective short range radio communications. We have used FRS radios for training and at drills with very good results if the FRS operators just a little training and have set their FRS radios properly.

Although the Federal Communication Commission specifies the FRS frequencies, be aware that not all FRS radio manufacturers use the same FRS channel and tone numbering conventions and this causes confusion. The LAFD-CERT Comm Plan specifies use of the Motorola FRS/GMRS channel and tone numbering convention and these frequencies are available in the "Motorola Channel Numbering Chart" available on the www.cert-la.com/radio web site. Also, see "Using FRS Radios and GMRS Radios" by Marty Woll N6VI and additional information about FRS (and GMRS) radios on the site.

The LAFD CERT Comm Plan is not to be distributed without prior approval. If you wish to share this with another individual or agency, ask us first. Permission will not be withheld unreasonably. This Plan is proving popular and is already in use in other communities.

CERT COMM PLAN STANDARD OPERATING PROCEDURES

As of June 12, 2010

These SOPs are intended to be a good beginning for CERT Amateur Radio Operator use and training. The Comm Plan is not to be distributed without prior approval. As this Comm plan is used, additional SOPs will be developed and refinements will be made. Your comments and suggestions for this development process are necessary and appreciated. Send them to jgzimmerman@sbcglobal.net.

1. When activated, CERT Amateur Radio Operators are to proceed to CERT Staging or as directed by your call out instructions. Take your communications equipment and manuals, spare batteries, your Comm Plan and your CERT equipment and supplies with you.

2. Set your amateur radio to the CERT Channel assigned to the Battalion to which you are reporting. Note that the CERT Channel numbers correspond to the LAFD Battalion numbers. CERT Channel 1 is for Battalion 1, CERT 14 is for Battalion 14, etc. There is no Battalion 8, Battalion 16, or Battalion 24 -- those channels are used for repeaters. If the CERT frequency assigned to the active Battalion is in use by non CERT operators, switch to the Secondary Frequency assigned to the Battalion.

3. Upon arrival, check in with the CERT Staging Officer and determine which FRS (Family Radio Service) frequency is being used by CERT members for the incident. If unknown, use the following frequencies for initial FRS contact:

South Division -- FRS Channel 11 with no tone/privacy code
North Division -- currently uses FRS Channel 7 with the tone/privacy code setting of 88.5. Do not use FRS 7 in the Topanga Canyon area – it is already in use for emergency comms.

4. In general, we recommend NOT using tone or privacy codes. Privacy tones / codes do not give you exclusive access to a frequency – they only prevent you from hearing non tone conversations that may already be on that frequency. Privacy codes may be fine if you're with your family at an amusement park and don't want to hear all the unrelated chatter, but they're NOT Ok if you're using your FRS radio for emergency communications. If you choose to use a code, you may be transmitting at the same time as another user without knowing the channel was already in use, and neither of you will have a successful transmission. You need to hear everything on the channel in use and know when the channel is clear and available to you. If you use a code, realize that only other coded radios will activate your radio and you may miss important information. Consider using no code at all so you can hear all the transmissions on the chosen frequency and know when it is clear for your use.

'Privacy' codes do not give you any privacy. Anyone with an FRS radio or scanner can and will hear your transmissions.

5. If you are the first CERT Amateur Radio Operator on scene, you become the CERT Radio Communications officer for the Incident until relieved by a radio operator with more experience or a higher skill level. Listen to the FRS channels and pick one that seems clear and available and let the CERT responders know which FRS channel to use. Use the CERT Comm Plan to determine which Amateur Radio frequencies to use at your incident. Make sure all ACS and CERT radio operators are aware of the frequencies you choose.

6. The CERT Radio Communications Officer is responsible for communications between the incident and the originating Fire Station and/or the Battalion Station. Transmit the traffic from your Incident Commander directly to the Originating Fire Station and/or Battalion Station. Your Battalion Chief may want the Amateur Radio Operator assigned to the Battalion IC location. In major incidents, an ACS Amateur Radio Operator will be assigned to receive your information at the Battalion and Division levels and will relay it up the chain of command as necessary.

7. In general, the CERT Comms Officer should be at the Incident Command Post. Use your FRS radio to communicate with your CERT Teams and for all tactical communications at your incident. If no FRS frequency has been chosen, select any clear FRS channel you like. Use your VHF amateur radio for Battalion wide communications only.

The CERT Radio Communication Officer is free to add and change FRS frequencies as necessary to maintain good communications at the incident. Don't forget to inform CERT members and all new arrivals of the frequencies in use.

