CERT Communications

Procedure and Protocol Guidelines

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Mission and Purpose

CERTeams must be self-sufficient and have the ability to communicate with each other and first responders during an emergency. In addition to establishing effective communications among members of our team, the mission may include providing communications coverage throughout an event area. We may also be called upon to assist the Hawaii County Civil Defense Agency (HCCDA) and other first responders with emergency radio communications for a given event.

These guidelines are designed to establish procedures and protocols for carrying out effective communications operations (emergencies or otherwise) for CERT and HCCDA. These guidelines define the process that will be used by HCCDA, the CERT Administration team and individual CERTeams in performing the communications function in Hawaii County.

CERT Emergency Communications

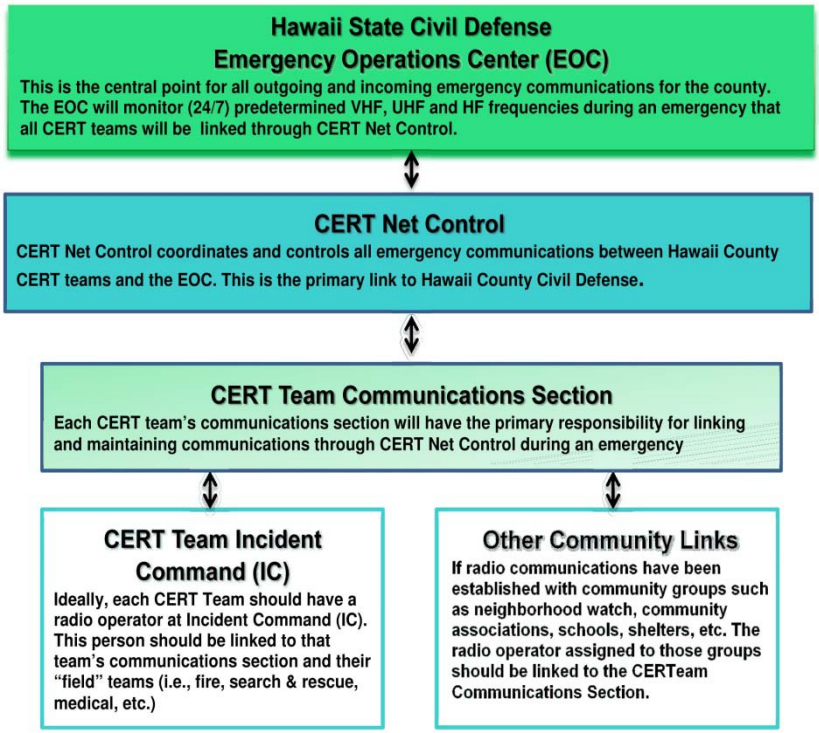
Intra-Team Communications

One communications function that you will participate in during activation is intra-team communications. Effective intra-team communications allows team members to quickly and effectively communicate with each other. It is a critical component of tasks such as light search and rescue. Intra-team communications may be as simple as sending runners from one person to another, using short range FRS/GMRS radios or involve the use of amateur (ham) radios through a controlled Net. Intra-team communications also allows the team leader to keep track of team members (accountability) during a deployment.

Communications to/from the Next Level

One of the most important roles that CERTeams fulfill is acting as the "eyes and ears" for their communities. CERTeams are expected to pass information that is pertinent to the emergency event to HCCDA via the Emergency Operations Center (EOC). In this way, the EOC can dispatch resources to where they are most needed, and the CERTeam can act as "force multipliers" for first responders. HCCDA may also need to pass important information to the community via the CERT network.

However, each CERTeam cannot, on their own, simply radio all emergency situations to the EOC as they see them. This would rapidly devolve into chaos. Instead, each CERTeam must follow the emergency communications procedures and protocols outlined in this guide so that order is maintained and emergency communications can be conducted accurately and effectively. The chart below describes the general organizational structure for emergency communications.



Communication Modes

Generally, CERT communication modes will fall into several categories……runners, landline phones, cell phone, computers and two-way radios. Some of these modes may not be available and CERTeam members will have to decide what modes to use when and under what circumstances. For example, 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. If cell phones do not work other modes will have to be implemented. When normal modes of communications fail we must rely on alternative paths – whether you use potable FRS/GMRS, Amateur Radios or kids on bicycles carrying notes. Portable two-way radios work well and we should all learn how to use them, but remember – it's the message that is important not the method. Be resourceful and be flexible. While this guide focuses primarily on two-way radio communications, it is important to understand how the other modes can and should be used as part of a CERTeam's communications "tool box" and overall communications structure. It's also important to understand what limitations these various modes have and under what circumstances.

Runners. Runners are individuals carrying written messages from one location to the other. Using runners is an extremely reliable means of passing messages, since they can operate in situations that would otherwise disable other communications systems. A CERTeam should use people who are not assigned a task as runners so the number of trained volunteers in a team is not depleted. The runners, unless it's not possible to do so, should carry written messages in order to avoid miscommunication. Some limitations include distance and time, availability of team personnel and the fact that a runner must be familiar with the area.

