

# **EMERGENCY PREPAREDNESS: COMMUNICATIONS DURING DISASTERS**

By Dr. Kenneth S. Cheng

Welcome to the New Year, and welcome to our new cadre of Block Captains! Some of your neighbors have taken the important steps to learn more about emergency preparedness and how to help their neighbors (you!) If you haven't heard from your Block Captain, your block may not have one! Don't wait for others; take the steps and become better educated on disaster preparedness and on how you can help your neighbors. More information can be found at the end of this article.

This month we will focus on communications, the importance of which cannot be overstated. Having been involved with several disasters and rescues, a common problem we encounter is the lack of communications. Rescue workers have described the inability to get reliable communications as one of the biggest issues hampering rescue and recovery efforts. As this is a critically important topic, we will focus on general communication issues, as well as on the specific communication plan established by the Nellie Gail Emergency Preparedness Committee, it's Block Captains and the Area Coordinators.

## **PLANNING**

Planning before the disaster is the key to successful communications. All members of a household should know how to contact a pre-designated friend or relative who lives out of state. This person can then be the "messenger" or point person of all information in the event you cannot contact your family directly. You should also pre-plan your routes home and share these with family members, determine appropriate detours if bridges or under crossings are unsafe to pass, and establish a pre-designated meeting location near your home if there is complete destruction of your home or neighborhood.

## **TWO-WAY COMMUNICATIONS**

### **Home Telephones**

We often take this most basic form of communications for granted, assuming it will always be there and available to us. During a major disaster when electrical power will likely be disrupted, landline telephones that plug directly into a phone jack (and do not require any electrical plugs) may still work as they only require small amounts of low voltage electricity that run on different circuits (all cordless home phones, however, will likely be non-operational due to their need for electricity to function.) If these lines are working, it is likely that they will be overloaded with calls leaving their usefulness strictly to chance. Nonetheless, all homeowners should have at least one phone in their home that plugs directly into the phone jack as this may be your only form of long distance, two-way communications.

### **Cellular/Wireless Telephones**

Cell phones are ubiquitous in our society. During a significant disaster where we have a wide-spread power outage, they will have limited value as cell towers typically have a back-up generator that will supply about 2 hours of power to the cell tower; however, similar to land line phones, these cell tower lines will likely be overloaded as well. Text messaging, on the other hand, is an excellent form of

communication as the bandwidth required to send a text message is tiny compared to a one minute voice communication on the same line. The additional advantage of the text message is that once you hit “send,” the message can wait in queue until bandwidth is available to transmit the message. Text messaging is one of the best forms of communication and should be your first line of communications immediately after a disaster. Of course, if electrical power is out, this form of communication will be limited to the operating time of the back-up generators supplying the local cell towers.

### **Satellite Phones**

Satellite phones are available and can provide instant communications from virtually anywhere that offers line of sight with the sky. The drawback to satellite phones is that they are rarely found in urban and suburban areas because other forms of communications are so readily available and less expensive; the high monthly and per minute costs makes satellite phones impractical to have in an emergency preparedness kit. Nonetheless, if you or your neighbor happens to have a satellite phone during a disaster, this should remain operation as long as you have sufficient battery life.

### **Family Radio Series (FRS)**

FRS radios are similar to the “walkie-talkies” we had as kids. These can be very effective when needing to communicate over short distances. The distances will vary based on the terrain and buildings that can block the radio waves. One should also be aware that many of these radios advertise a 10-22 mile range; however, this is based on having no obstruction between the transmitting radio and the receiving radio. Place a single wall in between the radios and the effective distance can be cut down to under a mile. Even at these shorter distances, these radios may still play an important role in local communications. Within Nellie Gail, our Block Captains will use FRS radios to communicate the status of their block to the Area Coordinators.

### **Citizens Band (CB) Radios**

CB radios were much more popular in the 70’s and 80’s but their use today is very limited. Although theoretically useful for short distance communications, their low frequency of use and lack of readily available radios makes it unreliable for emergency communications.

### **Ham Radios**

Ham (or Amateur) Radios are one of the best ways of communicating locally and for long distances. Although an FCC license is required to operate a Ham Radio, the advantages of using a Ham are many and obtaining a license requires only a small amount of study and then passing a 35-question test. Once you are licensed, you can easily communicate with other Ham Radio operators in this region, as well as across the country (and in some cases, internationally.) The Nellie Gail community has over a dozen licensed Ham Radio operators, including five members of the Nellie Gail Emergency Preparedness Committee. Ham Radio operators have a long history of assisting in virtually every disaster that has ever occurred. RACES (Radio Amateur Civil Emergency Services) is an organization of Ham Radio operators whose protocol was developed by FEMA and the FCC for the sole purpose of providing communication assistance in regional disasters. Orange County RACES ([www.ocraces.org](http://www.ocraces.org)) is an Auxiliary Communication Service (ACS) of the Orange County Sheriff’s Department that provides additional means of

communication in the event of a disaster to Orange County. As such, this will be the primary source of communications to and from the emergency authorities during a disaster. This means that in the event of a regional disaster, the Nellie Gail Emergency Command Center will be able to be in direct contact with the Orange County Emergency Operations Center (EOC) on Loma Ridge through the Ham Radio operators of RACES.