8. The CERT Comm Plan Amateur Radio Channels are for communications <u>from</u> the incident <u>to</u> the Originating Fire Station and/or Battalion Station. If the Primary CERT Battalion Channel is busy, switch to the Secondary Frequency. If the Secondary Frequency is busy, select one of the alternate frequencies or a CERT Channel from a Battalion as geographically far away from you as possible – preferably on the other side of the hill, to minimize interference. Make sure that all communicators know of any channel changes.

9. The CERT Division Comm channel is for communication <u>from</u> the Battalion HQ (or IC) <u>to</u> the Division HQ. In major incidents, ACS members will be assigned to the Battalion and Division HQs.

10. CERT Comm Plan channels are not to be used as incident tactical channels. There simply are not enough Amateur Radio Service frequencies available to make them useful as tactical channels in a regional emergency. Use FRS radios for tactical communications.

11. Think about what you need to communicate and decide how to say it clearly in the shortest message practical <u>before</u> you key your microphone. Most messages can be distilled down to short, simple messages that accurately convey all the important information. Stop, think about what you need to say, then think of a short, clear, concise way to say it.

Objective 5

Understand the importance of using FRS (GMRS) Radios at the local tactical level

To reiterate, the CERT Comm Plan specifies the use of FRS (Family Radio Service) radios for CERT incident tactical communications. There are not enough amateur radio frequencies available for every incident to operate on a reasonably clear and usable frequency in a major regional emergency. The proper use of FRS radios also allows non-licensed CERT members to use radio communications. With proper radio setup and a little training, FRS radios can provide CERT members with very effective short range radio communications.

Objective 6

Understand that efficient use of FRS radios at the tactical level will take training, good radio etiquette, practice, and drills.

INTRODUCTION:

Many people have absolutely no exposure to hand held two-way radios, or any type of radios other than their mobile phones (yes, cell phones are radios…) and stereo systems in their homes and cars. In previous CERT radio classes some CERT members struggled with the basic concepts of portable radio communications.

In teaching the use of FRS portable radios, I suggest we avoid technical talk when possible and use commonly understood words like 'radio' instead of "HT" or "handie-talkie", "Transmit" button instead of "PTT", and "tone" instead of "PL" when referring to 'Privacy Tone" or CTCSS squelch control. Use words anyone can understand at first until they get the basics, then move on to more technical terms once they have been fully explained.

KEY POINTS

Handheld radios have limited power

Each handheld radio is a very small radio station that has limited power and not enough power on its own to transmit to a wide area. Other radios in your local area can listen to your transmission, but some of them may be 'locked' and only work when they hear a special 'key' or tone, included with your transmission.

Radios may have their privacy tones set and be 'locked'

If you want to contact a 'locked' radio, you must send the 'key' to unlock that radio so it can play your transmission. Once you set the tone control on your radio to the proper tone, that 'key' is automatically sent when you press the Transmit button, but it may take a moment for it to actually unlock the other radio. To allow the 'key' to work, you need to press the Transmit button for one second or so before you start speaking.

Privacy tones are convenient, but they interfere with signal transmission

Privacy tones allow you to set your radio to receive signals only from another radio that is transmitting the same tone you have chosen. That's great if you want your radio to be quiet most of the time, but it prevents you from monitoring all the radio communications traffic on the frequency and you won't know when the channel clear and available or when it is in use. The CERT Comm Plan suggests that FRS tones not be used unless absolutely necessary. If your radio is set to 'no tone' or '0 (Zero) tone', you can hear all the traffic on that frequency and will not miss traffic intended for you or traffic that may carry information useful to you. If multiple incidents are in progress you can learn a lot just by listening – what streets are blocked? What resources are nearby?

If your tone is set to on, you may be interfering, ('doubling' or 'stepping on') other important transmissions because you couldn't hear them. We recommend you do NOT use privacy tones for emergency communications.

Use descriptive tactical call signs to prevent confusion and wasted effort

Use descriptive tactical call signs such as, “Elm Street IC this is Oak Street Search Team One”. Anyone listening knows exactly who you are calling and exactly who you are. Only the person you are calling --Elm Street IC, should answer and no one else should assume the information you transmit to the Elm Street IC is intended for them. This is especially important on the FRS and Amateur Radio frequencies during disasters or multiple incidents when the airways may be crowded. All Amateur and FRS frequencies are shared and there may be other responders or incidents on your frequency. Even if you can’t hear them, they may be hearing you and it’s important to make your calls descriptive to prevent confusion and misinformation.