Landline Phones. Landline telephones, especially analog phones, may operate during power failures, as they are powered by the phone itself. Handheld phones may only last as long as their batteries and digital phones may or may not work, depending on the model. Be aware that local telephone systems typically cannot handle a load of more than 10% at any one time. That means that if more than 10% of the people in an area attempt to use the phone at the same time, the system will fail. The advantages of using this mode include familiarity of use, common availability and 911 access.

Cell Phones. The greatest advantages of cell phones are that they are commonplace and mobile. Most cell phones are also able to transmit text messages. In the event of a system overload or a week signal, a text message may get through when a voice message will not. This is because a text message requires far less bandwidth than voice.

In contrast to common belief, cell phones do not communicate via satellites. Instead, they transmit signals that are relayed by cell phone towers. Sometimes this involves retransmitting the signal; sometimes it involves rerouting the signal into a landline. Therefore, cell phones are vulnerable to the same sorts of weaknesses as landline telephones. Additionally, cell phone networks require electricity, since the towers themselves require electricity to operate.

Cell phone networks are also easily overloaded during times of high demand. Another problem with using cell phones in emergency communications is that team members and other emergency personnel must have each other's cell phone numbers.

Computers. Computer communications includes e-mail, photos, video, audio, formatted documents, or other data transmitted via the Internet or by runners using USB drives (commonly known as "thumb drives") or other media such as CDs.

One of the overlooked advantages to using computers for communication is the ease of mass distribution. Using e-mail, alerts, notices, preformatted documents, and other information can be sent out to any number of participants with a single click.

While laptops are portable, they may not be ideal for use in emergency response situations due to their size. Also, both senders and receivers have to have functioning, specialized equipment in order to communicate using computers. Receivers must also be monitoring such equipment. It doesn't help to e-mail a team leader a photo of a dangerous situation if that team leader doesn't have immediate access to e-mail. Computer connectivity also may be used to complement an emergency radio Net to transmit situation reports to the EOC.

Two-way Radios. Two-way radio is a communications mode that does not rely on external power sources or physical communications infrastructure. This makes two-way radios a good communications mode during an emergency and is the primary mode for CERT operations.

Two-way radios include a variety of devices and are often defined by the frequencies (or channels) they are designed to operate on. Radios capable of more powerful transmissions typically require a license from the FCC. Two-way radios operate by transmitting and receiving on certain frequencies. No one owns or has exclusive rights to a frequency, but the FCC determines who can use them and when. If a radio is not using a repeater to transmit, the radio is said to be in "simplex" mode. Radios operating in simplex mode are usually limited to line-of-sight distances.

On some radios, frequencies are typically divided into a number of discrete channels. Since only one person can speak on a channel at a time, more channel availability means that more conversations can happen in the area. Each team should select a simplex frequency to use as part of their intra-team communications plan. Frequencies for communications to the next levels above the CERTeams are assigned by the EOC, CERT Communications Coordinator, or other authority, for a particular event at that time.

The two-way radio devices used by CERT include:

Family Radio Service (FRS)

FRS radios ("walkie talkies") are simple, basic, two-way radios that are good for intra-team communication between CERT members. FRS radios do not require a special license by the FCC. Many people have FRS radios; however, they are becoming increasingly difficult to purchase new. Most radios now available are FRS/GMRS hybrids. FRS radios have a very limited range, which makes them useful only for intra-team communications. Keep in mind that the printed claims on the box are *advertising* and not a guarantee of regular performance. It is against FCC regulations to boost the signal of an FRS radio with an antenna or repeater.

General Mobile Radio Service (GMRS)

GMRS radios have a greater range than FRS radios, and their signals can be improved with antennas and repeaters. They are also very useful for intra-team communications. Using a GMRS radio does require an FCC license. However, you are not required to pass a test. Again, due to the predominance of hybrid radios (FRS/GMRS) in the marketplace, GMRS radios are no longer widely available for purchase.

Amateur Radio (ham radio)

Also known as "ham" radio, amateur radio is a very reliable communications method employed during emergency response situations. Amateur radios are widely available in a variety of configurations and can be used to transmit in excess of 100 miles using repeaters and antennas. Amateur radios require a license from the FCC. This requires studying for and passing a relatively inexpensive exam. Amateur radios are complex devices with elaborate protocols and users must study and practice to learn how to use them properly. As previously mentioned, this is the primary mode of emergency communications for CERT, particularly with a team's connectivity to HCCDA and other stations beyond their immediate operational area.

The ranges of the radios discussed here depend on a wide variety of factors. Actual performance will depend on the power output of the radio, area terrain and atmospheric conditions. The range of a radio can be increased by using a better antenna or a repeater. A repeater is a regional transmitter that picks up radio signals and retransmits them, essentially extending their range.