### **Facebook, Twitter and other social media**

Although it may seem odd to mention Facebook and Twitter as a means of communicating, these and other social media sites are often used as a way to disseminate information to your friends and family. Obviously you would need to be able to connect to the internet, which may be possible if you have a wireless card and the local tower is not affected by a power outage; or you have electricity (even for a short time) but no phone service. One recommendation is that you get this information out early for two reasons: first, early notification to your friends and family will decrease the need for those outside of the area of calling into a disaster area and tying up phone lines; second, electricity may not be available later during the emergency (“a bird in the hand...”). Those with “smart phones” may also access their Facebook and Twitter accounts from their phone, again assuming the local tower is not affected by a power outage. This is obviously a form of one-way communications but it is an efficient way to notify hundreds of your “followers” of your status. Chat and other texting apps (WeChat, WhatsApp, FB Messenger, etc.) may also be helpful at this can be method of texting others without the need for mobile cellphone towers, but will require an internet or wireless connection.

During the Napa Earthquake in August of 2014, the County of Napa used Facebook and their website as the only two means of communicating the status of county services to the public. For those who are Facebook users, I recommend that you “like” the County of Orange - Emergency Management Bureau by going to [www.ocgov.com](http://www.ocgov.com), clicking on the Facebook icon, and clicking the Facebook icon next to Emergency Management Bureau. Of all county services, the Emergency Management Bureau will be fully operational regardless of the severity of the emergency or disaster.

### **ONE-WAY COMMUNICATIONS**

#### **AlertOC**

AlertOC Emergency Communication System is a county-wide communication system designed to alert you to emergency information via a phone call, text message and an email. This system will send county and city specific information for those who opt-in to the service. Should an emergency occur in the City of Laguna Hills, all of those who live or work in the city can receive emergency notification with instructions on what to do, detours to consider, or steps to take in an emergency situation. The same applies to any county or regional emergency. This is the preferred system in getting emergency notifications out to the regional population, and I strongly recommend all Nellie Gail residents sign up for the AlertOC Notification System. To opt-in, go to [www.alertoc.org](http://www.alertoc.org), scroll down to see the map of Orange County and click on Laguna Hills, then click on “sign up” and following the directions. By entering the city in which you reside, your mobile phone number and email, you will receive these important emergency notifications that pertain to our city and county.

### **Emergency Alert System (EAS)**

The Emergency Alert System is an FCC mandated protocol that instructs local television and radio stations to broadcast emergency information over the airwaves. This is an important means of one-way communication so that you and the community can be informed of emergency information. This assumes that the broadcasters (television or radio) have not been affected by a power outage, and that you are able to receive the broadcast through a generator-powered television or a battery operated radio. Although a generator is optional equipment for your earthquake kit, a battery-operated radio is mandatory.

### **NELLIE GAIL EMERGENCY PREPAREDNESS COMMITTEE COMMUNICATIONS**

As mentioned above, the Nellie Gail EPC has the ability to communicate outside of our area via multiple amateur radios, as well as with other air/land/sea radios. Additionally, this author through the county radio system, can also contact the Orange County's Emergency Operation Center should the need arise. The EPC recognizes the importance of communications, and has developed a robust system with redundancies, back up generators and portable battery-operated systems, all to insure the ability to communicate to first responders or others.

### **PUTTING IT ALL TOGETHER**

During a disaster, homeowners should first try to contact their pre-planned out of state relative, who will act as the point person for the resident. This can be accomplished effectively via a text message. An example of a text would be, "family safe/house ok/enough supplies/staying put/call family and inform/FB login XXXXXX/password XXXXXXXXXXXX, post same info on FB." This text message clearly states your status and intentions, and provides a means for your designee to disseminate your information to others through your Facebook account.

Within Nellie Gail Ranch, our Block Captains will have these FRS radios to communicate to designated Area Coordinators, who will have FRS or Ham Radios to contact the Nellie Gail Emergency Command Center. Should one of our homeowners have an immediate need, they can contact their Block Captain or nearby neighbors by placing the red ("I need assistance") card in their front window. This card notification system has been developed by your Emergency Preparedness Committee as a means of indicating to your neighbors and Block Captain that you need or don't need assistance. Should the Block Captain or neighbors be unable to assist, the Block Captain will use an FRS radios to notify his or her Area Coordinator. The Area Coordinator will then either assist, find other Block Captains who may be able to assist, or will contact the Nellie Gail Command Center (located at the Club House) via FRS radio or Ham Radio. The Command Center can then attempt to either find appropriate assistance for the homeowner in need, or will communicate the need to RACES members and/or the Orange County Emergency Operations Center. This communication relay system will cover nearly every Nellie Gail resident and provide residents a means of getting assistance through other neighbors or through the Command Center. This system, however, only works with a full complement of Block Captains and Area Coordinators (see *About the Author* below for more information about being a Block Captain or Area Coordinator.)

Advanced planning is the key to obtaining successful communications during a disaster. It is through this preparation that you increase your chances of survival; it can also mean the difference between life and death. Now is the best time to start your communications plan.

*About the Author: Dr. Kenneth Cheng is a 22-year resident of Nellie Gail Ranch and a 7-year member of the Nellie Gail Emergency Preparedness Committee (EPC). He is also a volunteer deputy sheriff with the Sheriff's Department where he is a member of the SWAT team as a tactical physician, and a member of the Search and Rescue team as a High Angle Rope Rescue Technician. He is also a disaster preparedness instructor and CPR/First Aid instructor, and has received certifications in NIMS 100, 200 and 700 (National Incident Management System). Dr. Cheng has participated in dozens of search and rescue incidences, including providing assistance and medical aid to victims of Hurricane Katrina in New Orleans, Louisiana through the Federal Emergency Management Agency (FEMA) and the Department of Homeland Security (DHS). Questions about this or other articles, or if you desire more information on how to become a Nellie Gail Block Captain or Area Coordinator, please contact Dr. Cheng at [kennethscheng@gmail.com](mailto:kennethscheng@gmail.com).*