Location, location, location

Handheld radios need to ‘see’ the other radio – you may need to find higher ground and get away from concrete and steel whenever possible for good communications. You may not be able to contact me if you are standing on the street, but you might be able to reach me if you stand on something higher. Just because you can hear me calling you, or hear another radio, does not automatically mean we can hear you. Height trumps power. Something as simple as holding your radio at arms length above your head or climbing a few stairs or a small hill may enable you to hear a transmission that you would otherwise miss.

No privacy in the FRS, GMRS, or the Amateur Radio Services

Handheld radios are shared communications devices. Lots of users use the same frequencies and everyone is listening to what you say. Your transmission is not private – anyone can listen. Do not transmit information you do not want everyone and anyone to hear. Never transmit personal information, no full names, phone numbers, or other personally identifying information unless it’s yours to give away. It’s OK for me to give you my mobile phone number or email address over the air if I choose to. It’s NOT OK for me to transmit any of your personal information unless you give me your permission to do so. Never use full names and never use names for victims. It’s Ok to say “24 year old female, conscious, difficulty breathing”. It’s not OK to use the victim’s name.

RADIO ETIQUETTE

Handheld radios are very effective if used properly, but they consume time and resources (radio bandwidth) if used improperly. Please practice BEFORE you need to use your radio in an emergency.

Listen before you speak. Is the channel clear? Think about what you are hearing.

Do you have a message? Think before you talk. You are using a shared resource and no one else can use it while you are transmitting, regardless of how important their message is. Most important transmissions can be made in 15 words or less. “*Single family residence, Colfax and Collins, flames showing, persons trapped second floor.”*

Speak clearly, calmly, and slowly. Hold the radio four or five inches from your mouth and talk across the radio, not directly into it. Do not shout – it makes it hard to understand your transmission.

Wait for a response to your call. Unless it is a life-threatening emergency, wait for a minute or so before you call again. Don’t call continuously; the party you are calling may be busy.

When you press the Transmit switch, it shuts off the radio's speaker and you cannot hear the other party. You must let go of the Transmit switch to listen to the radio. If you keep pressing the Transmit switch, no one else can use the frequency.

Be careful where you put your radio. Don't put it in a position where the transmit switch can be pressed accidentally – like on your belt. A continuously keyed radio monopolizes the frequency and no one else can use it. Check your radio occasionally. If you haven't heard a transmission for a while, make sure your batteries are still alive and make sure you're not pressing your Transmit button by accident. Keep your radio up closer to your ear so you can actually hear someone when they call you. Clip it to your shirt or jacket. If you have an earpiece for the radio, use it.

Most radio problems are caused by three simple things:

Your finger – you didn't press the Transmit button for a second before you began speaking and your listeners didn't hear the first few words you said because the other radio wasn't ready…, or you didn't hold it down firmly while speaking and all they heard were bits and pieces, or you held it down too long and couldn't receive anything when you should have been listening

Your battery – Is it fresh? Is it working? Have you heard any transmissions in the last few minutes? Do you have a spare?

Your Location – Are you in a basement, or an elevator, or next to a heavy or high wall? Can you get to higher ground, or closer to the outside? Can you get near a window? Just raising your radio above your head may enable you to make contacts you couldn't make before.

LEARNING SUGGESTIONS

Listen to radio traffic. Listening to LAFD radio traffic is a good way to learn how to use a radio. Get a scanner or a scanner app for your smart phone and listen to the LAFD radio communications. http://www.broadcastify.com/ is an app commonly used to monitor some LAFD communications. Learn how LAFD firefighters communicate, how they size up situations, how they ask for resources, how they give continual updates, and how Comms officers prompt for information. You will learn what kinds of information are important and you will learn exactly what to say and do when it's your radio and your incident. A list of LAFD Voice Frequencies is included on the www.cert-la.com/radio web site.

Demonstration: Have two experienced radio operators use handheld radios in several kinds of scenarios. Use a script.

Radio Practice. The best to learn how to use a portable radio is to use it. The more use it, the more efficient you will be. Write simple scripts demonstrating emergency traffic (messages), size up reports, tactical traffic, and routine traffic for members of your CERT group to use while practicing with your radios – especially the first few times. If possible, have a more experienced radio operator act as the other party. When you simulate emergency traffic be sure to say "This is a drill" before and after the message so you don't confuse casual listeners. Take your FRS radios with you when you're traveling with friends and family and experiment with them. Experiment with how far you can talk and how clearly you need to speak to be understood. See what happens when there are hills or buildings between you and the other radio. You will be surprised at how well they can work.