CERTeams need to be aware of these limitations in selecting the devices they need and for what purpose. The following gives you a general idea of the relative simplex ranges and license requirements of various two-way radio devices:

	Power Output	**License**	**Approximate Range**
FRS	.5 w	No	2-3 blocks (maybe up to a mile)
GMRS	1 – 5 w	* No	" "
Ham Radio:			
Hand held	1 - 5 w	Yes	5 miles
Mobile	30 - 75 w	Yes	25 miles
Base station	100 – 1,500 w	Yes	Thousands of miles

* Complete form; $90 fee; good for 5 yrs.

Again, the use of repeaters will extend these ranges significantly. On the following pages, the procedures and protocols for establishing and operating CERT communications Nets using amateur radio is discussed.

Communications at the CERTeam level

When CERTeams are activated it is important that communications among its members is accurate, efficient and effective. One of the most important components of field communications is the situation size up. Make sure that the message you are sending is understood by the team member receiving it. Have the receiver repeat the message if needed. Team members must 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 whether at the local team level or up the chain of command.
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? *(gather the facts)*

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 the 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. Know what you heard and ask for confirmation. Note the time and source of your messages and write everything down. You will need your notes for reports later, so be sure to make them. Upon arriving at an incident, take a quick look around and accurately communicate only what you see.

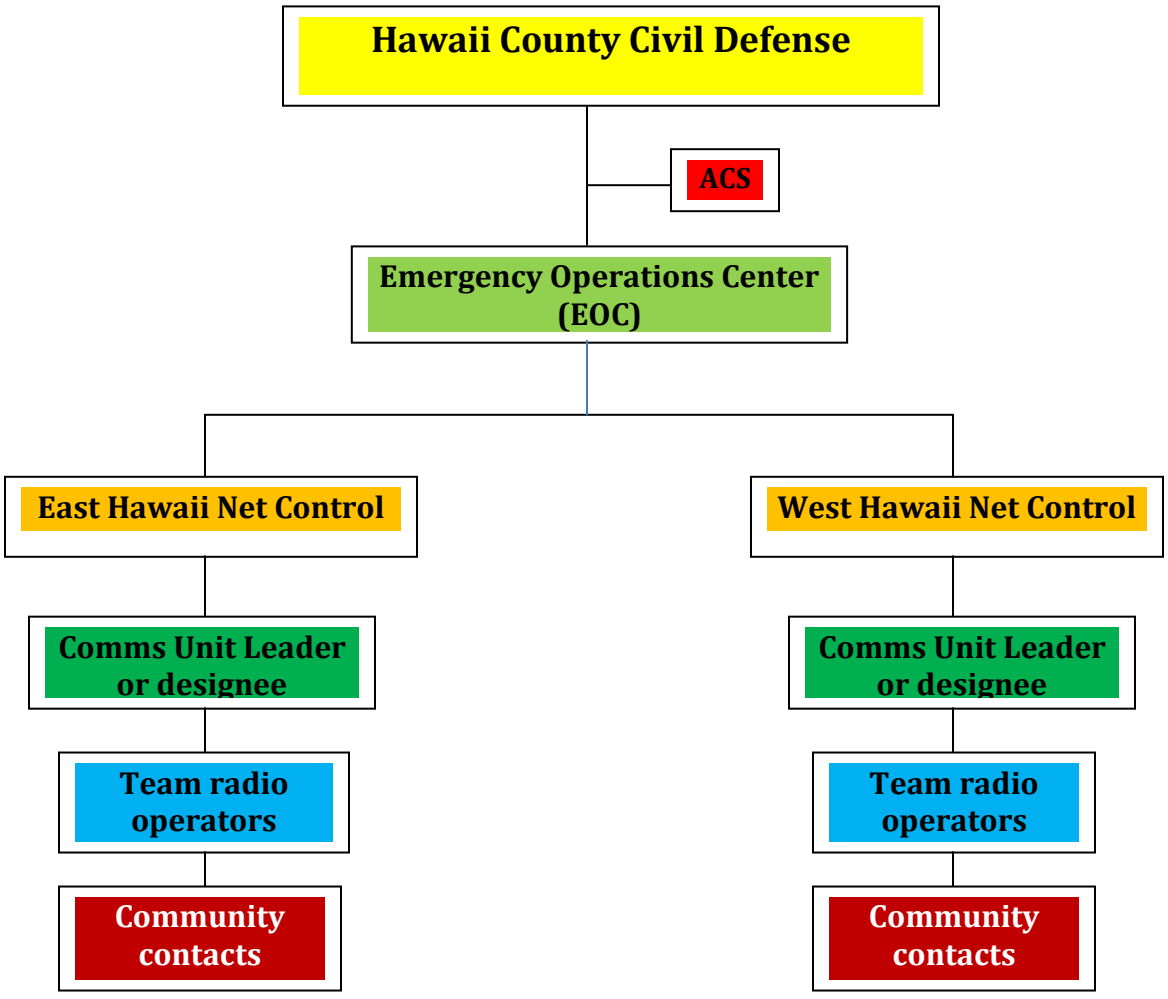
CERT Communications (Comms) Nets

A CERT Net can be activated for a number of purposes. In an emergency a communications Net will be needed to handle the internal communications needs of a CERTeam(s) and

emergency traffic to and from HCCDA during the event. CERTeams are encouraged to establish a clear and well understood communications structure within their teams for this purpose. CERTeams may also be called upon to provide radio communications for public service events such as marathons, fund raising walks, etc. In addition to providing a public service, these activities give CERT members the opportunity to practice radio procedures and protocols. CERTeams are encouraged to conduct regular Nets for their teams for the purpose of testing equipment, practicing radio protocols, and evaluating signal strengths in their local area.

Upon activation in a disaster, it is important for CERT radio operators to understand and follow the Net protocols for passing emergency traffic. Remember we may be called upon to be the "eyes and ears" for HCCDA during an emergency. Establishing communications links within the community in which we operate will facilitate this mission. We may also be asked to disseminate messages to the community via Emergency Alert Messages (EAMs) from the EOC. Our community links will allow these important messages to have the widest coverage. The following outlines the CERT communications chain of command (and flow) that is applicable when an emergency Net has been established:

Communications Chain of Command



Types of Comms Activation

The activation of a CERT Comms Net, or Nets, will be based on the location of an event, the severity of the disaster or a particular need for reliable communications. Activation of a Net will be based on five (5) general categories or levels of need:

Level 1 – This level of activation will be in response to a major disaster as defined by the Hawaii County Civil Defense Agency (HCCDA), which may be a state or island wide event. HCCDA will determine the level and extent of the communications required to respond to the event and will likely stand up the Auxiliary Communications Service (ACS), which in turn may utilize the network of CERT radio operators to facilitate the Net and provide the necessary emergency communications coverage.

Level 2 – This level will usually involve a disaster that impacts a certain area of Hawaii County, but large enough to require a significant response effort. HCCDA will instruct the CERT Coordinator(s) to activate a particular CERTeam or teams in the area(s) that are affected by the event and standup a CERT Net, or Nets, to facilitate emergency communications in the area and with Civil Defense. These operations may or may not include the activation of ACS.

Level 3 - In response to a local or district event HCCDA, through the respective CERT Coordinator (East/West), may direct the activation of a CERTeam in the affected area and the standup of a CERT Net to handle communications. Communications will primarily be used to facilitate field operations and may or may not include a direct link to HCCDA.

Level 4 - With authorization from the Hawaii County CERT Coordinator (approved by HCCDA) or East/West CERT Coordinator, a CERTeam Leader may activate his/her team for a local non-emergency activity in their area . This could be in response to a needed public service such as a parade, marathon or other local activity to which the team can be of assistance. The Team Leader may utilize a localized communications Net for these events.

Level 5 - A local Net can be activated, either on call, on a continuing basis or both, for the purpose of training and practicing radio protocols for licensed radio operators of a CERTeam. CERTeams are encouraged to establish these Nets to hone the skills of their radio operators, test equipment and practice emergency protocols and procedures.

Who can stand up a CERT Comms Net

The responsibility for standing up a CERT Net rests primarily with the person, or persons, authorized by HCCDA to do so. The person, or persons, authorized to stand up a Net will depend on the level of activation described above:

Level 1
Hawaii County Civil Defense Agency (HCCDA).
Level 2
CERT Coordinators in response to a disaster on Hawaii Island as directed by HCCDA.
Level 3
East or West Hawaii CERT Coordinator in response to a local event when directed by the Hawaii County CERT Coordinator.
Level 4
CERTeam Leader or Comms Unit Leader in response to a non-disaster event.
Level 5
CERT Comms Unit Leader for the purpose of training and practice of protocols for members of their CERTeam.

Procedures for Standing up a Comms Net

Level 1

HCCDA will activate ACS for this level of response. The Net Control Operator(s) (NCO) for one or both island divisions (East side/West side) and the frequency (ies) that will be used for the event will be designated by HCCDA and the ACS Communications Lead (COMM-L). Radio operators ("authorized customers") for the Net (s) will be made up in the following order:

1. The NCO(s) will be selected from a list of qualified radio operators maintained by ACS and/or among the list of CERT Comms Unit Leaders maintained by the CERT Communications Coordinator and CERT Coordinators. A shift schedule, based on the estimated length of the event, will be created by COMM-L.

2. Radio operators (authorized customers) will be selected from the ACS list based on the needs of the event and availability of personnel.
3. If additional radio operators are needed, the COMM-L will contact the CERT Communications Coordinator, CERT Ops Chief, HC CERT Coordinator, East Hawaii CERT Coordinator or West Hawaii CERT Coordinator, in that order, who will then select operators from the list of CERT radio operators they maintain.
4. If additional resources are needed, the COMM-L will contact the various amateur radio clubs in Hawaii County for assistance.

The COMM-L will prepare shift lists with the assistance of HCCDA, ACS, CERT and other individual volunteers.

Level 2

HCCDA may or may not activate ACS for this level. If ACS has been activated, then the protocol outlined for **Level 1** above will be followed. If not, the protocol for activation will be as follows:

1. The NCO (s) will be designated by HCCDA, CERT Communications Coordinator or East/West Hawaii CERT Coordinator, in that order, from the list of CERT Comms Unit Leaders and Alternate CERT Comms Unit Leaders they maintain.
2. Radio operators will be selected from the list of CERT Radio Operators maintained by the CERT Communications Coordinator based on the specific needs of the event and the availability of volunteer radio operators.
3. If additional radio operators are needed, the CERT Communications Coordinator, CERT Ops Chief, Hawaii County CERT Coordinator, East Hawaii CERT Coordinator or West Hawaii CERT Coordinator, in that order, will contact the various amateur radio clubs in Hawaii County for assistance.

Level 3

Upon an HCCDA authorized activation of a CERTeam(s) to respond to a local event, the East or West side CERT Coordinator will direct the Team Leader of the CERTeam closest to the event to stand up a Comms Net if needed. The protocol for this level of activation is as follows:

1. The Team Lead will designate the Comms Unit Leader, or Alternate Comms Unit Leader of that team as NCO.
2. The Comms Unit Leader will first utilize the team's radio operators and give them the frequency they will use and their assignments for the event. The Comms Unit Leader will also designate alternate frequencies on simplex for intra team communications, if needed.
3. If additional radio operators are needed, the Team Lead or Comms Unit Leader for the team will contact the CERT Communications Coordinator, CERT Ops Chief, Hawaii County CERT Coordinator, East Hawaii CERT Coordinator or West Hawaii CERT Coordinator, in that order, for assistance.

4. The Comms Unit Leader will also establish communications with HCCDA, CERT Communications Coordinator, CERT Ops Chief and/or the CERT Coordinators if requested to do so.

Level 4

If radio communications are needed in response to a local non-emergency event, upon receiving authorization from HCCDA through the respective CERT Coordinator, a CERTeam Lead may stand up the team's radio communications section to provide a community service. The following protocols are to be followed for this level of activation:

1. The Team Lead will first designate the Comms Unit Leader or Alternate Comms Unit Leader for that team as NCO for the Net. If neither are available, the Team
   Lead may select an experienced radio operator from the team or a radio operator from another team as NCO.
2. The NCO and/or Team Lead will field radio operators from their team members and other volunteers in their area as needed.
3. If additional radio operators are needed, the Team Lead or Comms Unit Leader for the team will contact the CERT Communications Coordinator, CERT Ops Chief, Hawaii County CERT Coordinator, East Hawaii CERT Coordinator or West Hawaii CERT Coordinator, in that order, for assistance.

Level 5

CERTeams are encouraged and authorized to conduct local simplex Nets in their area for the purpose of training and practicing radio protocols for licensed radio operators in their teams. The following protocols are to be followed for this purpose:

1. The Team Lead and/or Comms Unit Leader shall designate the NCO for the Net and the simplex frequency that will be used for the Net.
2. The Team Lead and/or Comms Unit Leader shall encourage all radio operators on their team to actively participate on the Net and suggest that non-licensed members monitor the communications activities for information and training.
3. Teams are encouraged to conduct these training Nets on a regular and scheduled basis.

Net Control Stations (NCS)

Upon activation a Net's size will be determined by the nature of the incident or event and the needs of the individuals and agencies served. However, more is always better. Operators can always be asked to stand by until they are needed. A Net Control Station (NCS) should have a strong commanding signal into the area of operations. A station, ideally, should have as many modes of communication to individuals and agencies participating in the Net as possible (i.e., VHF, UHF, HF and phone). The station should also

have alternative power supplies (i.e., batteries, solar, generator). A back-up NCS should be prearranged and ready to assume control of the Net if needed.

Net Control Operators (NCO)

The Net Control Operator (NCO) is in charge of the Net. The function of the NCO is to preside over the Net in the most efficient, businesslike way possible so that the participants can promptly pass traffic and conduct other related communications activities effectively. The NCO is expected to set the level of discipline. He/she should outline the protocols that will be used for the Net and remind participants to keep transmissions short and to the point. If someone gets out of hand or is not following procedure, the NCO should lead them by example and with gentle reminders. Take a break whenever you can. A two hour stretch without a break would be a reasonable time. A four hour shift would be considered the maximum.

The designated NCO will be responsible for opening the net promptly at the designated time and frequency following the **Emergency Net Script** guidelines (**See Appendix IV**) in this manual. There should be several components to each Net. These include opening the Net and receiving check-ins from CERTeams (and other "customers") on the East and West sides of the island respectively, reviewing the net protocols, conducting periodic announcements, keeping track of Net assets, recording messages, closing the Net and completing a communications log:

Opening the Net, reviewing protocols and receiving check-ins. The NCO should open the Net promptly at the time and frequency designated by the person authorized to stand up the Net. The NCO should then explain the purpose of the Net and go over the protocols that will be used for the Net. Before taking check-ins the NCO should ask for at least one check-in from each CERTeam expected to participate in the Net (East/West or local districts). Remind all radio operators that when they check in they should speak slowly, give their call signs phonetically, the name of their CERTeam and location. Begin taking check-ins and make a call for check-ins from CERTeams that are not included in your area if needed. A list of CERTeams is available from team leaders, CERT Coordinators and the CERT Communications Coordinator.

Periodic Announcements. Approximately every ten (10) minutes, or when time permits, the NCO should repeat the purpose of the Net and under what authority the Net is being conducted.

Keeping Track of Net Assets. During the Net the NCO must maintain a current record, or log, of all radio operators who check into the Net. The log should show the time of check in and the time the operator checked out. The NCO should be prepared to provide a current report of who is participating on the Net, at any given time, either on the air, by fax, email or photo copy. The Assets Log included in this manual can be used for this purpose **(See Appendix V).**

Recording Messages: The NCO should keep a "hard" copy of all messages received from radio operators on the Net. When receiving and recording messages the NCO should read back the message for confirmation. Upon confirming the message the NCO records the time of confirmation and gives that time to the radio operator before forwarding the message up the communications chain of command. The Traffic Message Form in this manual can be used for this purpose **(See Appendix VI)**.

Closing the Net: After receiving stand down instructions, the NCO should thank all radio operators who participated in the Net, report the number of check-ins and announce the next stand up time if known. The NCO will then close the Net by stating the local time (Whiskey) and returning the frequency to regular use.

Complete communications log. After closing the Net, the NCO should complete ICS 309 – Comm Log **(See Appendix VII).** The information for this form should be readily available from the Assets Log and Traffic Message Forms. When completed, copies of the form should be given to the CERT Coordinators, CERT Communications Coordinator or HCCDA if directed to do so.

Emergency Communications Messages

In addition to intra-team communications for CERT field operations, CERTeams may be asked to participate in a larger emergency communications Net particularly during Level 1, Level 2 and Level 3 Comms activation. At these levels CERTeams may be asked to provide a link between HCCDA and the communities affected, or may be affected, by the event. Emergency communications traffic under these circumstances will primarily fall into four categories:

1. **Emergency Alert Message (EAM)** – EAM is a public information announcement originating from and disseminated by HCCDA providing notification to the general public of an incident that may or may not require the public to take action.

2. **Request for Assistance (RFA)** — RFA is a community initiated request for assistance to HCCDA. All other avenues to request assistance should be done first (*i.e*. dial 911). RFAs require the EOC to take some type of action.

3. **Request for Information (RFI)** — RFIs should be passed onto EOC only when the information deals with life safety or operations or when other levels of the operational hierarchy are unable to provide information to the requestor.

4. **Situation Report (SitRep)** —SitReps provide a snapshot report that captures and summarizes the incident for a specific area and for a specific time period.

All of these forms of communications are controlled by and come from HCCDA.

Radio Protocols and Practices

When conducting radio operations, with or without a Net, CERT radio operators should follow these general radio protocols and practices:

1. **"Listen Before You Talk"**. No transmission is begun without listening for clear air (This is a requirement of the FCC) before you talk. Two-way radios are not "full-duplex" like a telephone. Because only one person can talk at a time, it is more important to **LISTEN** on a two-way radio than to talk!

2. For local simplex transmissions turn towards the person who is to receive your signal so that your body does not absorb most of the radio energy from the antenna.

3. All radios idle in the receive mode. So do not speak immediately when you press the push to talk (**PTT)** button, but wait a second or two before you transmit. If you speak as soon as you "key up" the radio may "clip" the first syllable of your first word, making it harder to understand.

4. Shouting into your radio will **NOT** improve your range and intelligibility. **NEVER SHOUT** – increasing your voice level will only cause distortion (over deviation) of your transmission. The volume control affects only the volume of the speaker and not the sensitivity of the microphone. Louder, faster, or higher pitched speech is counter-productive to intelligibility. It doesn't help to talk louder on the radio in a noisy environment, even though it may seem natural.

5. In general it is *consonants* and not vowels that carry meaning; you will lose no points or intelligibility by over-stressing consonants.

6. If your location is noisy, shield the microphone from the wind, point it away from the source of noise, or wait until the noise passes.

7. Remember that a simple message such as "Go" maybe heard as "No" so try to use clear phrases that will reproduce without ambiguity especially in an emergency, such as, "affirmative" instead of "yes" or "ya."
   (See Appendix I)

8. Before transmitting, ensure that you are not interrupting someone else's communications. Refrain from **"doubling"**, **"walking on"** or interfering with another transmission by listening first before you talk!

9. **Microphone:** The most important factor in your outgoing transmission

quality is the relative position of your mouth to the radio's built-in microphone. Know where it is (not always the obvious location) and speak into it at a distance of about 1 inch. Speak at a moderate pace, neither too slow nor too fast, avoid slurring your words. Speak **ACROSS** the microphone rather than into it because explosive sounds reduce intelligibility.

10. Basic "radio etiquette" establishes contact first and makes sure that you have the other person's attention before you just babble away. If you hear someone calling you, acknowledge his or her call by saying, **"GO AHEAD, OVER"**. This lets the caller know that you heard them, and that you are ready to listen.

11. It's always best to speak in short simple phrases on the radio and toss the conversation back and forth like a tennis ball with the word **"OVER"**.

12. Limit conversation to the specific details of the event. Avoid personal comments. Never talk back. Never show anger. Prudence suggests keeping things business like and avoiding sensitive subjects.

Appendix I – Radio Phrases

RADIO PHASE	INSTEAD OF	MEANING
NEGATIVE	Nope	No
THAT IS CORRECT	Yup	Yes, Confirm
AFFIRMATIVE	Yup	Yes, Confirm
ROGER	Yup	Yes, Confirm
ACKNOWLEDGE	Eh?	Confirm that you Understand my message
SAY AGAIN	Huh?	Repeat last message
GO AHEAD	Yeah, what?	I'm listening, Proceed with your message
CORRECTION	Oops….	I made a mistake, correct version is ……..
DO YOU COPY	Are ya there?	Called you once or more, reply please
STAND-BY	Wait a sec….	Busy, please pause for a moment, I'll get back to you.

OUT	……	My message ended, no reply expected
OVER	Huh, Eh	Message completed, reply expected
CONFIRM	Is that right eh?	My version is….. Is that correct?
CLEAR	……	I am signing off and will no longer be on the air

Appendix II – Phonetic Alphabet

A- APLHA	**B- BRAVO**	**C- CHARLIE**	**D- DELTA**
E- ECHO	**F- FOXTROT**	**G- GOLF**	**H- HOTEL**
I- INDIA	**J- JULIET**	**K- KILO**	**L- LIMA**
M- MIKE	**N- NOVEMBER**	**Q- QUEBEC**	**R- ROMEO**
S- SIERRA	**T- TANGO**	**U- UNIFORM**	**V- VICTOR**
W- WHISKEY	**X- X-RAY**	**Y- YANKEE**	**Z- ZULU**

Appendix III – Activation Reference Chart

Activation Reference Chart

Activation Level	Authority for Activation	Who Appoints NCO	Sources of Radio Operators
Level 1	HCCDA	HCCDA, ACS	List of ACS radio operators
Level 2	Hawaii County CERT Coordinator	1) HCCDA, 2) CERT Communications Coordinator, 3) CERT Ops Chief,4) Hawaii County CERT Coordinator, 5) East Hawaii CERT Coordinator or 6) West Hawaii CERT Coordinator	List of CERT radio operators
Level 3	East/West Hawaii CERT Coordinator	Team Leader	Team Radio Operators
Level 4	Team Lead or Comms Unit Leader	Team Leader	Team Radio Operators and other volunteers
Level 5	CERTeam Comms Unit Leader	Team Leader or Comms Unit Leader	Team Radio Operators

Appendix IV – Emergency Net Script

EMERGENCY NET

Opening Net

QST, QST, QST. This is **(Call Sign)** I will be opening the **(name of event)** Net at **(Time)** whiskey or Hawaii Standard Time. This Net is being opened as a DIRECTED CLOSED NET under the authority of Hawaii County Civil Defense. As a Directed Net, stations wishing to transmit must first receive permission from Net Control.

Again, this is **(Call Sign)** and I will be the net control operator for the (**morning/afternoon)** shift of this emergency Net. Persons who will be recognized by Net Control include radio operators from CERTeams on the **(East or West)** side of Hawaii Island. Check-ins should not be from the same exact location in order to avoid duplicate reporting.

If you have emergency traffic during the net please say **BREAK, BREAK, BREAK** and I will suspend the Net for your traffic.

If you need to leave the Net, even for a short period of time, please request permission to do so from Net Control. Upon your return please check back into the Net. This is so we can maintain an accurate and current asset list for the Net.

Is there any emergency traffic for the Net at this time? Please come with your call sign now.

I will now take check-ins for the Net. Please give your call sign phonetically, your CERTeam affiliation and your current location. Please speak slowly and clearly so I can copy your information correctly.

I have the following stations that have checked into the net: (read Asset List).

Any other stations that have not checked in please come with your call sign now.

I will be taking Roll Call approximately once every hour from this time on.

At this time all station please stand by and monitor this frequency unless you have emergency traffic. **(Call Sign)**, Net Control standing by and monitoring.

Roll Call **(every hour)**

QST, QST, QST this is **(Call Sign)** Net Control for the **(name of event)**. I will now take a roll call. When I give your call sign please say **present**. If you have traffic please give me that traffic. If not please indicate that you have **no traffic**.

Quiet times (every 10 minutes or so)

QST, QST, QST for information purposes this is an emergency Net. This Net is being maintained for emergency traffic related to **(name of event)**. The net is being operated as a CLOSED AND DIRECTED Net for all CERTeam radio operators under the authority of Hawaii County Civil Defense. If you have not checked into the Net and wish to do so at this time please come with your call sign, the name of your CERTeam and your current location. This is **(Call Sign)** Net Control, standing by and monitoring.

Closing Net

This is **(Call Sign)** Net Control closing the **(name of event)** Emergency Net. I would like to thank all stations who participated in the Net and provided information to assist our first responders and other emergency agencies during this event. It is now (**Time)** Whiskey or Hawaii Standard Time. I will now return the frequency to normal use.

73 & Aloha. This is **(Call Sign)** clear.

Appendix V – Assets Log

(See Next Page)

Assets Log _____

Date _____

Call Sign	Location	In	Out	In	Out	In	Out	In	Out	In	Out

* **nc** = No contact

Appendix VI – Traffic Message Form

(See Next Page)

Traffic Message Form

Date: _____

Message Confirmed (Time): _____

Callers Call Sign: _____

Queue: 1) Life Safety _____ 2) Timely _____ 3) Routine _____

RFA (action): _____ RFI (information): _____ SitRep (situation): _____

Message:

(over)

Traffic Message Form

Date: _____

Message Confirmed (Time): _____

Callers Call Sign: _____

Queue: 1) Life Safety _____ 2) Timely _____ 3) Routine _____

RFA (action): _____ RFI (information): _____ SitRep (situation): _____

Message:

(over)

Appendix VI – ICS 309 Comm Log

(See Next Page)

COMM Log **ICS 309-SCCo** **ARES/RACES**	**1. Incident Name and Activation Number**	**2. Operational Period (Date/Time)** **From:** **To:**

3. Radio Net Name (for NCOs) or Position/Tactical Call	**4. Radio Operator (Name, Call Sign)**

5. COMMUNICATIONS LOG

Time (24:00)	FROM		TO		Message
	Call Sign/ID	Msg #	Call Sign/ID	Msg #	

6. Prepared By (Name, Call Sign)	**7. Date & Time Prepared**	**8.** **Page _____ of _____**

Communications Log (ICS Form 309-SCCo ARES/RACES)

Purpose: The Comm Log records the details of message traffic and is used by either an individual or a Net Control Operator (NCO). These logs provide the basic reference from which to extract communications traffic history.

Preparation: The Comm Log is initiated and maintained by the Net Control Operator (NCO) or the individual operator (e.g. a field communicator). Completed logs are submitted to the supervisor who forwards them to the Documentation Unit.

Distribution: The Documentation Unit maintains a file of all Comm Logs. All completed original forms MUST be forwarded to the Documentation Unit.

Instructions for completing the form:

Field #	Field Title	Instructions
1	Incident Name / Number	Enter the name and activation number assigned to the incident
2	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time
3	Net / Position Name	**For NCOs:** Enter the name of the radio net **For Others:** Enter the name of the position or tactical call
4	Radio Operator	Enter the name and call sign of the radio operator
5	Communications Log	**Time:** Enter the local time in 24-hour format **From:** Enter the *From* call sign or ID and the message number **To:** Enter the *To* call sign or ID and the message number **Message:** Enter the message
6	Prepared By	Enter the name and call sign of the person completing the log
7	Date & Time Prepared	Enter the date and time the form was prepared (24-hour clock)
8	Page numbers	Enter the page number and number of pages

Submit this form to your supervisor at the end of your shift.

Appendix VIII – Acronyms

ACS - Auxiliary Communications Services

CERT - Community Emergency Response Team

COMML – ACS Communications Lead

EAM - Emergency Alert Message

EMCOM - Emergency Communications

EOC - Emergency Operation Center

FRS - Family Radio Service

GMRS - General Mobile Radio Service

HCCDA - Hawaii County Civil Defense Agency

HF - High Frequency

HT - Handheld 2-Way Radio

IC - Incident Command

NET - Network, referring to an organized system of repeaters, stations and operators

NCO - Net Control Operator

NCS – Net Control Station

QST - Attention all operators

RFA - Request for Assistance

RFI - Request for Information

SitRep - Situation Report

UHF - Ultra High Frequency

VHF - Very High Frequency